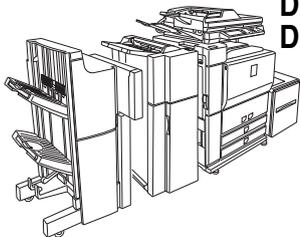


SHARP

CODE: 00ZAR700//H1E

FIELD SERVICE HANDBOOK



**DIGITAL LASER COPIER/PRINTER
DIGITAL MULTIFUNCTIONAL SYSTEM**

**AR-M550N/M550U
AR-M620N/M620U
MODEL AR-M700N/M700U**

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Parts marked with "△" are important for maintaining the safety of the set. Be sure to replace these parts with specified ones for maintaining the safety and performance of the set.

CAUTION

This product is a class 1 laser product that complies with 21CFR 1040 of the CDRH standard and IEC825. This means that this machine does not produce hazardous laser radiation. The use of controls, adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

This laser radiation is not a danger to the skin, but when an exact focusing of the laser beam is achieved on the eye's retina, there is the danger of spot damage to the The following cautions must be observed to avoid exposure of the laser beam to your eyes at the time of servicing.

- 1) When a problem in the laser optical unit has occurred, the whole optical unit must be exchanged as a unit, not as individual parts.
- 2) Do not look into the machine with the main switch turned on after removing the developer unit, toner cartridge, and drum cartridge.
- 3) Do not look into the laser beam exposure slit of the laser optical unit with the connector connected when removing and installing the optical system.
- 4) The middle frame contains the safety interlock switch.

Do not defeat the safety interlock by inserting wedges or other items into the switch slot.

**CLASS 1
LASER PRODUCT**

LASER KLASSE 1

Wave length: 785 nm +10 nm
-15 nm

Pulse times

North America: 55 cpm model (3.1 μs ± 3.1 ns)/7 mm
62 cpm model (3.1 μs ± 3.1 ns)/7 mm
70 cpm model (2.7 μs ± 2.7 ns)/7 mm

Europe: 55 cpm model (3.7 μs ± 3.7 ns)/7 mm
62 cpm model (3.7 μs ± 3.7 ns)/7 mm
70 cpm model (3.2 μs ± 3.2 ns)/7 mm

Output power: Max 0.5 mW

CAUTION
INVISIBLE LASER RADIATION,
WHEN OPEN AND INTERLOCKS DEFEATED.
AVOID EXPOSURE TO BEAM.

VORSICHT
UNSICHTBARE LASERSTRAHLUNG,
WENN ABDECKUNG GEÖFFNET UND
SICHERHEITSPERRRUEGELUNG ÜBERBRÜCKT.
NICHT DEM STRAHL AUSSETZEN.

VARO !
AVATTAESSA JA SUOJALUKITUS
OHITETTAESSA OLET ALLTIINA
NÄKYMÄTÖMÄLLE LASERSÄTEILYLLE ÄLÄ
KATSO SÄTEESEEN.

ADVARSEL
USYNLIG LASERSTRÅLING VED ÅBNING, NÅR
SIKKERHEDSBRYDERE ER UDE AF
FUNKTION. UNDGÅ UDSÆTTELSE FOR
STRÅLING.

VARNING !
OSYNLIG LASERSTRÅLING NÅR DENNA DEL
ÄR ÖPPNAD OCH SPÄRREN ÄR URKOPPLAD.
BETRAKTA EJ STRÅLEN. – STRÅLEN ÄR
FÄRLIG.



CAUTION

VORSICHT

ADVARSEL

ADVARSEL

VARNING

VARO!

INVISIBLE LASER RADIATION WHEN OPEN AND INTERLOCKS DEFEATED.
AVOID EXPOSURE TO BEAM.

UNSICHTBARE LASERSTRAHLUNG WENN ABDECKUNG GEÖFFNET UND
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OSYNLIG LASERSTRÅLING VED ÅBNING, NÅR SIKKERHEDSBRYDERE ER
UDE AF FUNKTION. UNDGÅ UDSÆTTELSE FOR STRÅLING.

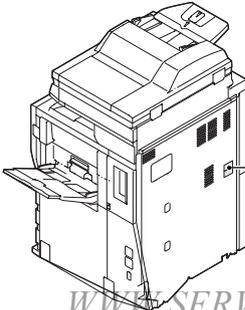
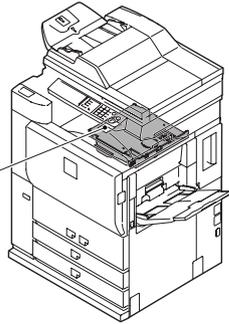
USYNLIG LASERSTRÅLING NÅR DENNA DELS ÅPNSAS OCH SPÄRREDETLAS
BRYTES. UNDGÅ UDSÆTTELSE FOR STRÅLEN.

OSYNLIG LASERSTRÅLING NÅR DENNA DEL ÄR ÖPPNAD OCH SPÄRREN ÄR
URKOPPLAD. STRÅLEN ÄR FÄRLIG. BETRAKTA EJ STRÅLEN.

AVATTAESSA JA SUOJALUKITUS OHITETTAESSA OLET ALLTIINA NÄKYMÄTÖMÄLLE
LASERSÄTEILYLLE. ÄLÄ KATSO SÄTEESEEN.

⚠ 注意 (サービスマン用)

カバーを開けてかつインターロックを無効にした場合には
レーザー光にさらされないようにしてください。



**CLASS 1
LASER PRODUCT**

LASER KLASSE 1

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[9] SIGNAL NAME LIST

[1] CONSUMABLE PARTS

1. Supply system table

A. USA, Canada, South and Central America

No.	Part name	Content	Life	Model name	Packing	Remark
1	Toner cartridge (Black)	Toner cartridge (Black) x 10 (Toner; Net weight 1430g) With IC chip	720k (72k x 10)	AR-620MT	1	* Life setting by A4/LT 6% document MT = NT x 10
		Toner cartridge (Black) x 10 (Toner; Net weight 1650g) With IC chip	830k (83k x 10)	AR-621MT		
2	Developer (Black)	Developer (Black) x 10 (Developer; Net weight 725g)	62/70ppm: 300k 55ppm: 250k	AR-620MD	1	Used two bags. MD = ND x 10
3	Drum	OPC drum x 1	62/70ppm: 300k 55ppm: 250k	AR-620DR	10	

B. Europe affiliates (Including East Europe, Russia)/Australia/New Zealand/UK)

No.	Part name	Content	Life	Model name	Packing	Remark
1	Toner cartridge (Black)	Toner cartridge (Black) x 10 (Toner; Net weight 1430g) With IC chip	720k (72k x 10)	AR-620LT	1	* Life setting by A4/LT 6% document LT = T x 10
		Toner cartridge (Black) x 10 (Toner; Net weight 1650g) With IC chip	830k (83k x 10)	AR-621LT		
2	Developer (Black)	Developer (Black) x 10 (Developer; Net weight 725g)	62/70ppm: 300k 55ppm: 250k	AR-620LD	1	Used two bags. LD = DV x 10
3	Drum	OPC drum x 1	62/70ppm: 300k 55ppm: 250k	AR-620DM	10	

C. Asia affiliates

No.	Part name	Content	Life	Model name	Packing	Remark
1	Toner cartridge (Black)	Toner cartridge (Black) x 10 (Toner; Net weight 1430g) With IC chip	720k (72k x 10)	AR-620CT	1	* Life setting by A4/LT 6% document CT = ST x 10
		Toner cartridge (Black) x 10 (Toner; Net weight 1650g) With IC chip	830k (83k x 10)	AR-621CT		
2	Developer (Black)	Developer (Black) x 10 (Developer; Net weight 725g)	62/70ppm: 300k 55ppm: 250k	AR-620CD	1	Used two bags. CD = SD x 10
3	Drum	OPC drum x 1	62/70ppm: 300k 55ppm: 250k	AR-620DR	10	

D. Hong Kong

No.	Part name	Content	Life	Model name	Packing	Remark
1	Toner cartridge (Black) For SRH	Toner cartridge (Black) x 10 (Toner; Net weight 1430g) With IC chip	720k (72k x 10)	AR-620CT-C	1	* Life setting by A4/ LT 6% document CT-C = ST-C x 10
		Toner cartridge (Black) x 10 (Toner; Net weight 1650g) With IC chip	830k (83k x 10)	AR-621CT-C		
2	Developer (Black)	Developer (Black) x 10 (Developer; Net weight 725g)	62/70ppm: 300k 55ppm: 250k	AR-620CD-C	1	Used two bags. CD-C = SD-C x 10
3	Drum	OPC drum x 1	62/70ppm: 300k 55ppm: 250k	AR-620DR-C	10	

E. China (AR-M620N/M700N)

No.	Part name	Content	Life	Model name	Packing	Remark
1	Toner cartridge (Black)	Toner cartridge (Black) x 10 (Toner; Net weight 1430g) With IC chip	72k (72k x 1)	AR-621ST-C	1	* Life setting by A4/LT 6% document
		Toner cartridge (Black) x 10 (Toner; Net weight 1650g) With IC chip	83k (83k x 1)	AR-622ST-C		
2	Developer (Black)	Developer (Black) x 10 (Developer; Net weight 725g)	62/70ppm: 300k	AR-620SD-C	1	Used two bags.
3	Drum	OPC drum x 1	62/70ppm: 300k	AR-620DR-C	1	

F. Middle East/Philippine

No.	Part name	Content	Life	Model name	Packing	Remark
1	Toner cartridge (Black)	Toner cartridge (Black) x 10 (Toner; Net weight 1430g) With IC chip	720k (72k x 10)	AR-620ET	1	* Life setting by A4/LT 6% document ET=FT x 10
		Toner cartridge (Black) x 10 (Toner; Net weight 1650g) With IC chip	830k (83k x 10)	AR-621ET		
2	Developer (Black)	Developer (Black) x 10 (Developer; Net weight 725g)	62/70ppm: 300k 55ppm: 250k	AR-620CD	1	Used two bags. CD = SD x 10
3	Drum	OPC drum x 1	62/70ppm: 300k 55ppm: 250k	AR-620DR	10	

G. Taiwan

No.	Part name	Content	Life	Model name	Packing	Remark
1	Toner cartridge (Black)	Toner cartridge (Black) x 10 (Toner; Net weight 1430g) With IC chip	720k (72k x 10)	AR-620ET	1	* Life setting by A4/LT 6% document ET=FT x 10
		Toner cartridge (Black) x 10 (Toner; Net weight 1650g) With IC chip	830k (83k x 10)	AR-621ET		
2	Developer (Black)	Developer (Black) x 10 (Developer; Net weight 725g)	62/70ppm: 300k 55ppm: 250k	AR-620LD	1	Used two bags. LD = DV x 10
3	Drum	OPC drum x 1	62/70ppm: 300k 55ppm: 250k	AR-620DM	10	

2. Maintenance parts list

A. USA, Canada

No.	Name	Content	Life			Model name	Packing	Remark	
			55cpm	62cpm	70cpm				
1	Maintenance kit 1	Side seal F	x 1	250K	300K	300K	AR-620KA	10	
		Side seal R	x 1						
		MC cleaning unit	x 1						
		Cleaner blade	x 1						
		Drum separation pawl	x 4						
		Screen grid	x 1						
		Toner reception seal	x 1						
		Charging plate	x 1						
		Paper dust removal unit	x 1						
		DV seal	x 1						
		DV side seal F	x 1						
DV side seal R	x 1								
Toner filter	x 1								
2	Maintenance kit 2	Transfer cleaning roller	x 1	250K	300K	300K	AR-620KB	10	
		Transfer belt	x 1						
		Transfer roller	x 1						
		Transfer gear	x 1						
3	Upper heat reoller kit	Upper heat roller	x 1	250K	300K	300K	AR-620UH	10	
		Fusing separation pawl (Upper)	x 6						
4	Lower heat roller kit	Lower heat roller	x 1	250K	300K	300K	AR-620LH	10	
		Fusing separation pawl (lower)	x 2						
5	Cleaner blade	Cleaner blade	x 10	250K (x 10)	300K (x 10)	300K (x 10)	AR-620CB	1	AR-620CB = (AR-620BL) x 10

No.	Name	Content	Life			Model name	Packing	Remark
			55cpm	62cpm	70cpm			
6	Cleaning roller kit (55/62cpm model)	Scraper unit x 10 Sub heat roller cleaning unit x 10	250K (x 10)	300K (x 10)	–	AR-620CR	1	AR-620CR = (AR-620RC) x 10
7	Maintenance kit 3 (70cpm model)	Cleaning sheet x 10 Oil roller x 10 Cleaning roller bearing x 20 Pressure cleaning plate x 10	–	–	300K	AR-700CR	1	
8	Heat roller kit	Sub heat roller x 1 Heat roller bearing x 2	250K	300K	300K	AR-620HR	10	
9	DSPF roller kit	SPF paper feed roller x 1 SPF take-up roller x 1 SPF reverse roller x 1	100K	100K	100K	AR-620DF	10	
10	Paper feed roller kit	Main unit paper feed roller x 1 Main unit paper feed take-up roller x 1 Main unit paper feed reverse roller x 1	100K	100K	100K	AR-620RT	10	
11	Staple cartridge	Finisher staple x 3	5,000 times x 3	5,000 times x 3	5,000 times x 3	SF-SC11	20	Cartridge for AR-F15 (Common with the cartridge for AR-F11/ F12)
12	Staple cartridge	Saddle finisher staple x 3	2,000 times x 3	2,000 times x 3	2,000 times x 3	AR-SC3	40	Cartridge for AR-F16 (Common with the cartridge for AR-F12)

B. Europe affiliates (Including East Europe, Russia) Australia/New Zealand/UK

No.	Part name	Content	Life			Model name	Packing	Remark	
			55cpm	62cpm	70cpm				
1	Maintenance kit 1	Side seal F	250K	300K	300K	AR-620KA	10		
		Side seal R							x 1
		MC cleaning unit							x 1
		Cleaner blade							x 1
		Drum separation pawl							x 4
		Screen grid							x 1
		Toner reception seal							x 1
		Charging plate							x 1
		Paper dust removal unit							x 1
		DV seal							x 1
		DV side seal F							x 1
		DV side seal R							x 1
		Toner filter							x 1
2	Maintenance kit 2	Transfer cleaning roller	250K	300K	300K	AR-620KB	10		
		Transfer belt							x 1
		Transfer roller							x 1
		Transfer gear							x 1

No.	Part name	Content	Life			Model name	Packing	Remark
			55cpm	62cpm	70cpm			
3	Maintenance kit 3 (55/62cpm model)	Upper heat roller	x 1	250K	300K	-	AR-620KC	5
		Lower heat roller	x 1					
		Fusing separation pawl (Upper)	x 6					
		Fusing separation pawl (lower)	x 4					
		Scraper unit	x 1					
		Sub heat roller cleaning unit	x 1					
		Sub heat roller	x 1					
		Heat roller bearing	x 2					
	Maintenance kit 3 (70cpm model)	Upper heat roller	x 1	-	-	300K	AR-700KC	5
		Lower heat roller	x 1					
		Fusing separation pawl (Upper)	x 6					
		Fusing separation pawl (lower)	x 4					
		Cleaning sheet	x 1					
		Oil roller	x 1					
		Cleaning roller bearing	x 2					
		Pressure cleaning plate	x 1					
Sub heat roller	x 1							
Heat roller bearing	x 2							
4	DSPF roller kit	SPF paper feed roller	x 1	100K	100K	100K	AR-620DF	10
		SPF take-up roller	x 1					
		SPF reverse roller	x 1					
5	Paper feed roller kit	Main unit paper feed roller	x 1	100K	100K	100K	AR-620RT	10
		Main unit paper feed take-up roller	x 1					
		Main unit paper feed reverse roller	x 1					

No.	Part name	Content	Life			Model name	Packing	Remark
			55cpm	62cpm	70cpm			
6	Staple cartridge	Finisher staple x 3	5,000 times x 3	5,000 times x 3	5,000 times x 3	SF-SC11	20	Cartridge for AR-F15 (Common with the cartridge for AR-F11/ F12)
7	Staple cartridge	Saddle finisher staple x 3	2,000 times x 3	2,000 times x 3	2,000 times x 3	AR-SC3	40	Cartridge for AR-F16 (Common with the cartridge for AR-F12)

C. Middle East/Asia/South and Central America

No.	Part name	Content	Life			Model name	Packing	Remark	
			55cpm	62cpm	70cpm				
1	Maintenance kit 1	Side seal F	x 1	250K	300K	300K	AR-620KA	10	
		Side seal R	x 1						
		MC cleaning unit	x 1						
		Cleaner blade	x 1						
		Drum separation pawl	x 4						
		Screen grid	x 1						
		Toner reception seal	x 1						
		Charging plate	x 1						
		Paper dust removal unit	x 1						
		DV seal	x 1						
		DV side seal F	x 1						
		DV side seal R	x 1						
Toner filter	x 1								
2	Maintenance kit 2	Transfer cleaning roller	x 1	250K	300K	300K	AR-620KB	10	
		Transfer belt	x 1						
		Transfer roller	x 1						
		Transfer gear	x 1						

No.	Part name	Content	Life			Model name	Packing	Remark
			55cpm	62cpm	70cpm			
3	Maintenance kit 3 (55/62cpm model)	Upper heat roller	x 1	250K	300K	-	AR-620KC	5
		Lower heat roller	x 1					
Fusing separation pawl (Upper)		x 6						
Fusing separation pawl (lower)		x 4						
Scraper unit		x 1						
Sub heat roller cleaning unit		x 1						
Sub heat roller		x 1						
Heat roller bearing		x 2						
Maintenance kit 3 (70cpm model)	Upper heat roller	x 1	-	-	300K	AR-700KC	5	
	Lower heat roller	x 1						
	Fusing separation pawl (Upper)	x 6						
	Fusing separation pawl (lower)	x 4						
	Cleaning sheet	x 1						
	Oil roller	x 1						
	Cleaning roller bearing	x 2						
	Pressure cleaning plate	x 1						
	Sub heat roller	x 1						
	Heat roller bearing	x 2						
4	DSPF roller kit	SPF paper feed roller	x 1	100K	100K	100K	AR-620DF	10
		SPF take-up roller	x 1					
		SPF reverse roller	x 1					
5	Paper feed roller kit	Main unit paper feed roller	x 1	100K	100K	100K	AR-620RT	10
		Main unit paper feed take-up roller	x 1					
		Main unit paper feed reverse roller	x 1					

No.	Part name	Content	Life			Model name	Packing	Remark
			55cpm	62cpm	70cpm			
6	Staple cartridge	Finisher staple x 3	5,000 times x 3	5,000 times x 3	5,000 times x 3	SF-SC11	20	Cartridge for AR-F15 (Common with the cartridge for AR-F11/ F12)
7	Staple cartridge	Saddle finisher staple x 3	2,000 times x 3	2,000 times x 3	2,000 times x 3	AR-SC3	40	Cartridge for AR-F16 (Common with the cartridge for AR-F12)

D. China

No.	Part name	Content	Life		Model name	Packing	Packing
			62cpm	70cpm			
1	Maintenance kit 1	Side seal F x 1 Side seal R x 1 MC cleaning unit x 1 Cleaner blade x 1 Drum separation pawl x 4 Screen grid x 1 Toner reception seal x 1 Charging plate x 1 Paper dust removal unit x 1 DV seal x 1 DV side seal F x 1 DV side seal R x 1 Toner filter x 1	300K	300K	AR-620KA	10	

No.	Part name	Content	Life		Model name	Packing	Packing
			62cpm	70cpm			
2	Maintenance kit 2	Transfer cleaning roller	x 1	300K	300K	AR-620KB	10
		Transfer belt	x 1				
		Transfer roller	x 1				
		Transfer gear	x 1				
3	Maintenance kit 3 (55/62cpm model)	Upper heat roller	x 1	300K	-	AR-620KC	5
		Lower heat roller	x 1				
		Fusing separation pawl (Upper)	x 6				
		Fusing separation pawl (lower)	x 4				
		Scraper unit	x 1				
		Sub heat roller cleaning unit	x 1				
		Heat roller bearing	x 2				
	Maintenance kit 3 (70cpm model)	Upper heat roller	x 1	-	300K	AR-700KC	5
		Lower heat roller	x 1				
		Fusing separation pawl (Upper)	x 6				
	Fusing separation pawl (lower)	x 4					
	Heat seal plate N assembly	x 1					
	Oil roller	x 1					
	Cleaning roller bearing	x 2					
	Pressure cleaning plate	x 1					
	Sub heat roller	x 1					
	Heat roller bearing	x 2					
4	DSPF roller kit	SPF paper feed roller	x 1	100K	100K	AR-620DF	10
		SPF take-up roller	x 1				
		SPF reverse roller	x 1				

No.	Part name	Content	Life		Model name	Packing	Packing
			62cpm	70cpm			
5	Paper feed roller kit	Main unit paper feed roller x 1 Main unit paper feed take-up roller x 1 Main unit paper feed reverse roller x 1	100K	100K	AR-620RT	10	
6	Staple cartridge	Finisher staple x 3	5,000 times x 3	5,000 times x 3	SF-SC11	20	Cartridge for AR-F15 (Common with the cartridge for AR-F11/F12)
7	Staple cartridge	Saddle finisher staple x 3	2,000 times x 3	2,000 times x 3	AR-SC3	40	Cartridge for AR-F16 (Common with the cartridge for AR-F12)

E. Taiwan

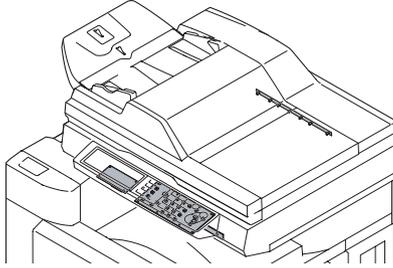
No.	Part name	Content	Life			Model name	Packing	Packing
			55cpm	62cpm	70cpm			
1	Maintenance kit 1	Side seal F x 1 Side seal R x 1 MC cleaning unit x 1 Cleaner blade x 1 Drum separation pawl x 4 Screen grid x 1 Toner reception seal x 1 Charging plate x 1 Paper dust removal unit x 1 DV seal x 1 DV side seal F x 1 DV side seal R x 1 Toner filter x 1	250K	300K	300K	AR-620KA	10	

No.	Part name	Content	Life			Model name	Packing	Packing
			55cpm	62cpm	70cpm			
2	Maintenance kit 2	Transfer cleaning roller	x 1	250K	300K	300K	AR-620KB	10
		Transfer belt	x 1					
		Transfer roller	x 1					
		Transfer gear	x 1					
3	Maintenance kit 3 (55/62cpm model)	Upper heat roller	x 1	250K	300K	-	AR-620KC	5
		Lower heat roller	x 1					
		Fusing separation pawl (Upper)	x 6					
		Fusing separation pawl (lower)	x 4					
		Scraper unit	x 1					
		Sub heat roller cleaning unit	x 1					
		Heat roller bearing	x 2					
		Maintenance kit 3 (70cpm model)	Upper heat roller					
	Lower heat roller		x 1					
	Fusing separation pawl (Upper)		x 6					
	Fusing separation pawl (lower)		x 4					
	Cleaning sheet		x 1					
	Oil roller		x 1					
	Cleaning roller bearing	x 2						
4	DSPF roller kit	SPF paper feed roller	x 1	100K	100K	100K	AR-620DF	10
		SPF take-up roller	x 1					
		SPF reverse roller	x 1					

No.	Part name	Content	Life			Model name	Packing	Packing
			55cpm	62cpm	70cpm			
5	Paper feed roller kit	Main unit paper feed roller x 1 Main unit paper feed take-up roller x 1 Main unit paper feed reverse roller x 1	100K	100K	100K	AR-620RT	10	
6	Staple cartridge	Finisher staple x 3	5,000 times x 3	5,000 times x 3	5,000 times x 3	SF-SC11	20	Cartridge for AR-F15 (Common with the cartridge for AR- F11/F12)
7	Staple cartridge	Saddle finisher staple x 3	2,000 times x 3	2,000 times x 3	2,000 times x 3	AR-SC3	40	Cartridge for AR-F16 (Common with the cartridge for AR- F12)

[2] STRUCTURE OF EACH SECTION

1. Operation panel section



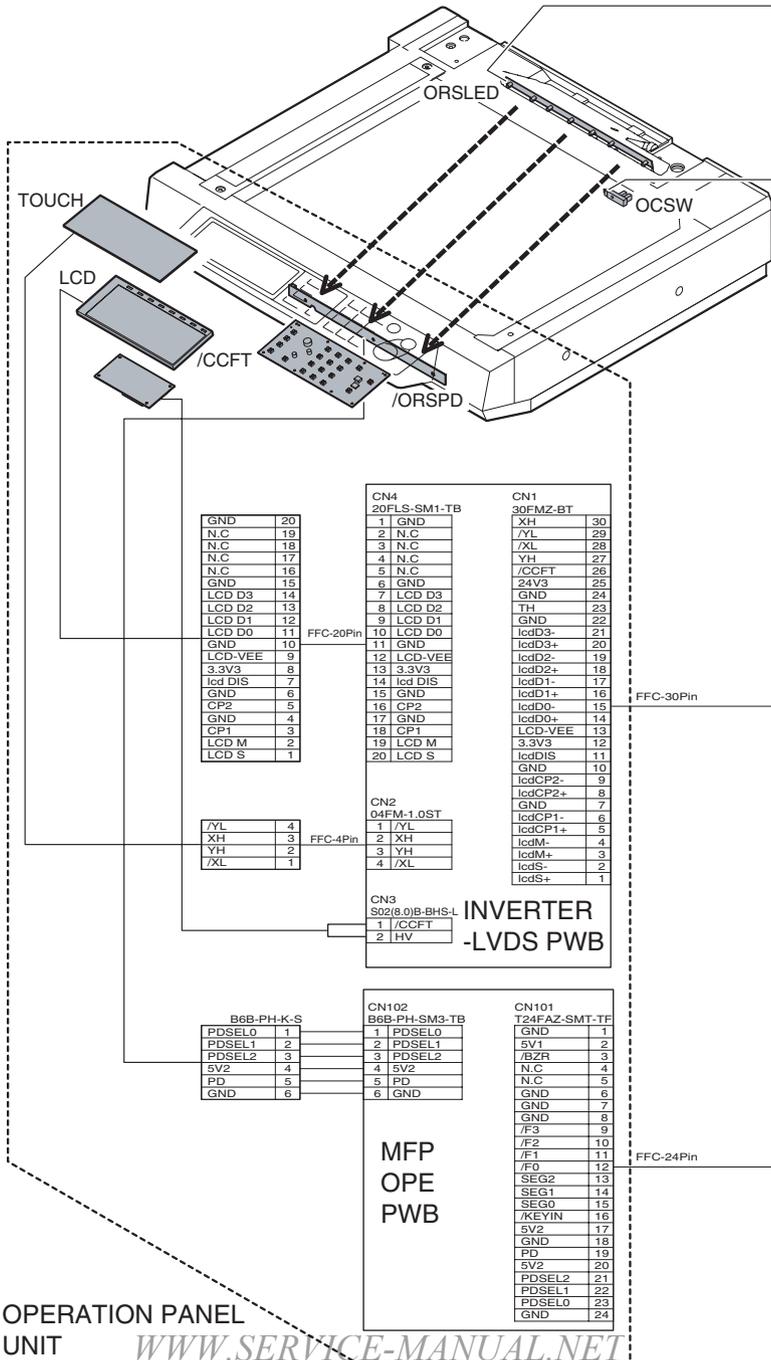
A. General

This section describes various types of settings, display and operation.

The LCD display section is controlled by the MFP CONTROL PWB.

The touch panel, operation keys and LED display are controlled by the SCANNER CONTROL PWB.

B. Major parts and signal functions



GND	20
N.C	19
N.C	18
N.C	17
N.C	16
GND	15
LCD D3	14
LCD D2	13
LCD D1	12
LCD D0	11
GND	10
LCD-VEE	9
3.3V3	8
lcd DIS	7
GND	6
CP2	5
GND	4
CP1	3
LCD M	2
LCD S	1

CN4 20FLS-SM1-TB	
1 GND	20
2 N.C	19
3 N.C	18
4 N.C	17
5 N.C	16
6 GND	15
7 LCD D3	14
8 LCD D2	13
9 LCD D1	12
10 LCD D0	11
11 GND	10
12 LCD-VEE	9
13 3.3V3	8
14 lcd DIS	7
15 GND	6
16 CP2	5
17 GND	4
18 CP1	3
19 LCD M	2
20 LCD S	1

CN1 30FMZ-BT	
XH	30
/YL	29
/XL	28
YH	27
/CCFT	26
24V3	25
GND	24
TH	23
GND	22
lcdD3-	21
lcdD3+	20
lcdD2-	19
lcdD2+	18
lcdD1-	17
lcdD1+	16
lcdD0-	15
lcdD0+	14
LCD-VEE	13
3.3V3	12
lcdDIS	11
GND	10
lcdCP2-	9
lcdCP2+	8
GND	7
lcdCP1-	6
lcdCP1+	5
lcdM-	4
lcdM+	3
lcdS-	2
lcdS+	1

/YL	4
XH	3
YH	2
/XL	1

CN2 04FM-1.0ST	
1 /YL	4
2 XH	3
3 YH	2
4 /XL	1

CN3 S02(8.0B)-BHS-L	
1 /CCFT	
2 HV	

B6B-PH-K-S	
PDSEL0	1
PDSEL1	2
PDSEL2	3
SV2	4
PD	5
GND	6

CN102 B6B-PH-SM3-TB	
1 PDSEL0	1
2 PDSEL1	2
3 PDSEL2	3
4 SV2	4
5 PD	5
6 GND	6

CN101 T24FAZ-SMT-TF	
GND	1
5V1	2
/B2R	3
N.C	4
N.C	5
GND	6
GND	7
GND	8
/F3	9
/F2	10
/F1	11
/F0	12
SEG2	13
SEG1	14
SEGO	15
/KEYIN	16
SV2	17
GND	18
PD	19
5V2	20
PDSEL2	21
PDSEL1	22
PDSEL0	23
GND	24

H3P-SHF-AA	
+B3P-SHF-1AA	
SV1	1
GND	2
OCSW	3

CN4	
TX95-100P-LT-H	
GND	1
GND	2
/1 DBL-	3
/1 DBL+	4
1 CLK-	5
1 CLK+	6
1 DATA0-	7
1 DATA0+	8
1 DATA1-	9
1 DATA1+	10
1 DATA2-	11
1 DATA2+	12
1 DATA3-	13
1 DATA3+	14
GND	15
GND	16
/CCDFAN	17
12V2	18
24V3	19
24V3	20
PDSEL1	21
PDSEL2	22
/KEYIN	23
SEGO	24
GND	25
GND	26
lcdS+	27
lcdS-	28
lcdM+	29
lcdM-	30
lcdCP1+	31
lcdCP1-	32
lcdCP2+	33
lcdCP2-	34
lcdD0+	35
lcdD0-	36
lcdD1+	37
lcdD1-	38
lcdD2+	39
lcdD2-	40
lcdD3+	41
lcdD3-	42
GND	43
GND	44
YH	45
/XL	46
/STSET	47
/STMP5	48
GND	49
GND	50
GND	51
GND	52
GND	53
12V2	54
GND	55
5V2	56
GND	57
5V2	58
GND	59
3.3V3	60
FRM CCD1	61
CLK CCD1	62
TXD CCD1	63
RES CCD1	64
RXD CCD1	65
ADD CCD1	66
GND	67
PAGE1	68
GND	69
GND	70
/CL1	71
PDSEL0	72
5V2	73
PD	74
SEG1	75
SEG2	76
GND	77
/F0	78
GND	79
/F1	80
GND	81
/F2	82
GND	83
/F3	84
GND	85
/BZR	86
GND	87
SV1	88
lcdDIS	89
3.3V3	90
GND	91
LCD_VEE	92
TH	93
/CCFT	94
/YL	95
XH	96
24V3	97
24V3	98
GND	99
GND	100

CN1	
TX24-100R-LT-H1	
1 GND	1
2 GND	2
3 /1 DBL-	3
4 /1 DBL+	4
5 1 CLK-	5
6 1 CLK+	6
7 1 DATA0-	7
8 1 DATA0+	8
9 1 DATA1-	9
10 1 DATA1+	10
11 1 DATA2-	11
12 1 DATA2+	12
13 1 DATA3-	13
14 1 DATA3+	14
15 GND	15
16 GND	16
/CCDFAN	17
18 12V2	18
19 24V3	19
20 24V3	20
21 PDSEL1	21
22 PDSEL2	22
23 /KEYIN	23
24 SEGO	24
25 GND	25
26 GND	26
27 lcdS+	27
28 lcdS-	28
29 lcdM+	29
30 lcdM-	30
31 lcdCP1+	31
32 lcdCP1-	32
33 lcdCP2+	33
34 lcdCP2-	34
35 lcdD0+	35
36 lcdD0-	36
37 lcdD1+	37
38 lcdD1-	38
39 lcdD2+	39
40 lcdD2-	40
41 lcdD3+	41
42 lcdD3-	42
43 GND	43
44 GND	44
45 YH	45
46 /XL	46
47 /STSET	47
48 /STMP5	48
49 GND	49
50 GND	50
51 GND	51
52 GND	52
53 12V2	53
54 12V2	54
55 GND	55
56 5V2	56
57 GND	57
58 5V2	58
59 GND	59
60 3.3V3	60
61 FRM CCD1	61
62 CLK CCD1	62
63 TXD CCD1	63
64 RES CCD1	64
65 RXD CCD1	65
66 ADD CCD1	66
67 GND	67
68 PAGE1	68
69 GND	69
70 GND	70
71 /CL1	71
72 PDSEL0	72
73 5V2	73
74 PD	74
75 SEG1	75
76 SEG2	76
77 GND	77
78 /F0	78
79 GND	79
80 /F1	80
81 GND	81
82 /F2	82
83 GND	83
84 /F3	84
85 GND	85
86 /BZR	86
87 GND	87
88 SV1	88
89 lcdDIS	89
90 3.3V3	90
91 GND	91
92 LCD_VEE	92
93 TH	93
94 /CCFT	94
95 /YL	95
96 XH	96
97 24V3	97
98 24V3	98
99 GND	99
100 GND	100

CN3	
B6B-PH-K-S	
SV1	1
GND	2
OCSW	3
24V3	4
/LED0	5
/LED1	6

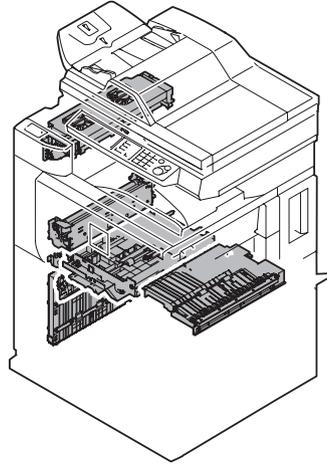
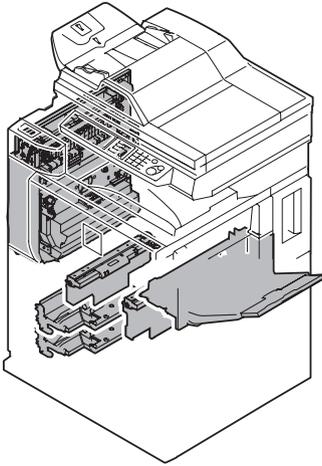
SCN JNT
PWB

CN6	
30FMZ-BT	
1 XH	1
2 /YL	2
3 /XL	3
4 YH	4
5 /CCFT	5
6 24V3	6
7 GND	7
8 TH	8
9 GND	9
10 lcdD3-	10
11 lcdD3+	11
12 lcdD2-	12
13 lcdD2+	13
14 lcdD1-	14
15 lcdD1+	15
16 lcdD0-	16
17 lcdD0+	17
18 LCD_VEE	18
19 3.3V3	19
20 lcdDIS	20
21 GND	21
22 lcdCP2-	22
23 lcdCP2+	23
24 GND	24
25 lcdCP1-	25
26 lcdCP1+	26
27 lcdM-	27
28 lcdM+	28
29 lcdS-	29
30 lcdS+	30

CN5	
T24FAZ-SMT-TF	
24 GND	24
23 SV1	23
22 /BZR	22
21 N.C	21
20 N.C	20
19 GND	19
18 GND	18
17 GND	17
16 /F3	16
15 /F2	15
14 /F1	14
13 /F0	13
12 SEG2	12
11 SEG1	11
10 SEGO	10
9 /KEYIN	9
8 5V2	8
7 GND	7
6 PD	6
5 5V2	5
4 PDSEL2	4
3 PDSEL1	3
2 PDSEL0	2
1 GND	1

SCN CONTROL
PWB

2. Paper feed, paper transport, duplex, and paper exit reverse sections



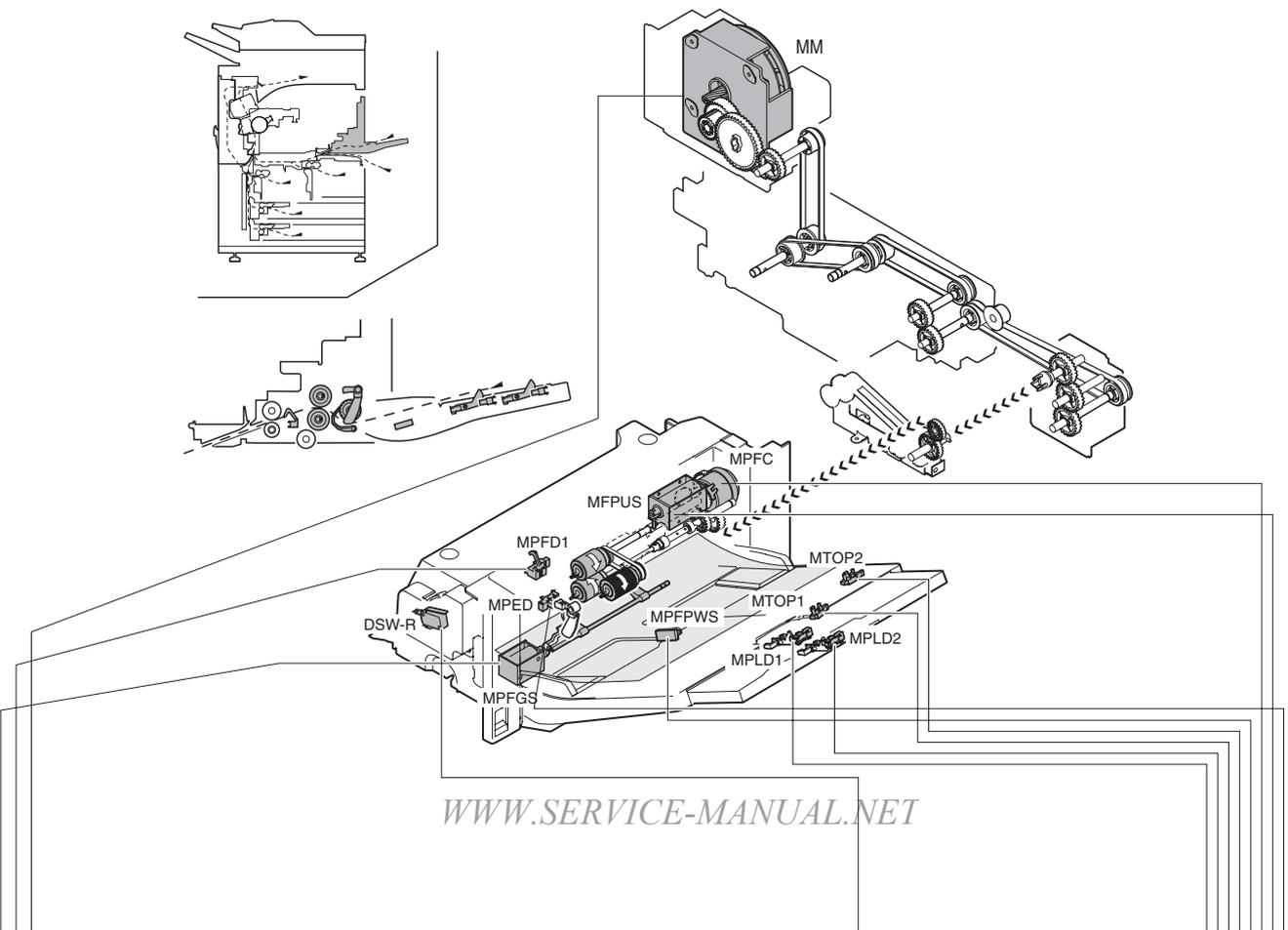
[Paper feed section]

General

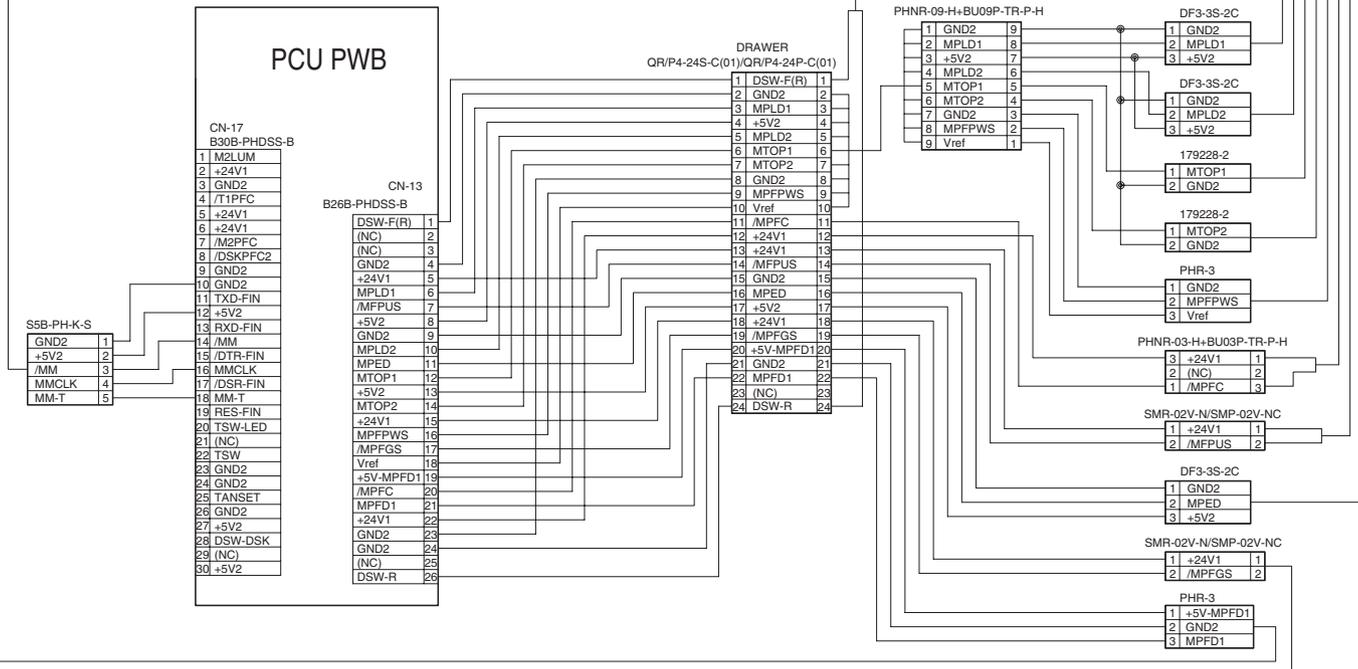
The paper feed tray 1 holds 900 sheets, the paper feed tray 2 holds 1,300 sheets, the multi-purpose paper feed tray 3 holds 500 sheets, the paper feed tray 4 holds 500 sheets, and the manual paper feed tray holds 100 sheets. Those paper feed units are standard provisions.

(Manual paper feed section)

A. Major parts and signal functions

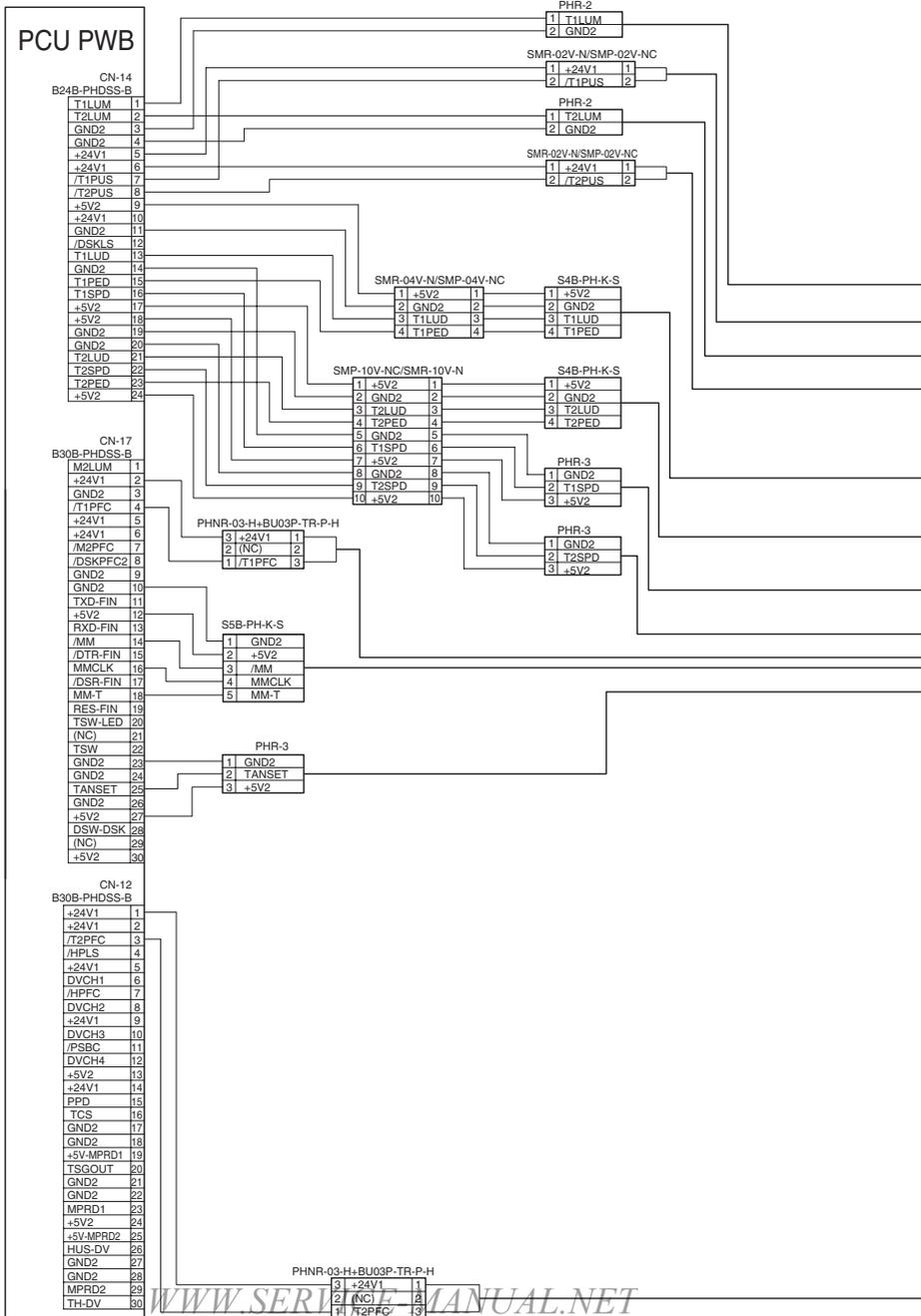


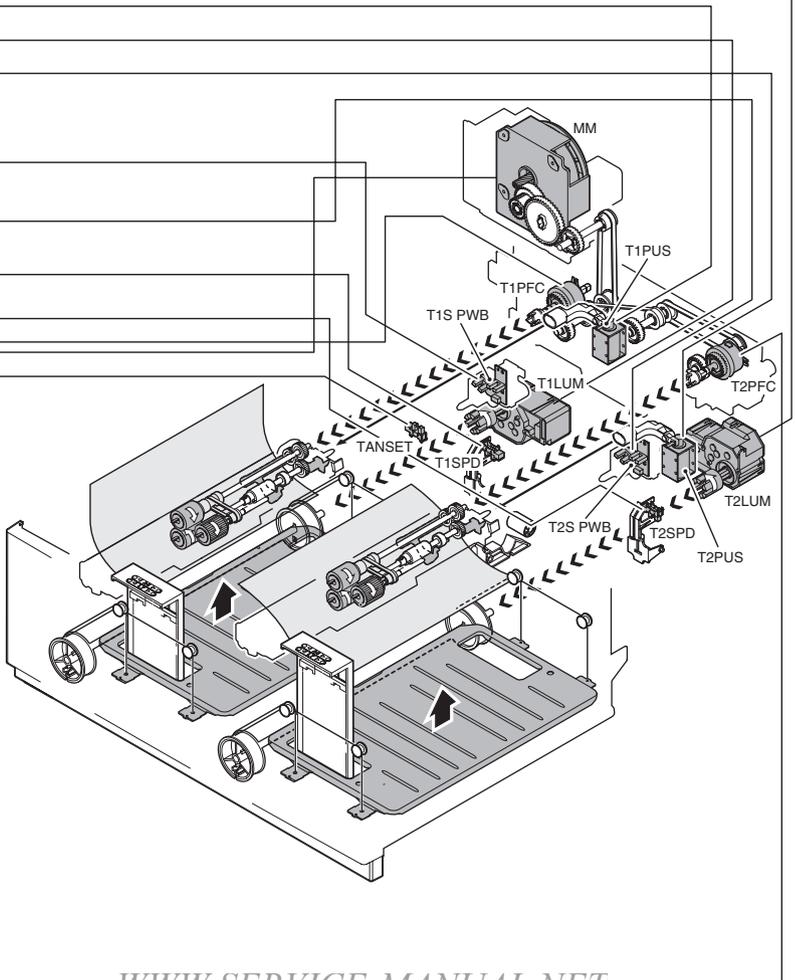
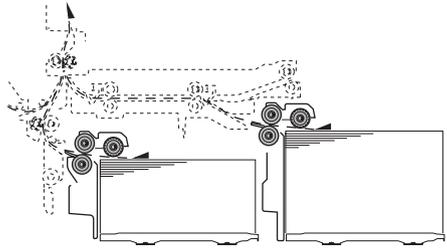
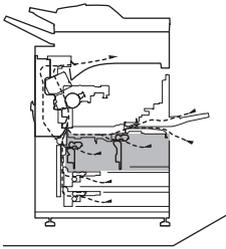
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(Paper feed tray sections 1 and 2)

A. Major parts and signal functions

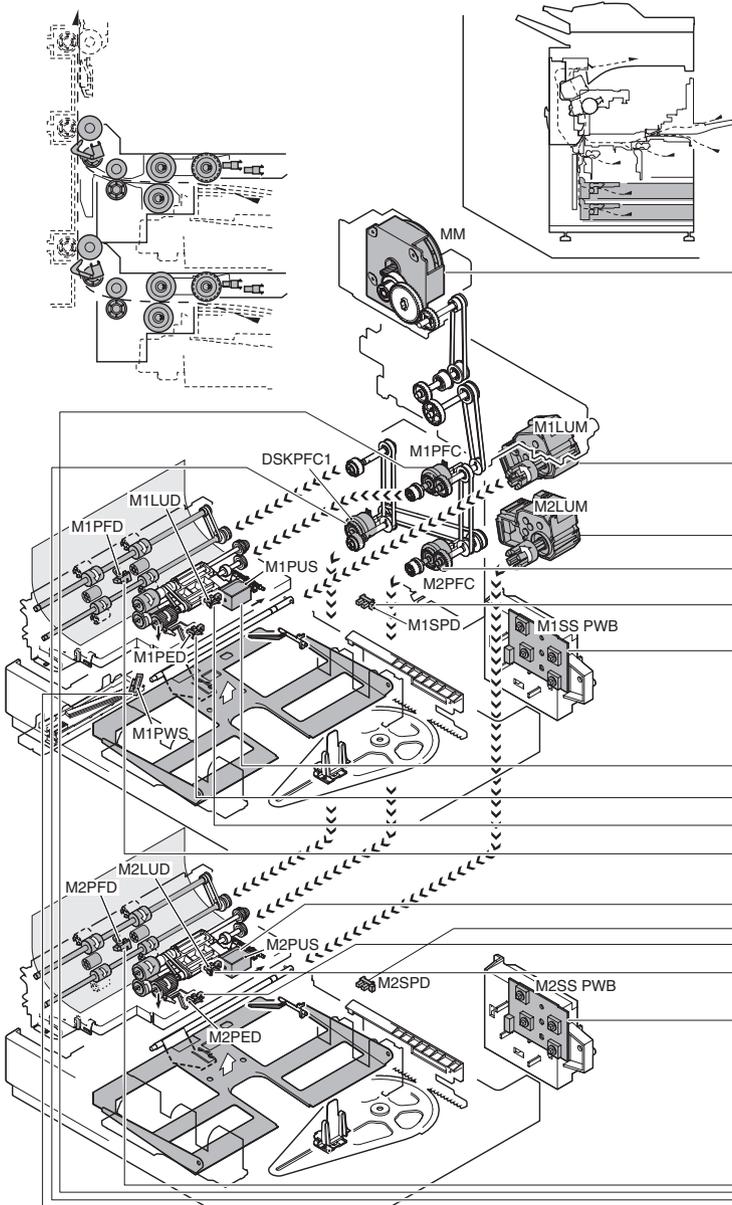




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(Paper feed trays 3 and 4)

A. Major parts and signal functions



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[Paper Transport Section]

Outline

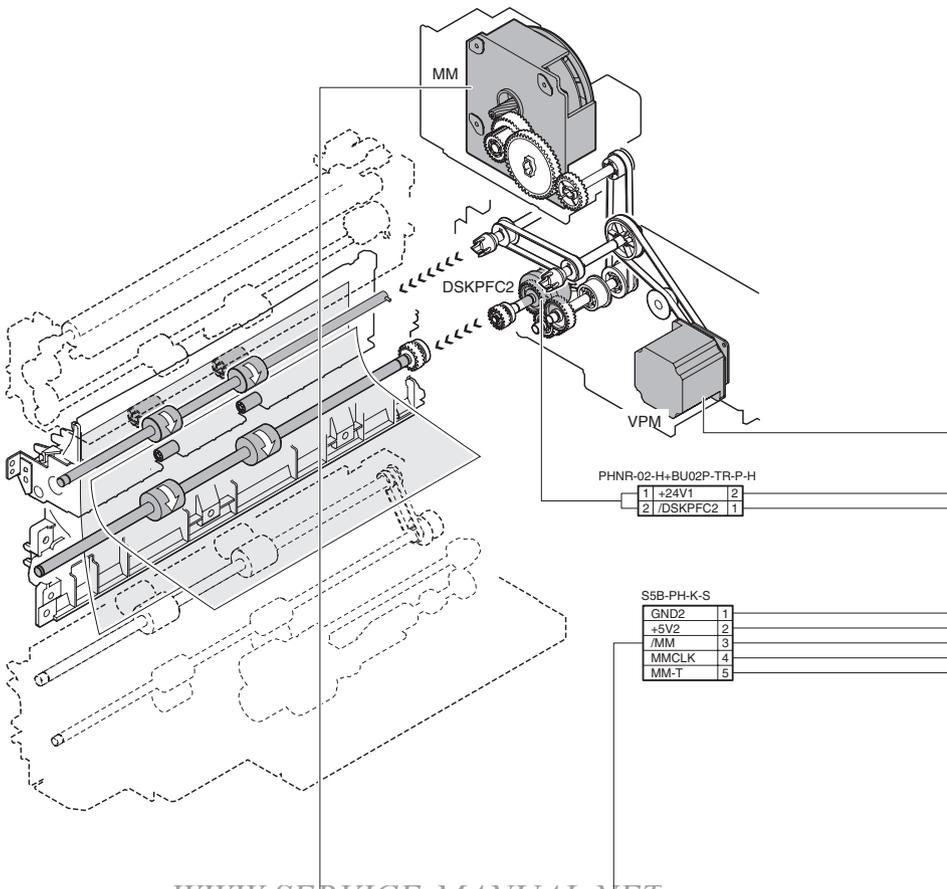
The paper transport section serves the function of transferring paper from each paper feed port to the registration roller section.

Paper from manual feed, paper feed tray units 1 and 2 (optional), and the right paper feed tray of the paper feed tray units 1 and 2 is transported horizontally, whereas paper from the left paper feed tray of the paper feed tray units 1 and 2, paper feed tray 3 and paper feed tray 4 is transported vertically to the registration roller section.

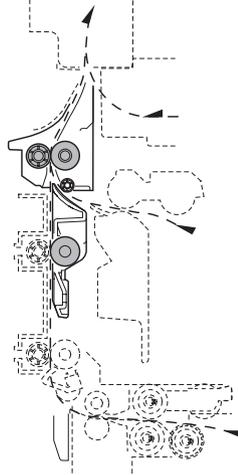
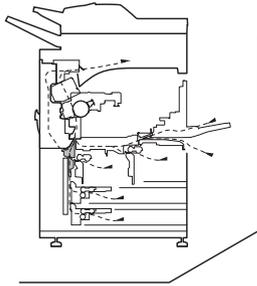
After the leading edge of the paper is synchronized with the leading edge of the drum image in the registration roller section, the paper that is transfer printed with the image in the transfer section passes through the fusing section and is discharged either face-down or face-up.

(Vertical paper transport section 1)

A. Major parts and signal functions



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CN-17
B30B-PHDSS-B

PCU PWB

1	M2LUM
2	+24V1
3	GND2
4	/T1PFC
5	+24V1
6	+24V1
7	/M2PFC
8	/DSKPFC2
9	GND2
10	GND2
11	TXD-FIN
12	+5V2
13	RXD-FIN
14	/MM
15	/DTR-FIN
16	MMCLK
17	/DSR-FIN
18	MM-T
19	RES-FIN
20	TSW-LED
21	(NC)
22	TSW
23	GND2
24	GND2
25	TANSET
26	GND2
27	+5V2
28	DSW-DSK
29	(NC)
30	+5V2

CN-10
B26B-PHDSS-B

/POM1A	1
/POM1XA	2
/POM1B	3
/POM1XB	4
/POM2A	5
/POM2XA	6
/POM2B	7
/POM2XB	8
/ADM1A	9
/ADM1XA	10
/ADM1B	11
/ADM1XB	12
/ADM2A	13
/ADM2XA	14
/ADM2B	15
/ADM2XB	16
/TRMA	17
/TRMXA	18
/TRMB	19
/TRMXB	20
/VPM/A	21
/VPMXA	22
/VPM/B	23
/VPMXB	24
GND2	25
GND2	26

CN-4
B26B-PHDSS-B

1	/POM1A
2	/POM1XA
3	/POM1B
4	/POM1XB
5	/POM2A
6	/POM2XA
7	/POM2B
8	/POM2XB
9	/ADM1A
10	/ADM1XA
11	/ADM1B
12	/ADM1XB
13	/ADM2A
14	/ADM2XA
15	/ADM2B
16	/ADM2XB
17	/TRMA
18	/TRMXA
19	/TRMB
20	/TRMXB
21	/VPM/A
22	/VPMXA
23	/VPM/B
24	/VPMXB
25	GND2
26	GND2

CN-2
B12B-PH-K-S

/TRM/A	1
/TRMA	2
/TRMB	3
/TRM/B	4
+24V2	5
+24V2	6
/VPM/A	7
/VPM/A	8
/VPM/B	9
/VPM/B	10
+24V2	11
+24V2	12

SMR-06V-N/SMP-06V-NC

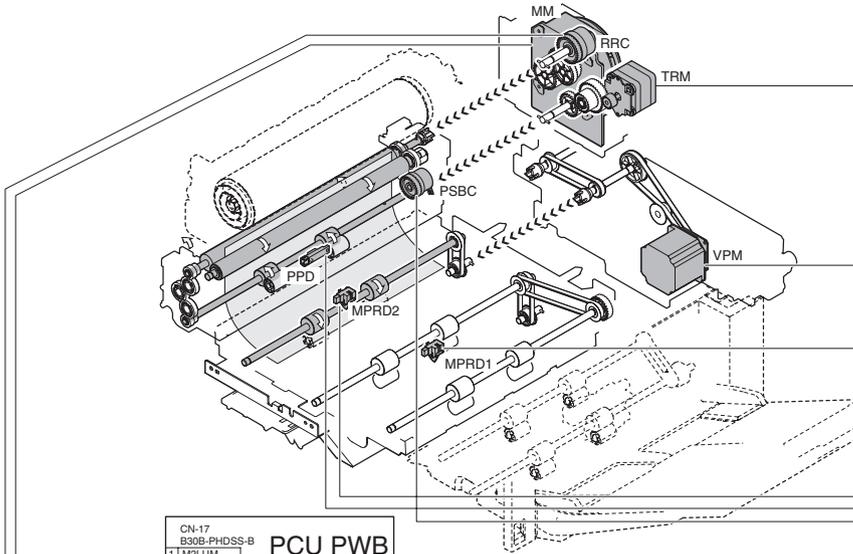
1	/VPM/A	1
2	/VPM/A	2
3	/VPM/B	3
4	/VPM/B	4
5	+24V2	5
6	+24V2	6

DRIVER
PWB

WWW.SERVICE-MANUAL.NET

(Vertical paper transport section 2)

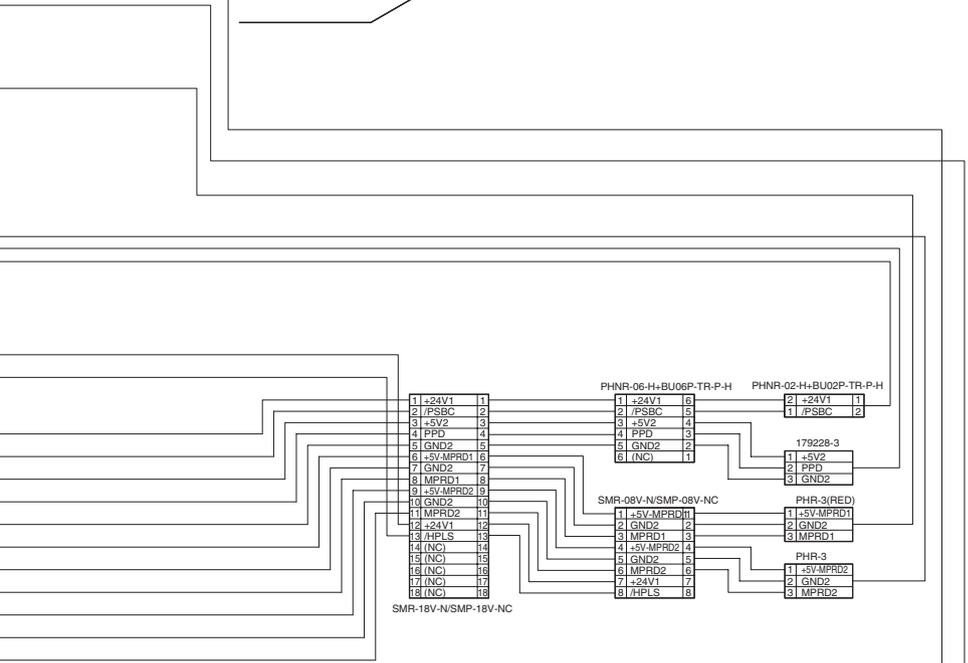
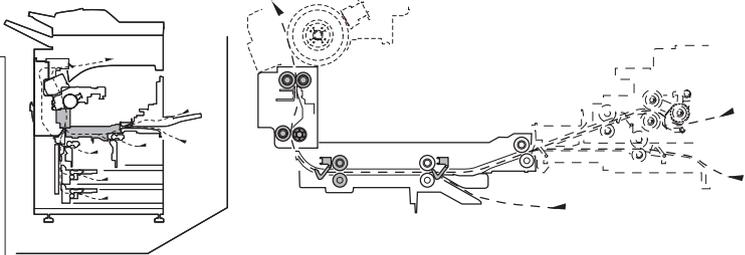
A. Major parts and signal functions



SSB-PH-K-S		PHNR-02-H+BU02P-TR-P-H	
GND2	1	1 +24V1	2
+5V2	2	2 +24V1	3
JMK	3	3 /CFM-DV	4
MMCLK	4	4 /RRC	5
MM-T	5	5 GND2	6
		6 (NC)	7
		7 +24V1	8
		8 +24V(DSW)	9
		9 +5V-APPD1	10
		10 PPD2	11
		11 +5V-APPD2	12
		12 /CFM-ADU	13
		13 +5V-PFD2	14
		14 /THPS2	15
		15 -5V-DSWD	16
		16 TURM	17
		17 -5V-AINPD	18
		18 /TCBPHW	19
		19 +5V-THPS1	20
		20 (NC)	21
		21 -5V-THPS2	22
		22 /TGRAS	23
		23 /FBIAS	24
		24 APPD1	25
		25 DSWD	26
		26 APPD2	27
		27 /DGS	28
		28 AINPD	29
		29 GND2	30
		30 GND2	31
		31 (NC)	32
		32 DSW-U	

CN-17 B30B-PHDS5-B		CN-7 B32B-PHDS5-B	
1 M2LUM		1 +24V1	2
2 +24V1		2 +24V1	3
3 GND2		3 /CFM-DV	4
4 /T1PFC		4 /RRC	5
5 +24V1		5 GND2	6
6 +24V1		6 (NC)	7
7 /M2PFC		7 +24V1	8
8 /DSKRF2		8 +24V(DSW)	9
9 GND2		9 +5V-APPD1	10
10 GND2		10 PPD2	11
11 TXD-FIN		11 +5V-APPD2	12
12 +5V2		12 /CFM-ADU	13
13 RXD-FIN		13 +5V-PFD2	14
14 /MM		14 /THPS2	15
15 /DTR-FIN		15 -5V-DSWD	16
16 /MMCLK		16 TURM	17
17 /DSR-FIN		17 -5V-AINPD	18
18 /MM-T		18 /TCBPHW	19
19 /RES-FIN		19 +5V-THPS1	20
20 /TSW-LED		20 (NC)	21
21 (NC)		21 -5V-THPS2	22
22 /TSW		22 /TGRAS	23
23 GND2		23 /FBIAS	24
24 GND2		24 APPD1	25
25 /TANSET		25 DSWD	26
26 GND2		26 APPD2	27
27 +5V2		27 /DGS	28
28 /DSW-DSK		28 AINPD	29
29 (NC)		29 GND2	30
30 +5V2		30 GND2	31
		31 (NC)	32
		32 DSW-U	

CN-12 B30B-PHDS5-B		CN-10 B26B-PHDS5-B	
+24V1	1	/POM1A	1
+24V1	2	/POM1XA	2
/T2PFC	3	/POM1B	3
/HPLS	4	/POM1XB	4
+24V1	5	/POM2A	5
DVCH1	6	/POM2XA	6
/HPFC	7	/POM2B	7
DVCH2	8	/POM2XB	8
+24V1	9	/ADM1A	9
DVCH3	10	/ADM1XA	10
/PSBC	11	/ADM1B	11
DVCH4	12	/ADM1XB	12
+5V2	13	/ADM2A	13
+24V1	14	/ADM2XA	14
PPD	15	/ADM2B	15
TCS	16	/ADM2XB	16
GND2	17	/TRMA	17
GND2	18	/TRMAA	18
+5V-MPRD1	19	/TRMB	19
/TSOOUT	20	/TRMXB	20
GND2	21	/VPM	21
GND2	22	/VPMXA	22
MPRD1	23	/VPMXB	23
+5V2	24	GND2	24
+5V-MPRD2	25	GND2	25
HUS-DV	26	GND2	26
GND2	27	GND2	27
GND2	28	GND2	28
MPRD2	29	GND2	29
TH-DV	30		



SMR-18V-N/SMP-18V-NC

1	+24V1	1
2	/PSBC	2
3	+5V2	3
4	PPD	4
5	GND2	5
6	+5V-MPRD1	6
7	GND2	7
8	MPRD1	8
9	+5V-MPRD2	9
10	GND2	10
11	MPRD2	11
12	+24V1	12
13	/HPLS	13
14	(NC)	14
15	(NC)	15
16	(NC)	16
17	(NC)	17
18	(NC)	18

PHNR-06-H-BU06P-TR-P-H

1	+24V1	6
2	/PSBC	5
3	+5V2	4
4	PPD	3
5	GND2	2
6	(NC)	1

PHNR-02-H-BU02P-TR-P-H

1	+24V1	1
2	/PSBC	2

179228-3

1	+5V2
2	PPD
3	GND2

PHR-3(REDF)

1	+5V-MPRD1
2	GND2
3	MPRD1

PHR-3

1	+5V-MPRD2
2	GND2
3	MPRD2

SMR-08V-N/SMP-08V-NC

1	+5V-MPRD1
2	GND2
3	MPRD1
4	+5V-MPRD2
5	GND2
6	MPRD2
7	+24V1
8	/HPLS

CN-4
B26B-PH-DSS-B

1	/POM1A
2	/POM1XA
3	/POM1B
4	/POM1XB
5	/POM2A
6	/POM2XA
7	/POM2B
8	/POM2XB
9	/ADM1A
10	/ADM1XA
11	/ADM1B
12	/ADM1XB
13	/ADM2A
14	/ADM2XA
15	/ADM2B
16	/ADM2XB
17	/TRMA
18	/TRMXA
19	/TRMB
20	/TRMXB
21	/VPM/A
22	/VPMXA
23	/VPM/B
24	/VPMXB
25	GND2
26	GND2

CN-2
B12B-PH-K-S

1	/TRMA
2	/TRMA
3	/TRMB
4	/TRMB
5	+24V2
6	+24V2
7	/VPM/A
8	/VPM/A
9	/VPM/B
10	/VPM/B
11	+24V2
12	+24V2

SMR-06V-N/SMP-06V-NC

1	/TRMA	1
2	/TRMA	2
3	/TRMB	3
4	/TRMB	4
5	+24V2	5
6	+24V2	6

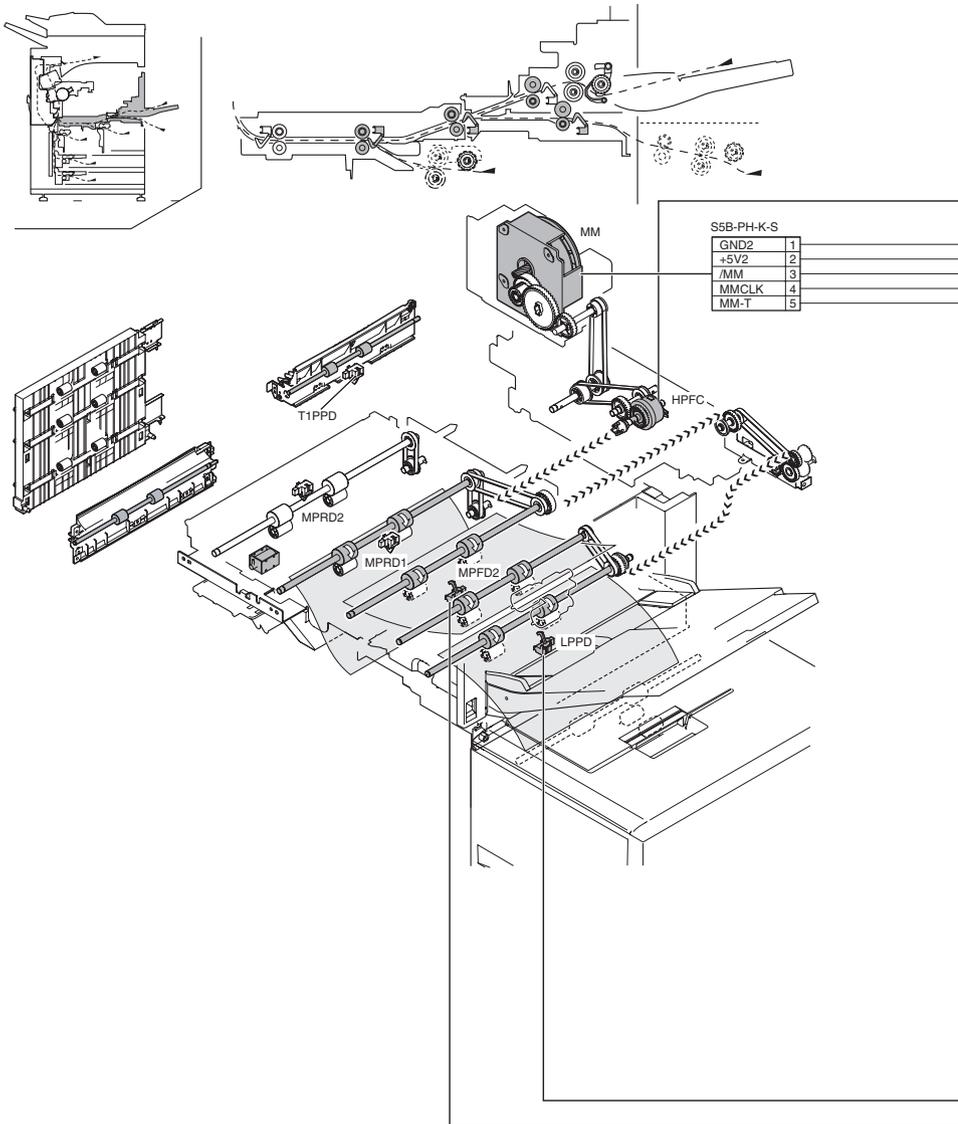
SMR-06V-N/SMP-06V-NC

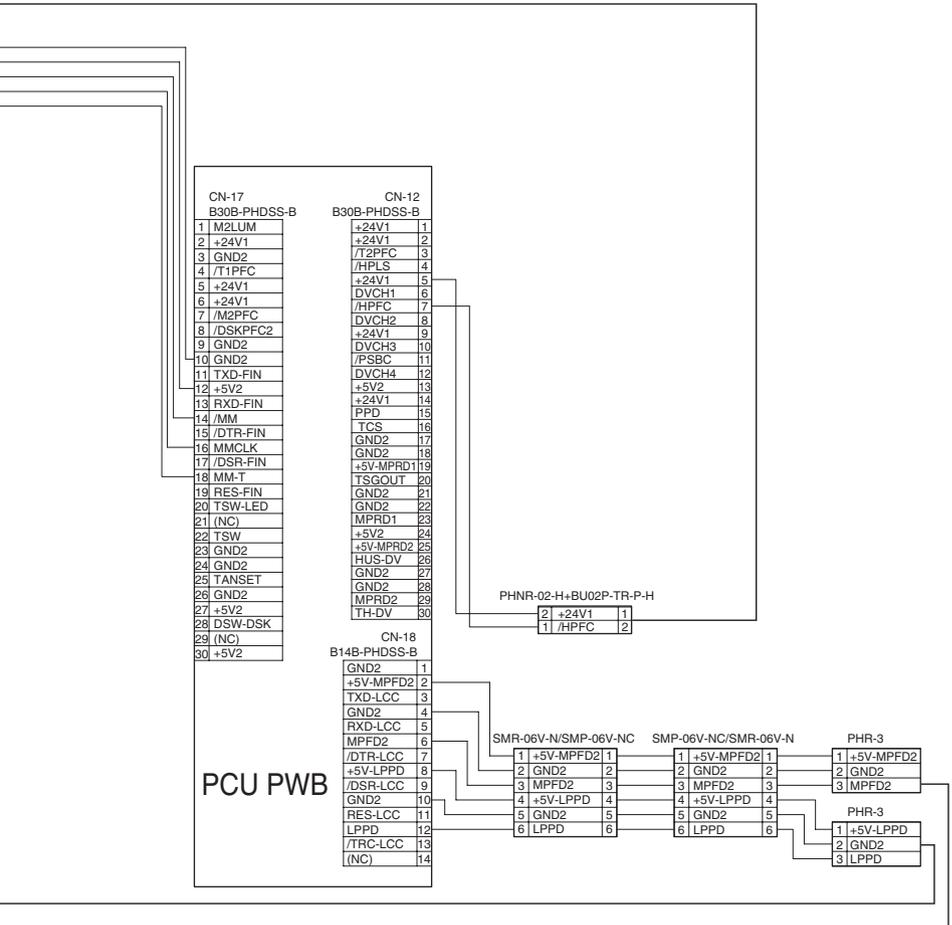
1	/VPM/A	1
2	/VPM/A	2
3	/VPM/B	3
4	/VPM/B	4
5	+24V2	5
6	+24V2	6

DRIVER PWB

(Horizontal transport section)

A. Major parts and signal functions



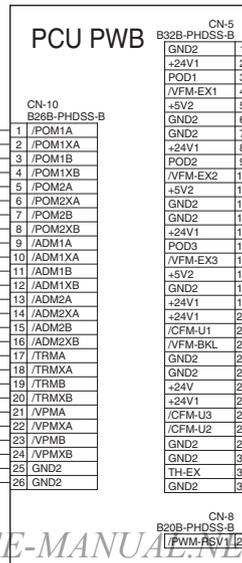
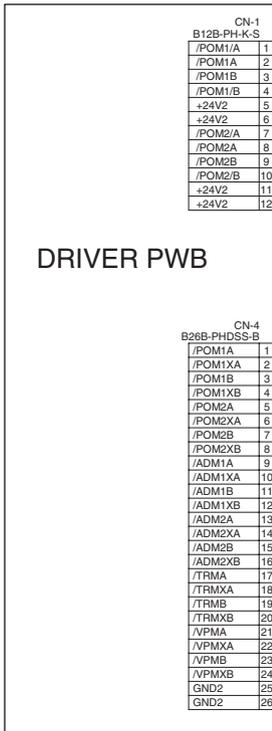
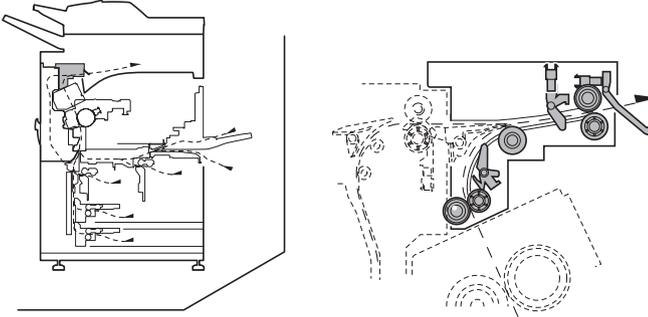


[Paper exit and turning section]

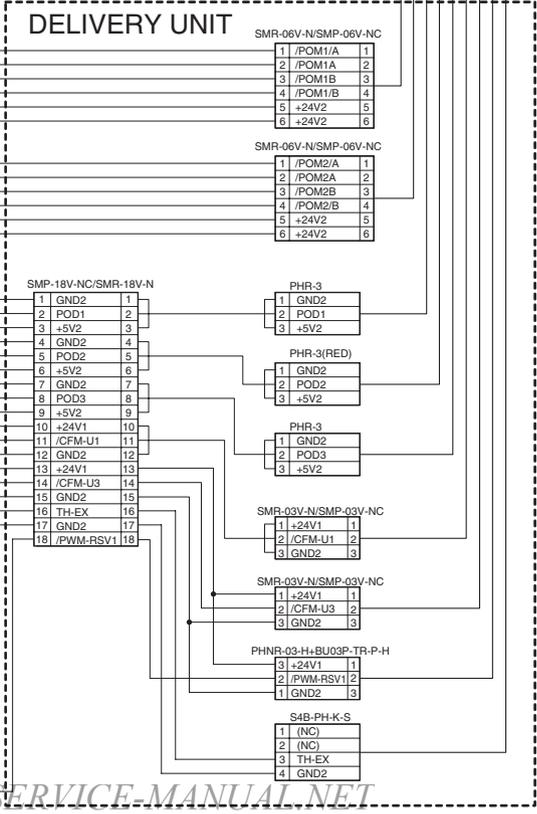
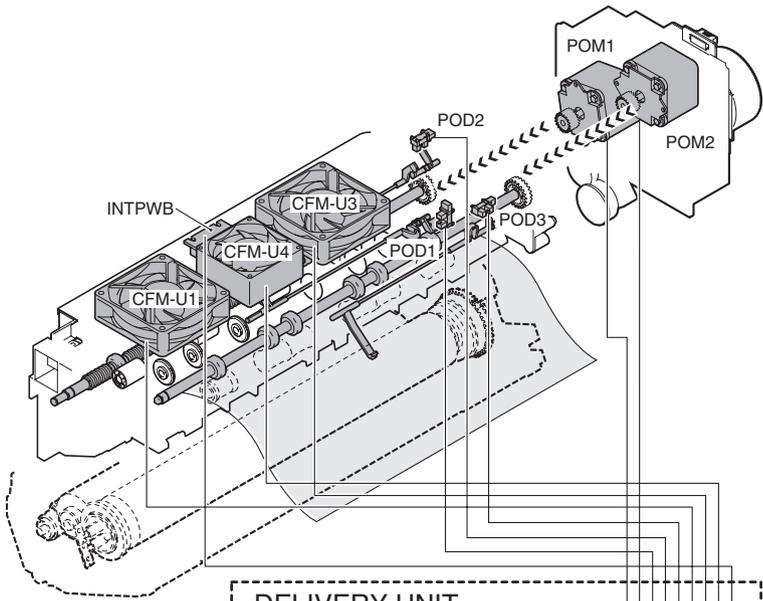
A. Outline

The paper exit and turning section discharges paper which is transported from the fusing section, and detects paper full. It also turns paper to transport it to the duplex or the finisher.

B. Major parts and signal functions



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SMP-02V-NC/SMR-02V-N

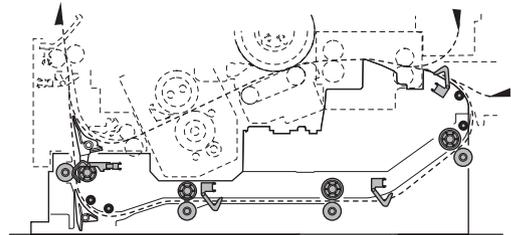
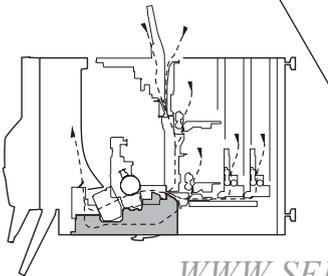
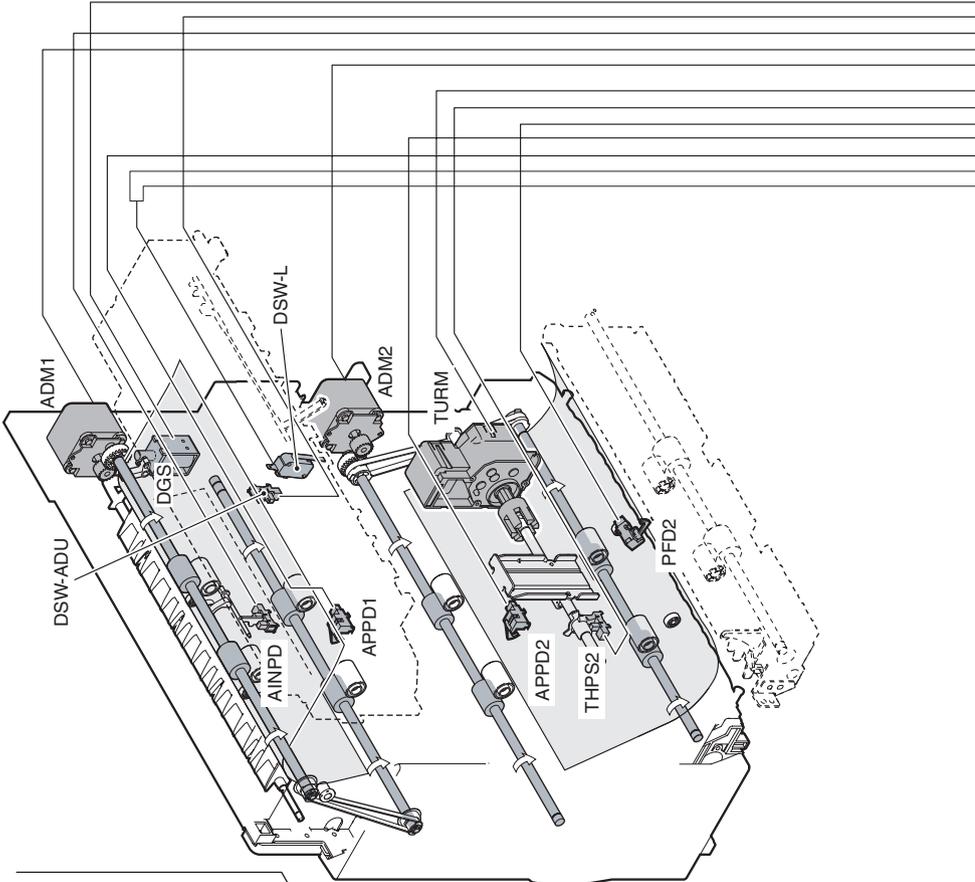
1	/PWM-RSV1
2	(NS)

(Duplex section)

A. General

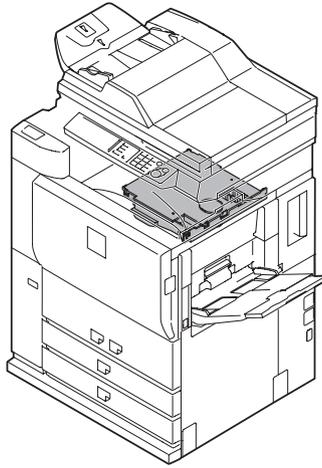
When duplex print is selected, paper one surface of which was printed is switched back to feed to the duplex section to make duplex print.

B. Major parts and signal functions



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3. Laser scan unit (LSU)

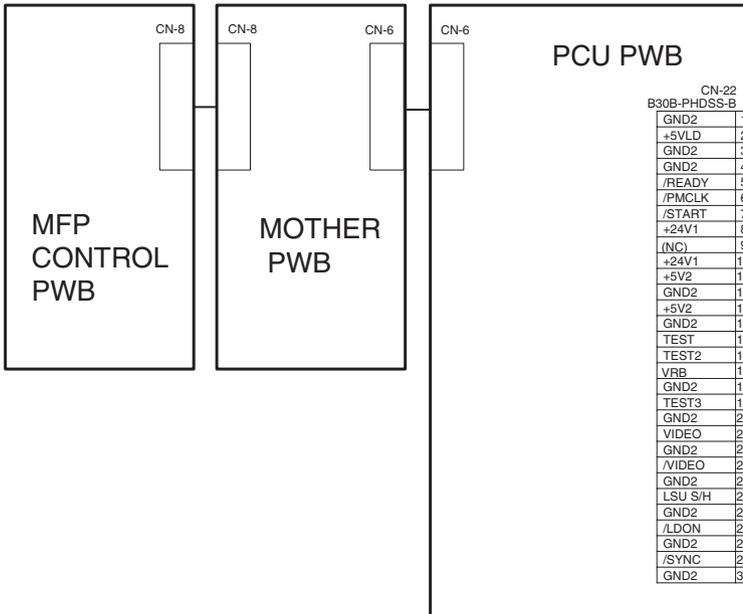


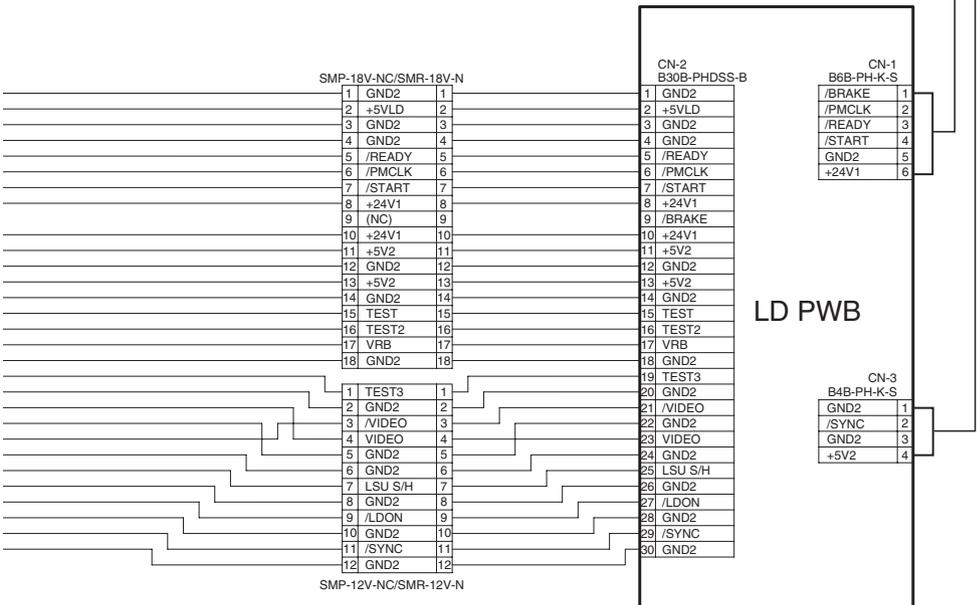
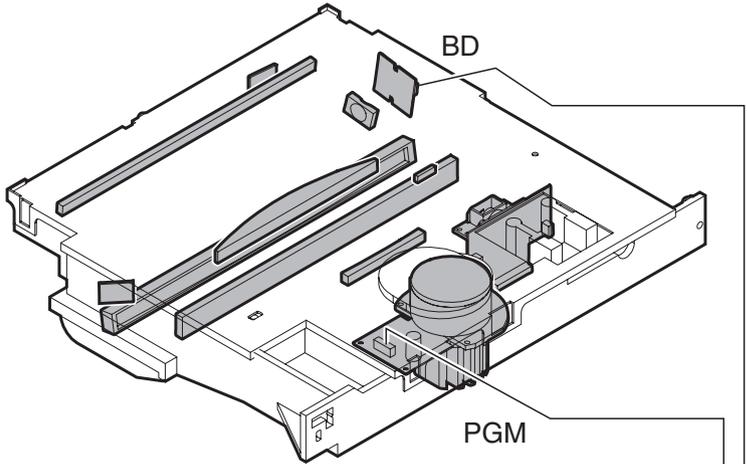
A. General

This section performs the following operations.

Image data sent from the MFP (image process circuit) through the mother board and PCU are converted into laser beams to radiate onto the drum surface.

B. Major parts and signal functions



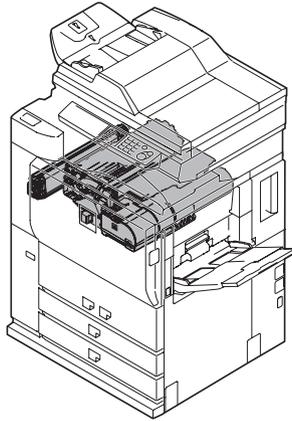


4. Image process section

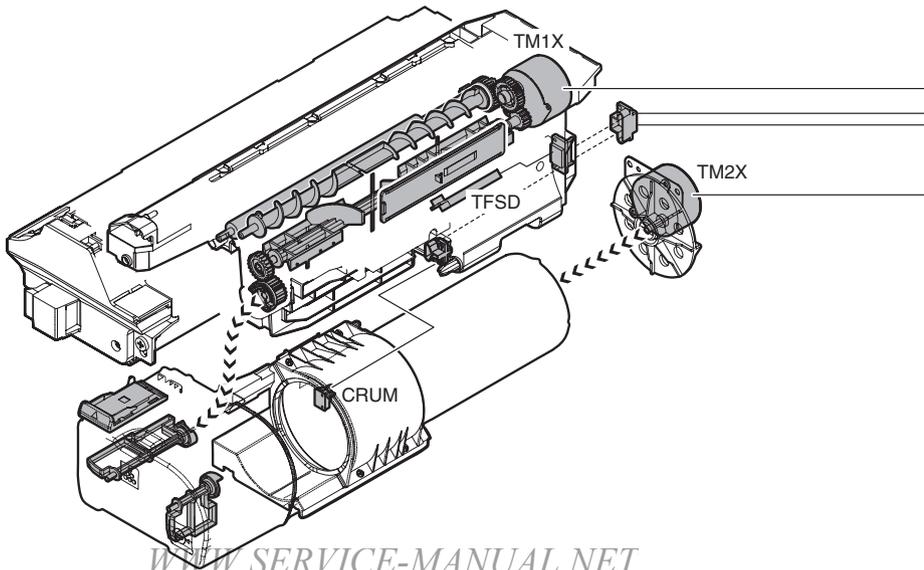
A. General

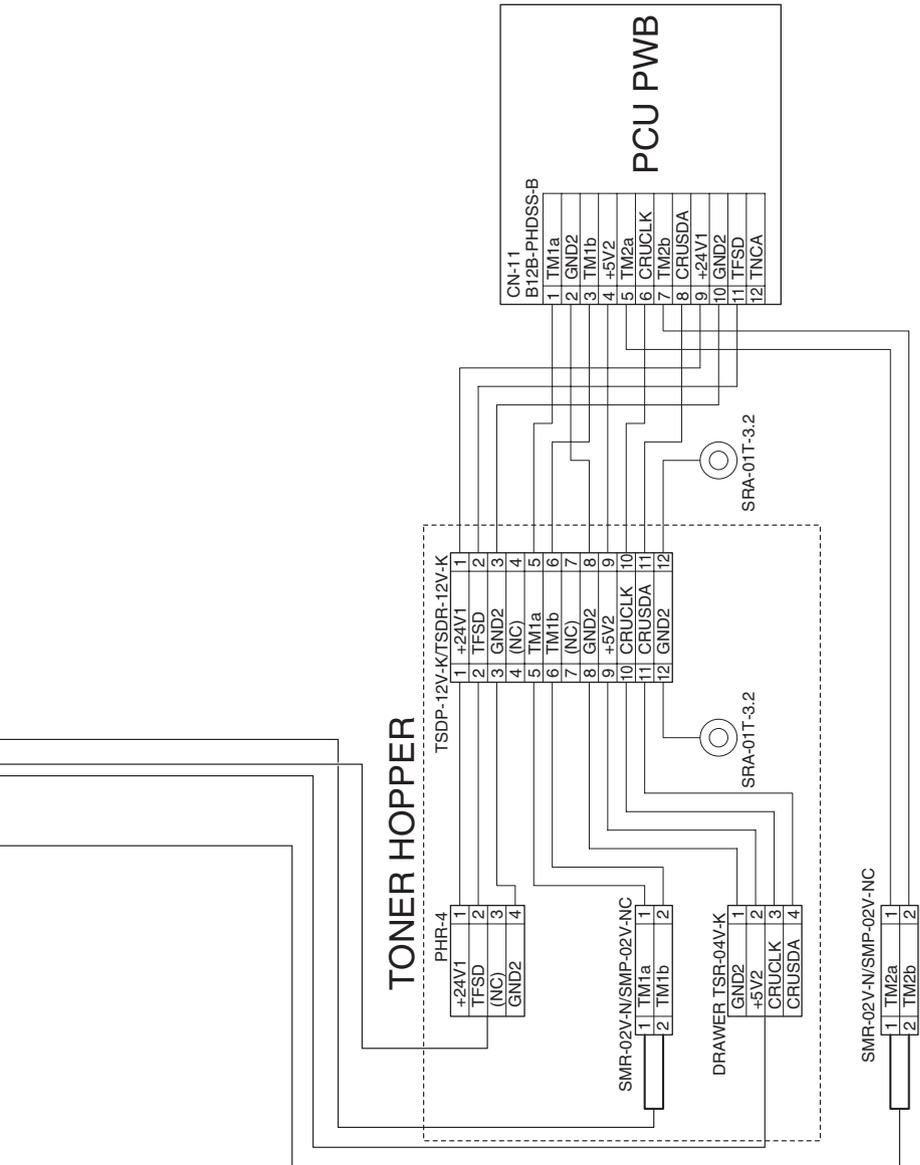
Toner is attached to electrostatic latent images formed by the laser beams which were radiated to the OPC drum charged by the main charger, forming toner images.

The toner images formed on the OPC drum are transferred to paper by the transfer belt.



B. Major parts and signal functions



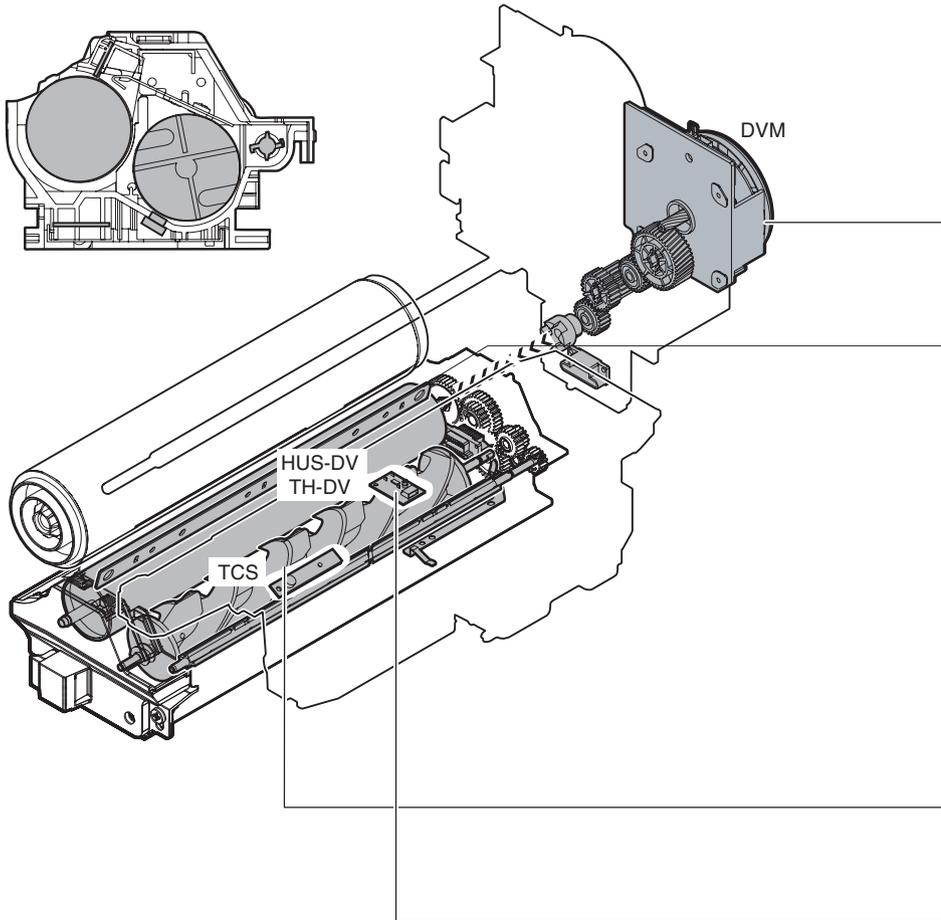


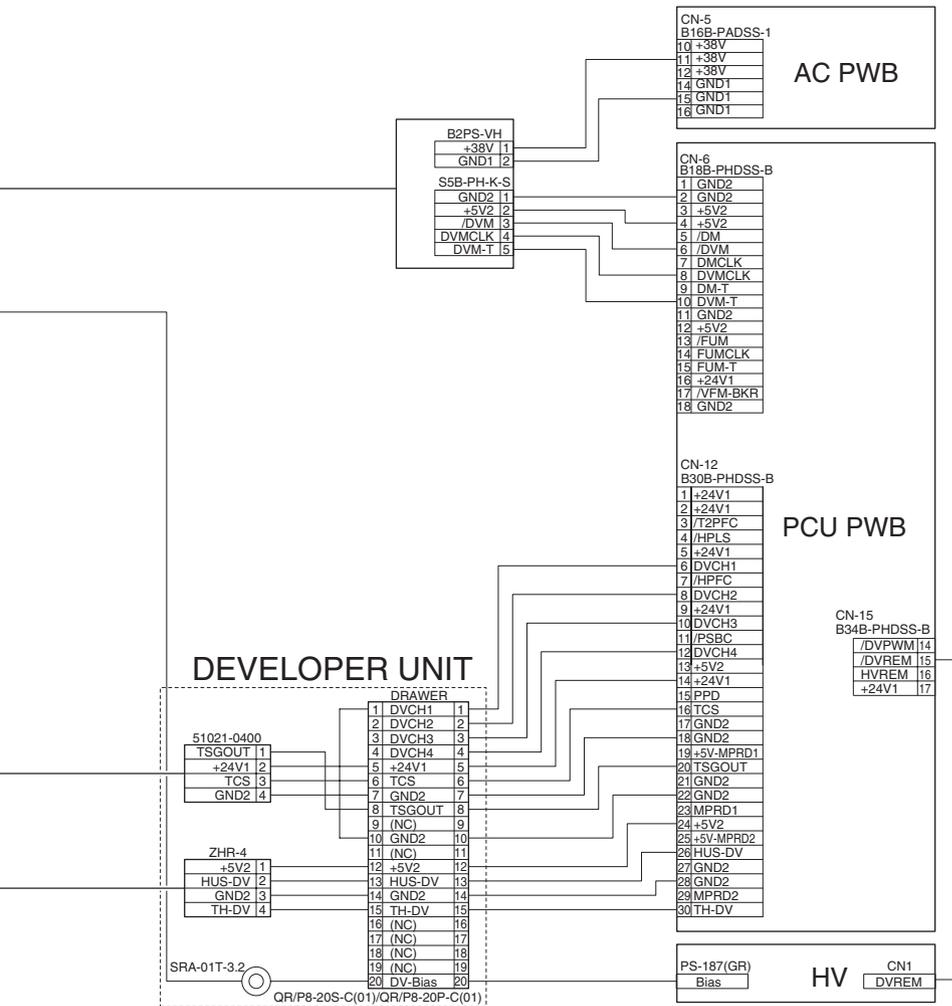
[Developer tank section]

A. General

In this section, toner is attached to electrostatic latent images formed by laser beams on the OPC drum, making visible images.

B. Major parts and signal functions



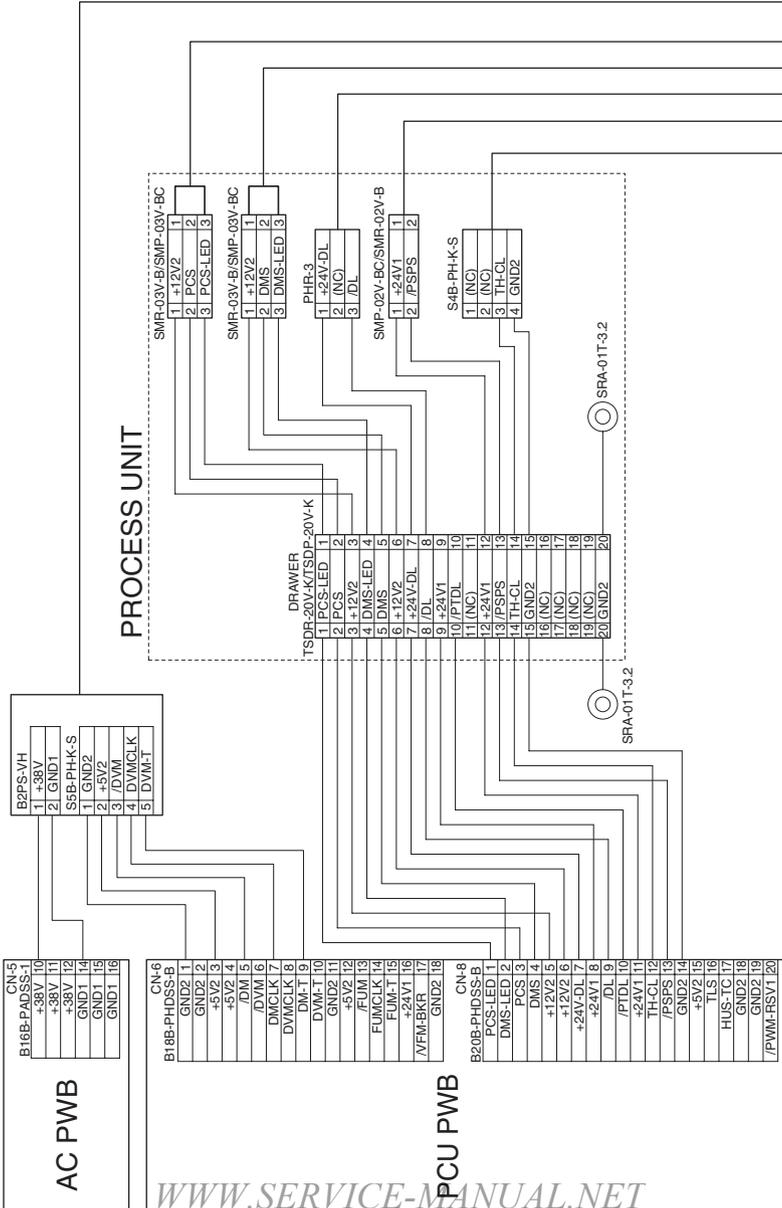


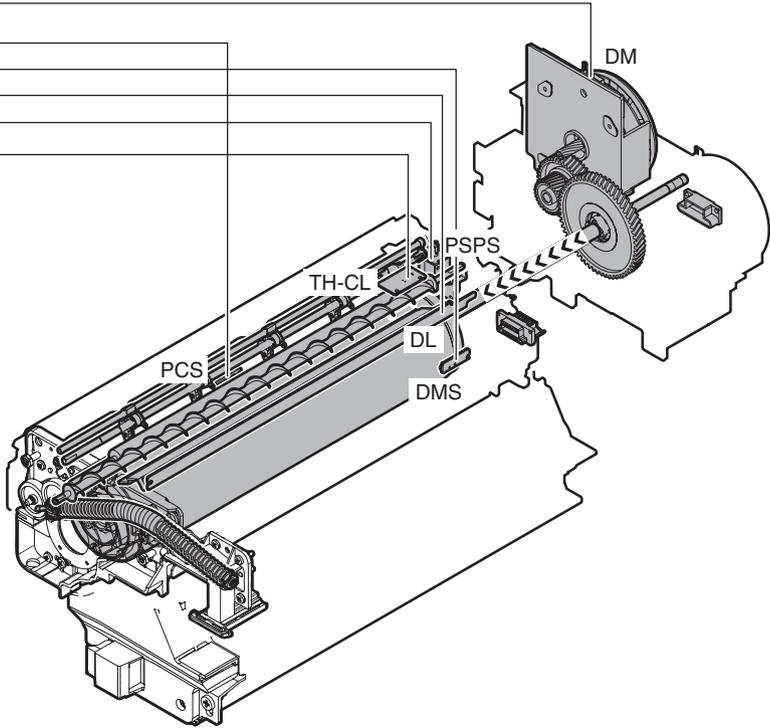
[OPC drum section]

A. General

In this section, laser beams are radiated to the OPC drum surface which was negatively charged, making electrostatic latent images.

B. Major parts and signal functions





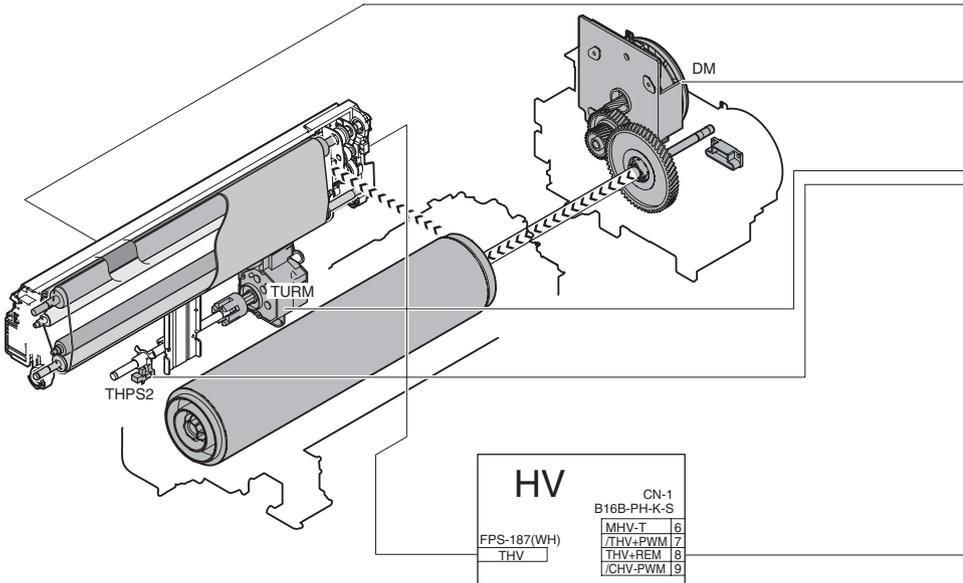
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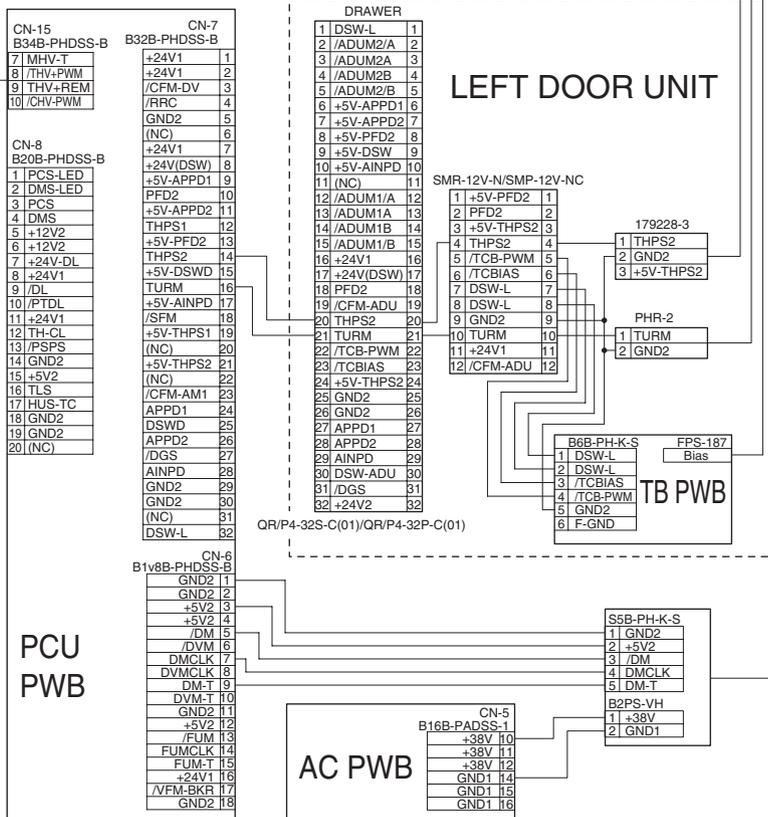
[Transfer section]

A. General

In this section, toner images on the OPC drum are transferred to paper.

B. Major parts and signal functions



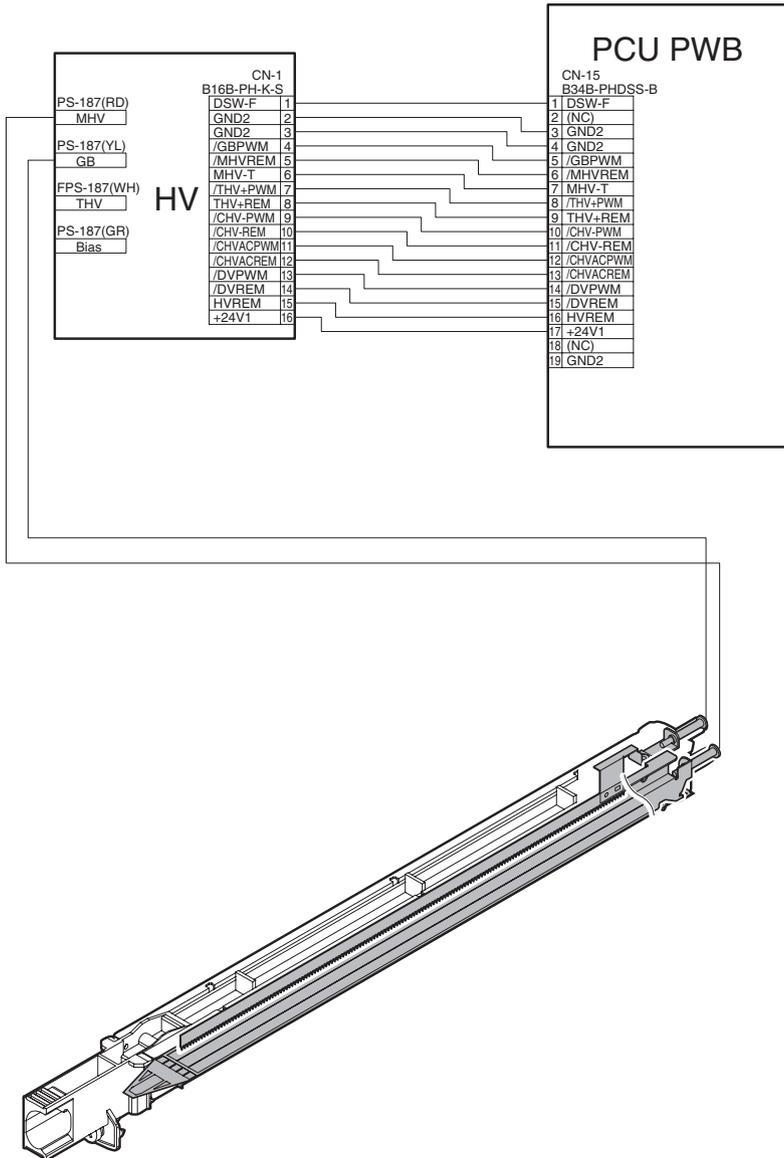


[Main charger section]

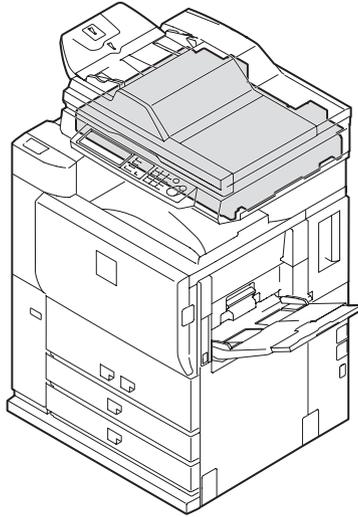
A. General

The OPC drum surface is negatively charged in this section.

B. Major parts and signal functions



5. Scanner section

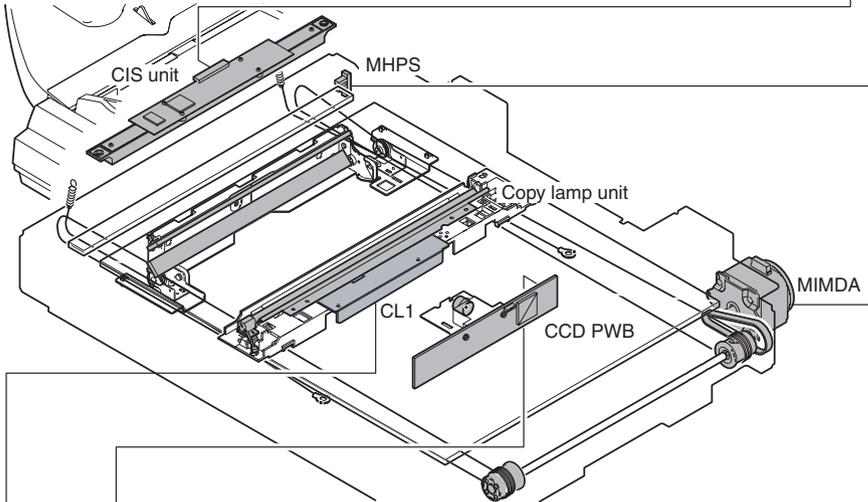
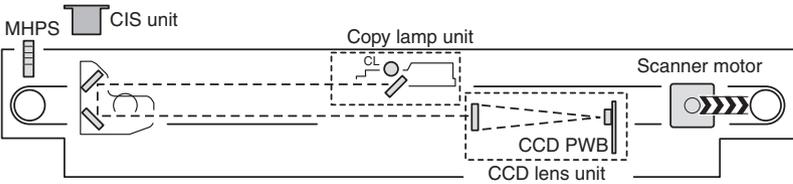
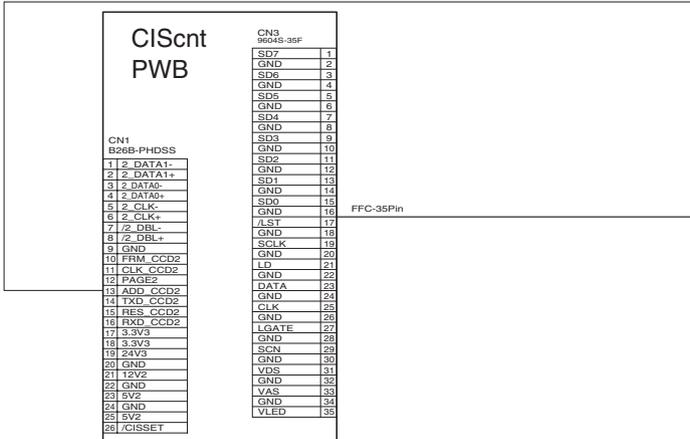


A. General

There are following three methods of scanning documents in this machine.

- a. Place a document on the table glass. The copy lamp unit is operated to radiate copy lamp light onto the document, scanning the document with the CCD.
- b. The SPF feeds a document. The copy lamp light is radiated onto the document which is stopped at the specified position and the document is scanned by the CCD.
- c. The SPF feed a document. The LED light of the CIS unit which is attached to the SPF is radiated to the back of the document, and the document is scanned by the CIS.

B. Major parts and signal functions



SLDSR-1 (FC1)	
GND	1
GND	2
ACL1	3
24V3	4
24V3	5

SCN
JNT
PWB

CN2	
IL-FPR-40S-VF-E1500	
40	GND
39	1 DATA3+
38	1 DATA3-
37	1 DATA2+
36	1 DATA2-
35	1 DATA1+
34	1 DATA1-
33	1 DATA0+
32	1 DATA0-
31	GND
30	1 CLK+
29	1 CLK-
28	GND
27	1 DBL+
26	1 DBL-
25	GND
24	FRM CCD1
23	/PAGE1
22	CLK CCD1
21	ADD CCD1
20	TXD CCD1
19	RXD CCD1
18	RES CCD1
17	GND
16	3.3V3
15	3.3V3
14	GND
13	5V2
12	5V2
11	5V2
10	5V2
9	5V2
8	5V2
7	5V2
6	5V2
5	GND
4	12V2
3	12V2
2	GND
1	GND

FFC-40Pin

CN4	
TX26-100P-LT-H1	
GND	1
GND	2
1 DBL-	3
1 DBL+	4
1 CLK-	5
1 CLK+	6
1 DATA0-	7
1 DATA0+	8
1 DATA1-	9
1 DATA1+	10
1 DATA2-	11
1 DATA2+	12
1 DATA3-	13
1 DATA3+	14
GND	15
GND	16
CCDFAN	17
12V2	18
24V3	19
24V3	20
PDSEL1	21
PDSEL2	22
/KEYN	23
SEG0	24
GND	25
GND	26
lcdS+	27
lcdS-	28
lcdM+	29
lcdM-	30
lcdCP1+	31
lcdCP1-	32
lcdCP2+	33
lcdCP2-	34
lcdD0+	35
lcdD0-	36
lcdD1+	37
lcdD1-	38
lcdD2+	39
lcdD2-	40
lcdD3+	41
lcdD3-	42
GND	43
GND	44
YH	45
/YL	46
/STSET	47
/STMP5	48
GND	49
GND	50
GND	51
GND	52
12V2	53
12V2	54
GND	55
5V2	56
GND	57
5V2	58
GND	59
3.3V3	60
FRM CCD1	61
CLK CCD1	62
TXD CCD1	63
RES CCD1	64
RXD CCD1	65
ADD CCD1	66
GND	67
/PAGE1	68
GND	69
GND	70
/CL1	71
PDSEL0	72
5V2	73
FD	74
SEG1	75
SEG2	76
GND	77
/F0	78
GND	79
/F1	80
GND	81
/F2	82
GND	83
/F3	84
GND	85
/BZR	86
GND	87
5V1	88
5V1	89
3.3V3	90
GND	91
LCD VEE	92
TH	93
/CCFT	94
/YL	95
XH	96
24V3	97
24V3	98
GND	99
EXD1	100

FFC-5Pin

CN5	
SLDSR-1(FCI)	
1	GND
2	GND
3	/CL1
4	24V3
5	24V3

CN1	
TX24-100R-LT-H1	
1	GND
2	GND
3	1 DBL-
4	1 DBL+
5	1 CLK-
6	1 CLK+
7	1 DATA0-
8	1 DATA0+
9	1 DATA1-
10	1 DATA1+
11	1 DATA2-
12	1 DATA2+
13	1 DATA3-
14	1 DATA3+
15	GND
16	GND
CCDFAN	17
18	12V2
19	24V3
20	24V3
21	PDSEL1
22	PDSEL2
23	/KEYN
24	SEG0
25	GND
26	GND
27	lcdS+
28	lcdS-
29	lcdM+
30	lcdM-
31	lcdCP1+
32	lcdCP1-
33	lcdCP2+
34	lcdCP2-
35	lcdD0+
36	lcdD0-
37	lcdD1+
38	lcdD1-
39	lcdD2+
40	lcdD2-
41	lcdD3+
42	lcdD3-
43	GND
44	GND
45	YH
46	/YL
47	/STSET
48	/STMP5
49	GND
50	GND
51	GND
52	GND
53	12V2
54	12V2
55	GND
56	5V2
57	GND
58	5V2
59	GND
60	3.3V3
61	FRM CCD1
62	CLK CCD1
63	TXD CCD1
64	RES CCD1
65	RXD CCD1
66	ADD CCD1
67	GND
68	/PAGE1
69	GND
70	GND
71	/CL1
72	PDSEL0
73	5V2
74	FD
75	SEG1
76	SEG2
77	GND
78	/F0
79	GND
80	/F1
81	GND
82	/F2
83	GND
84	/F3
85	GND
86	/BZR
87	GND
88	5V1
89	lcdDIS
90	3.3V3
91	GND
92	LCD VEE
93	TH
94	/CCFT
95	/YL
96	XH
97	24V3
98	24V3
99	GND
100	EXD1

SCN cnt
PWB

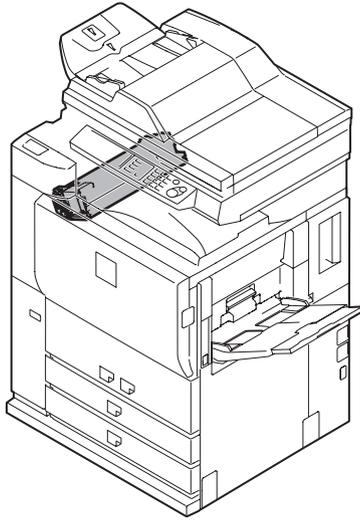
CN10	
S869-PHOSS-B	
2	DATA1-
2	DATA1+
2	DATA0-
2	DATA0+
2	CLK-
2	CLK+
2	DBL-
2	DBL+
GND	9
FRM CCD2	10
CLK CCD2	11
PAGE2	12
ADD CCD2	13
TXD CCD2	14
RES CCD2	15
RXD CCD2	16
GND	17
3.3V3	18
3.3V3	19
24V3	20
GND	21
12V2	22
5V2	23
GND	24
5V2	25
7CSSET	26

CN6	
B3B-PH-K-S	
MHPS	1
GND	2
5V2	3

53053-0310(MOLEX)	
1	1 MHPS
2	2 GND
3	3 5V2

CN7	
S6B-PH-K-R	
1	MIMA
1	MIMB
3	MIMA
4	MIMB
3	24V3
6	24V3

6. Fusing section



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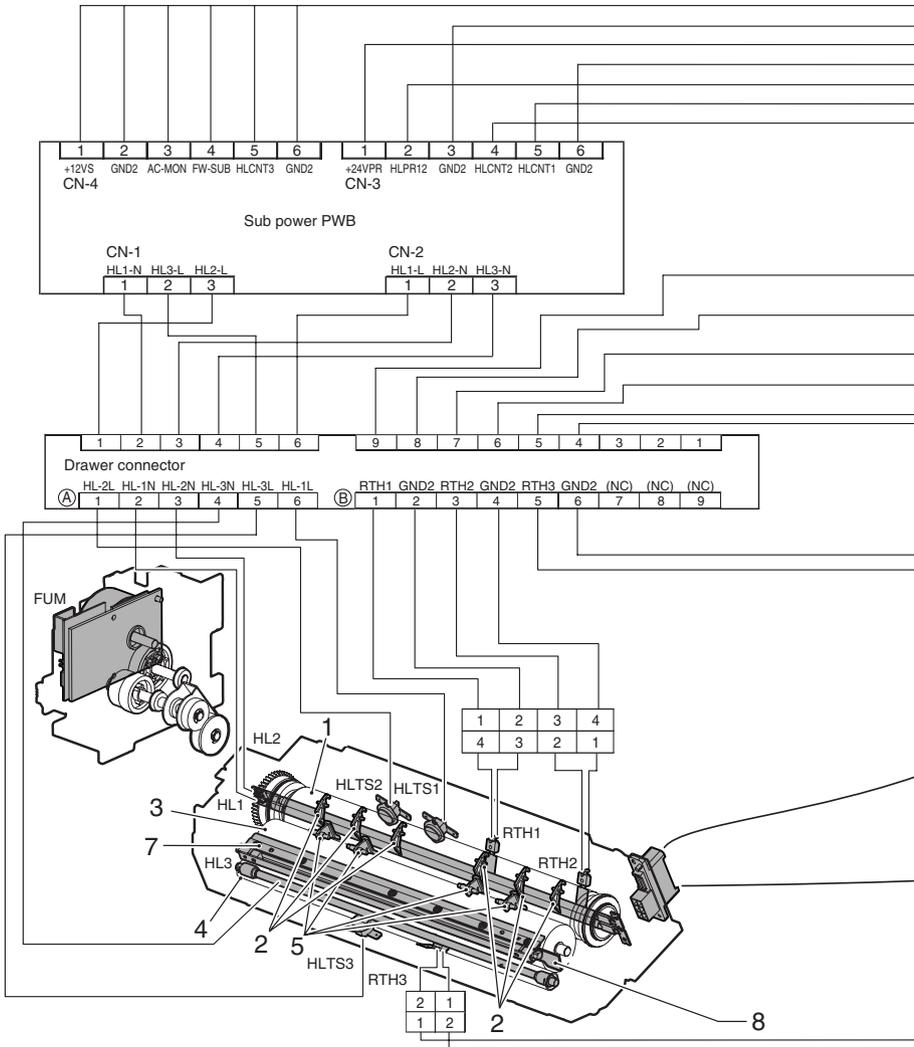
A. General

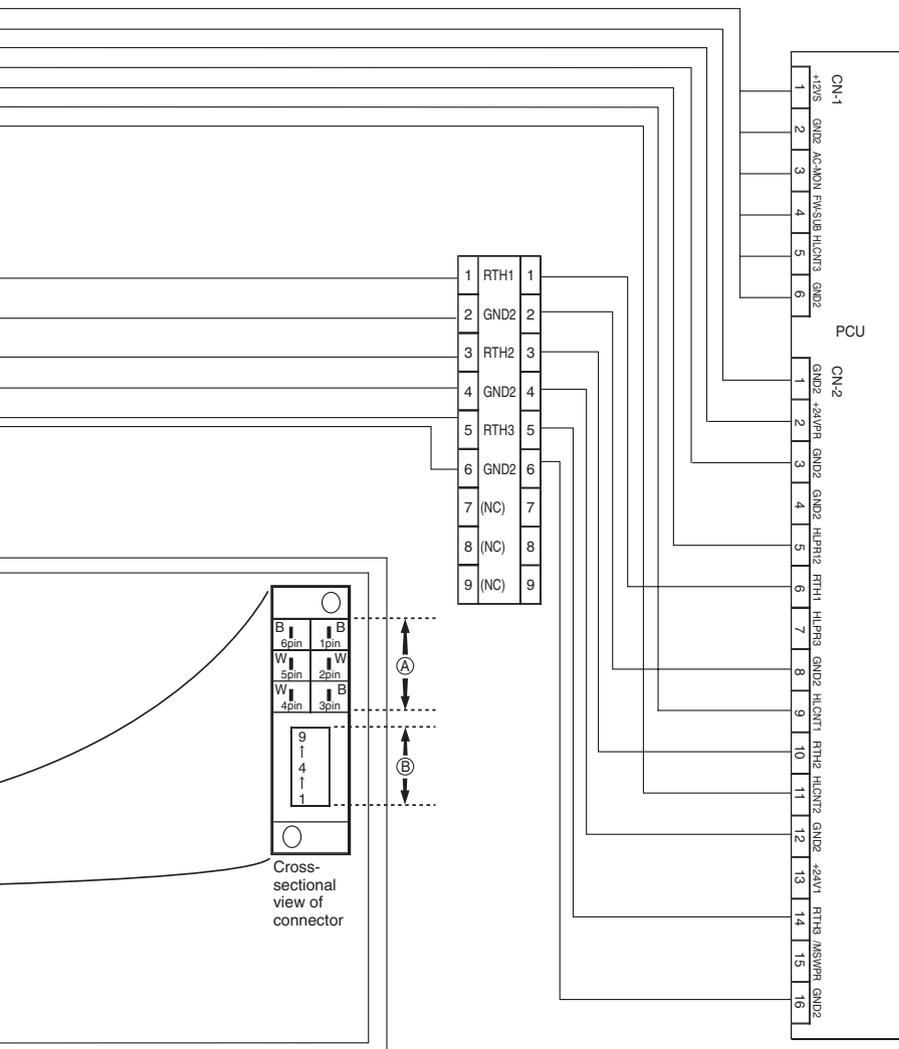
This section performs the following functions and operations.

- 1) Toner attached to paper in the transfer section are heated and pressed onto paper to fuse.
- 2) The auxiliary heat roller is used to improve fusing capacity and separation capacity after fusing.

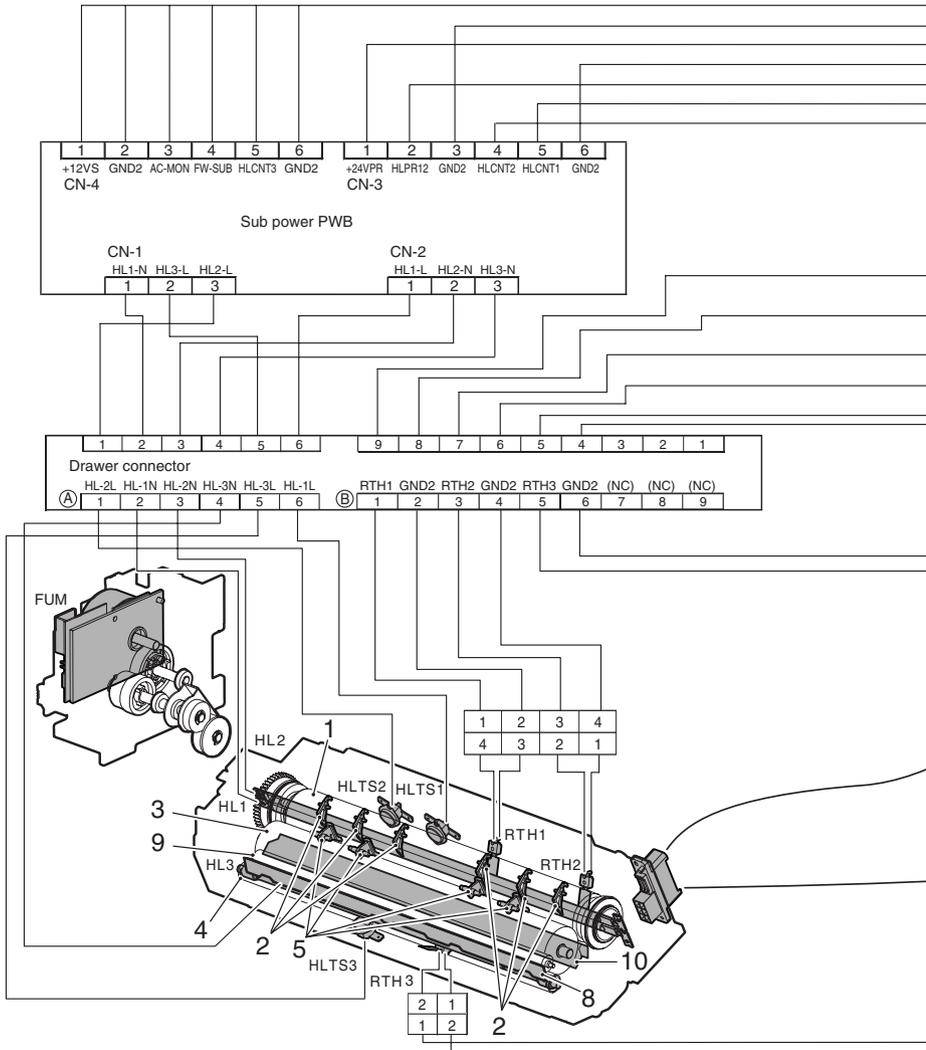
B. Major parts and signal functions

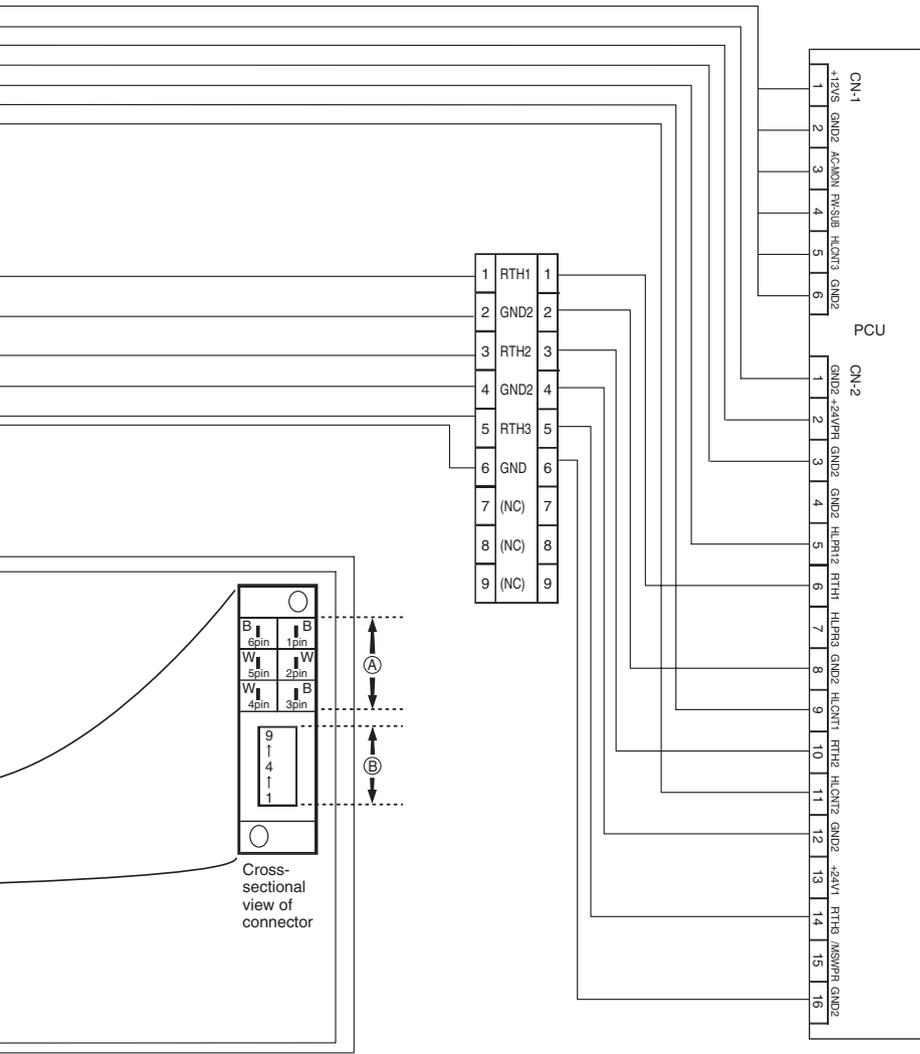
■ AR-M550N/U, AR-M620N/U



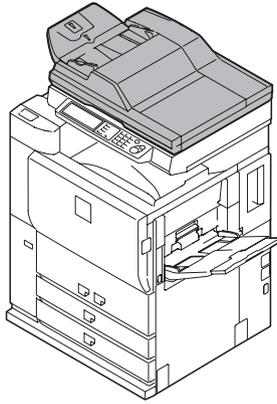


■ AR-M700N/U





7. SPF section



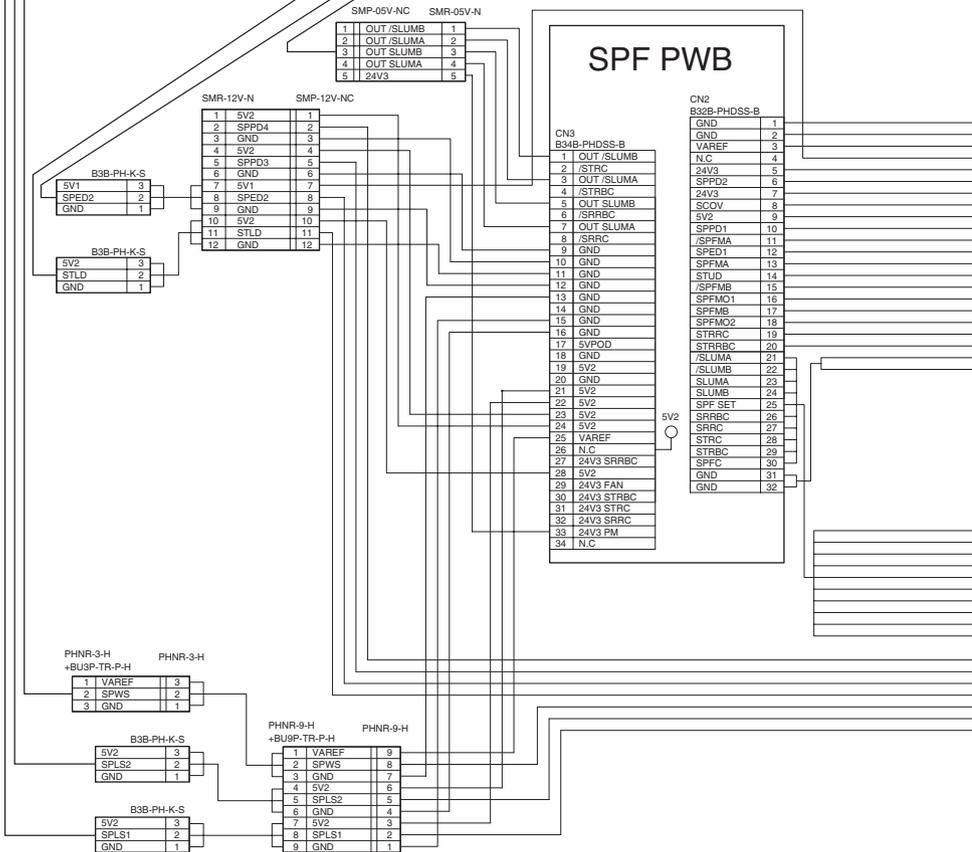
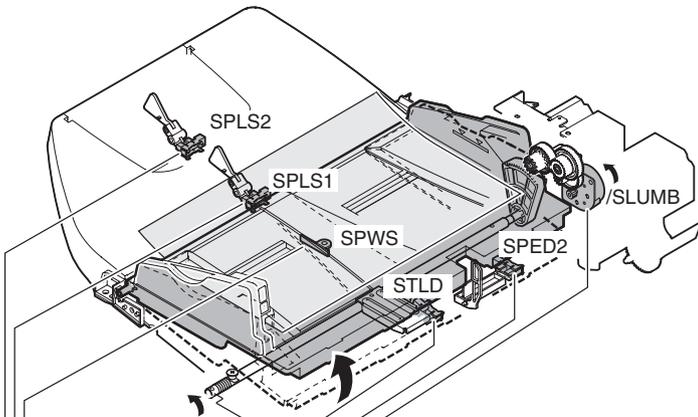
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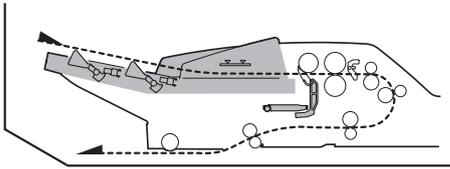
A. General

Sheet documents are automatically fed and transported for continuous scanning. The front and the back surfaces of duplex sheet documents can be scanned at a time.

[Paper feed tray section]

A. Major parts and signal functions





**SCNcnt
PWB**

CN1	
TX24-100R-LT-H1	1
GND	2
/1 DBL-	3
/1 DBL+	4
1 CLK-	5
1 CLK+	6
1 DATA0-	7
1 DATA0+	8
1 DATA1-	9
1 DATA1+	10
1 DATA2-	11
1 DATA2+	12
1 DATA3-	13
1 DATA3+	14
GND	15
GND	16
/CCDFAN	17
12V2	18
24V3	19
24V3	20
PDSEL1	21
PDSEL2	22
/KEYIN	23
SEGO	24
GND	25
GND	26
lcdS+	27
lcdS-	28
lcdM+	29
lcdM-	30
lcdCP1+	31
lcdCP1-	32
lcdCP2+	33
lcdCP2-	34
lcdD0+	35
lcdD0-	36
lcdI1+	37
lcdI1-	38
lcdI2+	39
lcdI2-	40
lcdI3+	41
lcdI3-	42
GND	43
GND	44
YH	45
/XL	46
/JSTSET	47
/JSTMPS	48
GND	49
GND	50
GND	51
GND	52
12V2	53
12V2	54
GND	55
5V2	56
GND	57
5V2	58
GND	59
3.3V3	60
FRM_CCD1	61
CLK_CCD1	62
TXD_CCD1	63
RES_CCD1	64
RXD_CCD1	65
ADD_CCD1	66
GND	67
PAGE1	68
GND	69
GND	70
/CL1	71
PDSEL0	72
5V2	73
PD	74
SEG1	75
SEG2	76
GND	77
/F0	78
GND	79
GND	80
GND	81
/F2	82
GND	83
GND	84
GND	85
/BZR	86
GND	87
5V1	88
lcdDIS	89
3.3V3	90
GND	91
LCD_VEE	92
TH	93
/CCFT	94
/XL	95
XH	96
24V3	97
24V3	98
GND	99
GND	100

CN12	
S22B-PHDS5-B	
1 GND	2
2 GND	3
3 VAREF	4
4 5V1	5
5 24V3	6
6 SPFD2	7
7 24V2	8
8 SCOV	9
9 5V2	10
10 SPFD1	11
11 /SPFMA	12
12 SPED1	13
13 /SPFMA	14
14 /STUD	15
15 /SPFMB	16
16 /SPFM01	17
17 /SPFMB	18
18 /SPFM02	19
19 /STRRC	20
20 /STRRC	21
21 GND	22
22 GND	

CN11	
S20B-PHDS5-B	
1 /SLUMA	2
2 /SLUMB	3
3 SLUMA	4
4 SLUMB	5
5 /SPF SET	6
6 /STRRC	7
7 /SRRC	8
8 /STRC	9
9 /STRBC	10
10 /SPFC	11
11 /SPFFAN	12
12 /SPFD1	13
13 /SPFD3	14
14 /SPED2	15
15 /STLD	16
16 /SPWS	17
17 /SPLS2	18
18 /SPLS1	19
19 /SOCD	20
20 /SPFD	

CN4	
TX25-100P-LT-H1	
1 GND	2
2 GND	3
3 /1 DBL-	4
/1 DBL+	5
1 CLK-	6
1 CLK+	7
1 DATA0-	8
1 DATA0+	9
1 DATA1-	10
1 DATA1+	11
1 DATA2-	12
1 DATA2+	13
1 DATA3-	14
1 DATA3+	15
GND	16
GND	17
/CCDFAN	18
12V2	19
24V3	20
24V3	21
PDSEL1	22
PDSEL2	23
/KEYIN	24
SEGO	25
GND	26
GND	27
lcdS+	28
lcdS-	29
lcdM+	30
lcdM-	31
lcdCP1+	32
lcdCP1-	33
lcdCP2+	34
lcdCP2-	35
lcdD0+	36
lcdD0-	37
lcdI1+	38
lcdI1-	39
lcdI2+	40
lcdI2-	41
lcdI3+	42
lcdI3-	43
GND	44
GND	45
YH	46
/XL	47
/JSTSET	48
/JSTMPS	49
GND	50
GND	51
GND	52
12V2	53
12V2	54
GND	55
5V2	56
GND	57
5V2	58
GND	59
3.3V3	60
FRM_CCD1	61
CLK_CCD1	62
TXD_CCD1	63
RES_CCD1	64
RXD_CCD1	65
ADD_CCD1	66
GND	67
PAGE1	68
GND	69
GND	70
/CL1	71
PDSEL0	72
5V2	73
PD	74
SEG1	75
SEG2	76
GND	77
/F0	78
GND	79
GND	80
GND	81
/F2	82
GND	83
GND	84
GND	85
/BZR	86
GND	87
5V1	88
lcdDIS	89
3.3V3	90
GND	91
LCD_VEE	92
TH	93
/CCFT	94
/XL	95
XH	96
24V3	97
24V3	98
GND	99
GND	100

**SCN
JNT
PWB**

CN5	
T24FAZ-SMT-TF	
GND	24
5V1	23
/BZR	22
N.C	21
N.C	20
GND	19
GND	18
GND	17
/F3	16
/F2	15
/F1	14
/F0	13
SEG2	12
SEG1	11
SEG0	10
/KEYIN	9
5V2	8
GND	7
PD	6
5V2	5
PDSEL2	4
PDSEL1	3
PDSEL0	2
GND	1

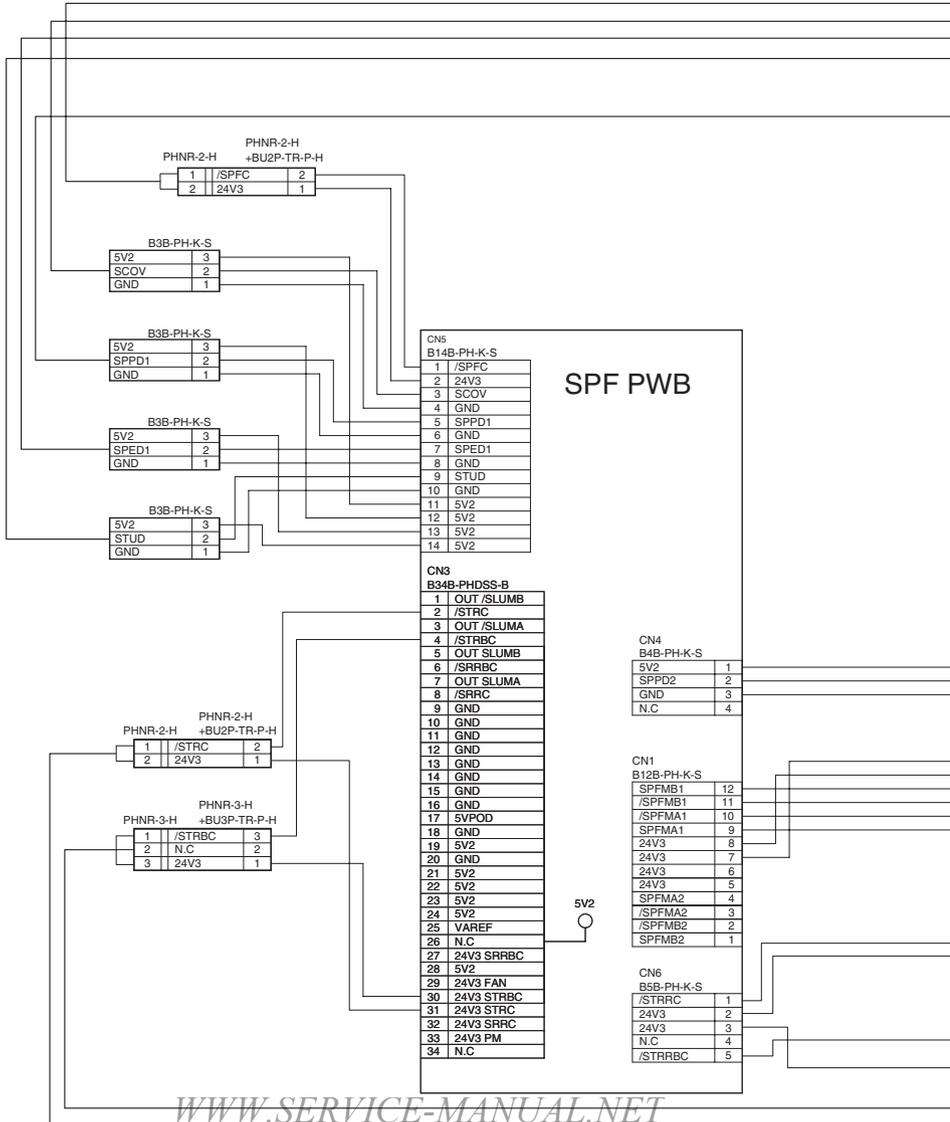
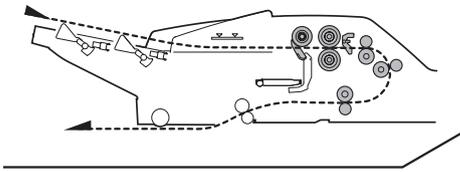
FFC-24Pin

CN101	
T24FAZ-SMT-TF	
1 GND	2
2 5V1	3
/BZR	4
N.C	5
N.C	6
GND	7
GND	8
/F3	9
/F2	10
/F1	11
/F0	12
SEG2	13
SEG1	14
SEG0	15
/KEYIN	16
5V2	17
GND	18
PD	19
5V2	20
PDSEL2	21
PDSEL1	22
PDSEL0	23
GND	24

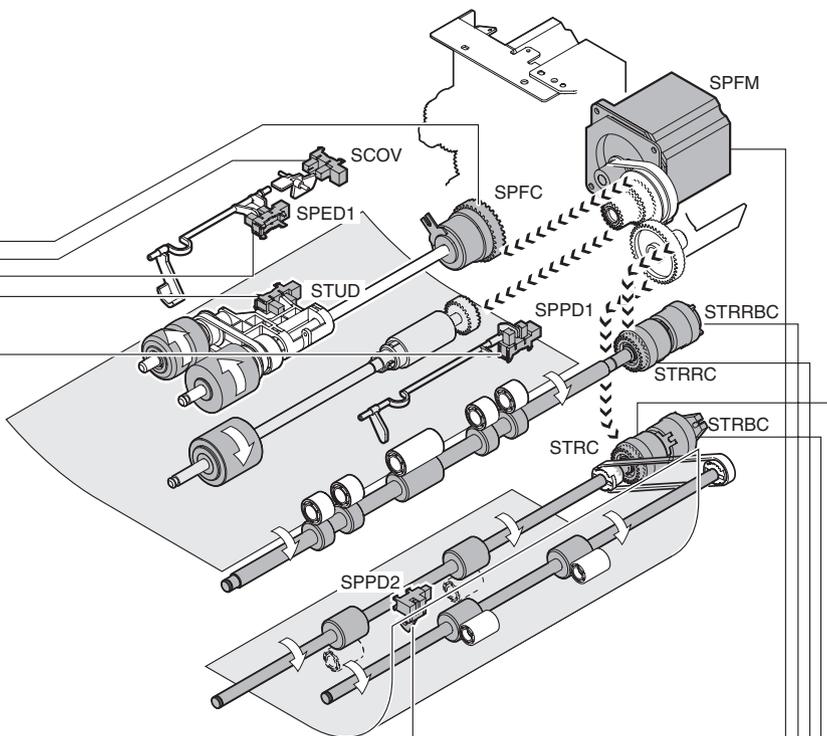
**MFP
OPE
PWB**

[Paper feed/transport section]

A. Major parts and signal functions



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B3B-PH-K-S

3	5V2
2	SPPD2
1	GND

SMR-06V-N SMP-06V-NC

6	24V3	6
5	24V3	5
4	(SPFMA1)	4
3	(/SPFMA1)	3
2	(/SPFMB1)	2
1	(SPFMB1)	1

PHNR-2-H PHNR-2-H
+BU2P-TR-P-H

2	/STRRC	1
1	24V3	2

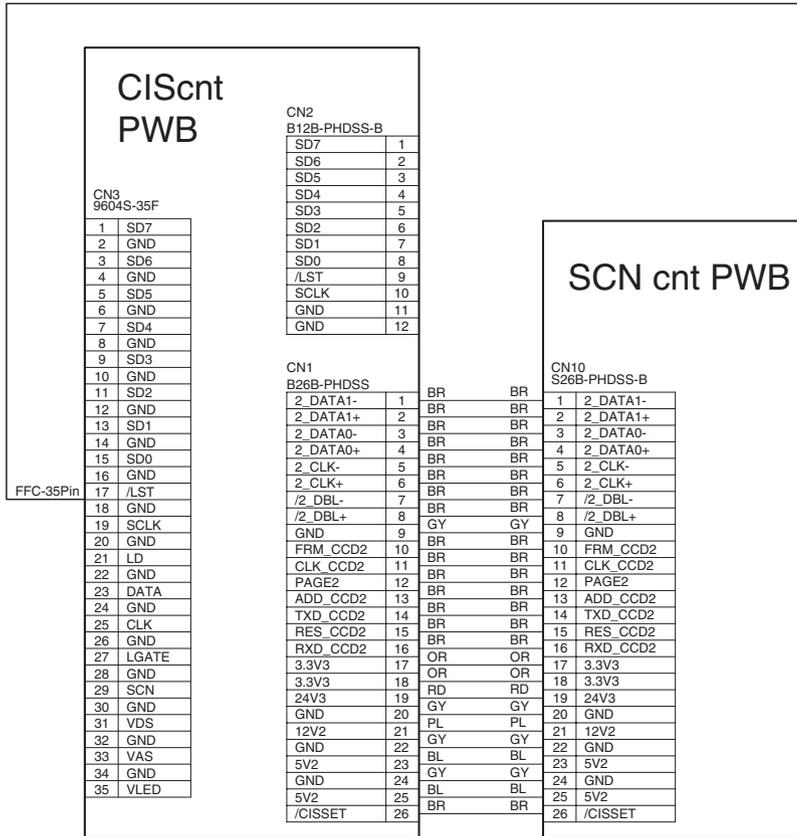
PHNR-3-H PHNR-3-H
+BU3P-TR-P-H

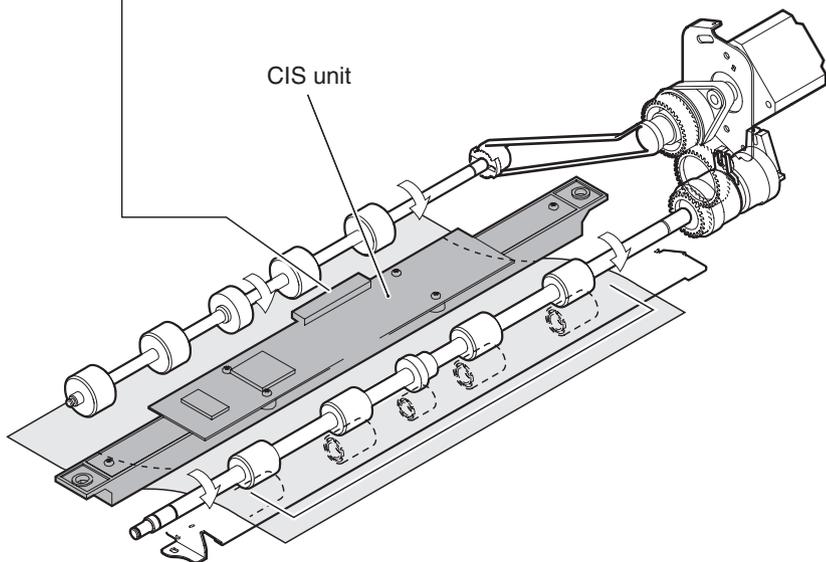
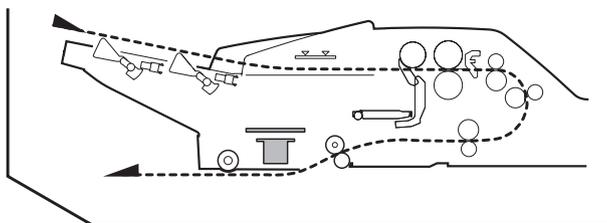
3	/STRRBC	1
2	N.C	2
1	24V3	3

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[CIS section]

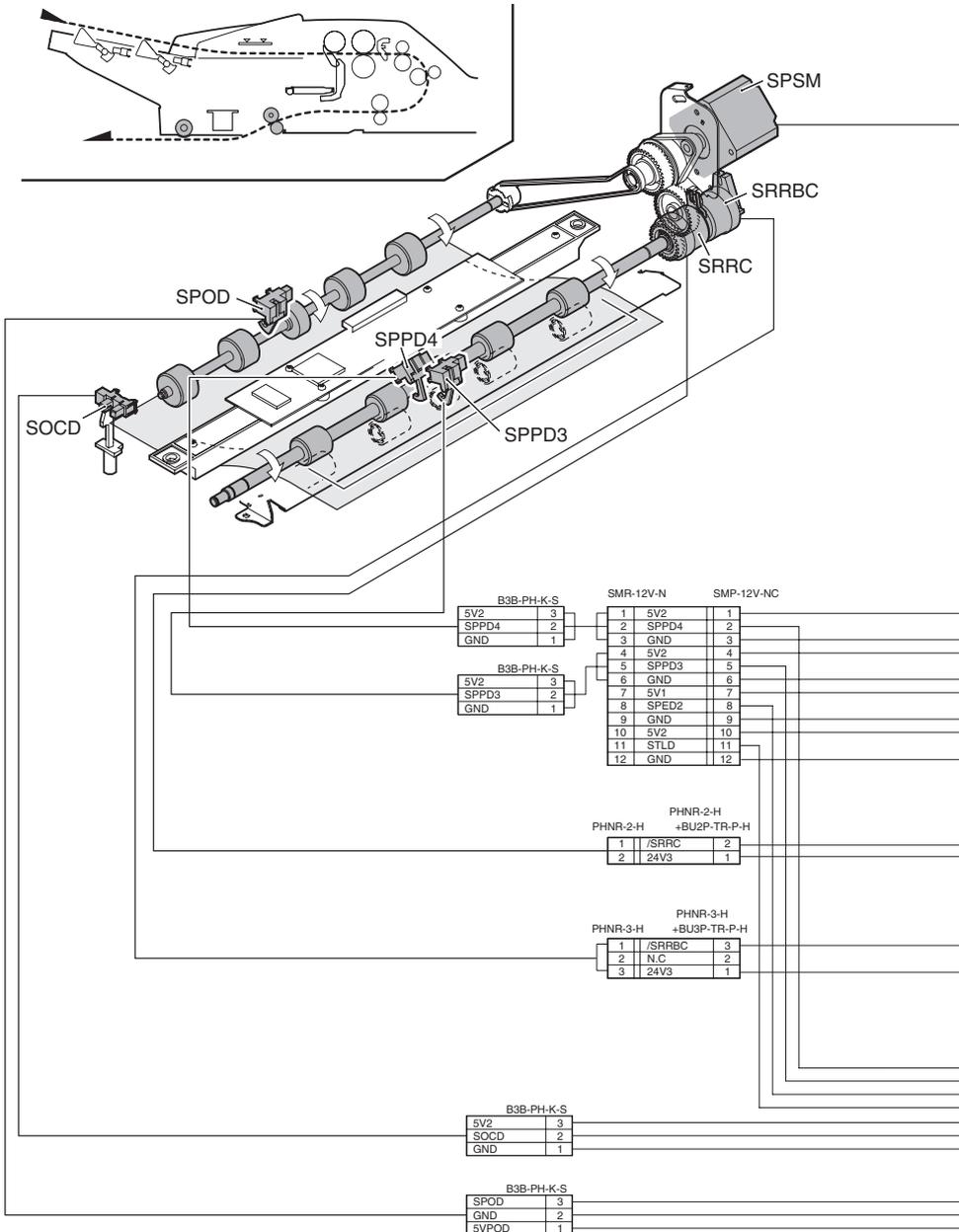
A. Major parts and signal functions

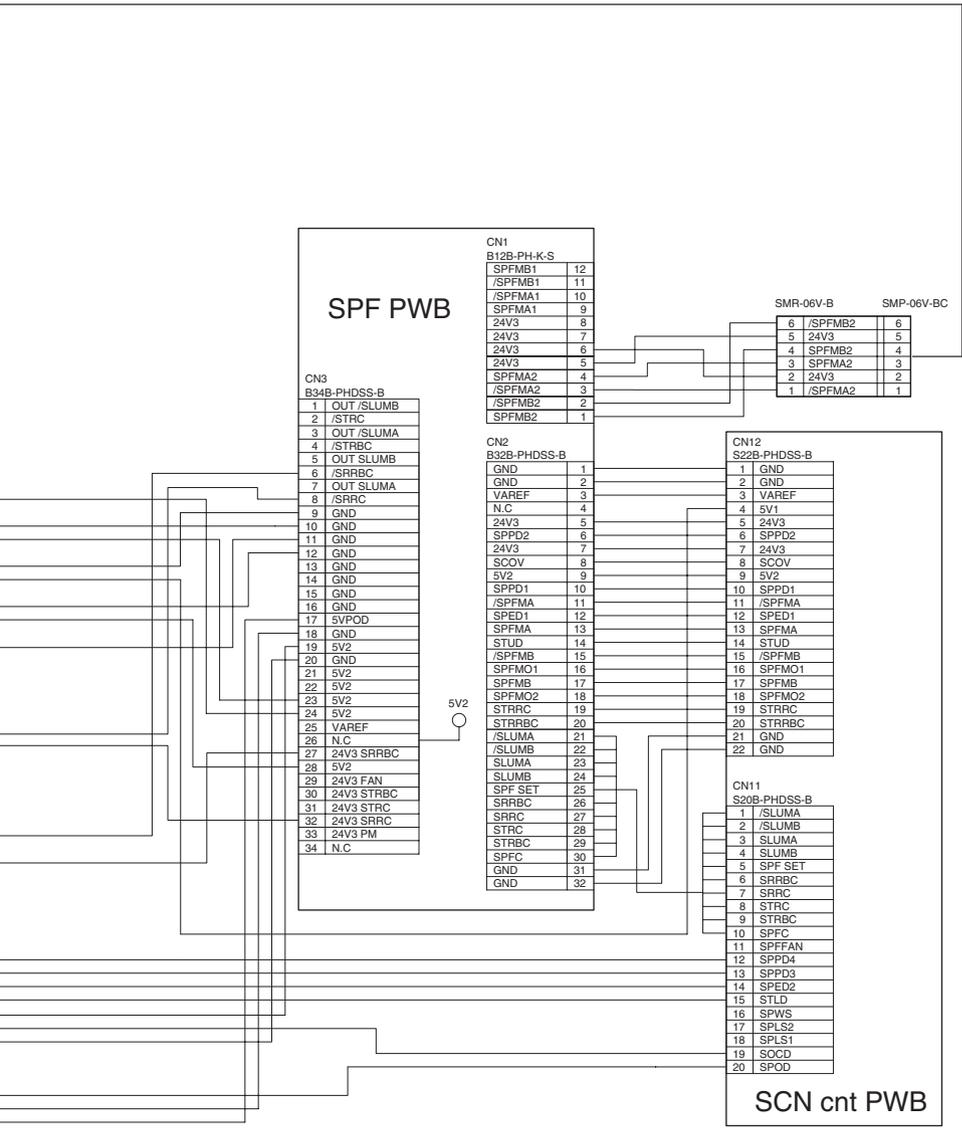




[Paper exit section]

A. Major parts and signal functions





[3] SETTING AND ADJUSTMENTS

Each adjustment item in the adjustment item list is associated with a specific JOB number. Perform the adjustment procedures in the sequence of Job numbers from the smallest to the greatest.

However, there is no need to perform all the adjustment items. Perform only the necessary adjustments according to the need.

Unnecessary adjustments can be omitted. Even in this case, however, the sequence from the smallest to the greatest JOB number must be observed.

If the above precaution should be neglected, the adjustment would not complete normally or trouble may occur.

Job No	Adjustment item list		Simulation
ADJ 1	Adjusting high voltage values	ADJ 1A Adjust the main charger grid voltage	8-2
		ADJ 1B Adjust the developing bias voltage	8-1
		ADJ 1C Adjust the transfer current	8-6, 8-17, 8-18
ADJ 2	Adjusting the developing unit	ADJ 2A Adjust the developing doctor gap	
		ADJ 2B Adjust the developing roller main pole	
ADJ 3	Adjusting image distortions	ADJ 3A Adjust print image distortions (LSU parallelism adjustment)	64-1
		ADJ 3B Adjust the scanner (reading) unit parallelism	
		ADJ 3C Adjust scanned image distortions in the sub-scanning direction	
		ADJ 3D Adjust scanned image distortions in the main scanning direction - 1	
		ADJ 3E Adjust scanned image distortions in the main scanning direction - 2	
ADJ 4	Adjusting the SPF parallelism	ADJ 4A Adjust SPF levelness	
		ADJ 4B Adjust SPF skews	64-1
ADJ 5	Adjusting the image focus	ADJ 5A Adjust the image focus in original table mode and SPF front-face mode (CCD)	48-1
		ADJ 5B Adjust the image focus in SPF back-face mode (CIS)	

Job No	Adjustment item list		Simulation	
ADJ 6	Adjusting the image magnification	ADJ 6A	Adjust the image magnification in the main scanning direction in original table mode (CCD)	48-1
		ADJ 6B	Adjust the image magnification in the sub-scanning direction in original table mode (CCD)	48-1
		ADJ 6C	Adjust the image magnification in the main scanning direction in SPF front-face mode (CCD)	48-1
		ADJ 6D	Adjust the image magnification in the main scanning direction in SPF back-face mode (CIS)	48-1
		ADJ 6E	Adjust the image magnification in the sub-scanning direction in SPF mode	48-1, 48-5
ADJ 7	Adjusting the image off-center	ADJ 7A	Adjust the print image off-center (print engine section)	50-5 (50-10)
		ADJ 7B	Adjust the scanned image off-center in original table mode (scan section)	50-12
		ADJ 7C	Adjust the scanned image off-center in SPF front-face mode (scan section)	50-12
		ADJ 7D	Adjust the scanned image off-center in SPF back-face mode (scan section)	50-12
ADJ 8	Adjusting the image position, image loss, and void area	ADJ 8A	Adjust copied image loss/void area in original table mode	50-1
		ADJ 8B	Adjust the original scan start position (adjust the scanner read position in SPF-mode front face scan)	53-8
		ADJ 8C	Adjust the copied image loss/void area in SPF mode	50-6
		ADJ 8D	Adjust the image loss in scanner mode	50-27
		ADJ 8E	Adjust the image loss for images sent in fax mode	50-27
ADJ 9	Adjusting the copied image quality	ADJ 9A	Adjust the binary mode copy density for all modes at once	46-2
		ADJ 9B	Adjust the copy density in text binary mode	46-9, 10, 11
		ADJ 9C	Adjust the copy density in text/photo binary mode	
		ADJ 9D	Adjust the copy density in photo binary mode	
		ADJ 9E	Adjust the copied image gamma in copy mode	46-18
		ADJ 9F	Adjust the copied image sharpness	46-31

Job No	Adjustment item list		Simulation	
ADJ 10	Adjusting the print quality in fax mode	ADJ 10A	Adjust the fax mode print density for all modes at once	46-12
		ADJ 10B	Adjust the fax mode print density in standard mode	46-13, 46-14,
		ADJ 10C	Adjust the fax mode print density in small-character mode	46-15, 46-16,
		ADJ 10D	Adjust the fax mode print density in fine mode	46-45
		ADJ 10E	Adjust the fax mode print density in super fine mode	
		ADJ 10F	Adjust the fax mode print density in 600dpi mode	
ADJ 11	Adjusting the image quality in scan mode	ADJ 11A	Adjust the scan mode image density for all modes at once	46-21
		ADJ 11B	Scan mode image density adjustment/individual setup (standard mode)	46-21, 46-22,
		ADJ 11C	Scan mode image density adjustment/individual setup (small-character mode)	46-23, 46-24, 46-25
		ADJ 11D	Scan mode image density adjustment/individual setup (fine mode)	
		ADJ 11E	Scan mode image density adjustment/individual setup (super fine mode)	
		ADJ 11F	Adjust the image gamma in scanner mode	46-27
ADJ 12	Common image quality adjustments for all of copy, scan, and fax modes	ADJ 12A	Correct the image density in original table mode/SPF mode (Copy mode)	46-20
		ADJ 12B	Set up the auto mode operation for copy, scan, and fax	46-19
		ADJ 12C	Adjust the shading reference value (gain adjustment)	46-17
ADJ 13	Adjusting the fusing paper guide position			
ADJ 14	Adjusting the paper size detection	ADJ 14A	Adjust the paper width sensor for the manual paper feed tray	40-2
		ADJ 14B	Adjust the paper width sensor for paper feed tray 3	40-12
		ADJ 14C	Adjust the paper width sensor for the SPF paper feed tray	53-6
ADJ 15	Adjusting the original size detection (in original table mode)	ADJ 15A	Adjust the detection point of the original size sensor (in original table mode)	41-1
		ADJ 15B	Adjust the sensitivity of the original size sensor	41-2
ADJ 16	Adjusting the touch panel coordinates		65-1	
ADJ 17	Adjusting the supply voltage			

ADJ 1 Adjusting high voltage values

Note: Adjusting the output voltage requires the ability to measure internal impedance of 1000 MW.

ADJ 1A Adjust the main charger grid voltage

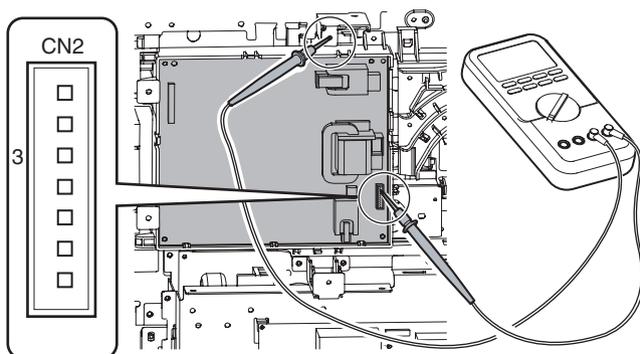
This adjustment is needed in the following situations:

- The high voltage power PWB (MC/DV/TC) has been replaced.
- U2 trouble has occurred.
- The PCU PWB has been replaced.
- The EEPROM of the PCU PWB has been replaced.

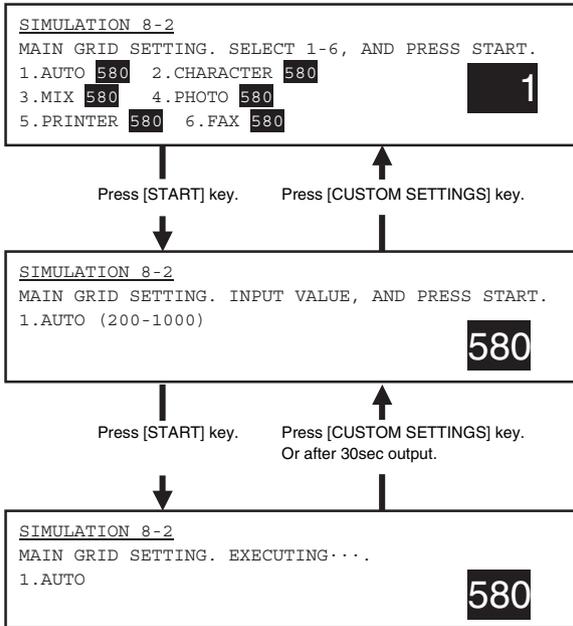
(Main charger grid voltage adjustment)

Item/operation mode		Simulation				High voltage power PWB (MC/DV/TC)		
				Setting range	Default	Connector	Pin #	Actual voltage
Copy	Auto mode	8-2	AUTO	200 – 1000	580	CN2	3	-590 ±2v
	Text mode		CHAR-ACTER	200 – 1000	580	CN2	3	-590 ±2v
	Text/photo mode		MIX	200 – 1000	580	CN2	3	-590 ±2v
	Photo mode		PHOTO	200 – 1000	580	CN2	3	-590 ±2v
Printer	All modes		PRINTER	200 – 1000	580	CN2	3	-590 ±2v
FAX	All modes		FAX	200 – 1000	580	CN2	3	-590 ±2v

- 1) Remove the rear cover of the machine.
- 2) Apply a digital multi-meter to the connector CN2 pin (3) of the high voltage PWB and the chassis GND.



- 3) Go through the modes specified in Simulation 8-2.



- 4) Select the number that corresponds to the adjustment item using the numeric keypad.
- 5) Press the Start key.
- 6) Press the start key to have the voltage output for 30 seconds.
The operation can be stopped with the CUSTOM SETTINGS key.
If the output voltage is not within the requirement, do the following steps.
- 7) Enter the adjustment value using the numeric keypad.
- 8) Press the Start key.
(The adjustment value is put into memory, and the corresponding voltage is output for 30 seconds.)

Repeat steps 7 to 8 until the output requirement is satisfied.

ADJ 1B Adjust the developing bias voltage

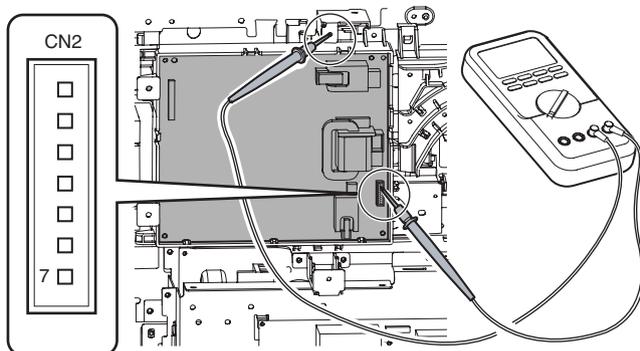
This adjustment is needed in the following situations:

- The high voltage power PWB (MC/DV/TC) has been replaced.
- U2 trouble has occurred.
- The PCU PWB has been replaced.
- The EEPROM of the PCU PWB has been replaced.

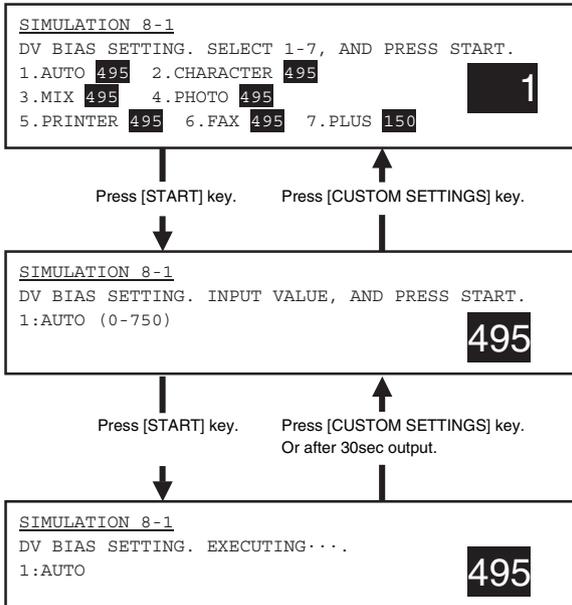
(Main charger grid voltage adjustment)

Item/operation mode		Simulation				High voltage power PWB (MC/DV/TC)		
				Setting range	Default	Connector	Pin #	Actual voltage
Copy	Auto mode	8-1	AUTO	0 – 750	495	CN2	7	-500 ±5v
	Text mode		CHAR- ACTER	0 – 750	495	CN2	7	-500 ±5v
	Text/photo mode		MIX	0 – 750	495	CN2	7	-500 ±5v
	Photo mode		PHOTO	0 – 750	495	CN2	7	-500 ±5v
Printer	All modes		PRINTER	0 – 750	495	CN2	7	-500 ±5v
FAX	All modes		FAX	0 – 750	495	CN2	7	-500 ±5v
Cleaning mode			PLUS	0 – 250	150	CN2	7	+150 ±5v

- 1) Remove the rear cover of the machine.
- 2) Apply a digital multi-meter to the connector CN2 pin (7) of the high voltage PWB and the chassis GND.



- 3) Go through the modes specified in Simulation 8-1.



- 4) Select the number that corresponds to the adjustment item using the numeric keypad.
 - 5) Press the Start key.
 - 6) Press the start key to have the voltage output for 30 seconds.
The operation can be stopped with the CUSTOM SETTINGS key.
If the output voltage is not within the requirement, do the following steps.
 - 7) Enter the adjustment value using the numeric keypad.
 - 8) Press the Start key.
(The adjustment value is put into memory, and the corresponding voltage is output for 30 seconds.)
- Repeat steps 7 to 8 until the output requirement is satisfied.

ADJ 1C**Adjust the transfer voltage**

(Transfer voltage adjustment)

Item/operation mode	Simulation		Adjustment voltage (monitor voltage)	Connector	Pin #	Actual voltage/actual current	High voltage power PWB (MC/DV/TC)
	Setting range	Default					
Front print	8-6	FRONT	0 – 800	350	–	35±1.0µA (1.0 – 1.5Kv)	High voltage power PWB (MC/DV/TC)
		BACK	0 – 800	400*	–	40±1.0µA (2.0 – 2.5Kv)*	
Back print	8-17	SHF FRONT	0 – 600	350	–	35±1.0µA (1.0 – 1.5Kv)	High voltage power PWB (MC/DV/TC)
		SHF BACK	0 – 600	400*	–	40±1.0µA (2.0 – 2.5Kv)*	
		THV-	0 – 75	450	–	AC4.5Kv (p-p)	
Transfer roller (cleaning)	8-18	CRHV PLUS	0 – 250	450	–	AC4.5Kv (p-p)	High voltage power PWB (TC cleaning)
		CRHV MINUS	0 – 250	10	DC - 100±10v	DC - 100±10v / AC4.5Kv (p-p)	
Transfer roller (print)				200	Check pin	+2000±100v	
				200	Check pin	-2000±100v	

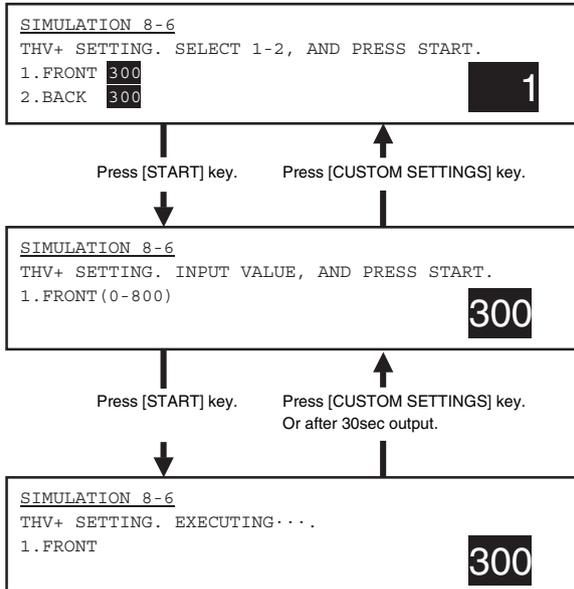
* : AR-M700N/U

Transfer voltage adjustment (print operation mode)

This adjustment is needed in the following situations:

- The high voltage power PWB (MC/DV/TC) has been replaced.
- U2 trouble has occurred.
- The PCU PWB has been replaced.
- The EEPROM of the PCU PWB has been replaced.

1) Go through the modes specified in Simulation 8-6.



- 2) Select the number that corresponds to the adjustment item (FRONT/BACK) using the numeric keypad.
- 3) Press the Start key.
- 4) Enter the adjustment value (default) using the numeric keypad.
- 5) Press the Start key.

(The adjustment value is put into memory, and the corresponding current is output for 30 seconds.)

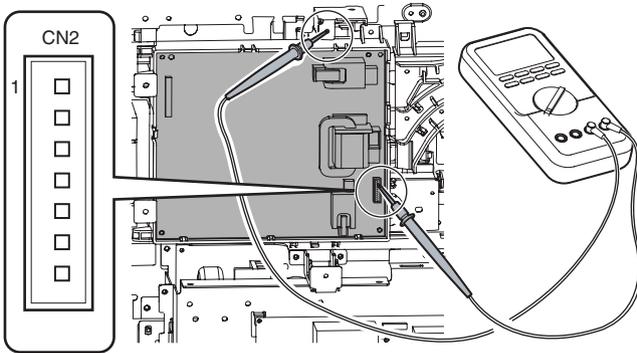
The operation can be stopped with the CUSTOM SETTINGS key.

Note: It is not possible to determine the adjusted transfer voltage (print operation mode) (FRONT/BACK). If the voltage seems to be abnormal after setting the default value, therefore, the high voltage PWB (MC/DV/TC) should be replaced.

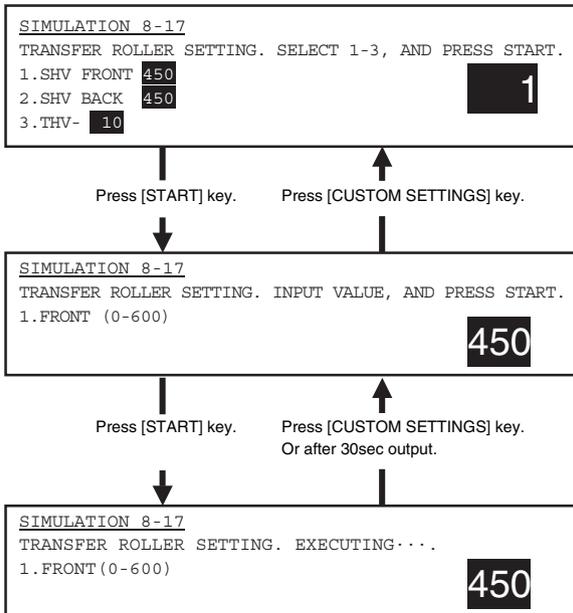
Transfer voltage adjustment (transfer belt cleaning mode)

This adjustment is needed in the following situations:

- The high voltage power PWB (MC/DV/TC) has been replaced.
 - U2 trouble has occurred.
 - The PCU PWB has been replaced.
 - The EEPROM of the PCU PWB has been replaced.
- 1) Remove the rear cover of the machine.
 - 2) Apply a digital multi-meter to the connector CN2 pin (1) of the high voltage PWB and the chassis GND.



- 3) Go through the modes specified in Simulation 8-17.



- 4) Select the number that corresponds to the adjustment item (SHF FRONT/ SHF BACK) using the numeric keypad.
- 5) Press the Start key.
- 6) Set each adjustment item to the default value (enter the adjustment value and then press the Start key).

Note: The adjustment items (SHF FRONT / SHF BACK) correspond to the AC component of the 'transfer belt cleaning mode voltage' applied to the transfer roller, but this voltage component cannot be determined. If the voltage seems to be abnormal after setting the default adjustment value, therefore, the high voltage PWB (MC/DV/TC) should be replaced.

- 7) Select the number that corresponds to cleaning operation mode (THV-) using the numeric keypad.

Note: The adjustment items (THV-) corresponds to the DC component of the 'transfer belt cleaning mode voltage' applied to the transfer roller.

- 8) Press the Start key.
- 9) Press the Start key to have the voltage output for 30 seconds.

If the output voltage is not within the requirement, do the following steps.

The operation can be stopped with the CUSTOM SETTINGS key.

- 10) Enter the adjustment value using the numeric keypad.

- 11) Press the Start key.

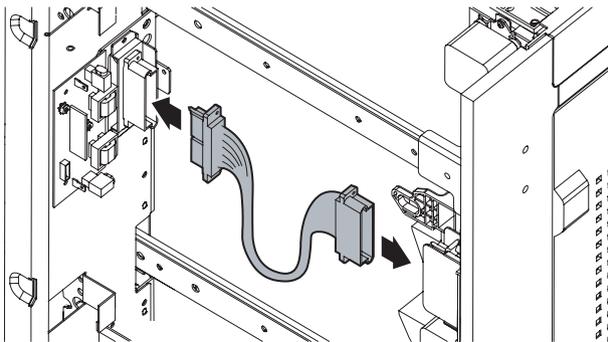
(The adjustment value is put into memory, and the corresponding voltage is output for 30 seconds.)

Repeat steps 10 to 11 until the output requirement is satisfied.

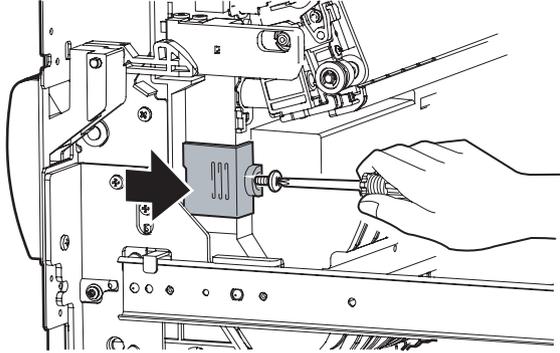
Transfer voltage adjustment (transfer roller cleaning/transfer roller print modes)

This adjustment is needed in the following situations:

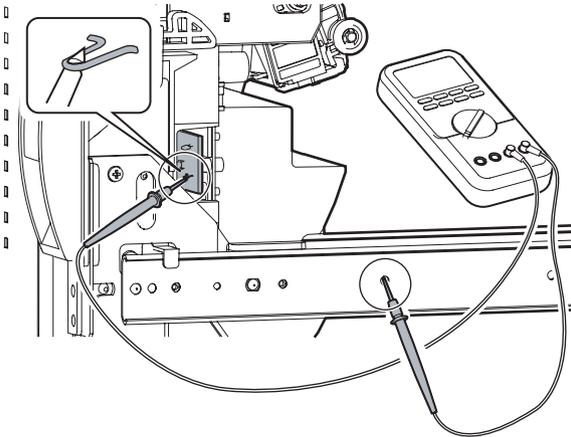
- The high voltage power PWB (TC cleaning) has been replaced.
 - U2 trouble has occurred.
 - The PCU PWB has been replaced.
 - The EEPROM of the PCU PWB has been replaced.
- 1) Connect the transfer section to the main body side using the transfer extension harness (DHAi-3629FCZZ).



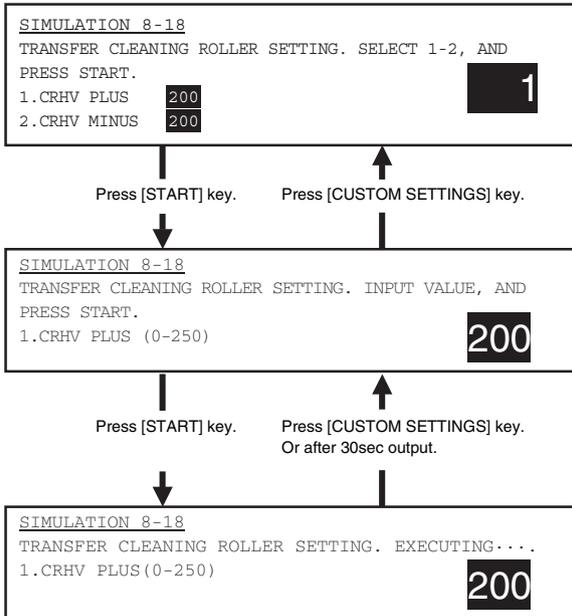
- 2) Remove the front frame cover of the duplex section, and remove the rear frame cover of the transfer section.



- 3) Apply a digital multi-meter to the check pin of the high voltage PWB (TC cleaning) and the chassis GND.



- 4) Go through the modes specified in Simulation 8-18.



- 5) Select the number that corresponds to the adjustment item (CRHV PLUS/ CRHV MINUS) using the numeric keypad.
- 6) Press the Start key.
- 7) Press the Start key to have the voltage output for 30 seconds.
The operation can be stopped with the CUSTOM SETTINGS key.
- If the output voltage is not within the requirement, do the following steps.
- 8) Enter the adjustment value using the numeric keypad.
- 9) Press the Start key.
(The adjustment value is put into memory, and the corresponding voltage is output for 30 seconds.)
- Repeat steps 8 to 9 until the output requirement is satisfied.

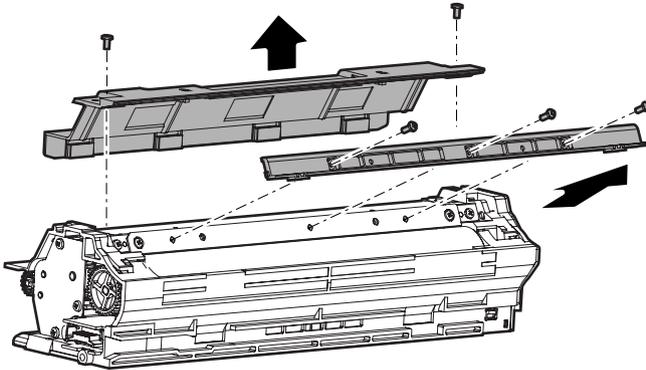
ADJ 2 Adjusting the developing unit

ADJ 2A Adjust the developing doctor gap

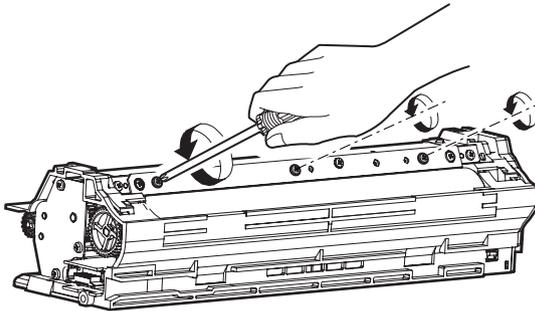
This adjustment is needed in the following situations:

- The developing unit has been disassembled.
- The print density is low.
- The toner is excessively dispersed.

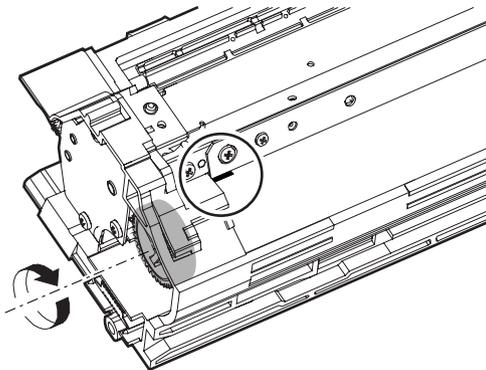
- 1) Remove the developing unit of the machine.
- 2) Remove the developing unit cover and blade cover.



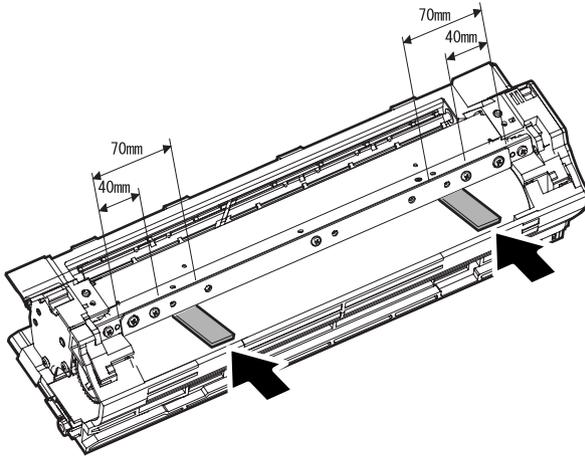
- 3) Loosen the DV doctor fixing screws.



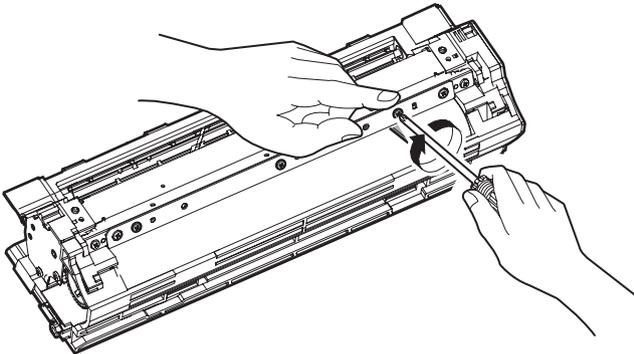
- 4) Manually turn the DV roller to align the marking on the DV roller surface with the DV doctor position.



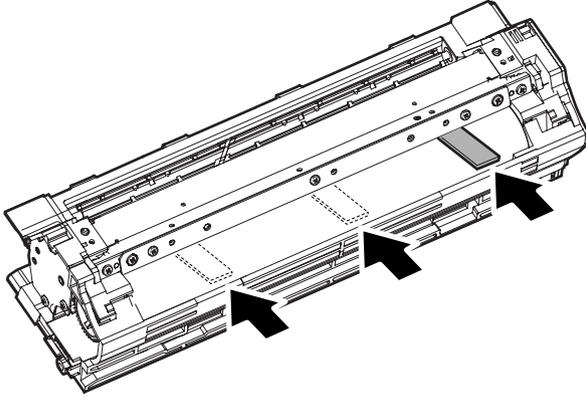
- 5) Insert a 0.525mm clearance gauge in between the DV roller and DV doctor so that the gauge is positioned at a distance of 40 mm to 70 mm from the DV doctor end face.



- 6) Tighten the DV doctor fixing screws while pressing the DV doctor in the arrow direction.
(This should be done for both front and rear frames.)



- 7) On both sides of the DV doctor and at its center, make sure that the DV doctor gap is 0.525 ± 0.03 .



Note: When inserting a clearance gauge, take care not to damage the DV doctor or MG roller.

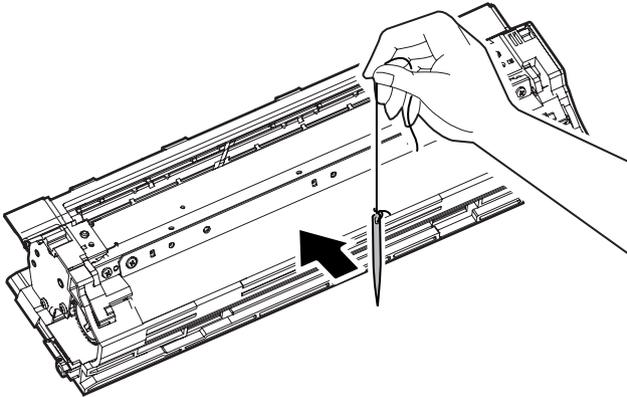
Repeat steps 2 to 6 until the DV doctor gap meets the requirement.

ADJ 2B Adjust the developing roller main pole

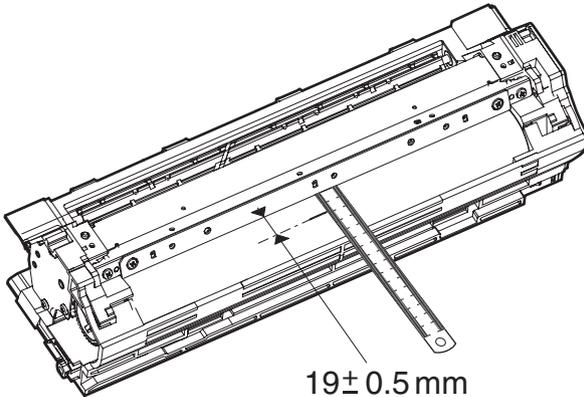
This adjustment is needed in the following situations:

- The developing unit has been disassembled.
 - The print density is low.
 - The toner is excessively dispersed.
- 1) Remove the developing unit.
 - 2) Remove the developing unit cover and blade cover, and then place the developing unit on a level surface.
 - 3) Attach a piece of string to a sewing needle or pin.

- 4) With the string in hand, bring the needle closer to the DV roller while keeping the needle parallel with the roller. (Do not use a clip, which does not accurately indicate the position.)

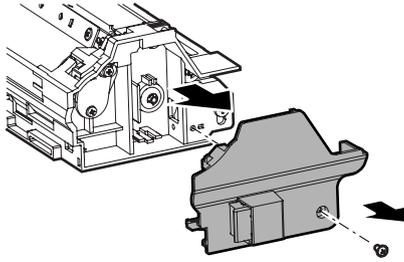


- 5) Keeping the needle 2 to 3 mm off the DV roller surface, mark the DV roller surface at an extension of the needle tip. (Do not let the needle tip contact the DV roller.)
- 6) Measure the distance between the marking on the DV roller and leading edge of the DV doctor, and make sure that it is 19 ± 0.5 mm.

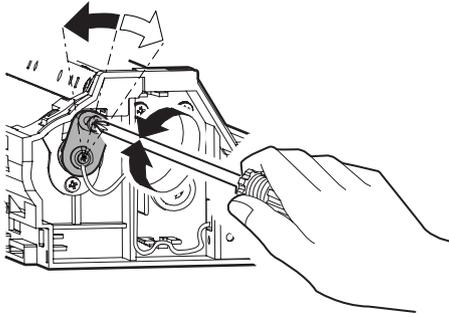


If this requirement is not met, do the following steps.

7) Remove the front cover.



8) Loosen the fixing screws of the developing roller main pole adjusting plate, and make adjustments by moving the adjusting plate in the arrow direction.



Repeat steps 3 to 6 until the developing roller main pole meets the positional requirement.

ADJ 3 Adjusting image distortions

ADJ 3A Adjust print image distortions (LSU parallelism adjustment)

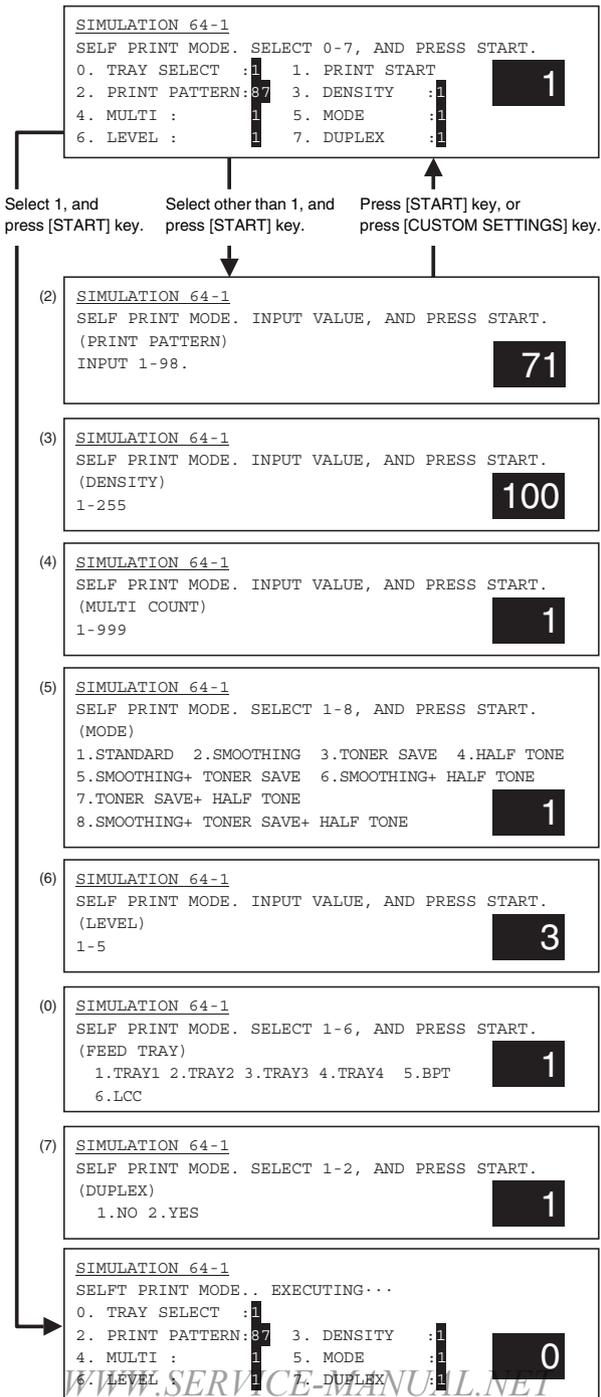
This adjustment is needed in the following situations:

- The LSU has been replaced or removed.
- Print images are distorted.

This adjustment should be followed by:

ADJ 7 / ADJ 7A: Adjust the print image off-center (print engine section)

- 1) Set A4 (11 x 8.5) paper to Tray 1.
- 2) Go through the modes specified in Simulation 64-1.



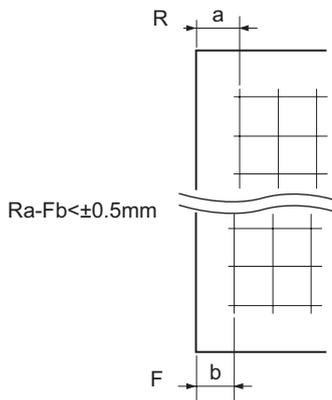
- 3) Select PRINT PATTERN using the numeric keypad.
- 4) Select print pattern 71 (grid pattern).
- 5) Press the Start key.
- 6) Select PRINT START using the numeric keypad.
- 7) Press the Start key.
- 8) Check the printed grid pattern for distortions.

Check with one of the following methods.

[Check Method 1]

Compare the front frame side and rear frame side of the printed paper in terms of the distance between the outer end of the grid pattern image and the edge of the paper.

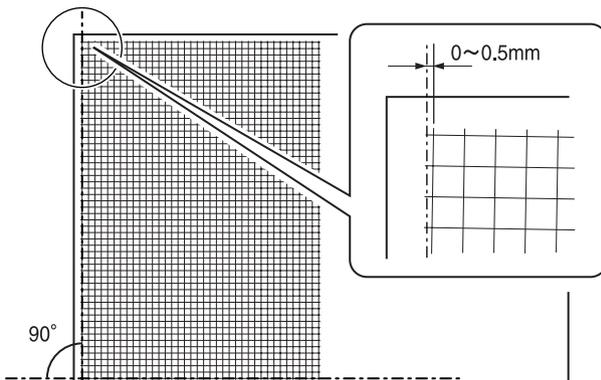
No adjustment is needed if the difference between these dimensions is within 0.5 mm.



[Check Method 2]

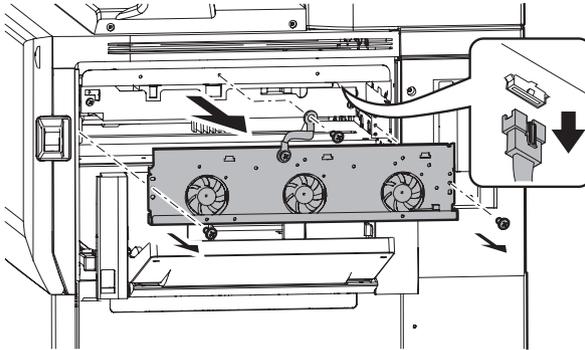
Check the printed grid pattern for distortions.

If the right-angle level of the traverse print line is 0.5mm or less with respect to the longitudinal print line of paper, no adjustment is needed.



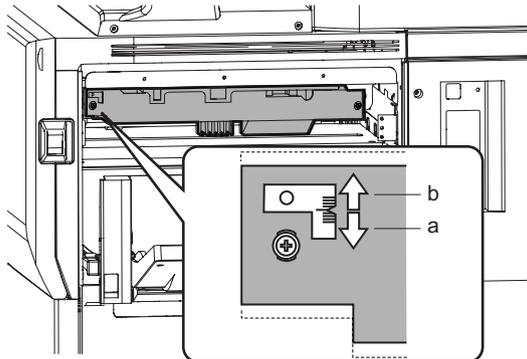
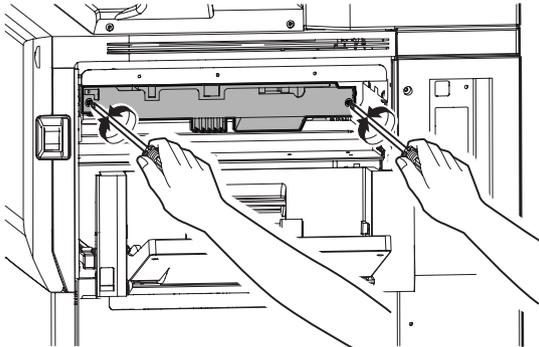
Carry out the following work if the situation is unsatisfactory.

- 9) Draw out the manual paper feed tray, and remove the front frame side, side cover, fan cover cabinet, and fan unit.
- 10) Remove the fan unit.



11) Loosen the LSU fixing screws, and change the LSU fixing angle.

- If the vertical line image is inclined to the left with respect to the front frame side, move the LSU fixing plate in arrow direction (a).
- If the vertical line image is inclined to the right with respect to the front frame side, move the LSU fixing plate in arrow direction (b).

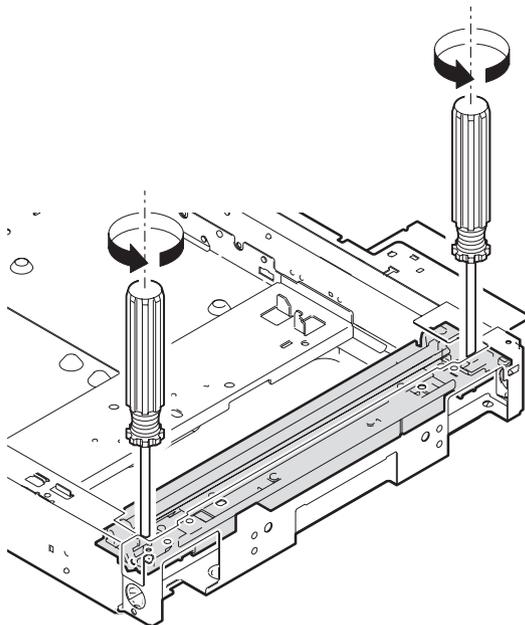


Repeat steps 5 to 11 until an acceptable result is obtained.

ADJ 3B Adjust the scanner (reading) unit parallelism

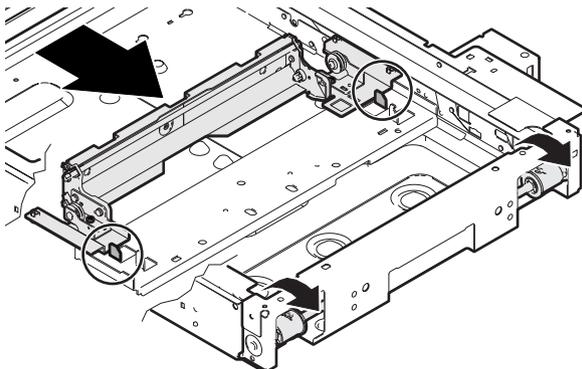
This adjustment is needed in the following situations:

- The scanner (reading) section has been disassembled.
 - Scanned images are distorted.
- 1) Loosen the fixing screws for Scanner Unit A and scanner drive wire to release the scanner unit from the drive wire.



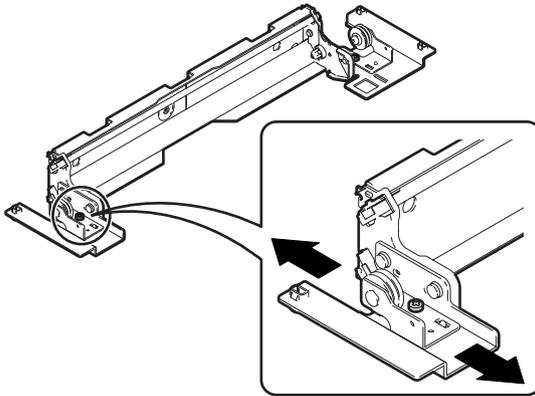
- 2) Manually turn the scanner drive pulley, and move Scanner Unit B until contact with the two stoppers on the CCD mounting plate.

If Scanner Unit B makes contact with the two stoppers on the CCD mounting plate simultaneously, the parallelism of Scanner Unit B is proper.



If this requirement is not met, do the following steps.

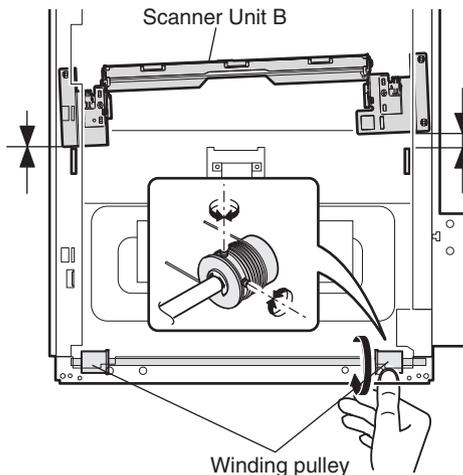
- 3) Loosen the pulley angle fixing screw on either the front or rear frame side of Scanner Unit B.



- 4) Adjust the pulley angle position on Scanner Unit B so that the scanner unit makes contact with both of the two stoppers on the CCD mounting plate at the same time.
- 5) Fix the pulley angle on Scanner Unit B.

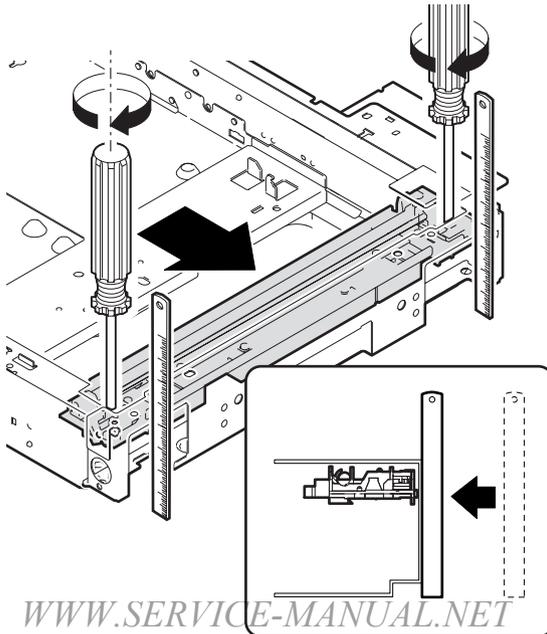
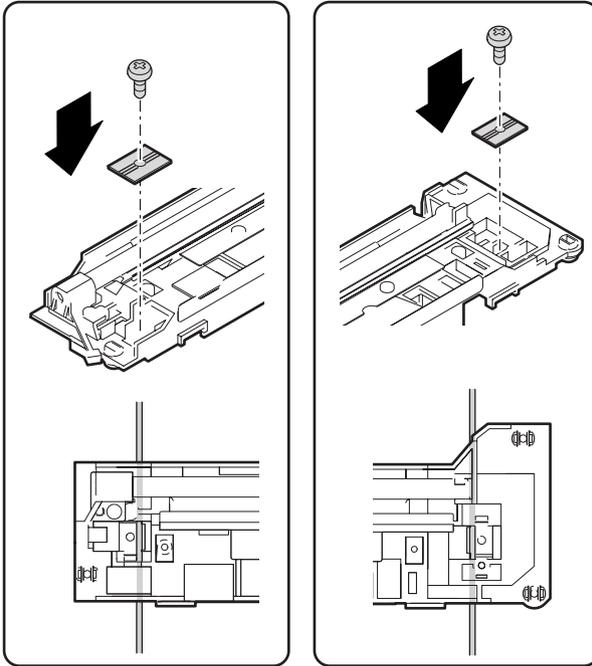
If the above steps fail to provide an acceptable result, then do the following steps.

- 6) Loosen the fixing screw of the scanner unit drive pulley that is not in contact.
- 7) Manually turning the scanner unit drive pulley, move Scanner Unit B until it comes into contact with the two stoppers on the CCD mounting plate.



- 8) Without moving the scanner unit drive shaft, manually turn the scanner unit drive pulley so that Scanner Unit B makes contact with both of the two stoppers on the CCD mounting plate at the same time. (Change the positional relationship between the scanner unit drive pulley and the drive shaft.)

- 9) With Scanner Unit B in contact with both of the two stoppers on the CCD mounting plate at the same time, align the end face of Scanner Unit A with the right-hand side end face of the frame, and fix Scanner Unit A with the screws.

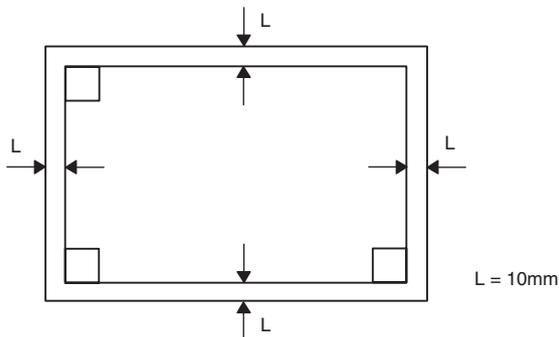


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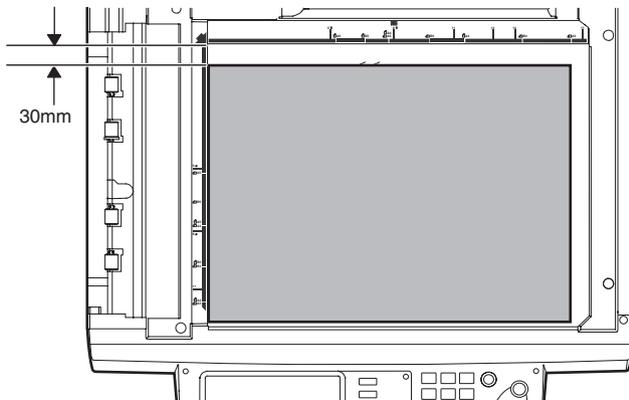
ADJ 3C**Adjust scanned image distortions in the sub-scanning direction**

This adjustment is needed in the following situations:

- The scanner (reading) section has been disassembled.
 - Scanned images are distorted.
- 1) Make a test chart on A3 (11" x 17") paper as shown below. (Draw a rectangular with four right angles.)

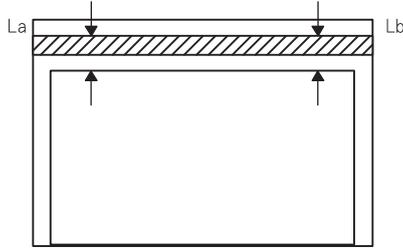


- 2) Set the test chart made in step 1 on the document table (about 30 mm in front of the document standard setting position), and make a copy on A3 (11" x 7") paper with the SPF unit open.



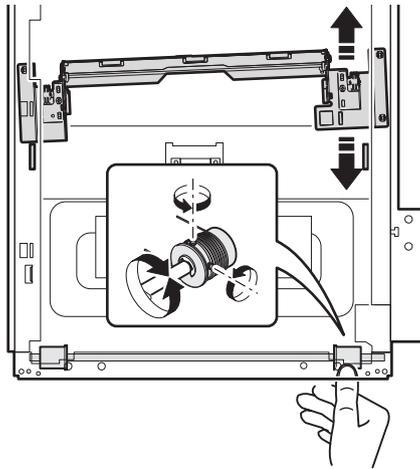
- 3) Check for distortions in the sub scanning direction.

If $L_a = L_b$, there is no distortion.



If there is some distortion in the sub scanning direction, do the following steps.

- 4) Loosen either of two fixing screws of the scanner unit drive pulley. (Either one on the front or the rear side will do.)



- 5) With the scanner unit drive shaft kept stationary, manually turn the scanner unit drive pulley to change the parallelism of Scanner Units A and B. (Change the positional relationship between the scanner unit drive pulley and the drive shaft.)
- 6) Tighten the scanner unit drive pulley fixing screw.

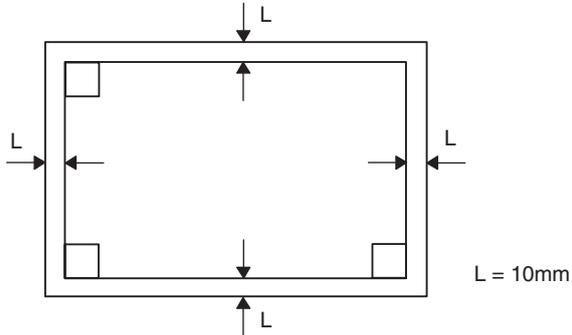
Repeat steps 2 to 6 until an acceptable result is obtained.

If the above steps fail to eliminate distortions in the sub scanning direction, do the steps described in "ADJ 6E: Adjust scanned image distortions in the main scanning direction - 2."

ADJ 3D**Adjust scanned image distortions in the main scanning direction - 1**

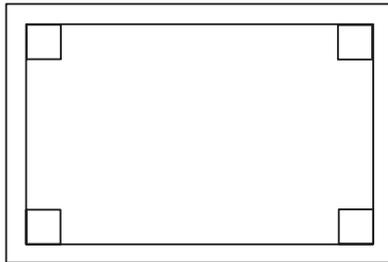
This adjustment is needed in the following situations:

- The scanner (reading) section has been disassembled.
 - Scanned images are distorted.
- 1) Make a test chart on A3 (11" x 17") paper as shown below. (Draw a rectangular with four right angles.)



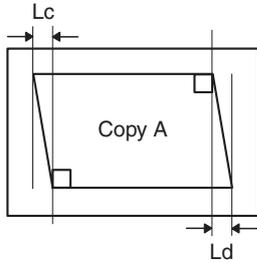
- 2) Set the test chart made in step 1 on the document table, and make a copy on A3 (11" x 17") paper.
- 3) Check for distortions in the main scanning direction.

If the four angles of the rectangle on the copy are right angles, there is no distortion and therefore no further steps are needed.

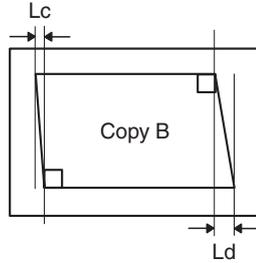


If there is some distortion in the main scanning direction, do the following steps.

- 4) Check the difference (distortion balance) between left-hand and right-hand side images distortions.



There is no difference between the distortion on the right and that on the left.
 $Lc = Ld$



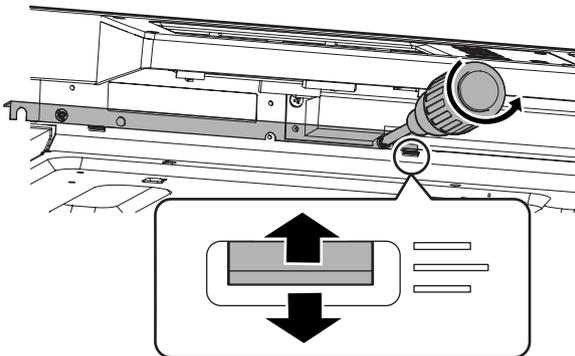
There is some difference between the distortion on the right and that on the left.
 $Lc \neq Ld$

If $Lc = Ld$, the distortion on the left is equal to that on the right. (The distortions are balanced.)

If the above requirement is satisfied, then do the steps described in "ADJ 3E: Adjust scanned image distortions in the main scanning direction - 2."

If the above requirement is not met, then do the following steps.

- 5) Change the height balance of the front frame side scanner rail.



- If the paper leading edge is more distorted than the paper trailing edge, then raise the scanner rail right side.
 - If the leading edge is less distorted than the paper trailing edge, then lower the scanner rail right side.
- 6) Set the test chart made in step 1 on the document table, and make a copy on A3 (11" x 17") paper.
- 7) Check the image distortion balance in the main scanning direction.

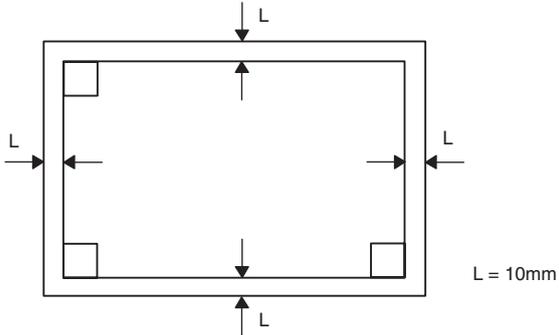
Repeat steps 5 to 7 until the difference in size of image distortion (distortion balance) in the image scanning direction is equal.

ADJ 3E**Adjust scanned image distortions in the main scanning direction - 2**

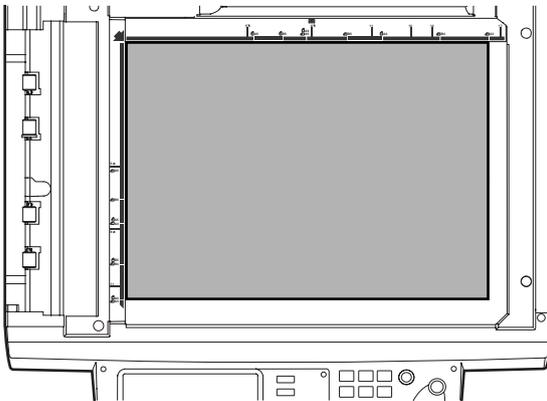
This adjustment is needed in the following situations:

- The scanner (reading) section has been disassembled.
- Scanned images are distorted.

- 1) Make a test chart on A3 (11" x 17") paper as shown below. (Draw a rectangular with four right angles.

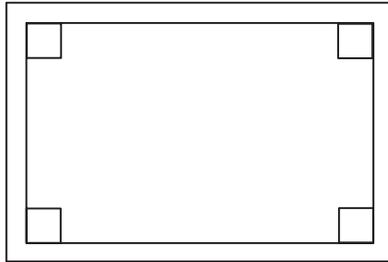


- 2) Set the test chart made in step 1 on the document table, and make a copy on A3 (11" x 17") paper.



- 3) Check for distortions in the main scanning direction.

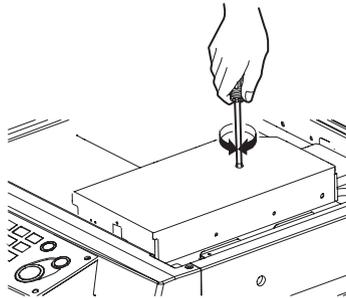
If the four angles of the rectangle on the copy are right angles, there is no distortion and therefore no further steps are needed.



If there is some distortion in the main scanning direction, do the following steps. These steps assume that there is no or little difference in distortion between the paper's leading and trailing edges.

If there is some difference in distortion between the paper's leading and trailing edges, these steps should be preceded by the adjustment steps described in "ADJ 3D: Adjust scanned image distortions in the main scanning direction - 1", intended to provide almost the same level of distortion on the leading and trailing edges.

- 4) Remove the document table glass, and make adjustments by turning the main scanning direction image distortion adjusting screw.



- If the rear frame side image is shifted toward the paper's leading edge, then turn the adjusting screw clockwise.
- If the front frame side image is shifted toward the paper's leading edge, then turn the adjusting screw counterclockwise.

Repeat steps 2 to 4 until an acceptable result is obtained.

It changes approx. 0.5mm by 90 degrees rotation.

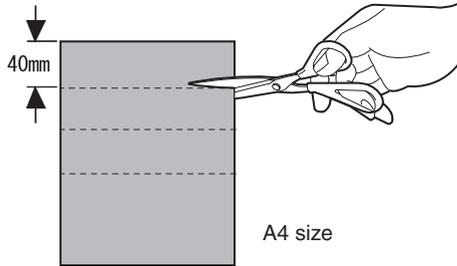
ADJ 4 Adjusting the SPF parallelism

ADJ 4A Adjust SPF levelness

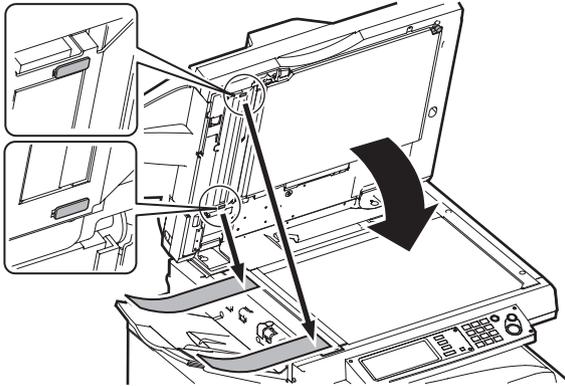
This adjustment is needed in the following situations:

- The SPF section has been disassembled.
- The SPF unit has been replaced.

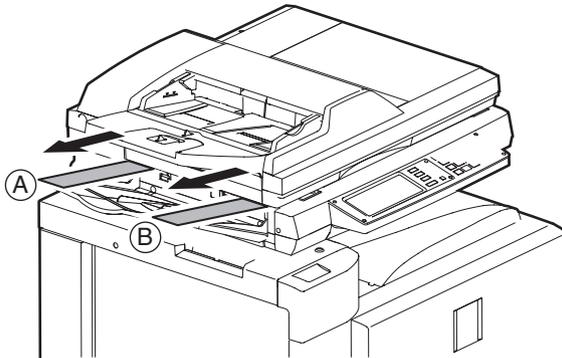
- 1) Create two check sheets for SPF levelness adjustment by cutting copy paper as illustrated below:



- 2) Insert each of the two check sheets in between the CIS guide boss and the glass for SPF mode on each of the front and rear frame sides, and then close the SPF unit.

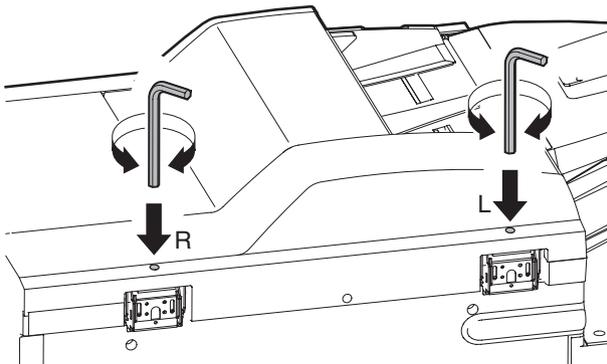


- 3) Gently pulling out each check sheet for SPF levelness adjustment, make sure that no gap is felt between the CIS guide boss and the glass for SPF mode for each of the front and rear frame sides.



If the above requirement is not met, do step 4.

- 4) Turn the height adjusting screw on the left side of the SPF rear frame to adjust the fore/aft levelness between the SPF frames.



If the front frame side is higher (i.e. there is a gap in B) : turn the height adjusting screw L on the left side of the SPF rear frame in the clockwise direction.

If the rear frame side is higher (i.e. there is a gap in A) : turn the height adjusting screw R on the left side of the SPF rear frame in the counterclockwise direction.

Repeat steps 2 to 4 until an acceptable result is obtained.

Note: If the above procedure will not allow an adjustment, turn the adjustment screw R on the rear frame of the SPF to perform an adjustment.

ADJ 4B Adjust SPF skews

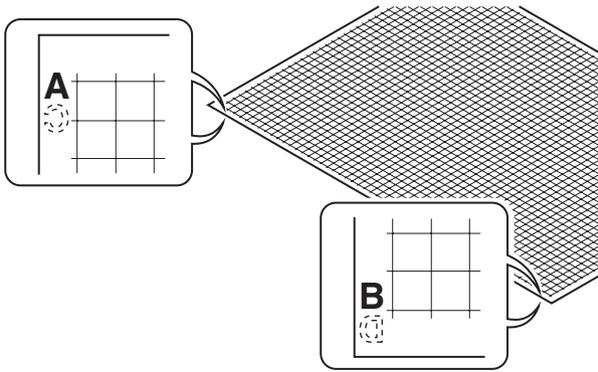
This adjustment is needed in the following situations:

- The SPF section has been disassembled.
- The SPF unit has been replaced.
- The SPF unit generates skewed scanned images.

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- 1) Create an adjustment chart by printing in duplex mode the self-print pattern (grid pattern) specified in Simulation 64-1.

Make sure that the print grid pattern is almost in parallel with the paper edges, and apply position marks 'A', 'B', 'C' and 'D' to the leading and trailing edges of the paper for both front and back sides of the paper.



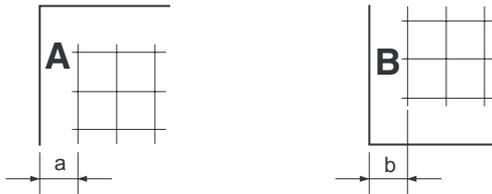
- 2) Copy the adjustment chart (created in step 1) to A3 (11" x 17") paper in duplex mode, and then check the image for skews (Set in the SPF feed tray so that the mark on the adjustment chart is at the edge).

Check with one of the following methods.

[Check Method 1]

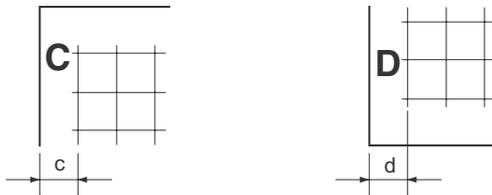
(Front side)

Make sure that the output satisfies the condition: $|a-b| \leq \pm 1$ mm



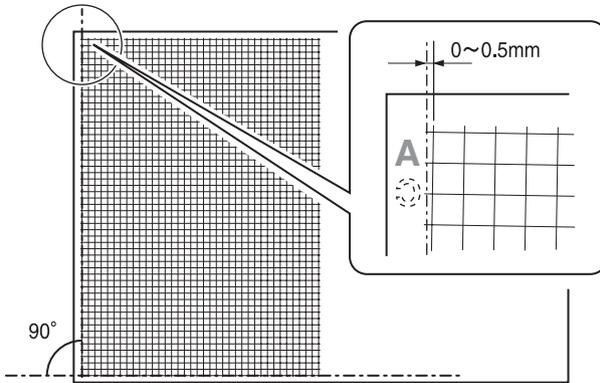
(Back side)

Make sure that the output satisfies the condition: $|c-d| \leq \pm 1$ mm



[Check Method 2]

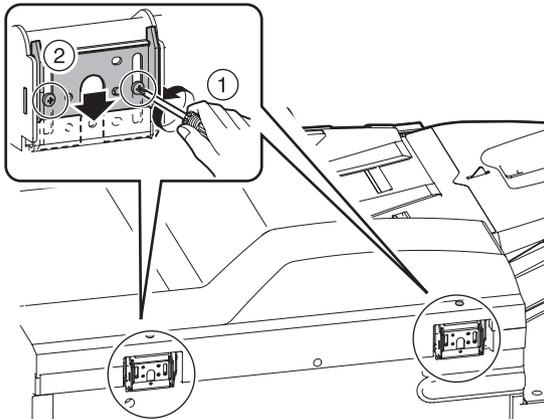
Check that the squareness of the main scanning direction print line for the longitudinal direction of paper is within 0.5mm.



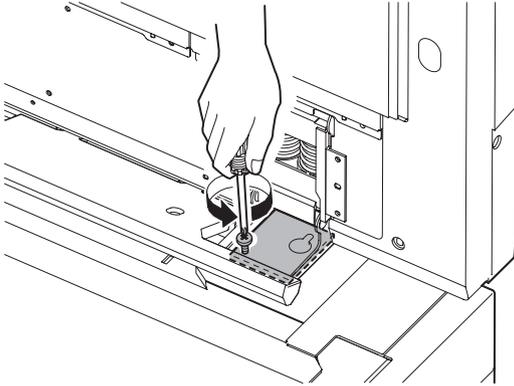
If the above requirement is met for the copied image of the paper's front side but not for the paper's back side, skip to step 4.

If the above requirement is not met for the paper's front side, then do step 3.

- 3) Loosen the hinge screws and lower the two attachments.

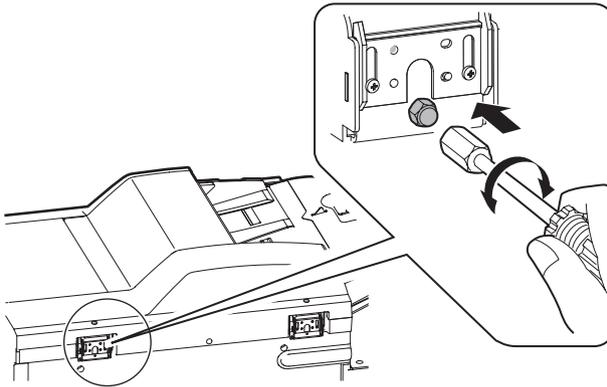


- 4) Open the SPF and loosen the screw.



- 5) Adjust by turning the SPF skew adjusting screw on the right side of the SPF rear frame.

Remove the hexagon cap nut of the SPF skew adjusting screw on the right side of the SPF hinge and loosen the fixing nut, then adjust by turning the SPF skew adjusting screw (hexagon screw).



If $a < b$, then turn counterclockwise the SPF skew adjusting screw (hexagon screw). (When the main scanning direction print line is shifted to the left)

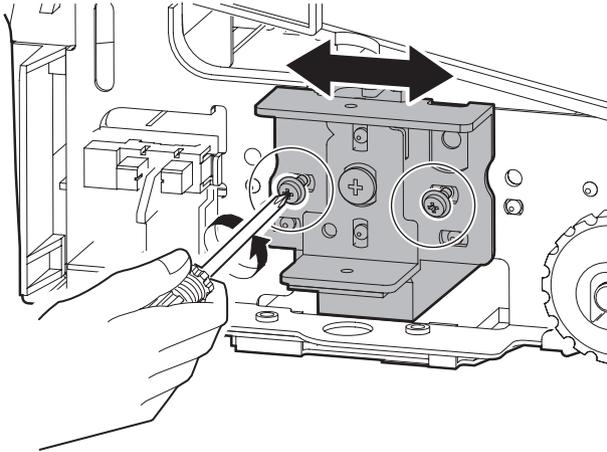
If $a > b$, then turn clockwise the SPF skew adjusting screw (hexagon screw). (When the main scanning direction print line is shifted to the right)

Repeat steps 2 to 5 until an acceptable result is obtained.

[If the copied image of the paper's back side is skewed beyond the acceptable level, do the following steps.]

- 6) Remove the SPF front cover.
- 7) Change the front frame side CIS fixing position (angle) to adjust the skew of the copied image of the paper's back side.

This adjustment should be done by loosening the CIS fixing screw on the SPF front side and then moving the fixing plate in the left or right direction.



If $c < d$, then shift the CIS fixing plate to the right. (When the main scanning direction print line is shifted to the left)

If $c > d$, then shift the CIS fixing plate to the left. (When the main scanning direction print line is shifted to the right)

Repeat steps 2 to 7 until an acceptable result is obtained.

ADJ 5 Adjusting the image focus

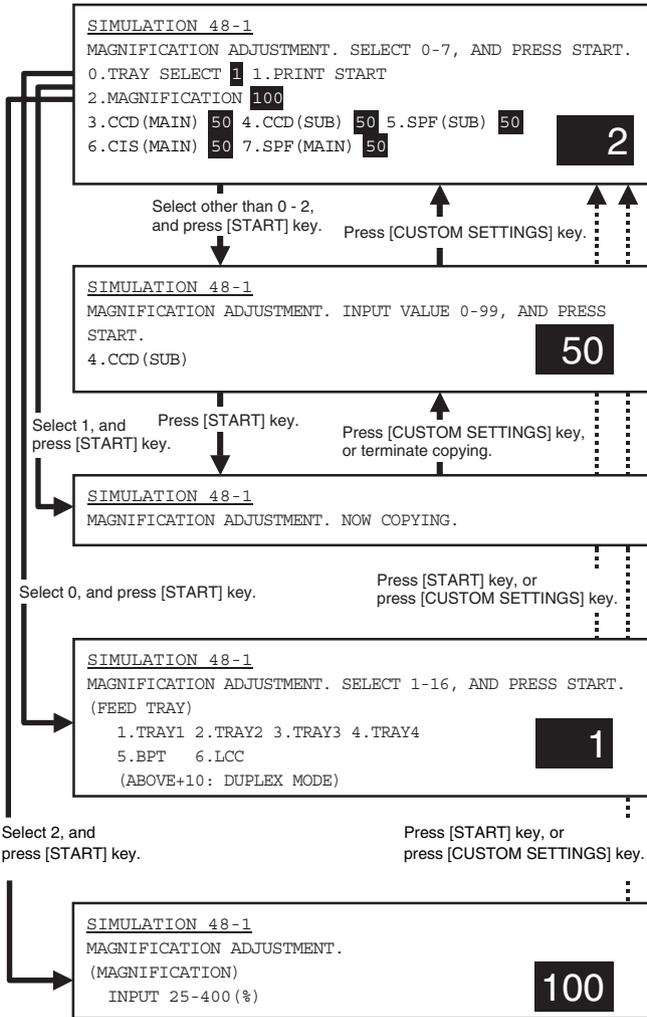
The result of this adjustment will affect all image scan modes (copy, scan, and fax).

ADJ 5A Adjust the image focus in original table mode and SPF front-face mode (CCD)

This adjustment is needed in the following situations:

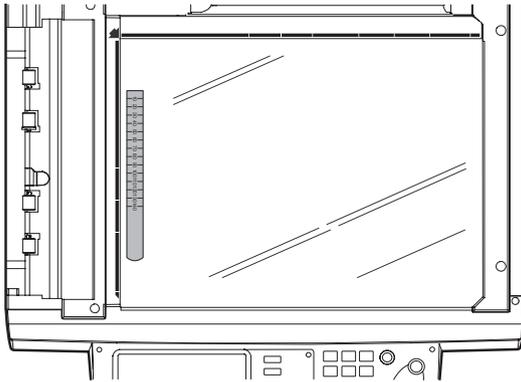
- The CCD unit has been removed from the machine.
- The CCD unit has been replaced.
- Copied/scanned/faxed images are not correctly focused.

- 1) Go through the modes specified in Simulation 48-1.

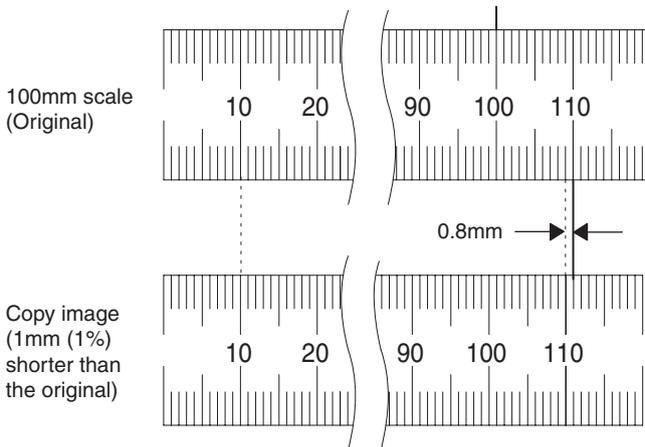


- 2) Set the adjustment item CCD (MAIN) to 50 (default).

- 3) Place a scale on the original table as illustrated below.



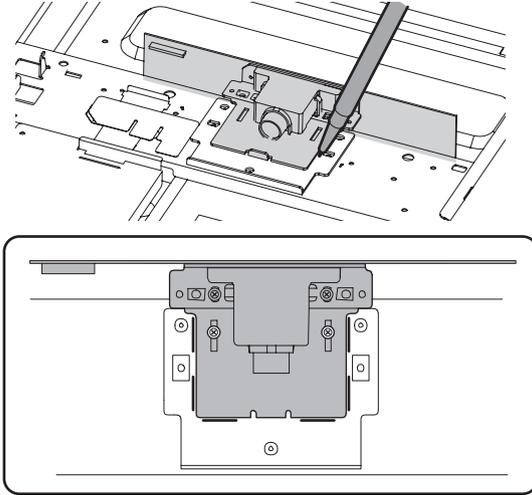
- 4) Make a normal copy on A4 paper.
5) Compare the copied image of the scale and the actual scale length in terms of length.



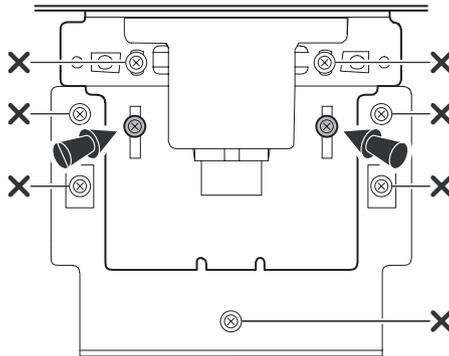
If the copied image of the scale is of almost the same length as the actual scale but is not satisfactorily focused, do the following steps.

- 6) Remove the table glass and dark box cover.

- 7) To prevent the CCD unit optical axis from being deviated, mark the CCD unit base as illustrated below.

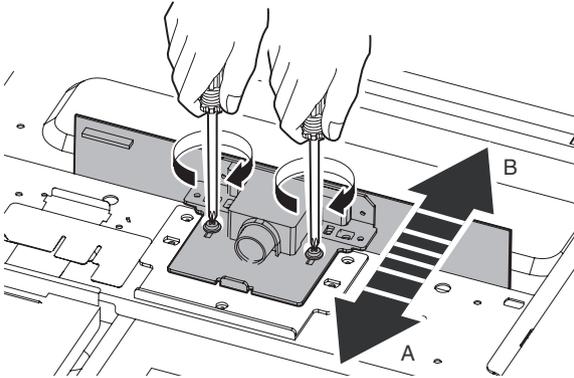


- 8) Loosen two fixing screws of the CCD unit.



Note: The screws cross-marked in the illustration must not be loosened. Loosening these screws could possibly change the CCD unit base optical axis. Once the optical axis has been changed, it cannot be corrected through on-site adjustments. Solving such a problem requires the replacement of the entire scanner unit.

- 9) Slide the CCD unit in the arrow direction (CCD sub-scanning direction) to change its mounted position.



If the copied image is not satisfactorily focused and larger than the original, slide the unit in direction B.

If the copied image is not satisfactorily focused and smaller than the original, slide the unit in direction A.

Note: After adjusting the CCD unit position, fix the CCD unit so that it is in parallel with the marker line added in step 7, referring to the graduations on the front and rear frames sides of the CCD unit base.

Repeat steps 4 to 9 until the copied image of the scale is of almost the same size as the actual scale and the image is satisfactorily focused.

ADJ 5B Adjust the image focus in SPF back-face mode (CIS)

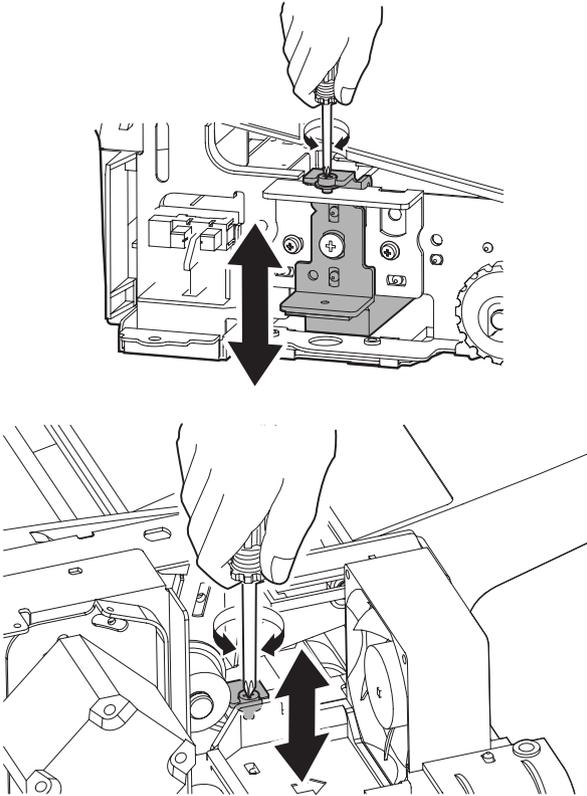
This adjustment is needed in the following situations:

- The CIS unit has been removed.
 - The CIS unit has been replaced.
 - Copied/scanned/faxed images are not correctly focused.
 - The SPF unit has been removed.
 - The SPF unit has been replaced.
- 1) Make a duplex copy in SPF mode.
 - 2) Make sure that the copied image on the back side of the paper is satisfactorily focused.

If the image is not satisfactorily focused, do the following steps.

- 3) Remove the rear frame and front frame cabinet of the SPF unit.

- 4) Adjust the focus by turning the CIS focus adjusting screws on the front and rear frame sides, respectively.



Repeat the above adjustments until an acceptable result is obtained.

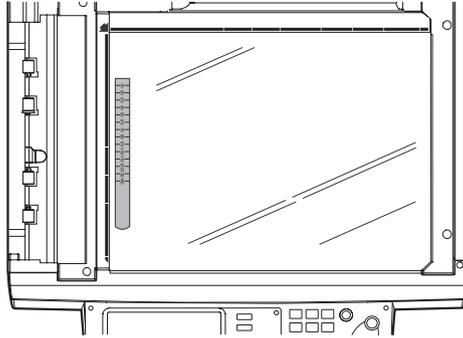
ADJ 6 Adjusting the image magnification

ADJ 6A Adjust the image magnification in the main scanning direction in original table mode (CCD)

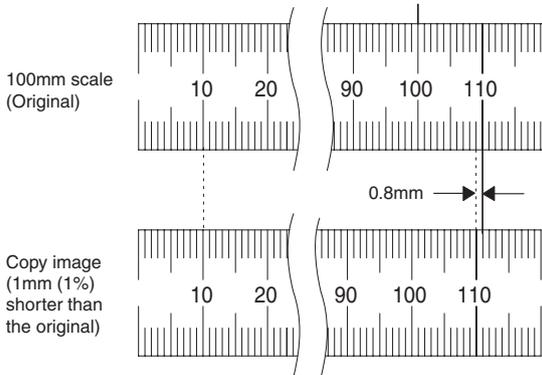
This adjustment is needed in the following situations:

- The CCD unit has been removed from the machine.
- The CCD unit has been replaced.
- Images are not correctly magnified in the main scanning direction.
- The MFP control PWB has been replaced.
- The EEPROM on the MFP control PWB has been replaced.
- The scan control PWB has been replaced.
- The EEPROM on the scan control PWB has been replaced.
- U2 trouble has occurred.

- 3) Place a scale on the original table in parallel with the main scanning direction, as illustrated below.

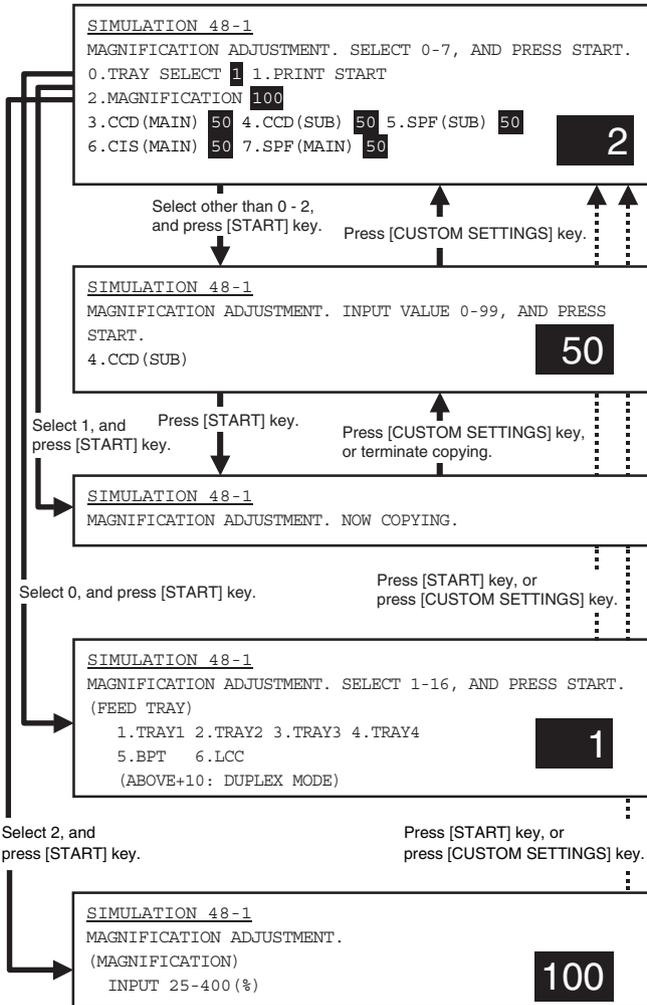


- 2) Make a normal copy on A4 paper.
 3) Measure the lengths of the copied image of the scale and the actual scale.



- 4) Determine the image magnification factor using the following formula:
 Image magnification factor (%) = Copy dimension/original dimension x 100
 Example: Compare the copy and original dimensions by aligning the scale's 10 mm position with the copied image's 10 mm position.
 Image magnification factor (%) = 99 / 100 x 100 = 99
 If the image magnification factor is within the spec (100±0.8%), no adjustment is required; otherwise, do the following steps.

- 5) Go through the modes specified in Simulation 48-1.



- 6) Select the number that corresponds to the adjustment item CCD (MAIN) using the numeric keypad.

This adjustment item is intended to adjust the image magnification in the main scanning direction in original table mode (CCD).

- 7) Press the Start key.
8) Adjust the image magnification factor by entering an appropriate value through the numeric keypad.
9) Press the P or Start key.

Pressing the Start key starts copy operation as well as applying the adjustment value.

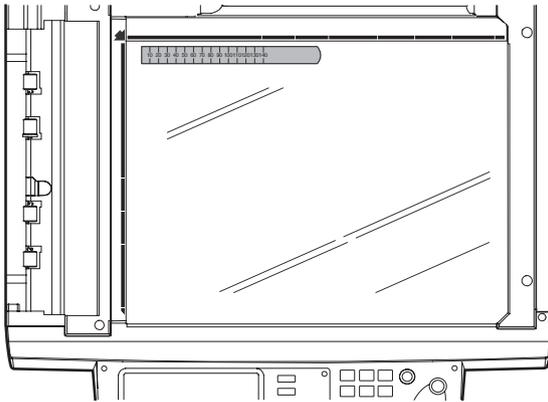
Repeat steps 2 to 9 until the image magnification factor is satisfactory.

ADJ 6B**Adjust the image magnification in the sub-scanning direction in original table mode (CCD)**

This adjustment is needed in the following situations:

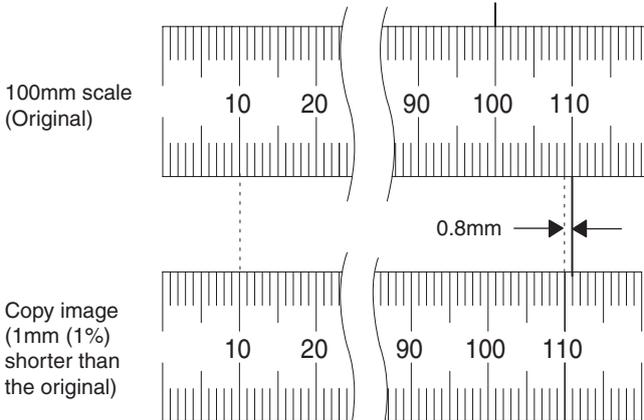
- The CCD unit has been removed from the machine.
- The CCD unit has been replaced.
- Images are not correctly magnified in the sub-scanning direction.
- The MFP control PWB has been replaced.
- The EEPROM on the MFP control PWB has been replaced.
- The scan control PWB has been replaced.
- The EEPROM on the scan control PWB has been replaced.
- U2 trouble has occurred.

1) Place a scale on the original table as illustrated below.

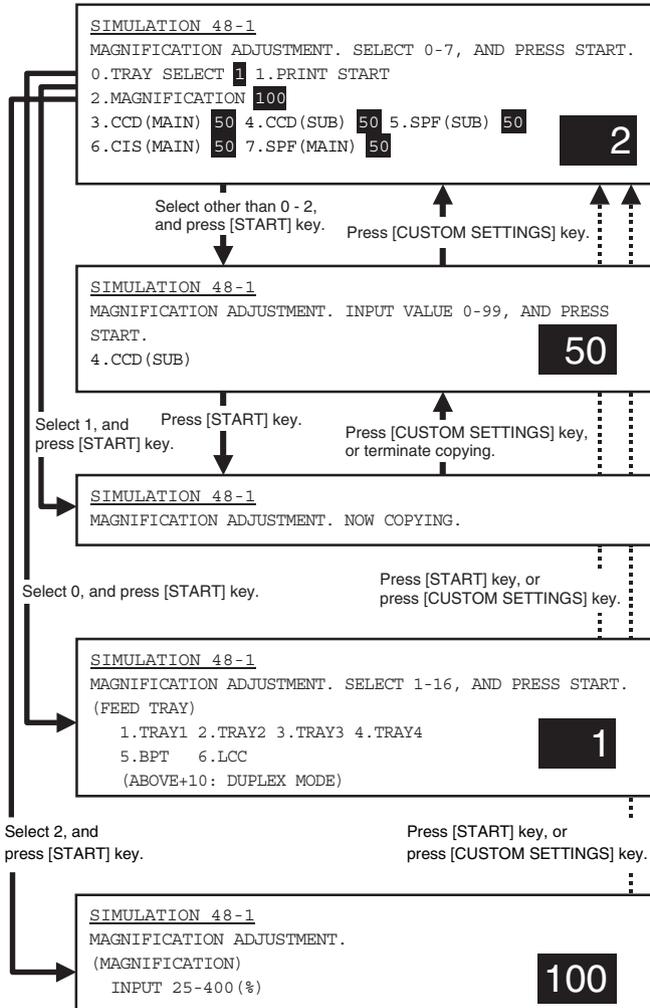


2) Make a normal copy on A4 paper.

3) Measure the lengths of the copied image of the scale and the actual scale.



- 4) Determine the image magnification factor using the following formula:
 Image magnification factor (%) = Copy dimension/original dimension x 100
 Example: Compare the copy and original dimensions by aligning the scale's 10 mm position with the copied image's 10 mm position.
 Image magnification factor (%) = 99 / 100 x 100 = 99
 If the image magnification factor is within the spec (100±0.8%), no adjustment is required; otherwise, do the following steps.
- 5) Go through the modes specified in Simulation 48-1.



- 6) Select the number that corresponds to the adjustment item CCD (SUB) using the numeric keypad.

This adjustment item is intended to adjust the image magnification in the sub scanning direction in original table mode (CCD).

- 7) Press the Start key.
 - 8) Adjust the image magnification factor by entering an appropriate value through the numeric keypad.
 - 9) Press the P or Start key
- Pressing the Start key starts copy operation as well as applying the adjustment value.

Repeat steps 2 to 9 until the image magnification factor is satisfactory.

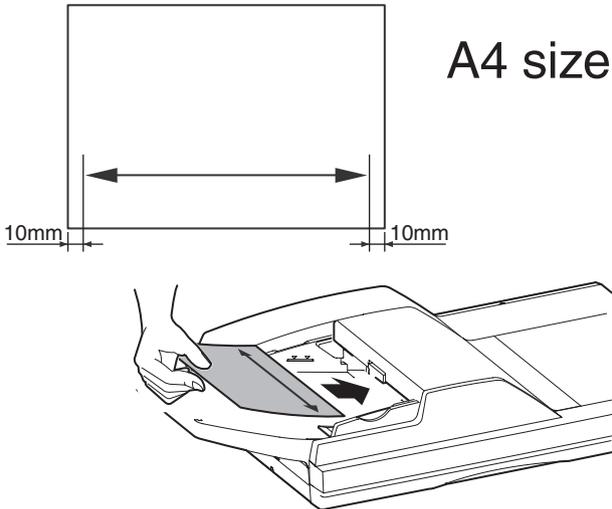
ADJ 6C

Adjust the image magnification in the main scanning direction in SPF front-face mode (CCD)

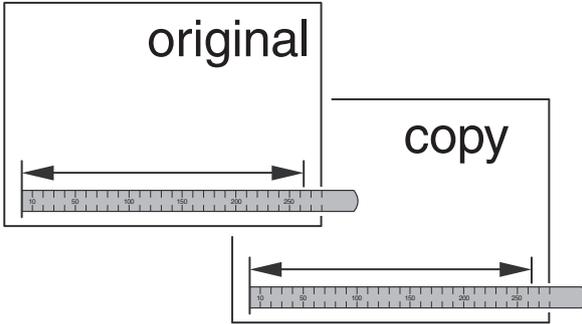
This adjustment is needed in the following situations:

- The CCD unit has been removed from the machine.
- The CCD unit has been replaced.
- Images are not correctly magnified in the main scanning direction.
- The MFP control PWB has been replaced.
- The EEPROM on the MFP control PWB has been replaced.
- The scan control PWB has been replaced.
- The EEPROM on the scan control PWB has been replaced.
- U2 trouble has occurred.

- 1) On the SPF original tray, place such an original as illustrated below.

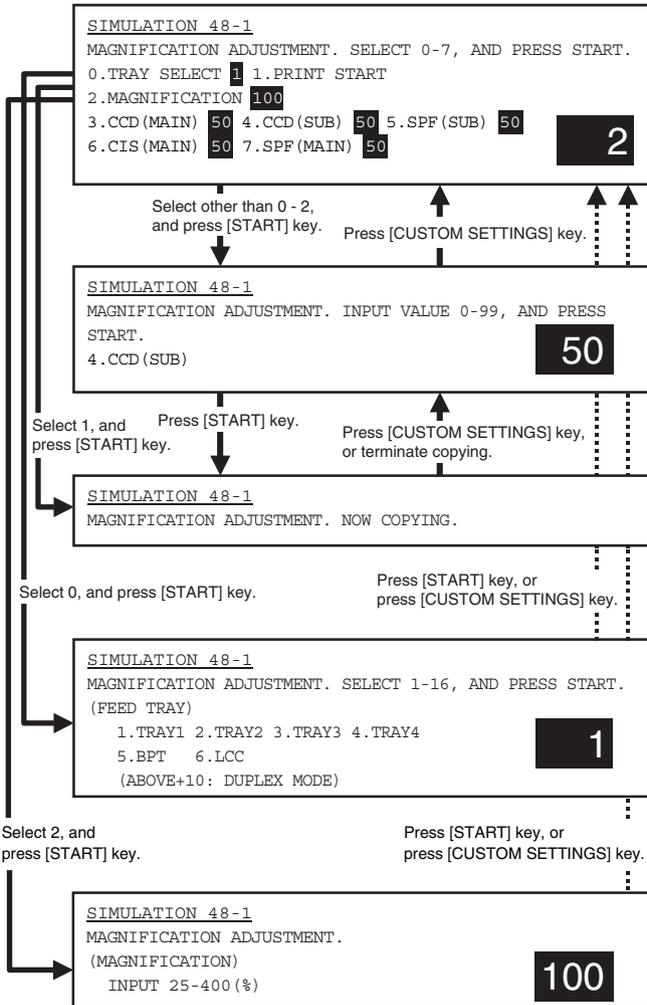


- 2) Make a normal copy on A4 paper.
- 3) Measure the lengths of the copied image and the original image.



- 4) Determine the image magnification factor using the following formula:
Image magnification factor (%) = Copy dimension/original dimension x 100
Image magnification factor (%) = 99 / 100 x 100 = 99
If the image magnification factor is within the spec (100±0.8%), no adjustment is required; otherwise, do the following steps.

- 5) Go through the modes specified in Simulation 48-1.



- 6) Using the numeric keypad, select the number that corresponds to the mode for which to make adjustments.

Select the adjustment item that is intended to adjust the image magnification in the main scanning direction in SPF front-face mode (CCD). (SPF (MAIN))

- 7) Press the Start key.
8) Adjust the image magnification factor by entering an appropriate value through the numeric keypad.
9) Press the P or Start key.

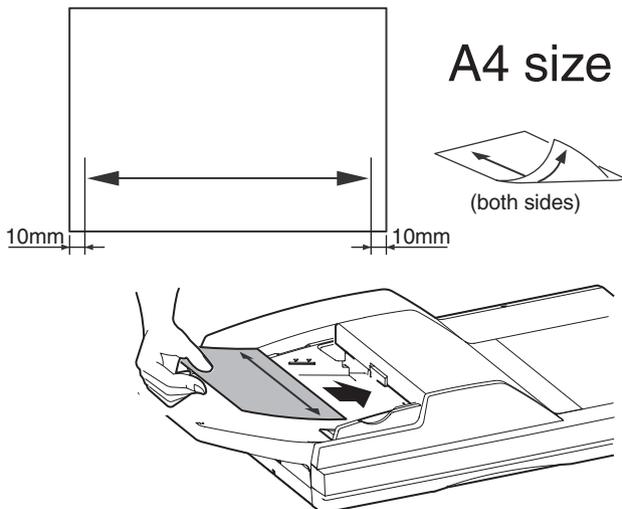
Pressing the Start key starts copy operation as well as applying the adjustment value.

Repeat the above adjustments until an acceptable result is obtained.

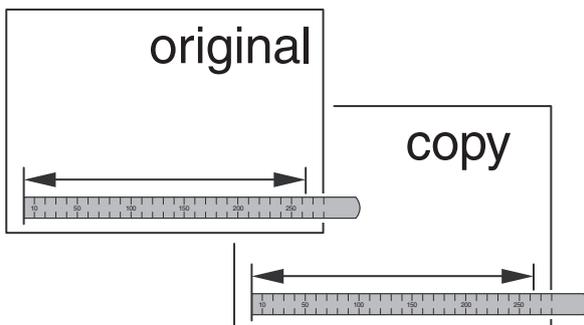
ADJ 6D**Adjust the image magnification in the main scanning direction in SPF back-face mode (CCD)**

This adjustment is needed in the following situations:

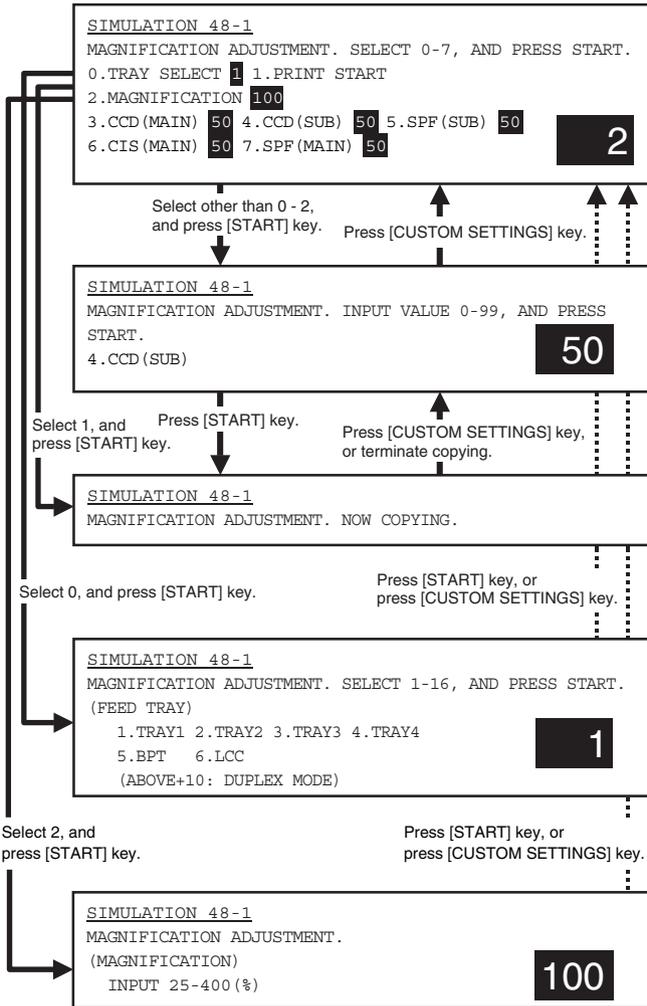
- The MFP control PWB has been replaced.
 - The EEPROM on the MFP control PWB has been replaced.
 - The scan control PWB has been replaced.
 - The EEPROM on the scan control PWB has been replaced.
 - U2 trouble has occurred.
 - Images are not correctly magnified in the main scanning direction.
- 1) On the SPF original tray, place such a duplex original as illustrated below.



- 2) Make a normal duplex copy on A4 paper.
- 3) Measure the lengths of the copied image (on the back side) and the original image.



- 4) Determine the image magnification factor using the following formula:
 Image magnification factor (%) = Copy dimension/original dimension x 100
 Image magnification factor (%) = 99 / 100 x 100 = 99
 If the image magnification factor is within the spec (100±0.8%), no adjustment is required; otherwise, do the following steps.
- 5) Go through the modes specified in Simulation 48-1.



- 6) Select the number that corresponds to the adjustment item CIS (MAIN) using the numeric keypad.
 This adjustment item is intended to adjust the image magnification in the main scanning direction in SPF back-face mode (CIS). (CIS (MAIN))
- 7) Press the Start key.

- 8) Adjust the image magnification factor by entering an appropriate value through the numeric keypad.
- 9) Press the P or Start key.
Pressing the Start key starts copy operation as well as applying the adjustment value.

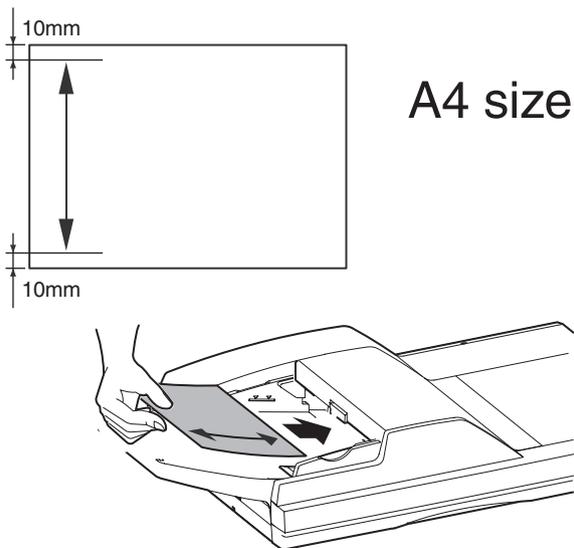
Repeat the above adjustments until an acceptable result is obtained.

ADJ 6E Adjust the image magnification in the sub-scanning direction in SPF mode

This adjustment is needed in the following situations:

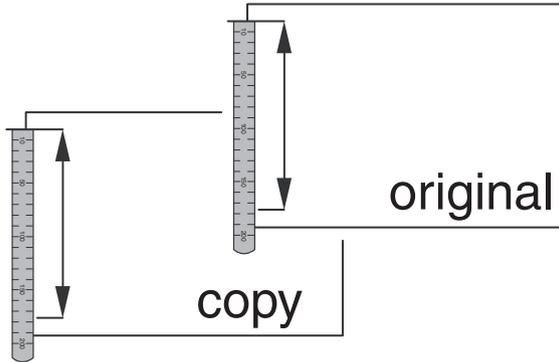
- Images are not correctly magnified in the sub-scanning direction.
- The MFP control PWB has been replaced.
- The EEPROM on the MFP control PWB has been replaced.
- The scan control PWB has been replaced.
- The EEPROM on the scan control PWB has been replaced.
- U2 trouble has occurred.

- 1) On the SPF original tray, place such an original as illustrated below.



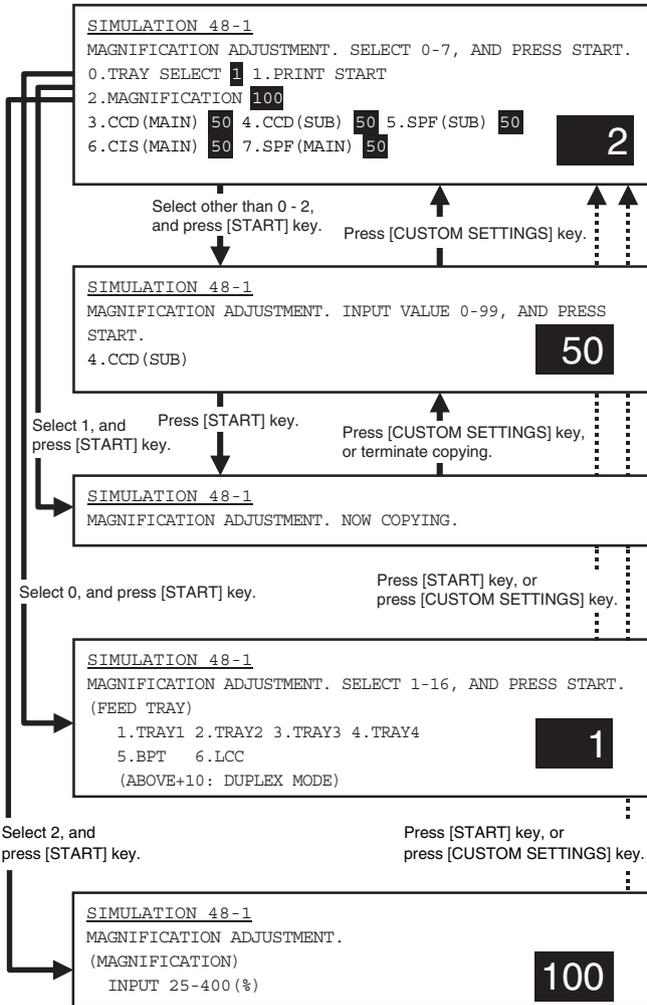
- 2) Make a normal copy on A4 paper.

- 3) Measure the lengths of the copied image and the original image.



- 4) Determine the image magnification factor using the following formula:
Image magnification factor (%) = Copy dimension/original dimension x 100
Image magnification factor (%) = 99 / 100 x 100 = 99
If the image magnification factor is within the spec (100±0.8%), no adjustment is required; otherwise, do the following steps.

- 5) Go through the modes specified in Simulation 48-1.



- 6) Select the number that corresponds to the adjustment item SPF (SUB) using the numeric keypad.

This adjustment items is intended to adjust the image magnification in the sub-scanning direction in SPF mode. (SPF (SUB))

- 7) Press the Start key.
8) Adjust the image magnification factor by entering an appropriate value through the numeric keypad.

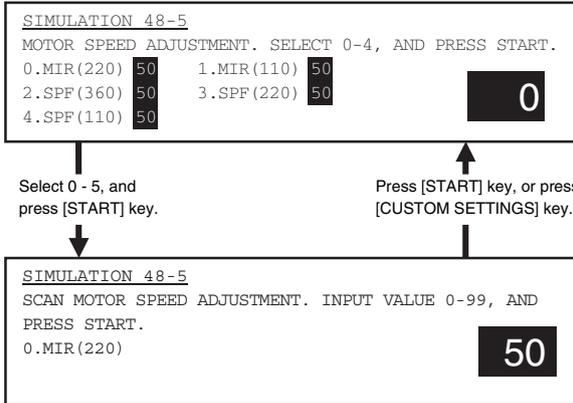
- 9) Press the P or Start key.

Pressing the Start key starts copy operation as well as applying the adjustment value.

Repeat the above adjustments until an acceptable result is obtained.

Note: After adjusting the image magnification in the sub-scanning direction through Simulation 48-1, do the following steps if making a copy at a different magnification factor fails to produce a correctly scaled copy.

- 1) Go through the modes specified in Simulation 48-5.



- 2) Using the numeric keypad, select the number that corresponds to the mode for which to make adjustments.
- 3) Press the Start key.
- 4) Enter the copy adjustment value using the numeric keypad.
 Make adjustments by changing the adjustment value for high revolution mode if the copy magnification is not correct for microcopies; or the adjustment value for low revolution mode if the copy magnification is not correct for blow-backs.
- 5) Press the Start key.
 This applies the adjustment value.

ADJ 7 Adjusting the image off-center

ADJ 7A Adjust the print image off-center (print engine section)

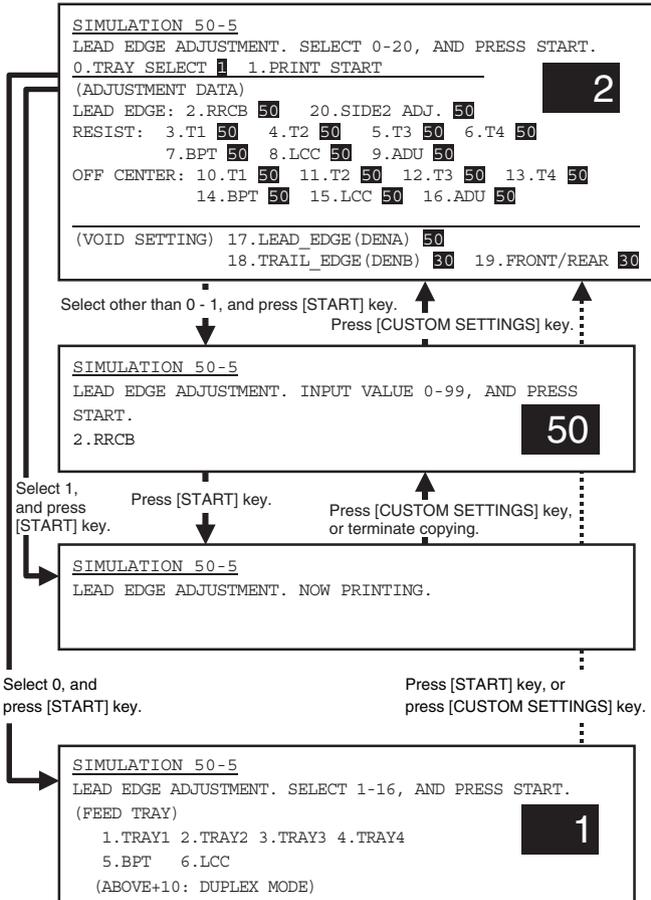
This adjustment is needed in the following situations:

- The paper feed section has been disassembled.
- The MFP control PWB has been replaced.
- The EEPROM on the MFP control PWB has been replaced.
- The scan control PWB has been replaced.
- The EEPROM on the scan control PWB has been replaced.
- The scanner (reading) section has been disassembled.

- The scanner (reading) unit has been replaced.
- The LSU has been replaced.
- U2 trouble has occurred.

(Print image off-center adjustment)

1) Go through the modes specified in Simulation 50-5.



Item			Set range	Default		
				AR-M550N/U, AR-M620N/U	AR-M700N/U	
0	TRAY SELECT	Paper feed tray selection (1 - 6)	–	–		
1	PRINT START	Print start (Default)	–	–		
(Lead edge adjustment value)						
2	RRCB	Resist roller clutch ON timing adjustment value	0 - 99	50		
20	SIDE2-ADJ.	Offset (adjustment) of the RRCB setting during rear print.	1 - 99	50		
(Resist adjustment value)						
3	TRAY1	Tray 1 adjustment	0 - 99	46	48	
4	TRAY2	Tray 2 adjustment		45	46	
5	TRAY3	Tray 3 adjustment		46	47	
6	TRAY4	Tray 4 adjustment		46	47	
7	BPT	Manual feed tray adjustment		45	46	
8	LCC	Side LCC adjustment		45	46	
9	ADU	Adjustment when paper is fed again from ADU		43	46	
(Off-center set value) Self print						
10	TRAY 1	Tray 1 adjustment		–	–	
11	TRAY 2	Tray 2 adjustment	–	–		
12	TRAY 3	Tray 3 adjustment	–	–		
13	TRAY 4	Tray 4 adjustment	–	–		
14	BPT	Manual feed tray adjustment	–	–		
15	LCC	Side LCC adjustment	–	–		
16	ADU	Adjustment when paper is fed again from ADU	–	–		
(Void set value)						
7	LEAD_EDGE (DENA)	Lead edge void set value	0 - 99	35		
8	TRAIL_EDGE (DENB)	Rear edge void adjustment value				
9	FRONT/REAR	Front/Rear void adjustment value				

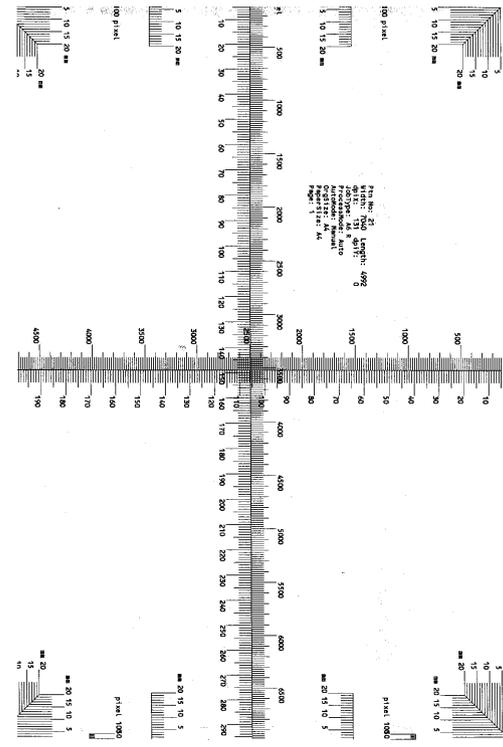
- 2) Enter the number that corresponds to the paper feed tray that needs adjustments. (Choose from numbers 10 to 16.)
- 3) Press the Start key.
- 4) Press the Start key.

A self-print pattern image is printed.

Check the off-center of the printed self-print pattern image.

If so, no adjustment is required.

Measure the void area dimensions in the front and rear frame directions, and make sure that the difference between the two dimensions is within ± 1.5 mm.



If the above requirement is not met, do the following steps.

- 5) Using the numeric keypad, change the adjustment value in steps of 0.1 mm. A larger setting shifts the printed image toward the front side.
- 6) Press the P or Start key. Pressing the Start key starts print operation as well as applying the adjustment value.

Check the off-center of the printed self-print pattern image.

Repeat steps 5 to 6 until an acceptable result is obtained.

ADJ 7B Adjust the scanned image off-center in original table mode (scan section)

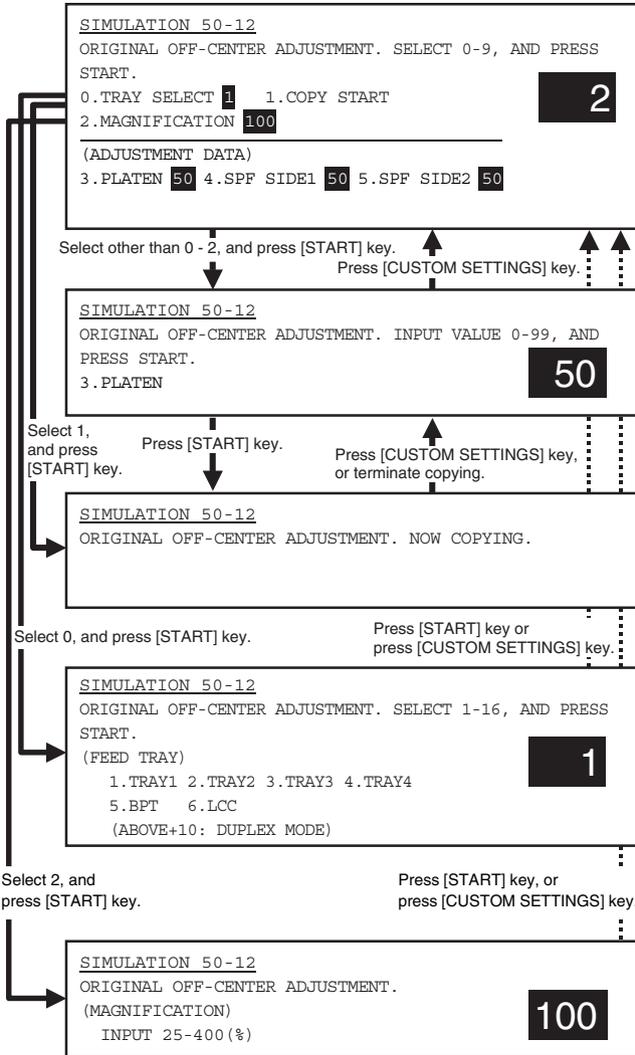
This adjustment is needed in the following situations:

- The MFP control PWB has been replaced.
- The EEPROM on the MFP control PWB has been replaced.
- The scan control PWB has been replaced.
- The EEPROM on the scan control PWB has been replaced.
- The scanner (reading) section has been disassembled.
- The scanner (reading) unit has been replaced.
- U2 trouble has occurred.

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(Adjustment mode selection)

1) Go through the modes specified in Simulation 50-12.



	Item	Set range	Default	
0	TRAY SELECT	Paper feed tray selection	1 - 6	-
1	COPY START	Copy START (Default)	-	-
2	MAGNIFICATION	Print magnification ratio	25 - 400%	100
(Off-center adjustment value)				
3	PLATEN	OC mode adjustment	0 - 99	50
4	SPF SIDE1	SPF front surface adjustment		
5	SPF SIDE2	SPF back surface adjustment		

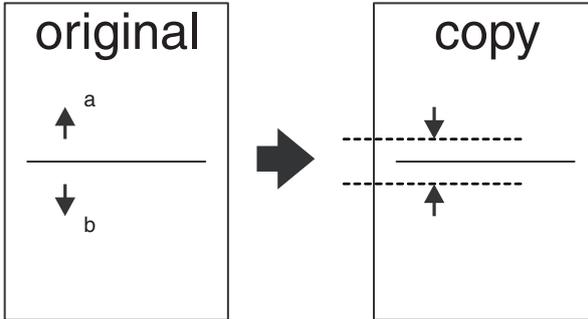
- 2) Using the numeric keypad, select the adjustment item PLATEN, which is intended to adjust the off-center in original table mode.
- 3) Press the Start key.

(Scan off-center adjustment)

- 1) Place an original on the original table.
- 2) Press the Start key.

Check the off-center of the printed image.

If the off-center is 0 ± 4.0 mm, no adjustment is required.



If the above requirement is not met, do the following steps.

- 3) Using the numeric keypad, change the adjustment value in steps of 0.1 mm to adjust the scan image off-center. A larger setting shifts the printed image toward the rear side.
- 4) Press the P or Start key.
Pressing the Start key starts copy operation as well as applying the adjustment value.
- 5) Check the off-center of the printed image.
Repeat the above adjustments until an acceptable result is obtained.

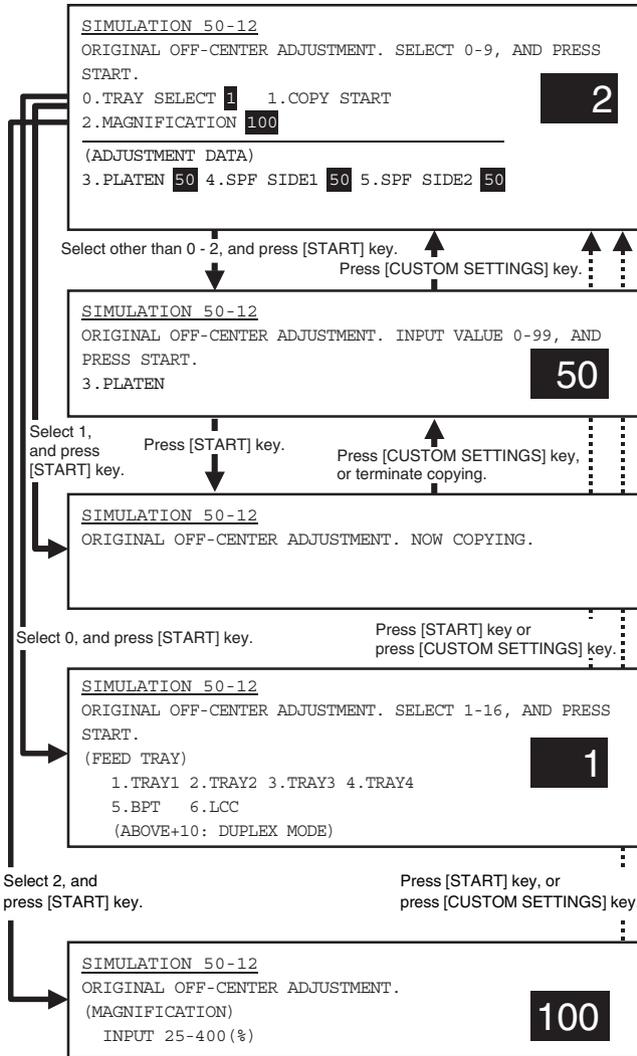
ADJ 7C Adjust the scanned image off-center in SPF front-face mode (scan section)

This adjustment is needed in the following situations:

- The MFP control PWB has been replaced.
- The EEPROM on the MFP control PWB has been replaced.
- The scan control PWB has been replaced.
- The EEPROM on the scan control PWB has been replaced.
- The scanner (reading) section has been disassembled.
- The scanner (reading) unit has been replaced.
- U2 trouble has occurred.
- The SPF section has been disassembled.
- The SPF unit has been replaced.

(Adjustment mode selection)

1) Go through the modes specified in Simulation 50-12.



	Item	Set range	Default	
0	TRAY SELECT	Paper feed tray selection	1 - 6	-
1	COPY START	Copy START (Default)	-	-
2	MAGNIFICATION	Print magnification ratio	25 - 400%	100
(Off-center adjustment value)				
3	PLATEN	OC mode adjustment	0 - 99	50
4	SPF SIDE1	SPF front surface adjustment		
5	SPF SIDE2	SPF back surface adjustment		

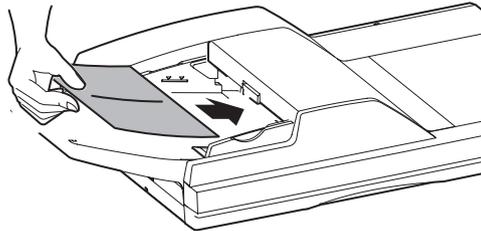
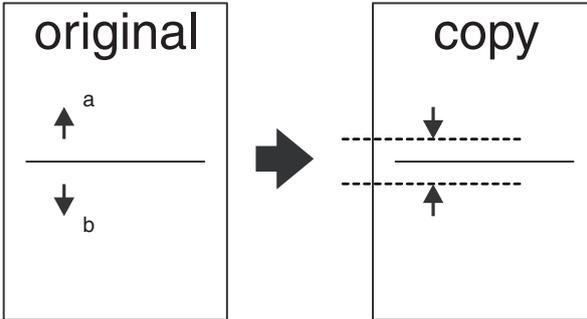
- 2) Using the numeric keypad, select the adjustment item SPF SIDE1, which is intended to adjust the off-center in SPF front-face mode.
- 3) Press the Start key.

(Scan off-center adjustment)

- 1) Place an original on the SPF original tray.
- 2) Press the Start key.

Check the off-center of the printed image.

If the off-center is 0 ± 2.5 mm, no adjustment is required.



If the above requirement is not met, do the following steps.

- 3) Using the numeric keypad, change the adjustment value in steps of 0.1 mm to adjust the scan image off-center. A larger setting shifts the printed image toward the rear side.
- 4) Press the P or Start key.
Pressing the Start key starts copy operation as well as applying the adjustment value.
- 5) Check the off-center of the printed image.

Repeat the above adjustments until an acceptable result is obtained.

ADJ 7D

Adjust the scanned image off-center in SPF back-face mode (scan section)

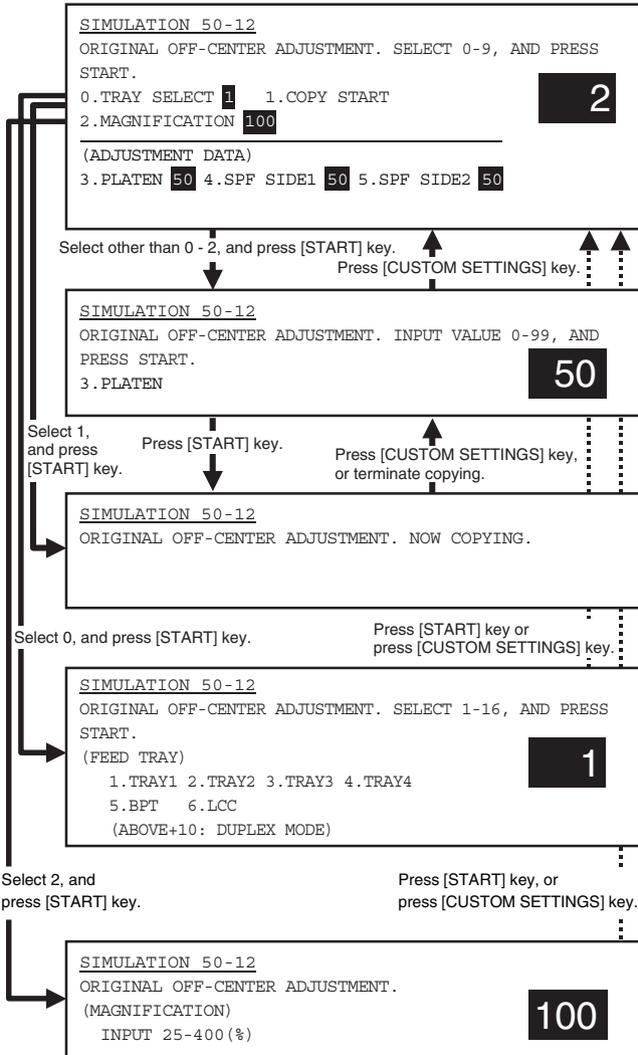
This adjustment is needed in the following situations:

- The MFP control PWB has been replaced.
- The EEPROM on the MFP control PWB has been replaced.
- The scan control PWB has been replaced.
- The EEPROM on the scan control PWB has been replaced.

- The scanner (reading) section has been disassembled.
- The scanner (reading) unit has been replaced.
- U2 trouble has occurred.
- The SPF section has been disassembled.
- The SPF unit has been replaced.

(Adjustment mode selection)

1) Go through the modes specified in Simulation 50-12.



Item			Set range	Default
0	TRAY SELECT	Paper feed tray selection	1 - 6	-
1	COPY START	Copy START (Default)	-	-
2	MAGNIFICATION	Print magnification ratio	25 - 400%	100
(Off-center adjustment value)				
3	PLATEN	OC mode adjustment	0 - 99	50
4	SPF SIDE1	SPF front surface adjustment		
5	SPF SIDE2	SPF back surface adjustment		

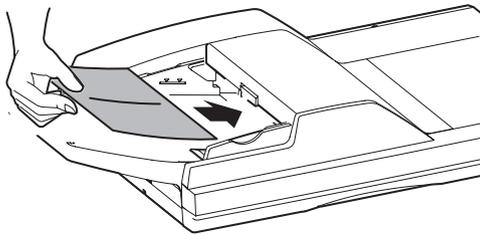
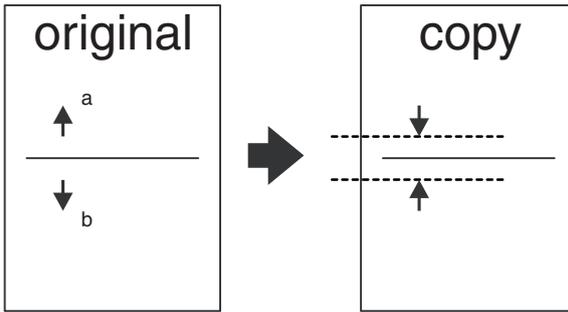
- 2) Using the numeric keypad, select the adjustment item SPF SIDE2, which is intended to adjust the off-center in SPF back-face mode.
- 3) Press the Start key.

(Scan off-center adjustment)

- 1) Place a duplex document in the SPF original tray.
- 2) Press the Start key.

Since the front side and back side images are copied onto separate sheets, check the off-center of the back side image.

If the off-center is 0 ± 2.7 mm, no adjustment is required.



If the above requirement is not met, do the following steps.

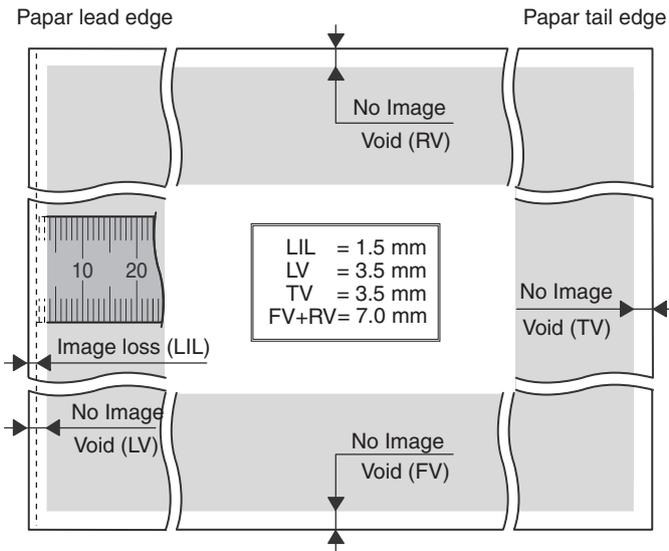
- 3) Using the numeric keypad, change the adjustment value in steps of 0.1 mm to adjust the scan image off-center. A larger setting shifts the printed image toward the front side.
- 4) Press the P or Start key.
Pressing the Start key starts copy operation as well as applying the adjustment value.
- 5) Check the off-center of the printed image.

Repeat the above adjustments until an acceptable result is obtained.

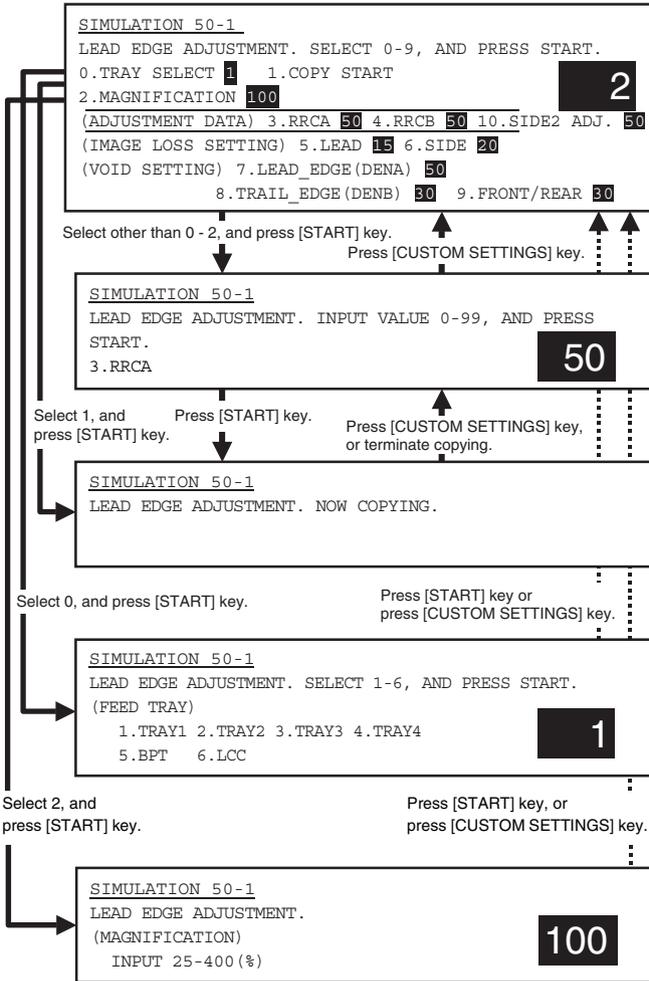
ADJ 8**Adjusting the image position, image loss, and void area****ADJ 8A****Adjust copied image loss/void area in original table mode**

This adjustment is needed in the following situations:

- The paper feed section has been disassembled.
- The MFP control PWB has been replaced.
- The EEPROM on the MFP control PWB has been replaced.
- The scan control PWB has been replaced.
- The EEPROM on the scan control PWB has been replaced.
- The scanner (reading) section has been disassembled.
- The scanner (reading) unit has been replaced.
- The LSU has been replaced.
- U2 trouble has occurred.



1) Go through the modes specified in Simulation 50-1.



Item	Content	Set range	Default	
0	TRAY SELECT	Paper feed tray selection	1 - 6	-
1	COPY START	Copy START (Default)	-	-
2	MAGNIFICATION	Print magnification ratio	25 - 400%	-
(Lead edge adjustment value)				
3	RRCB	Document scan start position	0 - 99	50
4	RRCB	Resist roller clutch ON timing adjustment value		
10	SIDE2-ADJ.	Offset (adjustment) of the RRCB setting during rear print.	1 - 99	50
(Image loss set value)				
5	LEAD	Lead edge image loss set value	0 - 99	15
6	SIDE	Side image loss set value		20
(Void set value)				
7	LEAD_EDGE (DENA)	Lead edge void set value	0 - 99	35
8	TRAIL_EDGE (DENB)	Rear edge void adjustment value		
9	FRONT/REAR	Front/Rear void adjustment value		

(Leading edge image loss/void area adjustment)

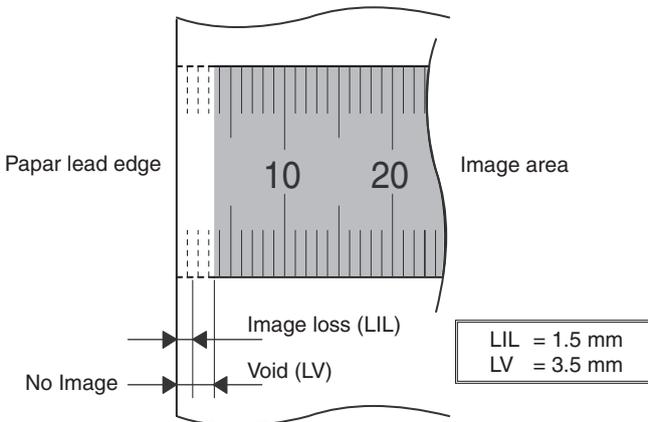
- 1) Set the adjustment values for leading edge image loss and leading edge void as follows:

(Standard setting)

Leading edge image loss: 1.5 mm (LEAD:15)

Leading edge void: 3.5mm (DENA:35)

- Set the adjustment value for (LEAD) to 15 by entering "15" into the (LEAD) adjustment value field and then pressing the P key.
 - Set the adjustment value for (DENA) to 35 by entering "35" into the (DENA) adjustment value field and then pressing the P key.
- 2) Make a copy at 100% magnification by entering "100" into the (MAGNIFICATION) field and then pressing the Start key, and check the leading edge void area and image loss.



If the leading edge image loss and void area are not at acceptable levels, do the following steps.

(The adjustment value should be changed in steps of 1msec/0.1mm.)

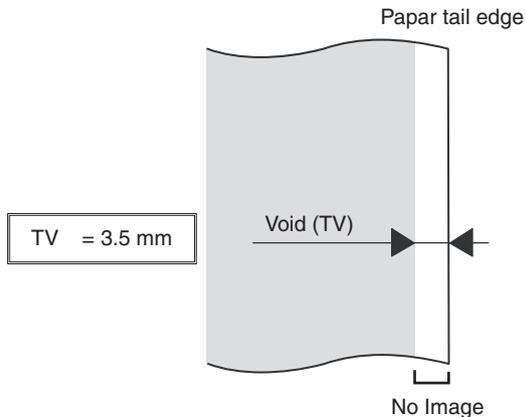
- If the leading edge void area is not 3.5 mm:
Repeat the process of changing the (RRCB) adjustment value and then pressing the Start key until attaining an acceptable level. (The adjustment value should be change in steps of 1msec/step, 0.1mm/step.)
- If the leading edge image loss is not 1.5mm:
Repeat the process of changing the (RRCA) adjustment value, in steps of 0.1 mm, and then pressing the Start key until attaining an acceptable level. (The adjustment value should be changed in steps of 0.2mm.)

Repeat the above adjustments until acceptable results are obtained.

(Trailing edge void area adjustment)

- 1) Make a copy at 100% magnification by entering "100" into the (MAGNIFICATION) field and then pressing the Start key, and check the trailing edge void area.

(Standard setting) Trailing edge void area: 3.5 mm



If the trailing edge void area is not at an acceptable level, do the following steps.

- 2) Repeat the process of changing the (TRAIL EDGE) adjustment value and then pressing the Start key until attaining an acceptable level.

Repeat the above adjustments until acceptable results are obtained.

(Front/rear frame direction image loss adjustment)

- 1) Set the (SIDE) adjustment value to 20 by entering "20" into the (SIDE) adjustment value field and then pressing the P key.

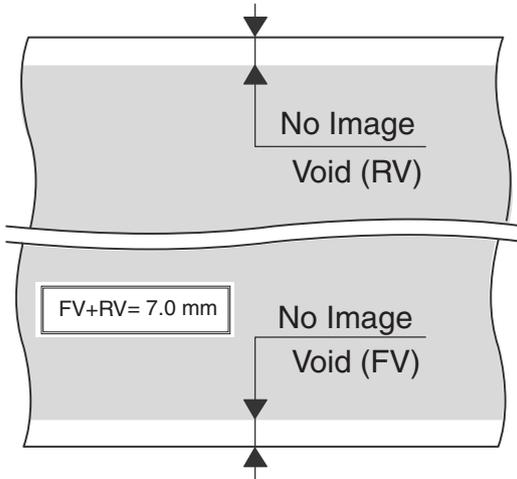
Note that changing this adjustment value shifts the image position in the front/rear frame direction.

(Front/rear frame direction void area)

- 1) Make a copy at 100% magnification by entering "100" into the (MAGNIFICATION) field and then pressing the Start key, and check the front/rear frame direction void area.

(Standard settings)

Front frame side void area = 3.5 mm, rear frame side void area = 3.5 mm, sum of front/rear frame direction void area = 7.0 mm



If the front/rear frame direction void area is not at an acceptable level, do the following steps.

- 2) Repeat the process of changing the (FRONT/REAR) adjustment value and then pressing the Start key until attaining an acceptable level.

Repeat the above adjustments until acceptable results are obtained.

Note: If the front and rear frame side void areas are not equal, adjust the image off-center position using Simulation 50-5.

ADJ 8B

Adjust the original scan start position (adjust the scanner read position in SPF-mode front face scan)

This adjustment is needed in the following situations:

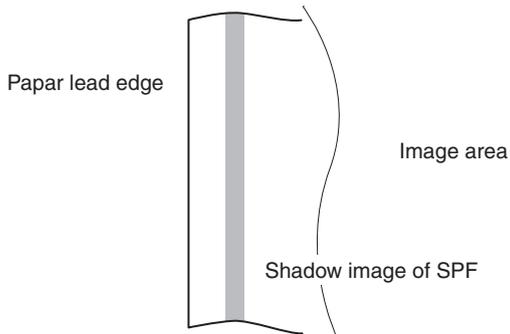
- The MFP control PWB has been replaced.
- The EEPROM on the MFP control PWB has been replaced.
- The scan control PWB has been replaced.
- The EEPROM on the scan control PWB has been replaced.
- The scanner (reading) section has been disassembled.
- The scanner (reading) unit has been replaced.
- U2 trouble has occurred.
- The SPF section has been disassembled.
- The SPF unit has been replaced.

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This adjustment is intended to adjust the scanner read position in SPF-mode front face scan.

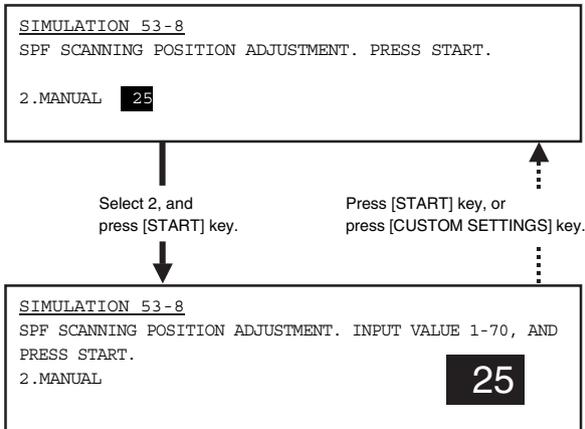
An incorrect adjustment would deviate the scanner stop position from the required position, thus possibly causing a shadow of the original table to appear at the leading edge of an image generated by SPF (front-face) mode scan.

- 1) Make a copy in SPF (front-face) mode, and make sure that the printed image at the leading edge of the copied image is free from shadows.



If the printed image at the leading edge of the copied image contains a shadow of the original table, then do the following steps.

- 2) Go through the modes specified in Simulation 53-8.



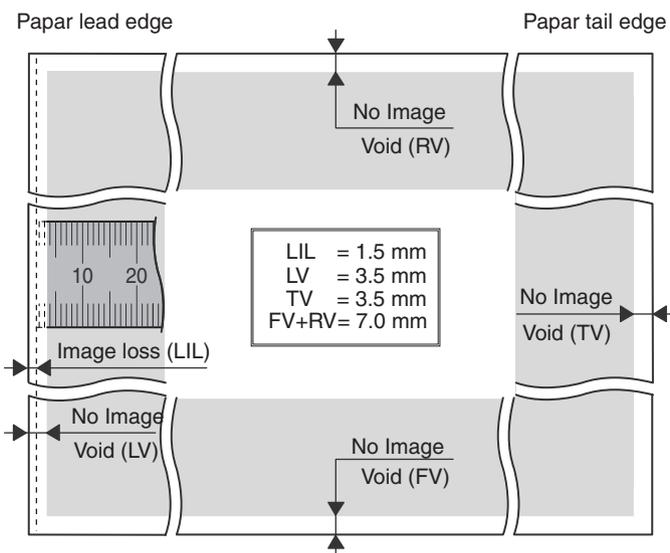
- 3) Enter the adjustment value and press the Start key.

Repeat the above adjustments until an acceptable result is obtained.

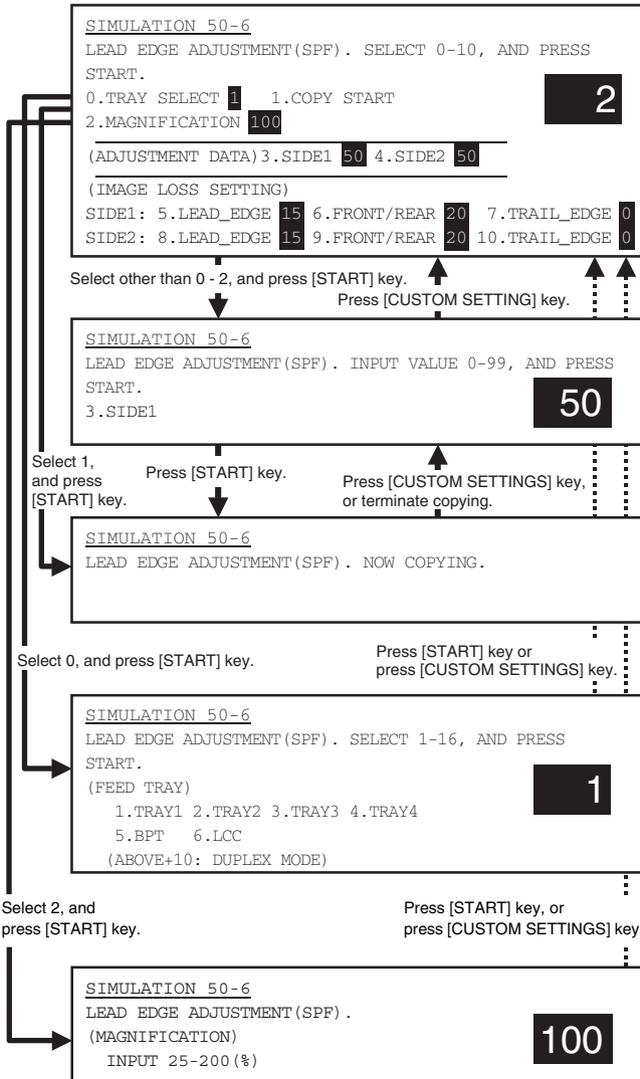
ADJ 8C**Adjust the copied image loss/void area in SPF mode**

This adjustment is needed in the following situations:

- The MFP control PWB has been replaced.
- The EEPROM on the MFP control PWB has been replaced.
- The scan control PWB has been replaced.
- The EEPROM on the scan control PWB has been replaced.
- The scanner (reading) section has been disassembled.
- The scanner (reading) unit has been replaced.
- U2 trouble has occurred.
- The SPF section has been disassembled.
- The SPF unit has been replaced.



1) Go through the modes specified in Simulation 50-6.



		Item	Set range	Default
0	TRAY SELECT	Paper feed tray selection	1 - 6	–
1	COPY START	Copy START (Default)	–	–
2	MAGNIFICATION	Print magnification ratio	25 - 200%	–
(Lead edge adjustment value)				
3	SIDE1	Front surface document scan start position adjustment value	0 - 99	50
4	SIDE2	Back surface document scan start position adjustment value		
(Image loss set value: SIDE 1)				
5	LEAD_EDGE	Front surface lead edge image loss set value	0 - 99	15
6	FRONT_REAR	Front surface side edge image loss set value		20
7	TRAIL_EDGE	Front surface rear edge image loss set value	0 - 20	0
(Image loss set value: SIDE 2)				
8	LEAD_EDGE	Back surface lead edge image loss set value	0 - 99	15
9	FRONT/REAR	Back surface side edge image loss set value		20
10	TRAIL_EDGE	Back surface rear edge image loss set value	0 - 20	0

(Leading edge image loss adjustment)

- 1) Set the adjustment values for leading edge image loss for the front and back sides as follows:

(Standard setting)

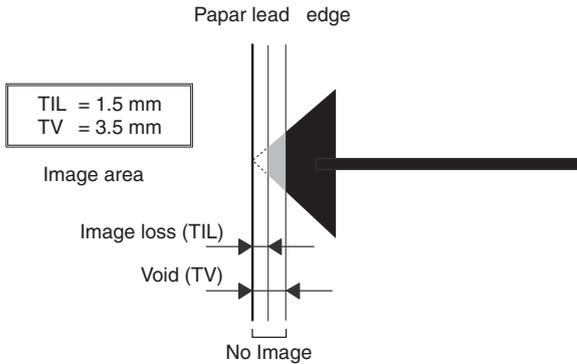
5 LEAD_EDGE: 15

8 LEAD_EDGE: 15

Paper leading edge void: 3.5mm (DENA:35)

- Set the adjustment value for "5 LEAD_EDGE" and "8 LEAD_EDGE" to 15 by entering "15" into the (LEAD_EDGE) adjustment value field and then pressing the P key.

- In SPF mode, make a duplex copy at 100% magnification, and make sure that the leading edge image loss is 1.5 mm for both the front and back sides. (Select duplex mode from the paper selection mode as described in Simulation 50-6). (Enter "100" into the (MAGNIFICATION) field, and then press the start key).



If an acceptable result is not obtained, do the following steps.

- Repeat the process of changing the (SIDE1 & SIDE2) adjustment values and then pressing the Start key until attaining an acceptable level.

SIDE1: Adjustment value for the position at which to read the leading edge of the original in SPF front side mode.

SIDE2: Adjustment value for the position at which to read the leading edge of the original in SPF back side mode.

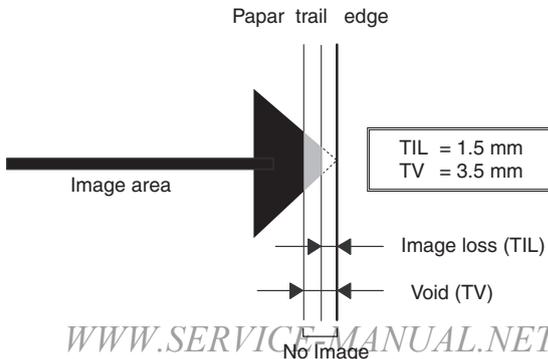
(The adjustment value should be changed in steps of 0.1 mm.)

(The timing in which to start reading the image should be determined based on the timing in which detector SPPD4 detects the leading edge of the original.)

Repeat steps 2 to 3 until an acceptable result is obtained.

(Trailing edge image loss adjustment)

- Select duplex mode from paper selection mode as described in Simulation 50-6, enter "100" into the (MAGNIFICATION) field, and then press the Start key to make a duplex copy at 100% magnification in SPF mode, and make sure that the trailing edge image loss is 1.5 mm for both front and back sides.



If an acceptable result is not obtained, do the following steps.

- 2) Repeat the process of changing the (TRAIL EDGE) adjustment value and then pressing the Start key until attaining an acceptable level.

Repeat the above adjustments until an acceptable result is obtained.

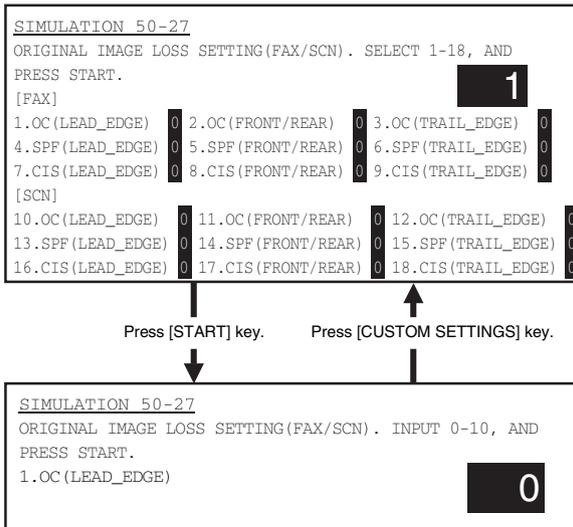
(Front/rear frame direction image loss adjustment)

- 1) Set the (FRONT/REAR) adjustment value to 20 by entering "20" into the (FRONT/REAR) adjustment value field and then pressing the P key.

Note that changing this adjustment value shifts the image position in the front/rear frame direction.

ADJ 8D Adjust the image loss in scanner mode

- 1) Go through the modes specified in Simulation 50-27.



Item			Set range	Default
FAX send				
1	OC (LEAD_EDGE)	OC lead edge	0 - 10 (Unit 1mm)	3 (3mm)
2	OC (FRONT/REAR)	OC side		
3	OC (TRAIL_EDGE)	OC rear edge		
4	SPF (LEAD_EDGE)	SPF lead edge		
5	SPF (FRONT/REAR)	SPF side		
6	SPF (TRAIL_EDGE)	SPF rear edge		
7	CIS (LEAD_EDGE)	CIS lead edge		
8	CIS (FRONT/REAR)	CIS side		
9	CIS (TRAIL_EDGE)	CIS rear edge		
Scanner mode				
10	OC (LEAD_EDGE)	OC lead edge	0 - 10 (Unit 1mm)	0 (0mm)
11	OC (FRONT/REAR)	OC side		
12	OC (TRAIL_EDGE)	OC rear edge		
13	SPF (LEAD_EDGE)	SPF lead edge		
14	SPF (FRONT/REAR)	SPF side		
15	SPF (TRAIL_EDGE)	SPF rear edge		
16	CIS (LEAD_EDGE)	CIS lead edge		
17	CIS (FRONT/REAR)	CIS side		
18	CIS (TRAIL_EDGE)	CIS rear edge		

- 2) Using the numeric keypad, enter the number that corresponds to the scanner mode adjustment item.
- 3) Press the Start key.
- 4) Enter the adjustment value using the numeric keypad.
- 5) Press the Start key.

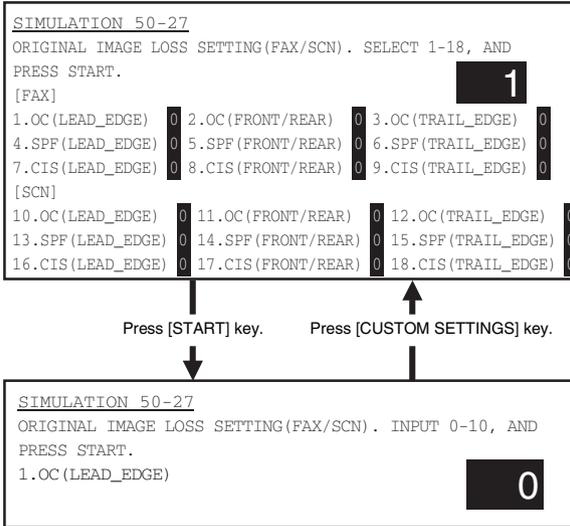
(The adjustment value should be changed in steps of 1.0mm.)

Scanned images must be visually checked for image loss.

Note: Make adjustments in the same manner as in ADJ 8A and ADJ 8C.

ADJ 8E**Adjust the image loss for images sent in fax mode**

- 1) Go through the modes specified in Simulation 50-27.



Item			Set range	Default
FAX send				
1	OC (LEAD_EDGE)	OC lead edge	0 - 10 (Unit 1mm)	3 (3mm)
2	OC (FRONT/REAR)	OC side		
3	OC (TRAIL_EDGE)	OC rear edge		
4	SPF (LEAD_EDGE)	SPF lead edge		
5	SPF (FRONT/REAR)	SPF side		
6	SPF (TRAIL_EDGE)	SPF rear edge		
7	CIS (LEAD_EDGE)	CIS lead edge		
8	CIS (FRONT/REAR)	CIS side		
9	CIS (TRAIL_EDGE)	CIS rear edge		
Scanner mode				
10	OC (LEAD_EDGE)	OC lead edge	0 - 10 (Unit 1mm)	0 (0mm)
11	OC (FRONT/REAR)	OC side		
12	OC (TRAIL_EDGE)	OC rear edge		
13	SPF (LEAD_EDGE)	SPF lead edge		
14	SPF (FRONT/REAR)	SPF side		
15	SPF (TRAIL_EDGE)	SPF rear edge		
16	CIS (LEAD_EDGE)	CIS lead edge		
17	CIS (FRONT/REAR)	CIS side		
18	CIS (TRAIL_EDGE)	CIS rear edge		

- 2) Enter the number that corresponds to the fax adjustment item using the numeric keypad.
- 3) Press the Start key.
- 4) Enter the adjustment value using the numeric keypad.
- 5) Press the Start key.

(The adjustment value should be changed in steps of 1.0mm.)

Scanned images must be visually checked for image loss.

Note: Make adjustments in the same manner as in ADJ 8A and ADJ 8C.

ADJ 9 Adjusting the copied image quality

This adjustment is needed in the following situations:

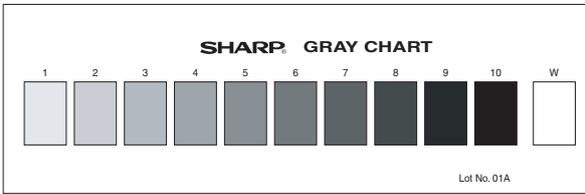
- The CCD unit has been replaced.
- U2 trouble has occurred.
- The MFP control PWB has been replaced.
- The EEPROM on the MFP control PWB has been replaced.
- The scanner control PWB has been replaced.
- The EEPROM on the scanner control PWB has been replaced.
- One or more parts of the scanner (reading) section have been replaced.
- One or more consumables (OPC drum, developer, transfer belt) have been replaced.

(Copy mode image quality adjustment items)

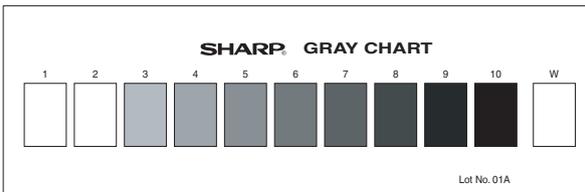
Image mode		Simulation for adjustment	
		All-mode adjustment	Individual-mode adjustment
Auto mode	Binary mode	46-2	
Text mode	Binary mode		46-9
Text/photo mode	Binary mode		46-10
Photo mode	Binary mode		46-11
Adjustment items		Simulation for adjustment	
Copied image gamma adjustment (copier mode)		46-18	
Copied image sharpness adjustment		46-31	

(Copied image reference density)

Original



Copy



If the copied test chart (UKOG-0162FCZZ) image includes a background copy of patch 3 rather than patch 2, adjust all-copy mode to the image density level specified above.

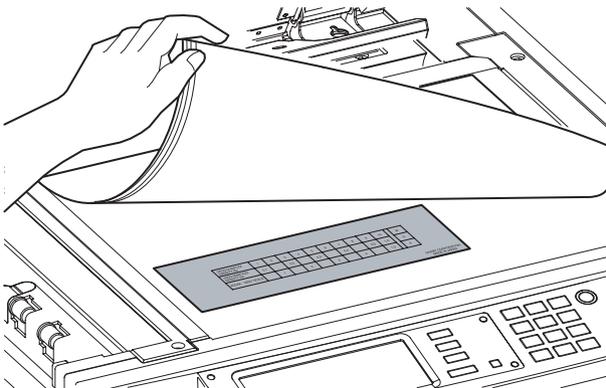
(Copied image gamma, copied image sharpness)

Normally, default settings should be applied to 'copied image gamma' and 'copied image sharpness', but images should be adjusted according to user requests, if any.

ADJ 9A

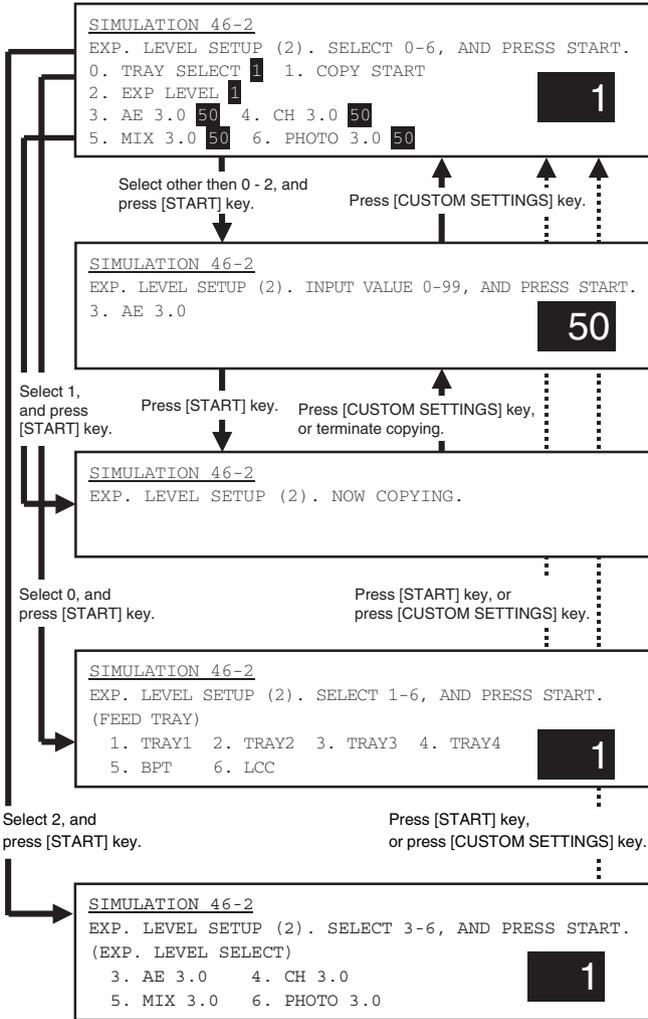
Adjust the binary mode copy density for all modes at once

- 1) Set the test chart (UKOG-0162FCZZ) on the original table so that it aligns with the front frame. Then put four or five pieces of A3 (11" x 17") paper.



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2) Go through the modes specified in Simulation 46-2.



Item		Set range	Default
0	TRAY SELECT	0 - 99	50
1	COPY START		
2	EXP LEVEL		
3	AE 3.0		
4	CH 3.0		
5	MIX 3.0		
6	PHOTO 3.0		

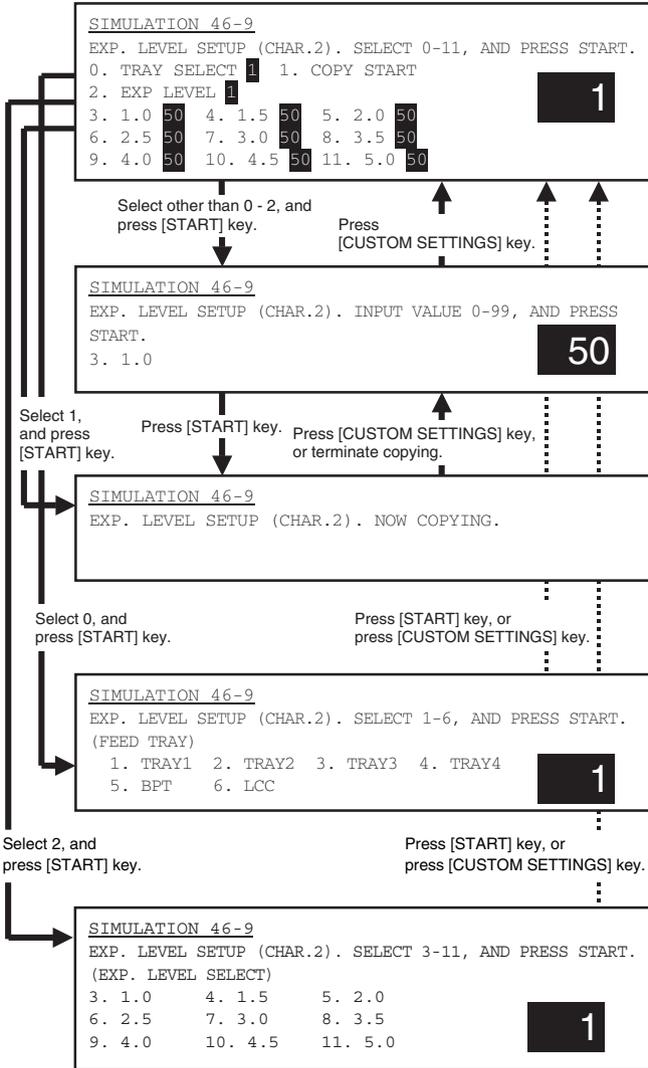
- 3) Using the numeric keypad, select the number that corresponds to the copy mode for which to make adjustments. (Choose from numbers 3 to 6.)
 - 4) Press the Start key.
 - 5) Press the Start key (A copy is created.)
Check the density of the copied image.
If the copied image density is not at an acceptable level, do the following steps.
 - 6) Adjust the copy density by entering an appropriate value through the numeric keypad.
A larger value provides higher density.
 - 7) Press the P or Start key.
This applies the adjustment value.
Pressing the Start key starts copy operation as well as applying the adjustment value.
 - 8) Check the copied image density.
Repeat steps 6 to 8 until an acceptable copied image density is obtained.
- Note: Adjusting the copied image density through this simulation changes the copied image density settings for all copy modes to the copied image density level applied by carrying out this simulation. Also, the copied image density gradient is automatically adjusted to the specified level.
The copied image density settings for individual copy modes adjusted through Simulations 46-9, -10, and -11 are changed to the copied image density level applied by this simulation.

ADJ 9B**Adjust the copy density in text binary mode****ADJ 9C****Adjust the copy density in text/photo binary mode****ADJ 9D****Adjust the copy density in photo binary mode**

This adjustment is intended to customize the copied image density settings. The copy density setting for each copy density adjustment level (1 to 5) in manual copy mode can be adjusted to a custom density level.

- 1) Set the test chart (UKOG-0162FCZZ) on the original table.

- 2) Go through the simulation modes that correspond to the copy modes for which to adjust the copy density (i.e., the modes specified in Simulations 46-9, -10, or -11).



(SIM 46-9) (Text mode)

Item			Set range	Default
0	TRAY SELECT	Paper feed tray selection		
1	COPY START	Copy START (Default)		
2	EXP LEVEL	Exposure level selection		
3	1.0	Exposure level 1.0	0 - 99	50
4	1.5	Exposure level 1.5		
5	2.0	Exposure level 2.0		
6	2.5	Exposure level 2.5		
7	3.0	Exposure level 3.0		
8	3.5	Exposure level 3.5		
9	4.0	Exposure level 4.0		
10	4.5	Exposure level 4.5		
11	5.0	Exposure level 5.0		

(SIM 46-10) (Text/photo mode)

Item			Set range	Default
0	TRAY SELECT	Paper feed tray selection		
1	COPY START	Copy START (Default)		
2	EXP LEVEL	Exposure level selection		
3	1.0	Exposure level 1.0	0 - 99	50
4	1.5	Exposure level 1.5		
5	2.0	Exposure level 2.0		
6	2.5	Exposure level 2.5		
7	3.0	Exposure level 3.0		
8	3.5	Exposure level 3.5		
9	4.0	Exposure level 4.0		
10	4.5	Exposure level 4.5		
11	5.0	Exposure level 5.0		

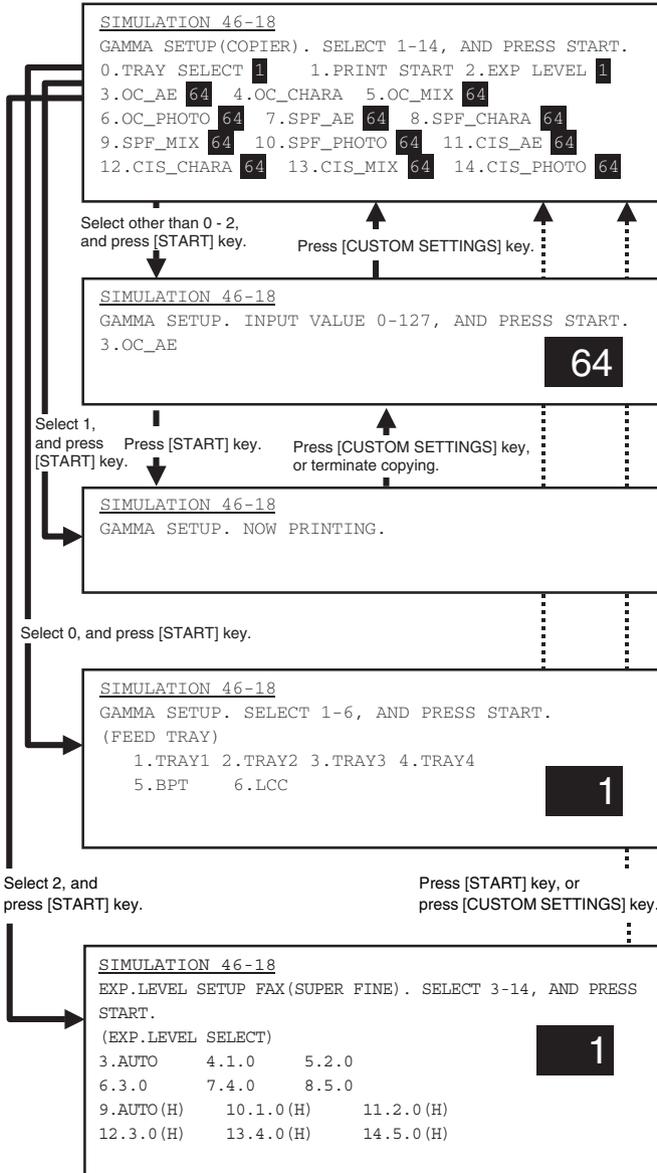
(SIM 46-11) (Photo mode)

Item			Set range	Default
0	TRAY SELECT	Paper feed tray selection		
1	COPY START	Copy START (Default)		
2	EXP LEVEL	Exposure level selection		
3	1.0	Exposure level 1.0	0 - 99	50
4	1.5	Exposure level 1.5		
5	2.0	Exposure level 2.0		
6	2.5	Exposure level 2.5		
7	3.0	Exposure level 3.0		
8	3.5	Exposure level 3.5		
9	4.0	Exposure level 4.0		
10	4.5	Exposure level 4.5		
11	5.0	Exposure level 5.0		

- 3) Using the numeric keypad, select the number that corresponds to the copy density adjustment level. (Choose from numbers 3 to 11.)
 - 4) Press the Start key.
 - 5) Press the Start key (A copy is created.)
If the copied image density is not at an acceptable level, do the following steps.
 - 6) Adjust the copy density by entering an appropriate value through the numeric keypad.
A larger value provides higher density.
 - 7) Press the P or Start key.
This applies the adjustment value.
Pressing the Start key starts copy operation as well as applying the adjustment value.
 - 8) Check the copied image density.
- Repeat steps 5 to 9 until an acceptable copied image density is obtained.

ADJ 9E**Adjust the copied image gamma in copy mode**

- 1) Set the original on the original table.
- 2) Go through the modes specified in Simulation 46-18.

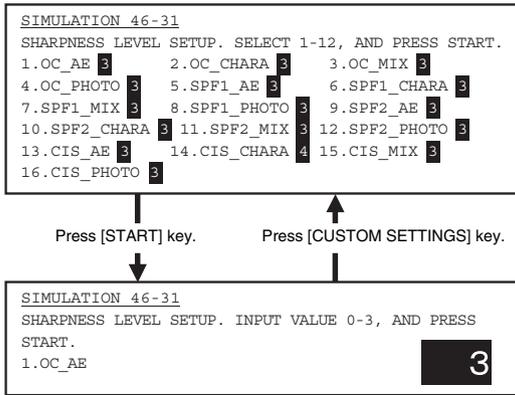


Item			Set range	Default
0	TRAY SELECT	Paper feed tray selection		
1	PRINT START	Print start (Default)		
2	EXP LEVEL	Exposure level selection		
3	OC_AE	AE mode (OC)	0 - 127	64
4	OC_CHARA	Text mode (OC)		
5	OC_MIX	Text/Photo mode (OC)		
6	OC_PHOTO	Photo mode (OC)		
7	SPF_AE	AE mode (SPF)		
8	SPF_CHARA	Text mode (SPF)		
9	SPF_MIX	Text/Photo mode (SPF)		
10	SPF_PHOTO	Photo mode (SPF)		
11	CIS_AE	AE mode (CIS)		
12	CIS_CHARA	Text mode (CIS)		
13	CIS_MIX	Text/Photo mode (CIS)		
14	CIS_PHOTO	Photo mode (CIS)		

- 3) Using the numeric keypad, select the number that corresponds to the copy mode for which to make adjustments.
(Choose from numbers 3 to 14.)
 - 4) Press the Start key.
 - 5) Enter the gamma adjustment value using the numeric keypad.
A larger value provides larger gamma gradient and higher image contrast.
 - 6) Press the P or Start key.
Pressing the Start key starts copy (print) operation as well as applying the adjustment value.
 - 7) Check the copied image gamma (copy density levels for low and high density areas) (contrast).
- Repeat steps 5 to 7 until an acceptable copied image is obtained.

ADJ 9F**Adjust the copied image sharpness**

- 1) Set the original on the original table.
- 2) Go through the modes specified in Simulation 46-31.



Item			Set range	Default
1	OC_AE	AE mode (OC)	1 - 5	3
2	OC_CHARA	Text mode (OC)		
3	OC_MIX	Text/Photo mode (OC)		
4	OC_PHOTO	Photo mode (OC)		
5	SPF1_AE	AE mode (SPF1)		
6	SPF1_CHARA	Text mode (SPF1)		
7	SPF1_MIX	Text/Photo mode (SPF1)		
8	SPF1_PHOTO	Photo mode (SPF1)		
9	SPF2_AE	AE mode (SPF2)		
10	SPF2_CHARA	Text mode (SPF2)		
11	SPF2_MIX	Text/Photo mode (SPF2)		
12	SPF2_PHOTO	Photo mode (SPF2)		
13	CIS_AE	AE mode (CIS)	1 - 5	4
14	CIS_CHARA	Text mode (CIS)		
15	CIS_MIX	Text/Photo mode (CIS)		
16	CIS_PHOTO	Photo mode (CIS)		

- 3) Using the numeric keypad, select the number that corresponds to the copy mode for which to make adjustments.
(Choose from numbers 1 to 16.)
- 4) Press the Start key.
- 5) Adjust the sharpness by entering an appropriate value through the numeric keypad.
A larger value provides higher sharpness.
- 6) Press the P or Start key.
Pressing the Start key starts copy (print) operation as well as applying the adjustment value.
- 7) Check the copied image sharpness.
Repeat steps 5 to 7 until an acceptable copied image is obtained.

ADJ 10 Adjusting the print quality in fax mode

This adjustment is needed in the following situations:

- The CCD unit has been replaced.
- U2 trouble has occurred.
- The MFP control PWB has been replaced.
- The EEPROM on the MFP control PWB has been replaced.
- The scanner control PWB has been replaced.
- The EEPROM on the scanner control PWB has been replaced.
- One or more parts of the scanner (reading) section have been replaced.

(Fax mode image density adjustment items)

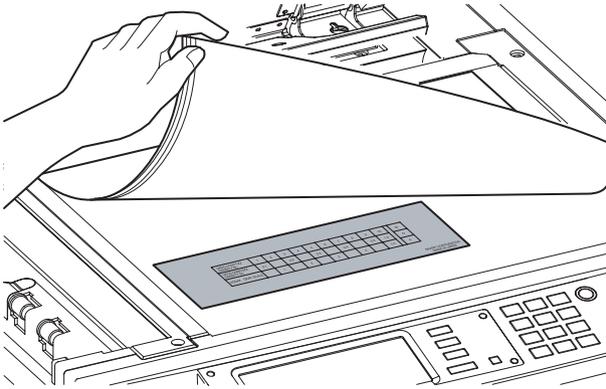
Image mode			Simulation for adjustment	
			All-mode adjustment	Individual-mode adjustment
Fax mode print density adjustment (standard mode)	Auto mode	Binary mode	46-12	46-13
	Manual	Binary mode		
Fax mode print density adjustment (small-character mode)	Auto mode	Binary mode	46-14	
		Half tone mode		
	Manual	Binary mode		
		Half tone mode		
Fax mode print density adjustment (fine mode)	Auto mode	Binary mode	46-15	
		Half tone mode		
	Manual	Binary mode		
		Half tone mode		
Fax mode print density adjustment (super fine mode)	Auto mode	Binary mode	46-16	
		Half tone mode		
	Manual	Binary mode		
		Half tone mode		
Fax mode print density adjustment (600dpi mode)	Auto mode	Binary mode	46-45	
		Half tone mode		
	Manual	Binary mode		
		Half tone mode		

(Fax mode density)

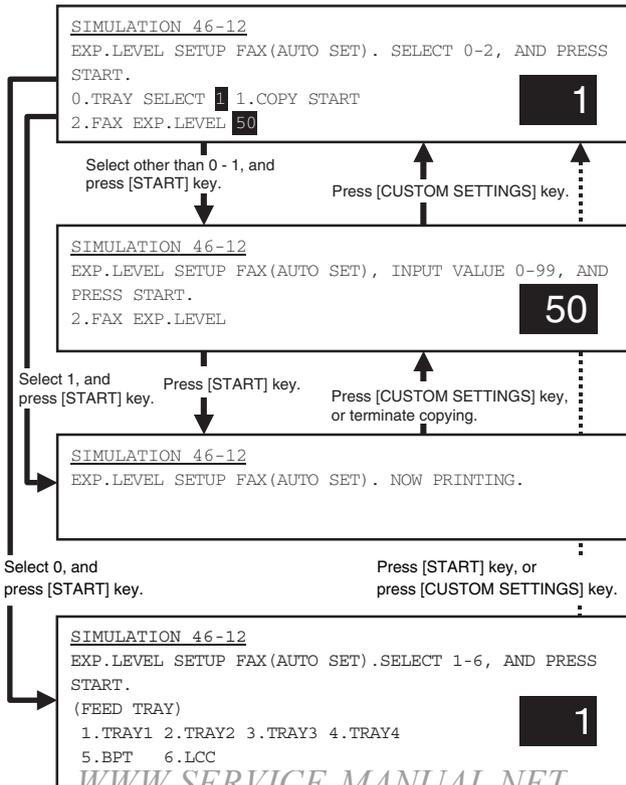
The print density settings should be normally left at defaults but should be adjusted according to user requests, if any.

ADJ 10A**Adjust the fax mode print density for all modes at once**

- 1) Set the test chart (UKOG-0162FCZZ) on the original table so that it aligns with the front frame. Then put four or five pieces of A3 (11" x 17") paper.



- 2) Go through the modes specified in Simulation 46-12.



Item			Set range	Default
0	TRAY SELECT	Paper feed tray selection	0 - 99	50
1	COPY START	Copy START (Default)		
2	FAX EXP. LEVEL	FAX mode print density		

- 3) Select the adjustment item (FAX EXP. LEVEL) using the numeric keypad.
- 4) Press the Start key.
- 5) Press the Start key (A copy is created.)
Check the print density.
If the print density is not at an acceptable level, do the following steps.
- 6) Enter the print adjustment value using the numeric keypad.
- 7) Press the P or Start key.
This applies the adjustment value.
Pressing the Start key starts print operation as well as applying the adjustment value.
- 8) Check the print density.

Repeat steps 6 to 8 until an acceptable print density is obtained.

Note: Adjusting the Fax print density through this simulation changes the print density settings for all Fax modes to the density level applied by carrying out this simulation.

The Fax mode print density settings for individual Fax modes adjusted through Simulations 46-13, -14, -15, -16 and -45 are changed to the print density level applied by this simulation.

ADJ 10B Adjust the fax mode print density in standard mode

ADJ 10C Adjust the fax mode print density in small-character mode

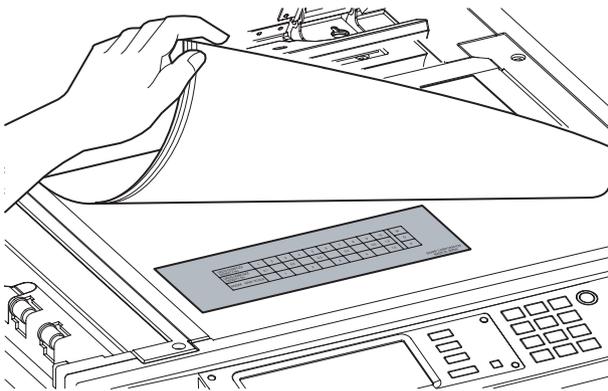
ADJ 10D Adjust the fax mode print density in fine mode

ADJ 10E Adjust the fax mode print density in super fine mode

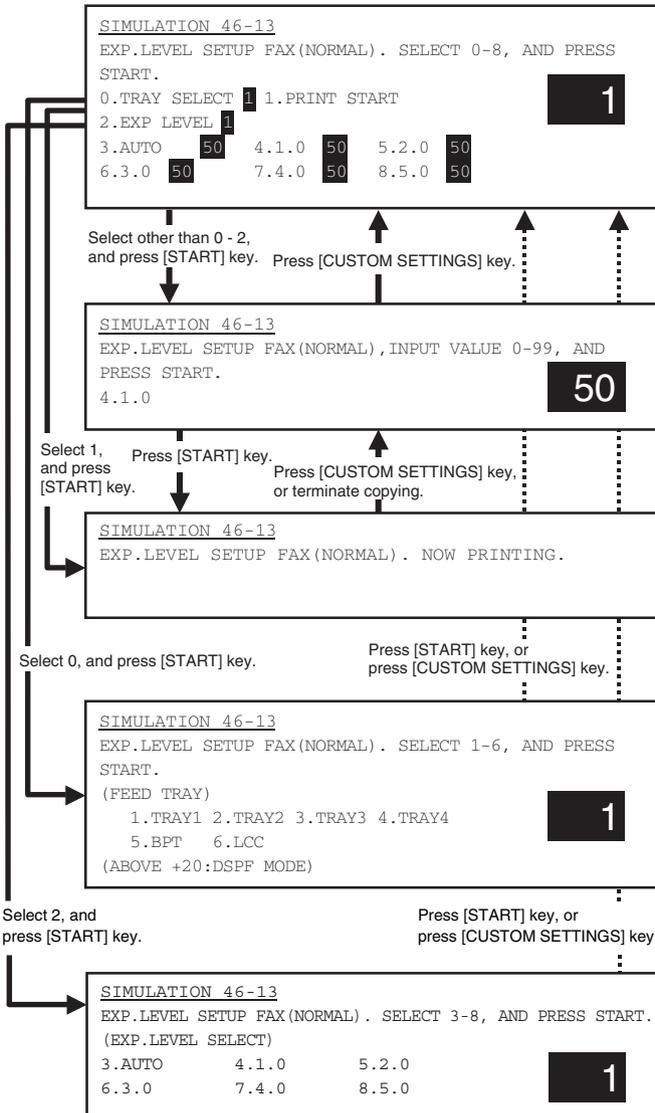
ADJ 10F Adjust the fax mode print density in 600dpi mode

This adjustment is intended to the print mode for each Fax mode individually. In manual mode, the print density setting for each print density adjustment level (1 to 5) can be adjusted to a custom density level.

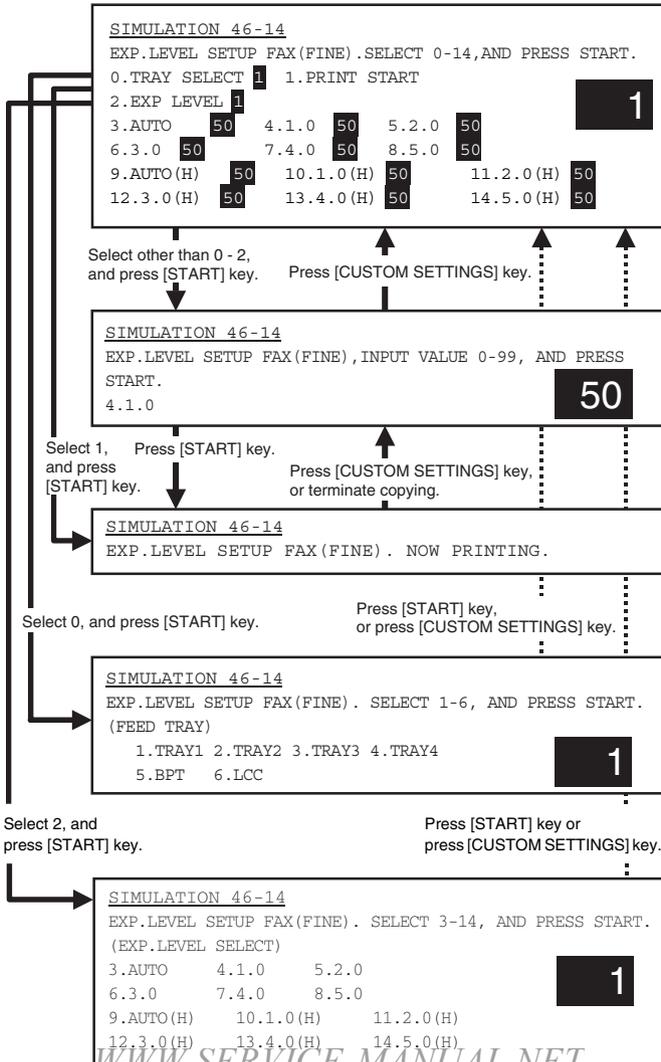
- 1) Set the test chart (UKOG-0162FCZZ) on the original table so that it aligns with the front frame. Then put four or five pieces of A3 (11" x 17") paper .



- 2) Go through the simulation modes that correspond to the Fax modes for which to adjust the print density (i.e., the modes specified in Simulations 46-13, -14, -15, -16, or -45).



Item			Set range	Default
0	TRAY SELECT	Paper feed tray selection	0 - 99	50
1	PRINT START	Print start (Default)		
2	EXP LEVEL	Exposure level selection		
3	AUTO	Auto		
4	1.0	Exposure level 1		
5	2.0	Exposure level 2		
6	3.0	Exposure level 3		
7	4.0	Exposure level 4		
8	5.0	Exposure level 5		



Item			Set range	Default
0	TRAY SELECT	Paper feed tray selection	0 - 99	50
1	PRINT START	Print start (Default)		
2	EXP LEVEL	Exposure level selection		
3	AUTO	Auto		
4	1.0	Exposure level 1		
5	2.0	Exposure level 2		
6	3.0	Exposure level 3		
7	4.0	Exposure level 4		
8	5.0	Exposure level 5		
9	AUTO (H)	Auto (Half-tone)		
10	1.0 (H)	Exposure level 1 (Half-tone)		
11	2.0 (H)	Exposure level 2 (Half-tone)		
12	3.0 (H)	Exposure level 3 (Half-tone)		
13	4.0 (H)	Exposure level 4 (Half-tone)		
14	5.0 (H)	Exposure level 5 (Half-tone)		

3) Using the numeric keypad, select the number that corresponds to the adjustment item. Choose from numbers 3 to 8 (14).

- Auto mode
- Manual mode (print density adjustment level)

For manual mode, select the number that corresponds to the print density level (1 to 5). (Choose from numbers (4 to 8) (10-14)).

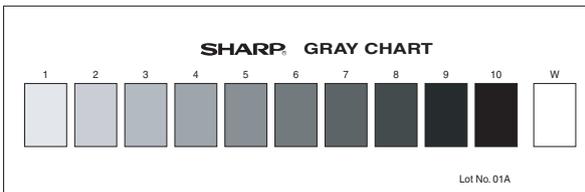
4) Press the Start key.

5) Press the Start key. (A copy is created.)

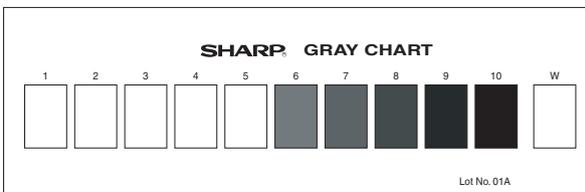
(Binary mode)

(Copy image reference density)

Original



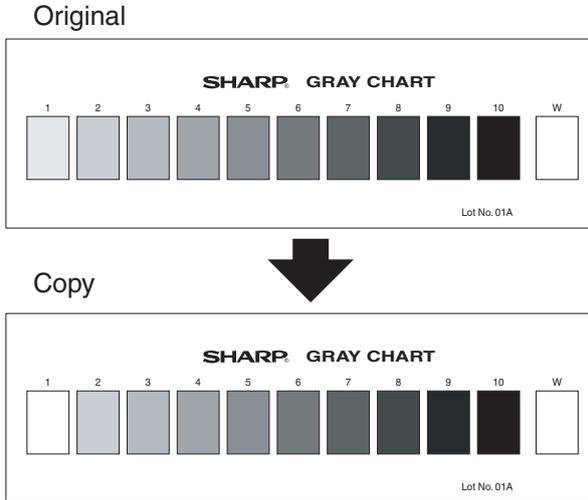
Copy



If the copied test chart (UKOG-0162FCZZ) image includes a background copy of patch 6 rather than patch 5, adjust all-copy mode to the image density level specified above.

(Half tone mode)

(Copy image reference density)



If the copied test chart (UKOG-0162FCZZ) image includes a background copy of patch 2 rather than patch 1, adjust all-copy mode to the image density level specified above.

If the print density is not at an acceptable level, do the following steps.

- 6) Adjust the print density by entering an appropriate value through the numeric keypad.

A larger value provides higher density.

- 7) Press the P or Start key.

This applies the adjustment value.

Pressing the Start key starts print operation as well as applying the adjustment value.

- 8) Check the printed image density.

Repeat steps 6 to 8 until an acceptable image density is obtained.

ADJ 11 Adjusting the image quality in scan mode

This adjustment is needed in the following situations:

- The CCD unit has been replaced.
- U2 trouble has occurred.
- The MFP control PWB has been replaced.
- The EEPROM on the MFP control PWB has been replaced.
- The scanner control PWB has been replaced.
- The EEPROM on the scanner control PWB has been replaced.
- One or more parts of the scanner (reading) section have been replaced.

(Scan mode image quality adjustment items)

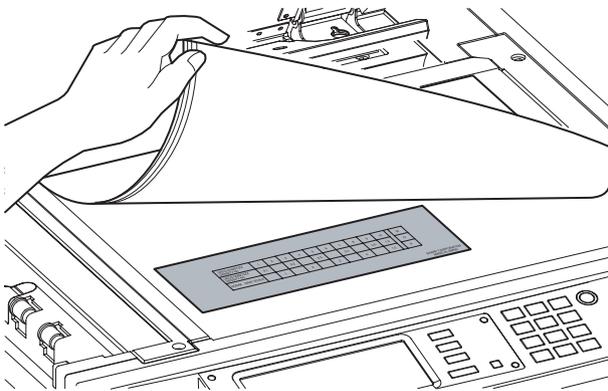
Image mode			Simulation for adjustment	
			All-mode adjustment	Individual-mode adjustment
Scan mode image density adjustment/ individual setup (standard mode)	Auto	Binary mode	46-21	46-22
	Manual	Binary mode		
Scan mode image density adjustment/ individual setup (small-character mode)	Auto	Binary mode		46-23
		Half tone mode		
	Manual	Binary mode		
		Half tone mode		
Scan mode image density adjustment/ individual setup (fine mode)	Auto	Binary mode	46-24	
		Half tone mode		
	Manual	Binary mode		
		Half tone mode		
Scan mode image density adjustment/ individual setup (super fine mode)	Auto	Binary mode	46-25	
		Half tone mode		
	Manual	Binary mode		
		Half tone mode		

(Scan mode image quality)

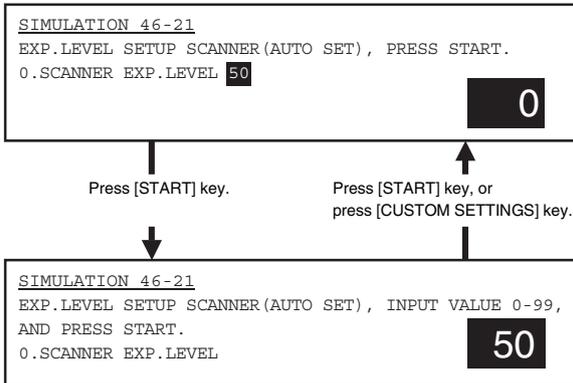
The image density settings should be normally left at defaults but should be adjusted according to user requests, if any.

ADJ 11A Adjust the scan mode image density for all modes at once

- 1) Set the test chart (UKOG-0162FCZZ) on the original table so that it aligns with the front frame. Then put four or five pieces of A3 (11" x 17") paper.



- 1) Go through the modes specified in Simulation 46-21.



Item		Set range	Default	
0	SCANNER EXP. LEVEL	Image density level	0 - 99	50

- 2) Select the adjustment item SCANNER EXP. LEVEL using the numeric keypad.
- 3) Press the Start key.
- 4) Enter the image density adjustment value.
- 5) Press the P or Start key.

Note: Adjusting the scanned image density through this simulation changes the image density settings for all scan modes to the image density level applied by carrying out this simulation.

The scan-mode image density settings for individual scan modes adjusted through Simulations 46-22, -23, -24, -25, and -45 are changed to the image density level applied by this simulation.

Scanned images must be visually checked to ensure the post-adjustment image density.

ADJ 11B Scan mode image density adjustment/individual setup (standard mode)

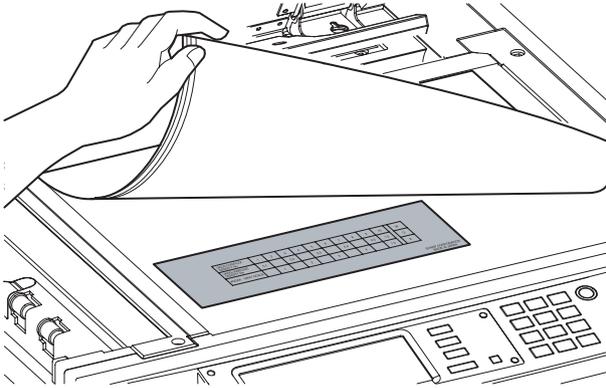
ADJ 11C Scan mode image density adjustment/individual setup (small-character mode)

ADJ 11D Scan mode image density adjustment/individual setup (fine mode)

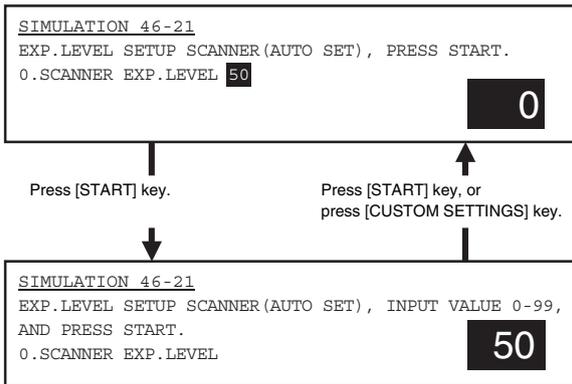
ADJ 11E Scan mode image density adjustment/individual setup (super fine mode)

This adjustment is intended to the image mode for each scan mode individually. In manual mode, the image density setting for each scanned image density adjustment level (1 to 5) can be adjusted to a custom density level.

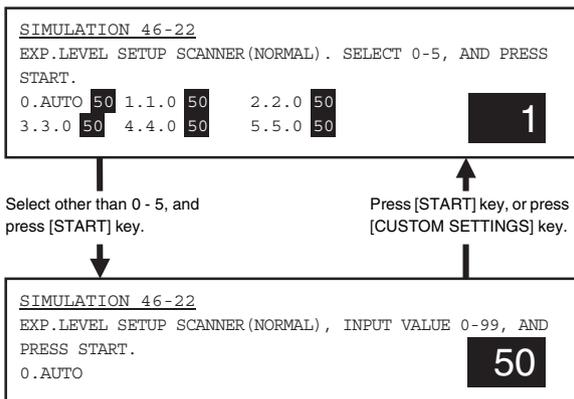
- 1) Set the test chart (UKOG-0162FCZZ) on the original table so that it aligns with the front frame. Then put four or five pieces of A3 (11" x 17") paper.



- 2) Go through the simulation modes that correspond to the scan modes for which to adjust the scanned image density (i.e., the modes specified in Simulations 46-22, -23, -24, or -25).



Item			Set range	Default
0	SCANNER EXP. LEVEL	Image density level	0 - 99	50



Item			Set range	Default
0	AUTO	Auto	0 - 99	50
1	1.0	Exposure level 1		
2	2.0	Exposure level 2		
3	3.0	Exposure level 3		
4	4.0	Exposure level 4		
5	5.0	Exposure level 5		

3) Enter the number that corresponds to the following adjustment item using the numeric keypad. (Choose from numbers 0 to 5.)

- Auto mode
- Manual mode (print density adjustment level)

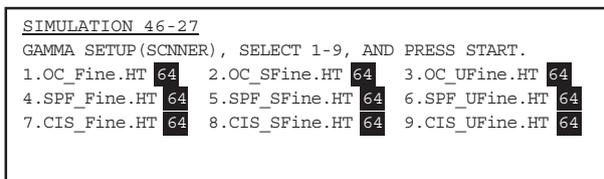
For manual mode, select the number that corresponds to the image density adjustment level (1 to 5). (Choose from numbers 1 to 5.)

- 4) Press the Start key.
- 5) Enter the image density adjustment value.
- 6) Press the P or Start key.

Scanned images must be visually checked to ensure the post-adjustment image density.

ADJ 11F Adjust the image gamma in scanner mode

1) Go through the modes specified in Simulation 46-27.



Item		
1	OC_Fine.HT	Fine text (Half-tone) (OC)
2	OC_SFine.HT	Super fine (Half-tone) (OC)
3	OC_UFine.HT	Ultra fine (Half-tone) (OC)
4	SPF_Fine.HT	Fine text (Half-tone) (SPF)
5	SPF_SFine.HT	Super fine (Half-tone) (SPF)
6	SPF_UFine.HT	Ultra fine (Half-tone) (SPF)
7	CIS_Fine.HT	Fine text (Half-tone) (CIS)
8	CIS_SFine.HT	Super fine (Half-tone) (CIS)
9	CIS_UFine.HT	Ultra fine (Half-tone) (CIS)

- 2) Using the numeric keypad, select the number that corresponds to the scan mode for which to make adjustments.
- 3) Press the Start key.
- 4) Adjust the gamma by entering an appropriate value through the numeric keypad.
A larger value provides larger gamma gradient and higher image contrast.
- 5) Press the Start key.
This applies the adjustment value.

Scanned images must be visually checked to ensure the post-adjustment image gamma.

ADJ 12 Common image quality adjustments for all of copy, scan, and fax modes

(Common image quality adjustment items for all of copy, scan, and fax modes)

Adjustment items	Simulation for adjustment
Original table mode/SPF mode image density correction	46-20
(Auto mode operation spec setting for copy, scan, and fax)	46-19

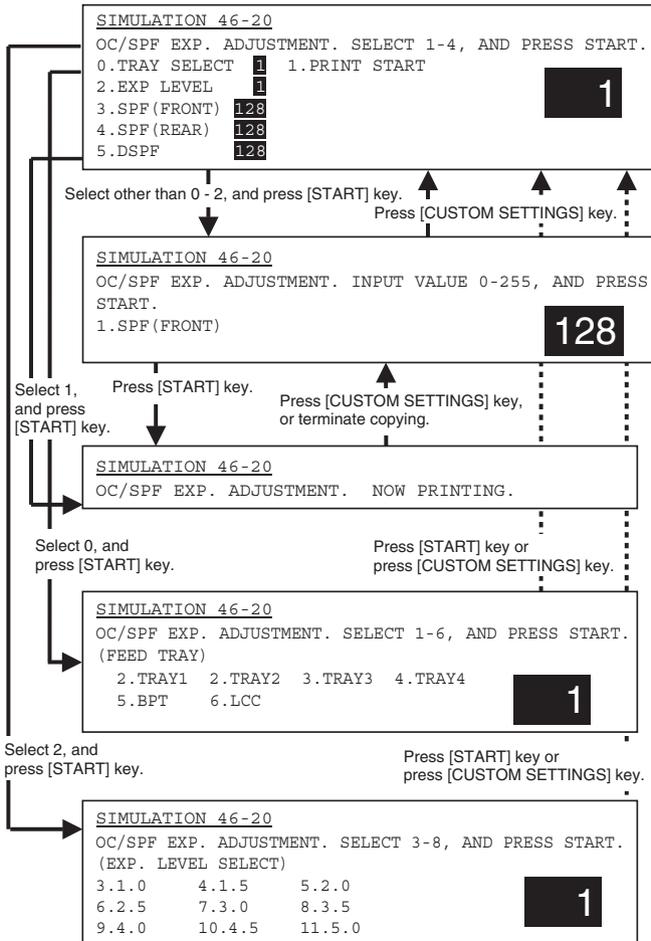
ADJ 12A Correct the image density in original table mode/SPF mode (Copy mode)

Used to adjust the copy density correction in the SPF copy mode for the document table copy mode. The adjustment is made so that the copy density becomes the same as that of the document table copy mode.

This adjustment is needed in the following situations:

- The CCD unit has been replaced.
- U2 trouble has occurred.
- The MFP control PWB has been replaced.
- The EEPROM on the MFP control PWB has been replaced.
- The scanner control PWB has been replaced.
- The EEPROM on the scanner control PWB has been replaced.
- One or more parts of the scanner (reading) section have been replaced.

- The CIS unit has been removed.
 - The CIS unit has been replaced.
 - The SPF unit has been removed.
 - The SPF unit has been replaced.
- 1) Go through the modes specified in Simulation 46-20.



	Item	Content	Set range	Default
0	TRAY SELECT	Paper feed tray selection 1: TRAY1 2: TRAY2 3: TRAY3 4: TRAY4 5: Manual feed 6: Side LCC	–	–
1	PRINT START	Print start (Default)	–	–
2	EXP LEVEL	Exposure level selection 3: Exposure level 1.0 4: Exposure level 1.5 5: Exposure level 2.0 6: Exposure level 2.5 7: Exposure level 3.0 8: Exposure level 3.5 9: Exposure level 4.0 10: Exposure level 4.5 11: Exposure level 5.0	–	–
3	SPF (FRONT)	SPF (front) (front frame side)	0 - 255	128
4	SPF (REAR)	SPF (front) (rear frame side)		
5	DSPF	DSPF (Back surface)		

2) Using the numeric keypad, enter the number that corresponds to the mode for which to make adjustments.

SPF front frame side (front face copy), SPF rear frame side (front face copy), SPF (back side copy) (Choose from numbers 3 to 5.)

3) Press the Start key.

4) Enter the density correction value using the numeric keypad.

5) Press the P or Start key.

6) Make two copies (one in original table mode and the other in SPF mode) and compare the copies in terms of density.

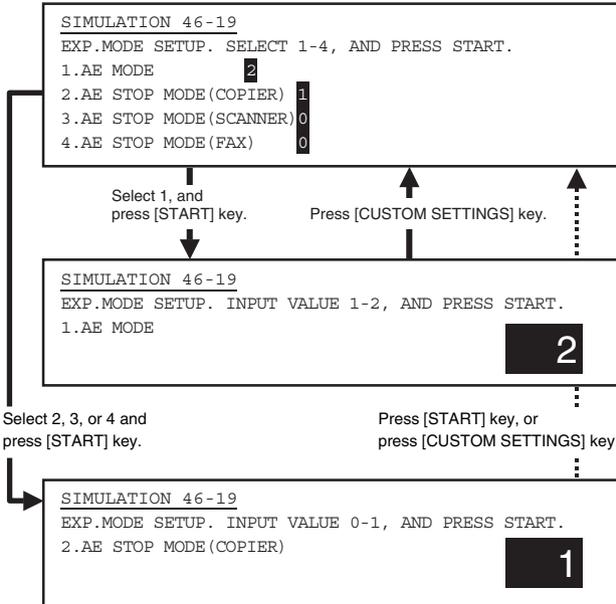
Repeat steps 4 to 6 until both copies provide the same density.

ADJ 12B Set up the auto mode operation for copy, scan, and fax

This adjustment is needed in the following situations:

- U2 trouble has occurred.
- The MFP control PWB has been replaced.
- The EEPROM on the MFP control PWB has been replaced.
- The scanner control PWB has been replaced.
- The EEPROM on the scanner control PWB has been replaced.

1) Go through the modes specified in Simulation 46-19.



Mode	Set value	Item	Default
AE mode	1	Image quality priority mode (Normal mode) * Gamma is sharp to provide high contrast images.	1 (Japan) 2 (EX Japan)
	2	Toner consumption priority mode * Gamma is mild to provide low contrast images.	
AE fixed mode	0	AE fixed OFF	1 (COPIER) 0 (SCANNER/ FAX)
	1	AE fixed ON	

- 1) Select "1 AE MODE" using the numeric keypad.
- 2) Press the Start key.
- 3) Using the numeric keypad, select the number that corresponds to the operation spec.
- 4) Press the Start key.
Pressing the Start key applies the setting.

(Auto copy mode operation setting)

- 1) Using the numeric keypad, select the number that corresponds to the mode for which to make adjustments. (Choose from numbers 2 to 4.)
- 2) Press the Start key.
- 3) Using the numeric keypad, select the number that corresponds to the operation mode.
- 4) Press the Start key.

AE fix OFF: Density (exposure) is automatically controlled on a real time basis. (The density level is dynamically changed according to the original's pattern.)

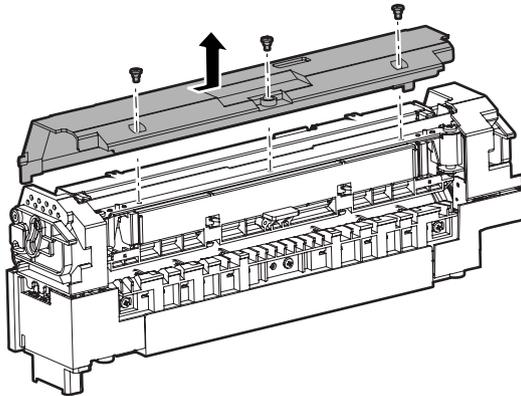
AE fix ON: The density of the leading edge of the original is detected and used to determine the overall density (exposure) level. (The overall density level is fixed.)

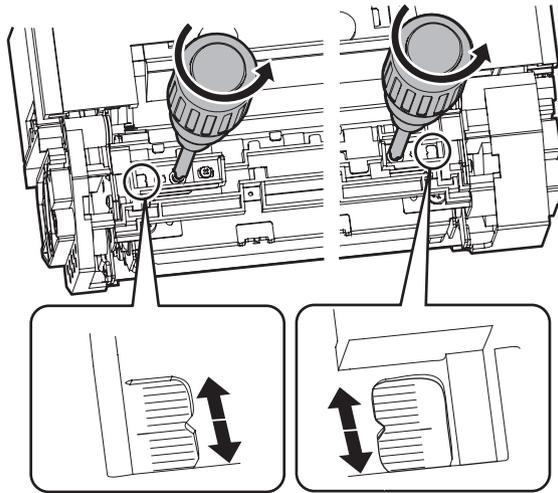
ADJ 13 Adjusting the fusing paper guide position

This adjustment is needed in the following situations:

- Paper is jammed in or around the fusing section.
- Imperfect images, deformed images, or wrinkles are produced in the paper lead edge section or the rear edge section.

Adjust the fusing paper guide position by loosening the fusing paper guide fixing screws and the sliding the fusing paper guide in the arrow direction.





When shipping, it is fixed to the position which is one scale (0.5mm) over the center.



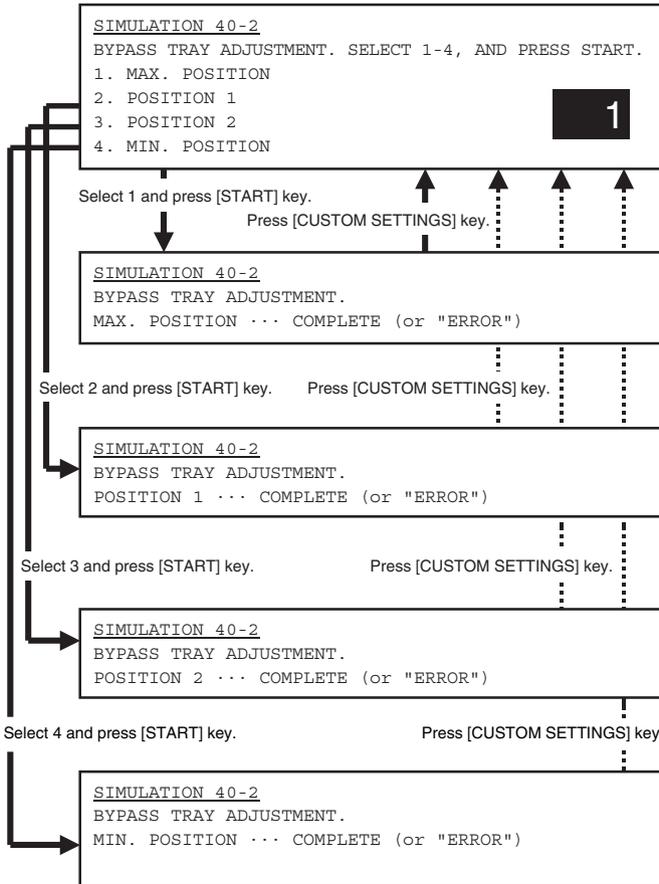
ADJ 14 Adjusting the paper size detection

ADJ 14A Adjust the paper width sensor for the manual paper feed tray

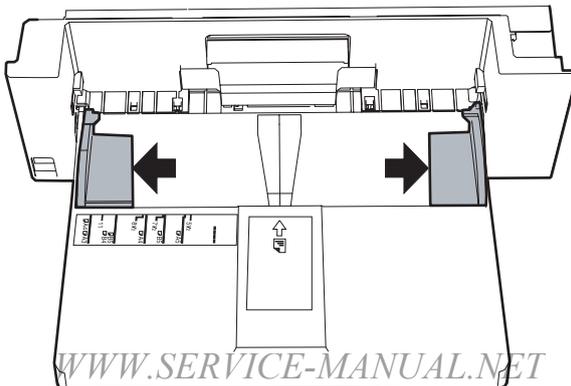
This adjustment is needed in the following situations:

- The manual paper feed tray section has been disassembled.
- The manual paper feed tray unit has been replaced.
- U2 trouble has occurred.
- The PCU PWB has been replaced.
- The EEPROM on the PCU PWB has been replaced.

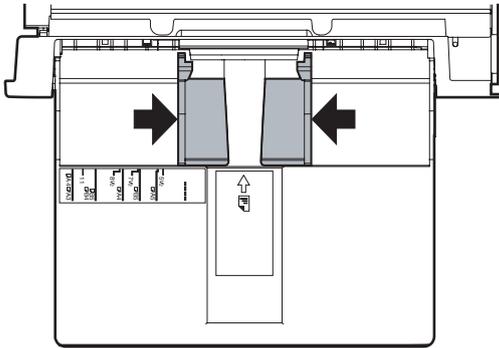
- 1) Go through the modes specified in Simulation 40-2.



- 2) Open the manual paper feed guide to the maximum width position.
- 3) Select MAX. POSITION using the numeric keypad.



- 4) Press the Start key.
The maximum width detection level is recognized.
- 5) Press the CUSTOM SETTINGS key.
- 6) Set the manual paper feed guide to the width for the A4R size.
- 7) Select POSITION 1 using the numeric keypad.
- 8) Press the Start key.
The A4R width detection level is recognized.
- 9) Press the CUSTOM SETTINGS key.
- 10) Set the manual paper feed guide to the width for the A5R size.
- 11) Select POSITION 2 using the numeric keypad.
- 12) Press the Start key.
The A5R width detection level is recognized.
- 13) Press the CUSTOM SETTINGS key.
- 14) Open the manual paper feed guide to the minimum width position.



- 15) Select MIN. POSITION using the numeric keypad.
- 16) Press the Start key.
The minimum width detection level is recognized.

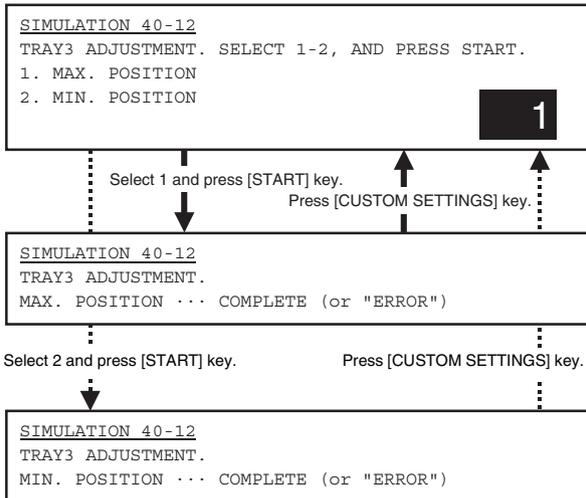
Note: When each of the above operations has been completed, the "COMPLETE" message appears; when any of the operations has failed, the "ERROR" message appears.

ADJ 14B Adjust the paper width sensor for paper feed tray 3

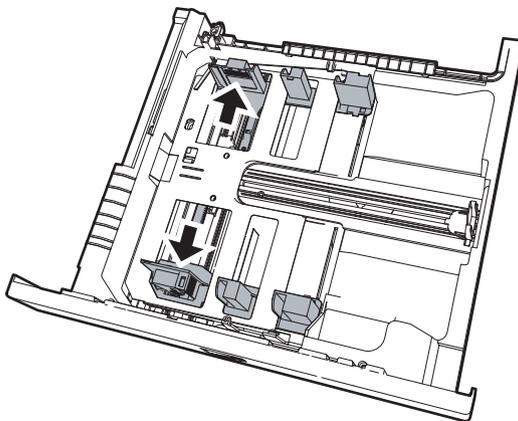
This adjustment is needed in the following situations:

- The paper feed tray section has been disassembled.
- The paper feed tray unit has been replaced.
- U2 trouble has occurred.
- The PCU PWB has been replaced.
- The EEPROM on the PCU PWB has been replaced.

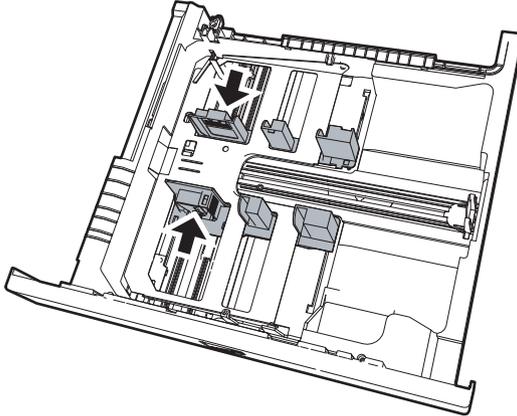
1) Go through the modes specified in Simulation 40-12.



2) Open the paper feed guide to the maximum width position.



- 3) Select MAX. POSITION using the numeric keypad.
- 4) Press the Start key.
The maximum width detection level is recognized.
- 5) Press the CUSTOM SETTINGS key.
- 6) Open the paper feed guide to the minimum width position.



- 7) Select MIN. POSITION using the numeric keypad.
- 8) Press the Start key.
The minimum width detection level is recognized.

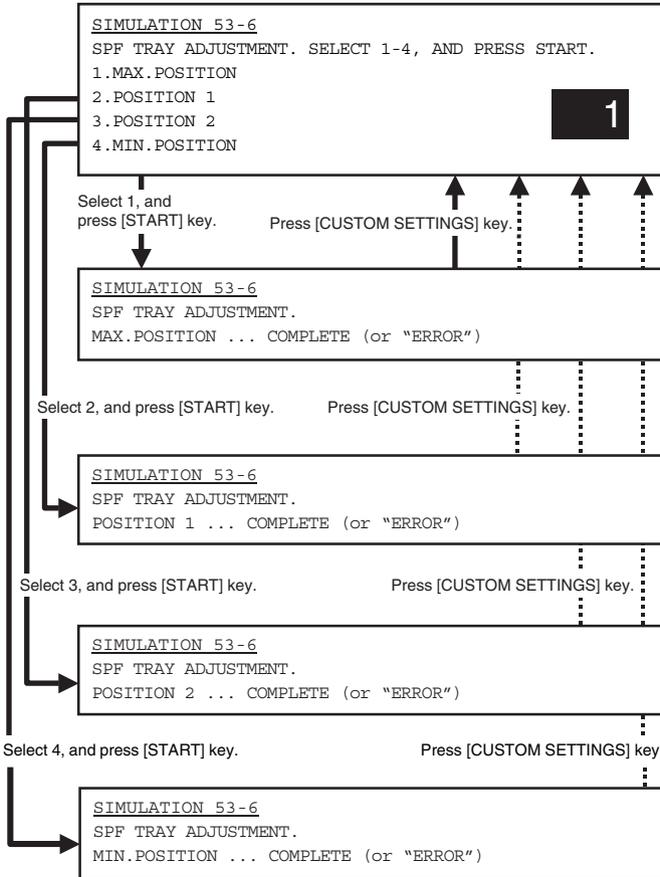
Note: When each of the above operations has been completed, the "COMPLETE" message appears; when any of the operations has failed, the "ERROR" message appears.

ADJ 14C Adjust the paper width sensor for the SPF paper feed tray

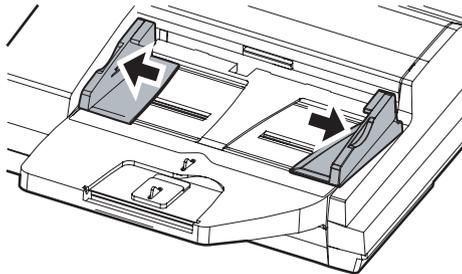
This adjustment is needed in the following situations:

- The paper feed tray section has been disassembled.
- The paper feed tray unit has been replaced.
- U2 trouble has occurred.
- The scanner PWB has been replaced.
- The EEPROM on the scanner PWB has been replaced.

- 1) Go through the modes specified in Simulation 53-6.



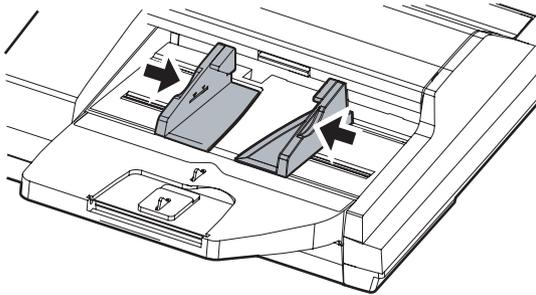
- 2) Open the SPF paper feed guide to the maximum width position.



- 3) Select MAX. POSITION using the numeric keypad.
- 4) Press the Start key.

The maximum width detection level is recognized.

- 5) Press the CUSTOM SETTINGS key.
- 6) Open the SPF paper feed guide to the width for the A4R size.
- 7) Select POSITION 1 using the numeric keypad.
- 8) Press the Start key.
The A4R width detection level is recognized.
- 9) Press the CUSTOM SETTINGS key.
- 10) Open the SPF paper feed guide to the width for the A5R size.
- 11) Select POSITION 2 using the numeric keypad.
- 12) Press the Start key.
The A5R width detection level is recognized.
- 13) Press the CUSTOM SETTINGS key.
- 14) Open the SPF paper feed guide to the minimum width position.



- 15) Select MIN. POSITION using the numeric keypad.
- 16) Press the Start key.

The minimum width detection level is recognized.

Note: When each of the above operations has been completed, the "COMPLETE" message appears; when any of the operations has failed, the "ERROR" message appears.

ADJ 15 Adjusting the original size detection (in original table mode)

This adjustment is needed in the following situations:

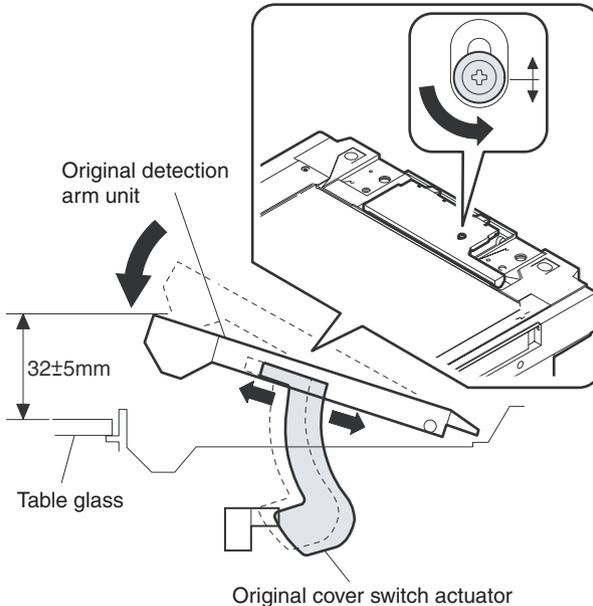
- The original size sensor section has been disassembled.
- The original size sensor section has been replaced.
- U2 trouble has occurred.
- The scanner control PWB has been replaced.
- The EEPROM on the scanner control PWB has been replaced.

ADJ 15A**Adjust the detection point of the original size sensor (in original table mode)**

- 1) Go through the modes specified in Simulation 41-1.

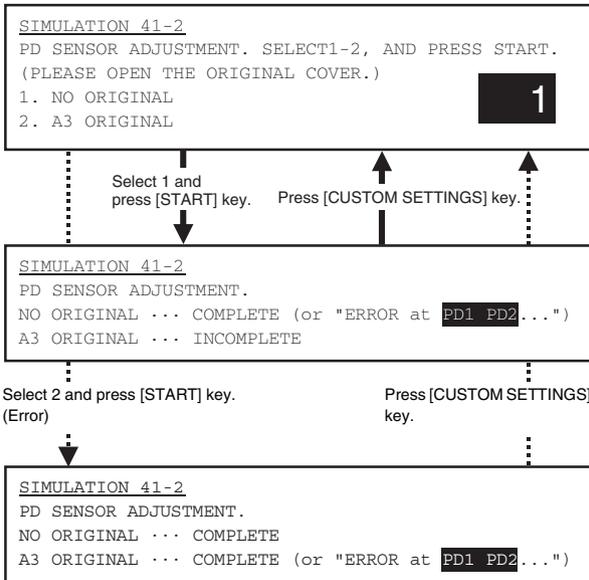
```
SIMULATION 41-1
PD SENSOR CHECK . .
OCSW PD1 PD2 PD3 PD4 PD5 PD6 PD7
```

- 2) Gradually turn over the original detection arm unit in the arrow direction, and loosen the original cover switch actuator adjusting screw so that the OCSW indicator changes from inverse video to normal video when the arm unit top reaches a height of $32\pm 0.5\text{mm}$ from the table glass. Then move the actuator to adjust its position. (If the original cover switch turns on in improper timing, the original detection mechanism may fail to operate correctly.)



ADJ 15B Adjust the sensitivity of the original size sensor

- 1) Go through the modes specified in Simulation 41-2.



- 2) Open the original cover. With nothing placed on the original table, select NO ORIGINAL using the numeric keypad.
- 3) Press the Start key.
This sets the sensor level with no original detected.
- 4) Set A3 (11" x 17") paper on the original table, and select A3 ORIGINAL using the numeric keypad.
- 5) Press the Start key.
This sets the sensor level with an original detected.

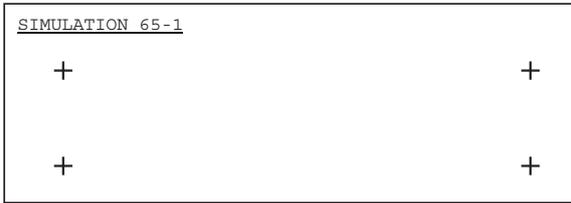
When each of the above operations has been completed, the "COMPLETE" message appears; when any of the operations has failed, the "ERROR" message appears.

ADJ 16 Adjusting the touch panel coordinates

This adjustment is needed in the following situations:

- The operation panel has been replaced.
- U2 trouble has occurred.
- The MFP control PWB has been replaced.
- The EEPROM on the MFP control PWB has been replaced.

- 1) Go through the modes specified in Simulation 65-1.



- 2) Press the four cross mark points.

Pressing the cross mark points correctly results in gray display. When the touch panel adjustment is complete with the four points pressed, the sub-number entry screen for simulation reappears.

If any error is detected, the touch panel returns to adjustment mode.

Note: Never use something with a sharp tip (such as a needle or pin) to press the touch panel.

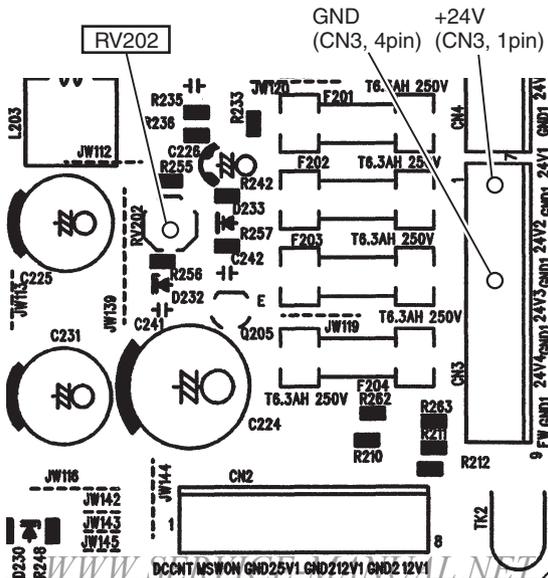
ADJ 17 Adjusting the supply voltage

This adjustment is needed in the following situations:

- One or more parts of the DC main power supply unit have been replaced.
- One or more parts of the DC sub power supply unit have been replaced.

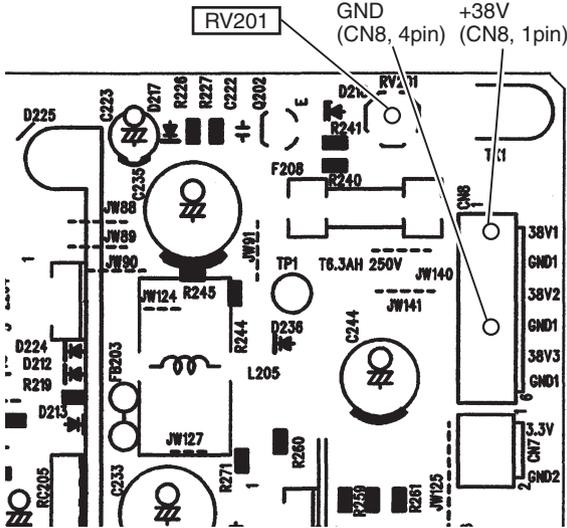
(24 V supply voltage adjustment)

- 1) Apply a digital multi-meter to the DC main PWB 24 V line (CN3, 1 pin) and GND (CN3, 4 pin).
- 2) Turn RV202 on the DC main power supply PWB so that the voltage is 24 V.



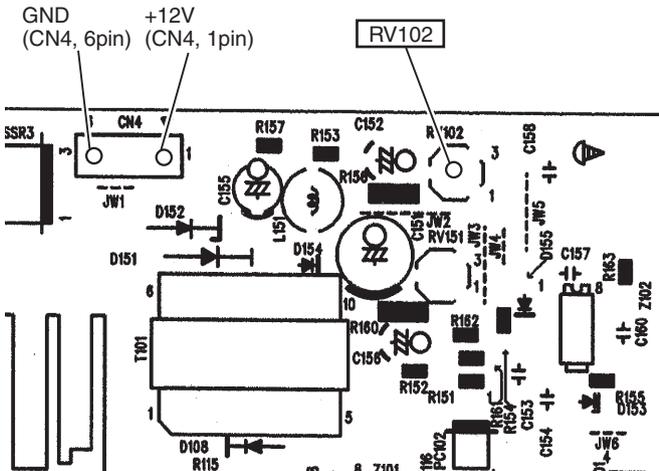
(38 V supply voltage adjustment)

- 3) Apply a digital multi-meter to the DC main PWB 38 V line (CN8, 1 pin) and GND (CN8, 4 pin).
- 4) Turn RV201 on the DC main power supply PWB so that the voltage is 38 V.



(12 V supply voltage adjustment)

- 5) Apply a digital multi-meter to the DC sub PWB 12 V line (CN4, 1 pin) and GND (CN4, 6 pin).
- 6) Turn RV102 on the DC sub power supply PWB so that the voltage is 12 V.

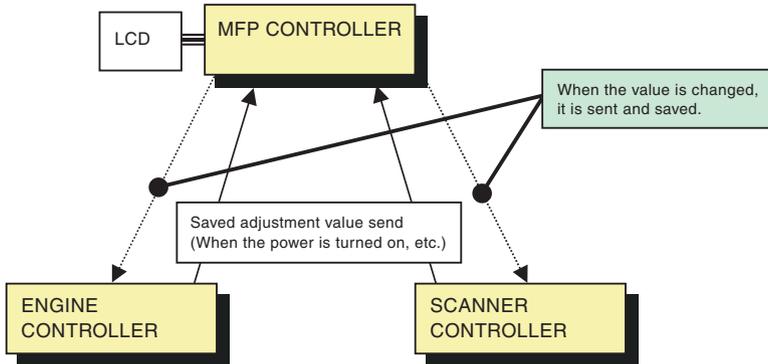


[4] SIMULATION

1. Adjustment value/Simulation and storage data

A. Simulation adjustment value/ Set value data

Each controller is provided with an EEPROM. The adjustment/set values are collected to the MFP controller. If they are changed, they are sent back and saved.



B. Each storage data

(Data saved by the PCU PWB)

Counters	Adjustment value	Other
Drum rotation time counter (Accumulated time)	Developing bias voltage value	Serial number
Developer unit rotation time counter	Cleaning mode developing bias voltage value	Trouble history
Toner supply time (Block IC CHIP)	Main high voltage adjustment	Tray 1 size
Drum rotating time (Block IC CHIP)	Transfer charger voltage value	Tray 2 size
Total counter	Transfer belt cleaning voltage value	Manual destination information
Maintenance counter	Toner concentration reference value	
Developing counter	Density correction start set time (Developer unit)	Tray 3 destination information
Drum counter	Density correction rotation time (Developer tank)	Tray 4 destination information

Counters	Adjustment value	Other
Toner cartridge counter	Density correction amount (Developer tank)	Tray 1 paper remaining quantity data
Valid paper counter	Correction execution direction, upper/lower limit (Developer tank)	Tray 2 paper remaining quantity data
Tray 1 paper feed counter	Toner concentration temperature correction (low temperature side) correction amount	Tray 3 paper remaining quantity data
Tray 2 paper feed counter	Toner concentration temperature correction (low temperature side) set temperature	Tray 4 paper remaining quantity data
Tray 3 paper feed counter	Toner concentration temperature correction (low temperature side) release temperature	Final toner concentration sensor output value
Tray 4 paper feed counter	Toner concentration temperature correction (high temperature) correction amount	Toner cartridge IC CHIP destination
Manual paper feed counter	Toner concentration temperature correction (high temperature side) judgment temperature	Counter mode setting
ADU paper feed counter	Toner concentration temperature correction (high temperature side) judgment voltage	White paper exit count setting
Staple counter	Toner concentration temperature correction (high temperature side) correction value	Trouble memory mode setting
Punch counter	Toner concentration temperature correction (low temperature side) release time	Fusing operation mode (Prevention against curl)
Main unit right-side paper exit counter	Toner concentration temperature correction (high temperature side) toner concentration delay time	CE mark conforming operation mode
Side LCC paper feed counter	Multi-purpose width adjustment value	Maintenance cycle
Insertor counter	Manual width adjustment value	Print stop setting when developer life over
Saddle staple counter	Heater lamp temperature (Center, normal control)	Saddle alignment operation priority mode
	Lead edge adjustment	
	Led edge void set value	
	Rear edge void set value	
	Side edge setting	
	Print off-center adjustment value	
	Resist amount adjustment value	

Counters	Adjustment value	Other
	Laser power adjustment value	
	PPD1 sensor adjustment	
	Process correction inhibit allow set value	
	Developing bias rising correction wait time	
	Developing bias rising correction adjustment value	
	Built-in finisher jogger position adjustment	
	Saddle adjustment value	

(Data saved by the scanner control PWB)

Counters	Adjustment value	Other
Scan counter	Document lead edge adjustment value	Exposure mode set value
SPF paper pass counter	Document off-center adjustment value	Scanner serial number
SPF stamp counter	Document image loss amount adjustment value	Document image loss amount adjustment value
	Magnification ratio adjustment value	
	SPF resist amount adjustment value	
	Exposure motor speed adjustment value	
	Platen document detection adjustment value	
	SPF size width detection adjustment value	
	Touch panel adjustment value	
	Exposure level adjustment value	
	γ change value	
	OC/SPF exposure correction value	
	Shading adjustment value (CCD/CIS)	
	CCD shading start position adjustment value	

(Data saved by the MFP control PWB)

Counters	Adjustment value	Other
Copy counter	FAX SOFT SW., etc.	Trouble history
Printer counter		JAM history
FAX receive counter		Destination setting
FAX send counter		Language setting
All valid paper counter		Toner save mode setting
Trouble counter		13" setting
JAM counter		Auditor setting
		Counter mode setting

Counters	Adjustment value	Other
		Trouble memory mode setting
		Center binding mode AMS setting
		PC/MODEM communication trouble detection YES/NO setting
		Tag number set value
		Printers set values
		Network set value

(Detailed list)

Main code	Sub code	Operation contents	Data save destination/Target		
			MFP	Scanner	Engine
1	01	Mirror scan operation		●	
	02	Optical system sensor check		●	
2	01	SPF operation aging		●	
	02	SPF sensor check		●	
	03	SPF individual load check		●	
3	02	Finisher sensor check			●
	03	Finisher individual load check			●
	10	Finisher adjustment			●
	30	Inserter sensor check			●
	31	Inserter load operation			●
	32	Inserter size width detection adjustment value input			●
4	02	LCC sensor check			●
	03	LCC individual load check			●
5	01	Lamp /LED all ON	●		
	02	Heater lamp check			●
	03	Copy lamp check		●	
	04	Discharge lamp check			●
6	01	Transport system load operation (Clutch/Solenoid)			●
	02	Fan motor operation			●
	03	Transfer separation motor operation			●
7	01	Operation registration (No detection of JAM, No detection of developer tank, aging, No warm-up, intermittent operation, No shading, etc.)	●		
	06	Intermittent aging frequency setting	●		
	08	Warm-up time display (No aging)			●

Main code	Sub code	Operation contents	Data save destination/ Target		
			MFP	Scanner	Engine
8	01	Developing bias output setting, check			●
	02	Charging output setting, check			●
	06	THV (transfer) output setting, check			●
	17	Transfer roller output setting, check			●
	18	Transfer cleaning roller output setting, check			●
	19	Fusing roller bias output check			●
9	01	ADU load operation (Clutch/Solenoid)			●
	02	ADU sensor check			●
10	01	Toner motor operation check			●
	02	Toner remaining quantity detection sensor check			●
13		"U1" trouble cancel	●		
14		Trouble cancel	●		
15		LCC trouble cancel	●		●
16		"U2" trouble cancel	●	●	●
17		"PF" trouble cancel	●		
21	01	Maintenance cycle setting			●
22	01	Each counter display (Total/ Maintenance/ Developer/ RADF/ Staple/ Tray)	●	●	●
	02	JAM/Trouble counter display	●		
	03	JAM history display	●		
	04	Trouble code display	●		
	05	ROM version data display	●	●	●
	06	Various data print	●		
	07	Key operator code display	●		
	08	Document/staple counter display		●	●
	09	Paper feed counter display			●
	10	Main unit system configuration check	●		
	11	FAX send/receive counter display	●		
	12	SPF JAM history display	●		
	13	Process data display			●
19	Network scanner-related counter display	● (FAX)			
23	02	JAM/trouble data print	●		
	80	Various data print	●		
24	01	JAM/trouble counter clear	●		
	02	Paper feed counter clear	●		
	03	Document/staple counter clear		●	●
	04	Maintenance counter clear			●
	05	Developer counter clear			●

Main code	Sub code	Operation contents	Data save destination/ Target		
			MFP	Scanner	Engine
24	06	Copy counter clear	●		
	07	Drum counter clear			●
	09	Printer/other counter clear	●		
	10	FAX counter clear	●		
	11	Various rotation time timer clear			●
	15	Network scanner-related counter clear	● (FAX)		
25	01	Toner concentration sensor monitor			●
	02	Auto developer adjustment			●
26	02	Size setting			●
	03	Auditor setting	●		
	05	Counter mode setting			●
	06	Destination setting	●		
	10	Network scanner trial mode setting	●		
	18	Toner save mode setting	●		
	30	CE mark conformity control inhibit/ allow setting			●
	35	Trouble memory mode setting			●
	38	Print stop setting when life over			●
	41	Center binding mode AMS setting	●		
	50	Black/white reverse function valid/ invalid setting	●		
	52	White paper exit count-up setting			●
68	CA key cancel function valid/invalid	●			
27	01	PC/MODEM communication trouble (U7-00) detection YES/NO setting	●		
	05	Tag number setting	●		
30	01	Main unit sensor check			●
	02	Tray sensor check			●
40	01	Manual paper feed size width detection check			●
	02	Manual paper feed size width detection level adjustment			●
	07	Manual paper feed size width detection adjustment value input			●
	11	MPT size width detection check			●
	12	MPT size width detection level adjustment			●
41	01	Document size detection photo sensor check		●	
	02	Document size detection photo sensor detection level		●	
	03	Document size detection photo sensor light receiving/detection level check		●	

Main code	Sub code	Operation contents	Data save destination/ Target		
			MFP	Scanner	Engine
43	01	Fusing temperature control temperature setting (Normal/Energy-save mode)			●
	03	Fusing roller RPM setting			●
44	01	Process correction inhibit/allow setting			
	02	DM/ID sensor gain adjustment			
	04	Standard patch density setting			
	05	Patch making reference condition setting			●
	09	Process control data display			●
	12	Process control patch data display			●
	14	Temperature/humidity sensor output monitor			●
	16	Toner concentration reference value check			●
46	02	Copy exposure level adjustment (binary)	●	●	
	09	Copy exposure level adjustment/individual setting (Text binary)	●	●	
	10	Copy exposure level adjustment, individual setting (Text/Photo binary)	●	●	
	11	Copy exposure level adjustment, individual setting (Photo binary)	●	●	
	12	FAX exposure level adjustment (1 mode auto adjustment)	●	●	
	13	FAX exposure level adjustment, individual setting (Normal text)	●	●	
	14	FAX exposure level adjustment, individual setting (Fine)	●	●	
	15	FAX exposure level adjustment, individual setting (Super Fine)	●	●	
	16	FAX exposure level adjustment, individual setting (Ultra Fine)	●	●	
	17	Shading reference value change (Gain adjustment)		●	
	18	γ change (Copier mode)		●	
	19	Exposure mode setting		●	
	20	OC/SPF exposure correction		●	
	21	Scanner exposure level adjustment (1 mode auto adjustment)		●	
22	Scanner exposure level adjustment, individual setting (Normal text)		●		
23	Scanner exposure level adjustment, individual setting (Fine)		●		

Main code	Sub code	Operation contents	Data save destination/Target		
			MFP	Scanner	Engine
46	24	Scanner exposure level adjustment, individual setting (Super Fine)		●	
	25	Scanner exposure level adjustment, individual setting (Ultra Fine)		●	
	27	Y change (Scanner mode)		●	
	31	Copy sharpness setting		●	
	39	FAX sharpness setting		●	
	45	FAX exposure level adjustment, individual setting (600dpi)	●	●	
48	01	Magnification ratio adjustment (by Input/Output)	●	●	
	05	Motor speed adjustment		●	
50	01	Copy lead edge adjustment (Document table)	●	●	●
	02	Lead edge adjustment (Document table simple type)	●	●	●
	05	Print lead edge adjustment	●		●
	06	Copy lead edge adjustment (SPF)	●	●	●
	07	Copy lead edge adjustment (SPF simple type)	●	●	●
	10	Print off-center adjustment	●		●
	12	Document off-center adjustment	●	●	
	27	Document image loss setting (FAX send/scanner mode)		●	
51	02	Resist amount adjustment		●	●
53	06	SPF size width detection level adjustment		●	
	07	SPF size width detection adjustment value input		●	
	08	SPF scan position adjustment		●	
55	01	Engine soft SW change and check			●
	02	Scanner soft SW change and check		●	
	03	Controller soft SW change and check	●		
56	01	Data transfer	●		
60	01	ICU image DRAM read/write check	●		
61	01	LSU operation check			●
	02	Laser power setting (Copier)			●
	03	Laser power setting (FAX)			●
	04	Laser power setting (Printer)			●
62	01	Hard disk format	●		
	02	Hard disk read/write check	●		
	03	Hard disk read/write check (All areas)	●		
	06	HDD self diag	●		

Main code	Sub code	Operation contents	Data save destination/ Target		
			MFP	Scanner	Engine
62	07	Self diag error log print	●		
	08	Hard disk format (Excluding the system area)	●		
	10	Job complete list delete	●		
	11	Document filing data delete	●		
63	01	Shading check		●	
	02	Shading execution		●	
	07	White plate scan start position adjustment		●	
64	01	Self print	●		
65	01	Touch panel adjustment		●	
	02	Touch panel check		●	
66	01	FAX-related soft SW setting check/change	●		
	02	FAX-related soft SW clear (Excluding FAX adjustment values)	●		
	03	FAX-related memory check	●		
	04	Signal send mode (Signal send level: Max.)	●		
	05	Signal send mode (Signal send level: Soft SW setting)	●		
	06	Confidential pass code print	●		
	07	Image memory content output	●		
	08	Voice message reproduction (Signal send level: Max.)	●		
	09	Voice message reproduction (Signal send level: Soft SW setting)	●		
	10	Image memory clear	●		
	11	300bps signal send (Signal send level: Max.)	●		
	12	300bps signal send (Signal send level: Soft SW setting)	●		
	13	Dial number registration	●		
	14	Dial test (10PPS make time setting & delivery test)	●		
	15	Dial test (20PPS make time setting & send test)	●		
	16	Dial test (DTMF signal adjustment & send test)	●		
	17	DTMF signal send mode (Signal send level: Max.)	●		
	18	DTMF signal send mode (Signal send level: Soft SW setting)	●		
	19	Address book backup (WR TO FLASH)	●		

Main code	Sub code	Operation contents	Data save destination/Target		
			MFP	Scanner	Engine
66	20	Address book backup (RD FROM FLASH)	●		
	21	FAX information print	●		
	23	FAX program download	●		
	24	FAST memory data clear	●		
	25	MODEM dial-in FAX number registration	●		
	26	MODEM dial-in telephone number registration	●		
	27	Voice warp transfer destination registration	●		
	29	Address book clear	●		
	30	TEL/LIU status change check	●		
	31	TEL/LIU setting	●		
	32	Receive data check	●		
	33	Signal detection check	●		
	34	Communication time measurement display	●		
	35	MODEM program rewrite	●		
	36	MFP controller I/F check	●		
	67	02	Centro port check	●	
11		Select IN signal setting	●		
16		Network card check	●		
60		(Blind) ACR data registration	●		

2. Simulation list

(1) Main/ Sub

Code		Function (Purpose)	Purpose	Section		Item	
Main	Sub						
1	1	Used to check the operations of the scanner (read) unit and its control circuit.	Operation test/Check	Optical (Image scanning)		Operation	
	2	Used to check the operation of sensor and detector in the scanning (read) section and the related circuit.	Operation test/Check	Optical (Image scanning)		Operation	
2	1	Used to check the operations of the automatic document feeder unit and the control circuit.	Operation test/Check	DSPF		Operation	
	2	Used to check the operations of the sensors and detectors in the automatic document feeder unit and the related circuits.	Operation test/Check	DSPF		Operation	
	3	Used to check the operations of the loads in the automatic document feeder unit and the control circuits.	Operation test/Check	DSPF		Operation	
3	2	Used to check the operation of sensor and detector in the finisher and the related circuit.	Operation test/Check	Finisher		Operation	
	3	Used to check the operation of the load in the finisher and the control circuit.	Operation test/Check	Finisher		Operation	
	10	Finisher (AR-F16) adjustment	Adjustment	Finisher		Operation	

Code		Function (Purpose)	Purpose	Section		Item	
Main	Sub						
3	30	Used to check the operations of the sensors and detectors in the inserter.	Operation test/Check	Inserter			
	31	Used to check the operations of the loads in the inserter and the related circuits.	Operation test/Check	Inserter		Operation	
	32	Inserter paper width detection level setting.	Setting (Adjustment)	Inserter		Operation	
4	2	Used to check the operations of the sensors and detectors in the paper feed section (large capacity tray) and the related circuit.	Operation test/Check	Paper feed		Operation	
	3	Used to check the operations of the loads in the paper feed section (large capacity tray) and the related circuit.	Operation test/Check	Paper feed		Operation	
5	1	Used to check the operation of the display, LCD in the operation panel, and control circuit.	Operation test/Check	Operation (Display/ Operation key)		Operation	
	2	Used to check the operation of the heater lamp and the control circuit.	Operation test/Check	Fixing (Fusing)		Operation	
	3	Used to check the operation of the scanner lamp and the control circuit.	Operation test/Check	Optical (Image scanning)		Operation	
	4	Used to check the operation of the discharge lamp and the related circuit.	Operation test/Check	Process		Operation	

Code		Function (Purpose)	Purpose	Section		Item	
Main	Sub						
6	1	Used to check the operation of the paper transport system loads and the control circuit.	Operation test/Check	Paper transport (Discharge/Switchback/Transport)		Operation	
	2	Used to check the operations of each fan motor and its control circuit.	Operation test/Check	Other		Operation	
	3	Used to check the operations of the transfer unit and the related circuit.	Operation test/Check	Process (Transfer)		Operation	
7	1	Used to set the operating conditions of aging.	Setting			Operation	
	6	Used to set the intermittent aging cycle.	Setting			Operation	
	8	Used to set the warm-up time display YES/NO.	Setting			Operation	
8	1	Used to check and adjust the operations of the developing voltage of each color and the control circuit.	Adjustment/Operation test/Check	Image process (Photoconductor/Developing/Transfer/Cleaning)			
	2	Used to check and adjust the operation of the main charger grid voltage in each printer mode and the control circuit.	Adjustment/Operation test/Check	Image process (Photoconductor/Developing/Transfer/Cleaning)			

Code		Function (Purpose)	Purpose	Section		Item	
Main	Sub						
8	6	Used to check and adjust the operation of the transfer voltage and the control circuit.	Adjustment/Operation test/Check	Image process (Photoconductor/ Developing/ Transfer/Cleaning)/ Transfer			
	17	Used to check and adjust the operation of the transfer voltage and the related circuit. (Transfer belt cleaning mode)	Operation test/Check	Image process (Photoconductor/ Developing/ Transfer/Cleaning)			
	18	Used to check and adjust the voltage of the transfer CL roller cleaning/ transfer CL roller print mode and the control circuit. (Not used)	Adjustment/Operation test/Check	Image process (Photoconductor/ Developing/ Transfer/Cleaning)			
	19	Used to check and adjust the fusing bias voltage and the control circuit. (Not used)	Adjustment/Operation test/Check	Fusing			
9	1	Used to check and adjust the operation of the load (clutch/solenoid) in the duplex section and the control circuit.	Operation test/Check	Duplex		Operation	
	2	Used to check the operations of the sensors and detectors in the duplex section and its control circuit.	Operation test/Check	Duplex		Operation	
10	1	Used to check the operations of the toner motor and the related circuit.	Operation test/Check	Process (Developing)		Operation	

Code		Function (Purpose)	Purpose	Section		Item	
Main	Sub						
10	2	Used to check the operations of the toner remaining quantity sensor and the related circuit.	Operation test/Check	Process (Developing)		Operation	
13	0	Used to cancel the self-diag "U1" trouble. (Only when FAX is installed.)	Clear/Cancel (Trouble etc.)	FAX		Trouble	
14	0	Used to cancel excluding the self-diag U1/LCC/U2/PF troubles.	Clear/Cancel (Trouble etc.)			Trouble	Error
15	0	Used to cancel the self-diag "U6-09, F3-12, 22" (large capacity paper feed tray, paper feed trays 1, 2) troubles.	Clear/Cancel (Trouble etc.)	LCC		Trouble	
16	0	Used to cancel the self-diag U2 troubles.	Clear/Cancel (Trouble etc.)	MFP control PWB, PCU PWB, scanner control PWB		Trouble	
17	0	Used to cancel the PF troubles (when the copy inhibit command from the host computer is received).	Clear/Cancel (Trouble etc.)	Communication unit (TEL/LIU/MODEM etc.)		Trouble	Error
21	1	Used to set the maintenance cycle.	Setting			Specifications	Counter
22	1	Used to check the print count value in each section and each operation mode. (Used to check the maintenance timing.)	Adjustment/Setup/ Operation data output/ Check (Display/Print)			Counter	

Code		Function (Purpose)	Purpose	Section		Item	
Main	Sub						
22	2	Used to check the total numbers of misfeed and troubles. (When the number of misfeed is considerably great, it is judged as necessary for repair. The misfeed rate is obtained by dividing this count value with the total counter value.)	Adjustment/Setup/ Operation data output/ Check (Display/Print)			Trouble	
	3	Used to check misfeed positions and the misfeed count of each position. (If the misfeed count is considerably great, it may be judged as necessary to repair.)	Adjustment/Setup/ Operation data output/ Check (Display/Print)	Sections other than SPF/DSPF section		Trouble	Misfeed
	4	Used to check the trouble (self diag) history.	Adjustment/Setup/ Operation data output/ Check (Display/Print)			Trouble	
	5	Used to check the ROM version of each unit (section).	Other			Software	
	6	Used to output the list of the setting and adjustment data (simulations, FAX soft switch, counters).	Adjustment/Setup/ Operation data output/ Check (Display/Print)			Data	Adjust/Setting data
	7	Used to display the key operator code. (This simulation is used when the customer forgets the key operator code.)	Adjustment/Setup/ Operation data output/ Check (Display/Print)			Data	User data

Code		Function (Purpose)	Purpose	Section		Item	
Main	Sub						
22	8	Used to check the number of use of the finisher, the SPF, and the scan (reading) unit.	Adjustment/Setup/ Operation data output/ Check (Display/Print)	Optical (Image scanning)	Finisher	Counter	
	9	Used to check the number of use (print quantity) of each paper feed section.	Adjustment/Setup/ Operation data output/ Check (Display/Print)	Paper feed, ADU		Counter	
	10	Used to check the system configuration (option, internal hardware).	Adjustment/Setup/ Operation data output/ Check (Display/Print)			Specifications	Options
	11	Used to check the use frequency (send/receive) of FAX. (Only when FAX is installed)	Adjustment/Setup/ Operation data output/ Check (Display/Print)	FAX		Data	
	12	Used to check the SPF misfeed positions and the number of misfeed at each position. (When the number of misfeed is considerably great, it can be judged as necessary for repair.)	Adjustment/Setup/ Operation data output/ Check (Display/Print)	DSPF		Trouble	
	13	Used to check the operating time of the process section (OPC drum, DV unit, toner bottle).	Adjustment/Setup/ Operation data output/ Check (Display/Print)			Counter	
	19	Used to check the values of the counters related to the scan mode and the internet FAX mode.	Adjustment/Setup/ Operation data output/ Check (Display/Print)	Scanner		Counter	

Code		Function (Purpose)	Purpose	Section		Item	
Main	Sub						
23	2	Used to check the trouble history of paper jam and misfeed. (If the number of misfeed and troubles is considerably great, it may be judged as necessary to repair.)	Adjustment/Setup/ Operation data output/ Check (Display/Print)			Trouble	
	80	Used to check the operations of the sensors and detectors in the paper feed and transport section.	Operation test/Check	Paper feed, paper transport		Operation	
24	1	Used to clear the misfeed counter, the misfeed history, the trouble counter, and the trouble history. (The counters are cleared after completion of maintenance.)	Data clear			Counter	
	2	Used to clear the number of use (the number of prints) of each paper feed section.	Data clear	Paper feed		Counter	
	3	Used to clear the number of use of the finisher, SPF, and the scan (reading) unit.	Data clear			Counter	
	4	Used to reset the maintenance counter.	Data clear			Counter	
	5	Used to reset the developer counter. (The developer counter of the DV unit which is installed is reset.)	Data clear			Counter	Developer
	6	Used to reset the copy counter.	Data clear			Counter	Copy

Code		Function (Purpose)	Purpose	Section		Item	
Main	Sub						
24	7	Used to clear the OPC drum counter. (Perform this simulation when the OPC drum is replaced.)	Data clear	Image process (Photoconductor/ Developing/ Transfer/Cleaning)		Counter	Photo conductor
	9	Used clear the printer mode print counter and the self print mode print counter.	Data clear	Printer		Counter	
	10	Used to clear the FAX counter. (Only when FAX is installed)	Data clear	FAX		Counter	
	11	Used to reset the OPC drum rotation time, and the DV unit rotation time counter. The developer counter in the DV unit installed is reset.	Data clear	Image process (Photoconductor/ Developing/ Transfer/Cleaning)		Counter	Developer
	15	Used to clear the counters related to the scan mode and the internet FAX mode.	Data clear			Counter	
25	1	Used to check the operations of the developing section (toner concentration, humidity and toner concentration sensor, humidity sensor). (The toner concentration sensor output can be monitored.)	Operation test/Check	Process (Developing section)		Operation	

Code		Function (Purpose)	Purpose	Section		Item	
Main	Sub						
25	2	Used to make the initial setting of toner concentration when replacing developer.	Setting	Image process (Photoconductor/ Developing/ Transfer/Cleaning)			
26	2	Used to set the paper size of the large capacity tray (LCC) and the paper feed tray 2. (When the paper size is changed, this simulation must be executed to change the paper size in software.)	Setting	Paper feed		Setting	
	3	Used to set the specifications of the auditor. Setting must be made according to the auditor use conditions.	Setting	Auditor		Specifications	
	5	Used to set the count mode of the total counter and the maintenance counter.	Setting			Specifications	Counter
	6	Used to set the specifications (paper, fixed magnification ratio, etc.) of the destination.	Setting			Specifications	Destination
	10	Used to set the network scanner trial mode.	Setting			Operation	

Code		Function (Purpose)	Purpose	Section		Item	
Main	Sub						
26	18	Used to set YES/NO of toner save operation. (This function is valid only in Japan and UK versions. (Depends on the destination setting of SIM26-6.) For the other destinations, the same setting can be made by the user program P22.)	Setting			Specifications	Operation mode
	30	Used to set the operation mode conforming to the CE mark (Europe safety standards). (Conforming to soft start when driving the fusing heater lamp.)	Setting			Specifications	Operation mode (Common)
	35	Used to set whether the same continuous troubles are displayed as one trouble or the series of troubles with SIM 22-4 when the same troubles occur continuously.	Setting			Specifications	
	38	Used to set CONTINUE/STOP of printing when maintenance timing is over and the count value reaches 110% of replacement timing (life).	Setting	Other		Specifications	
	41	Used to set YES/NO of the automatic magnification ratio selection (AMS) in the pamphlet mode.	Setting			Specifications	Operation mode (Common)
	50	Black-White reverse YES/NO setting	Setting			Specifications	Operation

Code		Function (Purpose)	Purpose	Section		Item	
Main	Sub						
26	52	Used to set whether non-print paper (insertion paper, cover paper) (blank image print paper) is counted up or not.	Setting	Paper transport (Discharge/Switchback/Transport)		Specifications	Operation mode
	68	Used to set ENABLE/DISABLE of the CA key cancel function of print stop.	Setting			Specifications	Operation
27	1	Used to set the specifications for operations in case of communication trouble between the host computer and MODEM (machine side). (When communication trouble occurs between the host computer MODEM and the machine, the self diag display (U7-00) is printed and setting for inhibition of print or not is made.)	Setting	Communication unit (TEL/LIU/MODEM etc.)		Specifications	Operation mode
	5	Used to enter the machine tag No. (This function allows to check the tag No. of the machine with the host computer.)	Setting	Communication unit (TEL/LIU/MODEM etc.)		Specifications	Operation mode
30	1	Used to check the operation of sensors and detectors in other than the paper feed section and the operations of the related circuits.	Operation test/Check			Operation	

Code		Function (Purpose)	Purpose	Section		Item	
Main	Sub						
30	2	Used to check the operation of sensors and detectors in the paper feed section and the related circuits.	Operation test/Check	Paper feed		Operation	
40	1	Used to check the operation of the manual feed tray paper size detector and the related circuit. (The operation of the manual feed tray paper size detector can be monitored with the LCD display.)	Operation test/Check	Paper feed		Operation	
	2	Used to adjust the manual paper feed tray paper width detector detection level.	Adjustment	Paper feed		Operation	
	7	Used to enter the manual paper feed tray paper width adjustment value.	Adjustment/Setup	Paper feed		Operation	
	11	Used to check the multi-purpose tray width detection adjustment value.	Operation test/Check	Paper feed		Operation	
	12	Used to check the multi-purpose tray width detection adjustment value.	Adjustment/Setup	Paper feed		Operation	
41	1	Used to check the operation of the document size sensor and the related circuit. (The operation of the document size sensor can be monitored with the LCD display.)	Operation test/Check	Other		Operation	
	2	Used to adjust the document size sensor sensing level.	Adjustment	Other		Operation	

Code		Function (Purpose)	Purpose	Section		Item	
Main	Sub						
41	3	Used to check the operation of the document size sensor and the related circuit. (The document size sensor output level can be monitored with the LCD display.)	Operation test/Check	Other		Operation	
43	1	Used to set the fusing temperature in each operation mode.	Setting	Fixing (Fusing)		Operation	
	3	Fusing roller RPM setting.	Setting (Adjustment)	Fixing (Fusing)		Operation	
44	1	Used to set enable/disable of correction operations in the image forming (process) section.	Setting	Image process (Photoconductor/Developing/Transfer/Cleaning)		Operation	
	2	Used to perform the gain adjustment (image density sensor LED current adjustment) of the image density sensor and the gain adjustment (OPC drum marking sensor LED current adjustment) of the OPC drum marking sensor.	Adjustment	Image process (Photoconductor)		Operation	
	4	Used to set the target density level in the image density correction.	Setting	Image process (Photoconductor/Developing)		Operation	

Code		Function (Purpose)	Purpose	Section		Item	
Main	Sub						
44	5	Used to set the reference developing bias voltage, the reference main charger grid voltage, and the laser power in the image density correction.	Setting	Image process (Photoconductor/ Developing)		Operation	
	9	Used to check the data related to the image forming section correction (process correction) result (corrected main charger grid voltage, the developing bias voltage, and the laser power voltage in each print mode). (This simulation allows to check that correction is performed normally or not.)	Adjustment/Setup/ Operation data output/ Check (Display/Print)	Image process (Photoconductor/ Developing/ Transfer/Cleaning)		Data	Operation data (Machine condition)
	12	Used to display sampling toner image patch density data in image density correction. (Used to check that the correction is performed normally or not.)	Adjustment/Setup/ Operation data output/ Check (Display)	Image process (Photoconductor/ Developing)		Operation	
	14	Used to check the output level of the temperature sensor and the humidity sensor.	Adjustment/Setup/ Operation data output/ Check (Display)	Image process (Photoconductor/ Developing)		Operation	
	16	Used to check the toner concentration control data.	Adjustment/Setup/ Operation data output/ Check (Display)	Image process (Developing)		Operation	

Code		Function (Purpose)	Purpose	Section		Item	
Main	Sub						
46	2	Used to adjust the copy density in all the copy modes (Auto, Text, Text/Photo, and Photo mode).	Adjustment			Picture quality	Density
	9	Used to adjust the print density for each density level (display value) in the copy mode (binary - Text mode). An optional print density can be set for each density level (display value).	Adjustment			Picture quality	Density
	10	Used to adjust the print density for each density level (display value) in the copy mode (binary - Text/Photo mode). An optional print density can be set for each density level (display value).	Adjustment			Picture quality	
	11	Used to adjust the print density for each density level (display value) in the copy mode (binary - Photo mode). An optional print density can be set for each density level (display value).	Adjustment			Picture quality	Density
	12	Used to adjust the print density in the FAX mode (all modes).	Adjustment			Picture quality	
	13	Used to adjust the print density in the FAX mode (each normal mode). (Only when FAX is installed.)	Adjustment			Picture quality	

Code		Function (Purpose)	Purpose	Section		Item	
Main	Sub						
46	14	Used to adjust the print density in the FAX mode (each fine mode). (Only when FAX is installed.)	Adjustment			Picture quality	
	15	Used to adjust the print density in the FAX mode (each super fine mode). (Only when FAX is installed.)	Adjustment			Picture quality	
	16	Used to adjust the print density in the FAX mode (each ultra fine mode). (Only when FAX is installed.)	Adjustment			Picture quality	
	17	Used to set the gain in shading correction.	Setting	Optical (Image scanning)	CCD, CIS	Operation	
	18	Used to adjust the gamma (density gradient) in the copy mode.	Adjustment			Picture quality	Density
	19	Used to set the auto mode operation specifications in each mode (copy, scan, FAX).	Adjustment			Picture quality	Density
	20	Used to adjust the copy density correction in the SPF copy mode for the document table copy mode. The adjustment is made so that the copy density becomes the same as that of the document table copy mode.	Adjustment	SPF		Picture quality	Density
	21	Used to adjust the scanner exposure level in all the scanner modes.	Adjustment			Picture quality	Density

Code		Function (Purpose)	Purpose	Section		Item	
Main	Sub						
46	22	Used to adjust the scanner exposure level in the normal text mode.	Adjustment			Picture quality	Density
	23	Used to adjust the scanner exposure level in the fine text mode.	Adjustment			Picture quality	Density
	24	Used to adjust the scanner exposure level (in the super fine text mode).	Adjustment			Picture quality	Density
	25	Used to adjust the scanner exposure level in the ultra fine text mode.	Adjustment			Picture quality	Density
	27	Used to adjust the gamma (density gradient) of the network scanner mode.	Adjustment			Picture quality	
	31	Used to adjust sharpness of the copy mode.	Adjustment			Picture quality	
	39	Used to adjust sharpness of the FAX mode.	Adjustment			Picture quality	
	45	Used to adjust the image density in the FAX mode (600dpi).	Adjustment			Picture quality	
48	1	Used to adjust the copy magnification ratio (in the main scanning and the sub scanning directions).	Adjustment	Optical (Image scanning)		Picture quality	
	5	Used to adjust the copy magnification ratio in the sub scanning direction.	Adjustment	Optical (Image scanning)		Picture quality	

Code		Function (Purpose)	Purpose	Section		Item	
Main	Sub						
50	1	Used to adjust the copy image position and the void area (image loss) adjustment on print paper in the copy mode. (The similar adjustment can be performed with SIM 50-5 and 50-2 (Simplified method).) (Document table mode)	Adjustment			Picture quality	Image position
	2	Used to adjust the document scan position, the image print position, and the void area (image loss). (Simple adjustment) (This adjustment is the simple method of SIM 50-1.) (Document table mode)	Adjustment			Picture quality	Image position
	5	Used to adjust the print image position and the void area (image loss) on print paper. (Adjustment as the print engine) (This adjustment is reflected on all the FAX/printer/copy modes.)	Adjustment			Picture quality	
	6	Used to adjust the copy image position and void area (image loss) on print paper in the copy mode. (The similar adjustment can be performed with SIM 50-7 (simple method).) (SPF mode)	Adjustment			Picture quality	

Code		Function (Purpose)	Purpose	Section		Item	
Main	Sub						
50	7	Used to adjust the copy image position and void area (image loss) on print paper in the copy mode. (The similar adjustment can be performed with SIM 50-6.) (SPF mode)	Adjustment			Picture quality	
	10	Used to adjust the print image off-center position. (Adjusted separately for each paper feed section.)	Adjustment			Picture quality	Image position
	12	Used to adjust the scan image off-center position. (Adjusted separately for each scan mode.)	Adjustment			Picture quality	Image position
	27	Used to adjust the image loss of the scan image in the FAX/scan mode.	Adjustment			Picture quality	
51	2	Used to adjust the contact pressure of paper on the resist roller of each section (each paper feed, duplex feed and SPF paper feed of the copier). (This adjustment is required when the print image position variations are considerably great or when paper jams occur frequently.)	Adjustment	Paper transport (Discharge/Switchback/Transport)		Operation	
53	6	Used to adjust the DSPF width detection level.	Adjustment			Operation	

Code		Function (Purpose)	Purpose	Section		Item	
Main	Sub						
53	7	Used to enter the SPF width detection adjustment value.	Adjustment/Setup/ Operation data output/ Check (Display/Print)	DSPF		Operation	
	8	Used to adjust the document scan start position. (Used to adjust the scanner scan position in the SPF mode front scan.)	Adjustment				
55	1	Used to set the specifications of the engine control operations. (PCU PWB)	Setting			Operation	Specifications
	2	Used to set the specifications of the scanner control operations. (Scanner control PWB)	Setting			Operation	Specifications
	3	Used to set the specifications of the controller operations. (MFP control PWB)	Setting			Operation	Specifications
56	1	Used to transfer the MFP controller data. (Used to repair the PWB.)	Data transfer	MFP controller		Data transfer	
60	1	Used to check the MFP control (DRAM) operations (read/write).	Operation test/Check	ICU		Operation	
61	1	Used to check the operation of the scanner (write) unit (LSU).	Operation test/Check	Scanner (write) unit (LSU)		Operation	
	2	Used to adjust the laser power (absolute value) in the copy mode.	Adjustment	Scanner (write) unit (LSU)		Operation	
	3	Used to adjust the laser power (absolute value) in the FAX mode.	Adjustment	Scanner (write) unit (LSU)		Operation	

Code		Function (Purpose)	Purpose	Section		Item	
Main	Sub						
61	4	Used to adjust the laser power (absolute value) in the printer mode.	Adjustment	Scanner (write) unit (LSU)		Operation	
62	1	Used to format the hard disk.	Data clear	MFP controller (HDD)		Clear	
	2	Used to check the operation of the hard disk (read/write). (Only in the model with a disk installed) (Partial check)	Operation test/Check	MFP controller (HDD)		Operation	
	3	Used to check the operation of the hard disk (read/write). (All areas check)	Operation test/Check	MFP controller (HDD)		Operation	
	6	Used to check the operations of the hard disk. (The self diag operation of the SMART function is executed.)	Operation test/Check	MFP controller (HDD)		Clear	
	7	Used to check the operations of the hard disk. (The result of the self diag operation of the SMART function is printed out.)	Operation test/Check	MFP controller (HDD)		Clear	
	8	Used to format the hard disk (the system area excluded).	Data clear	MFP controller (HDD)		Clear	
	10	Used to delete a job complete list (also to delete job log data)	Data clear	MFP controller (HDD)		Clear	
	11	Used to delete document filing data. (The management area (standard folder, user folder) is cleared.)	Data clear	MFP controller (HDD)		Clear	

Code		Function (Purpose)	Purpose	Section		Item	
Main	Sub						
63	1	Used to check the result of shading correction. (The shading correction data are displayed.)	Adjustment/Setup/ Operation data output/ Check (Display/Print)	Optical (Image scanning)		Operation	
	2	Used to execute shading.	Adjustment	Optical (Image scanning)		Operation	
	7	Used to adjust the white plate scan start position for shading. (Document table mode)	Adjustment	Laser (Exposure)		Operation	
64	1	Used to check the operation of the printer section (self-print operation), (The print pattern, the paper feed mode, the print mode, the print quantity, and the density can be optionally set.)	Operation test/Check			Operation	
65	1	Used to adjust the touch panel (LCD display section) detection position.	Adjustment	Operation (Display/ Operation key)			
	2	Used to check the result of the touch panel (LCD display) detection position adjustment. (The coordinates are displayed.)	Adjustment/Setup/ Operation data output/ Check (Display/Print)	Operation (Display/ Operation key)			
66	1	Used to change and check the FAX soft switch functions. (Used to change and check the functions provided for the FAX soft switches.)	Setting	FAX			

Code		Function (Purpose)	Purpose	Section		Item	
Main	Sub						
66	2	Used to clear the FAX soft switch function data and to set to the default. (Excluding the adjustment values.)	Data clear	FAX		Data	
	3	Used to check the operation of the FAX PWB memory (read/write). (This adjustment is required when the PWB is replaced with a new one.)	Operation test/Check	FAX		Data	
	4	Used to check the output operation of data signals in each data output mode of FAX. (Used to check the operation of MODEM.) Send level: Max. (Only when FAX is installed)	Operation test/Check	FAX		Operation	
	5	Used to check the output operation of data signals in each data output mode of FAX. (Used to check the operation of MODEM.) An output is sent at the send level set by the soft switch. (Only when FAX is installed)	Operation test/Check	FAX		Operation	
	6	Used to print the confidential pass code. (Used when the confidential pass code is forgotten.) (Only when FAX is installed)	User data output/ Check (Display/Print)	FAX		Data	
	7	Used to print the image memory data (memory send/receive). (Only when FAX is installed)	User data output/ Check (Display/Print)	FAX		Data	

Code		Function (Purpose)	Purpose	Section		Item	
Main	Sub						
66	8	Used to check the output operation of various sound signals of FAX. (Used to check the operation of the sound output IC.) Send level: Max. (Only when FAX is installed)	Operation test/Check	FAX		Operation	
	9	Used to check the output operation of various sound signals of FAX. (Used to check the operation of the sound output IC.) An output is sent at the send level set by the soft switch. (Only when FAX is installed)	Operation test/Check	FAX		Operation	
	10	Used to clear all data of the image memory (memory send/receive). The confidential data are also cleared at the same time. (Only when FAX is installed)	User data output/Check (Display/Print)	FAX		Data	
	11	Used to check the output operation of FAX G3 mode 300bps. (Used to check the operation of MODEM.) Send level: Max. (Only when FAX is installed)	Operation test/Check	FAX		Operation	
	12	Used to check the output operation of FAX G3 mode 300bps. (Used to check the operation of MODEM.) An output is send at the send level set by the soft switch. (Only when FAX is installed)	Operation test/Check	FAX		Operation	

Code		Function (Purpose)	Purpose	Section		Item	
Main	Sub						
66	13	Used to enter (set) the number of FAX dial signal output test. (The dial number set by this simulation is outputted when the dial signal output test is made by SIM 66-14 - 16.) (Only when FAX is installed)	Setting			Data	
	14	Used to set the make time in the FAX pulse dial mode (10pps) and to test the dial signal output. (The dial number signal set by SIM 66-13 is outputted.) Used to check troubles in dialing and to check the operation. (Only when FAX is installed)	Setting/Operation test/ Check	FAX		Operation	
	15	Used to set the make time in the FAX pulse dial mode (20pps) and to test the dial signal output. (The dial number signal set by SIM 66-13 is outputted.) Used to check troubles in dialing and to check the operation. (Only when FAX is installed)	Setting/Operation test/ Check	FAX		Operation	

Code		Function (Purpose)	Purpose	Section		Item	
Main	Sub						
66	16	Used to check the dial signal (DTMF) output in the FAX tone dial mode. (The dial number signal set by SIM 66-13 is outputted.) The send level can be set to an optional level. Used to check troubles in dialing and to check the operation. (Only when FAX is installed)	Setting/Operation test/ Check	FAX		Operation	
	17	Used to check the dial signal (DTMF) output in the FAX tone dial mode. Send level: Max. Used to check the operation. (Only when FAX is installed)	Setting	FAX		Operation	
	18	Used to check the dial signal (DTMF) output in the FAX tone dial mode. An output is sent at the send level set by the soft switch. Used to check the operation. (Only when FAX is installed)	Setting	FAX		Operation	
	19	Used to back-up the HDD data into the Flash memory (optional FAX expansion memory: AR-MM9). (Only when FAX is installed)	Data transfer	FAX		Data	
	20	Used to read the back-up data by SIM 66-19 to the SRAM/HDD. (Only when FAX is installed)	Data transfer	FAX		Data	

Code		Function (Purpose)	Purpose	Section		Item	
Main	Sub						
66	21	Used to print information related to FAX (various registrations, communication management, file management, system error protocol). (Only when FAX is installed)	Adjustment/Setup/ Operation data output/ Check (Display/Print)	FAX		Data	
	22	Used to adjust the handset volume. (Only when the FAX is installed.)	Setting	FAX		Operation	
	23	Used to download the FAX program. (Only when FAX is installed) Not used in the market. (For development)	Setting	FAX			
	24	Used to clear the FAST memory data. (Only when FAX is installed)	Clear	FAX		Data	
	25	Used to register the FAX number for Modem dial-in. (Only when FAX is installed) Not used in the market. (For development)	Setting	FAX		Data	
	26	Used to register external telephone numbers for Modem dial-in. (Only when FAX is installed) Not used in the market. (For development)	Setting	FAX		Data	

Code		Function (Purpose)	Purpose	Section		Item	
Main	Sub						
66	27	Used to register the transfer number for voice warp. (Only when FAX is installed) Not used in the market. (For development)	Setting	FAX		Data	
	28	Used to record voice messages. (Only when FAX is installed.)	Setting	FAX		Data	
	29	Used to clear data related to an address book (one-touch registration, program registration/expansion, relay memory box registration, each table content).	Clear	FAX		Data	
	30	Used to check the change in the TEL/LIU status.	Operation test/Check	FAX		Operation	
	31	Used to check the relay operation.	Operation test/Check	FAX		Operation	
	32	Used to check the receive data (fixed data) from the line.	Operation test/Check	FAX		Operation	
	33	Used to check the signal (BUSY TONE/CNG/CED/FNET/DTMF) detection.	Operation test/Check	FAX		Operation	
	34	Used to measure the communication time of test image data.	Operation test/Check	FAX		Operation	

Code		Function (Purpose)	Purpose	Section		Item	
Main	Sub						
66	35	Modem program reloading (Only when FAX is installed) Not used in the market. (For development)	Setting	FAX		Data	
	36	Used to check interface between MFPC controller and MDMC. (Check of the data line or the command line)	Operation test/Check	FAX		Operation	
	39	Used to set the destination specifications.	Setting	FAX		Specifications	Operation
	60	Used to set the ACR data.	Setting	FAX		Operation	
67	2	Used to check the operation of the parallel I/F of the printer. (This simulation is for production only, and requires a special tool for execution. Not used in the market.)	Operation test/Check	MFP controller		Operation	Interface/ Communication
	11	Used to set YES/NO of the parallel I/F select signal of the printer.	Setting	MFP controller		Operation	Interface/ Communication
	16	Used to check the operation of the network card.	Operation test/Check	MFP controller		Operation	Interface/ Communication

3. Details

1

1-1

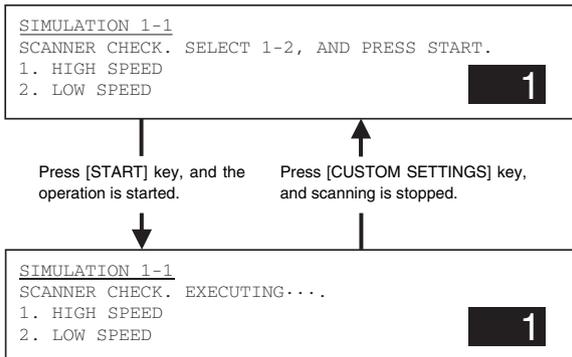
Purpose	Operation test/Check
Function (Purpose)	Used to check the operations of the scanner (read) unit and its control circuit.
Section	Optical (Image scanning)
Item	Operation

Operation/Procedure

- 1) Select the operation mode with 10-key.
- 2) Press START key.

The scanner performs scanning at the speed corresponding to the operation mode.

1	HIGH SPEED	High speed (220mm/s)
2	LOW SPEED	Low speed (110mm/s)



1-2

Purpose	Operation test/Check
Function (Purpose)	Used to check the operation of sensor and detector in the scanning (read) section and the related circuit.
Section	Optical (Image scanning)
Item	Operation

Operation/Procedure

The sensor and detector operation conditions are displayed.

The active sensors and detectors are highlighted.

- The scanner (read) unit is in the home position.: "MHPS" section is highlighted.
- The scanner (read) unit is not in the home position.: "MHPS" is normally displayed.

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MHPS	Optical system home position
------	------------------------------

SIMULATION 1-2
 SCANNER SENSOR CHECK..
 MHPS

2

2-1

Purpose	Operation test/Check
Function (Purpose)	Used to check the operations of the automatic document feeder unit and the control circuit.
Section	DSPF
Item	Operation

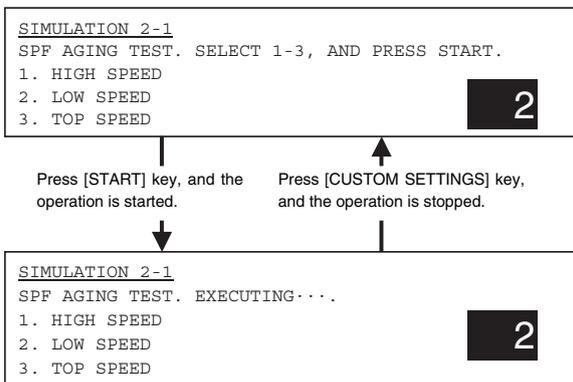
Operation/Procedure

- 1) Select the operation mode with 10-key.
- 2) Press START key.

The SPF repeat paper feed, transport, and paper exit at the speed corresponding to the operation mode.

The operation can be stopped by [CUSTOM SETTINGS] key.

1	HIGH SPEED (220 mm/sec)	High speed
2	LOW SPEED (110 mm/sec)	Low speed
3	TOP SPEED (360 mm/sec)	Top speed



Purpose	Operation test/Check
Function (Purpose)	Used to check the operations of the sensors and detectors in the automatic document feeder unit and the related circuits.
Section	DSPF
Item	Operation

Operation/Procedure

The operating conditions of the sensors and detectors are displayed.

The active sensors and detectors are highlighted.

SSET	SPF sensor
SOCD	Open/close sensor
SCOV	Paper feed cover sensor
SPED2	Document set sensor (Lower)
SPED1	Document set sensor (Upper)
SPPD1	Document transport sensor 1
SPPD2	Document transport sensor 2
SPPD3	Document transport sensor 3
SPPD4	Document transport sensor 4
SPOD	Document exit sensor
SWDn	Document width sensor (n → 1 (inside) - 6 (outside))
SPLSn	Document length sensor (n → 1 (inside) - 2 (outside))
CISSET	CIS installation detection
STSET	Stamp unit installation sensor
STUD	Tray upper limit sensor
STLD	Tray lower limit sensor
SWD_LEN	SPF guide plate position (unit: 0.1mm)
SWD_AD	SPF document width detection volume output AD value

<u>SIMULATION 2-2</u>			
SPF SENSOR CHECK.			
SSET	SOCD	SCOV	SPED2
SPED1	SPPD1	SPPD2	SPPD3
SPPD4	SPOD	SWD6	SWD5
SWD4	SWD3	SWD2	SWD1
SPLS2	SPLS1	CISSET	STSET
STUD	STLD		
SWD_LEN:	2100	SWD_AD:	600

Purpose	Operation test/Check
Function (Purpose)	Used to check the operations of the loads in the automatic document feeder unit and the control circuits.
Section	DSPF
Item	Operation

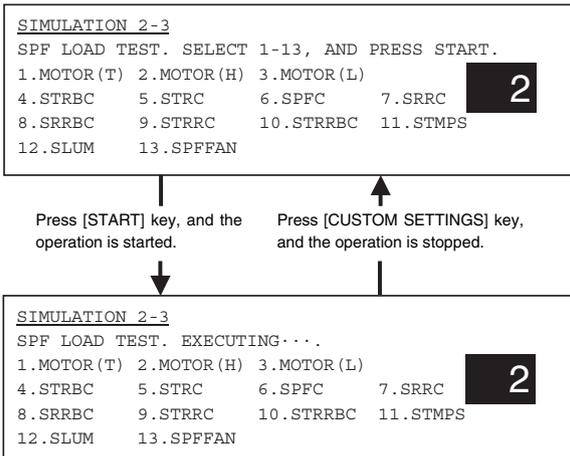
Operation/Procedure

- 1) Select the number corresponding to the target of operation check with 10-key.
- 2) Press START key.

The load selected in procedure 1 is operated.

Press [CUSTOM SETTINGS] key to stop the operation of the load.

1	MOTOR (T)	Motor top speed
2	MOTOR (H)	Motor high speed
3	MOTOR (L)	Motor low speed
4	STRBC	Document transport brake clutch
5	STRC	Document feed transport clutch
6	SPFC	Document fed clutch
7	SRRC	Document resist clutch
8	SRRBC	Document resist brake clutch
9	STRRC	Document feed resist clutch
10	STRRBC	Document feed resist brake clutch
11	STMPS	Stamp solenoid
12	SLUM	Lift up motor
13	SPFFAN	SPF fan motor



3

3-2

Purpose	Operation test/Check
Function (Purpose)	Used to check the operation of sensor and detector in the finisher and the related circuit.
Section	Finisher
Item	Operation

Operation/Procedure

The operating conditions of the sensors and detectors are displayed.

The active sensors and detectors are highlighted.

PI1	Entry port paper detection	
PI1P	Punch width resist HP detection	When the punch unit is installed
PI1S	Paper holding plate motor clock detection	When the saddle unit is installed
PI2P	Punch motor clock detection	When the punch unit is installed
PI2S	Front door open detection	When the saddle unit is installed
PI3	Paper exit detection	
PI3P	Punch HP detection	When the punch unit is installed
PI3S	Paper exit cover open detection	When the saddle unit is installed
PI4S	Paper folding motor clock detection	When the saddle unit is installed
PI5	Shutter open detection	
PI5S	Alignment plate HP detection	When the saddle unit is installed
PI6	Alignment guide HP detection	
PI6S	Saddle tray paper detection	When the saddle unit is installed
PI7	Staple shift HP detection	
PI7S	Paper positioning plate HP detection	When the saddle unit is installed
PI8	Tray 1 HP detection	
PI8S	Paper positioning plate HP detection	When the saddle unit is installed
PI9	Tray 1 lift motor clock detection 1	
PI9S	Entry port cover open detection	When the saddle unit is installed
PI10	Paper exit motor clock detection	
PI11	Tray 1 paper detection	
PI11S	Saddle paper exit detection	When the saddle unit is installed
PI12	Tray 2 paper detection	
PI12S	Semi-circular roller phase detection	When the saddle unit is installed
PI13S	Guide HP detection	When the saddle unit is installed
PI14	Buffer path detection	
PI14S	Paper holding plate lead edge position detection	When the saddle unit is installed
PI15	Finisher joint detection	
PI15S	Paper holding plate lead edge position detection	When the saddle unit is installed
PI16	Door open detection	
PI17	Buffer path entry port paper detection	
PI17S	Vertical path paper detection	When the saddle unit is installed
PI18	Oscillating guide open detection	
PI18S	Saddle No. 1 paper detection	When the saddle unit is installed
PI19	Tray lift motor clock detection 2	
PI19S	Saddle No. 2 paper detection	When the saddle unit is installed
PI20	Oscillation guide clock detection	
PI20S	Saddle No. 3 paper detection	When the saddle unit is installed
PI21	Staple lead edge detection	
PI21S	Paper folding HP detection	When the saddle unit is installed
PI22	Staple dive HP detection	

PI23	Tray 2 lift motor clock detection 1	
PI24	Tray 2 lift motor clock detection 2	
PI25	Tray 2 HP detection	
MS1	Front door / Upper door open detection	
MS1S	Saddle entry port door detection	When the saddle unit is installed
MS2	Oscillation guide close detection	
MS2P	Punch front door open detection	When the punch unit is installed
MS2S	Front door open detection	When the saddle unit is installed
MS3	Safety area detection	
MS3S	Paper exit door open detection	When the saddle unit is installed
MS4	Shutter close detection	
MS4S	Saddle staple presence detection 2	When the saddle unit is installed
MS5S	Stitch operation HP detection 2	When the saddle unit is installed
MS6S	Saddle staple presence detection 1	When the saddle unit is installed
MS7	Cartridge detection	
MS7S	Stitch operation HP detection 1	When the saddle unit is installed
MS8	Staple empty detection	
MS9	Tray approaching detection	

SIMULATION 3-2

FINISHER SENSOR CHECK.

```

PI10  PI20  PI19  PI9   PI22  PI1  PI14  PI3
PI17  PI12  PI11  MS8  PI21  MS7  PI18  PI5
PI8   PI6   PI7   MS2  MS4   MS1  MS3  PI16
PI15  MS9   PI24  PI23  PI25
(PI2P) (MS2P) (PI1P) (PI3P)
<PI11S><PI15S><PI5S> <PI14S><PI1S> <PI4S> <PI13S>
<PI12S><PI17S><PI7S> <PI18S><PI6S> <PI8S><MS7S>
<MS5S><PI20S><PI19S><PI21S><MS3S><PI9S> <PI2S>
<PI3S> <MS2S><MS1S><MS6S><MS4S>

```

() : Added when the punch unit is installed.

< > : Added when the saddle unit is installed.

3-3

Purpose	Operation test/Check
Function (Purpose)	Used to check the operation of the load in the finisher and the control circuit.
Section	Finisher
Item	Operation

Operation/Procedure

- 1) Select the number corresponding to the target of operation check with 10-key.
- 2) Press START key.

The load selected in procedure 1 is operated.

Press [CUSTOM SETTINGS] key to stop the operation of the load.

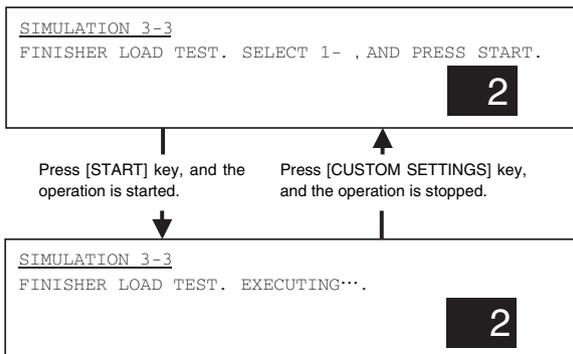
1	SL7	Belt wait solenoid
2	SL6	Wait solenoid
3	SL5	Paddle solenoid
4	SL3	Buffer exit port solenoid
5	SL2	Buffer entry port solenoid
6	SL1	Flapper solenoid
7	M10	Tray 2 lift motor
8	M9	Entry port transport motor
9	M8	No. 2 transport motor
10	M7	Oscillation motor
11	M6	Staple motor
12	M5	Tray 1 lift motor
13	M4	Stapler shift motor
14	M3	Alignment motor
15	M2	Paper exit motor
16	M1	No. 1 transport motor

(When the punch unit is installed)

17	M2P	Punch side resist motor
18	M1P	Punch motor

(When the saddle unit is installed.)

19	SL4S	Transport plate contact solenoid
20	SL2S	No. 2 paper deflection plate solenoid
21	SL1S	No. 1 paper deflection plate solenoid
22	M8S	Paper holding motor
23	M7S	Stitch motor: Front
24	M6S	Stitch motor: Rear
25	M5S	Saddle alignment motor
26	M4S	Paper positioning motor
27	M3S	Guide motor
28	M2S	Paper folding motor
29	M1S	Saddle transport motor



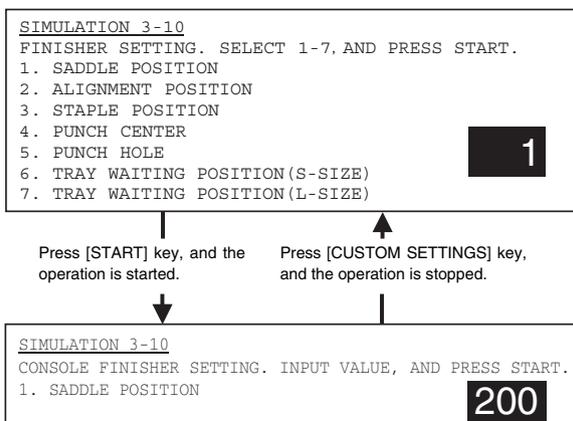
3-10

Purpose	Adjustment
Function (Purpose)	Finisher (AR-F16) adjustment
Section	Finisher
Item	Operation

Operation/Procedure

- 1) Select the number corresponding to the target of operation check with 10-key.
- 2) Press [START] key.
- 3) Enter the adjustment value with 10-key.
- 4) Press [START] key. (The entered value is stored.)

	Item	Set range
1	Saddle stitch/folding position adjustment	192 - 208, 1STEP: 0.25 mm
2	Alignment position adjustment	2 - 18, 1STEP: 0.35 mm
3	Staple binding position adjustment	68 - 132, 1STEP: 0.152 mm
4	Punch center adjustment	37 - 63, 1STEP: 0.15mm
5	Punch hole position adjustment (Paper feed direction)	35 - 57, 1STEP: 0.26mm
6	Stack tray standby position adjustment (Small size)	5 - 35, 1STEP: 1mm
7	Stack tray standby position adjustment (Large size)	5 - 35, 1STEP: 1mm



3-30

Purpose	Operation test/Check
Function (Purpose)	Used to check the operations of the sensors and detectors in the inserter.
Section	Inserter
Item	

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Operation/Procedure

The operating conditions of the sensors and detectors are displayed.

The active sensors and detectors are highlighted.

TH_SEN	Sub tray pull-out detection
TS_SEN	Sub tray storage detection
T_SEN	Inserter tray paper size detection
EMP_SEN	Inserter tray empty detection
REG_SEN	Inserter resist sensor
TIM_SEN	Inserter timing sensor detection
JCK_SEN	Inserter cover open/close sensor
H_SEN	Inserter reverse sensor
HI_SEN	Inserter paper exit sensor
HYK_SEN	Inserter reverse unit open/close sensor
S_SW	Inserter set SW
KC_SEN	Base cover open/close sensor
P_ST_SW	Inserter start SW
P_MO_SW	Inserter staple mode select SW
P_PN_SW	Inserter punch select SW

SIMULATION 3-30

INSERTER SENSOR CHECK.

TH_SEN	TS_SEN	T_SEN	EMP_SEN
REG_SEN	TIM_SEN	JCK_SEN	H_SEN
HI_SEN	HYK_SEN	S_SW	KC_SEN
P_ST_SW	P_MO_SW	P_PN_SW	

3-31

Purpose	Operation test/Check
Function (Purpose)	Used to check the operations of the loads in the inserter and the related circuits.
Section	Inserter
Item	Operation

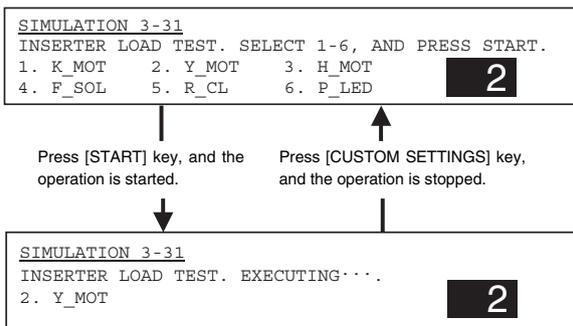
Operation/Procedure

- 1) Select the number corresponding to the target of operation check with 10-key.
- 2) Press [START] key.

The load selected in procedure 1 is operated.

Press [CUSTOM SETTINGS] key to stop the operation of the load.

1	K_MOT	Reverse motor
2	Y_MOT	Horizontal transport motor
3	H_MOT	Inserter reverse
4	F_SOL	Inserter flapper solenoid
5	R_CL	Inserter resist clutch
6	P_LED	Inserter operation panel upper LED



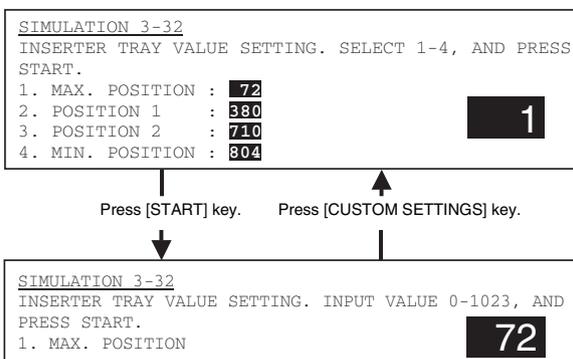
3-32

Purpose	Setting (Adjustment)
Function (Purpose)	Inserter paper width detection level setting.
Section	Inserter
Item	Operation

Operation/Procedure

- 1) Select the number corresponding to the adjustment item with 10-key.
- 2) Press [START] key.
- 3) Enter the setting (adjustment) value with 10-key.
- 4) Press [START] key.

1	MAX. POSITION	Max. position
2	POSITION 1	Adjustment point 1
3	POSITION 2	Adjustment point 2
4	MIN. POSITION	Min. width



Purpose	Operation test/Check
Function (Purpose)	Used to check the operations of the sensors and detectors in the paper feed section (large capacity tray) and the related circuit.
Section	Paper feed
Item	Operation

Operation/Procedure

The operating conditions of the sensors and detectors are displayed.

The active sensors and detectors are highlighted.

<LCC>

LTD	Transport sensor
LUD	Tray upper limit sensor
LLD	Tray lower limit sensor
LPED	Tray paper presence/empty sensor
LTOD	Main unit connection detection sensor
LCD	Tray insertion detection
LOSW	Upper open/close detection SW
LRE	Lift motor encoder sensor
+24VM	24V power monitor
LLSW	Upper limit SW

SIMULATION 4-2			
LCC SENSOR CHECK.			
LTD	LUD	LLD	LPED
LCD	LOSW	LRE	+24VM
LLSW			

Purpose	Operation test/Check
Function (Purpose)	Used to check the operations of the loads in the paper feed section (large capacity tray) and the related circuit.
Section	Paper feed
Item	Operation

Operation/Procedure

1. Select the number corresponding to the target of operation check with 10-key.
2. Press [START] key.

The load selected in procedure 1 is operated.

Press [CUSTOM SETTINGS] key to stop the operation of the load.

Purpose	Operation test/Check
Function (Purpose)	Used to check the operation of the heater lamp and the control circuit.
Section	Fixing (Fusing)
Item	Operation

Operation/Procedure

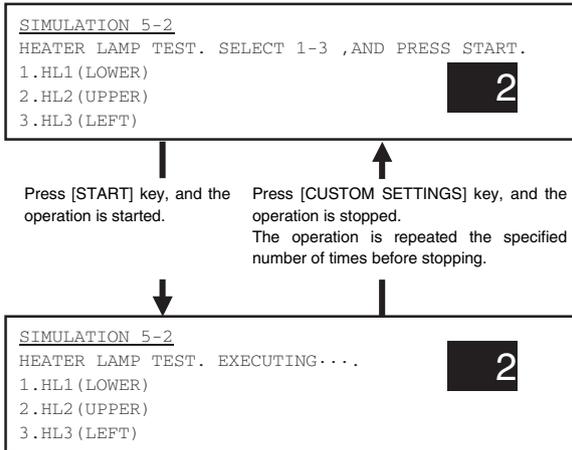
- 1) Select the number corresponding to the target of operation check with 10-key.
- 2) Press [START] key.

The load selected in procedure 1 performs ON/OFF operation.

Press [CUSTOM SETTINGS] key to stop the operation of the load.

The ON/OFF operation of the selected heater lamp is repeated every 500ms five times.

1	HL1 (LOWER)	Heater lamp 1 (Lower)
2	HL2 (UPPER)	Heater lamp 2 (Upper)
3	HL3 (LEFT)	Heater lamp 3 (Left)



Purpose	Operation test/Check
Function (Purpose)	Used to check the operation of the scanner lamp and the control circuit.
Section	Optical (Image scanning)
Item	Operation

Operation/Procedure

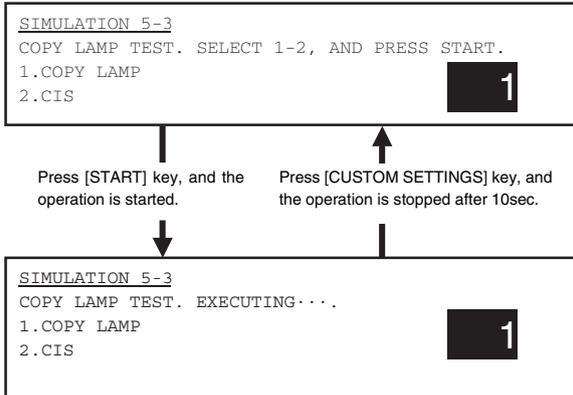
- 1) Select the number corresponding to the target of operation check with 10-key.
- 2) Press [START] key.

The load selected in procedure 1 turns ON for 10sec.

Press [CUSTOM SETTINGS] key to stop the operation.

The copy lamp or CIS is turned on for 10sec and turned off.

NOTE: CIS: only when the DSPF is installed.



5-4

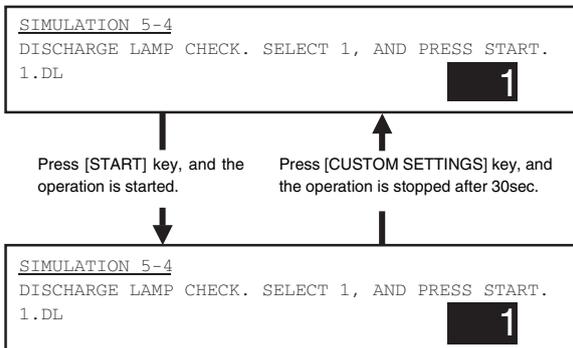
Purpose	Operation test/Check
Function (Purpose)	Used to check the operation of the discharge lamp and the related circuit.
Section	Process
Item	Operation

Operation/Procedure

- 1) Select the number corresponding to the target of operation check with 10-key.
- 2) Press [START] key.

The load selected in procedure 1 turns ON for 30sec.

Press [CUSTOM SETTINGS] key to stop the operation.



6

6-1

Purpose	Operation test/Check
Function (Purpose)	Used to check the operation of the paper transport system loads and the control circuit.
Section	Paper transport (Discharge/Switchback/Transport)
Item	Operation

Operation/Procedure

- 1) Select the number corresponding to the target of operation check with 10-key.
- 2) Press [START] key.

The load selected in procedure 1 operates.

Press [CUSTOM SETTINGS] key to stop the operation.

1	MSWPR	MSW reset signal
2	HLPR	Heater power relay signal
3	DCPR	DC power relay signal
4	MM	Main motor
5	DM	Drum motor
6	DVM	Developing motor
7	TURM	Transfer separation motor
8	TRM	PS front motor
9	POM1	Paper exit motor 1
10	POM2_FW	Paper exit motor 2 forward rotation
11	POM2_RV	Paper exit motor 2 reverse rotation
12	VPM	Paper transport motor
13	RRC	Resist roller clutch signal
14	PSBC	Brake clutch signal
15	PSPS	Separation pawl
16	T1PFC	Tray 1 paper feed clutch
17	T2PFC	Tray 2 paper feed clutch
18	HPFC	Horizontal transport clutch
19	T1PUS	Tray 1 pickup solenoid
20	T2PUS	Tray 2 pickup solenoid
21	HPLS	Relay path clock solenoid
22	T1LUM	Tray 1 lift-up motor
23	T2LUM	Tray 2 lift-up motor
24	DSKPFC1	Desk paper transport clutch upstream side
25	DSKPFC2	Desk paper transport clutch downstream side
26	M1PFC	Tray 3 paper feed clutch
27	M2PFC	Tray 4 paper feed clutch
28	M1PUS	Tray 3 pickup solenoid
29	M2PUS	Tray 4 pickup solenoid
30	M1LUM	Tray 3 lift-up motor
31	M2LUM	Tray 4 lift-up motor

32	TRC_LCC	Desk clutch sync signal
33	FUM	Fusing motor
34	MPFPUS	Manual pickup solenoid
35	MPFC	Manual paper feed clutch signal
36	MPFGS	Manual gate solenoid

SIMULATION 6-1
 FEED OUTPUT CHECK. SELECT 1- 33, AND PRESS START.
 1.MSWPR 2.HLPR 3.DCPR 4.MM 5.DM
 6.DVM 7.TURM 8.TRM 9.POM1
 10.POM2_FW 11.POM2_RV 12.VPM
 13.RRC 14.PSBC 15.PSPS 16.T1PFC
 17.T2PFC 18.HPFC 19.T1PUS 20.T2PUS
 21.HPLS 22.T1LUM 23.T2LUM 24.DSKPFC1
 25.DSKPFC2 26.M1PFC 27.M2PFC 28.M1PUS
 29.M2PUS 30.M1LUM 31.M2LUM 32.TRC_LCC
 33.FUM 34.MPPFUS 35.MPFC 36.MPFGS

2

Press [START] key, and the operation is started.

Press [CUSTOM SETTINGS] key, and the operation is stopped immediately or after repeating the operation several times.

SIMULATION 6-1
 FEED OUTPUT CHECK. EXECUTING...
 1.MSWPR 2.HLPR 3.DCPR 4.MM 5.DM
 6.DVM 7.TURM 8.TRM 9.POM1
 10.POM2_FW 11.POM2_RV 12.VPM
 13.RRC 14.PSBC 15.PSPS 16.T1PFC
 17.T2PFC 18.HFC 19.T1PUS 20.T2PUS
 21.HPLS 22.T1LUM 23.T2LUM 24.DSKPFC1
 25.DSKPFC2 26.M1PFC 27.M2PFC 28.M1PUS
 29.M2PUS 30.M1LUM 31.M2LUM 32.TRC_LCC
 33.FUM 34.MPPFUS 35.MPFC 36.MPFGS

2

6-2

Purpose	Operation test/Check
Function (Purpose)	Used to check the operations of each fan motor and its control circuit.
Section	Other
Item	Operation

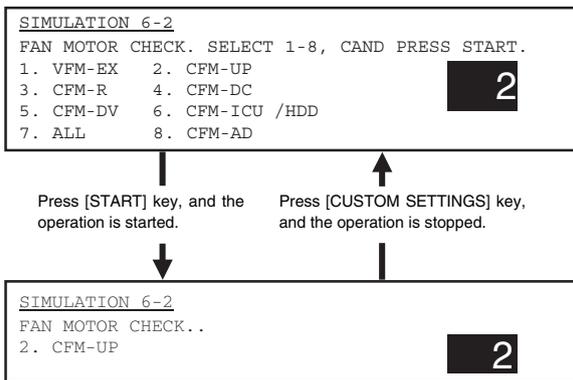
Operation/Procedure

- 1) Select the number corresponding to the target of operation check with 10-key.
- 2) Press [START] key.
 The load selected in procedure 1 operates.
 Press [CUSTOM SETTINGS] key to stop the operation.

1	VFM-EX	Exhaust fan motor (VFM-EX1, 2, 3, VFM-BKL, VFM-BKU)
2	CFM-UP	Heat exhaust fan motor (Paper exit upper) (CFM-U1, 2, 3, VFM-BKR)
3	CFM-R	Cooling fan motor (Right side) (CFM-R1, 2, 3)
4	CFM-DC	Cooling fan motor (Power source) (CFM-DC1, 2)
5	CFM-DV	Cooling fan motor (Developing) (CFM-DV)
6	CFM-ICU /HDD	Cooling fan motor (Controller/HDD) (CFM-ICU/HDD)
7	ALL	All fans control*
8	CFM-AD	Cooling fan motor (paper exit center) (CFM-U4)

* All fans: All the fans controlled by the engine.

(Exhaust fan motor, heat exhaust fan motor (paper exit upper), cooling fan motor (right side) cooling fan motor (power source), cooling fan motor (developing), cooling fan motor (paper exit center))



6-3

Purpose	Operation test/Check
Function (Purpose)	Used to check the operations of the transfer unit and the related circuit.
Section	Process (Transfer)
Item	

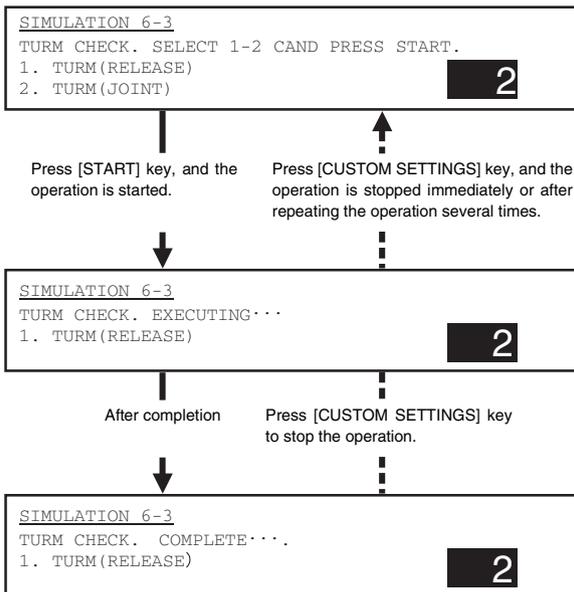
Operation/Procedure

- 1) Select the number corresponding to the target of operation check with 10-key.
- 2) Press [START] key.

The transfer belt performs contact/separation with the OPC drum.

Press [CUSTOM SETTINGS] key to stop the operation.

1	TURM (RELEASE)	Transfer unit separation state
2	TURM (JOINT)	Transfer unit contact state



7

7-1

Purpose	Setting
Function (Purpose)	Used to set the operating conditions of aging.
Section	
Item	Operation

Operation/Procedure

- 1) Select the number corresponding to the operating condition of aging with 10-key.

The combined mode of 0 - 6 mode and 10, 20, or 30 mode can be set.

In that case, the number corresponding to one of 0 - 6 mode and the number corresponding to one of 10, 10, and 30 mode are added and the sum number is entered.

- 2) Press [START] key.

The condition selected in procedure 1) is set.

The setting of this simulation is kept valid until the power is turned off.

0	NO MISS FEED DETECTION	No jam detection
1	AGING	Aging mode
2	AGING/NO MISS FEED DETECTION.	No jam detection, aging mode
3	AGING/NO MISS FEED DETECTION/ NO WARM UP/NO TEMPERATURE CONTROL.	No jam detection/ no warm-up/ no fusing temperature control, aging mode
4	NO WARM UP.	No warm-up
5	AGING/INTERVAL.	Intermittent aging mode
6	AGING/INTERVAL/NO MISS FEED DETECTION.	No jam detection intermittent aging mode
+10	NO PROCESS UNIT CHECK.	Above +10: No process unit (including the developing unit) detection
+20	NO SHADING.	Above +20: No shading
+30	NO PROCESS UNIT CHECK/NO SHADING.	Above +30: No process unit detection /no shading

SIMULATION 7-1

AGING TEST SETTING. SELECT 0-36, AND PRESS START.

0.NO MISS FEED DETECTION

1.AGING

2.AGING/NO MISS FEED DETECTION.

3.AGING/NO MISS FEED DETECTION/
NO WARM UP/NO TEMPERATURE CONTROL.

4.NO WARM UP.

5.AGING/INTERVAL.

6.AGING/INTERVAL/NO MISS FEED DETECTION.

+10:NO PROCESS UNIT CHECK.

+20:NO SHADING.

+30:NO PROCESS UNIT CHECK/NO SHADING.

2

↓

Press [START] key to start registration and operation.
The operation mode is kept until the power is turned off or setting is made again.

7-6	
Purpose	Setting
Function (Purpose)	Used to set the intermittent aging cycle.
Section	
Item	Operation

Operation/Procedure

- 1) Enter the intermittent aging cycle (unit: sec) with 10-key.
- 2) Press [START] key.

The time entered in procedure 1) is set.

* Set range of interval time: 1 - 999 (sec)

Set the intermittent aging mode cycle of 7-1 with 10-key. (Unit: sec)

SIMULATION 7-6
 INTERVAL AGING CYCLE SETUP. INPUT TIME AND PRESS START.
 (1-999, UNIT: sec)

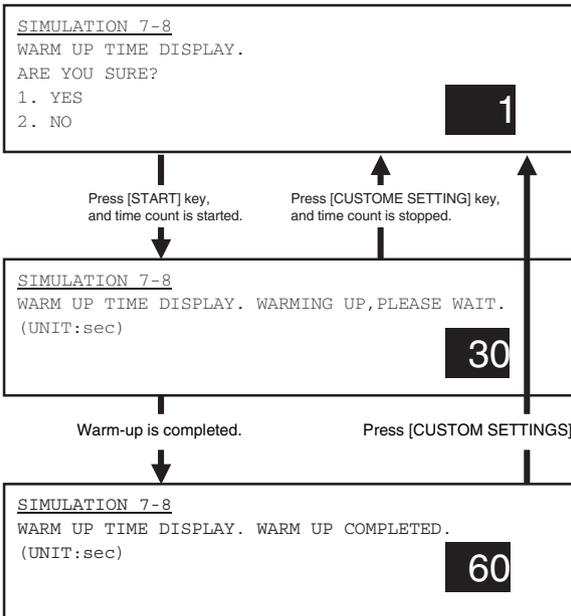
10

7-8

Purpose	Setting
Function (Purpose)	Used to set the warm-up time display YES/NO.
Item	Operation

Operation/Procedure

- 1) Select the number corresponding to the warm-up time display YES/NO.
 - 2) Press [START] key, and the number selected in procedure 1) is set.
- * The setting of this simulation is kept valid until the power is turned off.
 The warm-up time is displayed in the unit of second.



Purpose	Adjustment/Operation test/Check
Function (Purpose)	Used to check and adjust the operations of the developing voltage of each color and the control circuit.
Section	Image process (Photoconductor/Developing/Transfer/Cleaning)

Operation/Procedure

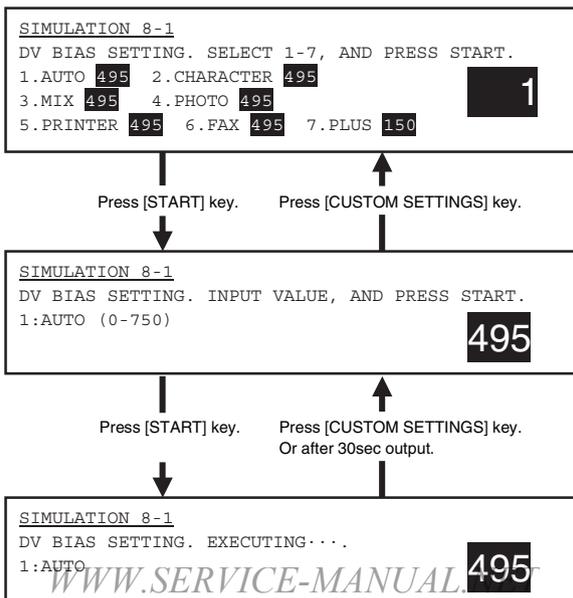
- 1) Enter the number corresponding to the adjustment item with 10-key.
- 2) Press [START] key.
- 3) Enter the adjustment value with 10-key.
- 4) Press [START] key.

(The set value is stored, and the output corresponding to the set value is outputted for 30sec.)

Press [CUSTOM SETTINGS] key to stop the operation.

(The developing bias output voltage adjustment and output check can be made in each print mode.)

Item		Set range	Default
1	AUTO	0 - 750	495
2	CHARACTER		
3	MIX		
4	PHOTO		
5	PRINTER		
6	FAX		
7	PLUS	0 - 250	150



Purpose	Adjustment/Operation test/Check
Function (Purpose)	Used to check and adjust the operation of the main charger grid voltage in each printer mode and the control circuit.
Section	Image process (Photoconductor/Developing/Transfer/Cleaning)

Operation/Procedure

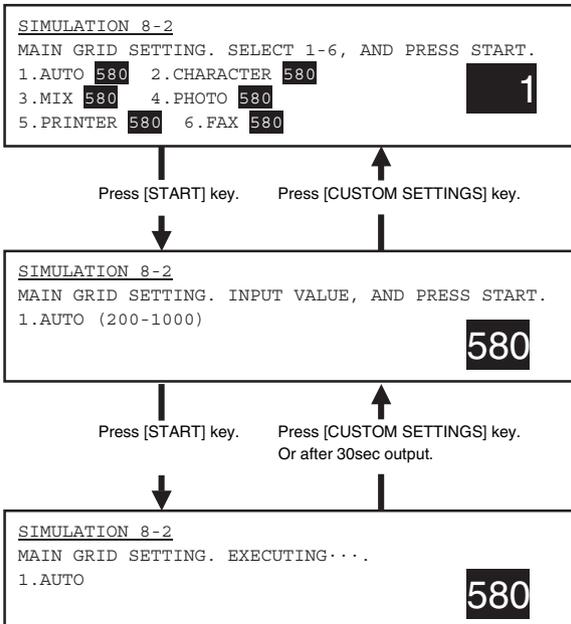
- 1) Enter the number corresponding to the adjustment item with 10-key.
- 2) Press [START] key.
- 3) Enter the adjustment value with 10-key.
- 4) Press [START] key.

(The set value is stored, and the output corresponding to the set value is outputted for 30sec.)

Press [CUSTOM SETTINGS] key to stop the operation.

(The main charger grid output voltage adjustment and output check can be made in each print mode.)

Item			Set range	Default
1	AUTO	Auto mode	200 - 1000	580
2	CHARACTER	Text mode		
3	MIX	Text/Photo mode		
4	PHOTO	Photo mode		
5	PRINTER	Printer mode		
6	FAX	FAX mode		



Purpose	Adjustment/Operation test/Check
Function (Purpose)	Used to check and adjust the operation of the transfer voltage and the control circuit.
Section	Image process (Photoconductor/Developing/Transfer/Cleaning)/Transfer

Operation/Procedure

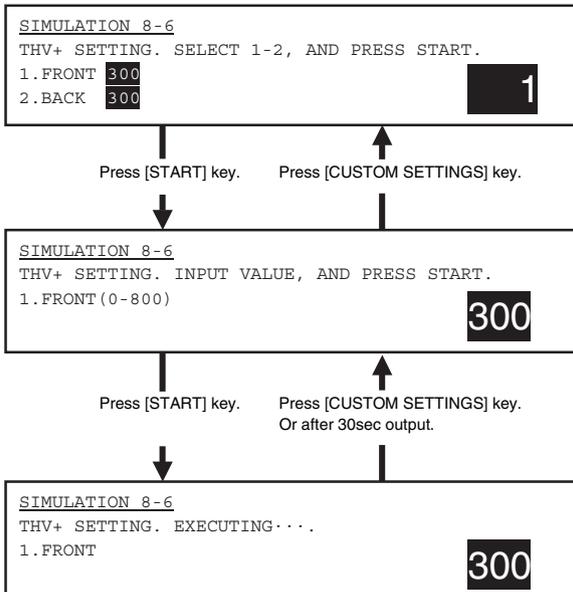
- 1) Enter the number corresponding to the adjustment item with 10-key.
- 2) Press [START] key.
- 3) Enter the adjustment value with 10-key.
- 4) Press [START] key.

(The set value is stored, and the voltage corresponding to the set value is outputted for 30sec.)

Press [CUSTOM SETTINGS] key to stop the operation.

(The transfer output voltage adjustment and output check can be made in each print mode.)

Item			Set range	Default	
				AR-M550N/U, AR-620N/U	AR-M700N/U
1	FRONT	Long side print mode	0 - 800	300	400
2	BACK	Back side print mode		300	400



Purpose	Operation test/Check
Function (Purpose)	Used to check and adjust the operation of the transfer voltage and the related circuit. (Transfer belt cleaning mode)
Section	Image process (Photoconductor/Developing/Transfer/Cleaning)
Item	Operation

Operation/Procedure

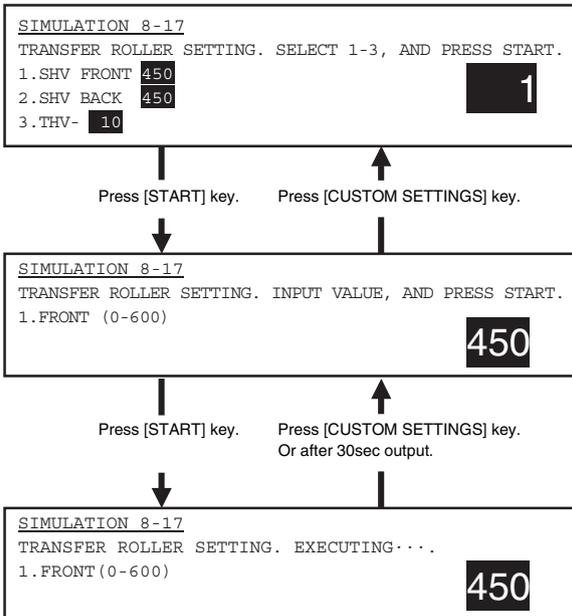
- 1) Enter the number corresponding to the adjustment item with 10-key.
- 2) Press [START] key.
- 3) Enter the adjustment value with 10-key.
- 4) Press [START] key.

(The set value is stored, and the voltage corresponding to the set value is outputted for 30sec.)

Press [CUSTOM SETTINGS] key to stop the operation.

(The transfer output voltage adjustment and output check can be made in the transfer belt cleaning mode.)

Item		Set range	Default	
1	SHV FRONT	AC component	0 - 450	450
2	SHV BACK	AC component	0 - 450	450
3	THV-	DC component	0 - 150	10



Purpose	Adjustment/Operation test/Check
Function (Purpose)	Used to check and adjust the voltage of the transfer CL roller cleaning/transfer CL roller print mode and the control circuit.
Section	Image process (Photoconductor/Developing/Transfer/Cleaning)

Operation/Procedure

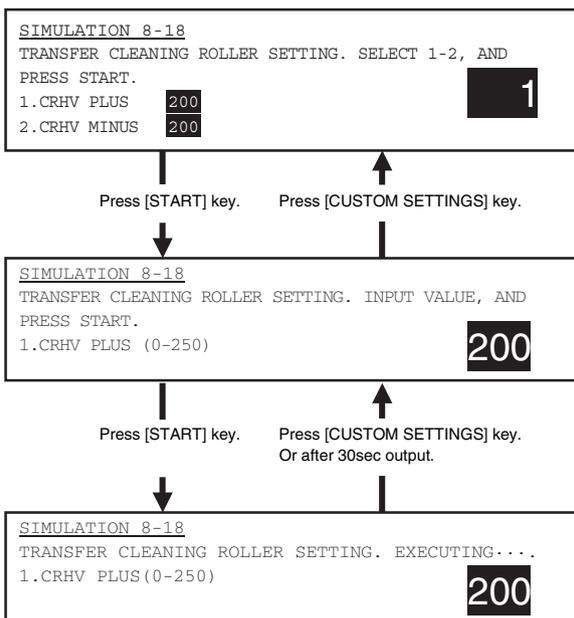
- 1) Select the number corresponding to the adjustment item with 10-key.
- 2) Press [START] key.
- 3) Enter the adjustment value with 10-key.
- 4) Press [START] key.

(The set value is saved in the memory and the voltage corresponding to the set value is outputted for 30sec.)

Press [CUSTOM SETTINGS] key to stop the operation.

(The output voltage of the transfer CL roller cleaning/transfer CL roller print mode can be adjusted and checked.)

Item		Set range	Default
Transfer CL roller (Print)	CRHV PLUS	0 - 250	200
Transfer CL roller (Cleaning)	CRHV MINUS	0 - 250	200



8-19

Purpose	Adjustment/Operation test/Check
Function (Purpose)	Used to check and adjust the fusing bias voltage and the control circuit. (Not used)
Section	Fusing

Operation/Procedure (Not used)

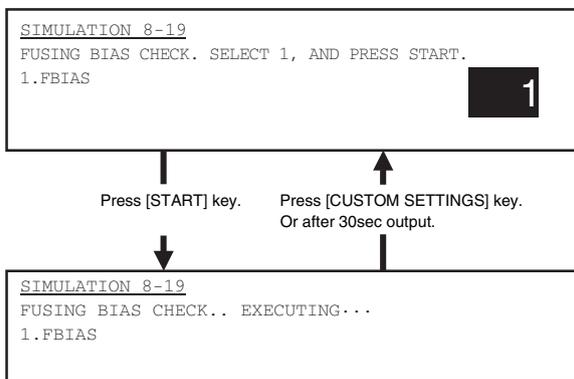
- 1) Select the number corresponding to the adjustment item with 10-key.
- 2) Press [START] key.

(The voltage is outputted for 30sec.)

When [CUSTOM SETTINGS] key is pressed, the operation can be stopped.

The output voltage can be adjusted with the adjustment volumes VR101/VR102 on the high voltage PWB (fusing bias).

Item		Adjustment VR
Fusing bias (-)	FBIAS	VR 101
Fusing bias (+)		VR 102



9

9-1

Purpose	Operation test/Check
Function (Purpose)	Used to check and adjust the operation of the load (clutch/solenoid) in the duplex section and the control circuit.
Section	Duplex
Item	Operation

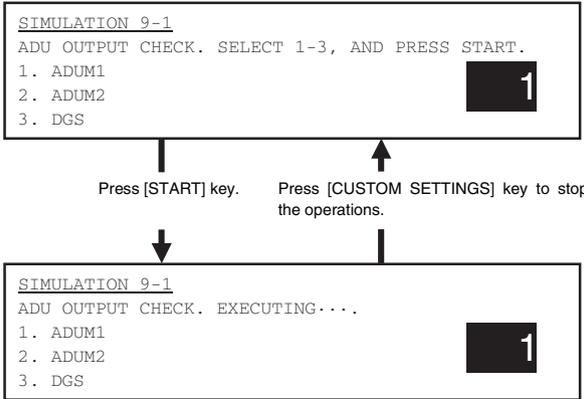
Operation/Procedure

- 1) Select the number corresponding to the target of the operation check with 10-key.
- 2) Press [START] key.

The load selected in procedure 1) is operated.

Press [CUSTOM SETTINGS] key to stop the operation.

1	ADUM1	ADU motor 1: Upstream
2	ADUM2	ADU motor 2: Downstream
3	DGS	ADU gate solenoid



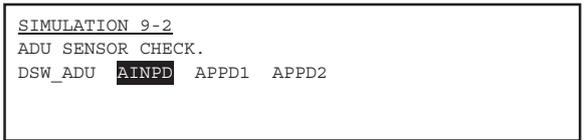
9-2

Purpose	Operation test/Check
Function (Purpose)	Used to check the operations of the sensors and detectors in the duplex section and its control circuit.
Section	Duplex
Item	Operation

Operation/Procedure

The operating conditions of the sensors and detectors are displayed.
 The active sensors and detectors are highlighted.

DSW_ADU	ADU cabinet open/close detection
AINPD	ADU paper entry detection
APPD1	ADU transport detection 1
APPD2	ADU transport detection 2



10

10-1

Purpose	Operation test/Check
Function (Purpose)	Used to check the operations of the toner motor and the related circuit.
Section	Process (Developing)
Item	Operation

Operation/Procedure

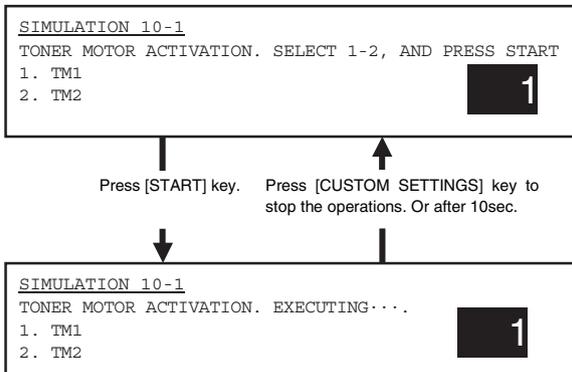
- 1) Select the number corresponding to the target of the operation check with 10-key.
- 2) Press [START] key.

The load selected in procedure 1) is operated for 10sec.

Press [CUSTOM SETTINGS] key to stop the operation.

NOTE: Do not execute this simulation with toner in the toner bottle and the intermediate toner tank. Excessive toner may enter the developing section, causing overtoner. Check that there is no toner in the toner bottle and the intermediate toner tank or disassemble the toner motor before executing this simulation.

TM1	Toner motor 1
TM2	Toner motor 2



10-2

Purpose	Operation test/Check
Function (Purpose)	Used to check the operations of the toner remaining quantity sensor and the related circuit.
Section	Process (Developing)
Item	Operation

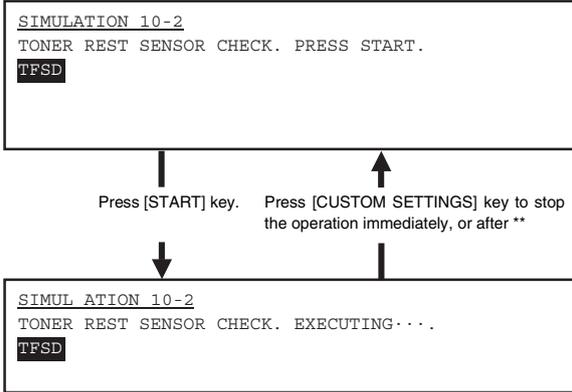
Operation/Procedure

- 1) Press [START] key.

The toner motor rotates 2 turns, and the toner presence/empty in the toner hopper is displayed.

Toner empty: Normal display

Toner remained: Highlighted display



13

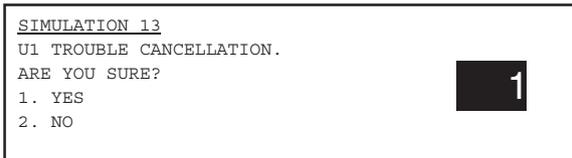
13-0

Purpose	Clear/Cancel (Trouble etc.)
Function (Purpose)	Used to cancel the self-diag "U1" trouble. (Only when FAX is installed.)
Section	FAX
Item	Trouble

Operation/Procedure

- 1) Select 1 (YES) with 10-key.
- 2) Press [START] key. (The trouble display is canceled.)

1	YES	After canceling U1 trouble, the machine returns to the main code entry standby mode.
2	NO	Without canceling U1 trouble, the machine returns to the main code entry standby mode.



14

14-0

Purpose	Clear/Cancel (Trouble etc.)
Function (Purpose)	Used to cancel excluding the self-diag U1/LCC/U2/PF troubles.
Item	Trouble Error

Operation/Procedure

- 1) Select 1 (YES) with 10-key.
- 2) Press [START] key. (The trouble display is canceled.)

1	YES	After canceling the trouble other than U1, U2, PF, and LCC, the machine returns to the main code entry standby mode.
2	NO	Without canceling the trouble, the machine returns to the main code entry standby mode.

SIMULATION 14
TROUBLE CANCELLATION. (OTHERS)
ARE YOU SURE?
1. YES
2. NO

1

15

15-0

Purpose	Clear/Cancel (Trouble etc.)
Function (Purpose)	Used to cancel the self-diag "U6-09, F3-12, 22" (large capacity paper feed tray, paper feed trays 1, 2) troubles.
Section	LCC
Item	Trouble

Operation/Procedure

- 1) Select 1 (YES) with 10-key.
- 2) Press [START] key. (The trouble display is canceled.)

1	YES	After canceling the LCC trouble, the machine returns to the main code entry standby mode.
2	NO	Without canceling the trouble, the machine returns to the main code entry standby mode.

SIMULATION 15
LCC TROUBLE CANCELLATION.
ARE YOU SURE?
1. YES
2. NO

1

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16

16-0

Purpose	Clear/Cancel (Trouble etc.)
Function (Purpose)	Used to cancel the self-diag U2 troubles.
Section	MFP control PWB, PCU PWB, scanner control PWB
Item	Trouble

Operation/Procedure

- 1) Select 1 (YES) with 10-key.
- 2) Press [START] key. (The trouble display is canceled.)

1	YES	After canceling the U2 trouble, the machine returns to the main code entry standby mode.
2	NO	Without canceling the trouble, the machine returns to the main code entry standby mode.

SIMULATION 16

U2 TROUBLE CANCELLATION.

ARE YOU SURE?

1. YES
2. NO

1

17

17-0

Purpose	Clear/Cancel (Trouble etc.)
Function (Purpose)	Used to cancel the PF troubles (when the copy inhibit command from the host computer is received).
Section	Communication unit (TEL/LIU/MODEM etc.)
Item	Trouble Error

Operation/Procedure

- 1) Select 1 (YES) with 10-key.
- 2) Press [START] key. (The trouble display is canceled.)

1	YES	After canceling the PF trouble, the machine returns to the main code entry standby mode.
2	NO	Without canceling the trouble, the machine returns to the main code entry standby mode.

SIMULATION 17

PF TROUBLE CANCELLATION.

ARE YOU SURE?

1. YES
2. NO

1

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21

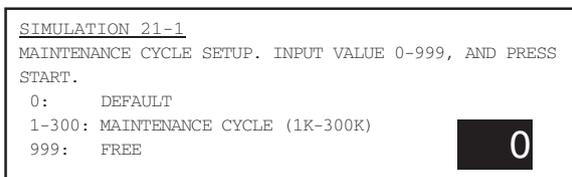
21-1

Purpose	Setting
Function (Purpose)	Used to set the maintenance cycle.
Item	Specifications Counter

Operation/Procedure

- 1) Enter the number corresponding to the maintenance timing display.
- 2) Press [START] key. The condition entered in procedure 1) is set.

Maintenance timing display		Set range
0	Default (Differs depending on the model.)	0 - 999
1 - 300	Maintenance display at 1K - 300K	
999	No maintenance display	



22

22-1

Purpose	Adjustment/Setup/Operation data output/Check (Display/Print)
Function (Purpose)	Used to check the print count value in each section and each operation mode. (Used to check the maintenance timing.)
Section	
Item	Counter

Operation/Procedure

Various print counter values are displayed.

TOTAL	Total counter
DRUM	Drum counter
TONER	Toner counter
DEVE	Developer counter
MAINTENANCE	Maintenance counter
TOTAL OUTPUT	Total output quantity
COPIES	Copy effective paper counter
PRINTER	Printer counter
FAX	FAX print counter
I-FAX OUTPUT	iFAX print counter
DOC FILING OUTPUT	Document filing print counter

RIGHT SIDE OUTPUT	Right paper exit counter
OTHERS	Other print counter (List print , etc.)

```

SIMULATION 22-1
COUNTER DATA DISPLAY.
TOTAL: ***** DRUM: ***** TONER: *****
DEVE: ***** MAINTENANCE: *****
TOTAL OUTPUT: ***** COPIES: *****
PRINTER: ***** FAX OUTPUT: *****
I-FAX OUTPUT:***** DOC FILING OUTPUT:*****
RIGHT SIDE:***** OTHERS: *****

```

22-2

Purpose	Adjustment/Setup/Operation data output/Check (Display/Print)
Function (Purpose)	Used to check the total numbers of misfeed and troubles. (When the number of misfeed is considerably great, it is judged as necessary for repair. The misfeed rate is obtained by dividing this count value with the total counter value.)
Item	Trouble

Operation/Procedure

The paper jam/trouble counter value is displayed.

PAPER JAM	Number of paper jams
SPF JAM	Number of SPF jams
TROUBLE	Number of troubles

```

SIMULATION 22-2
JAM/TROUBLE COUNTER DATA DISPLAY.
PAPER JAM: ***** SPF JAM: *****
TROUBLE: *****

```

22-3

Purpose	Adjustment/Setup/Operation data output/Check (Display/Print)
Function (Purpose)	Used to check misfeed positions and the misfeed count of each position. (If the misfeed count is considerably great, it may be judged as necessary to repair.)
Section	Sections other than SPF/DSPF section
Item	Trouble Misfeed

Operation/Procedure

The history of paper jams and misfeed is displayed.

The misfeed history is displayed sequentially from the latest one. The max. 100 items of misfeed history can be recorded. The data may be used to identify trouble position.

The latest 100 items of paper jam history are displayed. (Refer to the jam cause code table below.)

(Jam cause code)

Code	Description
NO_JAM_CAUSE	No jam. Also used to cancel a jam.
TRAY1	Tray 1 paper feed jam (PFD2 not-reached)
PFD2_NM1	PFD2 not-reached jam (Tray 3 feed paper)
PFD2_NM2	PFD2 not-reached jam (Tray 4 feed paper)
PFD2_NAD	PFD2 not-reached jam (ADU re-feed paper)
PFD2_ST1	PFD2 remaining jam (Tray 1 feed paper)
PFD2_SM1	PFD2 remaining jam (Tray 3 feed paper)
PFD2_SM2	PFD2 remaining jam (Tray 4 feed paper)
PFD2_SAD	PFD2 remaining jam (ADU re-feed paper)
PPD_NMF	PPD1 not-reached jam (Manual feed tray feed paper)
PPD_NT1	PPD1 not-reached jam (Tray 1 feed paper)
PPD_NT2	PPD1 not-reached jam (Tray 2 feed paper)
PPD_NM1	PPD1 not-reached jam (Tray 3 feed paper)
PPD_NM2	PPD1 not-reached jam (Tray 4 feed paper)
PPD_NLC	PPD1 not-reached jam (LCC paper feed paper)
PPD_NAD	PPD1 not-reached jam (ADU re-feed paper)
PPD_SMF	PPD1 remaining jam (Manual feed tray feed paper)
PPD_ST1	PPD1 remaining jam (Tray 1 feed paper)
PPD_ST2	PPD1 remaining jam (Tray 2 feed paper)
PPD_SM1	PPD1 remaining jam (Tray 3 feed paper)
PPD_SM2	PPD1 remaining jam (Tray 4 feed paper)
PPD_SLC	PPD1 remaining jam (LCC paper feed paper)
PPD_SAD	PPD1 remaining jam (ADU re-feed paper)
PPD_PRI	PPD1 jam (Image ready request is not sent from ICU.)
PSD_N	PSD not-reached jam (currently not detected)
PSD_S	PSD remaining jam (currently not detected)
POD1_N	POD1 not-reached jam
POD1_S	POD1 remaining jam
POD1_LDV	POD1 jam (LCV is turned OFF.)
POD2_N	POD2 not-reached jam
POD2_SR	POD2 remaining jam (When paper is discharged on the right side of the machine.)
POD2_SL	POD2 remaining jam (When paper is discharged on the left side of the machine.)
AINPD_N	ADU paper entry sensor not-reached jam
AINPD_S	ADU paper entry sensor remaining jam
APPD1_N	ADU transport sensor 1 not-reached jam
APPD1_S	ADU transport sensor 1 remaining jam

Code	Description
APPD2_N	ADU transport sensor 2 not-reached jam
APPD2_S	ADU transport sensor 2 remaining jam
DESK1	Tray 3 paper feed jam (M1PFD not-reached)
M1PFD_N2	M1PFD not-reached jam (Tray 4 feed paper)
M1PFD_S1	M1PFD remaining jam (Tray 3 feed paper)
M1PFD_S2	M1PFD remaining jam (Tray 4 feed paper)
DESK2	Tray 4 paper feed jam (M2PFD not-reached)
M2PFD_S	M2PFD remaining jam
MPRD2_N2	MPRD2 not-reached jam (Tray 2 feed paper)
MPRD2_NM	MPRD2 not reached jam (Manual paper feed tray feed paper)
MPRD2_NL	MPRD2 not-reached jam (LCC paper feed paper)
MPRD2_S2	MPRD2 remaining jam (Tray 2 feed paper)
MPRD2_SM	MPRD2 remaining jam (Manual paper feed tray feed paper)
MPRD2_SL	MPRD2 remaining jam (LCC paper feed paper)
TRAY2	Tray 2 paper feed jam (MPRD1 not-reached)
MPRD1_NM	MPRD1 not-reached jam (Manual paper feed tray feed paper)
MPRD1_NL	MPRD1 not-reached jam (LCC paper feed paper)
MPRD1_S2	MPRD1 remaining jam (Tray 2 feed paper)
MPRD1_SM	MPRD1 remaining jam (Manual paper feed tray feed paper)
MPRD1_SL	MPRD1 remaining jam (LCC paper feed paper)
MPFD2_NM	MPFD2 not-reached jam (Manual paper feed tray feed paper)
MPFD2_NL	MPFD2 not-reached jam (LCC paper feed paper)
MPFD2_SM	MPFD2 remaining jam (Manual paper feed tray feed paper)
MPFD2_SL	MPFD2 remaining jam (LCC paper feed paper)
BPT	Manual paper feed tray paper feed jam (MPFD1 not-reached)
MPFD1_S	MPFD1 remaining jam
LPPD_N	LPPD not-reached jam
LPPD_S	LPPD remaining jam
LPPD_LCC	LPPD jam (No reply in a certain time after preliminary paper feed from LCC and issuing the paper feed command.)
LCC	LCC paper feed jam (LTD not-reached jam)
LTD_S	LTD remaining jam
FES_N	FINISHER Inlet port sensor not-reached jam
FES_S	FINISHER Inlet port sensor remaining jam

Purpose	Adjustment/Setup/Operation data output/Check (Display/Print)	
Function (Purpose)	Used to output the list of the setting and adjustment data (simulations, FAX soft switch, counters).	
Section		
Item	Data	Adjust/Setting data

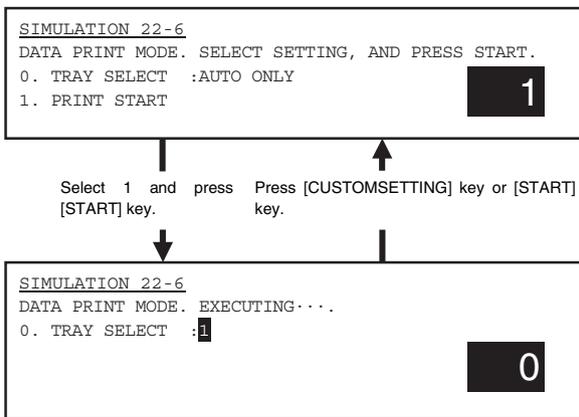
Operation/Procedure

When installing or servicing this machine, execute this simulation to print and save various setting and adjustment data for next servicing. (For example, memory trouble, PWB replacement, etc.)

- 1) Enter 1 with 10-key.
- 2) Press [START] key.

The various setting and adjustment data are printed out. (The print paper cannot be selected optionally.)

0	TRAY SELECT	TRAY SELECT auto only (Selection is not allowed.)
1	PRINT START	PRINT START



Purpose	Adjustment/Setup/Operation data output/Check (Display/Print)	
Function (Purpose)	Used to display the key operator code. (This simulation is used when the customer forgets the key operator code.)	
Section		
Item	Data	User data

Operation/Procedure

The key operator code is displayed.

```

SIMULATION 22-7
KEY OPERATOR CODE DISPLAY.
CODE: *****

```

22-8

Purpose	Adjustment/Setup/Operation data output/Check (Display/Print)	
Function (Purpose)	Used to check the number of use of the finisher, the SPF, and the scan (reading) unit.	
Section	Optical (Image scanning)	Finisher
Item	Counter	

Operation/Procedure

The values of the finisher counter, the scanner (read), counter, and the SPF related counters are displayed.

SPF	Document feed quantity
SCAN	Number of scans
STAPLER	Number of stapling
PUNCH	Number of punching
STAMP	Number of SPF finish stamps
SADDLE STAPLER	Number of saddle staples
INSERTER	Number of inserter operations

SIMULATION 22-8

ORG./STAPLE COUNTER DATA DISPLAY.

SPF: *****

SCAN: *****

STAPLER: *****

PUNCH: *****

STAMP: *****

SADDLE STAPLER: *****

INSERTER: *****

INSERTER OFF LINE: *****

22-9

Purpose	Adjustment/Setup/Operation data output/Check (Display/Print)	
Function (Purpose)	Used to check the number of use (print quantity) of each paper feed section.	
Section	Paper feed, ADU	
Item	Counter	

Operation/Procedure

The values of the paper feed related counters are displayed.

TRAY1	Tray 1 use quantity
TRAY2	Tray 2 use quantity
TRAY3	Tray 3 use quantity
TRAY4	Tray 4 use quantity
BPT	Manual feed tray use quantity
ADU	Duplex paper feed quantity
LCC	Side LCC use quantity

SIMULATION 22-9

PAPER FEED COUNTER DATA DISPLAY.

TRAY1: ***** TRAY2:*****

TRAY3: ***** TRAY4:*****

BPT: ***** ADU: *****

LCC: *****

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Purpose	Adjustment/Setup/Operation data output/Check (Display/Print)	
Function (Purpose)	Used to check the system configuration (option, internal hardware).	
Section		
Item	Specifications	Options

Operation/Procedure

The system configuration is displayed. (The model names of the installed devices and options are displayed.)

MACHINE	(Model code)
FINISHER	NONE/ (Model code)
LCC	NONE/ (Model code)
INSERTER	NONE/ (Model code)
PUNCH	NONE/ (Model code)
SYSTEM MEMORY	Memory capacity (MB)
HDD	Hard disk capacity (MB)
NIC	NONE/ NIC
NSCN	NONE/ (Network scanner)
PS3	NONE/ (PS 3 expansion kit)
FAX	NONE/ (Model code)
FAX MEMORY	FAX expansion memory capacity (MB)
STAMP	Finish stamp NONE/ (Model code)
PCU TYPE	PCU PWB type (JPN: Japan, EX: EX Japan)

(Model code list)

Item	Display	Content
MACHINE	AR-555S/M550U	Copier model (55-sheet model)
	AR-625S/M620U	Copier model (62-sheet model)
	AR-705S/M700U	Copier model (70-sheet model)
	AR-555M/M550N	Network print standard provision model (55-sheet model)
	AR-625M/M620N	Network print standard provision model (62-sheet model)
	AR-705M/M700N	Network print standard provision model (70-sheet model)
INSERTER	----	Inserter not installed
	AR-CF2	Inserter installed
FINISHER	----	After-process unit not installed
	AR-F15	Finisher installed
	AR-F16	Saddle finisher installed
PUNCH	----	Punch unit not installed
	AR-PN4A	Punch unit installed (2-hole)
	AR-PN4B	Punch unit installed (2-hole/3-hole auto select)
	AR-PN4C	Punch unit installed (4-hole)
	AR-PN4D	Punch unit installed (4-hole, wide)
LCC	----	Side LCC not installed
	AR-LC6	Side LCC installed

Item	Display	Content
MEMORY	0MB	Expansion memory not installed
	***MB	Expansion memory ***MB
HD	0MB	Hard disk not installed
	****MB	Hard disk installed ()
NIC	-----	Network card not installed
	NIC	Network card installed
PS EXPANSION KIT	-----	PS expansion kit not installed
	AR-PK5	PS expansion kit installed
FAX	-----	FAX expansion kit not installed
	AR-FX8	FAX expansion installed
NETWORK SCANNER	-----	Network expansion kit not installed
	AR-NS3	Network expansion kit installed
EXPANSION MEMORY	-----	FAX expansion memory not installed
	AR-MM9	FAX expansion memory installed
FINISH STAMP	-----	Finish stamp unit not installed
	AR-SU1	Finish stamp unit installed

```

SIMULATION 22-10
SYSTEM INFORMATION.
MACHINE:*****
FINISHER: ***** PUNCH: *****
LCC: ***** INSERTER: *****
SYSTEM MEMORY: **MB HDD: **MB
NIC: ***** NSCN: ***** PS3: *****
FAX: ***** FAX MEMORY: **MB
STAMP: *****
PCU TYPE: *****

```

22-11

Purpose	Adjustment/Setup/Operation data output/Check (Display/Print)
Function (Purpose)	Used to check the use frequency (send/receive) of FAX. (Only when FAX is installed)
Section	FAX
Item	Data

Operation/Procedure

The values of the FAX send counter and the FAX receive counter are displayed.

FAX SEND	Number of FAX send
FAX RECEIVE	Number of FAX receive
FAX OUTPUT	Number of FAX print
SEND IMAGES	Send quantity
SEND TIME	Send time
RECEIVE TIME	Receive time

22-13

Purpose	Adjustment/Setup/Operation data output/Check (Display/Print)
Function (Purpose)	Used to check the operating time of the process section (OPC drum, DV unit, toner bottle).
Section	
Item	Counter

Operation/Procedure

The rotating time and the print quantity of the process section (OPC drum, DV unit (developer), toner motor (toner bottle)) are displayed.

DRUM	OPC drum	Count value (counts)
		Rotating time (sec)
TONER	Toner motor	Count value (counts)
		Rotating time (sec)
DEVE	DV unit	Count value (counts)
		Rotating time (sec)

SIMULATION 22-13

PROCESS DATA DISPLAY.

DRUM: ***** (counts) ***** (sec.)

TONER: ***** (counts) ***** (sec.)

DEVE: ***** (counts) ***** (sec.)

22-19

Purpose	Adjustment/Setup/Operation data output/Check (Display/Print)
Function (Purpose)	Used to check the values of the counters related to the scan mode and the internet FAX mode.
Section	Scanner
Item	Counter

Operation/Procedure

The values of the counters related to the scan mode and the internet FAX mode are displayed.

NETWORK SCANNER ORIGINAL COUNTER	Document scan quantity (OC, SPF total quantity)
MAIL COUNTER	Number of times of mail send
FTP COUNTER	Number of times of FTP send
INTERNET-FAX ORIGINAL COUNTER	Document scan quantity (OC, SPF, total quantity)
INTERNET-FAX SEND	Number of times of internet FAX send
INTERNET-FAX RECEIVE	Number of times of internet FAX receive
INTERNET-FAX OUTPUT	Internet FAX print quantity
SCAN TO HDD	Scan to HDD record quantity
INTERNET-FAX SEND IMAGES	IFAX send quantity counter
MAIL SEND IMAGES	MAIL send quantity counter
FTP SEND IMAGES	FTP send quantity counter

SIMULATION 22-19

NETWORK SCANNER AND INTERNET-FAX COUNTER DISPLAY.

NETWORK SCANNER ORIGINAL COUNTER: *****
MAIL COUNTER: *****
FTP COUNTER: *****
INTERNET-FAX ORIGINAL COUNTER: *****
INTERNET-FAX SEND: *****
INTERNET-FAX RECEIVE: *****
INTERNET-FAX OUTPUT: *****
SCAN TO HDD : *****
INTERNET-FAX SEND IMAGES: *****
MAIL SEND IMAGES: *****
FTP SEND IMAGES: *****

23

23-2

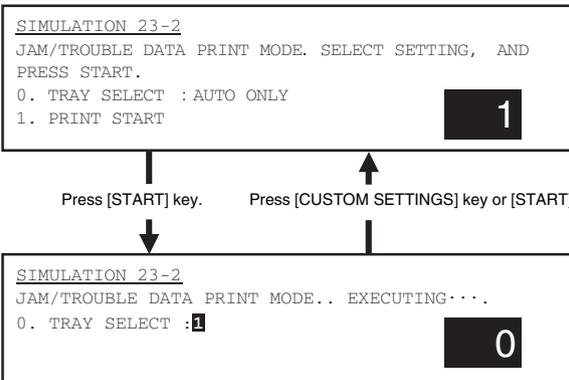
Purpose	Adjustment/Setup/Operation data output/Check (Display/Print)
Function (Purpose)	Used to check the trouble history of paper jam and misfeed. (If the number of misfeed and troubles is considerably great, it may be judged as necessary to repair.)
Item	Trouble

Operation/Procedure

- 1) Select "1. PRINT START."
- 2) Press [START] key.

The trouble history of paper jam and misfeed is printed.

This data can be cleared by SIM 24-1.



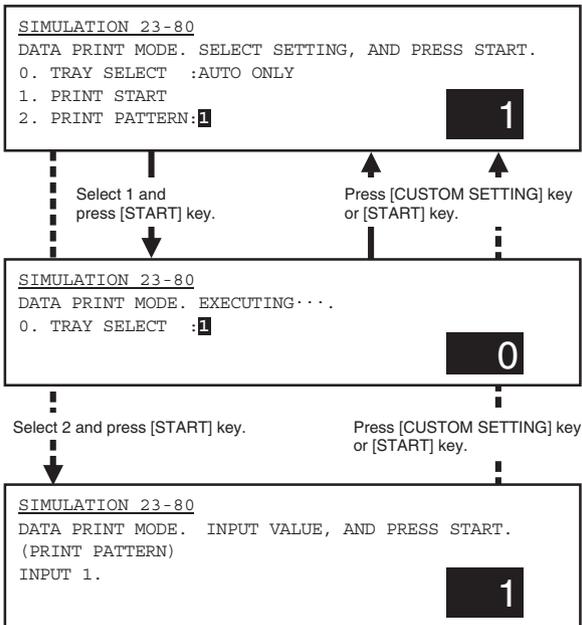
Purpose	Operation test/Check
Function (Purpose)	Used to check the operations of the sensors and detectors in the paper feed and transport section.
Section	Paper feed, paper transport
Item	Operation

Operation/Procedure

- 1) Select "2. PRINT PATTERN."
- 2) Press [START] key.
- 3) Select "1" (Paper transport time data) with 10-key.
- 4) Press [START] key.

The list of the ON time of the sensors and the detectors of the paper transport section is printed. When a paper jam or misfeed is generated, the ON time of each sensor and detector is checked to check if the operation of the sensor and the detector, paper feed, and transport are normal or not.

0	TRAY SELECT AUTO ONLY	Auto only (No selection allowed)
1	PRINT START	Print execution Print of the set data is executed.
2	PRINT PATTERN	Print pattern 1. Paper transport time data



24

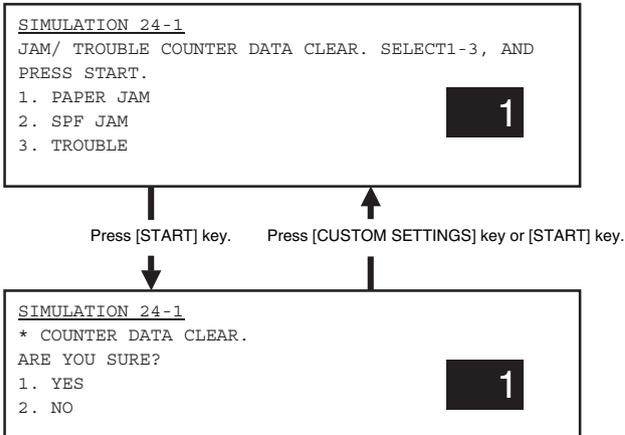
24-1

Purpose	Data clear
Function (Purpose)	Used to clear the misfeed counter, the misfeed history, the trouble counter, and the trouble history. (The counters are cleared after completion of maintenance.)
Section	
Item	Counter

Operation/Procedure

- 1) Select the counter to be cleared with 10-key.
- 2) Press [START] key.
The confirmation to clear is opened.
- 3) Select Yes/NO of counter clear with 10-key.
YES: Clear
NO: Not clear
- 4) Press [START] key.

1	PAPER JAM	Number of paper jams
2	SPF JAM	Number of SPF jams
3	TROUBLE	Number of troubles



* = PAPER JAM, SPF JAM, TROUBLE

24-2

Purpose	Data clear
Function (Purpose)	Used to clear the number of use (the number of prints) of each paper feed section.
Section	Paper feed
Item	Counter

Operation/Procedure

- 1) Select the counter to be cleared with 10-key.
- 2) Press [START] key.
The confirmation to clear is opened.
- 3) Select Yes/NO of counter clear with 10-key.
YES: Clear
NO: Not clear
- 4) Press [START] key.

1	TRAY1	Tray 1 use quantity
2	TRAY2	Tray 2 use quantity
3	TRAY3	Tray 3 use quantity
4	TRAY4	Tray 4 use quantity
5	BPT	Manual feed tray use quantity
6	ADU	Duplex feed quantity
7	LCC	Side LCC use quantity

```

SIMULATION 24-2
PAPER FEED COUNTER DATA CLEAR. SELECT1-6, AND PRESS
START.
1. TRAY1      2. TRAY2
3. TRAY3      4. TRAY4
5. BPT        6. ADU
7. LCC
    
```

1

Press [START] key.

Press [CUSTOM SETTINGS] key or [START] key.

```

SIMULATION 24-2
* COUNTER DATA CLEAR.
ARE YOU SURE?
1. YES
2. NO
    
```

1

* = TRAY1, TRAY2, TRAY3, TRAY4, BPT, ADU, LCC

24-3

Purpose	Data clear
Function (Purpose)	Used to clear the number of use of the finisher, SPF, and the scan (reading) unit.
Section	
Item	Counter

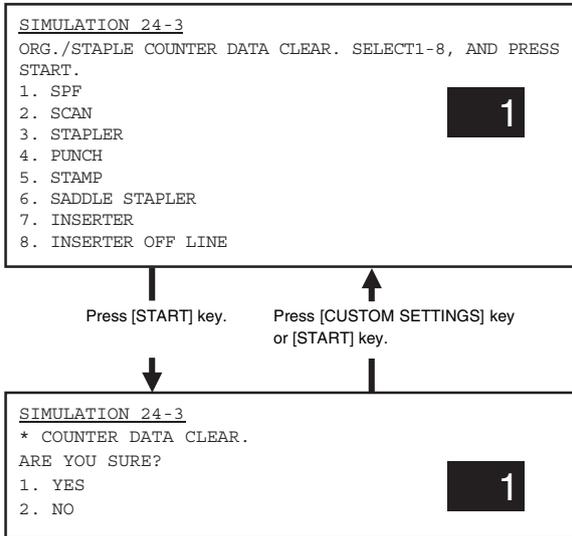
Operation/Procedure

- 1) Select the counter to be cleared with 10-key.
- 2) Press [START] key.
The confirmation to clear is opened.
- 3) Select Yes/NO of counter clear with 10-key.
YES: Clear
NO: Not clear

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4) Press [START] key.

1	SPF	SPF paper pass quantity
2	SCAN	Number of times of document scan
3	STAPLER	Number of times of stapling
4	PUNCH	Number of times of punching
5	STAMP	Number of times of SPF finish stamp
6	SADDLE STAPLER	Number of times of saddle stapling
7	INSERTER	Number of times inserter operations



* = SPF, SCAN, STAPLER, PUNCH, STAMP, SADDLE STAPLER, INSERTER

24-4	
Purpose	Data clear
Function (Purpose)	Used to reset the maintenance counter.
Section	
Item	Counter

Operation/Procedure

- 1) Select the counter to be cleared with 10-key.
- 2) Press [START] key.
The confirmation to clear is opened.
- 3) Select Yes/NO of counter clear with 10-key.
YES: Clear
NO: Not clear
- 4) Press [START] key.

1	MAINTENANCE	Maintenance counter
---	-------------	---------------------

SIMULATION 24-4
 MAINTENANCE COUNTER DATA CLEAR. PRESS START.
 1. MAINTENANCE

Press [START] key. Press [CUSTOM SETTINGS] key or [START] key.

SIMULATION 24-4
 * COUNTER DATA CLEAR.
 ARE YOU SURE?
 1. YES
 2. NO

* = MAINTENANCE

24-5

Purpose	Data clear
Function (Purpose)	Used to reset the developer counter. (The developer counter of the DV unit which is installed is reset.)
Section	Image process (Photoconductor/Developing/Transfer/Cleaning)
Item	Counter Developer

Operation/Procedure

- 1) Select the counter to be cleared with 10-key.
- 2) Press [START] key.
The confirmation to clear is opened.
- 3) Select Yes/NO of counter clear with 10-key.
YES: Clear
NO: Not clear
- 4) Press [START] key.

1	DV CARTRIDGE	Developer cartridge
---	--------------	---------------------

SIMULATION 24-5
 DEVELOPER COUNTER DATA CLEAR. PRESS START.
 1. DV CARTRIDGE

Press [START] key. Press [CUSTOM SETTINGS] key or [START] key.

SIMULATION 24-5
 * COUNTER DATA CLEAR.
 ARE YOU SURE?
 1. YES
 2. NO

* = DV CARTRIDGE

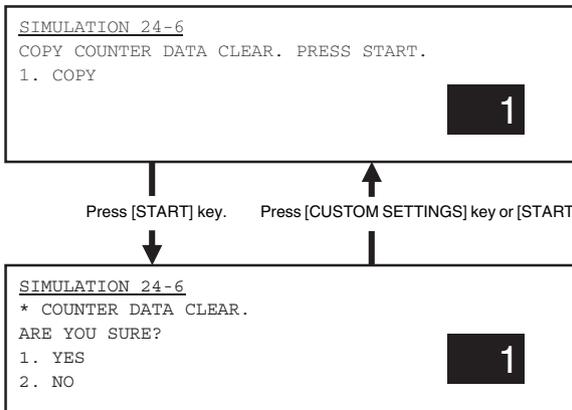
24-6

Purpose	Data clear
Function (Purpose)	Used to reset the copy counter.
Section	
Item	Counter Copy

Operation/Procedure

- 1) Select the counter to be cleared with 10-key.
- 2) Press [START] key.
The confirmation to clear is opened.
- 3) Select Yes/NO of counter clear with 10-key.
YES: Clear
NO: Not clear
- 4) Press [START] key.

1	COPY	Copy effective paper counter
---	------	------------------------------



* = COPY

24-7

Purpose	Data clear
Function (Purpose)	Used to clear the OPC drum counter. (Perform this simulation when the OPC drum is replaced.)
Section	Image process (Photoconductor/Developing/Transfer/Cleaning)
Item	Counter Photo conductor

Operation/Procedure

- 1) Select the counter to be cleared with 10-key.
- 2) Press [START] key.
The confirmation to clear is opened.
- 3) Select Yes/NO of counter clear with 10-key.
YES: Clear
NO: Not clear

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4) Press [START] key.

After replacing the OPC drum, be sure to clear the OPC drum counter.

1	DRUM	OPC drum counter
---	------	------------------

SIMULATION 24-7
 DRUM COUNTER DATA CLEAR. SELECT1, AND PRESS START.
 1. DRUM

1



SIMULATION 24-7
 * COUNTER DATA CLEAR.
 ARE YOU SURE?
 1. YES
 2. NO

1

* = DRUM

24-9

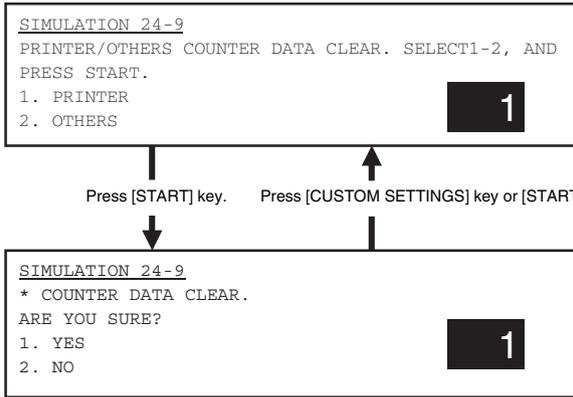
Purpose	Data clear
Function (Purpose)	Used clear the printer mode print counter and the self print mode print counter.
Section	Printer
Item	Counter

Operation/Procedure

- 1) Select the counter to be cleared with 10-key.
- 2) Press [START] key.
The confirmation to clear is opened.
- 3) Select Yes/NO of counter clear with 10-key.
YES: Clear
NO: Not clear
- 4) Press [START] key.

After replacing the OPC drum, be sure to clear the OPC drum counter.

1	PRINTER	Printer counter (Print mode)
2	OTHERS	Other effective paper counter (Self print mode)



* = PRINTER, OTHERS

24-10

Purpose	Data clear
Function (Purpose)	Used to clear the FAX counter. (Only when FAX is installed)
Section	FAX
Item	Counter

Operation/Procedure

- 1) Select the counter to be cleared with 10-key.
- 2) Press [START] key.
The confirmation to clear is opened.
- 3) Select Yes/NO of counter clear with 10-key.
YES: Clear
NO: Not clear
- 4) Press [START] key.

1	FAX SEND	Number of times of FAX send
2	FAX RECEIVE	Number of times of FAX receive
3	FAX OUTPUT	FAX print quantity
4	SEND IMAGES	Send quantity
5	SEND TIME	Send time
6	RECEIVE TIME	Receive time

```

SIMULATION 24-10
FAX COUNTER DATA CLEAR. SELECT1-6, AND PRESS START.
1. FAX SEND
2. FAX RECEIVED
3. FAX OUTPUT
4. SEND IMAGES
5. SEND TIME
6. RECEIVE TIME

```

1

Press [START] key.

Press [CUSTOM SETTINGS] key or [START] key.

```

SIMULATION 24-10
* COUNTER DATA CLEAR.
ARE YOU SURE?
1. YES
2. NO

```

1

* = FAX SEND, FAX RECEIVED, FAX OUTPUT,
SEND IMAGES, SEND TIME, RECEIVE TIME

24-11

Purpose	Data clear
Function (Purpose)	Used to reset the OPC drum rotation time, and the DV unit rotation time counter. The developer counter in the DV unit installed is reset.
Section	Image process (Photoconductor/Developing/Transfer/Cleaning)
Item	Counter Developer

Operation/Procedure

- 1) Select the counter to be cleared with 10-key.
- 2) Press [START] key.
The confirmation to clear is opened.
- 3) Select Yes/NO of counter clear with 10-key.
YES: Clear
NO: Not clear
- 4) Press [START] key.

1	DRUM ROTATION	OPC drum rotation time
2	DV ROTATION	DV unit rotation time

SIMULATION 24-11
 TIMER DATA CLEAR. SELECT1-2, AND PRESS START.
 1. DRUM ROTATION
 2. DV ROTATION

1

Press [START] key. Press [CUSTOM SETTINGS] key or [START] key.

SIMULATION 24-11
 * TIMER DATA CLEAR.
 ARE YOU SURE?
 1. YES
 2. NO

1

* = DRUM ROTATION, DV ROTATION

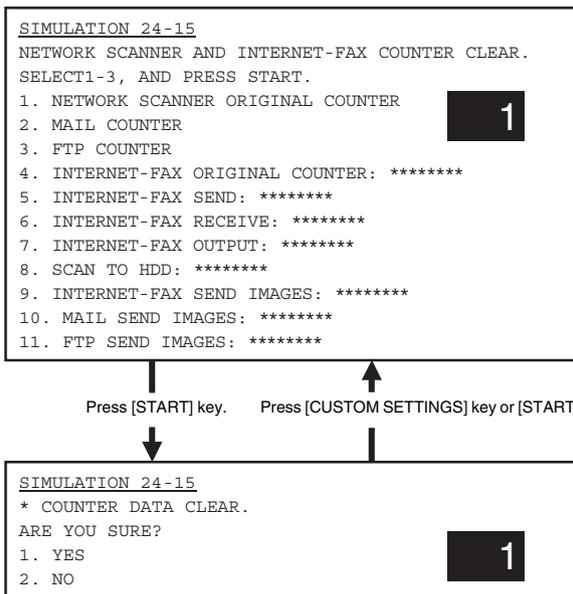
24-15

Purpose	Data clear
Function (Purpose)	Used to clear the counters related to the scan mode and the internet FAX mode.
Section	
Item	Counter

Operation/Procedure

- 1) Select the counter to be cleared with 10-key.
- 2) Press [START] key.
 The confirmation to clear is opened.
- 3) Select Yes/NO of counter clear with 10-key.
 YES: Clear
 NO: Not clear
- 4) Press [START] key.

1	NETWORK SCANNER ORIGINAL COUNTER	Document scan quantity counter in the network scanner mode
2	MAIL COUNTER	Number of times of mail send
3	FTP COUNTER	Number of times of FTP send
4	INTERNET-FAX ORIGINAL COUNTER	Internet FAX document scan quantity (Total quantity of OC and SPF)
5	INTERNET-FAX SEND	Number of times of internet FAX send
6	INTERNET-FAX RECEIVE	Number of times of internet FAX receive
7	INTERNET-FAX OUTPUT	Internet FAX print quantity
8	SCAN TO HDD	SCAN TO HDD record quantity
9	INTERNET-FAX SEND IMAGES	IFAX send quantity counter
10	MAIL SEND IMAGES	MAIL send quantity counter
11	FTP SEND IMAGES	FTP send quantity counter



* = NETWORK SCANNER ORIGINAL, MAIL, FTP, INTERNET-FAX ORIGINAL COUNTER, INTERNET-FAX SEND, INTERNET-FAX RECEIVE, INTERNET-FAX OUTPUT, SCAN TO HDD, INTERNET-FAX SEND IMAGES, MAIL SEND IMAGES, FTP SEND IMAGES

25

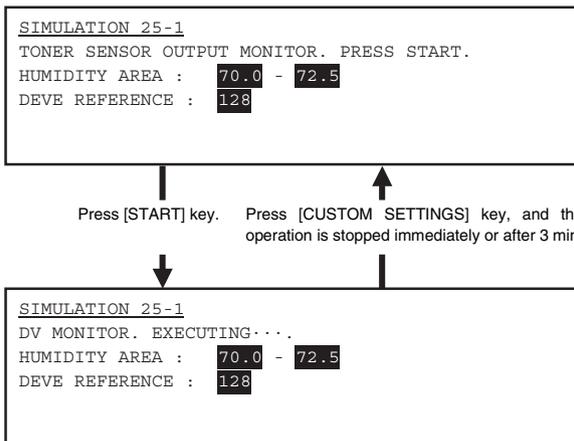
25-1

Purpose	Operation test/Check
Function (Purpose)	Used to check the operations of the developing section (toner concentration, humidity and toner concentration sensor, humidity sensor). (The toner concentration sensor output can be monitored.)
Section	Process (Developing section)
Item	Operation

Operation/Procedure

1) Press [START] key.

The developing motor and the OPC drum motor rotate, and the toner concentration detection level and the humidity sensor detection level are displayed.



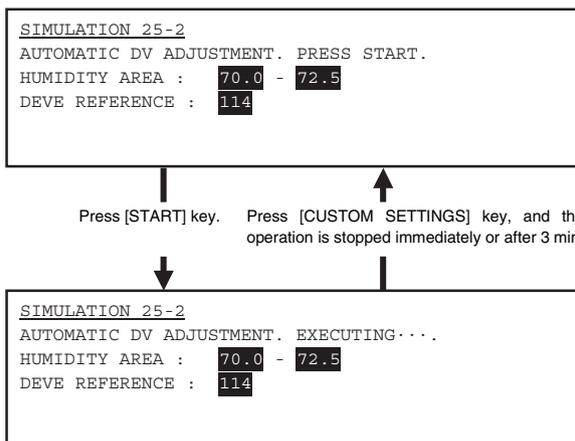
25-2	
Purpose	Setting
Function (Purpose)	Used to make the initial setting of toner concentration when replacing developer.
Section	Image process (Photoconductor/Developing/Transfer/Cleaning)
Item	

Operation/Procedure

- 1) Press [START] key.
 The developing motor rotates for 3 min and the toner concentration sensor makes sampling of toner concentration to display the detection level.
 After the developing motor stops, the average value of toner concentration sampling is set as the reference toner concentration level.
- 2) The humidity near the developing tank at the developing adjustment is registered.

NOTE: When the above operation is interrupted on the way, the reference toner concentration level is not set. Also when error code of EE-EL or EE-EU is displayed, the reference toner concentration level is not set normally.

(Default: 114)



26

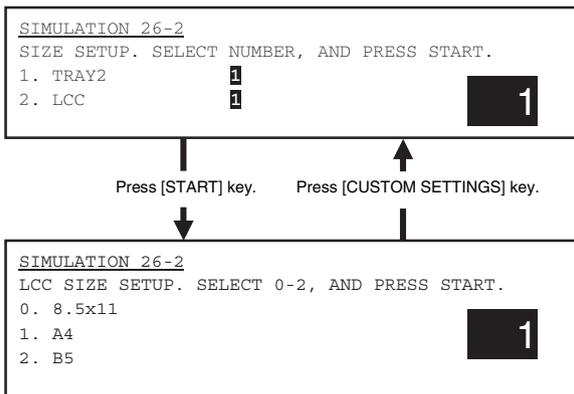
26-2

Purpose	Setting
Function (Purpose)	Used to set the paper size of the large capacity tray (LCC) and the paper feed tray 2. (When the paper size is changed, this simulation must be executed to change the paper size in software.)
Section	Paper feed
Item	Setting

Operation/Procedure

- 1) Select the number corresponding to the paper feed unit for setting the paper size with 10-key.
- 2) Press [START] key.
- 3) Select the number corresponding to the paper size.
- 4) Press [START] key.

1	TRAY 2	TRAY 2 size (0 = 8.5 x 11, 1 = A4, 2 = B5)
2	LCC	Side LCC size (0 = 8.5 x 11, 1 = A4, 2 = B5)



26-3

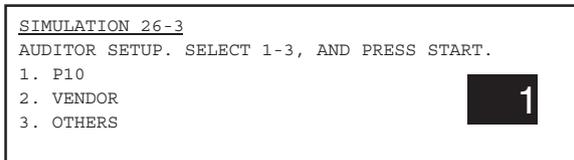
Purpose	Setting
Function (Purpose)	Used to set the specifications of the auditor. Setting must be made according to the auditor use conditions.
Section	Auditor
Item	Specifications

Operation/Procedure

- 1) Select the number corresponding to the auditor mode with 10-key.
- 2) Press [START] key.

1	P10	Built-in auditor mode
2	VENDOR	Coin vendor mode
3	OTHERS	Other

(Default: 1)



26-5

Purpose	Setting
Function (Purpose)	Used to set the count mode of the total counter and the maintenance counter.
Section	
Item	Specifications Counter

Operation/Procedure

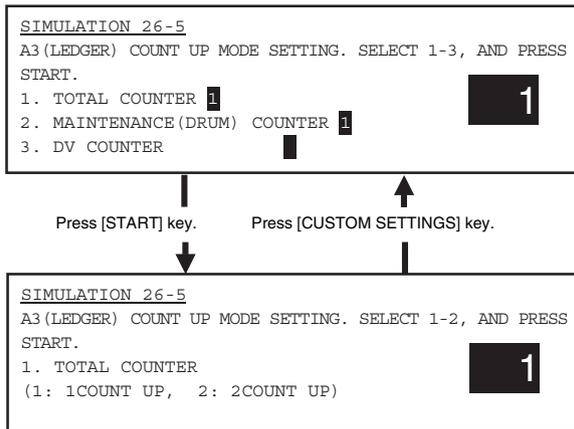
- 1) Select the number corresponding to the counter to be set with 10-key.
- 2) Press [START] key.

- 3) Select the count mode with 10-key.
 - 4) Press [START] key.
- Set the count-up (1 or 2) for A3/WLT paper.
(Select the target counter.)

1	TOTAL COUNTER	Total counter
2	MAINTENANCE (DRUM) COUNTER	Maintenance counter/ OPC drum counter
3	DV COUNTER	Developer counter

(Count-up)

1	1 COUNT UP	1 count-up	
2	2 COUNT UP	2 count-up	Default



26-6		
Purpose	Setting	
Function (Purpose)	Used to set the specifications (paper, fixed magnification ratio, etc.) of the destination.	
Section		
Item	Specifications	Destination

Operation/Procedure

- 1) Select the number corresponding to the destination with 10-key.
- 2) Press [START] key.

After completion of setting, the machine is automatically reset.

1	USA	United States of America
2	CANADA	Canada
3	INCH	Inch series EX
4	JAPAN	Japan
5	AB_B	AB series B5
6	EUROPE	Europe
7	UK	UK
8	AUSTRALIA	Australia

9	AB_A	AB series A5
10	CHINA	China

Since this simulation cannot change the Fax destination, use SIM 66-2 to change the FAX destination.

<u>SIMULATION 26-6</u>	
DESTINATION SETUP. SELECT 1-10, AND PRESS START.	
1. USA 2. CANADA 3. INCH	
4. JAPAN 5. AB_B	
6. EUROPE 7. UK 8. AUSTRALIA	
9. AB_A 10. CHINA	



26-10

Purpose	Setting
Function (Purpose)	Used to set the network scanner trial mode.
Section	
Item	Operation

Operation/Procedure

- 1) Select START/END of the network scanner trial mode with 10-key.
- 2) Press [START] key.

Max. 500 menus can be scanned.

0	END	Trial mode cancel	Default
1	START	Trial mode start	

<u>SIMULATION 26-10</u>	
NETWORK SCANNER TRIAL SETTING. SELECT 0-1, AND PRESS START.	
0. END	
1. START	



26-18

Purpose	Setting
Function (Purpose)	Used to set YES/NO of toner save operation. (This function is valid only in Japan and UK versions. (Depends on the destination setting of SIM26-6.) For the other destinations, the same setting can be made by the user program P22.)
Section	
Item	Specifications Operation mode

Operation/Procedure

- 1) Select YES/NO of the toner save mode with 10-key.
- 2) Press [START] key.

0	YES	Toner save mode is set.	
1	NO	Toner save mode is not set.	Default

SIMULATION 26-18

TONER SAVE MODE SETTING. SELECT 0-1, AND PRESS START.

0. YES

1. NO

1

26-30

Purpose	Setting
Function (Purpose)	Used to set the operation mode conforming to the CE mark (Europe safety standards). (Conforming to soft start when driving the fusing heater lamp.)
Section	
Item	Specifications Operation mode (Common)

Operation/Procedure

- 1) Select the number corresponding to the operation mode with 10-key.
- 2) Press [START] key.

0	NO	CE mark control NO (Normal operation)
1	YES	CE mark control YES (Heater lamp soft start operation)

(Default: 1 for Europe, 0 for the others)

SIMULATION 26-30

CE MARK CONTROL SETTING. SELECT 0-1, AND PRESS START.

0. NO

1. YES

1

26-35

Purpose	Setting
Function (Purpose)	Used to set whether the same continuous troubles are displayed as one trouble or the series of troubles with SIM 22-4 when the same troubles occur continuously.
Section	
Item	Specifications

Operation/Procedure

- 1) Select the number corresponding to the operation mode with 10-key.
- 2) Press [START] key.

0	ONCE	When two or more troubles of a same kind occur continuously, the troubles are displayed as one trouble in the trouble history of SIM22-4.
1	ANY	When two or more troubles of a same kind occur continuously, the troubles are displayed straightly as two or more troubles in the trouble history of SIM22-4.

(Default: 0)

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SIMULATION 26-35

TROUBLE MEMORY MODE SETTING. SELECT 0-1, AND PRESS START.

- 0. ONCE
- 1. ANY



26-38

Purpose	Setting
Function (Purpose)	Used to set CONTINUE/STOP of printing when maintenance timing is over and the count value reaches 110% of replacement timing (life).
Section	Other
Item	Specifications

Operation/Procedure

- 1) Select the number corresponding to the operation mode with 10-key.
- 2) Press [START] key.

0	PRINT CONTINUE	Print continue
1	PRINT STOP	Print stop

(Default: 0)

SIMULATION 26-38

LIFE OVER SETTING. SELECT 0-1, AND PRESS START.

- 0. PRINT CONTINUE
- 1. PRINT STOP



26-41

Purpose	Setting
Function (Purpose)	Used to set YES/NO of the automatic magnification ratio selection (AMS) in the pamphlet mode.
Section	
Item	Specifications Operation mode (Common)

Operation/Procedure

- 1) Enter the number corresponding to whether AMS operation is automatically performed or nor in the center binding mode with the 10-key.
- 2) Press [START] key.

0	NO	AMS/APS selection allowed
1	YES	AMS is forcibly operated.

(Default: 1 for Europe and UK, 0 for the others)

SIMULATION 26-41

PAMPHLET MODE AMS SETTING. SELECT 0-1, AND PRESS START.

- 0. NO
- 1. YES

1

26-50

Purpose	Setting
Function (Purpose)	Black-White reverse YES/NO setting
Section	
Item	Specifications Operation

Operation/Procedure

- 1) Select ENABLE/DISABLE of the B/W reverse mode with 10-key.
- 2) Press [START] key.

0	DISABLE	B/W reverse mode DISABLE	
1	ENABLE	B/W reverse mode ENABLE	Default

SIMULATION 26-50

B/W REVERSE MODE SETTING. SELECT 0-1, AND PRESS START.

- 0. DISABLE
- 1. ENABLE

1

26-52

Purpose	Setting
Function (Purpose)	Used to set whether non-print paper (insertion paper, cover paper) (blank image print paper) is counted up or not.
Section	Paper transport (Discharge/Switchback/Transport)
Item	Specifications Operation mode

Operation/Procedure

- 1) Select YES/NO of the non-print paper count-up with 10-key.
- 2) Press [START] key.

Non-print paper means an insert paper (without copying) in the OHP insertion mode, a cover (without copying) in the cover insertion mode, back surface, and white paper in the duplex exit mode (CA, etc.).

0	NO (NO COUNT UP)	No count up
1	YES (COUNT UP)	Count up

(Default: 0 for Japan and Australia, 1 for the other)

The target counters are as follows:

- Copies counter
- Printer counter

- Department management counter
- Total counter
- Effective paper counter

<p><u>SIMULATION 26-52</u> BLANK PAPER COUNT UP SETTING. SELECT 0-1, AND PRESS START.</p> <p>0. NO (NO COUNT UP) 1. YES (COUNT UP)</p>	<div style="background-color: black; color: white; width: 30px; height: 30px; display: flex; align-items: center; justify-content: center; margin: 0 auto;">1</div>
--	---

26-68

Purpose	Setting	
Function (Purpose)	Used to set ENABLE/DISABLE of the CA key cancel function of print stop.	
Section		
Item	Specifications	Operation

Operation/Procedure

- 1) Select ENABLE/DISABLE of the CA key cancel function of print stop with 10-key.
- 2) Press [START] key.

0	DISABLE	Disable
1	ENABLE (PRINT STOP)	Enable

(Default: 1)

<p><u>SIMULATION 26-68</u> CA KEY CANCEL MODE SETTING. SELECT 0-1, AND PRESS START.</p> <p>0. DISABLE 1. ENABLE (PRINT STOP)</p>	<div style="background-color: black; color: white; width: 30px; height: 30px; display: flex; align-items: center; justify-content: center; margin: 0 auto;">0</div>
--	---

27

27-1

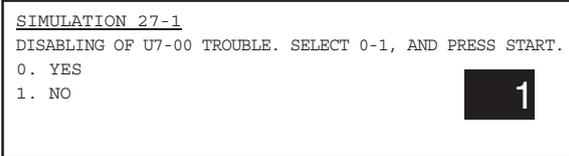
Purpose	Setting	
Function (Purpose)	Used to set the specifications for operations in case of communication trouble between the host computer and MODEM (machine side). (When communication trouble occurs between the host computer MODEM and the machine, the self diag display (U7-00) is printed and setting for inhibition of print or not is made.)	
Section	Communication unit (TEL/LIU/MODEM etc.)	
Item	Specifications	Operation mode

Operation/Procedure

- 1) Select the number corresponding to the operation mode with 10-key.
- 2) Press [START] key.

0	YES	Though a communication trouble occurs between the host computer and the MODEM (machine side), there is no effect on the machine operations.
1	NO	When a communication trouble occurs between the host computer and the MODEM (machine side), the self diag display (U7-00) is displayed and printing is inhibited.

(Default: 0)

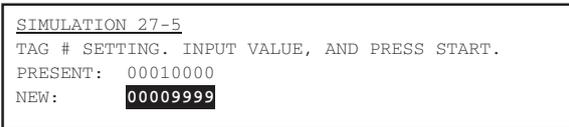


27-5

Purpose	Setting
Function (Purpose)	Used to enter the machine tag No. (This function allows to check the tag No. of the machine with the host computer.)
Section	Communication unit (TEL/LIU/MODEM etc.)
Item	Specifications Operation mode

Operation/Procedure

- 1) Enter the tag number with 10-key.
- 2) Press [START] key.



30

30-1

Purpose	Operation test/Check
Function (Purpose)	Used to check the operation of sensors and detectors in other than the paper feed section and the operations of the related circuits.
Section	
Item	Operation

Operation/Procedure

The operating conditions of sensors and detectors are displayed.

The active sensors and detectors are highlighted.

PFD2	ADU paper feed detection 2
PPD	Resist roller front paper detection
PSD	Drum rear paper detection
POD1	After-fusing transport detection 1
POD2	After-fusing transport detection 2
POD3	Paper full detection
DSW_R	Manual feed door open detection
DSW_L	Cabinet open detection
DSW_F	Front cabinet open detection
DSW_DSK	Desk door open detection
TFSD	Toner remaining quantity detection (Motor rotation number count)
THPS2	Transfer belt separation home sensor 2
LPPD	LCC paper transport detection
T1PPD	Tandem tray 1 paper transport sensor

SIMULATION 30-1

SENSOR CHECK . .

PFD2	PPD	PSD	POD1	POD2
POD3	DSW_R	DSW_L	DSW_F	
DSW_DSK	TFSD	THPS2	LPPD	T1PPD

30-2

Purpose	Operation test/Check
Function (Purpose)	Used to check the operation of sensors and detectors in the paper feed section and the related circuits.
Section	Paper feed
Item	Operation

Operation/Procedure

The operating conditions of sensors and detectors are displayed.

The active sensors and detectors are highlighted.

TANSET	Tray 1 and 2 insertion detection
TLUD1	Tray 1 upper limit sensor
TSPD1	Tray 1 remaining quantity sensor
TPED1	Tray 1 paper sensor
TLUD2	Tray 2 upper limit sensor
TSPD2	Tray 2 remaining quantity sensor
TPED2	Tray 2 paper sensor
MPLD1	Manual feed length detection 1
MPLD2	Manual feed length detection 2
MTOP1	Manual pull-out sensor 1
MTOP2	Manual pull-out sensor 2

MPED	Manual feed paper empty detection 2
MPFD1	Detection 1 of paper pass from manual paper feed
MPFD2	Detection 2 of paper pass from manual paper feed
MPRD1	Manual relay paper detection 1
MPRD2	Manual relay paper detection 2
Bypass Tray size: (The manual feed tray detection size is displayed.)	
M1PFD	Tray 3 transport detection
M1LUD	Tray 3 upper limit detection
M1PED	Tray 3 paper empty detection
M1SS1	Tray 3 rear edge switch 1
M1SS2	Tray 3 rear edge switch 2
M1SS3	Tray 3 rear edge switch 3
M1SS4	Tray 3 rear edge switch 4
M1SPD	Tray 3 paper remaining quantity detection
Tray 3 size: (The tray 3 detection size is displayed.)	
M2PFD	Tray 4 transport detection
M2LUD	Tray 4 upper limit detection
M2PED	Tray 4 paper empty detection
M2SS1	Tray 4 rear edge switch 1
M2SS2	Tray 4 rear edge switch 2
M2SS3	Tray 4 rear edge switch 3
M2SS4	Tray 4 rear edge switch 4
M2SPD	Tray 4 paper remaining quantity detection
Tray 4 size: (The tray 4 detection size is displayed.)	

```

SIMULATION 30-2
TRAY SENSOR CHECK..
TANSET TLUD1 TSPD1 TPED1 TLUD2 TSPD2 TPED2
MPLD1 MPLD2 MTOP1 MTOP2 MPED MPFD1 MPFD2
MPRD1 MPRD2
(Bypass Tray size: A3)
M1PFD M1LUD M1PED M1SS M1SS2 M1SS3 M1SS4
M1SPD
(Tray3 size: A3)
M2PFD M2LUD M2PED M2SS M2SS2 M2SS3 M2SS4
M2SPD
(Tray4 size: A3)

```

40

40-1

Purpose	Operation test/Check
Function (Purpose)	Used to check the operation of the manual feed tray paper size detector and the related circuit. (The operation of the manual feed tray paper size detector can be monitored with the LCD display.)
Section	Paper feed
Item	Operation

Operation/Procedure

The operating conditions of sensors and detectors are displayed.

The active sensors and detectors are highlighted.

The paper width size detection level is displayed.

MPLD1	Manual tray length detection 1
MPLD2	Manual tray length detection 2
MTOP1	Manual tray pull-out detection 1
MTOP2	Manual tray pull-out detection 2
BYPASS_WIDTH	Manual feed guide plate position
BYPASS_AD	Manual feed width detection volume output AD value
Bypass Tray width size	(Manual tray detection size is displayed.) A4/A3, 11 x, B5/B4, 8.5 x , A4R, B5R, A5R, 5.5x, 7.25x, EXTRA

```
SIMULATION 40-1
BYPASS TRAY SENSOR CHECK..

MPLD1      MPLD2      MTOP1      MTOP2
BYPASS_WIDTH: 2100      BYPASS_AD: 600
(Bypass Tray width size: A4/A3)
```

40-2

Purpose	Adjustment
Function (Purpose)	Used to adjust the manual paper feed tray paper width detector detection level.
Section	Paper feed
Item	Operation

Operation/Procedure

1) Open the manual paper feed guide to the max. width.

2) Select MAX POSITION with 10-key.

3) Press [START] key.

The max. width detection level is recognized.

4) Press [CUSTOM SETTINGS] key.

5) Set the manual paper feed guide to A4R size width.

6) Select POSITION with 10-key.

7) Press [START] key.

The A4R width detection level is recognized.

8) Press [CUSTOM SETTINGS] key.

9) Set the manual paper feed guide to A5/A5R size width.

10) Select POSITION2 with 10-key.

11) Press [START] key.

The A5/A5R width detection level is recognized.

12) Press [CUSTOM SETTINGS] key.

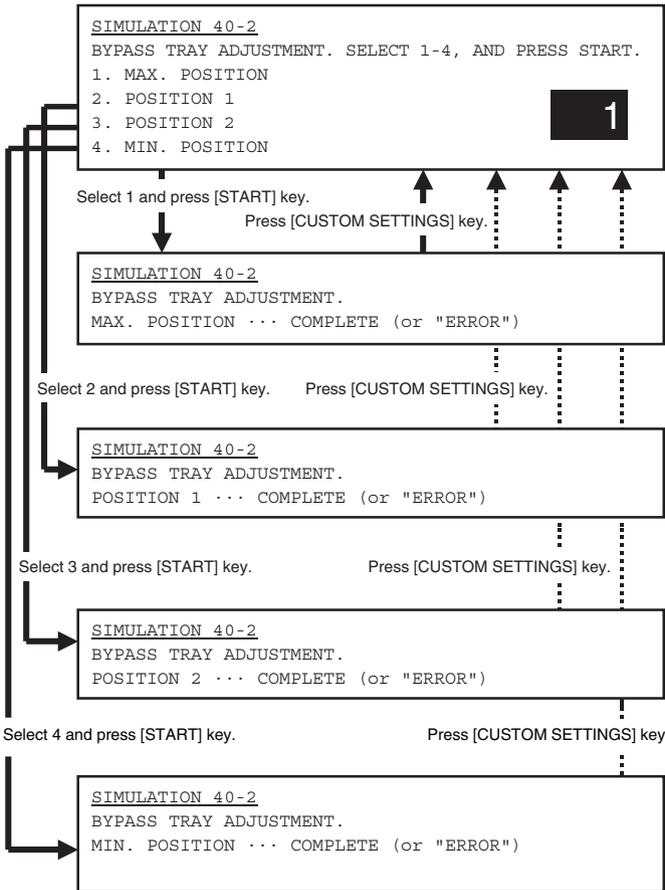
13) Open the manual paper feed guide to the min. width.

14) Select MIN POSITION with 10-key.

15) Press [START] key.

The min. width detection level is recognized.

If the above procedures are not completed normally, "ERROR" is displayed. If completed normally, "COMPLETE" is displayed.



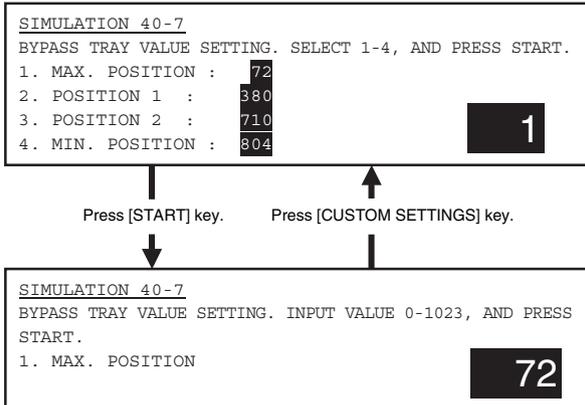
40-7	
Purpose	Adjustment/Setup
Function (Purpose)	Used to enter the manual paper feed tray paper width adjustment value.
Section	Paper feed
Item	Operation

Operation/Procedure

- 1) Select the number corresponding to the set item with 10-key.
- 2) Press [START] key.

- 3) Enter the set value with 10-key.
- 4) Press [START] key.

1	MAX. POSITION	Max. width
2	POSITION 1	Adjustment point 1
3	POSITION 2	Adjustment point 2
4	MIN. POSITION	Min. value



40-11

Purpose	Operation test/Check
Function (Purpose)	Used to check the multi-purpose tray width detection adjustment value.
Section	Paper feed
Item	Operation

Operation/Procedure

The operating conditions of sensors and detectors are displayed.

The active sensors and detectors are highlighted.

The paper width detection level is also displayed.

M1SS1	Tray 3 size detection 1
M1SS2	Tray 3 size detection 2
M1SS3	Tray 3 detection size 3
M1SS4	Tray 3 size detection 4
TRAY3_WIDTH	Tray 3 guide plate position
TRAY3_AD	Tray 3 width detection volume output AD value
Tray3 width size	(Tray 3 width direction detection size is displayed.) A4/A3, 11X, B5/B4, 8.5X, A4R, B5R, A5R, 5.5X, 7.25X, EXTRA

```

SIMULATION 40-11
TRAY3 SENSOR CHECK..

MISS1      MISS2      MISS3      MISS4
TRAY3_WIDTH: 2100    TRAY3_AD: 600
(Tray3 width size: A4/A3)

```

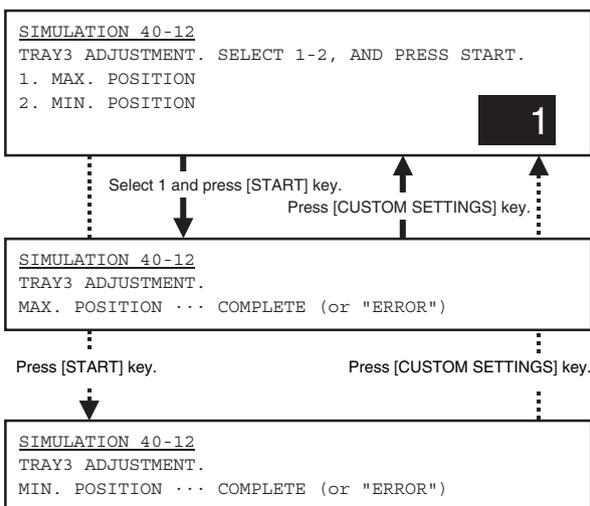
40-12

Purpose	Adjustment/Setup
Function (Purpose)	Used to check the multi-purpose tray width detection adjustment value.
Section	Paper feed
Item	Operation

Operation/Procedure

- 1) Open the paper feed tray 2 paper feed guide to the max. width position.
- 2) Select MAX POSITION with 10-key.
- 3) Press [START] key.
The max. width detection level is recognized.
- 4) Press [CUSTOM SETTINGS] key.
- 5) Open the paper feed tray 3 paper feed guide to the min. width position.
- 6) Select MIN POSITION with 10-key.
- 7) Press [START] key.
The min. width detection level is recognized.

If the above procedures are not completed normally, "ERROR" is displayed. If completed normally, "COMPLETE" is displayed.



41

41-1

Purpose	Operation test/Check
Function (Purpose)	Used to check the operation of the document size sensor and the related circuit. (The operation of the document size sensor can be monitored with the LCD display.)
Section	Other
Item	Operation

Operation/Procedure

The operating conditions of sensors and detectors are displayed.

The active sensors and detectors are highlighted.

OCSW	Document cover status	Open: Normal display
		Close: Highlighted
PD1 - 7	Document detection sensor status	No document: Normal display
		Document present: Highlighted

```

SIMULATION 41-1
PD SENSOR CHECK . .
OCSW  PD1  PD2  PD3  PD4  PD5  PD6  PD7
  
```

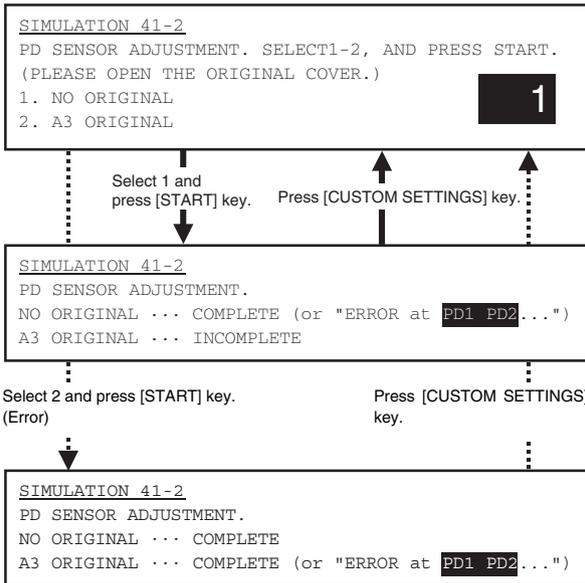
41-2

Purpose	Adjustment
Function (Purpose)	Used to adjust the document size sensor sensing level.
Section	Other
Item	Operation

Operation/Procedure

- 1) Open the document cover and select NO ORIGINAL with 10-key without placing any document on the document table.
- 2) Press [START] key.
The sensor level is set without document on the document table.
- 3) Place an A3 document on the document table, and select A3 ORIGINAL with 10-key.
- 4) Press [START] key.
The sensor level is set when detection the document.

If the above procedures are not completed normally, "ERROR" is displayed. If completed normally, "COMPLETE" is displayed.



41-3

Purpose	Operation test/Check
Function (Purpose)	Used to check the operation of the document size sensor and the related circuit. (The document size sensor output level can be monitored with the LCD display.)
Section	Other
Item	Operation

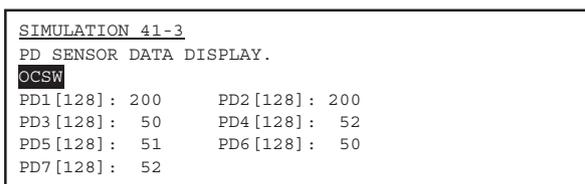
Operation/Procedure

The detection output level (A/D value) of the document sensors (PD1 - PD7) is displayed in real time.

* The value in [] on the side of each sensor name indicates the threshold value.

The light receiving value (A/D value) and the threshold value (A/D value) of PD1 - PD7 are in the range of 1 - 255. The default of threshold value is 128.

OCSW	Original cover status	Open: Normal display
		Close: Highlighted
PD1 - 7	PD sensor detection level The value in [] indicates the adjustment threshold value (SIM41-2 adjustment value).	

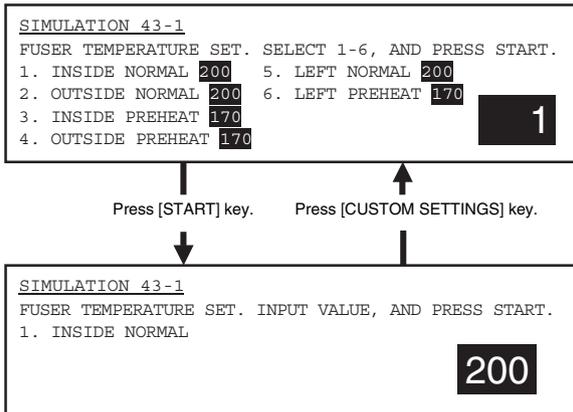


Purpose	Setting
Function (Purpose)	Used to set the fusing temperature in each operation mode.
Section	Fixing (Fusing)
Item	Operation

Operation/Procedure

- 1) Select the number corresponding to the setting mode with 10-key.
- 2) Press [START] key.
- 3) Press [CUSTOM SETTINGS] key.
- 4) Press [START] key.

Item			Japan	Inch series	AB series
1	INSIDE NORMAL	Fusing roller inside/normal mode	185	200	205
2	OUTSIDE NORMAL	Fusing roller outside/normal mode	185	200	205
3	INSIDE PREHEAT	Fusing roller inside/preheat mode	140	170	170
4	OUTSIDE PREHEAT	Fusing roller outside/preheat mode	140	170	170
5	LEFT NORMAL	Sub-heat roller/normal mode	185	200	205
6	LEFT PREHEAT	Sub-heat roller/preheat mode	140	170	170



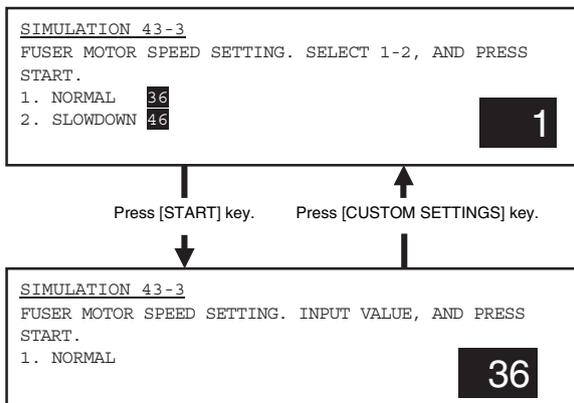
Purpose	Setting (Adjustment)
Function (Purpose)	Fusing roller RPM setting.
Section	Fixing (Fusing)
Item	Operation

Operation/Procedure

- 1) Select the number corresponding to the adjustment item with 10-key.
- 2) Press [START] key.
- 3) Enter the setting (adjustment) value with 10-key.
- 4) Press [START] key.

Unless special measures are required, do not change the setting values below.

Item	Set range	Default		
		AR-M550N/U, AR-M620N/U	AR-M700N/U	
1	NORMAL	0 – 99	36	35
2	SLOWDOWN	0 – 99	46	44

**44**

Purpose	Setting
Function (Purpose)	Used to set enable/disable of correction operations in the image forming (process) section.
Section	Image process (Photoconductor/Developing/Transfer/Cleaning)
Item	Operation

Operation/Procedure

- 1) Each bit (7 kinds) is assigned to each correction item to set ENABLE/DISABLE of the operation.

Each bit is assigned with 0 or 1 value. Enter the total values of items which are desired to be valid with the 10-key.

2) Press [START] key.

Item (Bit)	Value	Item		Default
No display	1	DV Bias Correction		1
BIT1	2	OPC drum membrane decrease (sensitivity/potential) correction	Laser power/main charger grid voltage	1
BIT2	4	The range of the toner patch making voltage in the developing bias voltage/main charger grid voltage correction is specified. (Voltage limit)	Developing bias/main grid voltage (adjusted by SIM 8-1 and 8-2) $\pm 100v$	1
BIT3	8	For humidity correction	Toner concentration correction	1
BIT4	16	Toner concentration correction	When the developing bias/main charger grid voltage correction is changed more than the specified level, the toner concentration control level is corrected.	1
BIT5	32	Toner concentration correction B	Correction for the developer life	0
BIT6	64	Toner concentration correction C	Toner concentration correction in low density image continuous print	1
BIT7	128	OPC drum for environment correction		1

NOTE: Set to 222.

When bit=1, correction is made.

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
	0	0	0	0	0	0	0	0	Env	Tcon_C	Tcon_B	Tcon_A	Humidity	Pcon_lm	Drum

NOTE: BIT0 is not displayed, but set to the developing bias correction function.
This setting is forcibly made enable, and cannot be disabled.

SIMULATION 44-1
 PROCESS CORRECTION VALUE SETTING. INPUT VALUE 0-999
 AND PRESS START.
 BIT1: DRUM
 BIT2: PROCON_LM BIT3: HUMIDITY
 BIT4: TONERCON_A BIT5: TONERCON_B
 BIT6: TONERCON_C BIT7: ENVIRONMENT

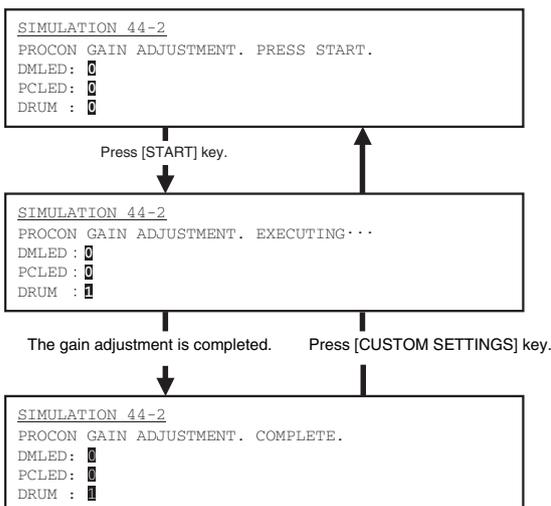
223

Purpose	Adjustment
Function (Purpose)	Used to perform the gain adjustment (image density sensor LED current adjustment) of the image density sensor and the gain adjustment (OPC drum marking sensor LED current adjustment) of the OPC drum marking sensor.
Section	Image process (Photoconductor)
Item	Operation

Operation/Procedure

Press [START] key, and the adjustment is automatically performed. When the adjustment is completed, the adjustment result is displayed. If the adjustment is not completed normally, "ERROR" is displayed. When an error occurs, the adjustment result is not revised.

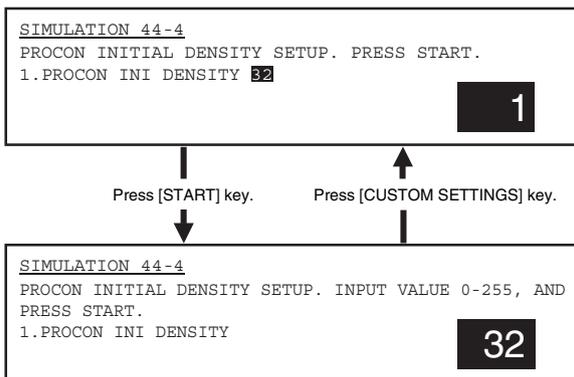
DMLED	Drum marking sensor gain adjustment
PCLED	Image density sensor gain adjustment value
DRUM	Kind of the drum 0 = Other 1 = SHARP drum



Purpose	Setting
Function (Purpose)	Used to set the target density level in the image density correction.
Section	Image process (Photoconductor/Developing)
Item	Operation

Operation/Procedure

- 1) Enter the target density level in the image density correction with 10-key.
- 2) Press [START] key.



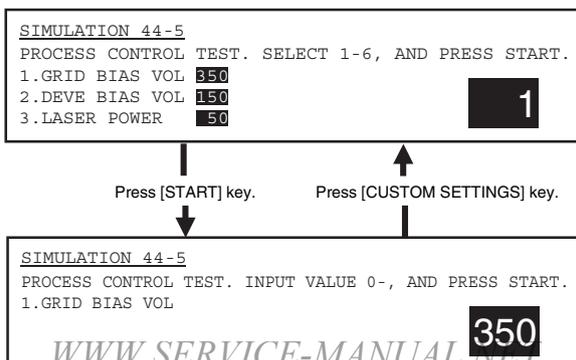
44-5

Purpose	Setting
Function (Purpose)	Used to set the reference developing bias voltage, the reference main charger grid voltage, and the laser power in the image density correction.
Section	Image process (Photoconductor/Developing)
Item	Operation

Operation/Procedure

- 1) Select the number corresponding to the setting mode with 10-key.
- 2) Press [START] key.
- 3) Enter the set value.
- 4) Press [START] key.

Item			Default
1	GRID BIAS VOL	Main charger voltage for developing bias voltage correction	350
2	DEVE BIAS VOL	Reference developing bias voltage for developing bias voltage correction	150
3	LASER POWER	Reference laser power for developing bias voltage correction	50



Purpose	Adjustment/Setup/Operation data output/Check (Display)
Function (Purpose)	Used to display sampling toner image patch density data in image density correction. (Used to check that the correction is performed normally or not.)
Section	Image process (Photoconductor/Developing)
Item	Operation

Operation/Procedure

DMLED	OPC drum marking sensor LED current adjustment value
PC LED	OPC drum marking sensor LED current adjustment value
END DV BS	Developing bias voltage when making PT2/BS2 of ID (1)
ID (n)	Indicates the toner patch making procedures.
PT1/BS1	Toner patch density detection level/OPC drum surface detection level when the developing bias is 0V - 50V.
PT2/BS2	Toner patch density detection level/OPC drum surface detection level when the developing bias is 0V.
PT3/BS3	Toner patch density detection level/OPC drum surface detection level when the developing bias is 0V + 50V.

<u>SIMULATION 44-12</u>			
DM DATA, PATCH/BASE DATA DISPLAY.			
DMLED:	000	PC LED:	000
		END DV_BS:	000
	PT1/BS1	PT2/BS2	PT3/BS3
ID (1) :	000/000	000/000	000/000
ID (2) :	000/000	000/000	000/000
ID (3) :	000/000	000/000	000/000
ID (4) :	000/000	000/000	000/000
ID (5) :	000/000	000/000	000/000
ID (6) :	000/000	000/000	000/000
ID (7) :	000/000	000/000	000/000
ID (8) :	000/000	000/000	000/000

Purpose	Adjustment/Setup/Operation data output/Check (Display)
Function (Purpose)	Used to check the output level of the temperature sensor and the humidity sensor.
Section	Image process (Photoconductor/Developing)
Item	Operation

Operation/Procedure

The output levels of the temperature sensor and the humidity sensor in the developing unit are displayed.

TH-DV (Not used)	Developing section temperature sensor	0 - 255
TH-RA (Not used)	Room temperature sensor	0 - 255
TH-CL	Process section temperature sensor	0 - 255
TH-EX	Paper discharging section temperature sensor	0 - 255
HUS-DV	Developing section humidity sensor	0 - 255
HUS-TC (Not used)	Process section humidity sensor	0 - 255

SIMULATION 44-14

SENSOR DATA DISPLAY MONITOR.

TH-DV: 255

TH-RA: 255

TH-CL: 255

TH-EX: 255

HUS-DV: 255

HUS-TC: 255

44-16

Purpose	Adjustment/Setup/Operation data output/Check (Display)
Function (Purpose)	Used to check the toner concentration control data.
Section	Image process (Developing)
Item	Operation

Operation/Procedure

HUMIDITY AREA	Humidity area
INT HUMIDITY AREA	Humidity area when setting the toner concentration control level (SIM 25-2)
TARGET LEVEL	Current toner concentration control level
DEV REF	Toner concentration when setting the toner concentration control level (SIM 25-2)
HUMIDITY (TARGET)	Toner concentration correction value for humidity
A	Toner concentration correction value for change in developing bias voltage
B	Toner concentration value for developer life

SIMULATION 44-16

TONER CONTROL STANDARD LEVEL DISPLAY.

HUMIDITY AREA: 31

INT HUMIDITY AREA: 31

TARGET LEVEL = DEV REF + HUM (TARGET) + A + B
146 = 128 + 10 (12) + 5 + 3

46

46-2

Purpose	Adjustment
Function (Purpose)	Used to adjust the copy density in all the copy modes (Auto, Text, Text/Photo, and Photo mode).
Section	
Item	Picture quality Density

Operation/Procedure

- 1) Select the number corresponding to the copy mode to be adjusted with 10-key. (Select one of 3 - 6.)
- 2) Press [START] key.
- 3) Enter the copy density level with 10-key.

Item		Set range	Default
0	TRAY SELECT	Paper feed tray selection	
1	COPY START	Copy START (Default)	
2	EXP LEVEL	Exposure level selection	
3	AE 3.0	AE mode	0 - 99 50
4	CH 3.0	Text mode 3.0	
5	MIX 3.0	Text/Photo mode 3.0	
6	PHOTO 3.0	Photo mode 3.0	

- 4) Press P key or [START] key.

The adjustment value is set.

When [START] key is pressed, copying is performed and the adjustment value is simultaneously set.

Check the density of the printed copy image.

Normal display		NOW COPYING.
ERROR display	Door open	DOOR OPEN.
	Jam	JAM
	Paper empty	PAPER EMPTY.

NOTE: When the copy image density is adjusted with this simulation, the copy image densities of all the copy modes are changed to the copy image density level set with this simulation.

That is, the copy image density of each copy mode set with SIM 46-9, 10, 11 is changed to the copy image density level adjusted with this simulation.

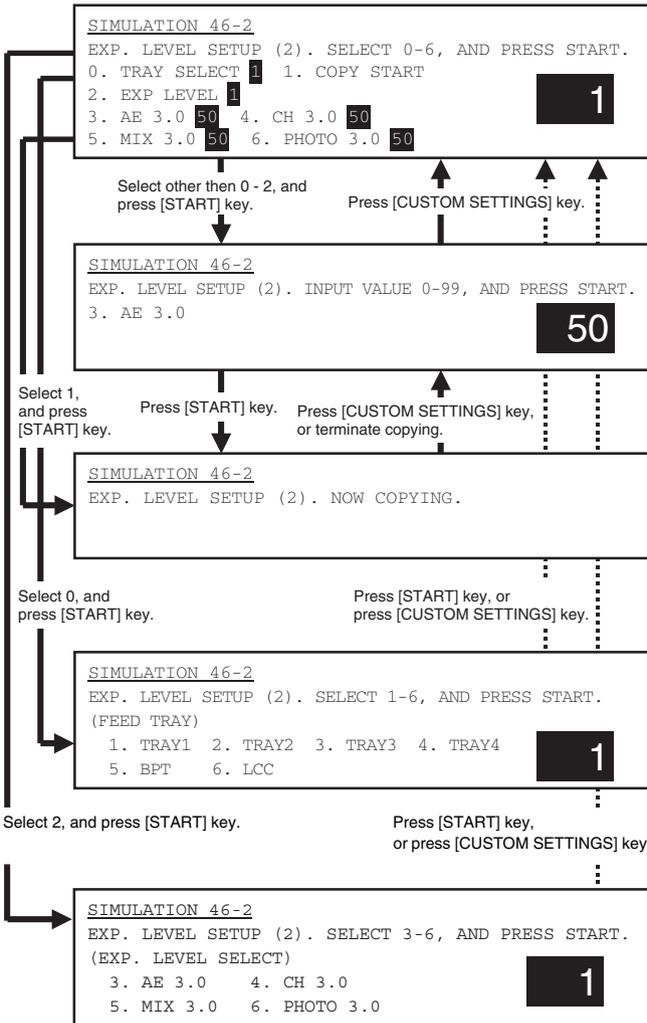
To select paper (paper feed tray), perform the following procedures.

- 1) Enter 0 with 10-key.
- 2) Press [START] key. (The mode is changed to the paper feed tray selection mode.)
- 3) Enter the number corresponding to the paper feed tray to be used with 10-key.
- 4) Press [START] key. (The paper feed tray is selected.)

1	TRAY1	TRAY1
2	TRAY2	TRAY2
3	TRAY3	TRAY3
4	TRAY4	TRAY4
5	BPT	Manual feed
6	LCC	Side LCC

NOTE: When [P] key is pressed after entering an adjustment value in this simulation, the adjustment value is set. When START key is pressed, the adjustment value is set and copying is performed.

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46-9

Purpose	Adjustment
Function (Purpose)	Used to adjust the print density for each density level (display value) in the copy mode (binary - Text mode). An optional print density can be set for each density level (display value).
Section	
Item	Picture quality Density

Operation/Procedure

- 1) Select the number corresponding to the copy density adjustment level with 10-key. (Select one of 3 - 11.)
- 2) Press [START] key.
- 3) Enter the copy density level with 10-key.

Item			Set range	Default
0	TRAY SELECT	Paper feed tray selection	0 - 99	50
1	COPY START	Copy START (Default)		
2	EXP LEVEL	Exposure level selection		
3	1.0	Exposure level 1.0		
4	1.5	Exposure level 1.5		
5	2.0	Exposure level 2.0		
6	2.5	Exposure level 2.5		
7	3.0	Exposure level 3.0		
8	3.5	Exposure level 3.5		
9	4.0	Exposure level 4.0		
10	4.5	Exposure level 4.5		
11	5.0	Exposure level 5.0		

- 4) Press [P] key or [START] key.

The adjustment value is set.

When [START] key is pressed, copying is performed and the adjustment value is set simultaneously.

Check the density of printed copy image.

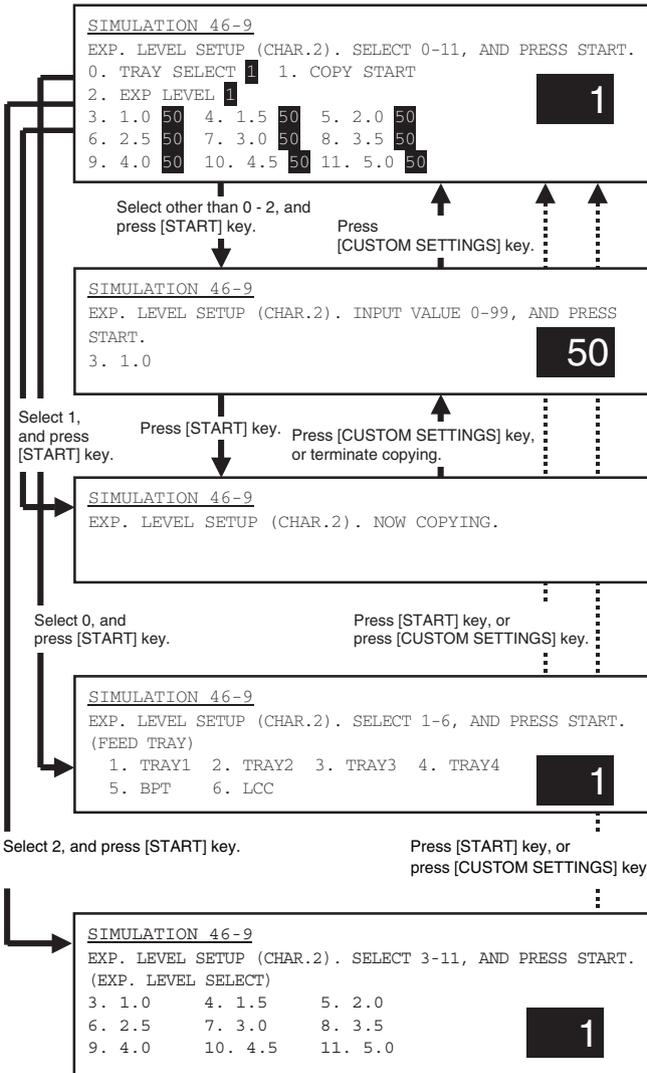
Normal display		NOW COPYING.
ERROR display	Door open	DOOR OPEN.
	Jam	JAM
	Paper empty	PAPER EMPTY.

To select paper (paper feed tray), perform the following procedures.

- 1) Enter 0 with 10-key.
- 2) Press [START] key. (The mode is changed to the paper feed tray selection mode.)
- 3) Enter the number corresponding to the paper feed tray to be used with 10-key.
- 4) Press [START] key. (The paper feed tray is selected.)

1	TRAY1	TRAY1
2	TRAY2	TRAY2
3	TRAY3	TRAY3
4	TRAY4	TRAY4
5	BPT	Manual feed
6	LCC	Side LCC

NOTE: When [P] key is pressed after entering an adjustment value in this simulation, the adjustment value is set. When START key is pressed, the adjustment value is set and copying is performed.



46-10

Purpose	Adjustment
Function (Purpose)	Used to adjust the print density for each density level (display value) in the copy mode (binary - Text/Photo mode). An optional print density can be set for each density level (display value).
Section	
Item	Picture quality

Operation/Procedure

- 1) Select the number corresponding to the copy density adjustment level with 10-key. (Select one of 3 - 11.)
- 2) Press [START] key.
- 3) Enter the copy density level with 10-key.

Item			Set range	Default
0	TRAY SELECT	Paper feed tray selection	0 - 99	50
1	COPY START	Copy START (Default)		
2	EXP LEVEL	Exposure level selection		
3	1.0	Exposure level 1.0		
4	1.5	Exposure level 1.5		
5	2.0	Exposure level 2.0		
6	2.5	Exposure level 2.5		
7	3.0	Exposure level 3.0		
8	3.5	Exposure level 3.5		
9	4.0	Exposure level 4.0		
10	4.5	Exposure level 4.5		
11	5.0	Exposure level 5.0		

- 4) Press [P] key or [START] key.

The adjustment value is set.

When [START] key is pressed, copying is performed and the adjustment value is set simultaneously.

Check the density of printed copy image.

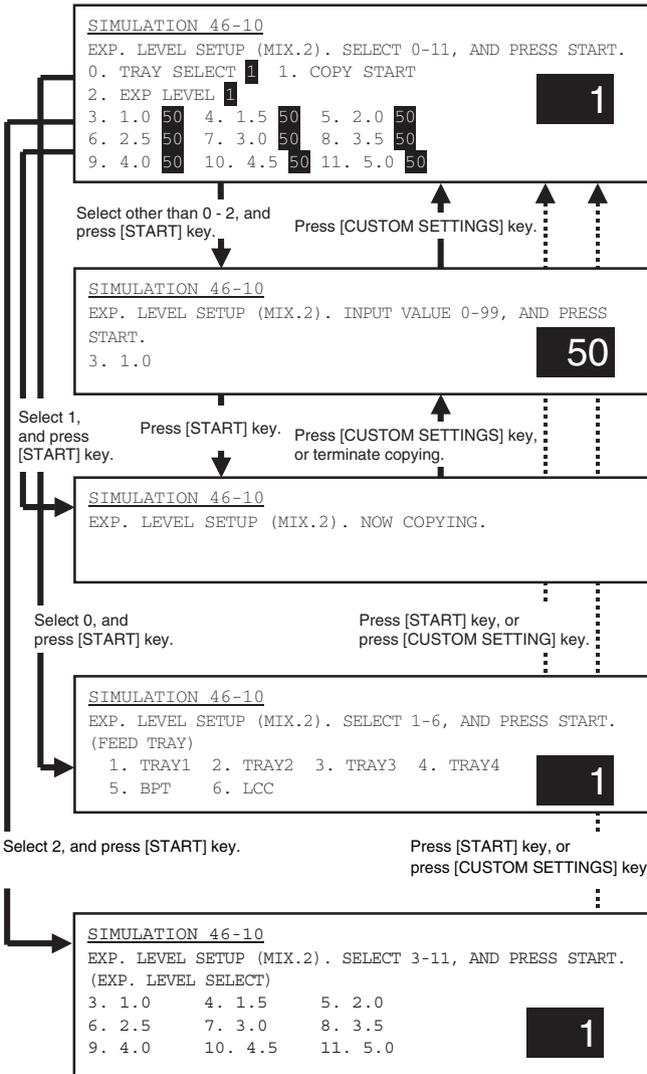
Normal display		NOW COPYING.
ERROR display	Door open	DOOR OPEN.
	Jam	JAM
	Paper empty	PAPER EMPTY.

To select paper (paper feed tray), perform the following procedures.

- 1) Enter 0 with 10-key.
- 2) Press [START] key. (The mode is changed to the paper feed tray selection mode.)
- 3) Enter the number corresponding to the paper feed tray to be used with 10-key.
- 4) Press [START] key. (The paper feed tray is selected.)

1	TRAY1	TRAY1
2	TRAY2	TRAY2
3	TRAY3	TRAY3
4	TRAY4	TRAY4
5	BPT	Manual feed
6	LCC	Side LCC

NOTE: When [P] key is pressed after entering an adjustment value in this simulation, the adjustment value is set. When START key is pressed, the adjustment value is set and copying is performed.



46-11

Purpose	Adjustment
Function (Purpose)	Used to adjust the print density for each density level (display value) in the copy mode (binary - Photo mode). An optional print density can be set for each density level (display value).
Section	
Item	Picture quality Density

Operation/Procedure

- 1) Select the number corresponding to the copy density adjustment level with 10-key. (Select one of 3 - 11.)
- 2) Press [START] key.
- 3) Enter the copy density level with 10-key.

Item			Set range	Default
0	TRAY SELECT	Paper feed tray selection	0 - 99	50
1	COPY START	Copy START (Default)		
2	EXP LEVEL	Exposure level selection		
3	1.0	Exposure level 1.0		
4	1.5	Exposure level 1.5		
5	2.0	Exposure level 2.0		
6	2.5	Exposure level 2.5		
7	3.0	Exposure level 3.0		
8	3.5	Exposure level 3.5		
9	4.0	Exposure level 4.0		
10	4.5	Exposure level 4.5		
11	5.0	Exposure level 5.0		

- 4) Press [P] key or [START] key.

The adjustment value is set.

When [START] key is pressed, copying is performed and the adjustment value is set simultaneously.

Check the density of printed copy image.

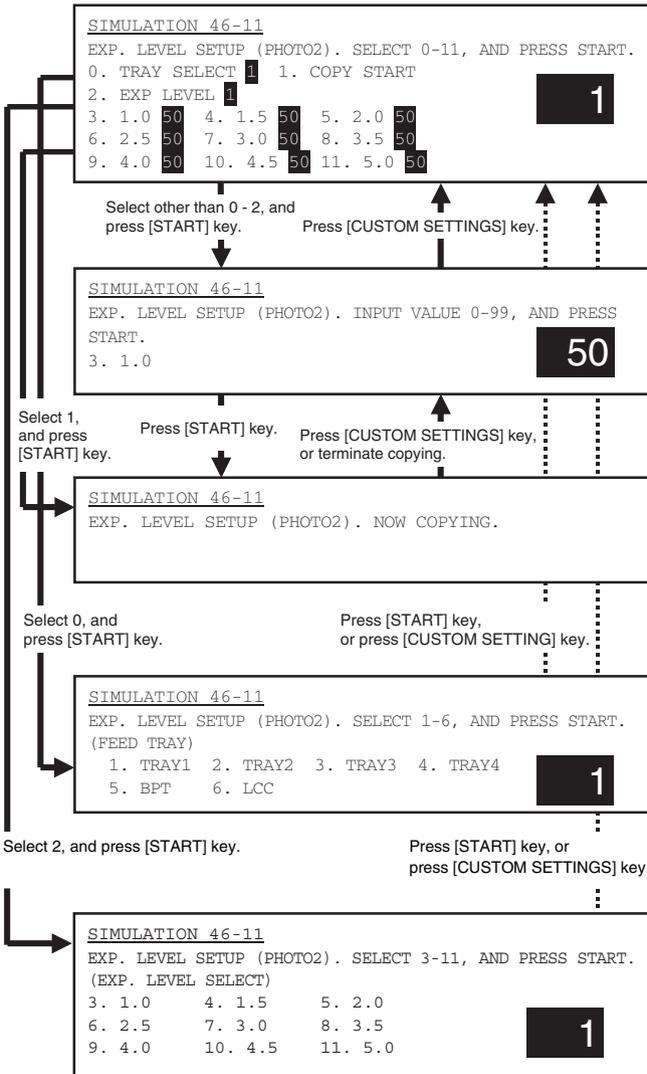
Normal display		NOW COPYING.
ERROR display	Door open	DOOR OPEN.
	Jam	JAM
	Paper empty	PAPER EMPTY.

To select paper (paper feed tray), perform the following procedures.

- 1) Enter 0 with 10-key.
- 2) Press [START] key. (The mode is changed to the paper feed tray selection mode.)
- 3) Enter the number corresponding to the paper feed tray to be used with 10-key.
- 4) Press [START] key. (The paper feed tray is selected.)

1	TRAY1	TRAY1
2	TRAY2	TRAY2
3	TRAY3	TRAY3
4	TRAY4	TRAY4
5	BPT	Manual feed
6	LCC	Side LCC

NOTE: When [P] key is pressed after entering an adjustment value in this simulation, the adjustment value is set. When START key is pressed, the adjustment value is set and copying is performed.



46-12

Purpose	Adjustment
Function (Purpose)	Used to adjust the print density in the FAX mode (all modes).
Section	
Item	Picture quality

Operation/Procedure

- 1) Select the adjustment item of FAX EXP. LEVEL with 10-key.
- 2) Press [START] key.
- 3) Enter the print density level with 10-key.

Item		Set range	Default
0	TRAY SELECT	Paper feed tray selection	
1	COPY START	Copy START (Default)	
2	FAX EXP. LEVEL	FAX mode print density	0 - 99 50

- 4) Press [P] key or [START] key.

The adjustment value is set.

When [START] key is pressed, printing is performed and the adjustment value is set simultaneously.

Check the density of printed image.

Normal display		NOW PRINTING.
ERROR display	Door open	DOOR OPEN.
	Jam	JAM
	Paper empty	PAPER EMPTY.

NOTE: When the FAX print image density is adjusted with this simulation, the print image densities of all the FAX modes are changed to the image density level set with this simulation.

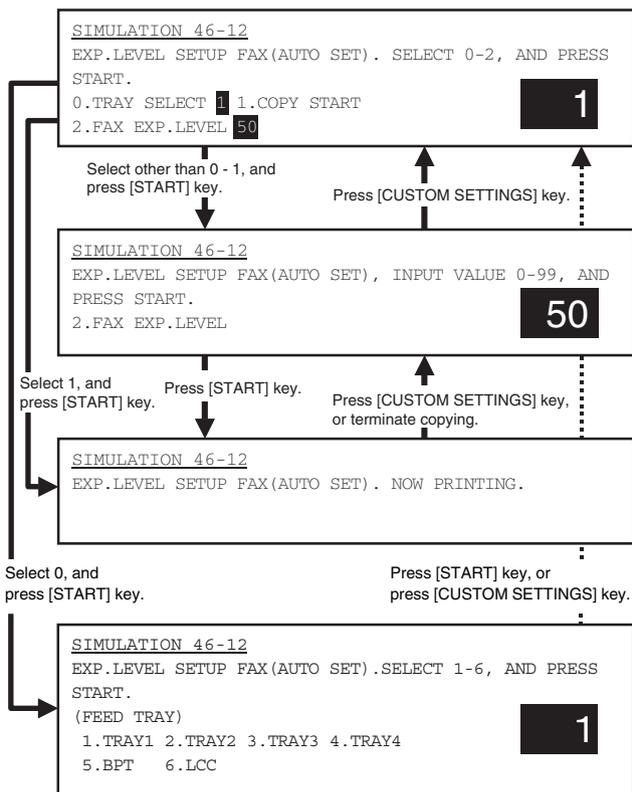
That is, the print image density of each FAX mode set with SIM 46-13, 14, 15 is changed to the print image density level adjusted with this simulation.

To select paper (paper feed tray), perform the following procedures.

- 1) Enter 0 with 10-key.
- 2) Press [START] key. (The mode is changed to the paper feed tray selection mode.)
- 3) Enter the number corresponding to the paper feed tray to be used with 10-key.
- 4) Press [START] key. (The paper feed tray is selected.)

1	TRAY1	TRAY1
2	TRAY2	TRAY2
3	TRAY3	TRAY3
4	TRAY4	TRAY4
5	BPT	Manual feed
6	LCC	Side LCC

NOTE: When [P] key is pressed after entering an adjustment value in this simulation, the adjustment value is set. When START key is pressed, the adjustment value is set and copying is performed.



46-13

Purpose	Adjustment
Function (Purpose)	Used to adjust the print density in the FAX mode (each normal mode). (Only when FAX is installed.)
Section	
Item	Picture quality

Operation/Procedure

- 1) Select the number corresponding to one of the following adjustment items with 10-key.
 - * Manual mode (Print density adjustment level)
 - * Auto mode
- 2) Press [START] key.
- 3) Enter the print density level with 10-key.

Item			Set range	Default
0	TRAY SELECT	Paper feed tray selection	0 - 99	50
1	PRINT START	Print start (Default)		
2	EXP LEVEL	Exposure level selection		
3	AUTO	Auto		
4	1.0	Exposure level 1		
5	2.0	Exposure level 2		
6	3.0	Exposure level 3		
7	4.0	Exposure level 4		
8	5.0	Exposure level 5		

- 4) Press [P] key or [START] key.

The adjustment value is set.

When [START] key is pressed, printing is performed and the adjustment value is set simultaneously.

Check the density of printed image.

Normal display		NOW PRINTING.
ERROR display	Door open	DOOR OPEN.
	Jam	JAM
	Paper empty	PAPER EMPTY.

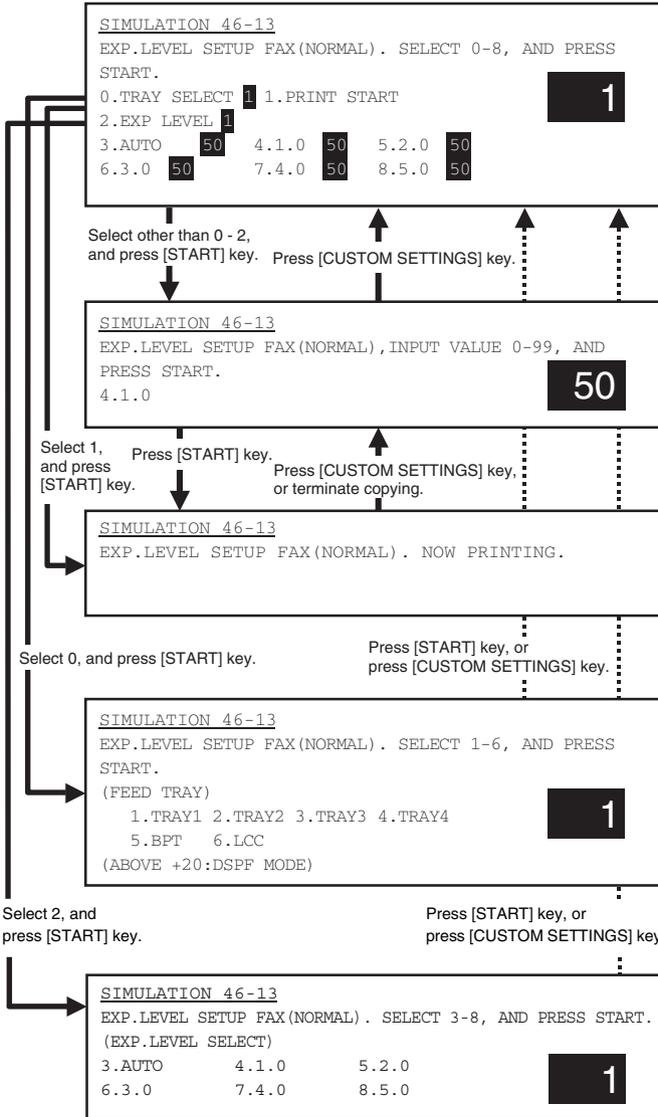
To select paper (paper feed tray), perform the following procedures.

- 1) Enter 0 with 10-key.
- 2) Press [START] key. (The mode is changed to the paper feed tray selection mode.)
- 3) Enter the number corresponding to the paper feed tray to be used with 10-key.
- 4) Press [START] key. (The paper feed tray is selected.)

1	TRAY1	TRAY1
2	TRAY2	TRAY2
3	TRAY3	TRAY3
4	TRAY4	TRAY4
5	BPT	Manual feed
6	LCC	Side LCC

When the sum of the above set value (1 - 6) and 20 is set, the mode is changed to the duplex print mode.

NOTE: When [P] key is pressed after entering an adjustment value in this simulation, the adjustment value is set. When START key is pressed, the adjustment value is set and copying is performed.



46-14

Purpose	Adjustment
Function (Purpose)	Used to adjust the print density in the FAX mode (each fine mode). (Only when FAX is installed.)
Section	
Item	Picture quality

Operation/Procedure

- 1) Select the number corresponding to one of the following adjustment items with 10-key. (Select one of 3 - 14.)
 - * Normal mode (Print density adjustment level)
 - * Normal mode (Print density adjustment level) (Half-tone mode)
 - * Auto mode
 - * Auto mode (Half-tone mode)
- 2) Enter the print density level with 10-key.

	Item	Set range	Default
0	TRAY SELECT	Paper feed tray selection	
1	PRINT START	Print start (Default)	
2	EXP LEVEL	Exposure level selection	
3	AUTO	Auto	0 - 99
4	1.0	Exposure level 1	50
5	2.0	Exposure level 2	
6	3.0	Exposure level 3	
7	4.0	Exposure level 4	
8	5.0	Exposure level 5	
9	AUTO (H)	Auto (Half-tone)	
10	1.0 (H)	Exposure level 1 (Half-tone)	
11	2.0 (H)	Exposure level 2 (Half-tone)	
12	3.0 (H)	Exposure level 3 (Half-tone)	
13	4.0 (H)	Exposure level 4 (Half-tone)	
14	5.0 (H)	Exposure level 5 (Half-tone)	

- 3) Press [P] key or [ATART] key.
 The entered value is set.
 When [START] key is pressed, printing is performed and the adjustment value is set simultaneously.
 Check the density of print image.

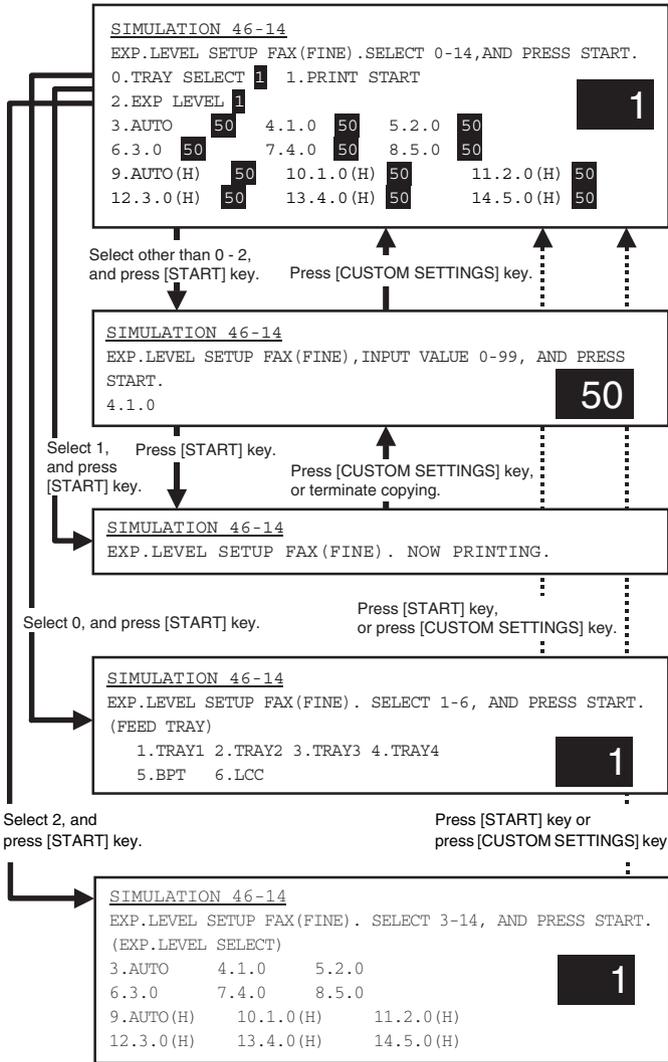
Normal display		NOW PRINTING.
ERROR display	Door open	DOOR OPEN.
	Jam	JAM
	Paper empty	PAPER EMPTY.

To select paper (paper feed tray), perform the following procedures.

- 1) Enter 0 with 10-key.
- 2) Press [START] key. (The mode is changed to the paper feed tray selection mode.)
- 3) Enter the number corresponding to the paper feed tray to be used with 10-key.
- 4) Press [START] key. (The paper feed tray is selected.)

1	TRAY1	TRAY1
2	TRAY2	TRAY2
3	TRAY3	TRAY3
4	TRAY4	TRAY4
5	BPT	Manual feed
6	LCC	Side LCC

NOTE: When [P] key is pressed after entering an adjustment value in this simulation, the adjustment value is set. When START key is pressed, the adjustment value is set and copying is performed.



46-15

Purpose	Adjustment
Function (Purpose)	Used to adjust the print density in the FAX mode (each super fine mode). (Only when FAX is installed.)
Section	
Item	Picture quality

Operation/Procedure

- 1) Select the number corresponding to one of the following adjustment items with 10-key. (Select one of 3 - 14.)
 - * Normal mode (Print density adjustment level)
 - * Normal mode (Print density adjustment level) (Half-tone mode)
 - * Auto mode
 - * Auto mode (Half-tone mode)
- 2) Press [START] key.
- 3) Enter the print density level with 10-key.

	Item	Set range	Default
0	TRAY SELECT	Paper feed tray selection	
1	PRINT START	Print start (Default)	
2	EXP LEVEL	Exposure level selection	
3	AUTO	Auto	0 - 99
4	1.0	Exposure level 1	50
5	2.0	Exposure level 2	
6	3.0	Exposure level 3	
7	4.0	Exposure level 4	
8	5.0	Exposure level 5	
9	AUTO (H)	Auto (Half-tone)	
10	1.0 (H)	Exposure level 1 (Half-tone)	
11	2.0 (H)	Exposure level 2 (Half-tone)	
12	3.0 (H)	Exposure level 3 (Half-tone)	
13	4.0 (H)	Exposure level 4 (Half-tone)	
14	5.0 (H)	Exposure level 5 (Half-tone)	

- 4) Press [P] key or [START] key.
 The entered value is set.
 When [START] key is pressed, printing is performed and the adjustment value is set simultaneously.
 Check the density of print image.

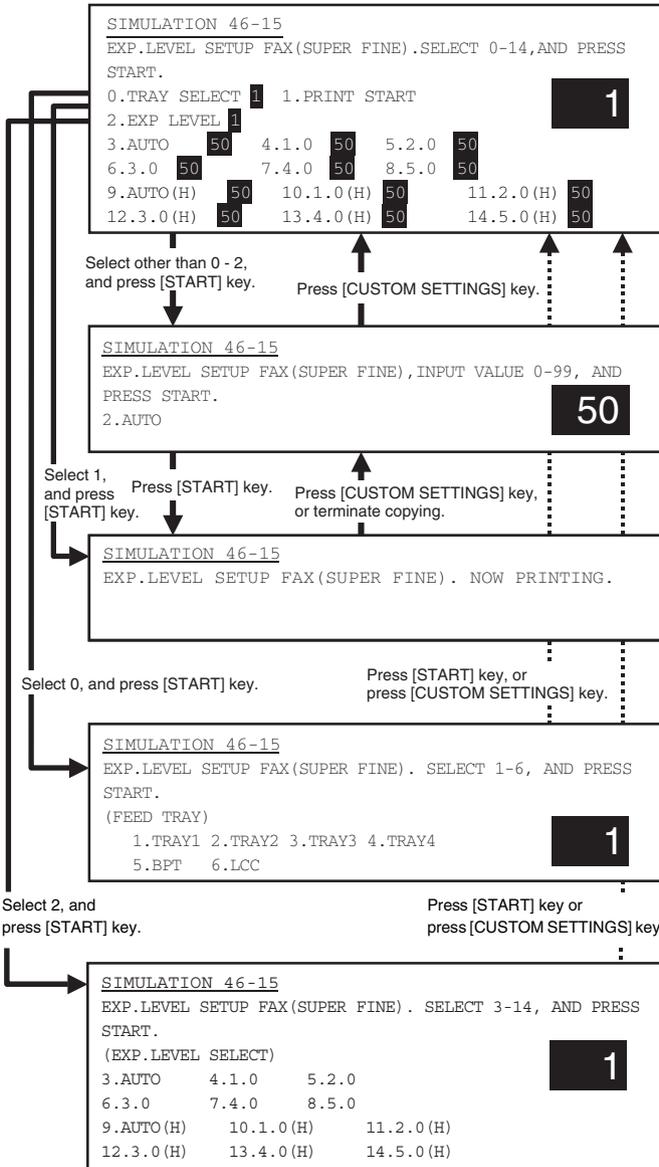
Normal display		NOW PRINTING.
ERROR display	Door open	DOOR OPEN.
	Jam	JAM
	Paper empty	PAPER EMPTY.

To select paper (paper feed tray), perform the following procedures.

- 1) Enter 0 with 10-key.
- 2) Press [START] key. (The mode is changed to the paper feed tray selection mode.)
- 3) Enter the number corresponding to the paper feed tray to be used with 10-key.
- 4) Press [START] key. (The paper feed tray is selected.)

1	TRAY1	TRAY1
2	TRAY2	TRAY2
3	TRAY3	TRAY3
4	TRAY4	TRAY4
5	BPT	Manual feed
6	LCC	Side LCC

NOTE: When [P] key is pressed after entering an adjustment value in this simulation, the adjustment value is set. When START key is pressed, the adjustment value is set and copying is performed.



Purpose	Adjustment
Function (Purpose)	Used to adjust the print density in the FAX mode (each ultra fine mode). (Only when FAX is installed.)
Section	
Item	Picture quality

Operation/Procedure

- 1) Select the number corresponding to one of the following adjustment items with 10-key. (Select one of 3 - 14.)
 - * Normal mode (Print density adjustment level)
 - * Normal mode (Print density adjustment level) (Half-tone mode)
 - * Auto mode
 - * Auto mode (Half-tone mode)
- 2) Press [START] key.
- 3) Enter the print density level with 10-key.

	Item	Set range	Default
0	TRAY SELECT	Paper feed tray selection	
1	PRINT START	Print start (Default)	
2	EXP LEVEL	Exposure level selection	
3	AUTO	Auto	0 - 99
4	1.0	Exposure level 1	50
5	2.0	Exposure level 2	
6	3.0	Exposure level 3	
7	4.0	Exposure level 4	
8	5.0	Exposure level 5	
9	AUTO (H)	Auto (Half-tone)	
10	1.0 (H)	Exposure level 1 (Half-tone)	
11	2.0 (H)	Exposure level 2 (Half-tone)	
12	3.0 (H)	Exposure level 3 (Half-tone)	
13	4.0 (H)	Exposure level 4 (Half-tone)	
14	5.0 (H)	Exposure level 5 (Half-tone)	

- 4) Press [P] key or [START] key.
The entered value is set.
When [START] key is pressed, printing is performed and the adjustment value is set simultaneously.
Check the density of print image.

Normal display		NOW PRINTING.
ERROR display	Door open	DOOR OPEN.
	Jam	JAM
	Paper empty	PAPER EMPTY.

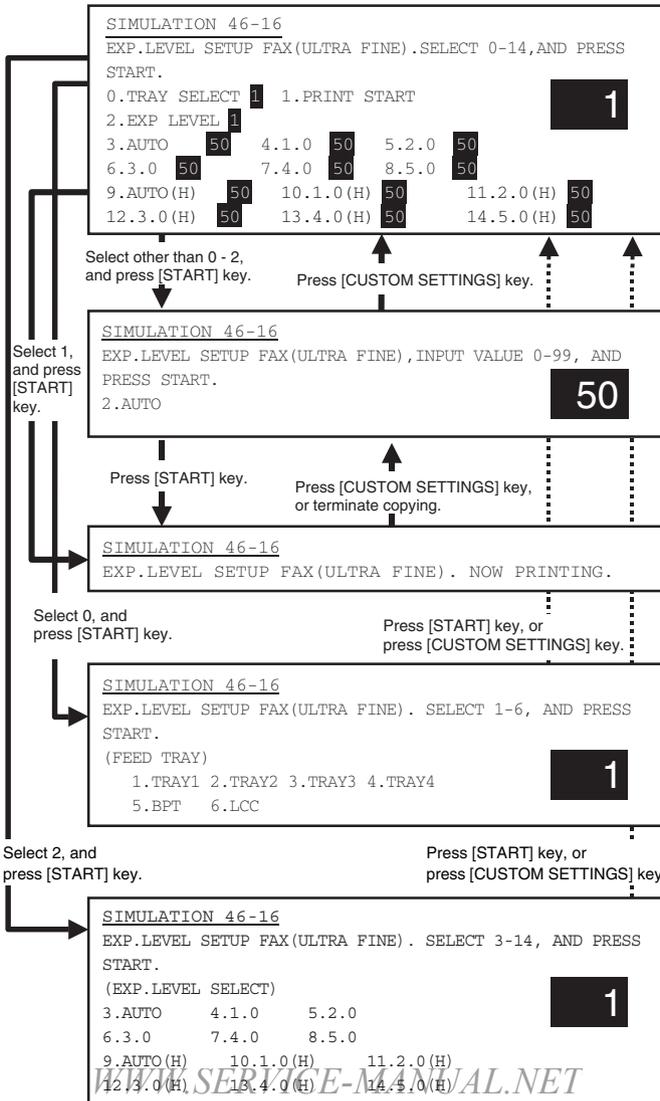
To select paper (paper feed tray), perform the following procedures.

- 1) Enter 0 with 10-key.
- 2) Press [START] key. (The mode is changed to the paper feed tray selection mode.)
- 3) Enter the number corresponding to the paper feed tray to be used with 10-key.

4) Press [START] key. (The paper feed tray is selected.)

1	TRAY1	TRAY1
2	TRAY2	TRAY2
3	TRAY3	TRAY3
4	TRAY4	TRAY4
5	BPT	Manual feed
6	LCC	Side LCC

NOTE: When [P] key is pressed after entering an adjustment value in this simulation, the adjustment value is set. When START key is pressed, the adjustment value is set and copying is performed.



46-17

Purpose	Setting	
Function (Purpose)	Used to set the gain in shading correction.	
Section	Optical (Image scanning)	CCD, CIS
Item	Operation	

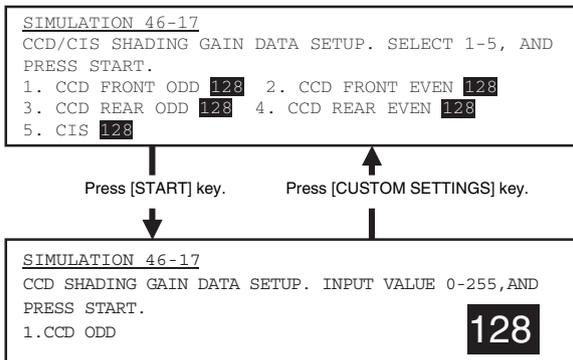
Operation/Procedure

- 1) Enter the number corresponding to the adjustment item
- 2) Press [START] key.
- 3) Enter the shading gain change value with 10-key.
- 4) Press [START] key.

There is normally no need to change the shading gain with this simulation.

Only when the scanned image density is unsatisfactory though shading is performed, the above procedure is performed.

	Item	Set range	Default
1	CCD FRONT ODD	0 - 255	112
2	CCD FRONT EVEN		
3	CCD REAR ODD		
4	CCD REAR EVEN		
5	CIS		128



46-18

Purpose	Adjustment	
Function (Purpose)	Used to adjust the gamma (density gradient) in the copy mode.	
Section		
Item	Picture quality	Density

Operation/Procedure

(Copy mode selection)

- 1) Select the number corresponding to the copy mode to be adjusted with 10-key. (Select one of 3 - 14.)
- 2) Press [START] key.

(Print mode selection in the FAX mode)

- 1) Enter 2 with 10-key.
- 2) Press [START] key.
- 3) Select the number corresponding to one of the following adjustment items.
(Select one of 3 - 14.)
 - * Normal mode (Print density adjustment level)
 - * Normal mode (Print density adjustment level) (Half-tone mode)
 - * Auto mode
 - * Auto mode (Half-tone mode)

Item			Set range	Default
0	TRAY SELECT	Paper feed tray selection	0 - 127	64
1	PRINT START	Print start (Default)		
2	EXP LEVEL	Exposure level selection		
3	OC_AE	AE mode (OC)		
4	OC_CHARA	Text mode (OC)		
5	OC_MIX	Text/Photo mode (OC)		
6	OC_PHOTO	Photo mode (OC)		
7	SPF_AE	AE mode (SPF)		
8	SPF_CHARA	Text mode (SPF)		
9	SPF_MIX	Text/Photo mode (SPF)		
10	SPF_PHOTO	Photo mode (SPF)		
11	CIS_AE	AE mode (CIS)		
12	CIS_CHARA	Text mode (CIS)		
13	CIS_MIX	Text/Photo mode (CIS)		
14	CIS_PHOTO	Photo mode (CIS)		

Exposure level

Item		
3	AUTO	Auto
4	1.0	Exposure level 1
5	2.0	Exposure level 2
6	3.0	Exposure level 3
7	4.0	Exposure level 4
8	5.0	Exposure level 5
9	AUTO (H)	Auto (Half-tone)
10	1.0 (H)	Exposure level 1 (Half-tone)
11	2.0 (H)	Exposure level 2 (Half-tone)
12	3.0 (H)	Exposure level 3 (Half-tone)
13	4.0 (H)	Exposure level 4 (Half-tone)
14	5.0 (H)	Exposure level 5 (Half-tone)

4) Press [START] key.

Normal display		NOW PRINTING.
ERROR display	Door open	DOOR OPEN.
	Jam	JAM
	Paper empty	PAPER EMPTY.

(Gamma adjustment)

After completion of the above procedures, perform the following procedures.

- 1) Enter the gamma level with 10-key.
- 2) Enter [P] key or [CUSTOM SETTINGS] key.

When [START] key is pressed, printing is performed and the adjustment value is set simultaneously.

Check the gamma density (copy density in the low density area and the high density area) of printed copy image. The greater the adjustment value is, the greater the gamma value is, resulting in a higher contrast.

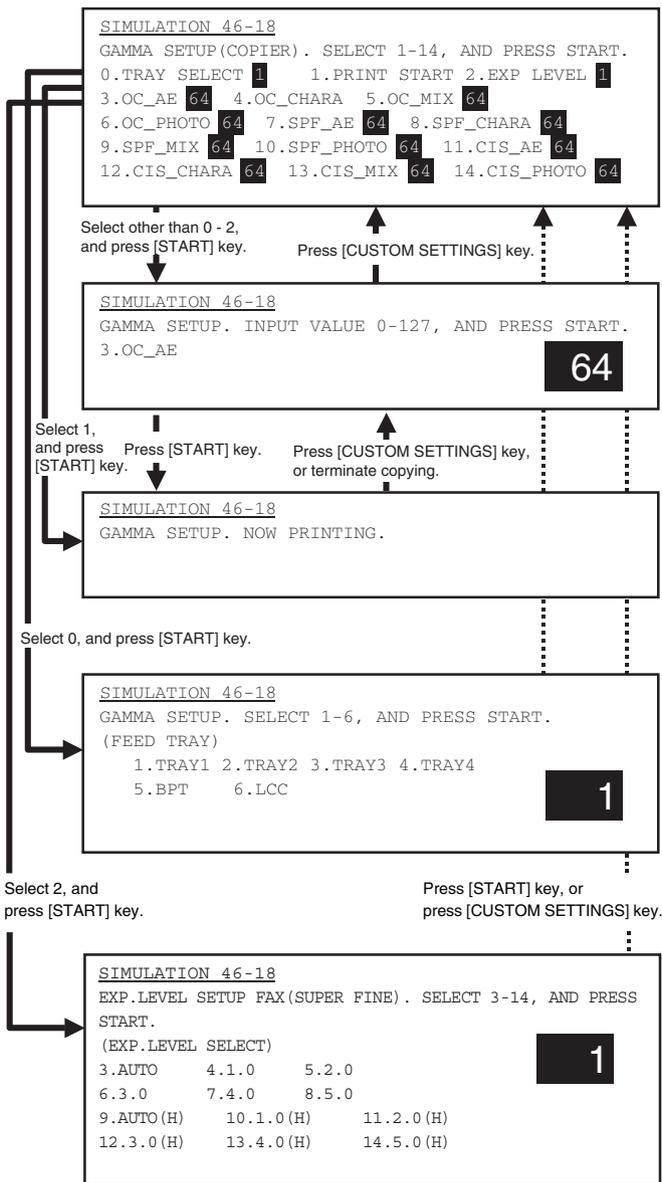
(Copy condition setting in this simulation)

To select paper (paper feed tray), perform the following procedures.

- 1) Enter 0 with 10-key.
- 2) Press [START] key. (The mode is changed to the paper feed tray selection mode.)
- 3) Enter the number corresponding to the paper feed tray to be used with 10-key.
- 4) Press [START] key. (The paper feed tray is selected.)

1	TRAY1	TRAY1
2	TRAY2	TRAY2
3	TRAY3	TRAY3
4	TRAY4	TRAY4
5	BPT	Manual feed
6	LCC	Side LCC

NOTE: When [P] key is pressed after entering an adjustment value in this simulation, the adjustment value is set. When START key is pressed, the adjustment value is set and copying is performed.



Purpose	Adjustment	
Function (Purpose)	Used to set the auto mode operation specifications in each mode (copy, scan, FAX).	
Section		
Item	Picture quality	Density

Operation/Procedure

(Toner save operation YES/NO setting in the auto mode)

- 1) Select "1. AE MODE" with 1-key.
- 2) Press [START] key.
- 3) Select the number corresponding to the operation specifications with 10-key.
- 4) Press [START] key.

When [START] key is pressed, the adjustment value is set.

(Operation setting in the auto copy mode)

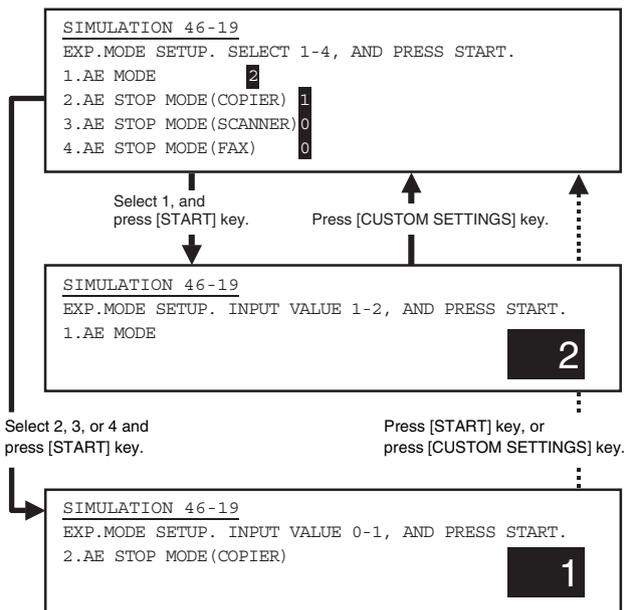
- 1) Select the number corresponding to the mode with 10-key. (Select one of 2 - 4.)
- 2) Press [START] key.
- 3) Select the number corresponding to the operation mode with 10-key.
- 4) Press [START] key.

1	AE MODE	AE mode
2	AE STOP MODE (COPIER)	AE fixed mode (Copier)
3	AE STOP MODE (SCANNER)	AE fixed mode (Scanner)
4	AE STOP MODE (FAX)	AE fixed mode (FAX)

Mode	Set value	Item	Default
AE mode	1	Image quality priority mode (Normal mode) * Gamma is sharp to provide high contrast images.	1 (Japan) 2 (EX Japan)
	2	Toner consumption priority mode * Gamma is mild to provide low contrast images.	
AE fixed mode	0	AE fixed OFF	1 (COPIER) 0 (SCANNER/FAX)
	1	AE fixed ON	

AE fixed OFF: The automatic density (exposure) control is performed in real time. (The density level is changed in real time according to the document pattern.)

AE fixed ON: The density at the lead edge of the document is scanned, and the overall density (exposure) level is determined according to the scanned density level. (Overall density level fixed)



46-20

Purpose	Adjustment
Function (Purpose)	Used to adjust the copy density correction in the SPF copy mode for the document table copy mode. The adjustment is made so that the copy density becomes the same as that of the document table copy mode.
Section	SPF
Item	Picture quality Density

Operation/Procedure

(Adjustment mode selection)

- 1) Select the number corresponding to the copy mode to be adjusted with 10-key.

SPF front frame side (Front surface copy), SPF rear frame side (Front surface copy), SPF (Back surface copy) (Select one of 3 - 5.)

- 2) Press [SATART] key.

(Copy density level adjustment)

- 1) Enter the density correction value with 10-key.
- 2) Press [P] key or [START] key.

(Copy condition setting in this simulation)

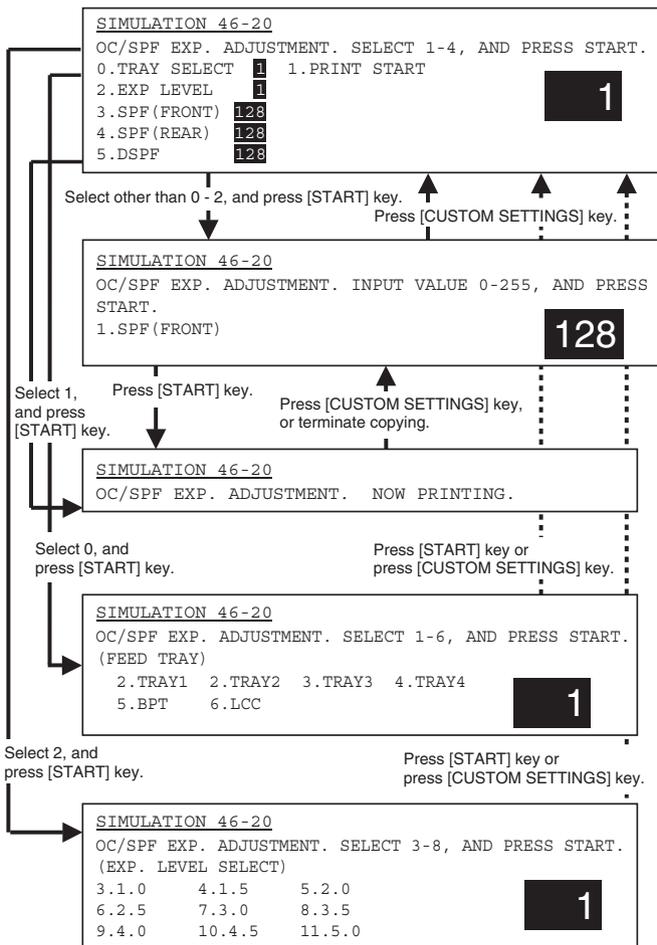
To select paper (paper feed tray), perform the following procedures.

- 1) Enter 0 with 10-key.
- 2) Press [START] key. (The mode is changed to the paper feed tray selection mode.)
- 3) Enter the number corresponding to the paper feed tray to be used with 10-key.
- 4) Press [START] key. (The paper feed tray is selected.)

NOTE: When [P] key is pressed after entering an adjustment value in this simulation, the adjustment value is set. When START key is pressed, the adjustment value is set and copying is performed.

	Item	Content	Set range	Default
0	TRAY SELECT	Paper feed tray selection 1: TRAY1 2: TRAY2 3: TRAY3 4: TRAY4 5: Manual feed 6: Side LCC	—	—
1	PRINT START	Print start (Default)	—	—
2	EXP LEVEL	Exposure level selection 3: Exposure level 1.0 4: Exposure level 1.5 5: Exposure level 2.0 6: Exposure level 2.5 7: Exposure level 3.0 8: Exposure level 3.5 9: Exposure level 4.0 10: Exposure level 4.5 11: Exposure level 5.0	—	—
3	SPF (FRONT)	SPF (front) (front frame side)	0 - 255	128
4	SPF (REAR)	SPF (front) (rear frame side)		
5	DSPF	DSPF (Back surface)		

- "Set value - 128" is added to the shading adjustment value (SIM 46-17).



46-21

Purpose	Adjustment
Function (Purpose)	Used to adjust the scanner exposure level in all the scanner modes.
Section	
Item	Picture quality Density

Operation/Procedure

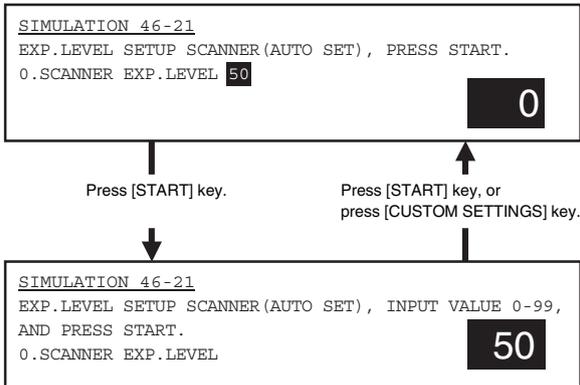
- 1) Select "SCANNER EXP. LEVEL" with 10-key.
- 2) Press [START] key.
- 3) Enter the image density adjustment value.
- 4) Press [P] key or [START] key.

NOTE: When this simulation is performed to adjust the scan image densities, all the image densities in all the scan modes are changed to the image density level set with this simulation.

That is, the image densities set with SIM 46-22, 23, 24, 25, and 45 are changed to the image density level set with this simulation.

Item		Set range	Default
0	SCANNER EXP. LEVEL	Image density level	0 - 99
			50

NOTE: Only the set value is changed and no printing is performed.



46-22

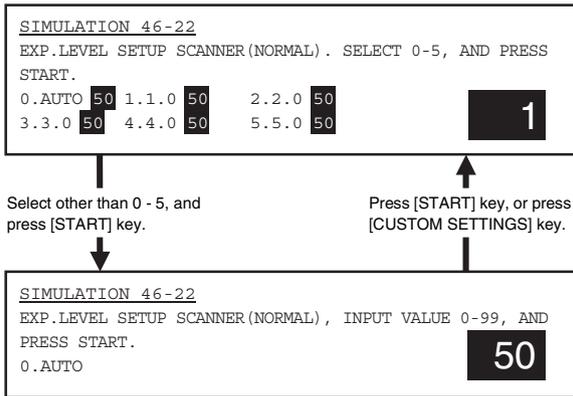
Purpose	Adjustment
Function (Purpose)	Used to adjust the scanner exposure level in the normal text mode.
Section	
Item	Picture quality Density

Operation/Procedure

- 1) Select the number corresponding to one of the following adjustment items with 10-key. (Select one of 0 - 5.)
 - * Normal mode (Image density adjustment level)
 - * Auto mode
- 2) Press [START] key.
- 3) Enter the image density adjustment value with 10-key.
- 4) Press [START] key or press [CUSTOM SETTINGS] key.
The adjustment value is set.

Item		Set range	Default
0	AUTO	0 - 99	50
1	1.0		
2	2.0		
3	3.0		
4	4.0		
5	5.0		

NOTE: Only the set value is changed and no printing is performed.



46-23

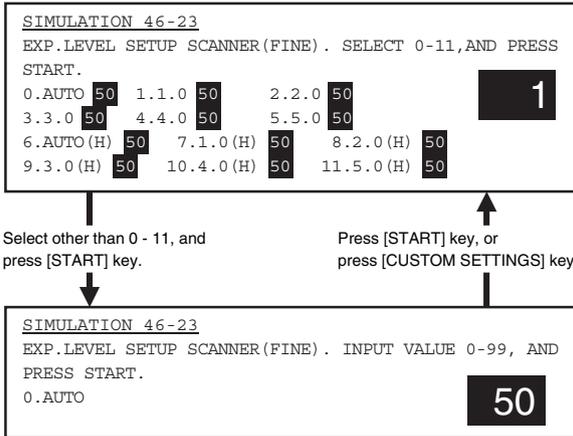
Purpose	Adjustment	
Function (Purpose)	Used to adjust the scanner exposure level in the fine text mode.	
Section		
Item	Picture quality	Density

Operation/Procedure

- 1) Select the number corresponding to one of the following adjustment items with 10-key. (Select one of 0 - 11.)
 - * Normal mode (Image density adjustment level)
 - * Normal mode (Image density adjustment level) (Half-tone mode)
 - * Auto mode
 - * Auto mode (Half-tone mode)
 - 2) Press [START] key.
 - 3) Enter the image density adjustment value with 10-key.
 - 4) Press [START] key or press [P] key.
- The adjustment value is set.

Item		Set range	Default
0	AUTO	0 - 99	50
1	1.0		
2	2.0		
3	3.0		
4	4.0		
5	5.0		
6	AUTO (H)		
7	1.0 (H)		
8	2.0 (H)		
9	3.0 (H)		
10	4.0 (H)		
11	5.0 (H)		

NOTE: Only the set value is changed and no printing is performed.



46-24

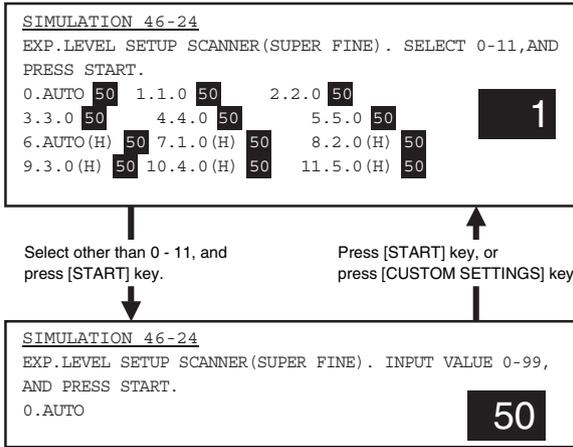
Purpose	Adjustment	
Function (Purpose)	Used to adjust the scanner exposure level (in the super fine text mode).	
Section		
Item	Picture quality	Density

Operation/Procedure

- 1) Select the number corresponding to one of the following adjustment items with 10-key. (Select one of 0 - 11.)
 - * Normal mode (Image density adjustment level)
 - * Normal mode (Image density adjustment level) (Half-tone mode)
 - * Auto mode
 - * Auto mode (Half-tone mode)
 - 2) Press [START] key.
 - 3) Enter the image density adjustment value with 10-key.
 - 4) Press [START] key or press [P] key.
- The adjustment value is set.

Item		Set range	Default
0	AUTO	0 - 99	50
1	1.0		
2	2.0		
3	3.0		
4	4.0		
5	5.0		
6	AUTO (H)		
7	1.0 (H)		
8	2.0 (H)		
9	3.0 (H)		
10	4.0 (H)		
11	5.0 (H)		

NOTE: Only the set value is changed and no printing is performed.



46-25

Purpose	Adjustment
Function (Purpose)	Used to adjust the scanner exposure level in the ultra fine text mode.
Section	
Item	Picture quality Density

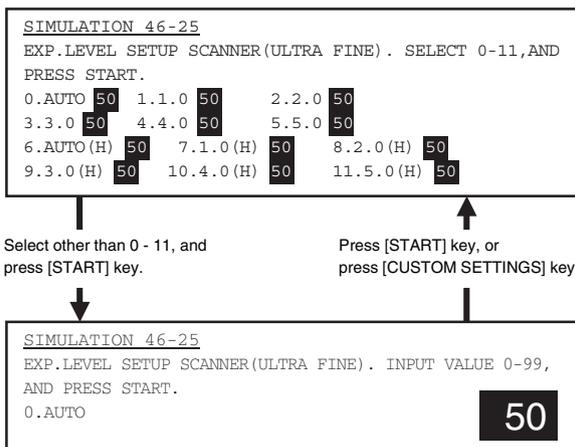
Operation/Procedure

- 1) Select the number corresponding to one of the following adjustment items with 10-key. (Select one of 0 - 11.)
 - * Normal mode (Image density adjustment level)
 - * Normal mode (Image density adjustment level) (Half-tone mode)
 - * Auto mode
 - * Auto mode (Half-tone mode)
- 2) Press [START] key.
- 3) Enter the image density adjustment value with 10-key.
- 4) Press [START] key or press [P] key.

The adjustment value is set.

		Item	Set range	Default
0	AUTO	Auto	0 - 99	50
1	1.0	Exposure level 1		
2	2.0	Exposure level 2		
3	3.0	Exposure level 3		
4	4.0	Exposure level 4		
5	5.0	Exposure level 5		
6	AUTO (H)	Auto (Half-tone)		
7	1.0 (H)	Exposure level 1 (Half-tone)		
8	2.0 (H)	Exposure level 2 (Half-tone)		
9	3.0 (H)	Exposure level 3 (Half-tone)		
10	4.0 (H)	Exposure level 4 (Half-tone)		
11	5.0 (H)	Exposure level 5 (Half-tone)		

NOTE: Only the set value is changed and no printing is performed.



46-27

Purpose	Adjustment
Function (Purpose)	Used to adjust the gamma (density gradient) of the network scanner mode.
Section	
Item	Picture quality

Operation/Procedure

(Scanner mode selection)

- 1) Select the number corresponding to the scanner mode to be adjusted with 10-key. (Select one of 1 - 9.)
- 2) Press [START] key.

(Gamma adjustment)

- 1) Enter the gamma level with 10-key.
- 2) Press [START] key.

The greater the adjustment value is, the greater the gamma is, resulting in a higher contrast.

	Item		Set range	Default
1	OC_Fine.HT	Fine text (Half-tone) (OC)	0 - 127	64
2	OC_SFine.HT	Super fine (Half-tone) (OC)		
3	OC_UFine.HT	Ultra fine (Half-tone) (OC)		
4	SPF_Fine.HT	Fine text (Half-tone) (SPF)		
5	SPF_SFine.HT	Super fine (Half-tone) (SPF)		
6	SPF_UFine.HT	Ultra fine (Half-tone) (SPF)		
7	CIS_Fine.HT	Fine text (Half-tone) (CIS)		
8	CIS_SFine.HT	Super fine (Half-tone) (CIS)		
9	CIS_UFine.HT	Ultra fine (Half-tone) (CIS)		

SIMULATION 46-27

GAMMA SETUP (SCANNER), SELECT 1-9, AND PRESS START.

1. OC_Fine.HT	64	2. OC_SFine.HT	64	3. OC_UFine.HT	64
4. SPF_Fine.HT	64	5. SPF_SFine.HT	64	6. SPF_UFine.HT	64
7. CIS_Fine.HT	64	8. CIS_SFine.HT	64	9. CIS_UFine.HT	64

46-31

Purpose	Adjustment
Function (Purpose)	Used to adjust sharpness of the copy mode.
Section	
Item	Picture quality

Operation/Procedure

(Copy mode selection)

- 1) Select the number corresponding to the copy mode to be adjusted with 10-key. (Select one of 1 - 16.)
- 2) Press [START] key.

(Sharpness adjustment)

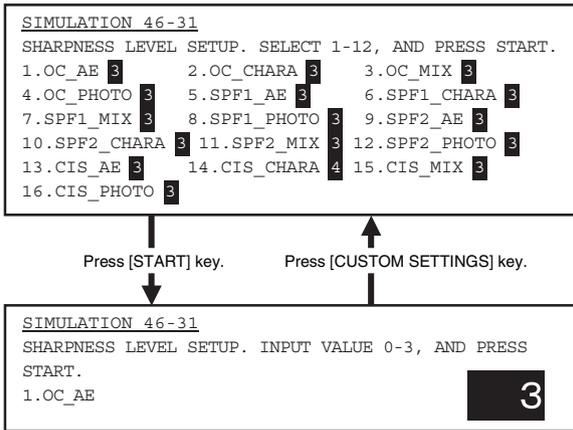
- 1) Enter the sharpness level with 10-key.
- 2) Press [START] key.

The greater the adjustment value is, the greater the sharpness is.

Item		Set range	Default	
1	OC_AE	AE mode (OC)	3	
2	OC_CHARA			Text mode (OC)
3	OC_MIX			Text/Photo mode (OC)
4	OC_PHOTO			Photo mode (OC)
5	SPF1_AE			AE mode (SPF1)
6	SPF1_CHARA			Text mode (SPF1)
7	SPF1_MIX			Text/Photo mode (SPF1)
8	SPF1_PHOTO			Photo mode (SPF1)
9	SPF2_AE			AE mode (SPF2)
10	SPF2_CHARA			Text mode (SPF2)
11	SPF2_MIX			Text/Photo mode (SPF2)
12	SPF2_PHOTO			Photo mode (SPF2)
13	CIS_AE			AE mode (CIS)
14	CIS_CHARA		Text mode (CIS)	4
15	CIS_MIX		Text/Photo mode (CIS)	3
16	CIS_PHOTO		Photo mode (CIS)	

* SPF1: DSPF front surface (CCD)

* SPF2: DSPF back surface (CCD)



46-39

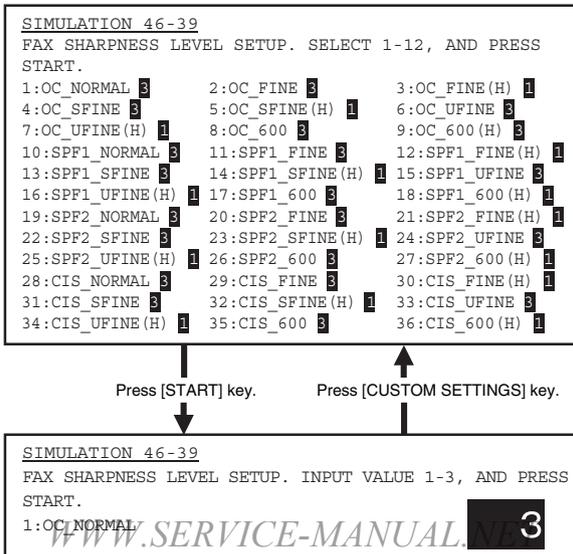
Purpose	Adjustment
Function (Purpose)	Used to adjust sharpness of the FAX mode.
Section	
Item	Picture quality

Operation/Procedure

- 1) Enter the sharpness level with 10-key.
- 2) Press [START] key.

The greater the adjustment value is, the greater the sharpness is.

Default: 3 (Normal), 1 (Halftone)

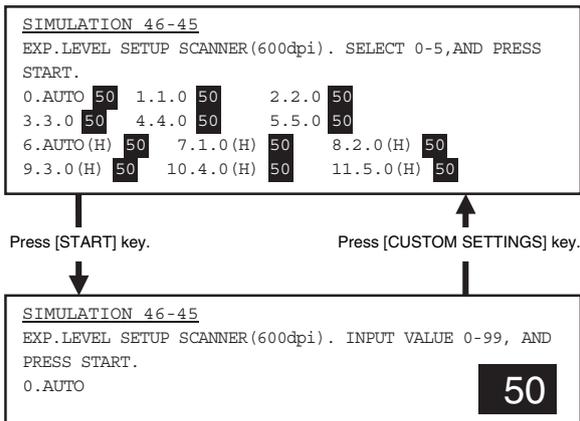


Purpose	Adjustment
Function (Purpose)	Used to adjust the image density in the FAX mode (600dpi).
Section	
Item	Picture quality

Operation/Procedure

- Select the number corresponding to one of the following adjustment items with 10-key. (Select one of 0 - 11.)
 - * Normal mode (Image density adjustment level)
 - * Normal mode (Image density adjustment level) (Half-tone mode)
 - * Auto mode
 - * Auto mode (Half-tone mode)
- Press [START] key.
- Enter the image density adjustment value with 10-key.
- Press [START] key or press [P] key.
The adjustment value is set.

Item			Set range	Default
0	AUTO	Auto	0 - 99	50
1	1.0	Exposure level 1		
2	2.0	Exposure level 2		
3	3.0	Exposure level 3		
4	4.0	Exposure level 4		
5	5.0	Exposure level 5		
6	AUTO (H)	Auto (Half-tone)		
7	1.0 (H)	Exposure level 1 (Half-tone)		
8	2.0 (H)	Exposure level 2 (Half-tone)		
9	3.0 (H)	Exposure level 3 (Half-tone)		
10	4.0 (H)	Exposure level 4 (Half-tone)		
11	5.0 (H)	Exposure level 5 (Half-tone)		



48-1

Purpose	Adjustment
Function (Purpose)	Used to adjust the copy magnification ratio (in the main scanning and the sub scanning directions).
Section	Optical (Image scanning)
Item	Picture quality

Operation/Procedure

(Adjustment mode selection)

- 1) Select the number corresponding to the copy mode to be adjusted with 10-key. (Select one of 3 - 7.)
- 2) Press [START] key.

Item			Set range	Default
0	TRAY SELECT	Paper feed tray selection	0 - 99	50
1	COPY START	Copy START (Default)		
2	MAGNIFICATION	Print magnification ratio		
3	CCD (MAIN)	SCAN main scanning magnification ratio adjustment (CCD)		
4	CCD (SUB)	SCAN sub scanning magnification ratio adjustment (CCD)		
5	SPF (SUB)	SPF front surface magnification ratio adjustment (Sub scan)		
6	CIS (MAIN)	SPF back surface magnification ratio adjustment (CIS main scan)		
7	SPF (MAIN)	SPF front surface magnification ratio adjustment (Main scan)		

(Copy magnification ratio adjustment)

- 1) Select the number corresponding to the copy magnification ratio adjustment mode to be adjusted with 10-key. (Select one of 3 - 7.)
- 2) Press [START] key.
- 3) Enter the copy magnification ratio adjustment value with 10-key.
- 4) Press [P] key or [START] key.

When the [START] key is pressed, copying is performed and the adjustment value is set simultaneously.

The copy magnification ratio in the sub scan direction can be adjusted by changing the scan speed (motor RPM).

Normal display		NOW COPYING.
ERROR display	Door open	DOOR OPEN.
	Jam	JAM
	Paper empty	PAPER EMPTY.

The greater the value is, the greater the correction is. One step corresponds to 0.1% adjustment.

(Copy condition setting in this simulation)

* To select paper (paper feed tray), perform the following procedures.

- 1) Enter 0 with 10-key.
- 2) Press [START] key. (The mode is changed to the paper feed tray selection mode.)
- 3) Enter the number corresponding to the paper feed tray of the selected paper with 10-key. (Select one of 1 - 6.)
- 4) Press [START] key. (The paper feed tray is selected.)

1	TRAY1	TRAY1
2	TRAY2	TRAY2
3	TRAY3	TRAY3
4	TRAY4	TRAY4
5	BPT	Manual feed
6	LCC	Side LCC

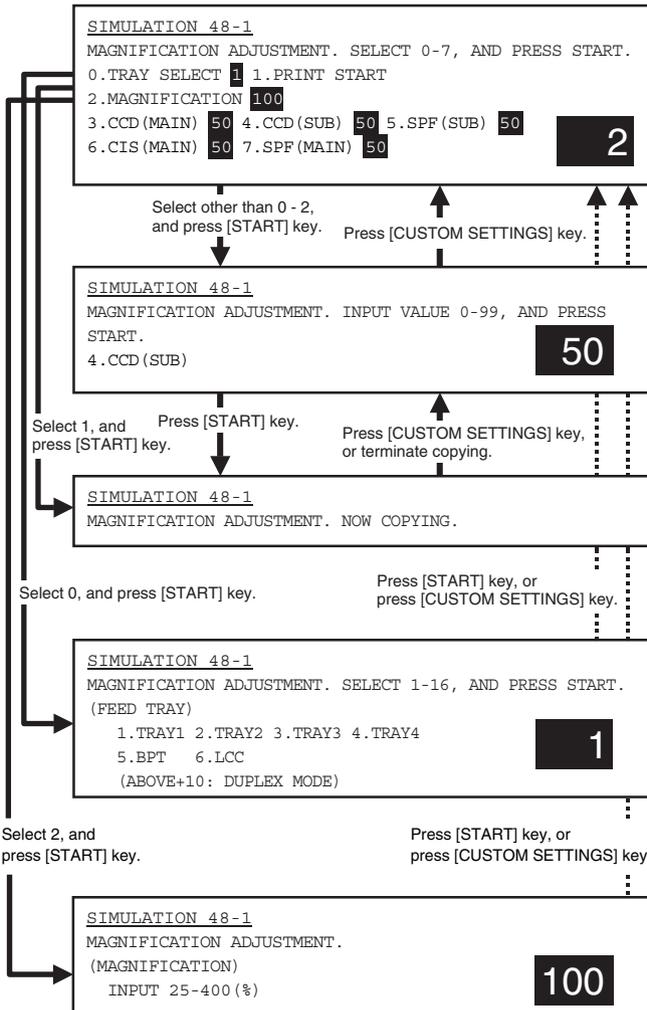
When the total of the above set value (1 - 6) and 10 is entered, the mode is changed to the duplex mode.

* The copy magnification ratio can be set with the following

- 1) Enter 2 with 10-key.
- 2) Press [START] key.
- 3) Enter the copy magnification ratio with 10-key.
- 4) Press [START] key.

Set range	25 - 400%
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NOTE: When [P] key is pressed after entering the adjustment value, the adjustment value is set. When [START] key is pressed instead, the adjustment value is set and copying is performed.



48-5

Purpose	Adjustment
Function (Purpose)	Used to adjust the copy magnification ratio in the sub scanning direction.
Section	Optical (Image scanning)
Item	Picture quality

Operation/Procedure

When the sub scanning direction image magnification ratio adjustment with SIM 48-1 cannot provide a satisfactory result if a different magnification ratio is set and a copy is made, perform this simulation.

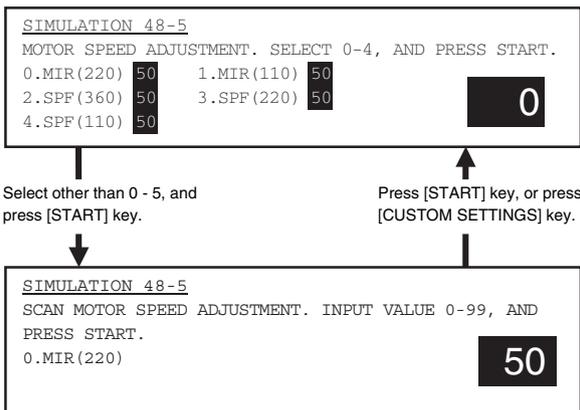
When there is an error in the copy magnification ratio in reduction copy, change the adjustment value of the high speed mode. When there is an error in the copy magnification ratio in enlargement copy, change the adjustment value of the low speed mode.

- 1) Select the number corresponding to the adjustment mode with 10-key.
- 2) Press [START] key.
- 3) Enter the copy adjustment value with 10-key.

The scanner/SPF motor rotation speed adjustment value is entered.

Item	Content	Set range	Default
0	MIR (220)	0 - 99	50
1	MIR (110)		
2	SPF (360)		
3	SPF (220)		
4	SPF (110)		

- 4) Press [START] key.



50

50-1

Purpose	Adjustment
Function (Purpose)	Used to adjust the copy image position and the void area (image loss) adjustment on print paper in the copy mode. (The similar adjustment can be performed with SIM 50-5 and 50-2 (Simplified method).) (Document table mode)
Section	
Item	Picture quality <i>SERVICE-MANUAL.NET</i> Image position

Operation/Procedure

(Lead edge image loss/void area adjustment)

- 1) Set the lead edge image loss adjustment value (LEAD EDGE) and the paper lead edge void adjustment value (DENA) as follows.

(Standard set value) Lead edge image loss: 1.5mm (LEDA: 15)

Paper lead edge void: 3.5mm (DENA: 35)

- * Set LEAD to 15. (Enter 15 as the adjustment value of LEAD, and press [P] key.) (0.1mm/step)
 - * Set DENA to 35. (Enter 35 as the adjustment value of DENA, and press [P] key.) (0.1mm/step)
- 2) Make a copy at the normal ratio (100%) and check the lead edge void area and the image loss. (Enter 100 as the set value of the copy magnification ratio (MAGNIFICATION), and press [START] key.)
 - 3) If the adjustment result is not satisfactory, perform the following procedures.
 - * If the lead edge void are is not 3.5mm:
Change the adjustment value of RRCB and perform the adjustment. (Change the adjustment value of RRCB and press [START] key.) (1msec/step)
 - * If the lead edge image loss is not 1.5mm:
Change the adjustment value of RRCA and perform the adjustment. (Change the adjustment value of RRCA and press [START] key.) (Shift for the adjustment value change: 0.2mm/step)

(Rear edge void area adjustment)

Adjust so that the rear edge void area is 3.5mm. (Change the adjustment value of TRAIL EDGE, and press [START] key.)

(Front/rear frame direction image loss adjustment)

Set the adjustment value of SIDE to 20. (Enter 20 as the adjustment value of SIDE, and press [P] key.)

When the adjustment value is changed, the image position is shifted in the front/rear frame direction.

(Front/rear frame direction void area adjustment)

Adjust so that the total of the front/rear direction void areas is 7.0mm. (Change the adjustment values of FRONT/REAR, and press [START] key.)

Front frame void area = 3.5mm Rear frame void area = 3.5mm

If, as shown above, the front and the rear void areas are not even, use SIM 50-5 to adjust the image off-center position.

	Item	Content	Set range	Default
0	TRAY SELECT	Paper feed tray selection	1 - 6	—
1	COPY START	Copy START (Default)	—	—
2	MAGNIFICATION	Print magnification ratio	25 - 400%	—
(Lead edge adjustment value)				
3	RRCA	Document scan start position	0 - 99	50
4	RRCB	Resist roller clutch ON timing adjustment value		
10	SIDE2 ADJ.	Correction value for RRCB in the back surface print mode	1 - 99	50

Item		Content	Set range	Default
(Image loss set value)				
5	LEAD	Lead edge image loss set value	0 - 99	15
6	SIDE	Side image loss set value		20
(Void set value)				
7	LEAD_EDGE (DENA)	Lead edge void set value	0 - 99	35
8	TRAIL_EDGE (DENB)	Rear edge void adjustment value		
9	FRONT/REAR	Front/Rear void adjustment value		

NOTE: When [P] is pressed after entering an adjustment value, the adjustment value is set. When [START] key is pressed instead, the adjustment value is set and copying is performed.)

Normal display		NOW COPYING.
ERROR display	Door open	DOOR OPEN.
	Jam	JAM
	Paper empty	PAPER EMPTY.

(Copy condition in this simulation)

* To select paper (paper feed tray), perform the following procedures.

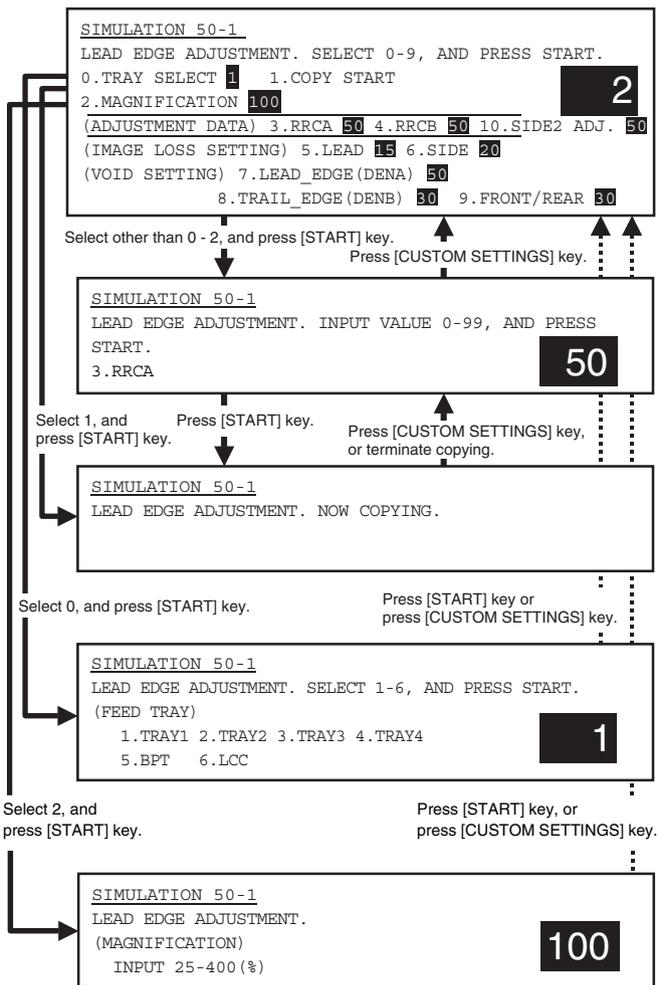
- 1) Enter 0 with 10-key.
- 2) Press [START] key. (The mode is changed to the paper feed tray selection mode.)
- 3) Enter the number corresponding to the paper feed tray of the target paper with 10-key.
- 4) Press [START] key. (The paper feed tray is selected.)

1	TRAY1	TRAY1
2	TRAY2	TRAY2
3	TRAY3	TRAY3
4	TRAY4	TRAY4
5	BPT	Manual feed
6	LCC	Side LCC

* To set the magnification ratio, perform the following procedure.

- 1) Enter 2 with 10-key.
- 2) Press [START] key.
- 3) Enter the copy magnification ratio with 10-key.
- 4) Press [START] key.

Set range	25 - 400 (%)
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50-2

Purpose	Adjustment
Function (Purpose)	Used to adjust the document scan position, the image print position, and the void area (image loss). (Simple adjustment) (This adjustment is the simple method of SIM 50-1.) (Document table mode)
Section	
Item	Picture quality Image position

Operation/Procedure

(Lead edge image loss/void area adjustment)

- 1) Set the RRGB value of SIM 50-1 to 80 - 99.
- 2) Set the lead edge image loss adjustment value (LEAD EDG) and the paper lead edge void adjustment value (DENA) to the values specified below.

(Standard set value) Lead edge image loss: 1.5mm

Paper lead edge void: 3.5mm (DENA: 35)

- * Set the adjustment value of LEAD to 15. (Enter 15 as the adjustment value of LEAD and press [P] key.)
 - * Set the adjustment value of DENA to 35. (Enter 35 as the adjustment value of DENA and press [P] key.)
- 3) Set the adjustment value of L1 to 0. (Enter 0 as the adjustment value of L1, and press [P] key.)
 - 4) Set the adjustment value of L2 to 0. (Enter 0 as the adjustment value of L2, and press [P] key.)
 - 5) Make a copy at 400%, and calculate the values of L1 and L2. (Enter 100 as the set value (MAGNIFICATION) of the copy magnification ratio, and press [START] key.) (Place a scale on the document table and make a copy.)

L1 = Distance (mm) from the image lead edge position to the scale position of 10mm x 10

L2 = Distance (mm) from the image lead edge position to the paper lead edge x 10

- 6) Enter the above values as the set values of L1 and L2. (Enter the adjustment values of L1 and L2, and press [P] key.)

If the adjustment result is not satisfactory, perform the above procedures again from the beginning, or use SIM 50-1 to adjust.

NOTE: If a satisfactory result is not obtained with the above procedures, through the adjustment values are changed individually, the normal adjustment cannot be made.

Perform procedures 3) to 6) continuously.

(Rear edge void area adjustment)

Adjust so that the rear edge void area is 3.5mm. (Change the adjustment value of TRAIL EDGE, and press [START] key.)

(Front/rear frame direction image loss adjustment)

Set the adjustment value of SIDE to 20. (Enter 20 as the adjustment value of SIDE, and press [P] key.)

When this adjustment value is changed, the image position is shifted in the front/rear frame direction.

(Front/rear frame direction void area adjustment)

Adjust so that the total of the front/rear direction void areas is 7.0mm. (Change the adjustment values of FRONT/REAR, and press [START] key.)

Front frame void area = 3.5mm Rear frame void area = 3.5mm

If, as shown above, the front and the rear void areas are not even, use SIM 50-5 to adjust the image off-center position.

	Item	Content	Set range	Default
0	TRAY SELECT	Paper feed tray selection	1 - 6	–
1	COPY START	Copy START (Default)	–	–
2	MAGNIFICATION	Print magnification ratio	25 - 400%	400
(Lead edge adjustment value)				
3	L1	Distance from the image lead edge to the scale of 10mm. (Platen 400%, 0.1mm increment)	0 - 999	–
4	L2	Distance from the paper lead edge to the image lead edge (0.1mm increment)		–
(Image loss set value)				
5	LEAD	Lead edge image loss set value	0 - 99	15
6	SIDE	Side image loss set value		20
(Void set value)				
7	LEAD_EDGE (DENA)	Lead edge void set value	0 - 99	35
8	TRAIL_EDGE (DENB)	Rear edge void adjustment value		
9	FRONT/REAR	Front/Rear void adjustment value		

NOTE: When [P] is pressed after entering an adjustment value, the adjustment value is set. When [START] key is pressed instead, the adjustment value is set and copying is performed.)

Normal display		NOW COPYING.
ERROR display	Door open	DOOR OPEN.
	Jam	JAM
	Paper empty	PAPER EMPTY.

(Copy condition in this simulation)

* To select paper (paper feed tray), perform the following procedures.

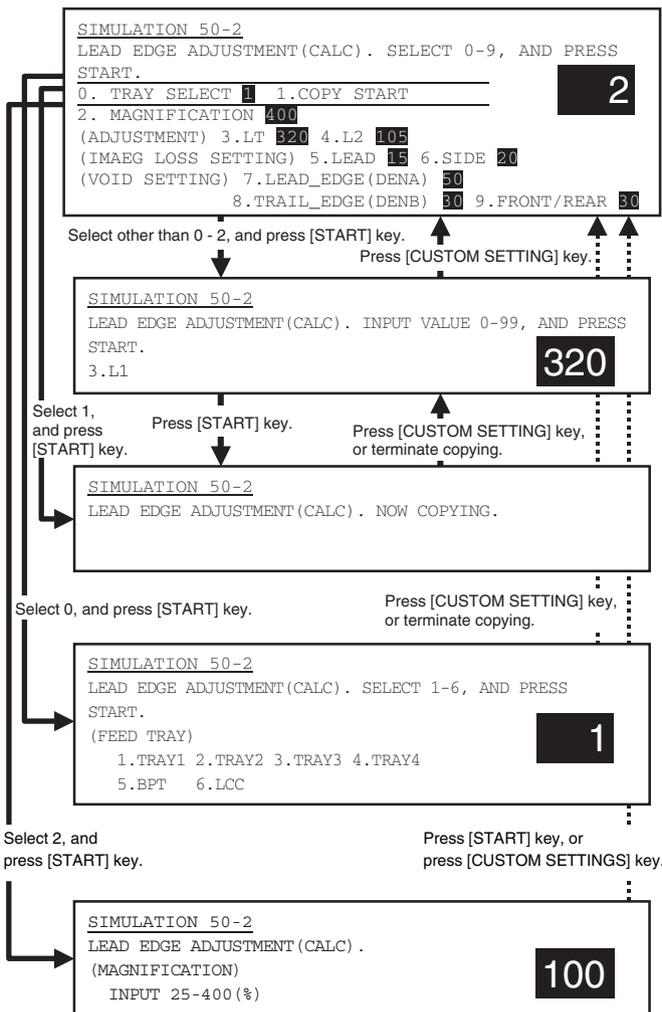
- 1) Enter 0 with 10-key.
- 2) Press [START] key. (The mode is changed to the paper feed tray selection mode.)
- 3) Enter the number corresponding to the paper feed tray of the target paper with 10-key.
- 4) Press [START] key. (The paper feed tray is selected.)

1	TRAY1	TRAY1
2	TRAY2	TRAY2
3	TRAY3	TRAY3
4	TRAY4	TRAY4
5	BPT	Manual feed
6	LCC	Side LCC

* To set the magnification ratio, perform the following procedure.

- 1) Enter 2 with 10-key.
- 2) Press [START] key.
- 3) Enter the copy magnification ratio with 10-key.
- 4) Press [START] key.

Set range	25 - 400 (%)
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50-5

Purpose	Adjustment
Function (Purpose)	Used to adjust the print image position and the void area (image loss) on print paper. (Adjustment as the print engine) (This adjustment is reflected on all the FAX/printer/copy modes.)
Section	
Item	Picture quality

Operation/Procedure

(Print image off-center position adjustment)

- 1) Enter the number corresponding to the paper feed tray to be adjusted with 10-key. (Select one of 10 - 16.) (Table 1)
- 2) Press [START] key.
- 3) Enter the adjustment value with 10-key.
- 4) Press [P] key or [START] key. When [START] key is pressed, the adjustment value is set and printing is performed. (Table 2)

Check the off-center of the self-print pattern of print-out.

(Shift for the adjustment value change: 0.1mm/step)

The greater the adjustment value is, the more the print image is shifted to the front.

(Lead edge void area adjustment)

- 1) Set the lead edge void adjustment value (DENA) as specified below.
(Standard set value) Paper lead edge void: 3.5mm (DENA: 35)
 - * Set the adjustment value of DENA to 35. Enter 35 as the adjustment value of DENA, and press [P] key.
- 2) Check the lead edge void area on the self print pattern.
(Enter 1 and press [START] key.)
- 3) If the adjustment result is not satisfactory, perform the following procedures.
 - * If the lead edge void area is not 3.5mm:
Change the adjustment value of RRCB and perform the adjustment.
(Change the adjustment value of RRCB and press [START] key.)
(Shift for the adjustment value change: 0.1mm/step)

(Front/rear frame direction void area adjustment)

Adjust so that the total of the front/rear direction void areas is 7.0mm. (Change the adjustment values of FRONT/REAR, and press [START] key.)

Front frame void area = 3.5mm Rear frame void area = 3.5mm

(Paper resist adjustment)

- 1) Enter the number corresponding to the paper feed tray to be adjusted with 10-key. (Select one of 3 - 9.) (Table 1)
- 2) Press [START] key.
- 3) Enter the adjustment value with 10-key.
- 4) Press [P] key or [START] key. When [START] key is pressed, the adjustment value is set and printing is performed. (Table 2)

If the relative positions of paper and print images vary or a paper jam occurs, change the adjustment value.

(Print condition setting in this simulation)

* To select paper (paper feed tray), perform the following procedures.

- 1) Enter 0 with 10-key.
- 2) Press [START] key. (The mode is changed to the paper feed tray selection mode.)
- 3) Enter the number corresponding to the paper feed tray to be used with 10-key. (Table 3)
- 4) Press [START] key. (The paper feed tray is selected.)

When the total of the above set value (1 - 6) and 10 is entered, the mode is changed to the duplex print mode.

NOTE: When [P] key is pressed after entering the adjustment value in this simulation, the adjustment value is set. When [START] key is pressed instead, the adjustment value is set and copying is performed.

(Table 1)

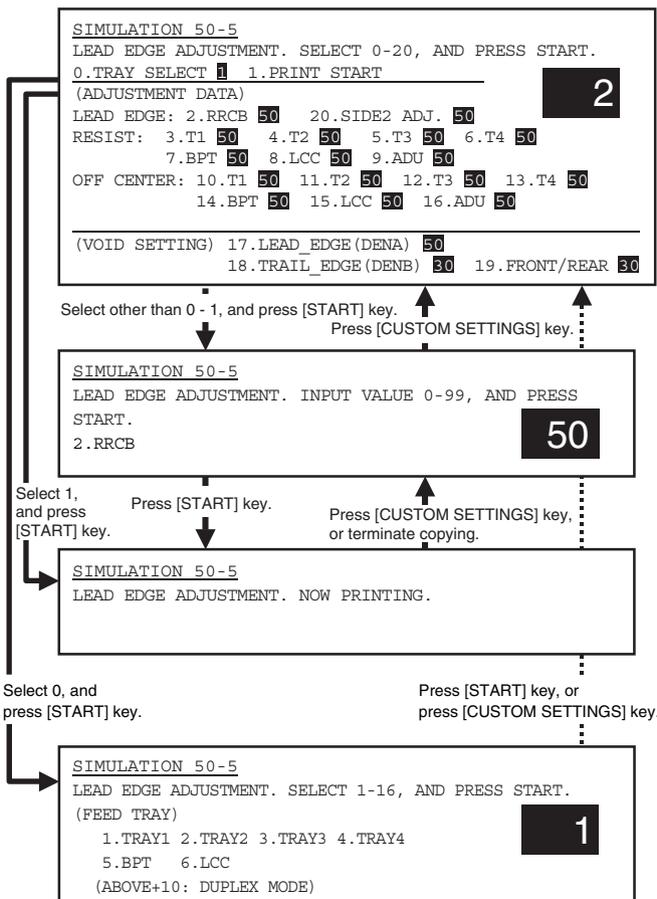
Item		Set range	Default	
			AR-M550N/U, AR-620N/U	AR-M700N/U
0	TRAY SELECT	Paper feed tray selection (1 - 6)	-	-
1	PRINT START	Print start (Default)	-	-
(Lead edge adjustment value)				
2	RRCB	Resist roller clutch ON timing adjustment value	0 - 99	50
(Resist adjustment value)				
3	TRAY1	Tray 1 adjustment	0 - 99	46
4	TRAY2	Tray 2 adjustment		45
5	TRAY3	Tray 3 adjustment		46
6	TRAY4	Tray 4 adjustment		46
7	BPT	Manual feed tray adjustment		45
8	LCC	Side LCC adjustment		45
9	ADU	Adjustment when paper is fed again from ADU		43
(Off-center set value) Self print				
10	TRAY 1	Tray 1 adjustment	0 - 99	50
11	TRAY 2	Tray 2 adjustment		
12	TRAY 3	Tray 3 adjustment		
13	TRAY 4	Tray 4 adjustment		
14	BPT	Manual feed tray adjustment		
15	LCC	Side LCC adjustment		
16	ADU	Adjustment when paper is fed again from ADU		
(Void set value)				
17	LEAD_EDGE (DENA)	Lead edge void set value	0 - 99	35
18	TRAIL_EDGE (DENB)	Rear edge void adjustment value		
19	FRONT/REAR	Front/Rear void adjustment value		
20	SIDE2 ADJ.	RRCB correction value in the back surface print mode	1 - 99	50

(Table 2)

Normal display		NOW PRINTING.
ERROR display	Door open	DOOR OPEN.
	Jam	JAM
	Paper empty	PAPER EMPTY.

(Table 3)

1	TRAY1	TRAY1
2	TRAY2	TRAY2
3	TRAY3	TRAY3
4	TRAY4	TRAY4
5	BPT	Manual feed
6	LCC	Side LCC



50-6

Purpose	Adjustment
Function (Purpose)	Used to adjust the copy image position and void area (image loss) on print paper in the copy mode. (The similar adjustment can be performed with SIM 50-7 (simple method).) (SPF mode)
Section	
Item	Picture quality

Operation/Procedure

(Lead edge image loss adjustment) (Table 1)

- 1) Set the front and back surface image loss adjustment values (LEAD EDGE) as specified below:

(Standard set value) Lead edge image loss: 1.5mm (LEAD: 1.5) Paper lead edge: 3.5mm (DENA: 35)

- * Set the adjustment value of LEAD to 15. (Enter 15 as the adjustment value of LEAD EDGE, and press [P] key.)

- 2) Make a duplex copy at 100% with the SPF, and check that the lead edge (image loss) is 1.5mm either on the front surface and the back surface. (Select the duplex mode in the paper selection mode of SIM 50-6.) (Table 3) (Enter 100 as the copy magnification ratio set value (MAGNIFICATION), and press [START] key.)

If the adjustment result is not satisfactory, perform the following procedures:

- 3) Change the adjustment values of SIDE1 and SIDE2, and perform the adjustment. (Change the adjustment values of SIDE1 and SIDE2, and press [START] key.)

SIDE1: SPF front surface document lead edge scan position adjustment value

SIDE2: SPF back surface document lead edge scan position adjustment value

(Shift for the adjustment value change: 0.1mm/step)

(The image scan start timing is determined with the detection timing of the document lead edge by the detector SPPD4.)

Repeat procedures 2) and 3) until a satisfactory result is obtained.

(Rear edge image loss adjustment)

- 1) Use the SPF at 100% to make a duplex copy, and check that the rear edge image loss is 1.5mm on the front and the back surfaces. (Select the duplex mode in the paper selection mode of SIM 50-6.) (Enter 100 as the copy magnification ratio set value (MAGNIFICATION), and press [START] key.)

If the adjustment value is not satisfactory, perform the following procedure.

- 2) Change the adjustment value of TRAIL EDGE. Change the adjustment value of TRAIL EDGE, and press [START] key.

Repeat the above procedures until a satisfactory result is obtained.

(Front/rear frame direction image loss adjustment)

Set the adjustment value of the front surface and the back surface (FRONT/REAR) to 20. (Enter 20 as the adjustment value of FRONT/REAR, and press [P] key.)

When the adjustment value is changed, the image position is shifted in the front/rear frame direction.

NOTE: When [P] key is pressed after entering the adjustment value, the adjustment value is set. When [START] key is pressed instead, the adjustment value is set and copying is performed. (Table 2)

(Copy condition setting in this simulation)

* To select paper (paper feed tray), perform the following procedures.

- 1) Enter 0 with 10-key.
- 2) Press [START] key. (The mode is changed to the paper feed tray selection mode.)
- 3) Enter the number corresponding to the paper feed tray to be used with 10-key. (Table 3)
- 4) Press [START] key. (The paper feed tray is selected.)

* To set the copy magnification ratio, perform the following procedure.

- 1) Enter 2 with 10-key.
- 2) Press [START] key.
- 3) Enter the copy magnification ratio with 10-key.
- 4) Press [START] key.

Set range	25 - 200 (%)
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(Table 1)

Item		Set range	Default	
0	TRAY SELECT	Paper feed tray selection	1 - 6	–
1	COPY START	Copy START (Default)	–	–
2	MAGNIFICATION	Print magnification ratio	25 - 200%	–
(Lead edge adjustment value)				
3	SIDE1	Front surface document scan start position adjustment value	0 - 99	50
4	SIDE2	Back surface document scan start position adjustment value		
(Image loss set value: SIDE 1)				
5	LEAD_EDGE	Front surface lead edge image loss set value	0 - 99	15
6	FRONT_REAR	Front surface side edge image loss set value		20
7	TRAIL_EDGE	Front surface rear edge image loss set value	0 - 20	0
(Image loss set value: SIDE 2)				
8	LEAD_EDGE	Back surface lead edge image loss set value	0 - 99	15
9	FRONT/REAR	Back surface side edge image loss set value		20
10	TRAIL_EDGE	Back surface rear edge image loss set value	0 - 20	0

(Table 2)

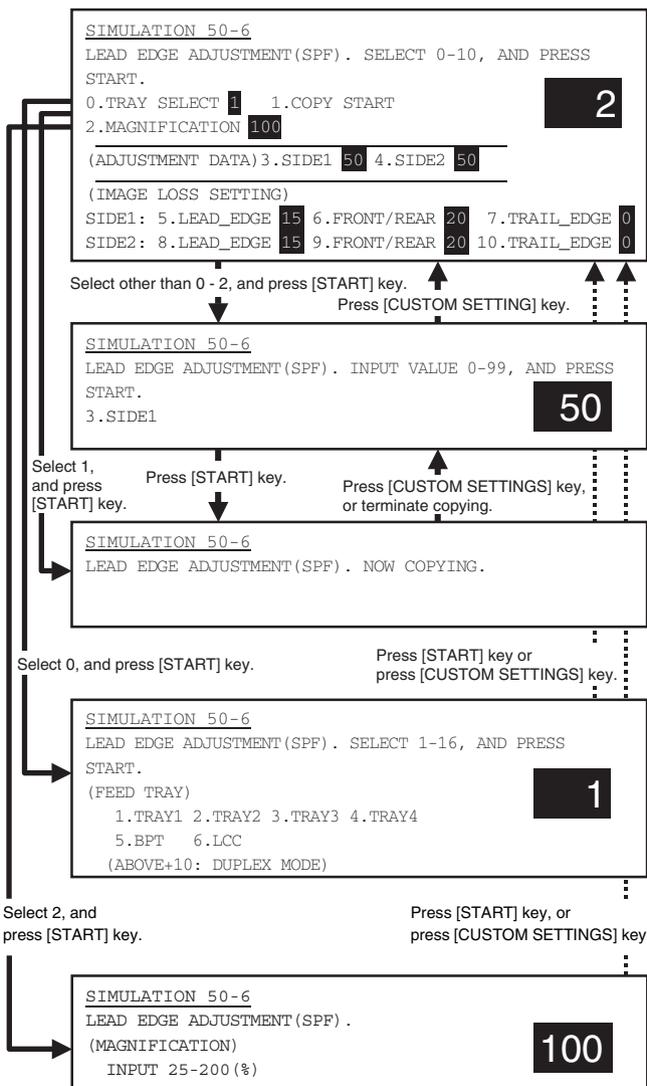
Normal display		NOW COPYING.
ERROR display	Door open	DOOR OPEN.
	Jam	JAM
	Paper empty	PAPER EMPTY.

(Table 3)

1	TRAY1	TRAY1
2	TRAY2	TRAY2
3	TRAY3	TRAY3
4	TRAY4	TRAY4
5	BPT	Manual feed
6	LCC	Side LCC

When the total of the above set value and 10 is entered, the mode is changed to the duplex mode (DD), and a duplex copy is made.

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50-7

Purpose	Adjustment
Function (Purpose)	Used to adjust the copy image position and void area (image loss) on print paper in the copy mode. (The similar adjustment can be performed with SIM 50-6.) (SPF mode)
Section	
Item	Picture quality

Operation/Procedure

(Lead edge image loss adjustment)

- 1) Set the front and back surface image loss adjustment values (LEAD EDGE) as specified below:
(Standard set value) Lead edge image loss: 1.5mm (LEAD: 1.5) Paper lead edge void: 3.5mm (DENA: 35)
* Set the adjustment value of LEAD to 15. (Enter 15 as the adjustment value of LEAD EDGE, and press [P] key.)
- 2) Set the adjustment value of L4 to 0. (Enter 0 as the adjustment value of L4, and press [P] key.)
- 3) Set the adjustment value of L5 to 0. (Enter 0 as the adjustment value of L5, and press [P] key.)
- 4) Make a copy at 200% with the SPF, and calculate the values of L4 and L5. (Enter 200 as the set value of the copy magnification ratio set value (MAGNIFICATION) and press [START] key.)
L4 = Distance (mm) from the image lead edge position to the scale of 10mm x 10
L5 = Distance (mm) from the image lead edge position to the paper lead edge x 10
- 5) Enter the above values as the set values of L4 and L5. (Enter the adjustment values of L4 and L5, and press [P] key.)
(The image scan start timing is determined with the detection timing of the document lead edge by the detector SPPD4.)

If the adjustment result is not satisfactory, perform the above procedures again or adjust with SIM 50-1.

NOTE: If the adjustment result of the above procedures is not satisfactory, though the adjustment value is changed individually, the adjustment cannot be completed normally.

Repeat procedures 2) - 6) until a satisfactory result is obtained.

(Rear edge image loss adjustment)

Adjust so that the rear edge image loss is 3.5mm. (Change the adjustment value of TRAIL EDGE, and press [START] key.)

(Front/rear frame direction image loss adjustment)

Set the adjustment value of SIDE to 20. (Enter 20 as the adjustment value of SIDE, and press [P] key.)

When the adjustment value is changed, the image position is shifted in the front/rear frame direction.

NOTE: When [P] key is pressed after entering the adjustment value, the adjustment value is set. When [START] key is pressed instead, the adjustment value is set and copying is performed. (Table 2)

(Copy condition setting in this simulation)

* To select paper (paper feed tray), perform the following procedures.

- 1) Enter 0 with 10-key.
- 2) Press [START] key. (The mode is changed to the paper feed tray selection mode.)
- 3) Enter the number corresponding to the paper feed tray to be used with 10-key. (Table 3)
- 4) Press [START] key. (The paper feed tray is selected.)

* To set the copy magnification ratio, perform the following procedure.

- 1) Enter 2 with 10-key.
- 2) Press [START] key.
- 3) Enter the copy magnification ratio with 10-key.
- 4) Press [START] key.

Set range	25 - 200 (%)
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(Table 1)

Item		Set range	Default
0	TRAY SELECT	Paper feed tray selection (1 - 6)	–
1	COPY START	Copy START (Default)	–
2	MAGNIFICATION	Print magnification ratio (25 - 200%)	–
(Lead edge adjustment value)			
3	L4	Distance from the front surface image lead edge to the scale of 10mm (SPF: 200%)	0 - 999
4	L5	Distance from the back surface image lead edge to the scale of 10mm (SPF: 200%)	–
(Image loss set value: SIDE 1)			
5	LEAD_EDGE	Front surface lead edge image loss set value	0 - 99
6	FRONT_REAR	Front surface side edge image loss set value	20
7	TRAIL_EDGE	Front surface rear edge image loss set value	0 - 20
(Image loss set value: SIDE 2)			
8	LEAD_EDGE	Back surface lead edge image loss set value	0 - 99
9	FRONT/REAR	Back surface side edge image loss set value	20
10	TRAIL_EDGE	Back surface rear edge image loss set value	0 - 20

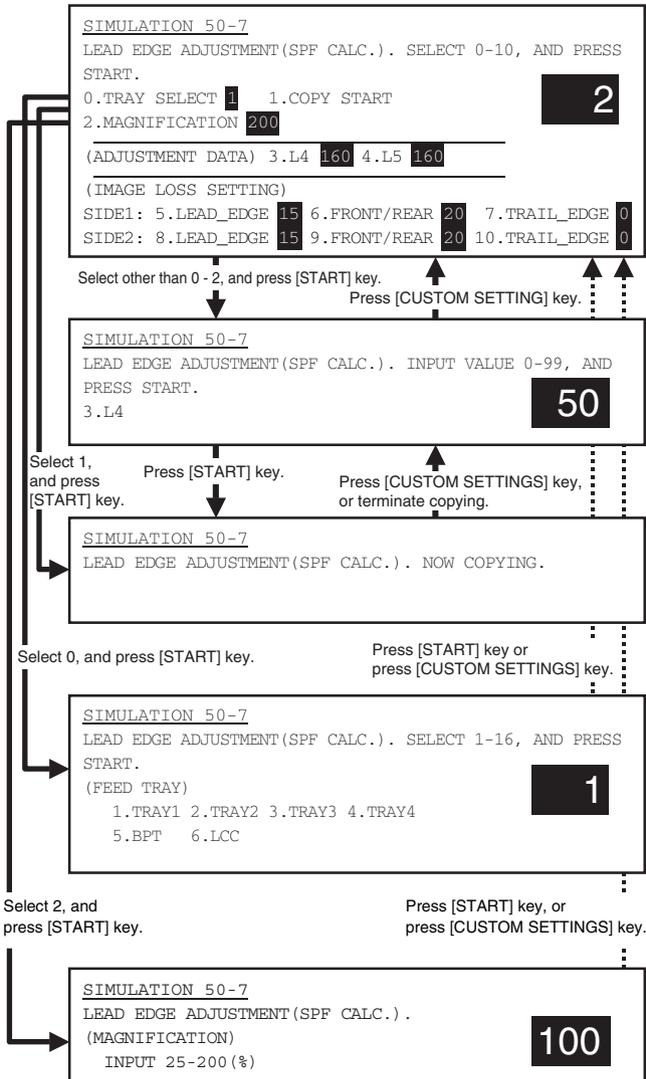
(Table 2)

Normal display		NOW COPYING.
ERROR display	Door open	DOOR OPEN.
	Jam	JAM
	Paper empty	PAPER EMPTY.

(Table 3)

1	TRAY1	TRAY1
2	TRAY2	TRAY2
3	TRAY3	TRAY3
4	TRAY4	TRAY4
5	BPT	Manual feed
6	LCC	Side LCC

When the total of the above set value and 10 is entered, the mode is changed to the duplex mode (DD), and a duplex copy is made.



Purpose	Adjustment	
Function (Purpose)	Used to adjust the print image off-center position. (Adjusted separately for each paper feed section.)	
Section		
Item	Picture quality	Image position

Operation/Procedure

(Print image off-center position adjustment)

NOTE: This simulation cannot provide an accurate adjustment. Do not use.

- 1) Enter the number corresponding to the number of the paper feed tray to be adjusted with 10-key. (Select one of 3 - 9.)

		Item	Set range	Default
0	TRAY SELECT	Paper feed tray selection	1 - 6	–
1	COPY START	Copy START (Default)	–	–
2	MAGNIFICATION	Print magnification ratio	25 - 400%	100
(Off-center adjustment value)				
3	TRAY1	Tray 1 adjustment	0 - 99	50
4	TRAY2	Tray 2 adjustment		
5	TRAY3	Tray 3 adjustment		
6	TRAY4	Tray 4 adjustment		
7	BPT	Manual feed tray adjustment		
8	LCC	Side LCC adjustment		
9	ADU	Adjustment when paper is fed again from ADU		

- 2) Press [START] key.
- 3) Enter the adjustment value with 10-key.
- 4) Press [P] key or [START] key. When [START] key is pressed, the adjustment value set and copying is performed.

Normal display		NOW COPYING.
ERROR display	Door open	DOOR OPEN.
	Jam	JAM
	Paper empty	PAPER EMPTY.

(Image off-center adjustment)

- 1) Enter 1 with 10-key.
- 2) Press [START] key. The adjustment pattern is printed.
- 3) Check the off-center of the printed image.
(UNIT: 0.1mm/step When the adjustment value is increased, the print image is shifted to the front direction.)

NOTE: This adjustment can be performed with SIM 50-5.

(Copy condition setting in this simulation)

* To select paper (paper feed tray), perform the following procedures.

- 1) Enter 0 with 10-key.
- 2) Press [START] key. (The mode is changed to the paper feed tray selection mode.)
- 3) Enter the number corresponding to the paper feed tray to be used with 10-key. (Select one of 1 - 6)

4) Press [START] key. (The paper feed tray is selected.)

1	TRAY1	TRAY1
2	TRAY2	TRAY2
3	TRAY3	TRAY3
4	TRAY4	TRAY4
5	BPT	Manual feed
6	LCC	Side LCC

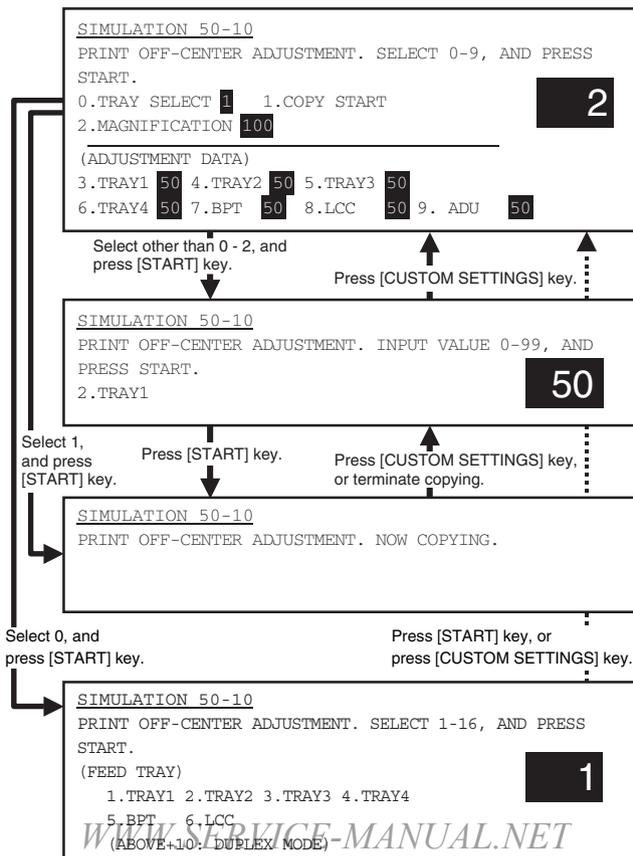
When the total of the above set value and 10 is entered, the mode is changed to the duplex print mode.

* To set the copy magnification ratio, perform the following procedure.

- 1) Enter 2 with 10-key.
- 2) Press [START] key.
- 3) Enter the copy magnification ratio with 10-key.
- 4) Press [START] key.

Set range	25 - 400 (%)
-----------	--------------

NOTE: When [P] key is pressed after entering the adjustment value in this simulation, the adjustment value is set. When [START] key is pressed, the adjustment value is set and copying is performed.



Purpose	Adjustment	
Function (Purpose)	Used to adjust the scan image off-center position. (Adjusted separately for each scan mode.)	
Section		
Item	Picture quality	Image position

Operation/Procedure

(Select the scan mode to be adjusted.)

- 1) Enter the number corresponding to the scan mode to be adjusted with 10-key. (Select one of 3 - 5.)

	Item	Set range	Default
0	TRAY SELECT	Paper feed tray selection	1 - 5
1	COPY START	Copy START (Default)	–
2	MAGNIFICATION	Print magnification ratio	25 - 400%
(Resist adjustment value)			
3	PLATEN	OC mode adjustment	0 - 99 50
4	SPF SIDE1	SPF front surface adjustment	
5	SPF SIDE2	SPF back surface adjustment	

- 2) Press [START] key.

(Scan off-center position adjustment)

- 1) Enter the scan image position adjustment value with 10-key.
- 2) Press [P] key or [START] key.

When [START] key is pressed, the adjustment value is set and copying is performed.

Normal display		NOW COPYING.
ERROR display	Door open	DOOR OPEN.
	Jam	JAM
	Paper empty	PAPER EMPTY.

Check the off-center of the printed image.

Repeat the above procedures until a satisfactory result is obtained.

(UNIT: 0.1mm/step When the adjustment value is increased, the print image is shifted to the front direction.)

(Copy condition setting in this simulation)

* To select paper (paper feed tray), perform the following procedures.

- 1) Enter 0 with 10-key.
- 2) Press [START] key. (The mode is changed to the paper feed tray selection mode.)
- 3) Enter the number corresponding to the paper feed tray to be used with 10-key. (Select one of 1 - 6)
- 4) Press [START] key. (The paper feed tray is selected.)

1	TRAY1	TRAY1
2	TRAY2	TRAY2
3	TRAY3	TRAY3
4	TRAY4	TRAY4
5	BPT	Manual feed
6	LCC	Side LCC

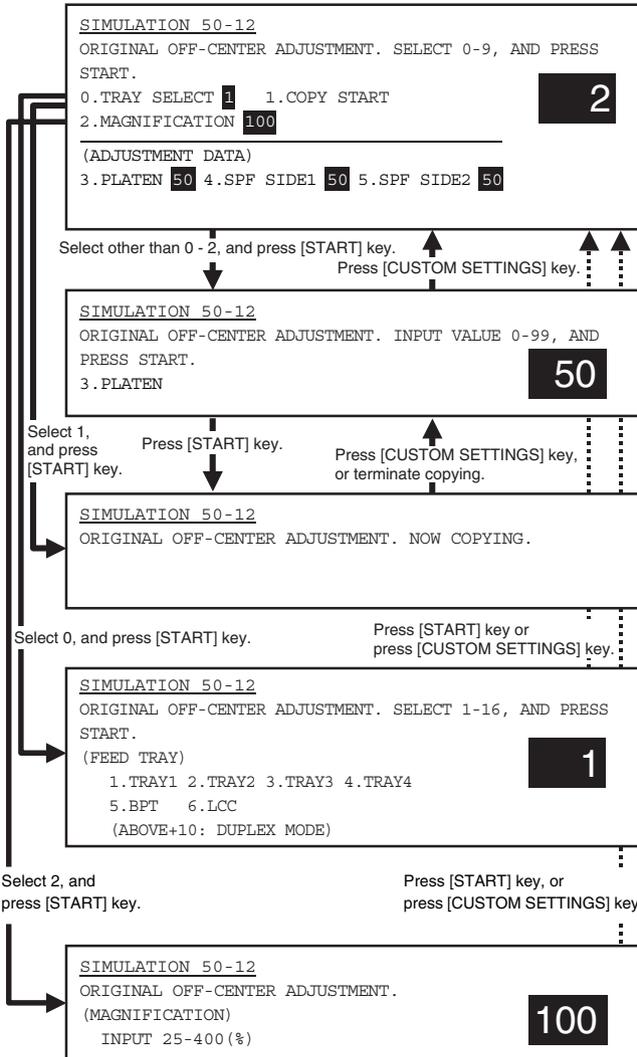
When the total of the above set value and 10 is entered, the mode is changed to the duplex print mode.

* To set the copy magnification ratio, perform the following procedure.

- 1) Enter 2 with 10-key.
- 2) Press [START] key.
- 3) Enter the copy magnification ratio with 10-key.
- 4) Press [START] key.

Set range	25 - 400 (%)
-----------	--------------

NOTE: When [P] key is pressed after entering the adjustment value in this simulation, the adjustment value is set. When [START] key is pressed, the adjustment value is set and copying is performed.



Purpose	Adjustment
Function (Purpose)	Used to adjust the image loss of the scan image in the FAX/scan mode.
Section	
Item	Picture quality

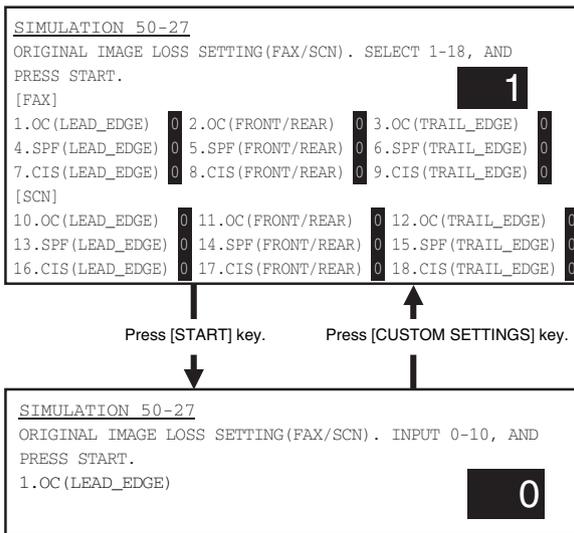
Operation/Procedure

(Select the scan mode to be adjusted.)

- 1) Enter the number corresponding to the adjustment item with 10-key.
- 2) Press [START] key.
- 3) Enter the adjustment value with 10-key.
- 4) Press [START] key.

(Shift for the adjustment value change: 1.0mm/step)

Item			Set range	Default
FAX send				
1	OC (LEAD_EDGE)	OC lead edge	0 - 10 (Unit 1mm)	3 (3mm)
2	OC (FRONT/REAR)	OC side		
3	OC (TRAIL_EDGE)	OC rear edge		
4	SPF (LEAD_EDGE)	SPF lead edge		
5	SPF (FRONT/REAR)	SPF side		
6	SPF (TRAIL_EDGE)	SPF rear edge		
7	CIS (LEAD_EDGE)	CIS lead edge		
8	CIS (FRONT/REAR)	CIS side		
9	CIS (TRAIL_EDGE)	CIS rear edge		
Scanner mode				
10	OC (LEAD_EDGE)	OC lead edge	0 - 10 (Unit 1mm)	0 (0mm)
11	OC (FRONT/REAR)	OC side		
12	OC (TRAIL_EDGE)	OC rear edge		
13	SPF (LEAD_EDGE)	SPF lead edge		
14	SPF (FRONT/REAR)	SPF side		
15	SPF (TRAIL_EDGE)	SPF rear edge		
16	CIS (LEAD_EDGE)	CIS lead edge		
17	CIS (FRONT/REAR)	CIS side		
18	CIS (TRAIL_EDGE)	CIS rear edge		



51

51-2

Purpose	Adjustment
Function (Purpose)	Used to adjust the contact pressure of paper on the resist roller of each section (each paper feed, duplex feed and SPF paper feed of the copier). (This adjustment is required when the print image position variations are considerably great or when paper jams occur frequently.)
Section	Paper transport (Discharge/Switchback/Transport)
Item	Operation

Operation/Procedure

(Select the scan mode to be adjusted.)

- 1) Enter the number corresponding to the paper feed tray to be adjusted with 10-key. (Select one of 2 - 12.)

Item			Set range	Default	
				AR-M550N/U, AR-620N/U	AR-M700N/U
0	TRAY SELECT	Paper feed tray selection (1 - 5)	—	—	—
1	PRINT START	Print start (Default)	—	—	—
2	TRAY1	Tray 1 adjustment value	0 - 99	46	48
3	TRAY2	Tray 2 adjustment value		45	46
4	TRAY3	Tray 3 adjustment value		46	47
5	TRAY4	Tray 4 adjustment value			

Item			Set range	Default	
				AR-M550N/U, AR-620N/U	AR- M700N/U
6	BPT	Manual feed tray resist adjustment value	0 - 99	45	46
7	LCC	Side LCC resist adjustment value		43	46
8	ADU	ADU resist adjustment value			
9	SPF (TOP)	SPF resist adjustment value (Top speed)		50	
10	SPF (HIGH)	SPF resist adjustment value (High speed)			
11	SPF (LOW)	SPF resist adjustment value (Low speed)			
12	SPF FEED (TOP)	SPF paper feed resist adjustment value (Top speed)			
13	SPF FEED (HIGH)	SPF paper feed resist adjustment value (High speed)			
14	SPF FEED (LOW)	SPF paper feed resist adjustment (Low speed)			

2) Press [START] key.

(Resist adjustment)

1) Enter the resist adjustment value with 10-key.

2) Press [START] key.

When [START] key is pressed, the adjustment value is set and paper feed and copying are performed.

Normal display		NOW PRINTING.
ERROR display	Door open	DOOR OPEN.
	Jam	JAM
	Paper empty	PAPER EMPTY.

(Copy condition setting in this simulation)

* To select paper (paper feed tray), perform the following procedures.

1) Enter 0 with 10-key.

2) Press [START] key. (The mode is changed to the paper feed tray selection mode.)

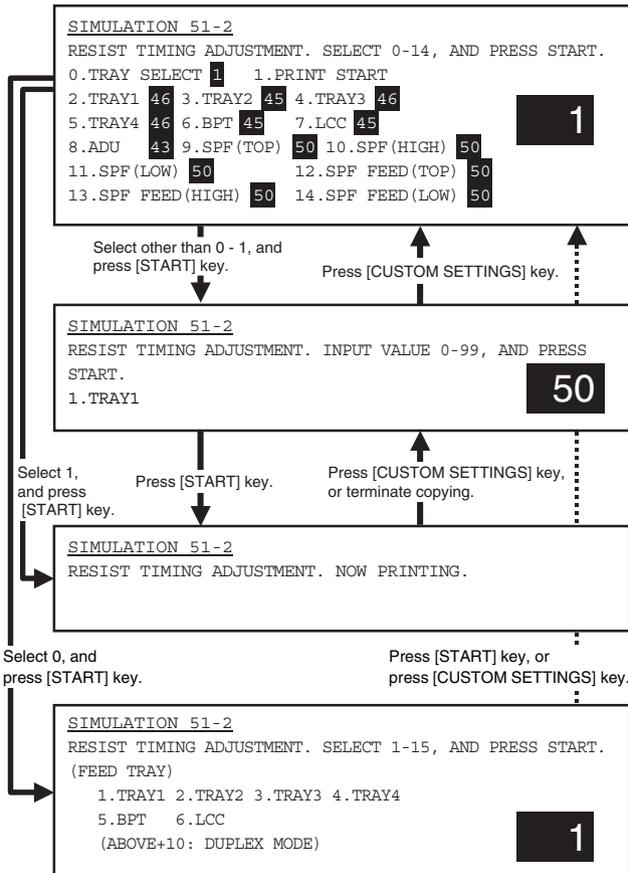
3) Enter the number corresponding to the paper feed tray to be used with 10-key.

4) Press [START] key. (The paper feed tray is selected.)

1	TRAY1	TRAY1
2	TRAY2	TRAY2
3	TRAY3	TRAY3
4	TRAY4	TRAY4
5	BPT	Manual feed
6	LCC	LCC

When the total of the above set value (1 - 6) and 10 is entered, the mode is changed to the duplex print mode.

NOTE: When [P] key is pressed after entering the adjustment value in this simulation, the adjustment value is set. When [START] key is pressed, the adjustment value is set and copying is performed.



53

53-6

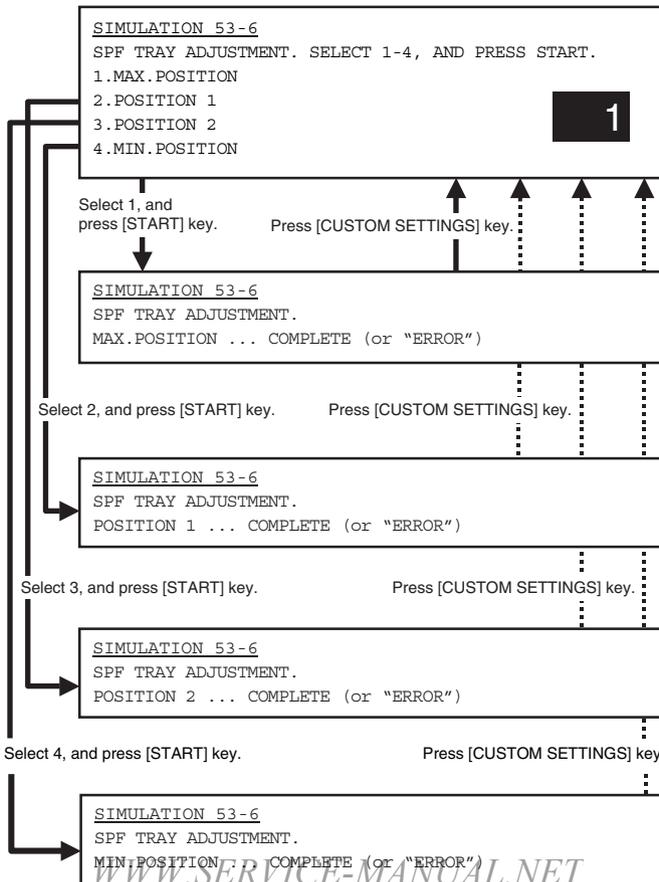
Purpose	Adjustment
Function (Purpose)	Used to adjust the DSPF width detection level.
Section	
Item	Operation

Operation/Procedure

- 1) Set the SPF paper feed guide to the max. position.
- 2) Select "MAX. POSITION" with 10-key.
- 3) Press [START] key.
The max. width detection level is recognized.
- 4) Press [CUSTOM SETTING] key.

- 5) Set the SPF paper feed guide to A4R size position.
- 6) Select POSITION 1 with 10-key.
- 7) Press [START] key.
The A4R width detection level is recognized.
- 8) Press [CSUTOM SETTING] key.
- 9) Set the SPF paper feed guide to A5R size position.
- 10) Select POSITION 2 with 10-key.
- 11) Press [START] key.
The A5R width detection level is recognized.
- 12) Press [CSUTOM SETTING] key.
- 13) Set the SPF paper feed guide to the min. position.
- 14) Select "MIN. POSITION" with 10-key.
- 15) Press [START] key.
The min. width detection level is recognized.

If the above procedures are not completed normally, ERROR is displayed. When completed normally, COMPLETE is displayed.



53-7

Purpose	Adjustment/Setup/Operation data output/Check (Display/Print)
Function (Purpose)	Used to enter the SPF width detection adjustment value.
Section	DSPF
Item	Operation

Operation/Procedure

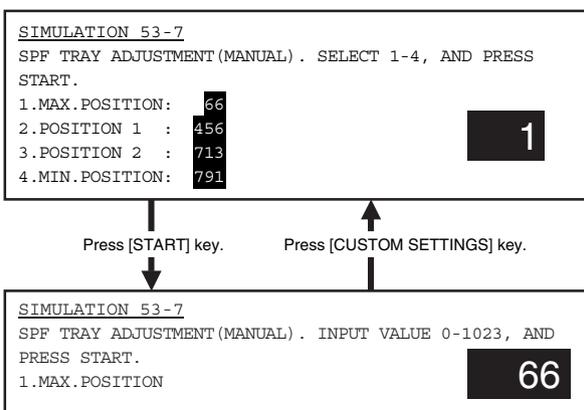
1) Enter the number corresponding to the set item with 10-key.

Item		Set range	Default
1	MAX. POSITION	0 - 1023	66
2	POSITION 1		456
3	POSITION 2		713
4	MIN. POSITION		791

2) Press [START] key.

3) Enter the set value with 10key.

4) Press [START] key.



53-8

Purpose	Adjustment
Function (Purpose)	Used to adjust the document scan start position. (Used to adjust the scanner scan position in the SPF mode front scan.)
Section	
Item	

Operation/Procedure

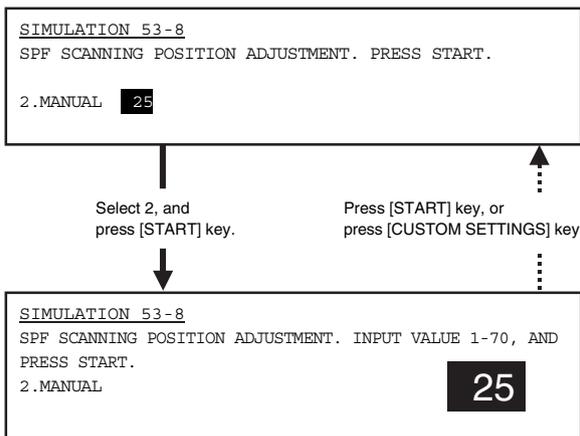
1) Select 2 with 10-key.

2) Press [START] key.

3) Enter the adjustment value with 10key. (1 count: 0.1mm)

4) Press [START] key.

Item		Set range	Default
2	MANUAL	1 - 70	32



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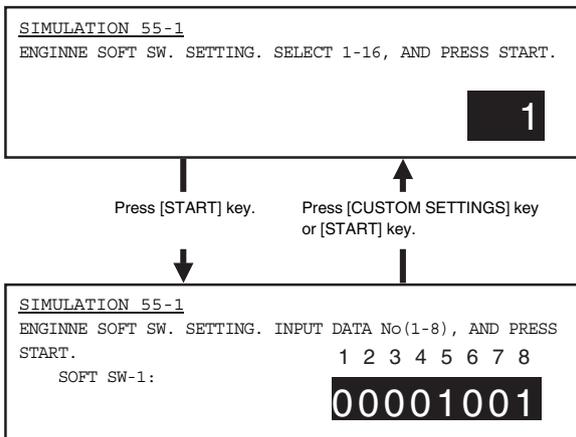
55-1

Purpose	Setting
Function (Purpose)	Used to set the specifications of the engine control operations. (PCU PWB)
Section	
Item	Operation Specifications

Operation/Procedure

This simulation is used to change and check the engine soft SW. Set this setting to the default.

There is no need to change this setting in the market.



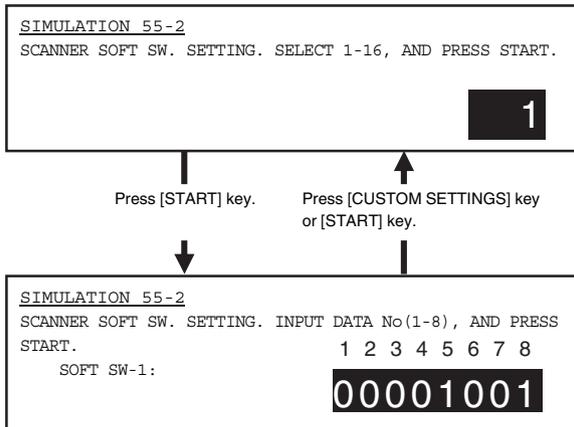
55-2

Purpose	Setting
Function (Purpose)	Used to set the specifications of the scanner control operations. (Scanner control PWB)
Section	
Item	Operation Specifications

Operation/Procedure

This simulation is used to change and check the scanner soft SW. Set this setting to the default.

There is no need to change this setting in the market.



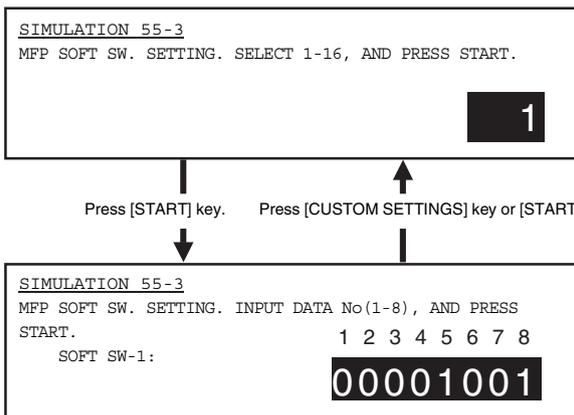
55-3

Purpose	Setting
Function (Purpose)	Used to set the specifications of the controller operations. (MFP control PWB)
Section	
Item	Operation Specifications

Operation/Procedure

This simulation is used to change and check the controller soft SW. Set this setting to the default.

There is no need to change this setting in the market.



56

56-1

Purpose	Data transfer
Function (Purpose)	Used to transfer the MFP controller data. (Used to repair the PWB.)
Section	MFP controller
Item	Data transfer

Operation/Procedure

1) Select the number corresponding to the data transfer mode with 10-key.

1	ALL (EEPROM, SRAM, FlashROM) → HDD	All the contents of memory are transferred to HDD. (Similar to execution of items 3 and 5.)
2	HDD → ALL (EEPROM, SRAM, FlashROM)	The HDD contents are transferred to all the memories. (Similar to execution of items 4 and 6.)
3	EEPROM → HDD	Transfer from EEPROM to HDD
4	HDD → EEPROM	Transfer from HDD to EEPROM
5	SRAM (+ FAX Memory, + Option Memory) → HDD	Transfer from SRAM to HDD. When, however, the FAX memory or an option memory (for FAX memory) * is installed, the contents of the Fax memory are also transferred to HDD.
6	HDD → SRAM (+ FAX Memory, + Option → Memory)	Transfer from HDD to SRAM. When, however, the FAX memory or an option memory (for FAX memory) * is installed, the contents HDD are transferred to the FAX memory as well as the SRAM.
7	FontROM → HDD	Transfer from the font ROM to HDD

*: When Flash ROM or OP_Flash ROM is not installed, transfer is not made.

- 2) Press [START] key.
- 3) The confirmation menu is opened to confirm YES/NO of data transfer. Select one.

1	YES	Data transfer is executed.
2	NO	Data transfer is not executed.

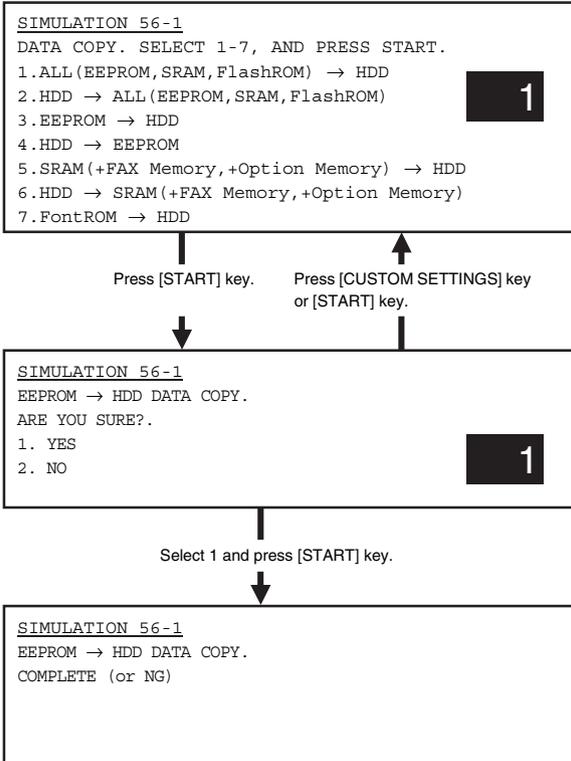
4) Press [START] key.

After completion of transfer, the transfer result is displayed.

If there is no error, the machine is automatically reset after completion of data transfer.

If there is an error, "NG" is displayed. (The machine is not reset.)

When restoring from HDD, fit the configurations of the Flash ROM and the optional Flash ROM at back-up.



60

60-1

Purpose	Operation test/Check
Function (Purpose)	Used to check the MFP control (DRAM) operations (read/write).
Section	ICU
Item	Operation. <i>SERVICE-MANUAL.NET</i>

Operation/Procedure

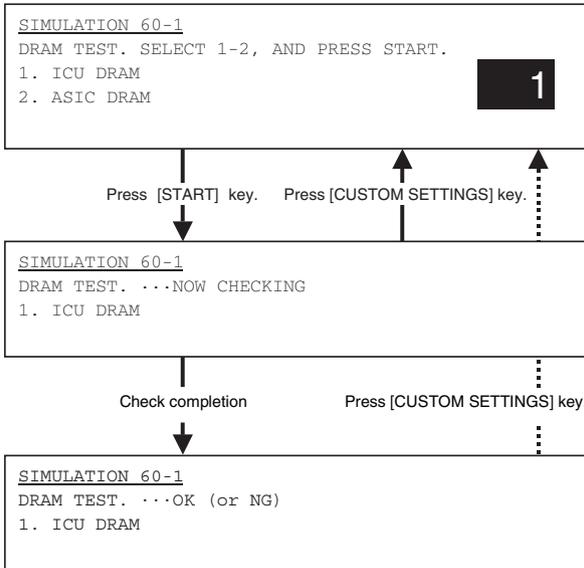
1) Enter the number corresponding to the memory to be checked with 10-key.

1	MFP DRAM	ERDH image memory
2	ASIC DRAM	ASIC image memory

2) Press [START] key.

The memory read/write operation is started.

After starting the operation, "NOW CHECKING" is displayed during checking. When read/write is normally completed, "OK" is displayed. If an error occurs, "NG" is displayed.



61

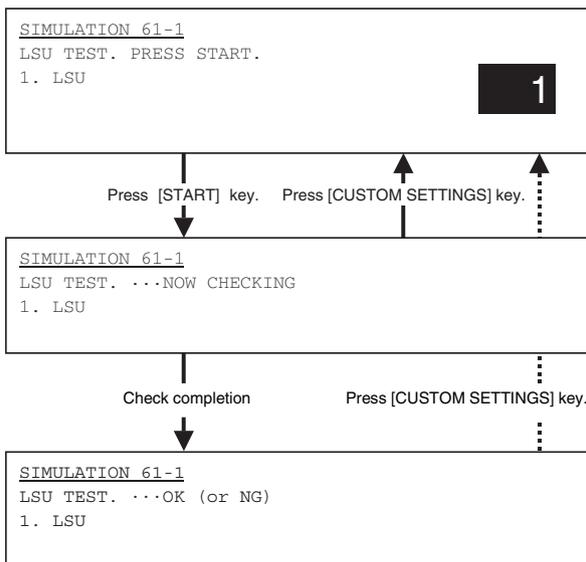
61-1

Purpose	Operation test/Check
Function (Purpose)	Used to check the operation of the scanner (write) unit (LSU).
Section	Scanner (write) unit (LSU)
Item	Operation

Operation/Procedure

Used to check if the LSU delivers output of the sync signal (HSYNC/) or not.

"NOW CHECKING" is displayed during checking. When the test is normally completed, "OK" is displayed. If an error occurs, "NG" is displayed.



61-2

Purpose	Adjustment
Function (Purpose)	Used to adjust the laser power (absolute value) in the copy mode.
Section	Scanner (write) unit (LSU)
Item	Operation

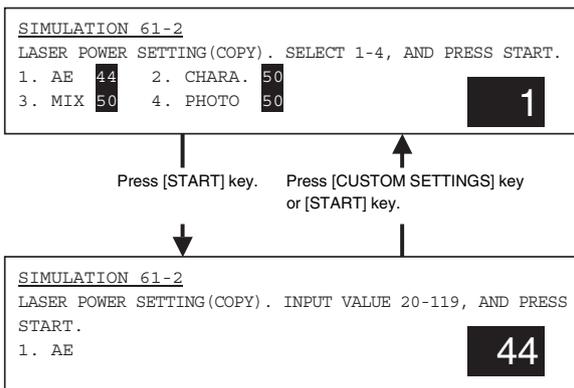
Operation/Procedure

- 1) Select the number corresponding to the adjustment mode with 10-key.

Item			Set range	Default	
				AR-M550N/U, AR-M620N/U	AR-M700N/U
1	AE	Auto exposure mode	32 - 82	44	38
2	CHARA.	Text mode		50	43
3	MIX	Text/Photo mode		50	43
4	PHOTO	Photo mode		50	43

- 2) Press [START] key.
- 3) Enter the adjustment value with 10-key.
- 4) Enter [START] key.

NOTE: Be sure to set the default value. If not, a trouble may occur in the LSU.



61-3

Purpose	Adjustment
Function (Purpose)	Used to adjust the laser power (absolute value) in the FAX mode.
Section	Scanner (write) unit (LSU)
Item	Operation

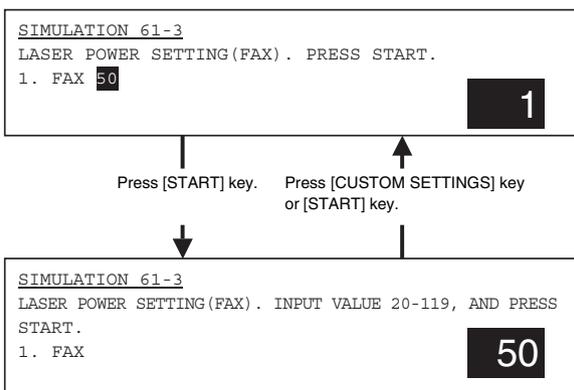
Operation/Procedure

- 1) Select the number corresponding to the adjustment mode with 10-key.
- 2) Press [START] key.
- 3) Enter the adjustment value with 10-key.

Set range	32 - 82
Default	50 (AR-M550N/U, AR-M620N/U) 38 (AR-M700N/U)

- 4) Enter [START] key.

NOTE: Be sure to set the default value. If not, a trouble may occur in the LSU.



61-4

Purpose	Adjustment
Function (Purpose)	Used to adjust the laser power (absolute value) in the printer mode.
Section	Scanner (write) unit (LSU)
Item	Operation

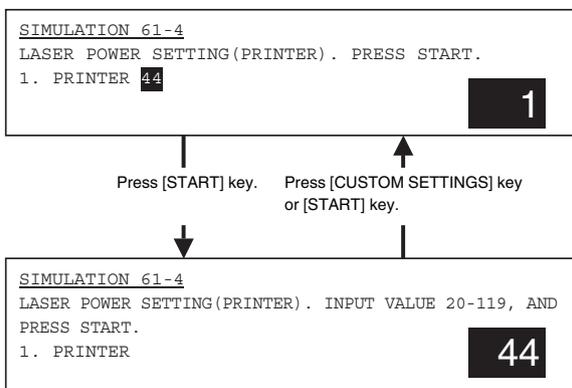
Operation/Procedure

- 1) Select the number corresponding to the adjustment mode with 10-key.
- 2) Press [START] key.
- 3) Enter the adjustment value with 10-key.

Set range	32 - 82
Default	44 (AR-M550N/U, AR-M620N/U) 38 (AR-M700N/U)

- 4) Enter [START] key.

NOTE: Be sure to set the default value. If not, a trouble may occur in the LSU.

**62**

62-1

Purpose	Data clear
Function (Purpose)	Used to format the hard disk.
Section	MFP controller (HDD)
Item	Clear

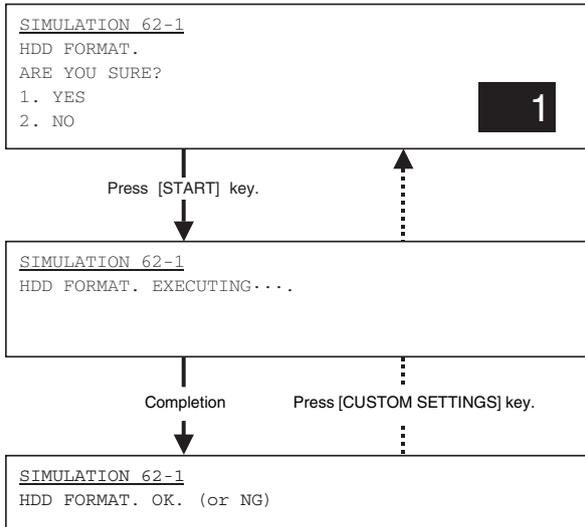
Operation/Procedure

1) Select YES/NO of hard disk format.

1	YES	Execution
2	NO	Cancel

2) Press [START] key.

During formatting, "EXECUTING" is displayed. When formatting is completed normally, "OK" is displayed. If not, "NG" is displayed.



62-2	
Purpose	Operation test/Check
Function (Purpose)	Used to check the operation of the hard disk (read/write). (Only in the model with a disk installed) (Partial check)
Section	MFP controller (HDD)
Item	Operation

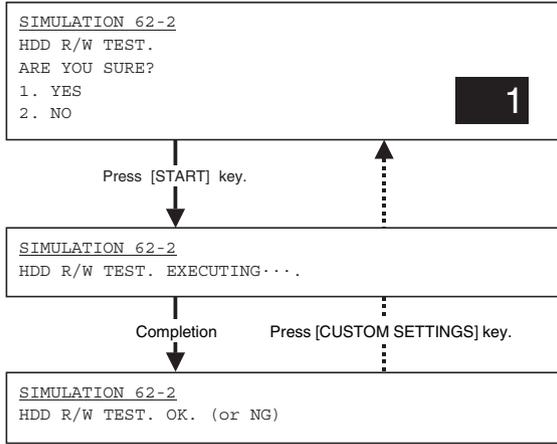
Operation/Procedure

1) Select YES/NO of hard disk read/write check.

1	YES	Execution
2	NO	Cancel

2) Press [START] key.

During testing, "EXECUTING" is displayed. When test is completed normally, "OK" is displayed. If not, "NG" is displayed.



62-3

Purpose	Operation test/Check
Function (Purpose)	Used to check the operation of the hard disk (read/write). (All areas check)
Section	MFP controller (HDD)
Item	Operation

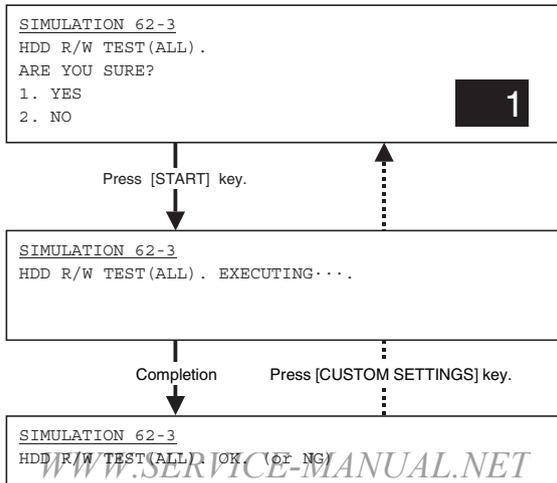
Operation/Procedure

1) Select YES/NO of hard disk read/write check.

1	YES	Execution
2	NO	Cancel

2) Press [START] key.

During testing, "EXECUTING" is displayed. When test is completed normally, "OK" is displayed. If not, "NG" is displayed.



Purpose	Operation test/Check
Function (Purpose)	Used to check the operations of the hard disk. (The self diag operation of the SMART function is executed.)
Section	MFP controller (HDD)
Item	Clear

Operation/Procedure

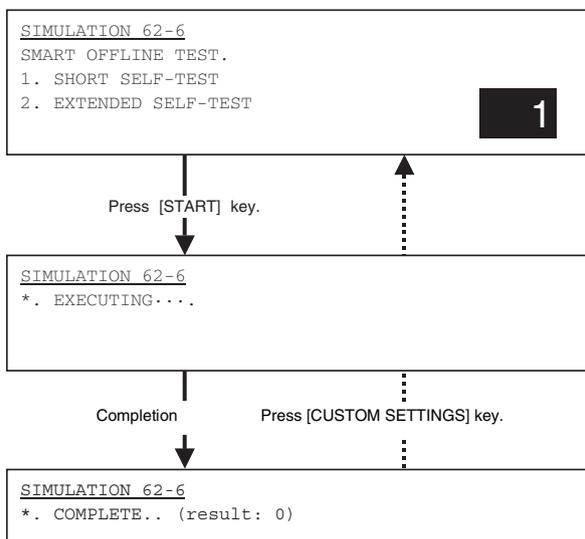
1) Select the number corresponding to the self check mode.

1	SHORT SELF-TEST	Partial test
2	EXTENDED SELF-TEST	All areas test

2) Press [START] key.

During the self diag operation, "EXECUTING" is displayed.

If the self diag is completed normally, "0" is displayed. If not, any value but 0 is displayed.



* = SHORT SELF-TEST, EXTENDED SELF-TEST

Purpose	Operation test/Check
Function (Purpose)	Used to check the operations of the hard disk. (The result of the self diag operation of the SMART function is printed out.)
Section	MFP controller (HDD)
Item	Clear

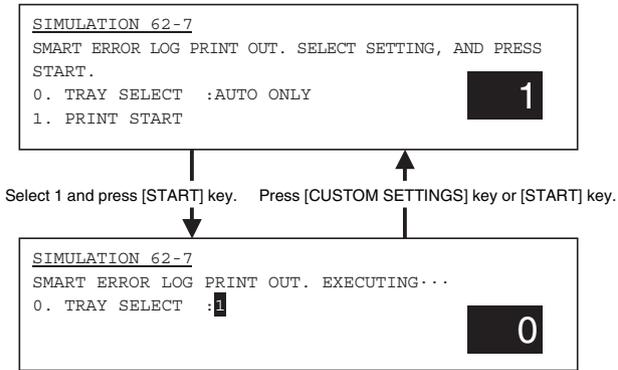
Operation/Procedure

1) Enter 1 with 10-key.

0	TRAY SELECT	Tray select auto only (Selection inhibited)
1	PRINT START	Print start

2) Press [START] key.

The result of the hard disk operation check (the self diag operation of the SMART function) is printed out.



62-8

Purpose	Data clear
Function (Purpose)	Used to format the hard disk (the system area excluded).
Section	MFP controller (HDD)
Item	Clear

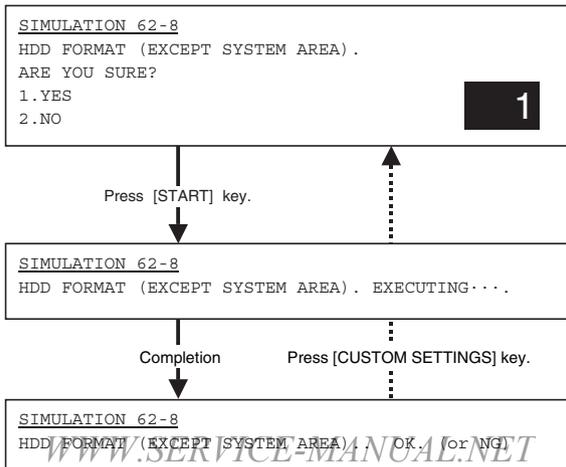
Operation/Procedure

1) Select YES/NO of hard disk (the system area excluded) format.

1	YES	Execution
2	NO	Cancel

2) Press [START] key.

During formatting, "EXECUTING" is displayed. When formatting is completed normally, "OK" is displayed. If not, "NG" is displayed.



Purpose	Data clear
Function (Purpose)	Used to delete a job complete list (also to delete job log data)
Section	MFP controller (HDD)
Item	Clear

Operation/Procedure

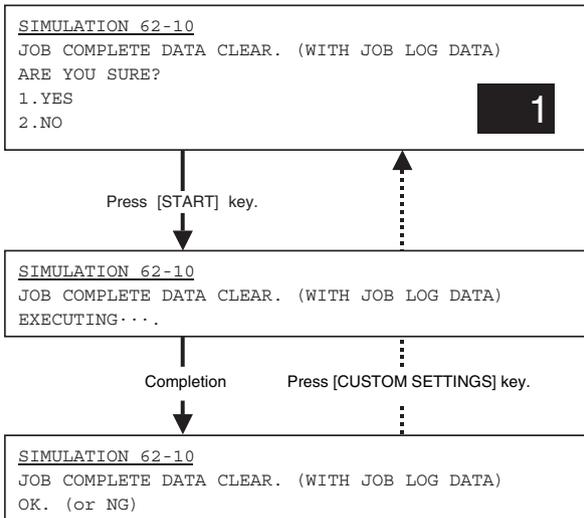
1) Select YES/NO of deleting the job complete list.

1	YES	Execution
2	NO	Cancel

2) Press [START] key.

During formatting, "EXECUTING" is displayed. When formatting is completed normally, "OK" is displayed. If not, "NG" is displayed.

NOTE: When executed, this function also deletes the complete queues of E-MAIL, FAX and IFAX, reservation data associated with the image send function, bulletin board data, and confidential data.



62-11

Purpose	Data clear
Function (Purpose)	Used to delete document filing data. (The management area (standard folder, user folder) is cleared.)
Section	MFP controller (HDD)
Item	Clear

Operation/Procedure

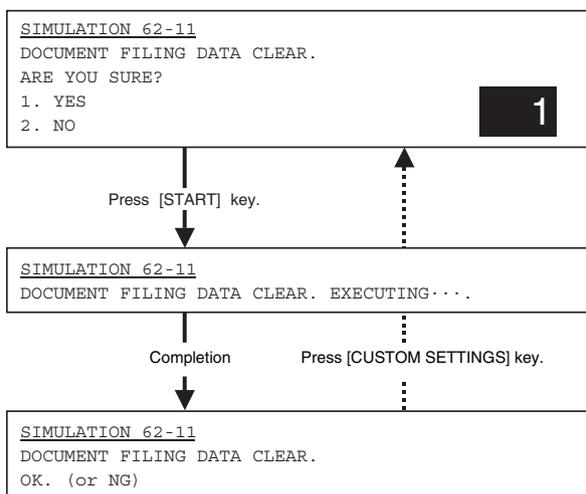
1) Select YES/NO of deleting the document filing data.

1	YES	Execution
2	NO	Cancel

2) Press [START] key.

During formatting, "EXECUTING" is displayed. When formatting is completed normally, "OK" is displayed. If not, "NG" is displayed.

NOTE: When executed, this function internally executes the same function as SIM66-10; deleting reservation data, bulletin board data, and confidential data.

**63**

63-1

Purpose	Adjustment/Setup/Operation data output/Check (Display/Print)
Function (Purpose)	Used to check the result of shading correction. (The shading correction data are displayed.)
Section	Optical (Image scanning)
Item	Operation

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Operation/Procedure

CCD data	
FRONT ODD GAIN	Front odd-number pixel gain adjustment value
FRONT EVEN GAIN	Front even-number pixel gain adjustment value
FRONT OFFSET	Front black difference
REAR ODD GAIN	Rear odd-number pixel gain adjustment value
REAR EVEN GAIN	Rear even-number pixel gain adjustment value
REAR OFFSET	Rear black difference
MIN	All pixels min. value
MAX	All pixels max. value
AVE	All pixels average value
CIS data (Only when DSPF installed.)	
GAIN	Gain adjustment value
MAX	Pixel max.
MIN	Pixel min.
AVE	Pixel average
OFFSET	Black difference
DEV	Standard deviation

```

SIMULATION 63-1
SHADING DATA DISPLAY.
(CCD)
FRONT ODD GAIN: 128      FRONT EVEN GAIN: 255
FRONT OFFSET: 2
REAR ODD GAIN: 128      REAR EVEN GAIN: 255
REAR OFFSET: 2
MIN.: 255      MAX.: 0      AVE.: 255

(CIS)
GAIN: 128      OFFSET: 0      MAX.: 255
MIN.: 255      AVE.: 255      DEV.: 0
    
```

63-2

Purpose	Adjustment
Function (Purpose)	Used to execute shading.
Section	Optical (Image scanning)
Item	Operation

Operation/Procedure

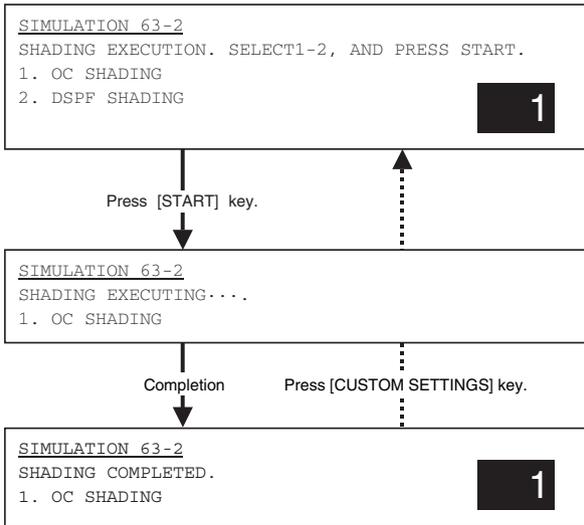
1) Enter the number corresponding to the shading mode to be executed.

1	OC SHADING	OC analog level correction and shading correction (Document table mode)
2	DSPF SHADING	DSPF analog level correction and shading correction

2) Press [START] key.

During execution, "EXECUTING" is displayed. When execution is completed normally, "COMPLETED" is displayed.

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63-7

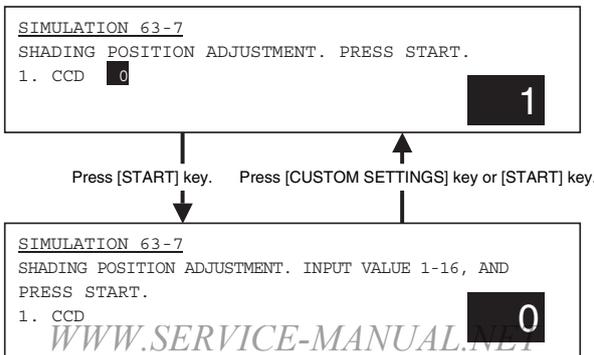
Purpose	Adjustment
Function (Purpose)	Used to adjust the white plate scan start position for shading. (Document table mode)
Section	Laser (Exposure)
Item	Operation

Operation/Procedure

- 1) Enter 1 with 10-key.
- 2) Press [START] key.
- 3) Enter the adjustment value with 10-key.
- 4) Press [START] key.

When a shading error occurs, this adjustment value is changed.

Item		Set range	Default
1	CCD	CCD scan 1 - 16	6



Purpose	Operation test/Check
Function (Purpose)	Used to check the operation of the printer section (self-print operation), (The print pattern, the paper feed mode, the print mode, the print quantity, and the density can be optionally set.)
Section	
Item	Operation

Operation/Procedure

(Various print patterns output) (Table 1)

- 1) Select PRINT PATTERN with 10-key.
- 2) Enter the number corresponding to the print pattern to be printed with 10-key.
- 3) Press [START] key.
- 4) Select PRINT START with 10-key.
- 5) Press [START] key.

(Print condition setting in this simulation)

* To select paper (paper feed tray), perform the following procedures.

- 1) Select TRAY SELECT with 10-key.
- 2) Press [START] key.
- 3) Enter the number corresponding to the paper feed tray of the target paper with 10-key.
- 4) Press [START] key. (The paper feed tray is selected.)

* To adjust the print density, perform the following procedures.

- 1) Select DENSITY with 10-key.
- 2) Enter the adjustment value with 10-key.
- 3) Press [START] key.

* To set the print quantity, perform the following procedures.

- 1) Select MULTI with 10-key.
- 2) Enter the print quantity with 10-key.
- 3) Press [START] key.

* To set the print quality mode, perform the following procedures.

- 1) Select MODE with 10-key.
- 2) Enter the number corresponding to the print quality mode with 10-key.
- 3) Press [START] key.

* To set the print level, perform the following procedures.

- 1) Select LEVEL with 10-key.
- 2) Enter the adjustment value with 10-key.
- 3) Press [START] key.

NOTE: In some print patterns, changing the level may not change the picture quality.

* To set duplex/simplex print, perform the following procedures.

- 1) Select DUPLEX with 10-key.
- 2) Enter the number corresponding to the operation mode with 10-key.
- 3) Press [START] key.

(Table 1)

0	TRAY SELECT 1. TRAY1 2. TRAY2 3. TRAY3 4. TRAY4 5. BPT 6. LCC	Paper feed tray 1: Tray 1 2: Tray 2 3: Tray 3 4: Tray 4 5: Manual feed 6: LCC
1	PRINT START	Print execution (Printing of the set data is executed.)
2	PRINT PATTERN	Print pattern (Note 1)
3	DENSITY	Graphic density (Valid only when No. 79, 80 or 84 is selected.)
4	MULTI	Print quantity
5	MODE 1. STANDARD 2. SMOOTHING 3. TONER SAVE 4. HALF TONE 5. SMOOTHING + TONER SAVE 6. SMOOTHING + HALF TONE 7. TONER SAVE + HALF TONE 8. SMOOTHING + TONER SAVE + HALF TONE	Print mode 1. Standard 2. Smoothing ON 3. Smoothing ON 3. Toner save ON 4. Half tone ON 5. Smoothing + toner save 6. Smoothing + half tone 7. Toner save + half tone 8. Smoothing + toner save + half tone
6	LEVEL	(Parameter of print image process)
7	DUPLEX 1. NO 2. YES	Duplex 0: NO (Simplex) 1: YES (Duplex)

(Note 1) Print pattern

NO	ENGINE PATTERN	CONTROLLER	PATTERN
1	○		For off-center adjustment
2	○		Main scanning direction 1 by 5
3	○		Main scanning direction 1mm-pitch
4	○		Main scanning direction 3 by 3
5	○		Sub scanning direction 1 by 1
6	○		Sub scanning direction 1 by 5
7	○		Sub scanning direction 2 by 4
8	○		Sub scanning direction 3 by 3
9	○		Right oblique 1 by 2
10	○		Right oblique 1 by 5
11	○		Right oblique 2 by 4
12	○		Right oblique 3 by 3
13	○		Left oblique 1 by 2
14	○		Left oblique 1 by 5
15	○		Left oblique 2 by 4

NO	ENGINE PATTERN	CONTROLLER	PATTERN
16	○		Left oblique 3 by 3
17	○		Dot 1 by 1
18	○		Dot 3 by 3
19	○		Dot
20	○		Solid black
21	○		Main scanning direction 1 by 1
22	○		Main scanning direction 5 by 1
23	○		Main scanning direction 4 by 2
24	○		Main scanning direction 3 by 3
25	○		Sub scanning direction 1 by 1
26	○		Sub scanning direction 5 by 1
27	○		Sub scanning direction 4 by 2
28	○		Sub scanning direction 3 by 3
29	○		Right oblique 2 by 1
30	○		Right oblique 5 by 1
31	○		Right oblique 4 by 2
32	○		Right oblique 3 by 3
33	○		Left oblique 2 by 1
34	○		Left oblique 5 by 1
35	○		Left oblique 4 by 2
36	○		Left oblique 3 by 3
37	○		Dot 1 by 1
38	○		Dot 3 by 3
39	○		Dot
40	○		Solid white
50		○	All surface 1 by 1 (Vertical)
51		○	All surface 1 by 1 (Horizontal)
52		○	All surface 1 by 2 (Vertical)
53		○	All surface 1 by 2 (Horizontal)
54		○	All surface 1 by 3 (Vertical)
55		○	All surface 1 by 3 (Horizontal)
56		○	All surface 1 by 4 (Vertical)
57		○	All surface 1 by 4 (Horizontal)
58		○	All surface 1 by 5 (Vertical)
59		○	All surface 1 by 5 (Horizontal)
60		○	All surface 2 by 2 (Vertical)
61		○	All surface 2 by 2 (Horizontal)
62		○	All surface 2 by 3 (Vertical)
63		○	All surface 2 by 3 (Horizontal)
64		○	All background
65		○	Special pattern
66		□	For every other 1 block width 128 pixels/ 32 gradations

NO	ENGINE PATTERN	CONTROLLER	PATTERN
67		<input type="checkbox"/>	For every other 1 block width 128 pixels/ 16 gradations
68		<input type="checkbox"/>	For every other 1 block width 128 pixels/ 8 gradations
69		<input type="radio"/>	1-dot pattern
70		<input type="radio"/>	Print adjustment pattern with scale (Vertical)
71		<input type="radio"/>	Grid pattern
72		<input type="radio"/>	Slant line 45 degrees
73		<input type="radio"/>	Slant line 26.6 degrees
74		<input type="radio"/>	Slant line 63.4 degrees
75		<input type="radio"/>	ID/BG pattern
76		<input type="radio"/>	Dot pattern 12.5%
77		<input type="radio"/>	Dot pattern 28%
78		<input type="radio"/>	Dot pattern 50%
79		<input type="checkbox"/>	All surface effort diffusion background
80		<input type="radio"/>	All surface dither process background
81		<input type="radio"/>	For every other 1 block width 128 pixels/ 32 gradations
82		<input type="radio"/>	For every other 1 block width 128 pixels/ 16 gradations
83		<input type="radio"/>	For every other 1 block width 128 pixels/ 8 gradations
84		<input type="radio"/>	Memory check pattern
85		<input type="radio"/>	Cleaning check pattern
86		<input type="radio"/>	Offset check pattern
87		<input type="radio"/>	Test B image (For aging)
88		<input type="radio"/>	6% printer chart
89		<input type="radio"/>	5% printer chart
90			Toner quantity measuring chart
91			Radiation chart
98			Data printing

: Error diffusion process

SIMULATION 64-1
 SELF PRINT MODE. SELECT 0-7, AND PRESS START.
 0. TRAY SELECT : 1 1. PRINT START : 1
 2. PRINT PATTERN: 87 3. DENSITY : 1
 4. MULTI : 1 5. MODE : 1
 6. LEVEL : 1 7. DUPLEX : 1

Select 1, and press [START] key. Select other than 1, and press [START] key. Press [START] key, or press [CUSTOM SETTINGS] key.

(2) SIMULATION 64-1
 SELF PRINT MODE. INPUT VALUE, AND PRESS START.
 (PRINT PATTERN)
 INPUT 1-98. 71

(3) SIMULATION 64-1
 SELF PRINT MODE. INPUT VALUE, AND PRESS START.
 (DENSITY)
 1-255 100

(4) SIMULATION 64-1
 SELF PRINT MODE. INPUT VALUE, AND PRESS START.
 (MULTI COUNT)
 1-999 1

(5) SIMULATION 64-1
 SELF PRINT MODE. SELECT 1-8, AND PRESS START.
 (MODE)
 1.STANDARD 2.SMOOTHING 3.TONER SAVE 4.HALF TONE
 5.SMOOTHING+ TONER SAVE 6.SMOOTHING+ HALF TONE
 7.TONER SAVE+ HALF TONE
 8.SMOOTHING+ TONER SAVE+ HALF TONE 1

(6) SIMULATION 64-1
 SELF PRINT MODE. INPUT VALUE, AND PRESS START.
 (LEVEL)
 1-5 3

(0) SIMULATION 64-1
 SELF PRINT MODE. SELECT 1-6, AND PRESS START.
 (FED TRAY)
 1. TRAY1 2. TRAY2 3. TRAY3 4. TRAY4 5. BPT
 6. LCC 1

(7) SIMULATION 64-1
 SELF PRINT MODE. SELECT 1-2, AND PRESS START.
 (DUPLEX)
 1. NO 2. YES 1

SIMULATION 64-1
 SELF PRINT MODE.. EXECUTING...
 0. TRAY SELECT : 1
 2. PRINT PATTERN: 87 3. DENSITY : 1
 4. MULTI : 1 5. MODE : 1
 6. LEVEL : 1 7. DUPLEX : 1 0

65

65-1

Purpose	Adjustment
Function (Purpose)	Used to adjust the touch panel (LCD display section) detection position.
Section	Operation (Display/Operation key)
Item	

Operation/Procedure

Touch the four cross marks (+) sequentially. The coordinates of pressed positions are set.

When the coordinates setting is completed normally, the display turns gray. When all the four points are set, the display returns to the normal state.

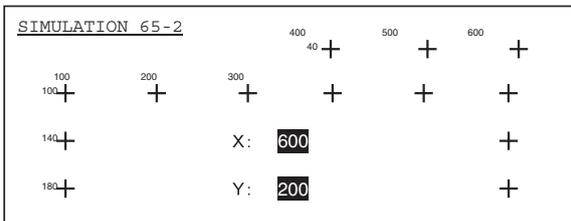


65-2

Purpose	Adjustment/Setup/Operation data output/Check (Display/Print)
Function (Purpose)	Used to check the result of the touch panel (LCD display) detection position adjustment. (The coordinates are displayed.)
Section	Operation (Display/Operation key)
Item	

Operation/Procedure

When the touch panel is touched, the X and Y coordinate values of the touched point and the coordinate values of the specified point are displayed. The coordinate values set with SIM 65-1 are used as the reference.



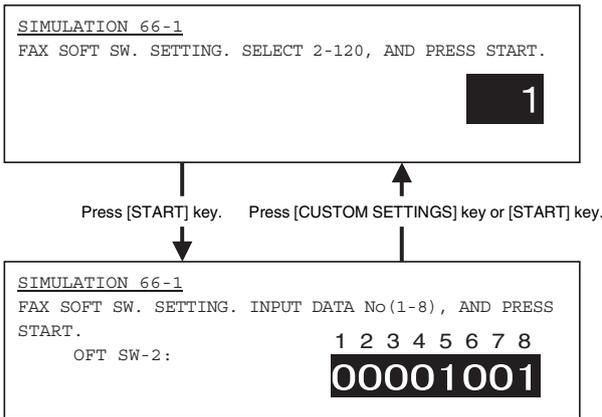
66-1

Purpose	Setting
Function (Purpose)	Used to change and check the FAX soft switch functions. (Used to change and check the functions provided for the FAX soft switches.)
Section	FAX
Item	

Operation/Procedure

Setting of soft switches other than SW1 can be changed and checked.

- 1) Enter the soft switch number to be checked or changed with 10-key.
The current set state is displayed.
- 2) Enter the number corresponding to the bit to be changed with 10-key.
(Example) When the bit of 5 is to be changed, enter 5.
The set value of 1/0 is alternatively changed every time when the target key is pressed.
- 3) After completion of setting of all the bits, press [START] key.



66-2

Purpose	Data clear
Function (Purpose)	Used to clear the FAX soft switch function data and to set to the default. (Excluding the adjustment values.)
Section	FAX
Item	Data

Operation/Procedure

- 1) Set the destination code with 10-key.

Japan	0 0 0 0 0 0 0 0	Finland	0 0 1 1 1 1 0 0
U.S.A.	1 0 1 1 0 1 0 1	Norway	1 0 0 0 0 1 0
Australia	0 0 0 0 1 0 0 1	Denmark	0 0 1 1 0 0 0 1

U.K.	1 0 1 1 0 1 0 0	Netherlands	0 1 1 1 1 0 1 1
France	0 0 1 1 1 1 0 1	Italy	0 1 0 1 1 0 0 1
Germany	0 0 0 0 0 1 0 0	Switzerland	1 0 1 0 0 1 1 0
Sweden	1 0 1 0 0 1 0 1	Austria	0 0 0 0 1 0 1 0
Newzealand	0 1 1 1 1 1 1 0	Indonesia	0 1 0 1 0 1 0 0
China	0 0 1 0 0 1 1 0	Thailand	1 0 0 1 0 0 1
Singapore	1 0 0 1 1 1 0 0	Malaysia	0 1 1 0 1 1 0 0
TW	1 1 1 1 1 1 1 0	India	0 1 0 1 0 0 1 1
Other1	1 1 1 1 1 1 0 1	Philippines	1 0 0 0 1 0 0 1
Other2	1 1 1 1 1 1 0 0	Hongkong	0 1 0 1 0 0 0 0
Other3	1 1 1 1 1 0 1 1		

The codes other than the above are recognized as Japan.

2) Press [START] key.

3) The confirmation menu of YES/NO of clear is displayed. Select one.

1	YES	FAX soft SW is cleared.
2	NO	Not cleared.

4) Press [START] key.

The soft switch (except for the adjustment values) is cleared according to the destination selected in procedure 1).

NOTE: When the FAX BOX is not installed, initialization including the adjustment value is performed. (The adjustment value is stored in the FAX BOX.)

SIMULATION 66-2
 FAX SOFT SW. CLEAR (WITHOUT ADJUSTMENT VALUE).
 INPUT COUNTRY CODE, AND PRESS START.

1 2 3 4 5 6 7 8
00000000

Press [START] key.

SIMULATION 66-2
 FAX SOFT SW. CLEAR.
 ARE YOU SURE?

JAPAN 1

1: YES
 2: NO

66-3

Purpose	Operation test/Check
Function (Purpose)	Used to check the operation of the FAX PWB memory (read/write). (This adjustment is required when the PWB is replaced with a new one.)
Section	FAX
Item	Data

Operation/Procedure

- 1) Enter the number corresponding to the memory to be checked with 10-key.
- 2) Press [START] key.

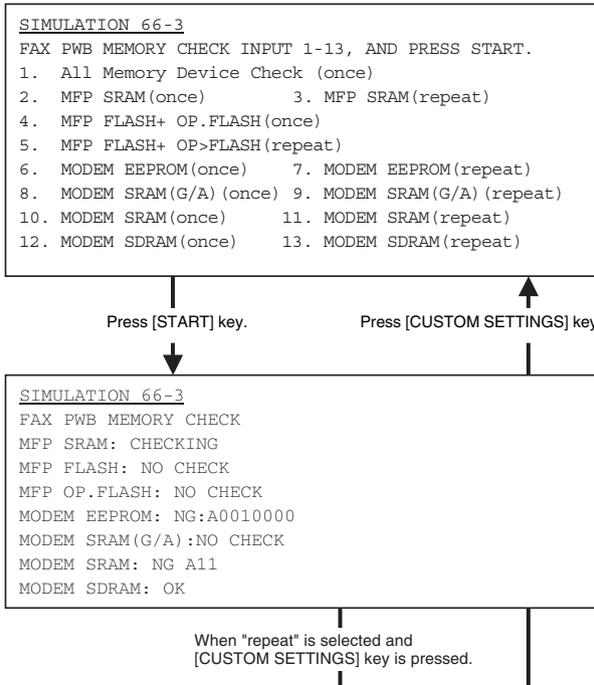
In the case of All, all memories are checked only once.

Check connection wire list	
NO CHECK	Not checked yet.
CHECKING	Checking
OK	Check complete OK
NG	Check complete NG

The error address or the data line is displayed individually.

Target memory of check	
MFP SRAM	SRAM
MFP FLASH	FLASH ROM
MFP OP.FLASH	
MODEM EEPROM	
MODEM SRAM (G/A)	
MODEM SRAM	
MODEM SDRAM	

When "repeat" is selected, the operation is repeated until the result is "NG" or [CUSTOMSETTING" is pressed.



When Check is "once," the display stops at the result display. When [CUSTOM SETTINGS] key is pressed, the display returns to the initial display.

Purpose	Operation test/Check
Function (Purpose)	Used to check the output operation of data signals in each data output mode of FAX. (Used to check the operation of MODEM.) Send level: Max. (Only when FAX is installed)
Section	FAX
Item	Operation

Operation/Procedure

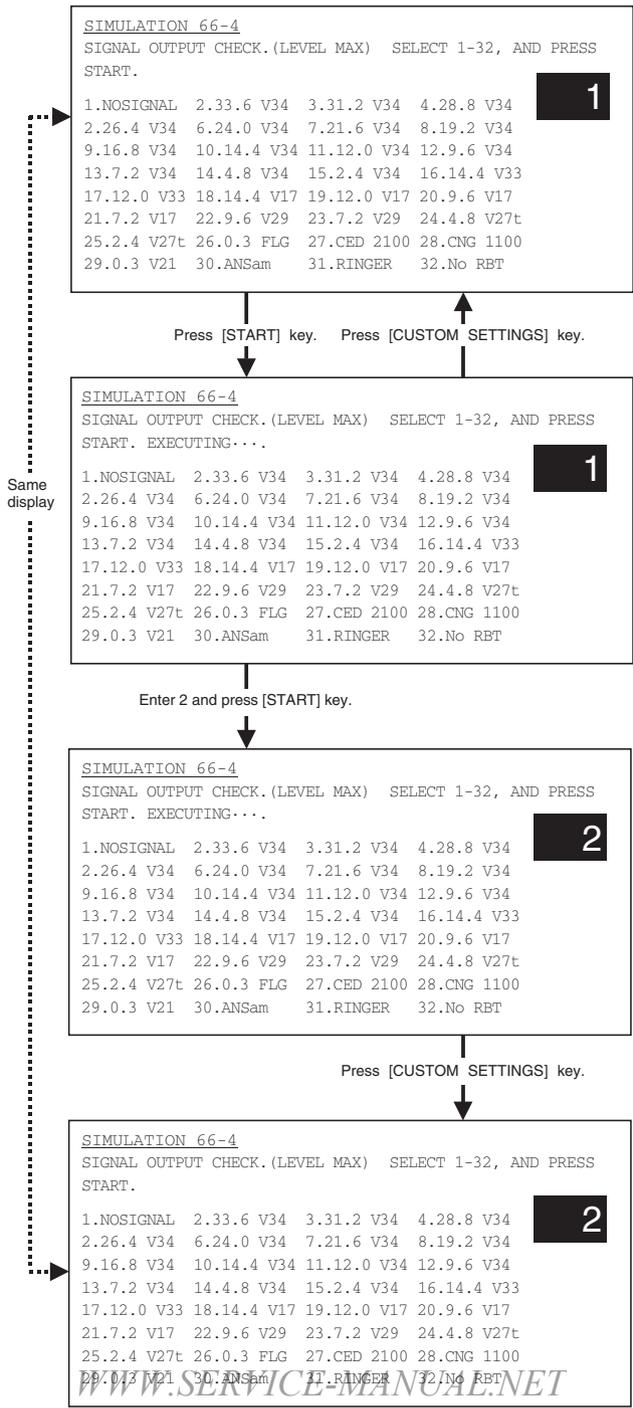
- 1) Enter the number corresponding to the output mode with 10-key.
- 2) Press [START] key.

The output is delivered at the max. send level.

1	NOSIGNAL	No signal	17	12.0 V33	12.0 V33
2	33.6 V34	26.4 V34	18	14.4 V17	14.4 V17
3	31.2 V34	31.2 V34	19	12.0 V17	12.0 V17
4	28.8 V34	28.8 V34	20	9.6 V17	9.6 V17
5	26.4 V34	26.4 V34	21	7.2 V17	7.2 V17
6	24.0 V34	24.0 V34	22	9.6 V29	9.6 V29
7	21.6 V34	21.6 V34	23	7.2 V29	7.2 V29
8	19.2 V34	19.2 V34	24	4.8 V27t	4.8 V27t
9	16.8 V34	16.8 V34	25	2.4 V27t	2.4 V27t
10	14.4 V34	14.4 V34	26	0.3 FLG	0.3 FLG
11	12.0 V34	12.0 V34	27	CED 2100	CED 2100
12	9.6 V34	9.6 V34	28	CNG 1100	CNG 1100
13	7.2 V34	7.2 V34	29	0.3 V21	0.3 V21
14	4.8 V34	4.8 V34	30	ANSam	ANSam
15	2.4 V34	2.4 V34	31	RINGER	RINGER
16	14.4 V33	14.4 V33	32	No RBT	No RBT

When [CUSTOM SETTINGS] key is pressed during execution, execution is stopped.

When a number is entered and [START] key is pressed during execution, the kind of signal can be changed.



Purpose	Operation test/Check
Function (Purpose)	Used to check the output operation of data signals in each data output mode of FAX. (Used to check the operation of MODEM.) An output is sent at the send level set by the soft switch. (Only when FAX is installed)
Section	FAX
Item	Operation

Operation/Procedure

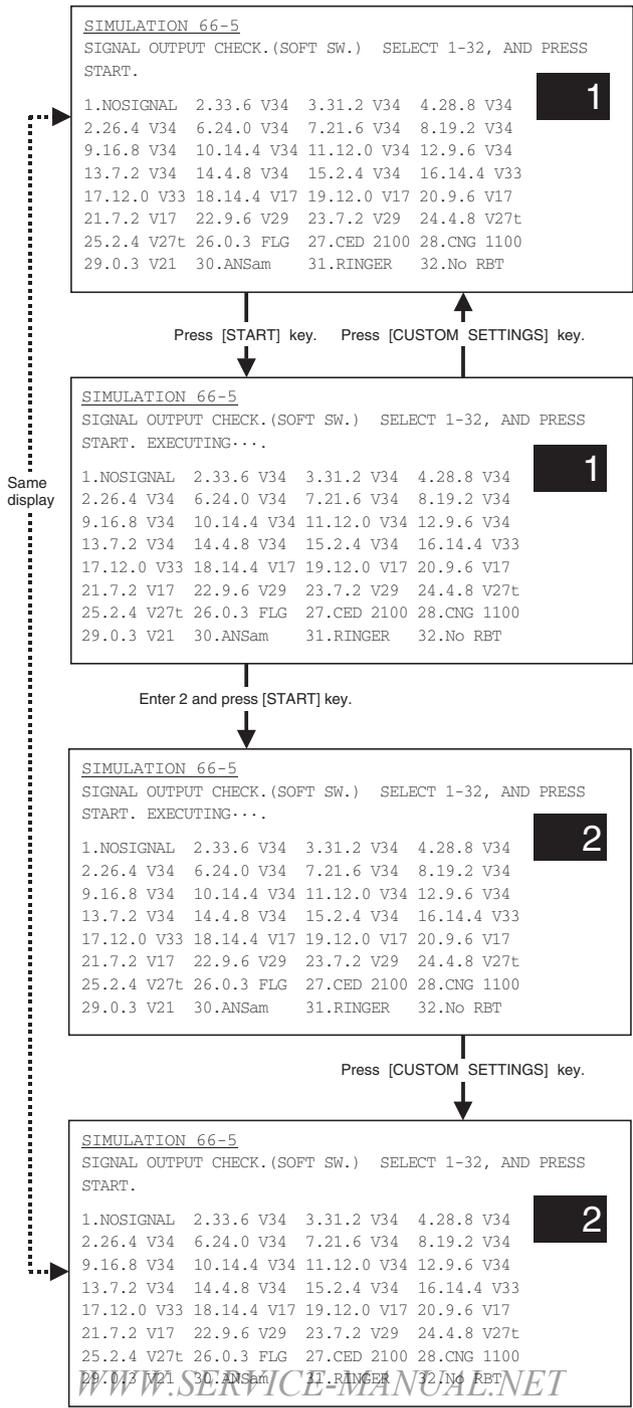
- 1) Enter the number corresponding to the output mode with 10-key.
- 2) Press [START] key.

The output is delivered at the send level set with the soft switch.

1	NOSIGNAL	No signal	17	12.0 V33	12.0 V33
2	33.6 V34	26.4 V34	18	14.4 V17	14.4 V17
3	31.2 V34	31.2 V34	19	12.0 V17	12.0 V17
4	28.8 V34	28.8 V34	20	9.6 V17	9.6 V17
5	26.4 V34	26.4 V34	21	7.2 V17	7.2 V17
6	24.0 V34	24.0 V34	22	9.6 V29	9.6 V29
7	21.6 V34	21.6 V34	23	7.2 V29	7.2 V29
8	19.2 V34	19.2 V34	24	4.8 V27t	4.8 V27t
9	16.8 V34	16.8 V34	25	2.4 V27t	2.4 V27t
10	14.4 V34	14.4 V34	26	0.3 FLG	0.3 FLG
11	12.0 V34	12.0 V34	27	CED 2100	CED 2100
12	9.6 V34	9.6 V34	28	CNG 1100	CNG 1100
13	7.2 V34	7.2 V34	29	0.3 V21	0.3 V21
14	4.8 V34	4.8 V34	30	ANSam	ANSam
15	2.4 V34	2.4 V34	31	RINGER	RINGER
16	14.4 V33	14.4 V33	32	No RBT	No RBT

When [CUSTOM SETTINGS] key is pressed during execution, execution is stopped.

When a number is entered and [START] key is pressed during execution, the kind of signal can be changed.



66-6

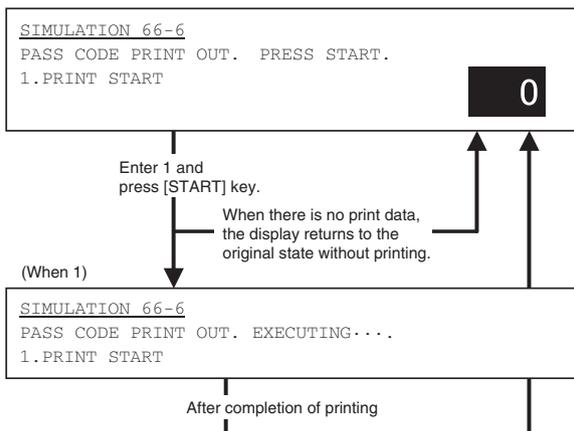
Purpose	User data output/Check (Display/Print)
Function (Purpose)	Used to print the confidential pass code. (Used when the confidential pass code is forgotten.) (Only when FAX is installed)
Section	FAX
Item	Data

Operation/Procedure

1) Enter 1 with 10-key and press [START] key.

1	PRINT START	Print start
---	-------------	-------------

The paper is automatically selected with the size saved in the image memory.



66-7

Purpose	User data output/Check (Display/Print)
Function (Purpose)	Used to print the image memory data (memory send/receive). (Only when FAX is installed)
Section	FAX
Item	Data

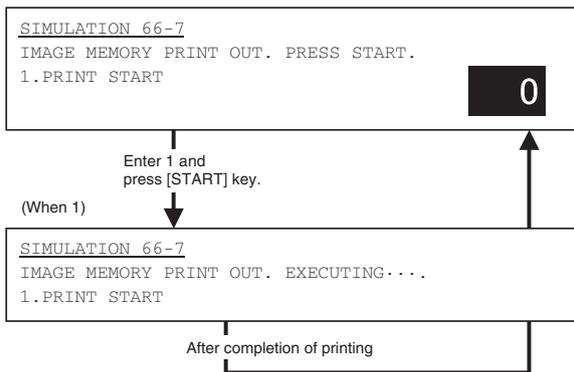
Operation/Procedure

All image data stored in the image memory are printed.

* The confidential receive data are also printed.

1	PRINT START	Print start
---	-------------	-------------

The paper is automatically selected with the size saved in the image memory.



66-8

Purpose	Operation test/Check
Function (Purpose)	Used to check the output operation of various sound signals of FAX. (Used to check the operation of the sound output IC.) Send level: Max. (Only when FAX is installed)
Section	FAX
Item	Operation

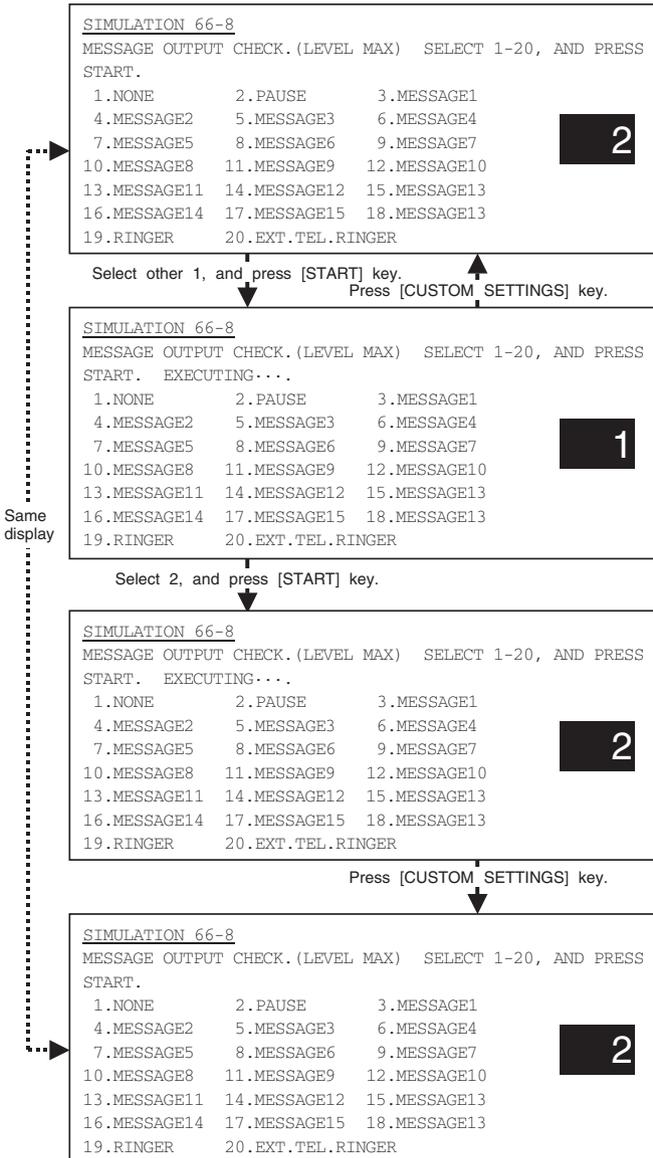
Operation/Procedure

- 1) Enter the number corresponding to the output mode with 10-key.
- 2) Press [START] key.

The output is delivered at the max. level.

1	NONE	Mute	11	MESSAGE 9	Message 9
2	PAUSE	Pause sound	12	MESSAGE 10	Message 10
3	MESSAGE1	Message 1	13	MESSAGE 11	Message 11
4	MESSAGE2	Message 2	14	MESSAGE 12	Message 12
5	MESSAGE3	Message 3	15	MESSAGE 13	Message 13
6	MESSAGE4	Message 4	16	MESSAGE 14	Message 14
7	MESSAGE5	Message 5	17	MESSAGE 15	Message 15
8	MESSAGE6	Message 6	18	ALARM	Alarm
9	MESSAGE7	Message 7	19	RINGER	Call ring
10	MESSAGE8	Message 8	20	EXT.TEL.RINGER	External TEL ring

When the number is entered during execution, the kind of signal can be changed. When [START] key is pressed, the voice message is sent. When [CUSTOM SETTINGS] key is pressed, it is stopped.



Purpose	Operation test/Check
Function (Purpose)	Used to check the output operation of various sound signals of FAX. (Used to check the operation of the sound output IC.) An output is sent at the send level set by the soft switch. (Only when FAX is installed)
Section	FAX
Item	Operation

Operation/Procedure

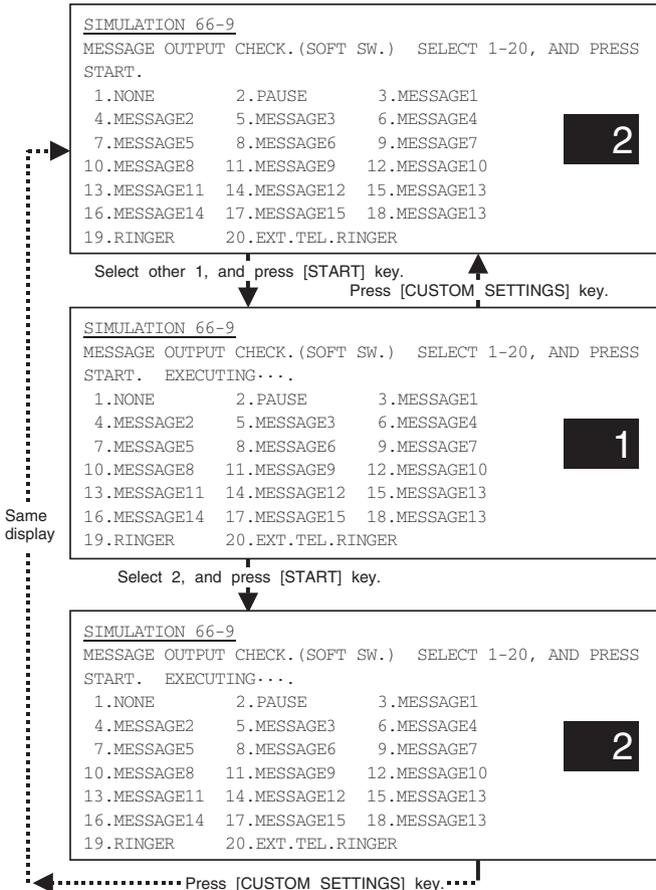
- 1) Enter the number corresponding to the output mode with 10-key.
- 2) Press [START] key.

The output is delivered at the send level set with the soft SW.

1	NONE	Mute	11	MESSAGE 9	MESSAGE 9
2	PAUSE	Pause sound	12	MESSAGE10	MESSAGE 10
3	MESSAGE1	MESSAGE 1	13	MESSAGE11	MESSAGE 11
4	MESSAGE2	MESSAGE 2	14	MESSAGE12	MESSAGE 12
5	MESSAGE3	MESSAGE 3	15	MESSAGE13	MESSAGE 13
6	MESSAGE4	MESSAGE 4	16	MESSAGE14	MESSAGE 14
7	MESSAGE5	MESSAGE 5	17	MESSAGE15	MESSAGE 15
8	MESSAGE6	MESSAGE 6	18	ALARM	Alarm
9	MESSAGE7	MESSAGE 7	19	RINGER	Call ring
10	MESSAGE8	MESSAGE 8	20	EXT.TEL.RINGER	External TEL ring

When the number is entered during execution, the kind of signal can be changed.

When [START] key is pressed, the voice message is sent. When [CUSTOM SETTINGS] key is pressed, it is stopped.



66-10

Purpose	User data output/Check (Display/Print)
Function (Purpose)	Used to clear all data of the image memory (memory send/receive). The confidential data are also cleared at the same time. (Only when FAX is installed)
Section	FAX
Item	Data

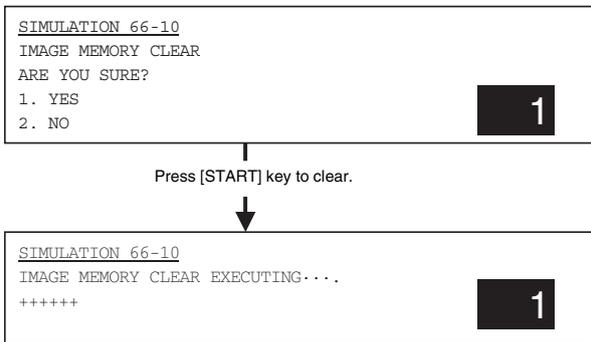
Operation/Procedure

1) Select YES/NO of image memory clear with 10-key.

1	YES	Image memory clear is executed.
2	NO	Clear is not executed.

2) Press [START] key.

The SRAM image data management table and image data in the Flash ROM area and HD (except for filing images) are cleared.



The processing status of image memory clear is displayed with "+."

66-11

Purpose	Operation test/Check
Function (Purpose)	Used to check the output operation of FAX G3 mode 300bps. (Used to check the operation of MODEM.) Send level: Max. (Only when FAX is installed)
Section	FAX
Item	Operation

Operation/Procedure

1) Select the number corresponding to the output mode with 10-key.

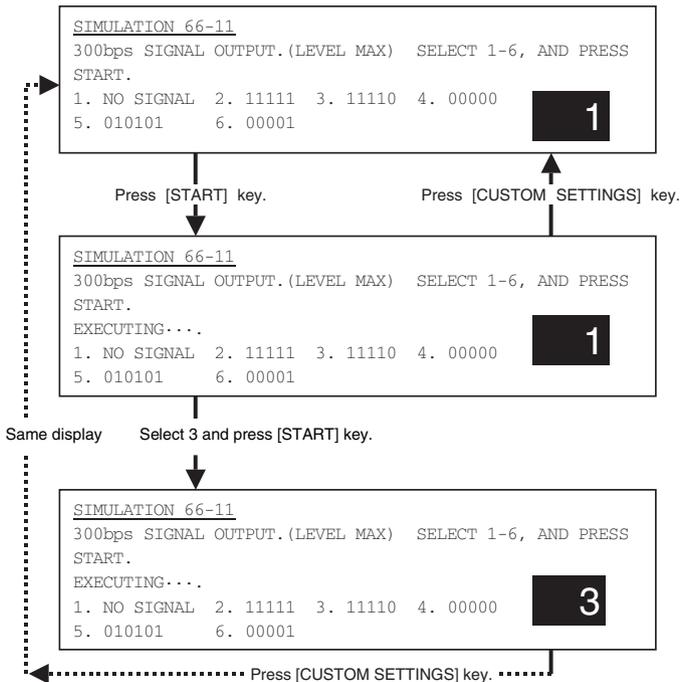
2) Press [START] key.

The signal is sent in the max. send level.

1	NO SIGNAL	No signal	4	00000	00000
2	11111	11111	5	010101	010101
3	11110	11110	6	00001	00001

When the number is entered during execution, the kind of signal can be changed.

When [CUSTOM SETTINGS] key is pressed during execution, the operation is stopped.



66-12

Purpose	Operation test/Check
Function (Purpose)	Used to check the output operation of FAX G3 mode 300bps. (Used to check the operation of MODEM.) An output is send at the send level set by the soft switch. (Only when FAX is installed)
Section	FAX
Item	Operation

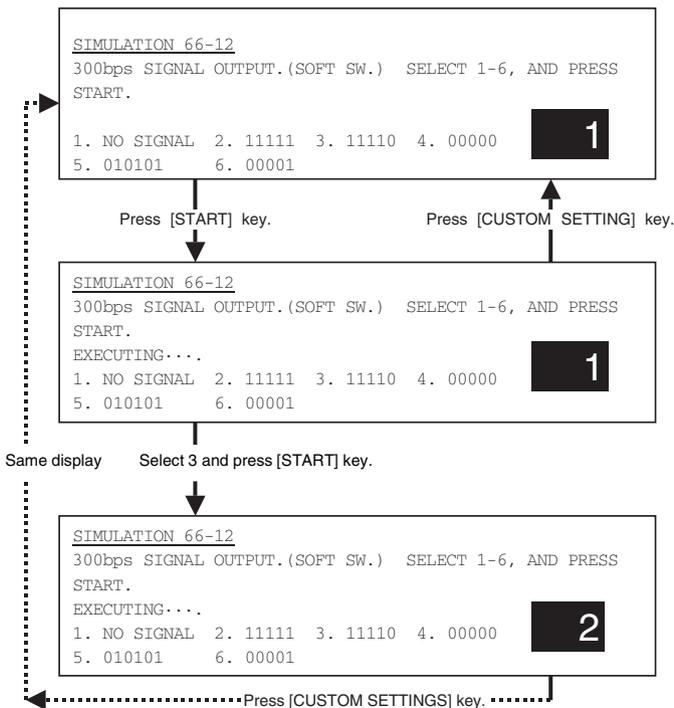
Operation/Procedure

- 1) Select the number corresponding to the output mode with 10-key.
- 2) Press [START] key.

The signal is sent in the send level set with the soft switch.

1	NO SIGNAL	No signal	4	00000	00000
2	11111	11111	5	010101	010101
3	11110	11110	6	00001	00001

When the number is entered during execution, the kind of signal can be changed. When [CUSTOM SETTINGS] key is pressed during execution, the operation is stopped.

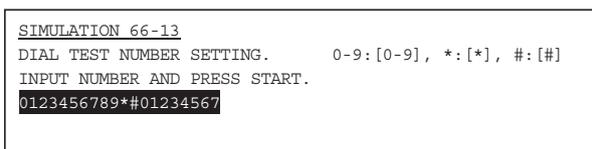


66-13

Purpose	Setting
Function (Purpose)	Used to enter (set) the number of FAX dial signal output test. (The dial number set by this simulation is outputted when the dial signal output test is made by SIM 66-14 - 16.) (Only when FAX is installed)
Section	FAX
Item	Data

Operation/Procedure

- 1) Enter the dial number with 10-key.
Use 10-key, [*] key, and [#] key to enter the number. The upper limit is 20 digits.
When [CLEAR] key is pressed, the mode returns to the initial state.
- 2) Press [START] key.



Purpose	Setting/Operation test/Check
Function (Purpose)	Used to set the make time in the FAX pulse dial mode (10pps) and to test the dial signal output. (The dial number signal set by SIM 66-13 is outputted.) Used to check troubles in dialing and to check the operation. (Only when FAX is installed)
Section	FAX
Item	Operation

Operation/Procedure

- 1) Enter 0 with 10-key.
- 2) Press [START] key.

The dial signal is outputted.

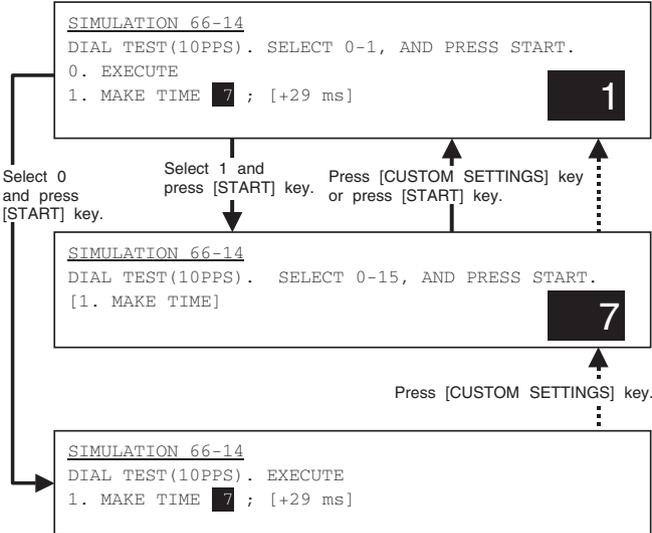
(Dial pulse make time setting)

- 1) Enter 1 with 10-key.
- 2) Press [START] key.
- 3) Enter the set value with 10-key.
- 4) Press [START] key.

0	EXECUTE	Execute
1	MAKE TIME	Dial pulse make time setting (0 - 15)

The dial signal is sent with the set value + 29ms.

When [CUSTOM SETTINGS] key is pressed during execution, the operation is stopped.



Purpose	Setting/Operation test/Check
Function (Purpose)	Used to set the make time in the FAX pulse dial mode (20pps) and to test the dial signal output. (The dial number signal set by SIM 66-13 is outputted.) Used to check troubles in dialing and to check the operation. (Only when FAX is installed)
Section	FAX
Item	Operation

Operation/Procedure

- 1) Enter 0 with 10-key.
- 2) Press [START] key.

The dial signal is outputted.

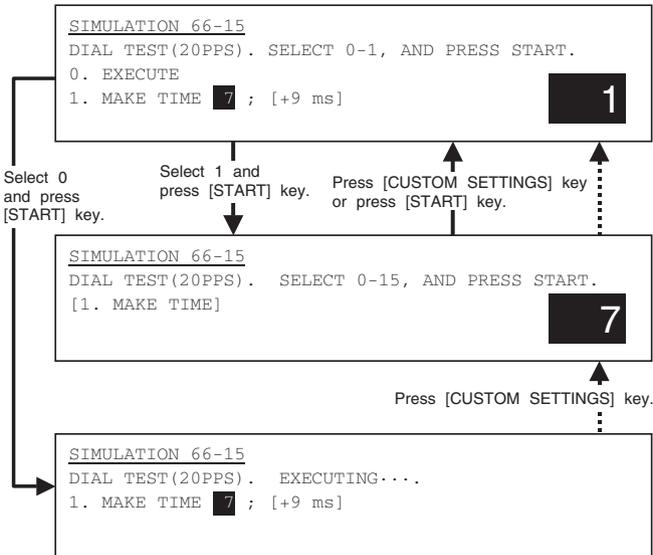
(Dial pulse make time setting)

- 1) Enter 1 with 10-key.
- 2) Press [START] key.
- 3) Enter the set value with 10-key.
- 4) Press [START] key.

0	EXECUTE	Execute
1	MAKE TIME	Dial pulse make time setting (0 - 15)

The dial signal is sent with the set value + 9ms.

When [CUSTOM SETTINGS] key is pressed during execution, the operation is stopped.



Purpose	Setting/Operation test/Check
Function (Purpose)	Used to check the dial signal (DTMF) output in the FAX tone dial mode. (The dial number signal set by SIM 66-13 is outputted.) The send level can be set to an optional level. Used to check troubles in dialing and to check the operation. (Only when FAX is installed)
Section	FAX
Item	Operation

Operation/Procedure

- 1) Enter 0 with 10-key.
- 2) Press [START] key.

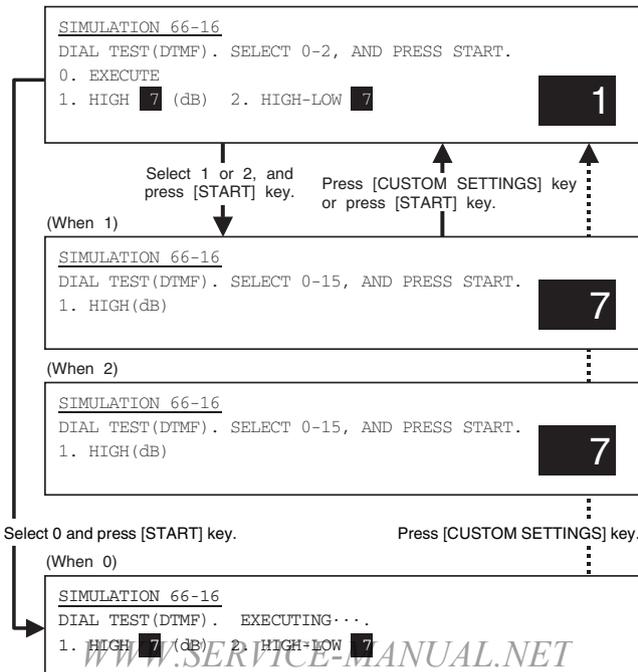
The dial signal is outputted.

(Dial pulse make time setting)

- 1) Enter 1 or 2 with 10-key.
- 2) Press [START] key.
- 3) Enter the set value with 10-key.
- 4) Press [START] key.

		Item	Set range
0	EXECUTE	Execution	
1	HIGH	High group level	0 - 15dB
2	HIGH LOW	High group - Low group	0 - 15

When [CUSTOM SETTINGS] key is pressed during execution, the operation is stopped.



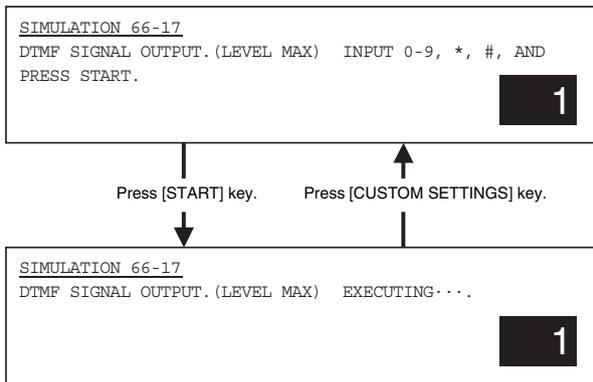
Purpose	Setting
Function (Purpose)	Used to check the dial signal (DTMF) output in the FAX tone dial mode. Send level: Max. Used to check the operation. (Only when FAX is installed)
Section	FAX
Item	Operation

Operation/Procedure

- 1) Enter the DTMF signal (1 - 9, 0, *, #) to be sent with 10-key.
- 2) Press [START] key.

The signal is sent in the max. send level.

When [CUSTOM SETTINGS] key is pressed during execution, the operation is stopped.



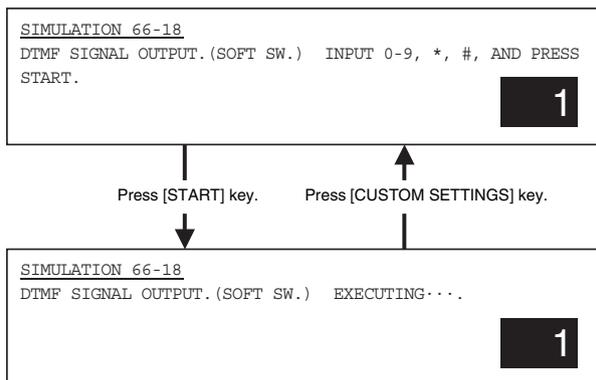
Purpose	Setting
Function (Purpose)	Used to check the dial signal (DTMF) output in the FAX tone dial mode. An output is sent at the send level set by the soft switch. Used to check the operation. (Only when FAX is installed)
Section	FAX
Item	Operation

Operation/Procedure

- 1) Enter the DTMF signal (1 - 9, 0, *, #) to be sent with 10-key.
- 2) Press [START] key.

The signal is sent in the send level set with the soft SW.

When [CUSTOM SETTINGS] key is pressed during execution, the operation is stopped.



66-19

Purpose	Data transfer
Function (Purpose)	Used to back-up the HDD data into the Flash memory (optional FAX expansion memory: AR-MM9). (Only when FAX is installed)
Section	FAX
Item	Data

Operation/Procedure

1) Select YES/NO of data transfer (backup).

1	YES	Backup is executed.
2	NO	Backup is not executed.

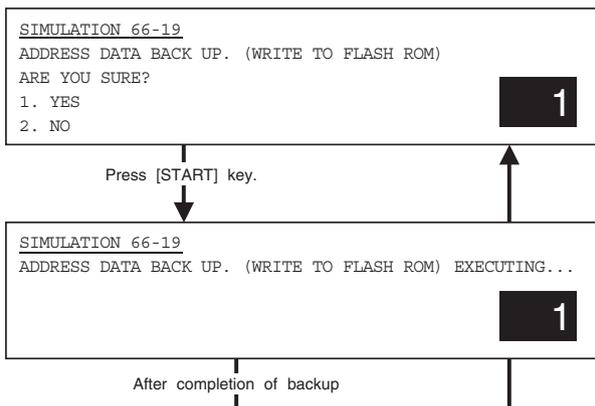
2) Press [START] key.

This function is valid only when the AR-MM9 is installed.

Backup contents

- Address book data (FAX, Mail, Address)
- One-touch dial
- FTP expansion
- Group expansion
- Program
- Use index
- Standard sender
- IFAX sender registration
- FAX sender registration
- Item name
- Fine name
- FAX receive select table
- IFAX receive YES/NO
- Polling allow number
- Memory box
- Sender name
- Soft SW

The other contents are not backed up.



66-20

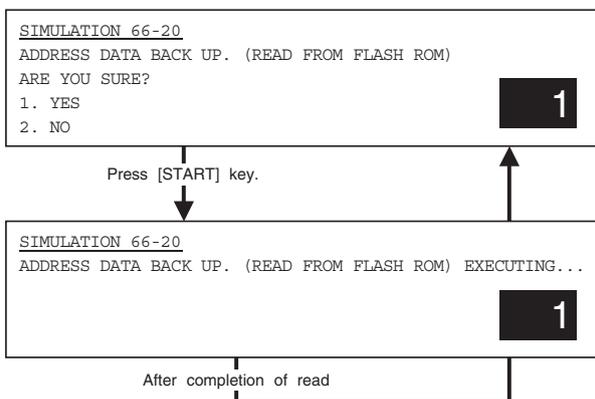
Purpose	Data transfer
Function (Purpose)	Used to read the back-up data by SIM 66-19 to the SRAM/HDD. (Only when FAX is installed)
Section	FAX
Item	Data

Operation/Procedure

1) Select YES/NO of data transfer.

1	YES	Backup is executed.
2	NO	Backup is not executed.

2) Press [START] key.

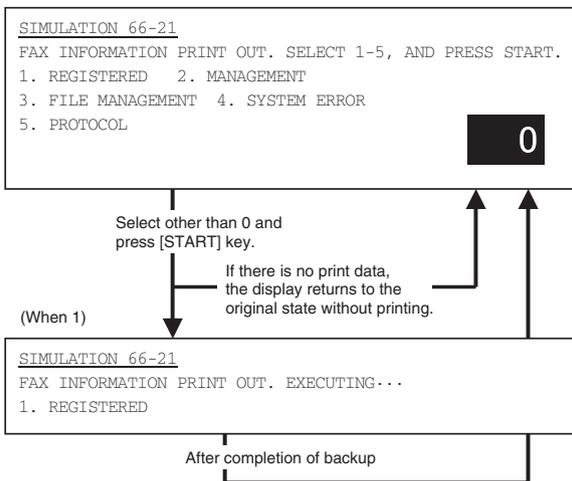


Purpose	Adjustment/Setup/Operation data output/Check (Display/Print)
Function (Purpose)	Used to print information related to FAX (various registrations, communication management, file management, system error protocol). (Only when FAX is installed)
Section	FAX
Item	Data

Operation/Procedure

- 1) Enter the number corresponding to the information (item) to be printed with 10-key.
- 2) Press [START] key.

1	REGISTERED	Various registration information
2	MANAGEMENT	Communication management information
3	FILE MANAGEMENT	File management information
4	SYSTEM ERROR	System error information
5	PROTOCOL	Protocol information



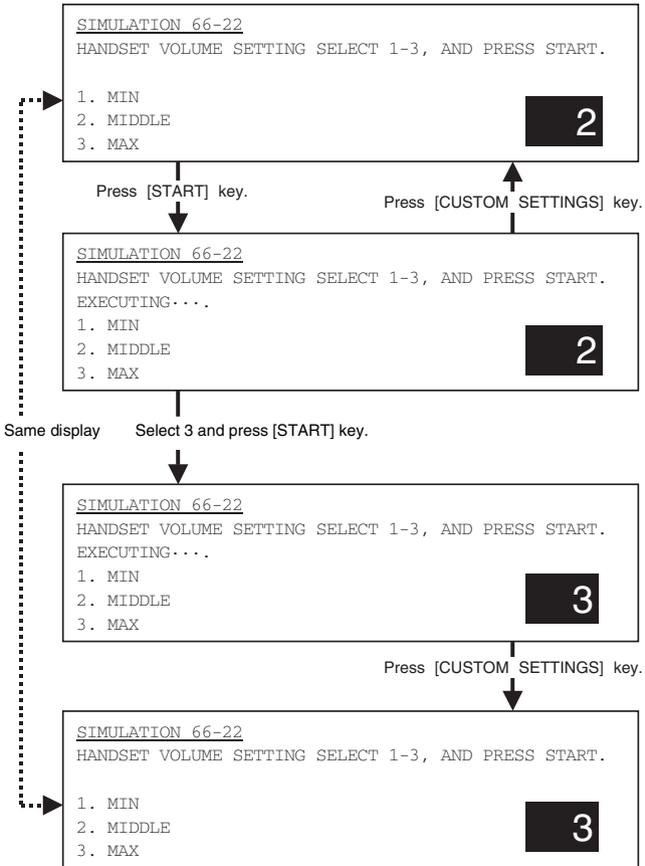
Purpose	Setting
Function (Purpose)	Used to adjust the handset volume. (Only when the FAX is installed.)
Section	FAX
Item	Operation

Operation/Procedure

- 1) Enter the number corresponding to the volume with 10-key.
- 2) Press [START] key.

1	MIN	Small
2	MIDDLE	Medium
3	MAX	Large

Selection of 1, 2, and 3 can be made during execution.



66-23

Purpose	Setting
Function (Purpose)	Used to download the FAX program. (Only when FAX is installed) Not used in the market. (For development)
Section	FAX
Item	

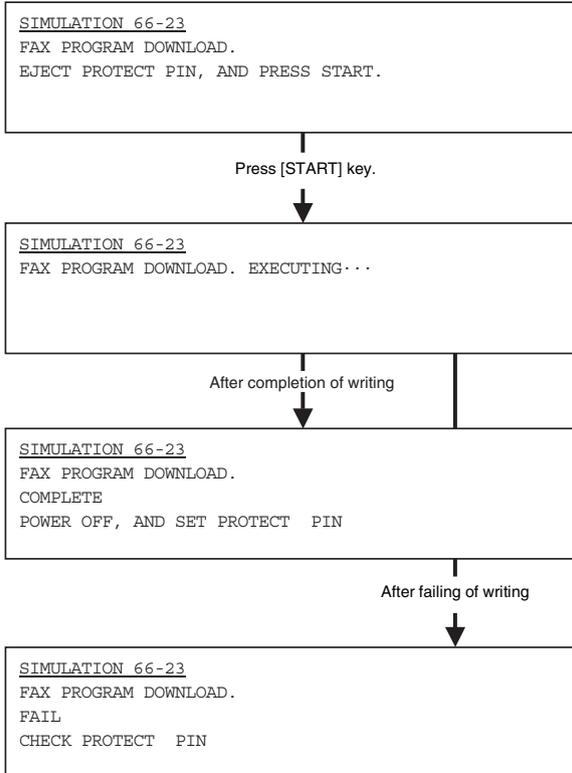
Operation/Procedure

- 1) Turn OFF the power.
- 2) Remove the protect pin.
- 3) Turn ON the power.
- 4) Enter the SIM 66-23 mode.
- 5) Press [START] key.

During operation, "EXECUTING" is displayed. When the operation is completed normally, "COMPLETE" is displayed.

If an error occurs, "FAIL" is displayed.

- 6) Turn OFF the power, and attach the protect pin.



66-24

Purpose	Clear
Function (Purpose)	Used to clear the FAST memory data. (Only when FAX is installed)
Section	FAX
Item	Data

Operation/Procedure

- 1) Select YES/NO of data clear.

1	YES	FAST memory data is cleared.
2	NO	Not cleared.

- 2) Press [START] key.

```
SIMULATION 66-24
FAST MEMORY DATA CLEAR.
ARE YOU SURE?
1. YES
2. NO
```

66-25

Purpose	Setting
Function (Purpose)	Used to register the FAX number for Modem dial-in. (Only when FAX is installed) Not used in the market. (For development)
Section	FAX
Item	Data

Operation/Procedure

- 1) Enter the Modem dial-in FAX number (1 - 9, 0, *, #) with 10-key.
- 2) Press [START] key.

```
SIMULATION 66-25
M-D-IN FAX NUMBER SETTING. 0-9:[0-9],*:[*],#[:#]
INPUT NUMBER AND PRESS START.
0123456789*#01234567
```

66-26

Purpose	Setting
Function (Purpose)	Used to register external telephone numbers for Modem dial-in. (Only when FAX is installed) Not used in the market. (For development)
Section	FAX
Item	Data

Operation/Procedure

- 1) Enter the Modem dial-in FAX number (1 - 9, 0, *, #) with 10-key.
- 2) Press [START] key.

```
SIMULATION 66-26
M-D-IN EXTTEL NUMBER SETTING. 0-9:[0-9],*:[*],#[:#]
INPUT NUMBER AND PRESS START.
0123456789*#01234567
```

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66-27

Purpose	Setting
Function (Purpose)	Used to register the transfer number for voice warp. (Only when FAX is installed) Not used in the market. (For development)
Section	FAX
Item	Data

Operation/Procedure

- 1) Enter the voice warp transfer number (1 - 9, 0, *, #) with 10-key.
- 2) Press [START] key.

SIMULATION 66-27

V-WP TRANSMIT NUMBER SETTING. 0-9:[0-9],*:[*],#[#]
INPUT NUMBER AND PRESS START.

0123456789*#01234567

66-28

Purpose	Setting
Function (Purpose)	Used to record voice messages. (Only when FAX is installed.)
Section	FAX
Item	Data

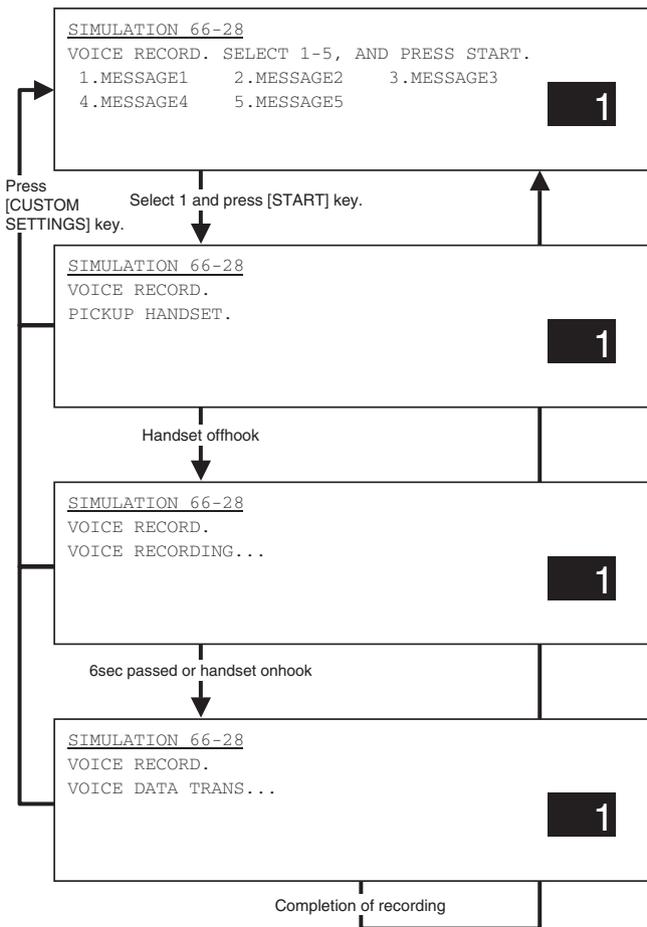
Operation/Procedure

- 1) Enter the number corresponding to the registration number with 10-key.
- 2) Use the handset to record a voice message. (Max. 6sec)
- 3) Onhook the handset. (End)

There are following five kinds of recording.

1	MESSAGE1	Recording No. 1
2	MESSAGE2	Recording No. 2
3	MESSAGE3	Recording No. 3
4	MESSAGE4	Recording No. 4
5	MESSAGE5	Recording No. 5

When [CUSTOMSETTING] key is pressed, recording is interrupted.



66-29

Purpose	Clear
Function (Purpose)	Used to clear data related to an address book (one-touch registration, program registration/expansion, relay memory box registration, each table content).
Section	FAX, Network scanner
Item	Data

Operation/Procedure

1) Select YES/NO of data clear.

1	YES	Address book data is cleared.
2	NO	Not cleared.

2) Press [START] key.

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SIMULATION 66-29
 ADDRESS DATA CLEAR.
 ARE YOU SURE?
 1. YES
 2. NO

1

66-30

Purpose	Operation test/Check
Function (Purpose)	Used to check the change in the TEL/LIU status.
Section	FAX
Item	Operation

Operation/Procedure

The TEL/LIU state is displayed.

When the state is changed, it is highlighted.

HS1	Polarity reverse signal
HS2	Polarity reverse signal
RHS	Handset hook SW
EXHS	External telephone hook SW

SIMULATION 66-30
 TEL/LIU SENSOR CHECK.
 HS1 HS2 **RHS** EXHS

1

66-31

Purpose	Operation test/Check
Function (Purpose)	Used to check the relay operation.
Section	FAX
Item	Operation

Operation/Procedure

- 1) Enter the number corresponding to the check item with 10-key.
- 2) Press [START] key.

SIMULATION 66-31
 TEL/LIU SETTING.
 INPUT 0-1, AND PRESS START.
 1. **MPXA** 2. CION 3. MR 4. EC
 5. **S.** 6. **CML** 7. DP 8.

1 2 3 4 5 6 7 8
10001100

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66-32

Purpose	Operation test/Check
Function (Purpose)	Used to check the receive data (fixed data) from the line.
Section	FAX
Item	Operation

Operation/Procedure

When check is completed normally, "OK" is displayed. In case of an error, "NG" is displayed.

(Display message)

CHECKING	Checking
OK	Checking completed (OK)
NG	Checking completed (NG)

```
SIMULATION 66-32
RECEIVED DATA CHECK.
CHECKING.... (OK or NG)
```

66-33

Purpose	Operation test/Check
Function (Purpose)	Used to check the signal (BUSY TONE/CNG/CED/FNET/DTMF) detection.
Section	FAX
Item	Operation

Operation/Procedure

The detected signal is highlighted.

```
SIMULATION 66-33
SIGNAL DETECT CHECK.
BUSY TONE CNG CED FNET DTMF
```

66-34

Purpose	Operation test/Check
Function (Purpose)	Used to measure the communication time of test image data.
Section	FAX
Item	Operation

Operation/Procedure

Communication test is performed to measure the time (ms).

Send is made under the following conditions.

Communication means	Memory send
Image quality	Normal text
Density	Light
ECM	ON
Sender record	OFF

SIMULATION 66-34
COMMUNICATION TIME DISPLAY.

* * * * * ms

66-35

Purpose	Setting
Function (Purpose)	Modem program reloading (Only when FAX is installed) Not used in the market. (For development)
Section	FAX
Item	Data

Operation/Procedure

1) Select YES/NO of Modem program reload.

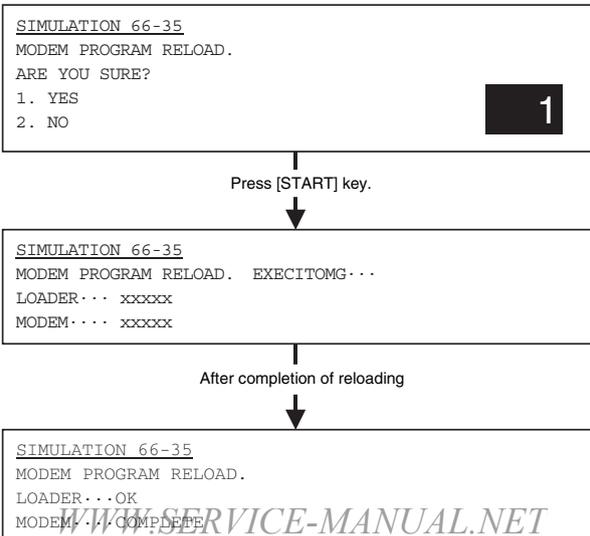
1	YES	Modem block reload is cleared.
2	NO	Not reloaded.

2) Press [START] key.

When reload is completed normally, "OK" is displayed. In case of an error, "CHECK SUM" is displayed.

The result of Modem reload is displayed.

COMPLETE	Reload completed
81	Check sum error
82	Write error
83	Delete error
84	Verify error
NG	Due to loader NG



Purpose	Operation test/Check
Function (Purpose)	Used to check interface between MFPC controller and MDMC. (Check of the data line or the command line)
Section	FAX
Item	Operation

Operation/Procedure

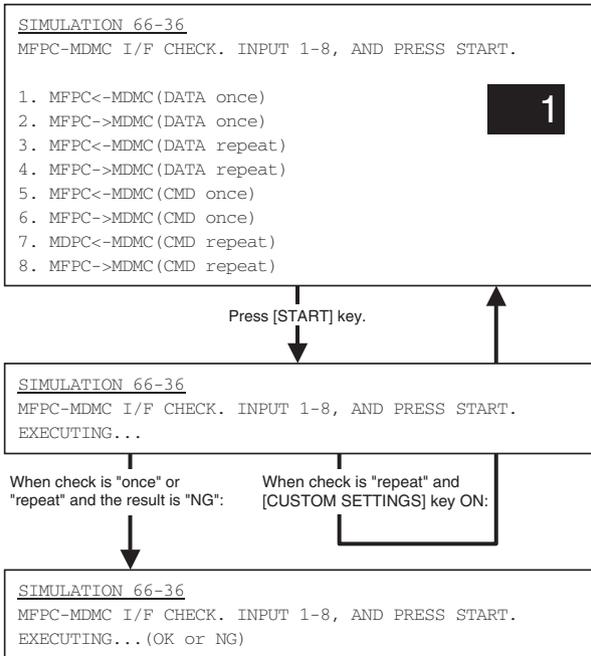
1) Enter the number corresponding to the check mode with 10-key.

1	MFPC ← MDMC	Date line once only
2	MFPC → MDMC	Date line once only
3	MFPC ← MDMC	Data line repeat
4	MFPC → MDMC	Data line repeat
5	MFPC ← MDMC	Command line once only
6	MFPC → MDMC	Command line once only
7	MFPC ← MDMC	Command line repeat
8	MFPC → MDMC	Command line repeat

2) Press [START] key.

When check is completed normally, "OK" is displayed. In case of an error, "NG" is displayed.

When check is "repeat," the operation is continued until the result is NG or [CUSTOM SETTINGS] key is pressed.

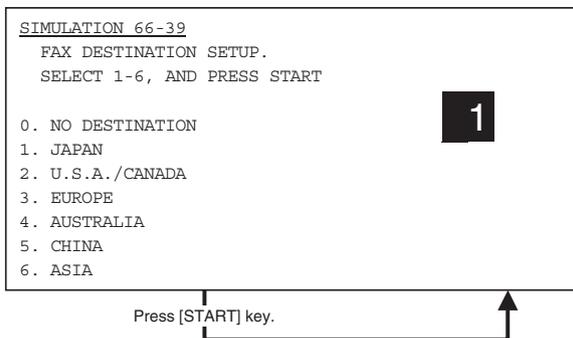


66-39

Purpose	Setting
Function (Purpose)	Used to set the destination specifications.
Section	FAX
Item	Specifications Operation

Operation/Procedure

- 1) Enter the number corresponding to the destination.
- 2) Press [START] key.



66-60

Purpose	Setting
Function (Purpose)	Used to set the ACR data.
Section	FAX
Item	Operation

Operation/Procedure

- 1) Enter the number corresponding to the set item with 10-key.
The item list menu can be switched by pressing [P] key.
- 2) Press [START] key.
- 3) Enter the set value.
- 4) Press [START] key.

This simulation can be executed when soft SW 24-4 and 24-5 are set to 1. Display/Not display is switched by soft SW 24-4 and 24-5.

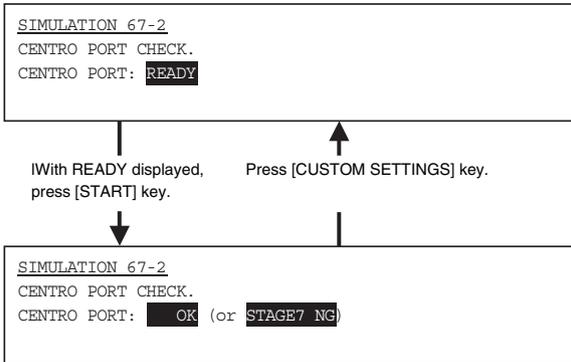
The digit limitation and characters allowed to be inputted depend on the input item.

Purpose	Operation test/Check	
Function (Purpose)	Used to check the operation of the parallel I/F of the printer. (This simulation is for production only, and requires a special tool for execution. Not used in the market.)	
Section	MFP controller	
Item	Operation	Interface/Communication

Operation/Procedure

(Display message)

WAITING	Waiting
READY	Check start OK
OK	Check end (Normal)
STAGE*NG	Check end (Error in stage *. *: 1 - 11)



Purpose	Setting	
Function (Purpose)	Used to set YES/NO of the parallel I/F select signal of the printer.	
Section	MFP controller	
Item	Operation	Interface/Communication

Operation/Procedure

- 1) Enter the number corresponding to the select IN signal YES/NO setting with 10-key.

Item		Default
0	OFF	0 (AR-M550U, AR-M620U, AR-M700U)
1	ON	1 (AR-M550N, AR-M620N, AR-M700N)

- 2) Press [START] key.

When the printer parallel I/F is used and a trouble is generated in the communication between the PC and the printer, change the setting of this simulation.

SIMULATION 67-11

CENTRO SELECT IN SIGNAL SETTING. SELECT 0-1, AND PRESS START.

- 0. OFF
- 1. ON

67-16

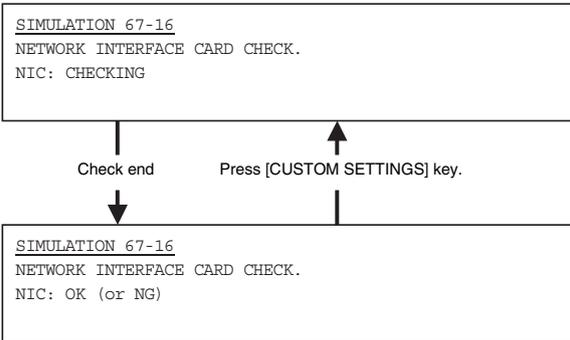
Purpose	Operation test/Check	
Function (Purpose)	Used to check the operation of the network card.	
Section	MFP controller	
Item	Operation	Interface/Communication

Operation/Procedure

During check, "CHECKING" is displayed. When check is completed normally, "OK" is displayed. In case of an error, "NG" is displayed.

(Display message)

CHECKING	Checking
OK	Check end (Normal)
NG	Check end (Error)



[5] SELF DIAG MESSAGE AND TROUBLESHOOTING

[Error code]

1. Breakdown sequence

A. Breakdown mode process

(1) Breakdown mode list

There are following cases of the breakdown mode.

(The machine can be operated under some conditions.)	Judgment block	Trouble code	Operation enable mode						
			Copy read (including interrupt)	FAX send	Email receive	FAX print	Print	List print	Notification to FASThost
(SPF breakdown)	Scanner	U5	Δ1	Δ1	Δ1	○	○	○	○
Scanner section breakdowns (Mirror motor, lens, copy lamp)	Scanner	L1, L3, U2 (80, 81)	×	×	×	○	○	○	○
FAX board breakdown	MFP control/ FAX	F6, F7	○	×	○	×	○	○	×
FAX power OFF	MFP control		○	×	○	×	○	○	×
Network error	MFP control	CE	○	○	×	○	○	○	×
Staple breakdown	PCU	F1 (10)	Δ2	○	○	Δ2	Δ2	Δ2	○
Paper feed tray breakdown	PCU	F3, U6 (LCC)	Δ3	○	○	Δ3	Δ3	Δ3	○
(Process control breakdown)	PCU	F2 (31, 32, 37)	Δ4	○	○	Δ4	Δ4	Δ4	○

(The machine can be operated under some conditions.)	Judgment block	Trouble code	Operation enable mode						
			Copy read (including interrupt)	FAX send	Email receive	FAX print	Print	List print	Notification to FASThost
PCU section breakdowns (Motor, fusing section, etc.)	PCU	C1, C2, C3, H2, H3, H4, H5, L4 (excluding L4-30), L8, U2 (90, 91), F2, F4	×	○	○	×	×	×	○
After-process breakdown	PCU	F1	Δ5	○	○	Δ5	Δ5	Δ5	○
Inserter trouble (excluding communication trouble)	PCU	F1 (61, 62)	Δ7	○	○	Δ7	Δ7	Δ7	○
Laser breakdown	PCU	E7 (02 only), L6	×	○	○	×	×	×	○
HDD breakdown	MFP control	E7 (03)	×	×	×	×	×	×	○
CCD breakdowns (Shading, etc.)	Scanner	E7 (10, 11, 12, 14)	×	×	×	○	○	○	○
CIS breakdowns (Shading, etc.)	Scanner	E6 (10, 11, 14)	Δ6	Δ6	Δ6	○	○	○	○
Scanner communication trouble	MFP control	E7 (80)	×	×	×	○	○	○	○
PCU communication trouble	MFP control	E7 (90)	×	×	×	×	×	×	○
FAX backup battery voltage fall	MFP control	U1 (01, 02)	○	×	×	○	○	○	○
HDD registration data sum error	MFP control	U2 (50)	○	×	×	○	○	○	○
Thermistor trouble (trouble history)	PCU	F2 (39, 46, 47, 48)	○	○	○	○	○	○	○

(The machine cannot be operated.)

Memory	MFP control	U2 (00, 11, 12, 22, 23)	×	×	×	×	×	×	○
External communication disable (RICA)	MFP control	U7, PF	×	×	×	×	×	×	○
Image memory trouble, decode error	MFP control	E7 (01, 06)	×	×	×	×	×	×	○

(The machine can be operated under some conditions.)	Judgment block	Trouble code	Operation enable mode						
			Copy read (including interrupt)	FAX send	Email receive	FAX print	Print	List print	Notification to FASThost
Incompatibility check error	MFP control/PCU	E7 (50, 55, 56, 57, 60, 65, 66, 67)	×	×	×	×	×	×	×
Controller fan motor trouble	MFP control	L4-30	×	×	×	×	×	×	×

* For FAX communication, refer to the sheet of “Call request and Call-in.”

* The machine may be operated under some conditions.

Δ1: When detected except when in a job, the machine can be operated in the OC mode.

Δ2: Can be operated except in the staple mode.

Δ3: When detected except in a job, the machine can be operated except with the breakdown tray.

Δ4: Can be operated with some restriction on the image quality depending on the destination. (Low density print) * Refer to the process control trouble operation table below.

Δ5: When detected except in a job, can be operated except in the trouble paper exit section.

Δ6: When detected except in a job, can be operated in the single surface scan mode.

Δ7: Can be operated except in the inserter tray, if the error is detected in the standby mode.

* Process control trouble operation table

Trouble code	Error content	Japan/SEC	Europe/Others
F2-31	Process control sensor gain adjustment failure	Machine stop	Low density copy
F2-32	Mark detection failure	Low density copy	Low density copy
F2-37	Mark sensor gain adjustment failure	Machine stop	Low density copy

2. Trouble kind

Trouble code		Trouble content	Remarks	Trouble detection	Mechanism	Option	Electricity	FAX	Supply
Main code	Sub code								
C1	00	MC trouble		PCU			●		
CE	00	Another communication error occurs.		Network					
CE	01	The network card is not installed or broken.		Network					
CE	02	The specified mail server or the FTP server is not found.		Network					
CE	03	The specified server suspends response during transmission of images.		Network					
CE	04	The entered account name of the FTP server or the password for authentication is invalid.		Network					
CE	05	The entered directory of the FTP server is invalid.		Network					
CE	06	The specified mail server (POP3) is not found.		Network					
CE	07	The entered account name of the POP3 server or the password for authentication is invalid.		Network					
CE	08	The specified mail server (POP3) suspends response.		Network					
CH	–	Door open (CH ON)		PCU					
E6	11	CIS shading trouble (White correction)		Scanner			●		
E6	14	CIS-ASIC communication trouble		Scanner			●		
E7	01	System data trouble		MFP control	–	–	–	–	–
E7	02	Laser trouble		PCU			●		
E7	03	HDD trouble		MFP control			●		

Trouble code		Trouble content	Remarks	Trouble detection	Mechanism	Option	Electricity	FAX	Supply
Main code	Sub code								
E7	06	Decode error trouble		MFP control			●		
E7	10	CCD shading trouble (Black correction)		Scanner			●		
E7	11	CCD shading trouble (White correction)		Scanner			●		
E7	12	CCD shading trouble (White correction center adjustment)		Scanner			●		
E7	14	CCD-ASIC communication trouble		Scanner			●		
E7	50	LSU connection trouble		PCU			●		
E7	55	Incompatibility check (Engine (PCU) detection)		PCU			●		
E7	56	Incompatibility check (Engine (PCU) detection)		PCU			●		
E7	57	Incompatibility check (Engine (PCU) detection)		PCU			●		
E7	60	Controller connection trouble		MFP control			●		
E7	65	Incompatibility check (MFP controller detection)		MFP control			●		
E7	66	Incompatibility check (MFP controller detection)		MFP control			●		
E7	67	Incompatibility check (MFP controller detection)		MFP control			●		
E7	80	Scanner PWB communication trouble		MFP control			●		
E7	90	PCU PWB communication trouble		MFP control			●		
EE	EL	Auto developer adjustment trouble (Overtoner error)	During SIM only	PCU					●
EE	EU	Auto developer adjustment trouble (Undertoner error)	During SIM only	PCU					●
F1	00	Finisher communication trouble		PCU		●			
F1	02	Finisher transport motor abnormality		PCU		●			
F1	03	Finisher oscillation motor trouble		PCU		●			

Trouble code		Trouble content	Remarks	Trouble detection	Mechanism	Option	Electricity	FAX	Supply
Main code	Sub code								
F1	08	Finisher staple shift motor trouble		PCU		●			
F1	09	Finisher load capacity sensor trouble		PCU		●			
F1	10	Finisher/staple motor trouble		PCU		●			
F1	11	Finisher/pusher motor trouble		PCU		●			
F1	15	Finisher elevator motor trouble		PCU		●			
F1	19	Finisher/jogger motor trouble		PCU		●			
F1	31	Finisher saddle folding motor trouble		PCU		●			
F1	32	Finisher-saddle communication trouble		PCU		●			
F1	33	Finisher/punch shift motor trouble		PCU		●			
F1	34	Finisher/punch motor trouble		PCU		●			
F1	37	Finisher/backup RAM data trouble		PCU		●			
F1	38	Finisher/punch backup RAM data trouble		PCU		●			
F1	41	Finisher/saddle positioning plate motor trouble		PCU		●			
F1	42	Finisher/saddle guide motor trouble		PCU		●			
F1	43	Finisher/saddle alignment motor trouble		PCU		●			
F1	44	Finisher/saddle rear staple motor trouble		PCU		●			
F1	45	Finisher/saddle front staple motor trouble		PCU		●			
F1	46	Finisher/saddle push motor trouble		PCU		●			
F1	51	Finisher/sensor connector connection trouble		PCU		●			
F1	52	Finisher/micro switch trouble		PCU		●			
F1	60	Finisher-inserter communication trouble		PCU		●			
F1	61	Inserter/EEPROM trouble		PCU		●			

Trouble code		Trouble content	Remarks	Trouble detection	Mechanism	Option	Electricity	FAX	Supply
Main code	Sub code								
F1	62	Insert/reverse sensor trouble		PCU		●			
F2	00	Toner concentration sensor open		PCU					●
F2	02	Toner supply abnormality		PCU					●
F2	04	Improper cartridge (Destination error, life cycle error)		PCU					●
F2	05	CRUM error		PCU					●
F2	31	Process control trouble (Photoconductor surface reflection rate abnormality)		PCU					●
F2	32	Process control trouble (Drum marking scan failure)		PCU					●
F2	37	Drum marking sensor gain adjustment error		PCU					●
F2	39	Process thermistor breakdown		PCU					●
F2	46	Developing thermistor breakdown		PCU					●
F2	48	Developing humidity sensor break down		PCU					●
F3	12	Tray 1 lift-up trouble		PCU	●				
F3	22	Tray 2 lift-up trouble		PCU	●				
F3	32	Tray 3 lift-up trouble		PCU	●				
F3	42	Tray 4 lift-up trouble		PCU	●				
F4	38	38 (V) voltage trouble		PCU			●		
F6	00	FAX board communication trouble		MFP control				●	
F6	01	FAX expansion flash ROM abnormality		MFP control				●	
F6	04	FAX modem operation abnormality		FAX				●	
F6	20	FAX write protect cancel		FAX				●	

Trouble code		Trouble content	Remarks	Trouble detection	Mechanism	Option	Electricity	FAX	Supply
Main code	Sub code								
F6	21	Combination error of TEL/LIU PWB and software		FAX				●	
F6	97	FAX-BOX incompatibility trouble		FAX				●	
F6	98	Combination error of the FAX-BOX destination information and the machine destination information		FAX				●	
F7	01	FAX board EEPROM read/write error		FAX				●	
F9	02	PRT centro port check error	MFP control				●		
H2	00	Thermistor open (HL1)		PCU	●				
H2	01	Thermistor open (HL2)		PCU	●				
H2	02	Thermistor open (HL3)		PCU	●				
H3	00	Heat roller high temperature detection (HL1)		PCU	●				
H3	01	Heat roller high temperature detection (HL2)		PCU	●				
H3	02	Heat roller high temperature detection (HL3)		PCU	●				
H4	00	Heat roller low temperature detection (HL1)		PCU	●				
H4	01	Heat roller low temperature detection (HL2)		PCU	●				
H4	02	Heat roller low temperature detection (HL3)		PCU	●				
H5	01	5-time continuous POD not-reached JAM detection		PCU	●				
L1	00	Scanner feed trouble		Scanner	●				
L3	00	Scanner return trouble		Scanner	●				
L4	01	Main motor lock detection		PCU			●		
L4	02	Drum motor lock detection		PCU			●		
L4	03	Fusing motor lock detection		PCU			●		

Trouble code		Trouble content	Remarks	Trouble detection	Mechanism	Option	Electricity	FAX	Supply
Main code	Sub code								
L4	04	Developing motor lock detection		PCU			●		
L4	06	Transfer belt separation motor trouble		PCU			●		
L4	30	Controller fan motor trouble		MFP control			●		
L4	31	Paper discharging fan trouble		MFP control			●		
L6	10	Polygon motor lock detection		PCU			●		
L8	01	No full wave signal		PCU			●		
PC	–	Personal counter uninstalled		MFP control					
PF	00	RIC copy inhibit command receive		MFP control			●		
U1	01	FAX battery abnormality		MFP control				●	
U1	02	RTC read error (combined use as FAX, on MFP control PWB)		MFP control				●	
U2	00	EEPROM read/write error (MFP control)		MFP control			●		
U2	11	Counter check sum error (MFP control EEPROM)		MFP control			●		
U2	12	Adjustment value check sum error (MFP control EEPROM)		MFP control			●		
U2	22	MFPC section SRAM memory check sum error		MFP control				●	
U2	23	MFPC section SRAM memory individual data check sum error		MFP control				●	
U2	50	HDD section individual data check sum error		MFP control				●	
U2	80	Scanner section EEPROM read/write error		Scanner			●		
U2	81	Scanner section memory sum check error		Scanner			●		
U2	90	PCU section EEPROM read/write error		PCU			●		
U2	91	PCU section memory sum check error		PCU			●		

Trouble code		Trouble content	Remarks	Trouble detection	Mechanism	Option	Electricity	FAX	Supply
Main code	Sub code								
U5	30	SPF tray lift-up trouble		Scanner	●				
U5	31	SPF tray lift-down trouble		Scanner	●				
U6	09	LCC lift motor trouble		PCU		●			
U6	20	LCC communication trouble		PCU		●			
U6	21	LCC transport motor trouble		PCU		●			
U6	22	LCC 24V power abnormality addition		PCU		●			
U7	00	PC/Modem communication trouble		MFP control			●		
--	-	Auditor NOT READY		MFP control					

3. Details

Main code	Sub code	Title	MC trouble		
C1	00	Phenomenon	Display	Lamp	
				Message	
			Details	MC trouble Three successive MHV-T signals are detected during operation of MHV. Main charger output abnormality (Output open) A trouble signal is outputted from the high voltage transformer.	
			Section	Engine	
			Operation mode		
			Note		
			Case 1	Trouble position/ Cause	The main charger is not installed properly. The main charger is not assembled properly.
				Remedy	Use SIM 8-2 to check the main charger output. Main charger disconnection check
				Note	
			Case 2	Trouble position/ Cause	The high voltage transformer connector is disconnected. The high voltage harness is disconnected or broken.
			Remedy	Connection check	
			Note		
		Case 3	Trouble position/ Cause	High voltage unit trouble	
			Remedy	Replace the high voltage unit.	
			Note		

Main code	Sub code	Title	Another communication error occurs.		
CE	00	Phenomenon	Display	Lamp	
				Message	
			Details	Communication error	
			Section		
			Operation mode		
			Note		
			Case 1	Trouble position/ Cause	Improper connection of the network cable
				Remedy	Check the connection of the network cable.
				Note	

Main code	Sub code	Title	The network card is not installed or broken.		
CE	01	Phenomenon	Display	Lamp	
				Message	
			Details	Network card connection trouble	
			Section		
			Operation mode		
			Note		
			Case 1	Trouble position/ Cause	The network card is not installed on the controller.
				Remedy	Check that the network card is installed on the controller.
				Note	
			Case 2	Trouble position/ Cause	Network card control PWB trouble
		Remedy		1. Output the NIC Config. Page to check the NIC version. 2. Replace the NIC.	
		Note			

Main code	Sub code	Title	The specified mail server or the FTP server is not found.		
CE	02	Phenomenon	Display	Lamp	
				Message	
			Details	The specified mail server or the FTP server is not found.	
			Section		
			Operation mode		
		Note			
		Case 1	Trouble position/ Cause	Improper connection of the network cable	
			Remedy	Check that the network cable is properly connected.	
			Note		
		Case 2	Trouble position/ Cause	Network setup trouble	
			Remedy	<ol style="list-style-type: none"> 1. Check that the connected network supports TCP/IP protocol. 2. As Primary/Secondary E-mail Server Address or Destination from Web Page 3. When the above address is described with the Hostname, check that the DNS server is properly set or not. 	
			Note		
		Case 3	Trouble position/ Cause	An error occurs in the SMTP server/ FTP server/ NTS.	
			Remedy	Check the SMTP server/ FTP server/ NTS for any trouble.	
			Note		

Main code	Sub code	Title	The specified server suspends response during transmission of images.		
CE	03	Phenomenon	Display	Lamp	
					Message
				Details	The specified server suspends response during transmission of images.
				Section	
				Operation mode	
			Note		
			Case 1	Trouble position/ Cause	Improper connection of the network cable
				Remedy	Check that the network cable is properly connected.
				Note	
			Case 2	Trouble position/ Cause	An error occurs in the SMTP server/ FTP server/ NTS.
				Remedy	Check the SMTP server/ FTP server/ NTS for any trouble.
				Note	

Main code	Sub code	Title	The entered account name of the FTP server or the password for authentication is invalid.		
CE	04	Phenomenon	Display	Lamp	
					Message
				Details	The entered account name of the FTP server or the password for authentication is invalid.
				Section	
				Operation mode	
			Note		
			Case 1	Trouble position/ Cause	Improper connection of the network cable
				Remedy	Check that the network cable is properly connected.
				Note	
			Case 2	Trouble position/ Cause	Improper registration of the account name or improper password registered in the FTP server as the destination
				Remedy	Check the account name or the password registered in the FTP server as the destination.
				Note	

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Main code	Sub code	Title	The entered directory of the FTP server is invalid.			
CE	05	Phenomenon	Display	Lamp		
				Message		
			Details	The entered directory of the FTP server is invalid.		
			Section			
			Operation mode			
			Note			
			Case 1	Trouble position/ Cause	Improper connection of the network cable	
				Remedy	Check that the network cable is properly connected.	
				Note		
			Case 2	Trouble position/ Cause	Check for existence of the directory name in the FTP server registered as the destination.	
				Remedy	Check for existence of the directory name in the FTP server registered as the destination.	
				Note		

Main code	Sub code	Title	The specified mail server (POP3) is not found.			
CE	06	Phenomenon	Display	Lamp		
				Message		
			Details	The specified mail server (POP3) is not found. POP3 server access error		
			Section			
			Operation mode			
			Note			
			Case 1	Trouble position/ Cause	Improper connection of the network cable	
				Remedy	Check connection of the network cable.	
				Note		

Main code	Sub code	Title	The specified mail server (POP3) is not found.	
CE	06	Case 2	Trouble position/ Cause	Network setup trouble
			Remedy	1. Check that the connected network supports TCP/IP protocol. 2. Check on the Web page that the POP3 server address is correctly set. 3. When the above address is described with the Hostname, check that the DNS server is properly set or not.
			Note	
		Case 3	Trouble position/ Cause	An error occurs in the POP3 server.
			Remedy	Check for any error in the POP3 server.
			Note	

Main code	Sub code	Title	The entered account name of the POP3 server or the password for authentication is invalid.	
CE	07	Phenomenon	Display	Lamp Message
			Details	The entered account name of the POP3 server or the password for authentication is invalid. POP3 server authentication check error
			Section	
			Operation mode	
			Note	
		Case 1	Trouble position/ Cause	Improper connection of the network cable
			Remedy	Check connection of the network cable.
			Note	
		Case 2	Trouble position/ Cause	Improper account name or password registered in the POP3 server
			Remedy	Check that the account name or the password registered for the POP3 server is correct.
			Note	

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Main code	Sub code	Title	The specified mail server (POP3) suspends response.			
CE	08	Phenomenon	Display	Lamp		
				Message		
			Details	The specified mail server (POP3) suspends response. POP3 server time-out error		
			Section			
			Operation mode			
			Note			
			Case 1	Trouble position/ Cause	Improper connection of the network cable	
				Remedy	Check connection of the network cable.	
				Note		
			Case 2	Trouble position/ Cause		
				Remedy	An error occurs in the POP3 server.	
				Note	Check for any error in the POP3 server.	

Main code	Sub code	Title	CIS shading trouble (White correction)			
E6	11	Phenomenon	Display	Lamp		
				Message		
			Details	CIS shading trouble (White correction) When the power is turned on or when the proper gain setup value is not obtained with SIM 63-2 CIS shading (Retry number: 256 times): CIS white reference plate scan level is abnormal when the lamp is lighted.		
			Section	Scanner		
			Operation mode			
			Note			
			Case 1	Trouble position/ Cause	Defective installation of the harness to the CIS unit CIS unit abnormality	
				Remedy	CIS unit harness check	
				Note		

Main code	Sub code	Title	CIS shading trouble (White correction)	
E6	11	Case 2	Trouble position/ Cause	Reference white plate dirt
			Remedy	Clean the reference white plate.
			Note	
		Case 3	Trouble position/ Cause	CIS lighting trouble
			Remedy	Use SIM 5-3 to check the light quantity of CIS.
			Note	
		Case 4	Trouble position/ Cause	Scanner PWB abnormality
			Remedy	Scanner PWB check
			Note	

Main code	Sub code	Title	CIS communication trouble		
E6	14	Phenomenon	Display	Lamp Message	
			Details	CIS communication trouble When an error occurs in an access check to the CIS-ASIC on turning on the power or closing the DSFP cover. (Retry number: 5 times) Communication trouble between the scanner PWB and the CIS-ASIC. (Clock synchronization)	
			Section	Scanner	
			Operation mode		
			Note		
			Case 1	Trouble position/ Cause	Defective installation of the harness to the CIS unit
				Remedy	Check the harness connected to the CIS unit.
		Note			
		Case 2	Trouble position/ Cause	CIS unit abnormality	
			Remedy	CIS unit check	
			Note		
		Case 3	Trouble position/ Cause	Scanner PWB abnormality	
			Remedy	Scanner PWB check	
			Note		

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Main code	Sub code	Title	System data trouble			
E7	01	Phenomenon	Display	Lamp		
				Message		
			Details	While reading/writing the HDD system area data, the HDD returns an error response or no response at all for longer than 30 seconds.		
			Section	Controller		
			Operation mode			
			Note			
			Case 1	Trouble position/ Cause	No HDD is installed on the MFP control PWB.	
				Remedy	Check installation status of the HDD on the MFP control PWB.	
				Note		
			Case 2	Trouble position/ Cause	HDD does not properly function.	
				Remedy	<ul style="list-style-type: none"> • CHECK connection between the HDD and MFP control. • Perform an HDD read/write test using SIM 62-2/3. • Replace HDD. 	
				Note		
			Case 3	Trouble position/ Cause	MFP control PWB abnormality	
				Remedy	Replace the MFP control PWB.	
				Note		

Main code	Sub code	Title	Laser trouble		
E7	02	Phenomenon	Display	Lamp	
				Message	
			Details	Laser trouble The BD signal from the LSU is kept OFF or ON. When the polygon motor rotation is started and three successive BDT signals of I/O ASIC are detected after forced lighting of laser.	
			Section	Engine	
			Operation mode		
			Note		

Main code	Sub code	Title	Laser trouble	
E7	02	Case 1	Trouble position/ Cause	The connector to the LSU or the harness in the LSU is disconnected or broken.
			Remedy	Check for disconnection of the connector to the LSU.
			Note	
		Case 2	Trouble position/ Cause	The polygon motor does not rotate properly.
			Remedy	Check that the polygon motor rotated properly or not.
			Note	
		Case 3	Trouble position/ Cause	The position of the laser home position sensor in the LSU is shifted.
			Remedy	Use SIM 61-1 to check the LSU operation.
			Note	
		Case 4	Trouble position/ Cause	A proper voltage is not supplied to the power line of the laser.
			Remedy	Replace the LSU unit.
			Note	
		Case 5	Trouble position/ Cause	Defective lighting of the laser emitting diode
			Remedy	Check lighting of the laser emitting diode.
			Note	
		Case 6	Trouble position/ Cause	PCU PWB abnormality
			Remedy	Replace the PCU PWB.
			Note	
		Case 7	Trouble position/ Cause	MFP control ASIC PWB abnormality
			Remedy	Replace the MFP control PWB.
			Note	

Main code	Sub code	Title	HDD trouble		
E7	03	Phenomenon	Display	Lamp	
				Message	
			Details	HDD trouble Data abnormality in the HDD file management area (cluster chain corrupted) The HDD sends an error response or does not respond for 30 sec.	
			Section	Controller	
			Operation mode		
			Note		
			Case 1	Trouble position/ Cause	The HDD is not installed properly to the MFP control PWB.
				Remedy	Check installation of the HDD to the MFP control PWB.
				Note	
			Case 2	Trouble position/ Cause	The HDD of the MFP control PWB does not operate properly.
				Remedy	Check connection of the harness to the HDD of the MFP control PWB. Use SIM 62-2, -3 to check read/write of the HDD. Replace the HDD.
				Note	
			Case 3	Trouble position/ Cause	MFP control ASIC PWB abnormality
				Remedy	Replace the MFP control PWB.
				Note	

Main code	Sub code	Title	Decode error trouble		
E7	06	Phenomenon	Display	Lamp Message	
			Details	Decode error trouble A decode error occurs in making an image.	
			Section	Controller	
			Operation mode		
			Note		
			Case 1	Trouble position/ Cause	Garbled data in input from PCI to PM DM trouble Data are garbled in image compression/transfer.
				Remedy	Check installation of the PWB. (PCI bus) If the job at occurrence is FAX, check installation of the FAX PWB. For the other cases, check the MFP control PWB.
				Note	
			Case 2	Trouble position/ Cause	MFP control ASIC PWB abnormality
				Remedy	Replace the MFP control PWB.

Main code	Sub code	Title	CCD shading trouble (Black correction)		
E7	10	Phenomenon	Display	Lamp Message	
			Details	Shading trouble (Black correction) CCD black scan level abnormality when the copy lamp is turned off. When the proper offset setup value is not obtained at turning on the power or CCD shading with SIM 63-2.	
			Section	Scanner	
			Operation mode		
			Note		
			Case 1	Trouble position/ Cause	Defective installation of the flat cable to the CCD unit
				Remedy	Check installation of the flat cable to the CCD unit.
				Note	

Main code	Sub code	Title	CCD shading trouble (Black correction)	
E7	10	Case 2	Trouble position/ Cause	CCD unit abnormality
			Remedy	CCD unit check
			Note	
		Case 3	Trouble position/ Cause	Scanner PWB abnormality
			Remedy	Scanner PWB check
			Note	

Main code	Sub code	Title	CCD shading trouble (White correction all pixel adjustment)	
E7	11	Phenomenon	Display	Lamp Message
			Details	Shading trouble (White correction all pixel adjustment) The CCD white reference plate scan level abnormality when lighting the copy lamp When the proper gain setup value is not obtained at turning on the power or CCD shading with SIM 63-2.
			Section	Scanner
			Operation mode	
			Note	
			Case 1	Trouble position/ Cause
		Remedy		Clean the mirror, the lens, and the reference white plate.
		Note		
		Case 2	Trouble position/ Cause	Copy lamp lighting abnormality
			Remedy	Check the light quantity and lighting of the copy lamp. (SIM 5-3)
			Note	
		Case 3	Trouble position/ Cause	Defective installation of the flat cable to the CCD unit Improper installation of the CCD unit CCD unit abnormality
			Remedy	CCD unit check
			Note	
		Case 4	Trouble position/ Cause	Scanner PWB abnormality
			Remedy	Scanner PWB check
			Note	

Main code	Sub code	Title	CCD shading trouble (White correction center adjustment)		
E7	12	Phenomenon	Display	Lamp	
				Message	
			Details	Shading trouble (White correction center adjustment) The CCD white reference plate scan level abnormality when lighting the copy lamp When the proper gain setup value is not obtained at turning on the power or CCD shading with SIM 63-2.	
			Section	Scanner	
			Operation mode		
			Note		
			Case 1	Trouble position/ Cause	Mirror, lens, reference white plate dirt
			Remedy	Clean the mirror, the lens, and the reference white plate.	
			Note		
		Case 2	Trouble position/ Cause	Copy lamp lighting abnormality	
			Remedy	Check the light quantity and lighting of the copy lamp. (SIM 5-3)	
			Note		
		Case 3	Trouble position/ Cause	Defective installation of the flat cable to the CCD unit Improper installation of the CCD unit CCD unit abnormality	
			Remedy	CCD unit check	
			Note		
		Case 4	Trouble position/ Cause	Scanner PWB abnormality	
			Remedy	Scanner PWB check	
			Note		

Main code	Sub code	Title	CCD communication trouble		
E7	14	Phenomenon	Display	Lamp	
					Message
			Details	CCD communication trouble Communication trouble between the scanner PWB and the CCD-ASIC. (Clock synchronization) When an error occurs in the access check to the CCD-ASIC executed at turning on the power.	
			Section	Scanner	
			Operation mode		
			Note		
			Case 1	Trouble position/ Cause	Defective installation of the harness connected to the CCD unit
				Remedy	Check the harness connected to the CCD unit.
				Note	
			Case 2	Trouble position/ Cause	CCD unit abnormality
				Remedy	CCD unit check
				Note	
			Case 3	Trouble position/ Cause	Scanner PWB abnormality
				Remedy	Scanner PWB check
				Note	

Main code	Sub code	Title	LSU connection trouble		
E7	50	Phenomenon	Display	Lamp	
				Message	
			Details	LSU connection trouble The LSU connected does not conform to the machine specifications. When the combination of the pattern of an input port on the PCU and the pattern of a port connected to the LSU is not proper.	
			Section	Engine	
			Operation mode		
			Note		
			Case 1	Trouble position/ Cause	LSU connection trouble
				Remedy	Check connection between the PCU and the LSU and the harness.
				Note	
			Case 2	Trouble position/ Cause	PCU PWB trouble LSU trouble
				Remedy	Check the LSU. Check the PCU.
				Note	

Main code	Sub code	Title	Incompatibility check (Engine (PCU) detection)		
E7	55	Phenomenon	Display	Lamp	
	56			Message	
	57				
			Details	Incompatibility check trouble An error is detected in the internal incompatibility check in the engine (PCU).	
			Section	Engine (PCU)	
			Operation mode		
			Note		
			Case 1	Trouble position/ Cause	PCU PWB trouble or a improper PCU PWB has been installed.
				Remedy	Check the PCU PWB.
				Note	

Main code	Sub code	Title	Controller connection trouble		
E7	60	Phenomenon	Display	Lamp	
				Message	
			Details	Controller connection trouble Incompatibility trouble between the controller and the engine	
			Section	Controller	
			Operation mode		
		Case 1	Note		
			Trouble position/ Cause	Improper combination of the controller PWB and the engine	
			Remedy	Check the controller PWB. Check combination of the controller PWB and the engine.	
			Note		

Main code	Sub code	Title	Incompatibility check (MFP controller detection)		
E7	65	Phenomenon	Display	Lamp	
	66			Message	
	67		Details	Incompatibility check trouble An error is detected in the internal incompatibility check in the MFP control PWB.	
			Section	MFP control PWB	
			Operation mode		
		Case 1	Note		
			Trouble position/ Cause	MFP control PWB trouble or a improper MFP control PWB has been installed.	
			Remedy	Check the MFP control PWB and repair it as required.	
			Note		

Main code	Sub code	Title	Communication trouble between the MFP control and the scanner (MFP control detection)		
E7	80	Phenomenon	Display	Lamp Message	
			Details	Communication trouble between the MFP control and the scanner (MFP control detection) Communication establishment error/ framing/ parity/ protocol error Follows the communication protocol specifications. Communication error, timing abnormality of the communication data and the communication signal line	
			Section	Controller	
			Operation mode		
			Note		
			Case 1	Trouble position/ Cause	Defective connection of the slave unit PWB connector Defective harness between the slave unit PWB and the MFP control PWB Slave unit PWB mother board connector pin breakage
				Remedy	Check connection of the connector between the slave unit PWB and the MFP control PWB and the harness. Check grounding of the machine.
				Note	

Main code	Sub code	Title	MFP control-PCU communication trouble (MFP control detection)			
E7	90	Phenomenon	Display	Lamp		
				Message		
			Details	MFP control-PCU communication trouble (MFP control detection) Communication establishment error/ framing/ parity/ protocol error Follows the communication protocol specifications. Communication error, timing abnormality of the communication data and the communication signal line		
			Section	Controller		
			Operation mode			
			Note			
			Case 1	Trouble position/ Cause	Defective connection of the slave unit PWB connector Defective harness between the slave unit PWB and the MFP control PWB Slave unit PWB mother board connector pin breakage	
					Remedy	Check connection of the connector between the slave unit PWB and the MFP control PWB and the harness. Check grounding of the machine.
				Note		

Main code	Sub code	Title	Auto developer adjustment trouble (Overtoner error)			
EE	EL	Phenomenon	Display	Lamp		
				Message		
			Details	Auto developer adjustment trouble (Overtoner error) When executing the automatic development adjustment, toner concentration sensor output level is 1.5V or below.		
			Section	Engine		
			Operation mode			
			Note			
			Case 1	Trouble position/ Cause	Toner density sensor trouble Charging voltage and developing voltage trouble Toner density trouble Developing unit trouble PCU PWB trouble	
					Remedy	Use SIM 25-2 to perform the automatic developing adjustment.
				Note		

Main code	Sub code	Title	Auto developer adjustment trouble (Undertoner error)	
EE	EU	Phenomenon	Display	Lamp Message
			Details	Auto developer adjustment trouble (Undertoner error) When executing the automatic development adjustment, toner concentration sensor output level is 3.5V or above.
			Section	Engine
			Operation mode	
			Note	
		Case 1	Trouble position/ Cause	Toner density sensor trouble Charging voltage and developing voltage trouble Toner density trouble Developing unit trouble PCU PWB trouble
			Remedy	Use SIM 25-2 to perform the automatic developing adjustment.
			Note	

Main code	Sub code	Title	Finisher communication trouble	
F1	00	Phenomenon	Display	Lamp Message
			Details	Finisher communication trouble An error in the communication line test after turning on the power or canceling the simulation Communication error with the finisher Follows the communication protocol specifications. Communication error, timing abnormality of the communication data and the communication signal line
			Section	Engine
			Operation mode	
			Note	

Main code	Sub code	Title	Finisher communication trouble		
F1	00	Case 1	Trouble position/ Cause	Improper connection or disconnection of the connector or harness between the machine and the finisher	
			Remedy	Check the connector and the harness in the communication line.	
			Note		
			Case 2	Trouble position/ Cause	Finisher control PWB trouble Control PWB (PCU) trouble
				Remedy	Replace the finisher control PWB or the PCU PWB.
				Note	
			Case 3	Trouble position/ Cause	Malfunction caused by noises
				Remedy	Canceled by turning ON/OFF the power.
				Note	

Main code	Sub code	Title	Finisher transport motor abnormality		
F1	02	Phenomenon	Display	Lamp	
				Message	
			Details	Finisher transport motor abnormality When opening the shutter unit, the opening process is not completed in 1sec. When closing the shutter unit, the closing process is not completed in 1sec. When the tray lift unit is operating in the dangerous area, "Not closed state" of the shutter close sensor is detected.	
				Section	Finisher
				Operation mode	
				Note	
			Case 1	Trouble position/ Cause	Motor lock Motor RPM abnormality Overcurrent to the motor Finisher control PWB trouble
				Remedy	Use SIM 3-3 to check the transport motor operation.
				Note	

Main code	Sub code	Title	Finisher oscillation motor trouble			
F1	03	Phenomenon	Display	Lamp		
				Message		
			Details	Finisher oscillation motor trouble When opening the oscillation unit, the opening process is not completed in 1sec. When closing the oscillation unit, the closing operation is not completed in 3sec. When the tray lift unit is operating in the dangerous area, "Not closed state" of the oscillation unit close sensor is detected. When controlling the oscillation unit speed, the encoder input cannot be detected within a specified time.		
			Section	Finisher		
			Operation mode			
			Note			
			Case 1	Trouble position/ Cause	Motor lock Motor RPM abnormality Overcurrent to the motor Finisher control PWB trouble	
				Remedy	Use SIM 3-3 to check the motor operation.	
				Note		

Main code	Sub code	Title	Finisher staple shift motor trouble			
F1	08	Phenomenon	Display	Lamp		
				Message		
			Details	Finisher staple shift motor trouble When the stapler shift motor does not move from the home position in 4sec when operating the stapler shift motor. When the stapler shift motor does not return to the home position in 4sec when operating the stapler shift motor.		
			Section	Finisher		
			Operation mode			
			Note			
			Case 1	Trouble position/ Cause	Motor lock Motor RPM abnormality Overcurrent to the motor Finisher control PWB trouble	
				Remedy	Use SIM 3-3 to check the staple shift motor operation.	
				Note		

Main code	Sub code	Title	Finisher load capacity sensor trouble		
F1	09	Phenomenon	Display	Lamp Message	
			Details	Finisher load capacity sensor trouble When the received data on performing the sensor test at turning on the power are outside the specified range. When the detected data on calculation of the correction value are outside the specified range.	
			Section	Finisher	
			Operation mode		
			Note		
			Case 1	Trouble position/ Cause	Sensor breakage Harness disconnection Console finisher control PWB trouble
				Remedy	Use SIM 3-2 to check the sensor operation.
				Note	

Main code	Sub code	Title	Finisher/staple motor trouble		
F1	10	Phenomenon	Display	Lamp Message	
			Details	Finisher/staple motor trouble When the staple unit does not shift from HP within 0.5sec in staple process. When a stapler jam is detected and the staple motor is reversed, the staple motor does not return to HP in 0.5sec.	
			Section	Finisher	
			Operation mode		
			Note		
			Case 1	Trouble position/ Cause	Motor lock Motor RPM abnormality Overcurrent to the motor Finisher control PWB trouble
				Remedy	Use SIM 3-3 to check the staple shift motor operation.
				Note	

Main code	Sub code	Title	Finisher/pusher motor trouble			
F1	11	Phenomenon	Display	Lamp		
				Message		
			Details	Finisher/pusher motor trouble When learning the paper exit roller speed, the process is not completed in 10sec. When controlling the paper exit roller speed, an encoder input is not detected in a specified time.		
			Section	Finisher		
			Operation mode			
			Note			
			Case 1	Trouble position/ Cause	Motor lock Motor RPM abnormality Overcurrent to the motor Finisher control PWB trouble	
				Remedy	Use SIM 3-3 to check the pusher motor operation and the paddle solenoid operation, or use SIM 3-2 to check the boomerang rotations sensor.	
				Note		

Main code	Sub code	Title	Finisher tray lift motor trouble			
F1	15	Phenomenon	Display	Lamp		
				Message		
			Details	Finisher tray lift motor trouble When operating the tray lift unit, the process is not completed in 12sec. When the tray lift unit is lifting, the tray lift unit upper limit sensor ON is detected. When operating the tray lift unit, an encoder input is not detected in 0.2sec.		
			Section	Finisher		
			Operation mode			
			Note			
			Case 1	Trouble position/ Cause	Motor lock Motor RPM abnormality Overcurrent to the motor Finisher control PWB trouble	
				Remedy	Use SIM 3-3 to check the elevator motor operation.	
				Note		

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Main code	Sub code	Title	Finisher/alignment motor trouble			
F1	19	Phenomenon	Display	Lamp		
				Message		
			Details	Finisher/alignment motor trouble When operating the alignment motor, it does not move from the home position in 2sec. When operating the alignment motor, it does not return to the home position in 2sec.		
			Section	Finisher		
			Operation mode			
			Note			
			Case 1	Trouble position/ Cause	Motor lock Motor RPM abnormality Overcurrent to the motor Finisher control PWB trouble	
				Remedy	Use SIM 3-3 to check the motor operation.	
				Note		

Main code	Sub code	Title	Finisher saddle folding sensor trouble			
F1	31	Phenomenon	Display	Lamp		
				Message		
			Details	Finisher saddle folding sensor trouble When the motor rotation speed (linear velocity) at every 200msec falls below the specified level. When moving to the home position, the home position sensor does not turn on within the specified time. When shifting from the home position to the lead edge, the home position sensor does not turn off within the specified time.		
			Section	Finisher		
			Operation mode			
			Note			
			Case 1	Trouble position/ Cause	Sensor breakage Harness disconnection Console finisher control PWB trouble	
				Remedy	Use SIM 3-2 to check the sensor operation.	
				Note		

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Main code	Sub code	Title	Finisher-saddle communication trouble		
F1	32	Phenomenon	Display	Lamp Message	
			Details	Communication error between the finisher and the saddle When the motor rotation speed (linear velocity) at every 200msec falls below the specified level. When moving to the home position, the home position sensor does not turn on within the specified time. When shifting from the home position to the lead edge, the home position sensor does not turn off within the specified time.	
			Section	Finisher	
			Operation mode		
			Note		
			Case 1	Trouble position/ Cause	Improper connection or disconnection of the connector and the harness between the finisher and the saddle unit.
				Remedy	Check the connector and the harness in the communication line.
				Note	
			Case 2	Trouble position/ Cause	Finisher control PWB trouble Control PWB (PCU) trouble
				Remedy	Replace the finisher control PWB.
				Note	
			Case 3	Trouble position/ Cause	Malfunction caused by noises
				Remedy	Canceled by turning ON/OFF the power.
				Note	

Main code	Sub code	Title	Finisher/punch shift motor trouble		
F1	33	Phenomenon	Display	Lamp Message	
			Details	Finisher/punch shift motor trouble When operating the punch shift motor, it does not move from the home position in 4sec. When operating the punch shift motor, it does not return to the home position in 4sec.	
			Section	Finisher	
			Operation mode		
			Note		
			Case 1	Trouble position/ Cause	Motor lock Motor RPM abnormality Overcurrent to the motor Finisher control PWB trouble
				Remedy	Use SIM 3-3 to check the motor operation.
				Note	

Main code	Sub code	Title	Finisher/punch motor trouble		
F1	34	Phenomenon	Display	Lamp Message	
			Details	Finisher/punch motor trouble When learning the punch unit, it does not complete normally and does not return to the home position. When executing punching, it does not shift from the home position in 0.2sec, or it overruns to go into non-HP state. When operating the punch unit, the encoder input cannot be detected within 0.1sec.	
			Section	Finisher	
			Operation mode		
			Note		
			Case 1	Trouble position/ Cause	Motor lock Motor RPM abnormality Overcurrent to the motor Finisher control PWB trouble
				Remedy	Use SIM 3-3 to check the motor operation.
				Note	

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Main code	Sub code	Title	Finisher/ backup RAM trouble		
F1	37	Phenomenon	Display	Lamp	
				Message	
			Details	Finisher/ backup RAM trouble When backup RAM data check sum is NG when turning on the power.	
			Section	Finisher	
			Operation mode		
			Note		
			Case 1	Trouble position/ Cause	Finisher control PWB trouble Malfunction caused by noises
			Remedy	Replace the finisher control PWB.	
			Note		

Main code	Sub code	Title	Finisher/punch backup ROM trouble		
F1	38	Phenomenon	Display	Lamp	
				Message	
			Details	Finisher/punch backup ROM trouble Punch unit backup RAM data are garbled.	
			Section	Finisher	
			Operation mode		
			Note		
			Case 1	Trouble position/ Cause	Punch control PWB trouble Malfunction caused by noises
			Remedy	Replace the punch control PWB.	
			Note		

Main code	Sub code	Title	Finisher/saddle positioning plate motor trouble	
F1	41	Phenomenon	Display	Lamp
				Message
			Details	Finisher/saddle positioning plate motor trouble The positioning motor HP sensor does not turn on within 1.33sec after starting the motor. The positioning motor HP sensor does not turn off within 1sec after starting the motor.
			Section	Finisher
			Operation mode	
			Note	
			Case 1	Trouble position/ Cause
			Remedy	Replace the finisher control PWB.
			Note	

Main code	Sub code	Title	Finisher/saddle guide motor trouble			
F1	42	Phenomenon	Display	Lamp		
				Message		
			Details	Finisher/saddle guide motor trouble It does not return to the home position within the specified time from starting the guide motor. The HP sensor does not turn off within the specified time when shifting from the home position to the specified position.		
			Section	Finisher		
			Operation mode			
			Note			
			Case 1	Trouble position/ Cause	Finisher control PWB trouble Malfunction caused by noises	
				Remedy	Replace the finisher control PWB.	
				Note		

Main code	Sub code	Title	Finisher/saddle alignment motor trouble			
F1	43	Phenomenon	Display	Lamp		
				Message		
			Details	Finisher/saddle alignment motor trouble When shifting to the home position, the home position sensor does not turn on. The HP sensor does not turn off within the specified time when shifting from the home position to the specified position.		
			Section	Finisher		
			Operation mode			
			Note			
			Case 1	Trouble position/ Cause	Finisher control PWB trouble Malfunction caused by noises	
				Remedy	Replace the finisher control PWB.	
				Note		

Main code	Sub code	Title	Finisher/saddle bottom staple motor trouble		
F1	44	Phenomenon	Display	Lamp Message	
			Details	Finisher/saddle bottom staple motor trouble The home position sensor does not turn off within the specified time after normal starting of the motor. The home positions sensor does not turn on within the specified time after reverse starting of the motor in recovery.	
			Section	Finisher	
			Operation mode		
			Note		
			Case 1	Trouble position/ Cause	Finisher control PWB trouble Malfunction caused by noises
				Remedy	Replace the finisher control PWB.
				Note	

Main code	Sub code	Title	Finisher/saddle front staple motor trouble		
F1	45	Phenomenon	Display	Lamp Message	
			Details	Finisher/saddle front staple motor trouble The home position sensor does not turn off within the specified time after normal starting of the motor. The home positions sensor does not turn on within the specified time after reverse starting of the motor in recovery.	
			Section	Finisher	
			Operation mode		
			Note		
			Case 1	Trouble position/ Cause	Finisher control PWB trouble Malfunction caused by noises
				Remedy	Replace the finisher control PWB.
				Note	

Main code	Sub code	Title	Finisher/saddle push motor trouble		
F1	46	Phenomenon	Display	Lamp	
				Message	
			Details	<p>Finisher/saddle push motor trouble</p> <p>When moving to the home position, the home position sensor does not turn on within the specified time.</p> <p>The push lead edge sensor does not turn on within the specified time after shifting from the home position.</p> <p>When shifting from the home position to the lead edge, the home position sensor does not turn off within the specified time.</p> <p>The lead edge sensor does not turn off within the specified time when shifting from the lead edge position to the home position.</p> <p>The motor RPM at every 50msec falls below the specified level.</p> <p>The lead edge sensor does not turn on within the specified time when shifting from the home position to the lead edge position.</p>	
			Section	Finisher	
			Operation mode		
			Note		
			Case 1	Trouble position/ Cause	Finisher control PWB trouble Malfunction caused by noises
				Remedy	Replace the finisher control PWB.
				Note	

Main code	Sub code	Title	Finisher/saddle sensor connector connection trouble			
F1	51	Phenomenon	Display	Lamp		
				Message		
			Details	Finisher/saddle sensor connector connection trouble The connector connection detection input of the guide HP sensor is off. The connector connection detection input of the push lead edge sensor is off.		
				Section	Finisher	
				Operation mode		
			Note			
			Case 1	Trouble position/ Cause	Finisher control PWB trouble Malfunction caused by noises	
				Remedy	Replace the finisher control PWB.	
		Note				

Main code	Sub code	Title	Finisher/micro switch trouble			
F1	52	Phenomenon	Display	Lamp		
				Message		
			Details	Finisher/micro switch trouble With all cover PI (photo sensor) ON, the transport cover MS is off for 1sec continuously from starting copying. With all cover PI (photo sensor) ON, the front cover MS is off for 1sec continuously from starting copying. With all cover PI (photo sensor) ON, the paper exit cover MS is off for 1sec continuously from starting copying.		
				Section	Finisher	
				Operation mode		
			Note			
			Case 1	Trouble position/ Cause	Finisher control PWB trouble Malfunction caused by noises	
				Remedy	Replace the finisher control PWB.	
		Note				

Main code	Sub code	Title	Finisher-inserter communication trouble		
F1	60	Phenomenon	Display	Lamp	
				Message	
			Details	Finisher/inserter communication trouble	
			Section	Insertor	
			Operation mode		
			Note		
			Case 1	Trouble position/ Cause	Improper connection or disconnection of the connector and the harness between the finisher and the inserter unit
				Remedy	Check the connector and the harness in the communication line.
				Note	
			Case 2	Trouble position/ Cause	Finisher control PWB trouble Control PWB (PCU) trouble
				Remedy	Replace the finisher control PWB.
				Note	
			Case 3	Trouble position/ Cause	Malfunction caused by noises
				Remedy	Canceled by turning ON/OFF the power.
				Note	

Main code	Sub code	Title	Inserter/EEPROM trouble			
F1	61	Phenomenon	Display	Lamp		
				Message		
			Details	Inserter/EEPROM trouble Data read failure on turning on the power		
			Section	Inserter		
			Operation mode			
			Note			
			Case 1	Trouble position/ Cause	EEPROM trouble Control circuit runaway due to noises	
				Remedy	Check that the EEPROM is properly installed. Replace the inserter PWB.	
				Note		
			Case 2	Trouble position/ Cause	Inserter PWB EEPROM access circuit trouble	
				Remedy	Replace the inserter PWB.	
				Note		

Main code	Sub code	Title	Inserter/reverse sensor trouble			
F1	62	Phenomenon	Display	Lamp		
				Message		
			Details	Inserter/reverse sensor trouble Auto adjustment failure on turning on the power		
			Section	Inserter		
			Operation mode			
			Note			
			Case 1	Trouble position/ Cause	Auto adjustment failure on turning on the power Sensor breakage Harness disconnection Inserter PWB trouble	
				Remedy	Use SIM 3-2 to check the sensor operation.	
				Note		
				Note		

Main code	Sub code	Title	Toner control sensor open			
F2	00	Phenomenon	Display	Lamp		
				Message		
			Details	Toner control sensor output open After completion of auto development adjustment, during process operation, the toner sensor output is detected as 0.5V or less or 4.5V or above three times.		
			Section	Engine		
			Operation mode			
			Note			
			Case 1	Trouble position/ Cause	Connector harness trouble Connector not connected.	
				Remedy	Check connection of the toner control sensor. Check connection of the connector harness to the main PWB. Check for disconnection of the harness.	
				Note		

Main code	Sub code	Title	Toner supply abnormality			
F2	02	Phenomenon	Display	Lamp		
				Message		
			Details	Toner supply abnormality Toner remains in the toner bottle when undertoner is detected by the toner concentration sensor in the developing unit.		
			Section	Engine		
			Operation mode			
			Note			
			Case 1	Trouble position/ Cause	Toner concentration sensor trouble Toner remaining quantity sensor trouble Connector harness trouble for the above sensors.	
				Remedy	Check connector of hopper unit toner motor (TM1) Check connector of toner bottle toner motor (TM2) Check connection of the connector harnesses to the main PWB. Check broken harness for above connections. Check output of the toner concentration sensor (SIM25-1) Check output of the toner remaining quantity sensor (SIM10-2)	
				Note		

Main code	Sub code	Title	Improper cartridge (Life cycle error, etc.)			
F2	04	Phenomenon	Display	Lamp		
				Message		
			Details	An improper toner bottle is inserted. CRUM (IC chip trouble)		
			Section	Engine		
			Operation mode			
			Note			
			Case 1	Trouble position/ Cause	IC chip trouble Improper cartridge	
				Remedy	Insert a proper cartridge.	
				Note		

Main code	Sub code	Title	CRUM error		
F2	05	Phenomenon	Display	Lamp	
				Message	
			Details	Communication with the IC chip cannot be made. Data write failure to the CRUM or data read failure from the CRUM occurs 3 times continuously except for toner cartridge installation detection.	
			Section	Engine	
			Operation mode		
			Note		
			Case 1	Trouble position/ Cause	IC chip trouble Improper cartridge
				Remedy	Insert a proper cartridge.
				Note	

Main code	Sub code	Title	Process control trouble (Photoconductor surface reflection rate abnormality)		
F2	31	Phenomenon	Display	Lamp	
				Message	
			Details	Process control trouble (Photoconductor surface reflection rate abnormality) Before starting process control, the drum surface is read by the image density sensor to make the sensor gain adjustment so that the output is fixed to a certain level. Though the sensor gain is changed, the output is not fixed to a certain level.	
			Section	Engine	
			Operation mode		
			Note		
			Case 1	Trouble position/ Cause	Image density sensor trouble
				Remedy	Use SIM 44-02 to perform the process control sensor gain adjustment.
				Note	
			Case 2	Trouble position/ Cause	Improper connection of the harness between the PCU PWB and the image density sensor
			Remedy	If "Error" is displayed, it may be considered as a breakdown. Check the sensor and the harness.	
			Note		
		Case 3	Trouble position/ Cause	The image density sensor is dirty. OPC drum cleaning trouble	
			Remedy	If the adjustment is completed, check the drum surface conditions.	
			Note		

Main code	Sub code	Title	Process control trouble (Drum marking scan trouble)		
F2	32	Phenomenon	Display	Lamp	
				Message	
			Details	Process control trouble (Drum marking scan trouble) The drum marking size, density, or the number of units is improper.	
			Section	Engine	
			Operation mode		
			Note		
		Case 1	Trouble position/ Cause	Drum marking sensor trouble	
			Remedy	Use SIM 44-02 to perform the process control sensor gain adjustment.	
			Note		
		Case 2	Trouble position/ Cause	Improper connection of the harness between the PCU PWB and the drum marking sensor	
			Remedy	If "Error" is displayed, it may be considered as a breakdown. Check the sensor and the harness.	
			Note		
		Case 3	Trouble position/ Cause	The drum marking sensor is dirty. OPC drum cleaning trouble	
			Remedy	If the adjustment is completed, check the drum surface conditions.	
			Note		

Main code	Sub code	Title	Drum marking sensor gain adjustment error		
F2	37	Phenomenon	Display	Lamp	
				Message	
			Details	Drum marking sensor gain adjustment error Before starting process control, the drum marking area surface is read by the sensor to make the sensor gain adjustment so that the output is fixed to a certain level. Though the sensor gain is changed, the output is not fixed to a certain level.	
			Section	Engine	
			Operation mode		
			Note		
			Case 1	Trouble position/ Cause	Drum marking sensor trouble
				Remedy	Use SIM 44-02 to perform the process control sensor gain adjustment.
				Note	
			Case 2	Trouble position/ Cause	Improper connection of the harness between the PCU PWB and the drum marking sensor
				Remedy	If "Error" is displayed, it may be considered as a breakdown. Check the sensor and the harness.
				Note	
			Case 3	Trouble position/ Cause	The drum marking sensor is dirty. OPC drum cleaning trouble
				Remedy	If the adjustment is completed, check the drum surface conditions.
			Note		

Main code	Sub code	Title	Process thermistor breakdown	
F2	39	Phenomenon	Display	Lamp
				Message
			Details	Process thermistor breakdown When the process thermistor detection, 3.03V or above, or 0.28V or below is detected once.
			Section	Engine
			Operation mode	
			Note	
		Case 1	Trouble position/ Cause	Improper connection of the process thermistor harness.
			Remedy	Check connection of the connector and the harness of the process thermistor.
			Note	
		Case 2	Trouble position/ Cause	Process thermistor trouble
			Remedy	Replace the process thermistor.
			Note	
		Case 3	Trouble position/ Cause	PCU PWB trouble
			Remedy	Check the PCU PWB.
			Note	

Main code	Sub code	Title	Developing thermistor breakdown			
F2	46	Phenomenon	Display	Lamp		
				Message		
			Details	Developing thermistor open or short. Three successive values of 244 or above, or values of 20 or below, are detected at the developing thermistor.		
			Section	Engine		
			Operation mode			
			Note			
			Case 1	Trouble position/ Cause	Developing thermistor harness connection trouble	
				Remedy	Check connection of the connector and the harness of the developing thermistor.	
				Note		
			Case 2	Trouble position/ Cause	Developing thermistor trouble	
				Remedy	Check the developing thermistor	
				Note		
			Case 3	Trouble position/ Cause	PCU PWB trouble	
				Remedy	Check the PCU PWB.	
				Note		

Main code	Sub code	Title	Developing humidity sensor break down			
F2	48	Phenomenon	Display	Lamp		
				Message		
			Details	Developing humidity sensor open or short. A value of greater than or equal to 255 or above, or value of 7 or below, is detected at the developing humidity sensor.		
			Section	Engine		
			Operation mode			
			Note			
			Case 1	Trouble position/ Cause	Developing humidity sensor harness connection trouble	
				Remedy	Check connection of the connector and the harness of the developing humidity sensor.	
				Note		
			Case 2	Trouble position/ Cause	Developing humidity sensor trouble	
				Remedy	Check the developing humidity sensor	
				Note		
			Case 3	Trouble position/ Cause	PCU PWB trouble	
				Remedy	Check the PCU PWB.	
				Note		

Main code	Sub code	Title	Machine tray 1 lift-up trouble			
F3	12	Phenomenon	Display	Lamp		
				Message		
			Details	Machine tray 1 lift-up trouble PED does not turn on within the specified time. LUD does not turn on within the specified time. The trouble occurs 3 times continuously that the upper limit sensor does not turn on by lift-up operation for 21sec when inserting a tray or for 2sec when printing. For the first and the second times, guide the user to pull out the tray in case of a tray size error.		
			Section	Engine		
			Operation mode			
			Note			
			Case 1	Trouble position/ Cause	PED, LUD trouble No. 1 tray lift-up motor trouble Improper connection of the harness of the PCU PWB, the lift-up unit, and the paper feed unit	
				Remedy	Check the harness and connector of PED and LUD Lift-up trouble unit check. Use SIM 15 to cancel the trouble.	
				Note		

Main code	Sub code	Title	Machine tray 2 lift-up trouble			
F3	22	Phenomenon	Display	Lamp		
				Message		
			Details	Machine tray 2 lift-up trouble MCPED does not turn on within the specified time. MCLUD does not turn on within the specified time. The trouble occurs 3 times continuously that the upper limit sensor does not turn on by lift-up operation for 10sec when inserting a tray or for 2sec when printing. For the first and the second times, guide the user to pull out the tray in case of a tray size error.		
			Section	Engine		
			Operation mode			
			Note			
			Case 1	Trouble position/ Cause	MCPED, MCLUD trouble No. 2 tray lift-up motor trouble Improper connection of the harness of the PCU PWB, the lift-up unit, and the paper feed unit	
				Remedy	Check the harness and the connector of MCPED and MCLUD. Lift-up trouble unit check. Use SIM 15 to cancel the trouble.	
				Note		

Main code	Sub code	Title	Machine tray 3 lift-up trouble			
F3	32	Phenomenon	Display	Lamp		
				Message		
			Details	Machine tray 3 lift-up trouble MCPED does not turn on within the specified time. MCLUD does not turn on within the specified time. The trouble occurs 3 times continuously that the upper limit sensor does not turn on by lift-up operation for 10sec when inserting a tray or for 2sec when printing. For the first and the second times, guide the user to pull out the tray in case of a tray size error.		
			Section	Engine		
			Operation mode			
			Note			
			Case 1	Trouble position/ Cause	MCPED, MCLUD trouble No. 3 tray lift-up motor trouble Improper connection of the harness of the PCU PWB, the lift-up unit, and the paper feed unit	
				Remedy	Check the harness and the connector of MCPED and MCLUD. Lift-up trouble unit check	
				Note		

Main code	Sub code	Title	Machine tray 4 lift-up trouble		
F3	42	Phenomenon	Display	Lamp Message	
			Details	Machine tray 4 lift-up trouble MCPED does not turn on within the specified time. MCLUD does not turn on within the specified time. The trouble occurs 3 times continuously that the upper limit sensor does not turn on by lift-up operation for 10sec when inserting a tray or for 2sec when printing. For the first and the second times, guide the user to pull out the tray in case of a tray size error.	
			Section	Engine	
			Operation mode		
			Note		
			Case 1	Trouble position/ Cause	MCPED, MCLUD trouble No. 4 tray lift-up motor trouble Improper connection of the harness of the PCU PWB, the lift-up unit, and the paper feed unit
				Remedy	Check the harness and the connector of MCPED and MCLUD. Lift-up trouble unit check
				Note	

Main code	Sub code	Title	38V voltage trouble		
F4	38	Phenomenon	Display	Lamp Message	
			Details	38V voltage falls or rises.	
			Section	Engine	
			Operation mode		
			Note		
			Case 1	Trouble position/ Cause	Improper connection or disconnection of the connector and the harness
				Remedy	Check the connector and the harness of the power line.
				Note	
			Case 2	Trouble position/ Cause	PCU PWB trouble Power unit trouble
				Remedy	Check 38V power source in the power unit and the PCU PWB.
		Note			

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Main code	Sub code	Title	MFP control-FAX communication trouble (MFP control detection)	
F6	00	Phenomenon	Display	Lamp
				Message
			Details	MFP control-FAX communication trouble (MFP control detection) The booting sequence by the command line (9600bps, serial) is not completed normally. Communication establishment error/ framing/ parity/ protocol error
			Section	FAX
			Operation mode	
			Note	
		Case 1	Trouble position/ Cause	Defective connection of the slave unit PWB connector Defective harness between the slave unit PWB and the MFP control PWB Slave unit PWB mother board connector pin breakage
			Remedy	Use SIM 25-2 to perform the automatic developing adjustment. Check connection of the connector between the slave unit PWB and the MFP control PWB and the harness.
			Note	Check grounding of the machine.
		Case 2	Trouble position/ Cause	Slave unit ROM trouble/ no ROM/ Reversed insertion of ROM/ ROM pin breakage
			Remedy	Check the ROM on the slave unit PWB.
			Note	

Main code	Sub code	Title	FAX expansion Flash memory trouble (MFP control detection)		
F6	01	Phenomenon	Display	Lamp	
				Message	
			Details	FAX expansion Flash memory trouble (MFP control detection) The expansion flash memory inserted to the FAX I/F PWB could not be cleared.	
			Section	FAX	
			Operation mode		
			Note		
			Case 1	Trouble position/ Cause	Initialization of the FAX expansion memory failed, which is required for a new memory that is inserted to the PWB.
				Remedy	Use SIM 66-10 to clear the expansion flash memory.
				Note	

Main code	Sub code	Title	FAX modem operation abnormality		
F6	04	Phenomenon	Display	Lamp	
				Message	
			Details	FAX modem operation abnormality The initializing process of the modem chip in the FAX PWB is not completed normally.	
			Section	FAX	
			Operation mode		
			Note		
			Case 1	Trouble position/ Cause	SW101 in the FAX PWB tries to perform normal operation on the boot side.
				Remedy	Set SW101 on the FAX PWB to other than the boot side, and turn on the power again.
				Note	
			Case 2	Trouble position/ Cause	FAX PWB modem chip operation trouble
		Remedy		Replace the FAX PWB.	
		Note			

Main code	Sub code	Title	FAX write protect cancel		
F6	20	Phenomenon	Display	Lamp Message	
			Details	The write protect jumper of the FAX interface PWB is released.	
			Section	FAX	
			Operation mode		
			Note		
			Case 1	Trouble position/ Cause	The FAX write protect pin is set to Write Enable.
				Remedy	Check the write protect pin in the FAX interface PWB.
				Note	
			Case 2	Trouble position/ Cause	FAX interface PWB trouble FAX PWB trouble
				Remedy	Replace the FAX PWB. Replace the FAX interface PWB.
				Note	

Main code	Sub code	Title	Abnormal combination of the TEL/LIU PWB and the FAX soft switch		
F6	21	Phenomenon	Display	Lamp Message	
			Details	Combination error of TEL/LIU PWB and software If the destination of the installed TEL/LIU PWB differs from that of the FAX soft switch, it is judged as an error.	
			Section	FAX	
			Operation mode		
			Note		
			Case 1	Trouble position/ Cause	The destination of the installed TEL/LIU PWB differs. The FAX PWB information (soft switch) differs.
				Remedy	Check the destination of the TEL/LIU PWB. Check the FAX PWB information (soft switch).
				Note	
			Case 2	Trouble position/ Cause	TEL/LIU PWB trouble
				Remedy	Replace the TEL/LIU PWB.
				Note	

Main code	Sub code	Title	FAX-BOX incompatibility trouble		
F6	97	Phenomenon	Display	Lamp	
				Message	
			Details	The FAX-BOX PWB is not one for the AR-FX8. (FAX detection) If the FAX-BOX modem controller PWB information (hard detection) is not for the AR-FX8, it is judged as an error.	
			Section	FAX	
			Operation mode		
			Note		
			Case 1	Trouble position/ Cause	Because the FAX-BOX modem controller PWB information (hard detection) is not for the AR-FX8. (The modem controller PWB for the AR-FX5 or the AR-FX6 is used.)
				Remedy	Check the FAX-BOX modem controller PWB. Replace it with a modem controller PWB for the AR-FX8.
				Note	

Main code	Sub code	Title	Combination error of the FAX-BOX destination information and the machine destination information		
F6	98	Phenomenon	Display	Lamp Message	
			Details	Combination error of the FAX-BOX destination information and the machine destination information When the destination information stored in the FAX-BOX EEPROM is compared with that of the machine, and if the combination is improper, it is judged as an error.	
			Section	FAX	
			Operation mode		
			Note		
			Case 1	Trouble position/ Cause	Because of improper combination between the destination information stored in the EEPROM on the FAX-BOX PWB and that of the machine (set with SIM 26-6).
				Remedy	Check the destination of the FAX-BOX. Check the machine destination with SIM 26-6. Use a proper combination of the machine and the FAX-BOX.
				Note	

Main code	Sub code	Title	FAX board EEPROM read/write error		
F7	01	Phenomenon	Display	Lamp	
				Message	
			Details	FAX board EEPROM read/write error ACK from the EEPROM cannot be checked.	
			Section	FAX	
			Operation mode		
			Note		
			Case 1	Trouble position/ Cause	EEPROM trouble FAX PWB EEPROM access circuit trouble
				Remedy	Replace the EEPROM. Re-setup the soft SW.
		Note			

Main code	Sub code	Title	PRT centro port check error		
F9	02	Phenomenon	Display	Lamp	
				Message	
			Details	PRT centro port check error	
			Section	Controller	
			Operation mode		
			Note		
			Case 1	Trouble position/ Cause	Centro port trouble MFP controll PWB trouble
				Remedy	Replace the MFP control PWB.
		Note			

Main code	Sub code	Title	Thermistor open/Fusing unit not installed		
H2	00/ HL1	Phenomenon	Display	Lamp	
				Message	
	01/ HL2		Details	Thermistor open (An input voltage of 2.95V or above is detected.) Fusing unit not installed	
	02/ HL3		Section	Engine	
			Operation mode		
			Note		
	Case 1	Trouble position/ Cause	Thermistor trouble Control PWB trouble Improper connection of the fusing section connector AC power trouble Fusing unit not installed		
		Remedy	Check the harness and the connector between the thermistor and the control PWB. Use SIM 14 to clear the self diag display.		
		Note			

Main code	Sub code	Title	Fusing section high temperature trouble	
H3	00/ HL1	Phenomenon	Display	Lamp
				Message
			Details	Fusing section high temperature trouble The fusing temperature exceeds 241.5°C. (An input voltage of 0.35V or less is detected.) When fusing temperature control is started and a temperature of 242°C is detected 3 times continuously in sampling of 300 (450) msec interval. (Except for Japan)
	Section		Engine	
	Operation mode			
	Note			
	01/ HL2 02/ HL3	Case 1	Trouble position/ Cause	Thermistor trouble Control PWB trouble Improper connection of the fusing section connector AC power trouble
			Remedy	Use SIM 5-2 to check flashing of the heater lamp. When the lamp flashes normally. <ul style="list-style-type: none"> • Check the thermistor and the harness. • Check the thermistor input circuit on the control PWB. When the lamp keeps ON. <ul style="list-style-type: none"> • Check the AC PWB and the lamp control circuit on the control PWB. Use SIM 14 to cancel the trouble
		Note		

Main code	Sub code	Title	Fusing section low temperature trouble		
H4	00/ HL1	Phenomenon	Display	Lamp	
				Message	
	01/ HL2 02/ HL3		Details	Fusing section low temperature trouble The set temperature is not reached within the specified time (normally 4 min) after turning on the power relay. The heater lamp does not turn off in 4 min after starting warming up. After completion of warming up, when the temperature below (*) is detected 5 times continuously during sampling in the interval of 300(450) msec (EX JAPAN): * H4-02/HL3: 80°C (Fixed level) This temperature is -50°C lower than the temperature control level of H4-00/HL1, H4-01/HL2.	
			Section	Engine	
			Operation mode		
			Note		
			Case 1	Trouble position/ Cause	Thermistor trouble Heater lamp trouble Control PWB trouble Thermostat trouble AC power trouble Interlock switch
				Remedy	Use SIM 5-2 to check flashing of the heater lamp. When the lamp flashes normally. <ul style="list-style-type: none"> • Check the thermistor and the harness. • Check the thermistor input circuit on the control PWB. When the lamp does not turn on. <ul style="list-style-type: none"> • Check for disconnection of the heater lamp or the thermostat. • Check the interlock switch. • Check the AC PWB and the lamp control circuit on the control PWB. Use SIM 14 to cancel the trouble
			Note		

Main code	Sub code	Title	5-time continuous POD not-reached JAM detection	
H5	01	Phenomenon	Display	Lamp
				Message
			Details	5-time continuous POD not-reached JAM detection When POD1 not-reached jam is detected 5 times continuously. POD1 jam counter is backed up and used in a print job after turning on the power. The counter is cleared when POD1 jam does not occur in a job or when the trouble is canceled.
			Section	Engine
			Operation mode	
			Note	
			Case 1	Trouble position/ Cause
			Remedy	Check for jam paper in the fusing section. (Winding, etc.)
		Case 2	Trouble position/ Cause	POD1 sensor trouble, or harness connection trouble
			Remedy	Check the PODC1 sensor harness and installation of the fusing unit.
		Case 3	Trouble position/ Cause	Fusing unit installation trouble
			Remedy	Use SIM 14 to cancel the trouble

Main code	Sub code	Title	Scanner feed trouble		
L1	00	Phenomenon	Display	Lamp	
				Message	
			Details	Scanner feed trouble Scanner feed is not completed within the specified time. When MHP Soft is not detected within 2 sec after shifting the mirror base unit in the feeding direction.	
			Section	Scanner	
			Operation mode		
			Note		
			Case 1	Trouble position/ Cause	Scanner unit trouble The scanner wire is disconnected.
				Remedy	Use SIM 1-1 to check scanning operation.
				Note	

Main code	Sub code	Title	Scanner return trouble		
L3	00	Phenomenon	Display	Lamp	
				Message	
			Details	Scanner return trouble Scanner return is not completed within the specified time. MHP Son is not detected within 10sec after starting the mirror base unit in the return direction.	
			Section	Scanner	
			Operation mode		
			Note		
			Case 1	Trouble position/ Cause	Scanner unit trouble The scanner wire is disconnected.
				Remedy	Use SIM 1-1 to check scanning operation.
				Note	

Main code	Sub code	Title	Main motor lock detection		
L4	01	Phenomenon	Display	Lamp	
				Message	
			Details	Main motor lock detection Three successive trouble signals are detected after 600 msec from starting the main motor. No trouble is detected after 600msec above.	
			Section	Engine	
			Operation mode		
			Note		
			Case 1	Trouble position/ Cause	Main motor trouble
				Remedy	Use SIM 6-1 to check the main motor operation.
				Note	
			Case 2	Trouble position/ Cause	Improper disconnection of the harness between the PCU PWB and the main motor Control circuit trouble
			Remedy	Check the harness and the connector between the PCU PWB and the main motor.	
			Note		

Main code	Sub code	Title	Drum motor lock detection	
L4	02	Phenomenon	Display	Lamp
				Message
			Details	Drum motor lock detection The motor lock signal is detected for 1.5sec during rotation of the drum motor.
			Section	Engine
			Operation mode	
			Note	
		Case 1	Trouble position/ Cause	Drum motor trouble
			Remedy	Use SIM 6-1 to check the drum motor operation.
			Note	
		Case 2	Trouble position/ Cause	Improper connection of the harness between the PCU PWB and the drum motor Control circuit trouble
			Remedy	Check the harness and the connector of the PCU PWB, and the drum motor.
			Note	

Main code	Sub code	Title	Fusing motor lock detection			
L4	03	Phenomenon	Display	Lamp		
				Message		
			Details	Fusing motor lock detection Three successive trouble signals are detected after 600 msec from starting the fusing motor.		
			Section	Engine		
			Operation mode			
			Note			
			Case 1	Trouble position/ Cause	Fusing motor trouble	
				Remedy	Use SIM 6-1 to check the fusing motor operation.	
				Note		
			Case 2	Trouble position/ Cause	Improper connection of the harness between the PCU PWB and the fusing motor Control circuit trouble	
				Remedy	Check connection of the harness and the connector between the PCU PWB and the fusing motor.	
				Note		

Main code	Sub code	Title	Developing motor lock detection			
L4	04	Phenomenon	Display	Lamp		
				Message		
			Details	Developing motor lock detection The motor lock signal is detected for 1.5sec during rotation of the developing motor		
				Section	Engine	
				Operation mode		
				Note		
				Case 1	Trouble position/ Cause	Developing motor trouble
			Remedy		Use SIM 6-1 to check the developing motor operation.	
			Note			
			Case 2	Trouble position/ Cause	Improper connection of the harness between the PCU PWB and the developing motor Control circuit trouble	
				Remedy	Check the harness and the connector between the PCU PWB and the developing motor.	
				Note		

Main code	Sub code	Title	Transfer belt separation motor trouble detection	
L4	06	Phenomenon	Display	Lamp
				Message
			Details	Transfer belt separation motor trouble detection The transfer belt home position sensor ON/OFF is not detected within the specified time (4 sec) during operation of the transfer belt (separation, contact).
			Section	Engine
			Operation mode	
			Note	
		Case 1	Trouble position/ Cause	Transfer belt separation motor trouble
			Remedy	Use SIM 6-1 to check the transfer belt motor operation.
			Note	
		Case 2	Trouble position/ Cause	Improper connection of the harness between the PCU PWB and the transfer belt separation motor. Control circuit trouble
			Remedy	Check connection of the harness and the connector between the PCU PWB and the fusing motor.
			Note	

Main code	Sub code	Title	Controller fan motor lock detection			
L4	30	Phenomenon	Display	Lamp		
				Message		
			Details	Controller fan motor lock detection The motor lock signal is detected during rotation of the controller fan motor. The motor lock signal is detected during rotation of the HDD fan motor.		
			Section	Controller		
			Operation mode			
			Note			
			Case 1	Trouble position/ Cause	Fan motor trouble	
				Remedy	Use SIM 6-2 to check the fan motor operation.	
				Note		
			Case 2	Trouble position/ Cause	Improper connection of the harness between the controller PWB and the fan motor. Control circuit trouble	
				Remedy	Check the harness and the connector between the controller PWB and the fan motor.	
				Note		

Main code	Sub code	Title	Paper discharging fan trouble		
L4	31	Phenomenon	Display	Lamp	
				Message	
			Details	Paper exit thermistor open or short. When the temperature of 100°C or above (entered value 235) is detected in the paper exit thermistor 3 times or more continuously.	
			Section	Engine	
			Operation mode		
			Note		
		Case 1	Trouble position/ Cause	Defective contact of paper exit thermistor harness	
			Remedy	Check connection of the paper exit thermistor harness and the connector.	
			Note		
		Case 2	Trouble position/ Cause	Fan motor trouble	
			Remedy	Use SIM 6-2 to check the fan motor operation.	
			Note		
		Case 3	Trouble position/ Cause	PCU PWB, harness connection between fan and motor trouble PCU circuit trouble Thermistor (TH_EX) trouble	
			Remedy	Check the PCU PWB, the harness between fan and motor, and the connector.	
			Note		

Main code	Sub code	Title	Polygon motor lock detection		
L6	10	Phenomenon	Display	Lamp	
				Message	
			Details	<p>Polygon motor lock detection It is judged that the polygon motor lock signal of the LSU is not outputted.</p> <p>The polygon motor lock signal is checked in an interval of 10sec after starting the polygon motor, and it is found that the polygon motor is not rotating normally.</p>	
			Section	Engine	
			Operation mode		
			Note		
		Case 1	Trouble position/ Cause	Polygon motor trouble	
			Remedy	Use SIM 61-1 to check the polygon motor operation.	
			Note		
		Case 2	Trouble position/ Cause	Disconnection or breakage of the LSU connector or the harness in the LSU	
			Remedy	Check connection of the harness and the connector. Replace the LSU.	
			Note		

Main code	Sub code	Title	No full wave signal		
L8	01	Phenomenon	Display	Lamp	
				Message	
			Details	The full wave signal is not detected.	
			Section	Engine	
			Operation mode		
			Note		
			Case 1	Trouble position/ Cause	Disconnection or breakage of the PCU PWB connector or the harness in the power unit
				Remedy	Check connection of the harness and the connector.
				Note	
			Case 2	Trouble position/ Cause	PCU PWB trouble
				Remedy	Replace the PCU PWB.
				Note	
			Case 3	Trouble position/ Cause	12V power source trouble
				Remedy	Replace the power unit. Replace the controller connection mother board.
				Note	

Main code	Sub code	Title	RIC copy inhibit command receive		
PF	00	Phenomenon	Display	Lamp	
				Message	
			Details	The copy inhibit command is received from the RIC (host). (By PPC communication standards.)	
			Section	Controller	
			Operation mode		
			Note		
			Case 1	Trouble position/ Cause	Judged by the host.
				Remedy	Notification to the host
				Note	

Main code	Sub code	Title	FAX battery abnormality		
U1	01	Phenomenon	Display	Lamp	
				Message	
			Details	FAX battery abnormality FAX backup SRAM battery voltage fall	
			Section	FAX	
			Operation mode		
			Note		
			Case 1	Trouble position/ Cause	Battery life
				Remedy	Check that the battery voltage is about 2.5V or above.
				Note	
			Case 2	Trouble position/ Cause	Battery circuit trouble
				Remedy	Check the battery circuit.
				Note	

Main code	Sub code	Title	RTC read error (combined use as FAX, on MFP control PWB)			
U1	02	Phenomenon	Display	Lamp		
				Message		
			Details	RTC read error (combined use as FAX, on MFP control PWB) The read value from the RTC on the MFP control PWB is abnormal such as "EE"h.		
			Section	Controller		
			Operation mode			
			Note			
			Case 1	Trouble position/ Cause	RTC circuit trouble	
				Remedy	Make the time setup again with the key operation and check that the time advances normally. Check the RTC circuit.	
				Note		
			Case 2	Trouble position/ Cause	Battery voltage fall	
			Remedy	Check that the battery voltage is about 2.5V or above.		
			Note			
		Case 3	Trouble position/ Cause	Battery circuit trouble		
			Remedy	Check the battery circuit.		
			Note			

Main code	Sub code	Title	EEPROM read/write error (MFP control)	
U2	00	Phenomenon	Display	Lamp
				Message
			Details	EEPROM write error
			Section	Controller
			Operation mode	
		Note		
		Case 1	Trouble position/ Cause	EEPROM trouble
			Remedy	Check that the EEPROM is properly installed. In the simulation to prevent against delete of the counter data/ adjustment values, write down the counter/adjustment values.
			Note	
		Case 2	Trouble position/ Cause	Insertion of EEPROM which is not initialized
			Remedy	Use SIM 16 to cancel the U2 trouble.
			Note	
		Case 3	Trouble position/ Cause	MFP control PWB EEPROM access circuit trouble
			Remedy	Replace the MFP control PWB.
			Note	

Main code	Sub code	Title	Counter check sum error (MFP control)	
			Display	Lamp
U2	11	Phenomenon		Message
			Details	Counter data area check sum error
			Section	Controller
			Operation mode	
			Note	
		Case 1	Trouble position/ Cause	EEPROM trouble
			Remedy	Check that the EEPROM is properly installed. In the simulation to prevent against delete of the counter data/ adjustment values, write down the counter/adjustment values.
			Note	
		Case 2	Trouble position/ Cause	Control circuit runaway due to noises
			Remedy	Use SIM 16 to cancel the U2 trouble.
			Note	
		Case 3	Trouble position/ Cause	MFP control PWB EEPROM access circuit trouble
			Remedy	Replace the MFP control PWB.
			Note	

Main code	Sub code	Title	Adjustment value check sum error (MFP control)	
U2	12	Phenomenon	Display	Lamp
				Message
			Details	Adjustment value data area check sum error
			Section	Controller
			Operation mode	
		Note		
		Case 1	Trouble position/ Cause	EEPROM trouble
			Remedy	Check that the EEPROM is properly installed. In the simulation to prevent against delete of the counter data/ adjustment values, write down the counter/adjustment values.
			Note	
		Case 2	Trouble position/ Cause	Control circuit runaway due to noises
			Remedy	Use SIM 16 to cancel the U2 trouble.
			Note	
		Case 3	Trouble position/ Cause	MFP control PWB EEPROM access circuit trouble
			Remedy	Replace the MFP control PWB.
			Note	

Main code	Sub code	Title	SRAM memory check sum error (MFP control)	
U2	22	Phenomenon	Display	Lamp
				Message
			Details	MFPC section SRAM memory check sum error SRAM check sum error when turning on the power. (If this error occurs, initialize the one-touch dial and the FAX soft switches.)
			Section	Controller
			Operation mode	
			Note	
		Case 1	Trouble position/ Cause	SRAM trouble
			Remedy	Initialize the communication management table registered in the SRAM and the FAX soft switch. Since the registered data are deleted, register the data again.
			Note	
		Case 2	Trouble position/ Cause	Control circuit runaway due to noises
			Remedy	Use SIM 16 to cancel the U2 trouble.
			Note	
		Case 3	Trouble position/ Cause	MFP control PWB EEPROM access circuit trouble
			Remedy	Replace the MFP control PWB.
			Note	

Main code	Sub code	Title	SRAM memory individual data check sum error			
U2	23	Phenomenon	Display	Lamp		
				Message		
			Details	Check sum error for every individual data in SRAM of the MFPC section when turning on the power (If this error occurs, initialize the data related to the check sum error. (Communication management table, sender's information, etc.))		
			Section	Controller		
			Operation mode			
			Note			
			Case 1	Trouble position/ Cause	SRAM trouble	
				Remedy	Automatically initialize the data related to the check sum error by turning OFF/ON the power. Since the registered data are deleted, register the data again.	
				Note		
			Case 2	Trouble position/ Cause	Control circuit runaway due to noises	
				Remedy	Use SIM 16 to cancel the U2 trouble.	
				Note		
			Case 3	Trouble position/ Cause	MFP control PWB EEPROM access circuit trouble	
				Remedy	Replace the MFP control PWB.	
				Note		

Main code	Sub code	Title	HDD section individual data check sum error (MFP control)		
U2	50	Phenomenon	Display	Lamp	
				Message	
			Details	Check sum error for every individual data in HDD of the MFPC section when turning on the power (If this error occurs, initialize the data related to the check sum error. (One-touch, group, program, etc.)	
			Section	Controller	
			Operation mode		
			Note		
		Case 1	Trouble position/ Cause	HDD write/read error	
			Remedy	Automatically initialize the data related to the check sum error by turning OFF/ON the power. Since the registered data are deleted, register the data again.	
			Note		
		Case 2	Trouble position/ Cause	Control circuit runaway due to noises	
			Remedy	Use SIM 16 to cancel the U2 trouble.	
			Note		
		Case 3	Trouble position/ Cause	MFP control PWB HDD access circuit trouble	
			Remedy	Replace the HDD. Replace the MFP control PWB.	
			Note		

Main code	Sub code	Title	EEPROM red/write error (Scanner)	
U2	80	Phenomenon	Display	Lamp
				Message
			Details	EEPROM red/write error (Scanner) EEPROM communication trouble (NACK detection) Retry 3 times
			Section	Scanner
			Operation mode	
		Note		
		Case 1	Trouble position/ Cause	EEPROM trouble
			Remedy	Check that the EEPROM is properly installed. In the simulation to prevent against delete of the counter data/ adjustment values, write down the counter/adjustment values.
			Note	
		Case 2	Trouble position/ Cause	Insertion of EEPROM which is not initialized
			Remedy	Use SIM 16 to cancel the U2 trouble.
			Note	
		Case 3	Trouble position/ Cause	Scanner PWB EEPROM access circuit trouble
			Remedy	Replace the scanner PWB.
			Note	

Main code	Sub code	Title	Memory check sum error (Scanner)		
U2	81	Phenomenon	Display	Lamp	
				Message	
			Details	Memory check sum error (Scanner) When counter data sum error is detected.	
			Section	Scanner	
			Operation mode		
			Note		
			Case 1	Trouble position/ Cause	EEPROM trouble
				Remedy	Check that the EEPROM is properly installed. In the simulation to prevent against delete of the counter data/ adjustment values, write down the counter/adjustment values.
				Note	
			Case 2	Trouble position/ Cause	Control circuit runaway due to noises
				Remedy	Use SIM 16 to cancel the U2 trouble.
				Note	
			Case 3	Trouble position/ Cause	Scanner PWB EEPROM access circuit trouble
				Remedy	Replace the scanner PWB.
				Note	

Main code	Sub code	Title	EEPROM read/write error (PCU)		
U2	90	Phenomenon	Display	Lamp	
				Message	
			Details	EEPROM read/write error (PCU) EEPROM communication trouble (NACK detection) Retry 3 times	
			Section	Engine	
			Operation mode		
			Note		
		Case 1	Trouble position/ Cause	EEPROM trouble	
			Remedy	Check that the EEPROM is properly installed. In the simulation to prevent against delete of the counter data/ adjustment values, write down the counter/adjustment values.	
			Note		
		Case 2	Trouble position/ Cause	Insertion of EEPROM which is not initialized	
			Remedy	Use SIM 16 to cancel the U2 trouble.	
			Note		
		Case 3	Trouble position/ Cause	PCU PWB EEPROM access circuit trouble	
			Remedy	Replace the PCU PWB.	
			Note		

Main code	Sub code	Title	Memory check sum error (PCU)		
U2	91	Phenomenon	Display	Lamp	
				Message	
			Details	Memory check sum error (PCU) When POF data/counter data sum error is detected.	
			Section	Engine	
			Operation mode		
		Note			
		Case 1	Trouble position/ Cause	EEPROM trouble	
			Remedy	Check that the EEPROM is properly installed. In the simulation to prevent against delete of the counter data/ adjustment values, write down the counter/adjustment values.	
			Note		
		Case 2	Trouble position/ Cause	Control circuit runaway due to noises	
			Remedy	Use SIM 16 to cancel the U2 trouble.	
			Note		
		Case 3	Trouble position/ Cause	PCU PWB EEPROM access circuit trouble	
			Remedy	Replace the PCU PWB.	
			Note		

Main code	Sub code	Title	SPF tray lift-up trouble		
U5	30	Phenomenon	Display	Lamp	
				Message	
			Details	SPF tray lift-up trouble Lift-up trouble is detected 5 times continuously.	
			Section	Scanner	
			Operation mode		
			Note		
			Case 1	Trouble position/ Cause	STUD/STLD trouble STUD does not turn on within the specified time. STLD does not turn off within the specified time.
			Remedy	Check the harness and the connector of the STUD and STLD. Lift-up trouble unit check	
			Note		

Main code	Sub code	Title	SPF tray lift-down trouble		
U5	31	Phenomenon	Display	Lamp	
				Message	
			Details	SPF tray lift-down trouble STLD does not turn off within the specified time.	
			Section	Scanner	
			Operation mode		
			Note		
			Case 1	Trouble position/ Cause	STUD/STLD trouble STUD does not turn on within the specified time. STLD does not turn off within the specified time.
			Remedy	Check the harness and the connector of the STUD and STLD. Lift-up trouble unit check	
			Note		

Main code	Sub code	Title	LCC lift motor trouble	
U6	09	Phenomenon	Display	Lamp
				Message
			Details	<p>LCC lift motor trouble</p> <ul style="list-style-type: none"> • The upper limit sensor does not turn on within 24 sec after the lift motor is on. • No rotation sensor signal is detected for 0.2 sec or longer while the lift motor is on. • The upper limit switch is on while the lift motor is on. <p>When the trouble occurs 3 time continuously that the upper limit sensor does not turn on.</p>
			Section	LCC
			Operation mode	
			Note	
			Case 1	<p>Trouble position/ Cause</p> <p>Sensor trouble LCC control PWB trouble Gear breakage Lift motor trouble</p>
		Remedy	<p>Use SIM to check the sensor detection.</p> <p>Use SIM to check the lift motor operation.</p> <p>Use SIM 15 to cancel the trouble.</p>	
		Note		

Main code	Sub code	Title	LCC communication trouble		
U6	20	Phenomenon	Display	Lamp	
				Message	
			Details	Communication trouble with the LCC. Follows the communication protocol specifications. Communication error, timing abnormality of the communication data and the communication signal line	
			Section	LCC	
			Operation mode		
			Note		
			Case 1	Trouble position/ Cause	Improper connection or disconnection of the connector and the harness Desk control PWB trouble Control PWB (PCU) trouble Malfunction caused by noises
				Remedy	Canceled by turning ON/OFF the power. Check the connector and the harness in the communication line.
				Note	

Main code	Sub code	Title	LCC transport motor trouble		
U6	21	Phenomenon	Display	Lamp	
				Message	
			Details	LCC transport motor trouble The lock detection signal is detected continuously for 1sec after delay of 1sec from start of the motor.	
			Section	LCC	
			Operation mode		
			Note		
			Case 1	Trouble position/ Cause	Motor lock Motor RPM abnormality Overcurrent to the motor Desk control PWB trouble
				Remedy	Use SIM 4-3 to check the transport motor operation.
				Note	

Main code	Sub code	Title	LCC 24V power abnormality addition		
U6	22	Phenomenon	Display	Lamp Message	
			Details	LCC 24V power abnormality addition 24V power is not supplied to the LCC. (the LCC 24V power is not detected for 1 sec or longer after 1 sec from power on)	
			Section	LCC	
			Operation mode		
			Note		
			Case 1	Trouble position/ Cause	Improper connection or disconnection of the connector and the harness
				Remedy	Check the connector and the harness of the power line.
				Note	
			Case 2	Trouble position/ Cause	LCC control PWB trouble Power unit trouble
				Remedy	Check the 24V power with the power unit and the LCC control PWB.
				Note	

Main code	Sub code	Title	RIC communication trouble		
U7	00	Phenomenon	Display	Lamp Message	
			Details	Communication error with RIC (By PPC communication standards) An error in the communication line test after turning on the power or canceling the simulation	
			Section	Controller	
			Operation mode		
			Note		
			Case 1	Trouble position/ Cause	Improper connection or disconnection of the connector and the harness RIC control PWB trouble Control PWB (MFP control) trouble Malfunction caused by noises
				Remedy	Canceled by turning ON/OFF the power. Check the connector and the harness in the communication line.
				Note	

[6] ROM VERSION-UP METHOD

1. General

A. Version-up target ROM's

The version-up target ROM's are listed in the table below.

The version-up procedures of the firmware of this machine is performed without disassembling the ROM from the machine. The new program files are collectively written into the ROM's. Some new programs can be written into an optional ROM.

If, however, the above procedure is failed by an accident such as power interruption during the version-up procedure, use the ROM copy socket on the MFP control PWB ROM to make version-up of each ROM individually.

[Kind of ROM]

Section	Name	Type	Capacity	Replaceable
PCU PWB	PCU ROM	Flash ROM	8Mbit	Replaceable
SCN PWB	SCN ROM	Flash ROM	8Mbit	Replaceable
MFP CONTROL PWB	BOOT ROM	Flash ROM	32Mbit	Replaceable
	MAIN ROM	Flash ROM	32Mbit	Replaceable
FAX MODEM CONTROL PWB	FAX ROM	Flash ROM	8Mbit	Replaceable
FINISHER CONTROL PWB	Finisher Control ROM	EPROM	—	Replaceable
FINISHER SS-CONTROL PWB	Finisher SS-Control ROM	EPROM	—	Replaceable
INSERTER CONTROL PWB	Insertor Control ROM	EPROM	—	Replaceable

* All the Flash ROM's can be rewritten. (LAN, Centro)

[FLASH ROM DATA LIST (11 kinds of data files) (A to K)]

There are following 11 kinds (A - K) of FLASH ROM data files. When upgrading the firmware version, be careful to use the proper file.

MAIN BODY

MODEL	MFP control PWB		PCU PWB	SCANNER PWB	NOTE
	MAIN ROM	BOOT ROM	ROM	ROM	
AR-555S	A	D	G	H	
AR-625S	A	D	G	H	
AR-705S	A	D	G	H	
AR-M550U	A	D	G	H	
AR-M620U	A	D	G	H	
AR-M700U	A	D	G	H	
AR-M550N	B	E	G	H	
AR-M620N	B	E	G	H	
AR-M700N	B	E	G	H	
AR-M550U with AR-P19	C	F	G	H	
AR-M620U with AR-P19	C	F	G	H	
AR-M700U with AR-P19	C	F	G	H	
AR-555S with AR-P19	C	F	G	H	
AR-625S with AR-P19	C	F	G	H	
AR-705S with AR-P19	C	F	G	H	

FAX

MODEL	FAX PWB
	ROM
AR-FX8 (Japan)/SEC)	I
AR-FX8 (Europe)	I
AR-FX8 (SCA/SCNZ)	I

FINISHER AND INSERTER

MODEL	MAIN PWB	SADDLE PWB
	ROM	ROM
AR-F15	J	—
AR-F16	J	K
AR-CF2	L	—

FLASH ROM INDIVIDUAL DATA FILE

KIND OF ROM (PROGRAM DATA)	FILE NAME (XX.sfu/XX.mot)	SOFTWARE VERSION	
A	Ds_main_Vu100.sfu	u1.00	No print function program / including soft nic program
B	Dn_main_Vn100.sfu	n1.00	
C	P19_main_Vp100.sfu	p1.00	
D	Ds_boot_Vm526b.sfu	m5.26b	
E	Dn_boot_Vm526b.sfu	m5.26b	
F	P19_boot_Vm526b.sfu	m5.26b	
G	D_pcu_V010000.sfu	01.00.00	
H	D_scn_V010000.sfu	01.00.00	
I	FX8_V100.sfu	1.00	
J	F16_stk_V0100.mot	01.00	
K	F16_sdl_V0100.mot	01.00	
L	CF2_V0100.mot	01.00	

ALL FLASH ROM DATA IN ONE FILE

MODEL	ALL ROM DATA IN ONE FILE (A/B/C)*(D/E/F)*G*H*I	FILE NAME(XX.sfu)
AR-555S	A+D+G+H+I	Ds_Vu100_1.sfu
AR-625S	A+D+G+H+I	Ds_Vu100_1.sfu
AR-705S	A+D+G+H+I	Ds_Vu100_1.sfu
AR-M550U	A+D+G+H+I	Ds_Vu100_1.sfu
AR-M620U	A+D+G+H+I	Ds_Vu100_1.sfu
AR-M700U	A+D+G+H+I	Ds_Vu100_1.sfu
AR-M550N	B+E+G+H+I	Dn_Vn100_1.sfu
AR-M620N	B+E+G+H+I	Dn_Vn100_1.sfu
AR-M700N	B+E+G+H+I	Dn_Vn100_1.sfu
AR-M550U with AR-P19	C+F+G+H+I	P19_Vp100_1.sfu
AR-M620U with AR-P19	C+F+G+H+I	P19_Vp100_1.sfu
AR-M700U with AR-P19	C+F+G+H+I	P19_Vp100_1.sfu
AR-555S with AR-P19	C+F+G+H+I	P19_Vp100_1.sfu
AR-625S with AR-P19	C+F+G+H+I	P19_Vp100_1.sfu
AR-705S with AR-P19	C+F+G+H+I	P19_Vp100_1.sfu

[FLASH ROM PWB LIST]

MODEL	MFP control PWB		PCU PWB	SCANNER PWB
	MAIN ROM	BOOT ROM	ROM	ROM
AR-555S	VHI28F322L51F	VHI28F322L50F	VHI28F081L17F CPWBN1485DS61	VHI28F081L18F CPWBN1485DS61
	CPWBN1485FC53	CPWBN1485FC53		
AR-625S	VHI28F322L51F	VHI28F322L50F		
	CPWBN1485FC53	CPWBN1485FC53		
AR-705S	VHI28F322L51F	VHI28F322L50F		
	CPWBN1485FC53	CPWBN1485FC53		
AR-M550U	VHI28F322L53F	VHI28F322L52F		
	CPWBN1485FC53	CPWBN1485FC53		
AR-M620U	VHI28F322L53F	VHI28F322L52F		
	CPWBN1485FC53	CPWBN1485FC53		
AR-M700U	VHI28F322L53F	VHI28F322L52F		
	CPWBN1485FC53	CPWBN1485FC53		
AR-M550N	VHI28F322L49F	VHI28F322L48F		
	CPWBN1485FC53	CPWBN1485FC53		
AR-M620N	VHI28F322L49F	VHI28F322L48F		
	CPWBN1485FC53	CPWBN1485FC53		
AR-M700N	VHI28F322L49F	VHI28F322L48F		
	CPWBN1485FC53	CPWBN1485FC53		
AR-M550U with AR-P19	VHI28F322L57F	VHI28F322L56F		
	CPWBN1485FC53	CPWBN1485FC53		
AR-M620U with AR-P19	VHI28F322L57F	VHI28F322L56F		
	CPWBN1485FC53	CPWBN1485FC53		

MODEL	MFP control PWB		PCU PWB	SCANNER PWB
	MAIN ROM	BOOT ROM	ROM	ROM
AR-M700U with AR-P19	VHI28F322L57F	VHI28F322L56F	VHI28F081L17F CPWBN1485DS61	VHI28F081L18F CPWBN1485DS61
	CPWBN1485FC53	CPWBN1485FC53		
AR-555S with AR-P19	VHI28F322L55F	VHI28F322L54F		
	CPWBN1485FC53	CPWBN1485FC53		
AR-625S with AR-P19	VHI28F322L55F	VHI28F322L54F		
	CPWBN1485FC53	CPWBN1485FC53		
AR-705S with AR-P19	VHI28F322L55F	VHI28F322L54F		
	CPWBN1485FC53	CPWBN1485FC53		

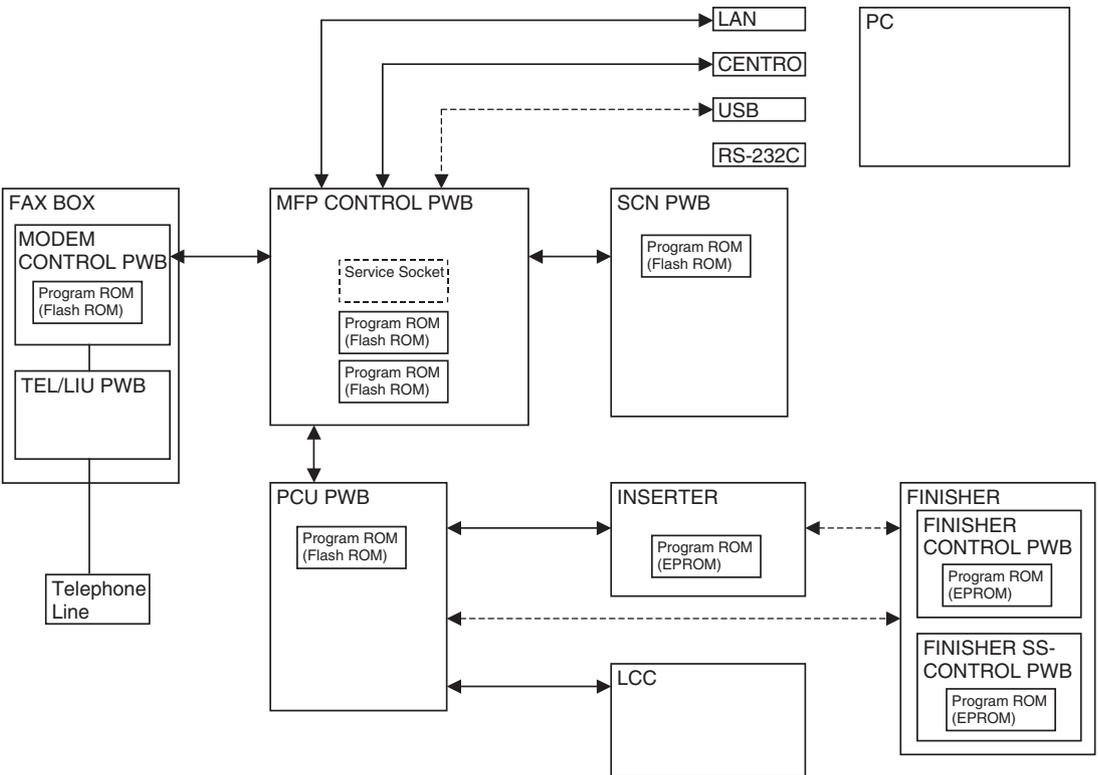
MODEL	FAX PWB
	ROM
AR-FX8 (Japan/SEC)	VHI28F082L18S
AR-FX8 (Europe)	VHI28F082L20S
AR-FX8 (SCA/SCNZ)	VHI28F082L21S

NOTE:

VHIXXXXXXXXXX including program data

CPWBNXXXXXXXXX only PWB (No program data)

[Block diagram]



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B. ROM version-up is required in the following cases:

ROM version-up is required in the following cases:

- 1) When improvement of performances is required.
- 2) When installing a new spare part ROM for repair to the machine.
- 3) When installing a new spare part PWB unit for repair with the ROM installed.
- 4) When there is a trouble in the ROM program and it must be repaired.

2. Precautions

A. Relationship between each ROM and version-up

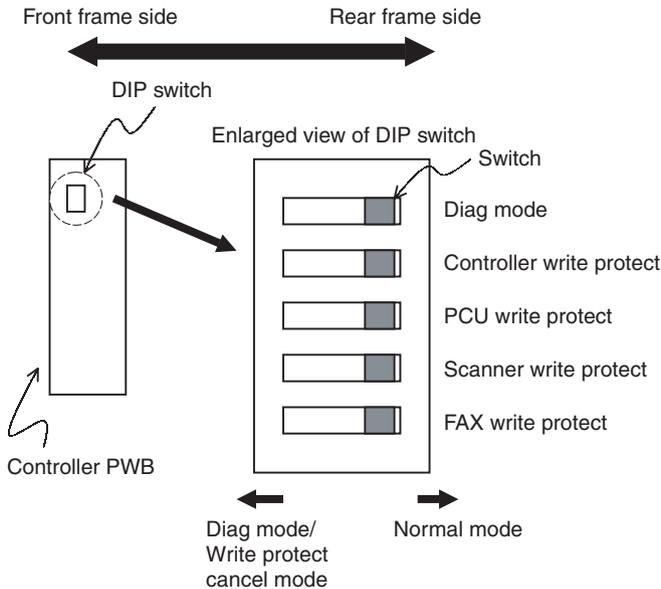
When performing ROM version-up, be sure to check the combination with the version of ROM installed in the other PWB's including optional ones.

Some combinations of ROM versions may not operate the machine properly.

3. Necessary items for Flash ROM version-up

- * A machine with ROM to be operated
- * A spare PCU PWB ROM, an MFP control PWB ROM (Boot, Program), a scanner control PWB ROM (Each of which is provided with the program to allow operations.) (Used when writing the program files into the ROM is failed.)
- * A PC operating on MS-DOS, with either of a USB, Ethernet, or parallel port.
- * USB cable, Ethernet cable, or parallel I/F cable (for connection of PC and MFP control PWB)
- * FCOPY.EXE file (Parallel I/F, file transfer tool)
- * File2PRN.exe file (A file transfer tool for parallel, Ethernet, and USB protocols)
- * Version-up program (compression) file

(The SFU file for writing a program to each ROM of the PCU PWB, the MFP control PWB (boot, program), and the scanner control PWB, or the SFU file for writing all the programs collectively.)



4. Flash ROM version-up method

A. MFP control PWB ROM DIP switch selection and Flash ROM slot

To make version-up of the ROM, the DIP set on the MFP control PWB on the side of the machine must be properly selected.

- * When writing the program into each ROM (PCU, FAX, and scanner control PWB ROM) of each PWB individually by using an empty slot for ROM copy on the MFP control PWB ROM, the protect switch and the diag mode switch of the MFP control PWB ROM are switched over.

(MFP control PWB ROM slot)

The MFP control PWB ROM is provided with three Flash ROM slots: CN4, CN5, and CN6.

The boot ROM is installed to CN4, and the main ROM is installed to CN5. CN6 is an empty slot.

Use this empty slot of the MFP control PWB, CN6, to copy the ROM program.

- * When writing the program files collectively without disassembling the ROM's from the PWB's, and when writing the program files into an optional ROM:

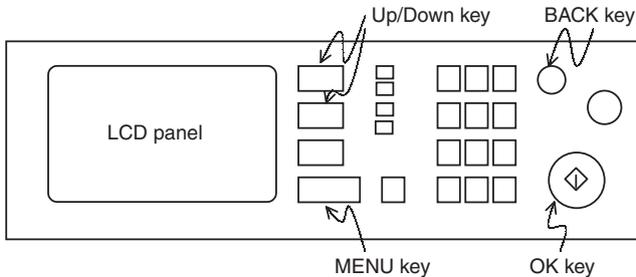
The protect switch and the diag mode switch of the target PWB ROM of writing program files are switched.

B. Operation panel

B. Operation panel

When entering the diag mode to write into ROM, some keys on the operation panel and the LED panel are used. Necessary information including menu items and messages is displayed on the LCD panel.

[START] key is used as [OK] key, [DOCUMENT FILING] key and [FAX/IMAGE SEND] key as up/down select keys, [JOB STATUS] key as [MENU] key, and [CLEAR] key as [BACK] key.



(NOTE)

- 1) When performing version-up of the firmware by using the file transfer tool (File1PRN), the printer driver of the target model must be installed in advance.
- 2) When performing version-up of the firmware by using the USB I/F, take note of the following items.

Since the port for the file transfer tool (File2PRN) differs from the port for the print mode, if the port for the print mode has been already made, be careful not to mistake them. If the USB port for the print mode has been made, it is advisable to delete it in order to avoid confusion.

(Making procedures of the port for the file transfer tool (File2PRN) in the USB I/F mode)

When performing version-up of the firmware by using the USB I/F, perform the following procedures to make the port in advance.

- 1) Install the printer driver of the target model.
In this case, set the port to other than the USB mode.
- 2) Set the DIP switch to the Flash ROM version-up mode, and turn on the power.
- 3) Connect the PC and the main unit with a USB cable.
- 4) The PC detects the new hardware by Plug & Play function.
- 5) The driver of SHARP AR-M620N is automatically installed. (The model name is indicated as SHARP AR-M620N, regardless of the actual model name.)

C. Version-up procedure 1

When writing the program files collectively without disassembling the ROM's from the PWB's, and when writing the program files into an optional ROM:

Note: The PCU ROM, the FAX ROM, and the scanner control PWB ROM must be provided with the program to operate. An empty ROM cannot be used.

- 1) Set the DIP switch to the diag mode, and set the write protect DIP switch of the target ROM to CANCEL side.

When writing the program data into all the ROM's collectively, set all the protect switches to CANCEL side.

- 2) Connect the PC and the MFP control PWB with a I/F cable.
- 3) Turn on the PC and the machine.
- 4) Copy the file transfer tool and ROM program file into the PC.

(When writing with the file transfer tool fcopy.exe via parallel I/F)

Copy the collective ROM programming file and fcopy.exe into the same folder of the PC. (When writing with the file transfer tool File2PRN.exe)

Copy the collective ROM programming file and the file transfer tool File2PRN.exe into the folder you desire on the PC.

- 5) The following display is shown after a while from starting the machine.

Version Check
CONF: *****

- 6) Press MENU key several time to select an I/F to use from USB, Ethernet, and parallel protocols.

(Example)

Firm Update
From USB

- 7) Press OK key to display the following menu.



- 8) Transfer the program data from PC to the machine via either of USB, Ethernet, or parallel protocol.

- 8A) When transferring with the file transfer tool fcopy.exe via parallel I/F

Boot MS-DOS from the PC. Use the FCOPY program to transfer the ROM program data from the PC to the main unit.

(Procedure)

Type in Fcopy followed by a file name of the ROM program data, then press Enter key.

Fcopy xxx.sfu Enter



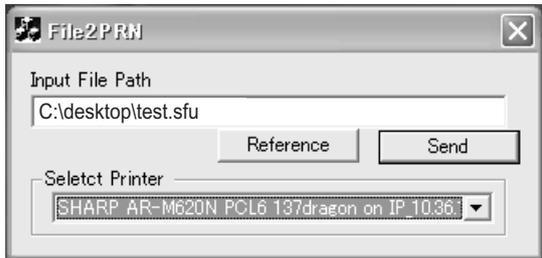
ROM program data file

- 8B) When transferring with the file transfer tool File2PRN.exe

Start File2PRN.exe on the PC. Use this program to transfer the ROM program data from the PC to the main unit.

(Procedure)

Start File2PRN.exe.



Click Reference button and select a ROM program to transfer.

Select the target machine's port form Select Printer pull down list.

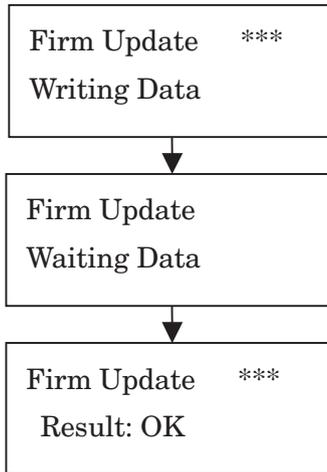
Click Send button.

The LED blinks and the LCD displays appropriate information as operation proceeds.

- Note: When version-up of each ROM of the scanner control PWB is performed, the backlight of the display is turned off. This does not mean a trouble. Wait for a while.

- 9) When "Result: OK" is displayed after a few minutes, press Up/Down keys to check that there is no display of "Result: NG."

Note: When writing the program file data collectively to the machine without the FAX unit installed, "Result : NG" is displayed only to the FAX. This can be neglected.



- 10) Turn off the machine, and set the DIP switch to the original position. (Normal start side)
- 11) Turn on the machine, and use SIM 22-5 to check that each ROM version is properly upgraded.

D. Version-up procedure 2

When writing the program into each ROM of the PCU PWB, the FAX PWB, and the scanner control PWB individually by using an empty slot for ROM copy on the MFP control PWB ROM:

Note: The program write target ROM installed to the empty slot for ROM copy on the MFP control PWB ROM may be empty. (No need to have the program data in it. The empty ROM can be used.)

- 1) Set the DIP switch to the diag mode, and set the write protect switch of the MFP control PWB ROM to CANCEL side.
- 2) Install the write target ROM to the empty slot for ROM copy on the MFP control PWB ROM.
- 3) Connect the PC and the MFP control PWB with a I/F cable.
- 4) Turn on the PC and the machine.
- 5) Copy the file transfer tool and ROM program file into the PC.

(When writing with the file transfer tool fcopy.exe via parallel I/F)

Copy the collective ROM programming file and fcopy.exe into the same folder of the PC. (When writing with the file transfer tool File2PRN.exe)

Copy the collective ROM programming file and the file transfer tool File2PRN.exe into the folder you desire on the PC.

- 6) The following display is indicated after a while.

Version Check
CONF: *****

- 7) Press MENU key a few times to show the following display.

CN Update
From USB

- 8) Press OK key to show the following display.

CN Update
Waiting Data

- 9) Transfer the program data from PC to the machine via either of USB, Ethernet, or parallel protocol.

- 9A) When transferring with the file transfer tool fcopy.exe via parallel I/F

Boot MS-DOS from the PC. Use the FCOPY program to transfer the ROM program data from the PC to the main unit.

(Procedure)

Type in Fcopy followed by a file name of the ROM program data, then press Enter key.

Fcopy xxx.sfu Enter

↑

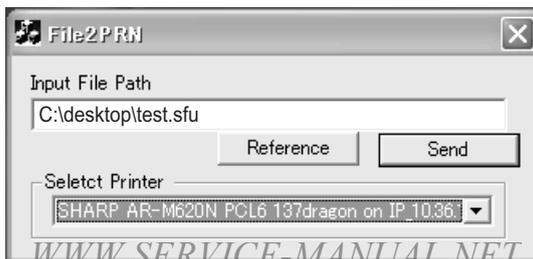
ROM program data file

- 9B) When transferring with the file transfer tool File2PRN.exe

Start File2PRN.exe on the PC. Use this program to transfer the ROM program data from the PC to the main unit.

(Procedure)

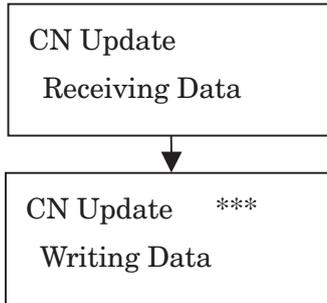
Start File2PRN.exe.



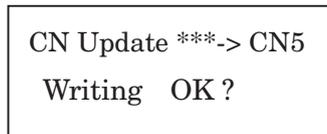
Click Reference button and select a ROM program to transfer.
Select the target machine's port form Select Printer pull down list.
Click Send button.

The LED blinks and the LCD displays appropriate information as operation proceeds.

- 10) The LED stops flashing in a few minutes, and "Writing: OK" is displayed.



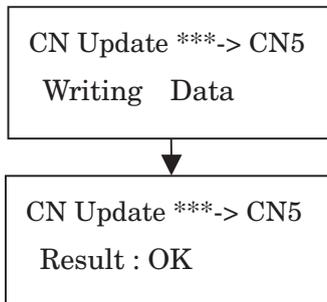
- 11) Press OK key, and the following display is shown.



- 12) "CN5" and the selection menu of slot numbers is displayed. Select "CN6" to which the target ROM is inserted to with Up/Down keys, and press OK key.

- 13) The LED flashes and the display is changed in the following sequence.

When "Result: OK" is displayed in a few minutes, press Up/Down keys to check that there is no display of "Result: NG."



- 14) Turn off the machine, and set the DIP switch to the original state (normal boot side).

- 15) Remove the ROM from the empty slot CN6 for ROM copy on the MFP control PWB ROM.

- 16) Install the ROM with the revised version to the PWB.

- 17) Turn on the machine, and use SIM 22-5 to check that the ROM version is normally upgraded.

(NOTE)

Precautions on transferring a ROM program data with the file transfer tool File2PRN

For successful transferring a ROM program data with the file transfer tool File2PRN, the following conditions should be met:

- When transferring a ROM program data with the file transfer tool File2PRN, the destination machine must be configured as a printer.
- The PC must have an appropriate printer driver installed and configured with an I/F port to use.

E. Countermeasures against "Result: NG"

Factors of "Result: NG"

The following cases may be factors of "Result: NG."

- * The DIP switch for write protect is not set properly.
- * The FAX cable is not connected. (NG for FAX)
- * ROM defect (Very rare case)

5. Turning OFF the power during the version-up procedure

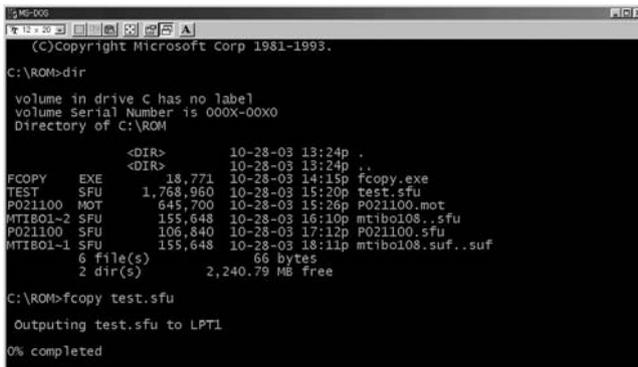
If the power is turned OFF during the version-up procedure, normal writing of data cannot be assured even though the machine can be booted again.

In such a case, use the spare PCU PWB ROM, the MFP control PWB ROM (boot, program), and the scanner control PWB ROM each of which includes the program to be operated, and perform the version-up procedure again.

Replace with the spare PCU, the controller boot, the scanner control PWB ROM, and perform procedure "4." for the replaced ROM again to write data into it.

<Reference> How to use Fcopy.exe program

When transferring ROM program files by using Fcopy.exe program, copy Fcopy.exe program and the ROM program files in the same folder and boot MS-DOS. Then, open the above folder on MS-DOS, and type "Fcopy file name" and transfer is performed. In the example below, the SFU file is placed in C:\ROM folder, and it is transferred.



```
MS-DOS
(C)Copyright Microsoft Corp 1981-1993.
C:\ROM>dir
 volume in drive C: has no label
 volume serial number is 000X-00X0
 Directory of C:\ROM

<DIR>                10-28-03  13:24p  .
<DIR>                10-28-03  13:24p  ..
FCOPY    EXE           13,771    10-28-03  14:15p  fcopy.exe
TEST    SFU           1,768,960  10-28-03  15:20p  test.sfu
PO21100 MOT           645,700    10-28-03  15:26p  PO21100.mot
MT1B01-2 SFU         155,648    10-28-03  16:10p  mt1b0108..sfu
PO21100 SFU          106,840    10-28-03  17:12p  PO21100.sfu
MT1B01-1 SFU         155,648    10-28-03  18:11p  mt1b0108.sfu..suf
6 file(s)                66 bytes
2 dir(s)                2,240.79 MB free

C:\ROM>fcopy test.sfu
Outputting test.sfu to LPT1
0% completed
```

[7] MAINTENANCE LIST

1. Maintenance list

X: Check (Clean, replace, or adjust as necessary.) ○: Clean ▲: Replace △: Adjust ☆: Lubricate □: Shift position

Unit name	No.	Part name	When calling	AR-M550N/U (PM: 250K)	AR-M620N/U, AR-M700N/U (PM: 300K)	250K	500K	750K	1000K	1250K	1500K	1750K	2000K	Remark
						300K	600K	900K	1200K	1500K	1800K	2100K	2400K	
Drum peripheral section	1	OPC drum	×	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	UKOG-0309FCZZ UKOG-0311FCZZ
	2	Cleaning blade	×	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	
	3	Toner reception seal	×	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	
	4	Side seal F/R	×	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	UKOG-0309FCZZ UKOG-0311FCZZ
	5	Drum separation pawl	×	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	
	6	Discharge lamp	×	○	○	○	○	○	○	○	○	○	○	
	7	Image density sensor	×	○	○	○	○	○	○	○	○	○	○	
	8	OPC drum marking sensor	×	○	○	○	○	○	○	○	○	○	○	
	9	Sawtooth plate	○	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	
	10	Screen grid	×	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	
	11	MC cleaner		▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	
	12	Side seal R base sheet		▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	UKOG-0309FCZZ UKOG-0311FCZZ
	13	Cleaning brush		×	×	×	×	×	×	×	×	×	×	

Unit name	No.	Part name	When calling	AR-M550N/U (PM: 250K)	AR-M620N/U, AR-M700N/U (PM: 300K)	250K	500K	750K	1000K	1250K	1500K	1750K	2000K	Remark
				300K	600K	900K	1200K	1500K	1800K	2100K	2400K			
Transfer section	1	Transfer belt	○	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	
	2	Transfer roller		▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	
	3	Transfer drive gear		▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	
	4	Transfer cleaning roller		▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	
	5	Shaft (Conductive grease)	×	×	×	×	×	×	×	×	×	×	×	UKOG-0012QSZZ
Developing section	1	Developer		▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	Supply when installing
	2	DV seal		▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	
	3	MG holder F/R	○	○	○	○	○	○	○	○	○	○	○	
	4	DV side seal F		▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	
	5	Toner bottle												Assembly when installing/ Replacement by user when empty
	6	Toner hopper	○	○	○	○	○	○	○	○	○	○	○	

Unit name	No.	Part name	When calling	AR-M550N/U (PM: 250K)	AR-M620N/U, AR-M700N/U (PM: 300K)	250K	500K	750K	1000K	1250K	1500K	1750K	2000K	Remark
				300K	600K	900K	1200K	1500K	1800K	2100K	2400K			
Fusing section	1	Heat roller	×	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	
	2	Fusing roller (Pressing)	×	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	
	3	Sub heat roller	×	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	
	4	Cleaning sheet	×	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	
	5	Cleaning scraper	×	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	
	6	Heat roller separation pawl	×	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	
	7	Fusing roller (Pressing) separation pawl	×	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	
	8	Thermistor	×	×	×	×	×	×	×	×	×	×	×	Paper dust removal is required.
	9	Heat roller gear (Grease)		×	×	×	×	×	×	×	×	×	×	UKOG-0235FCZZ
	10	Sub heat roller bearing		▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	
	11	Paper guides	○	○	○	○	○	○	○	○	○	○	○	
	12	Shaft (Grease)		☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	UKOG-0235FCZZ
	13	Oil roller (AR-M700N/U)	×	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	
	14	Cleaning plate (AR-M700N/U)	×	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	
	15	CL roller bearing (AR-M700N/U)	×	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	
Filters	1	Ozone filter		▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	
	2	DV ozone filter		▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	
	3	Toner filter		▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	

Unit name	No.	Part name	When calling	AR-M550N/U (PM: 250K)	500K	750K	1000K	1250K	1500K	1750K	2000K	Remark
				AR-M620N/U, AR-M700N/U (PM: 300K)	300K	600K	900K	1200K	1500K	1800K	2100K	
Paper feed section	1	Paper pickup roller	×	×	×	×	×	×	×	×	×	(Note 1)
	2	Paper feed roller	×	×	×	×	×	×	×	×	×	(Note 1)
	3	Separation roller	×	×	×	×	×	×	×	×	×	(Note 1)
	4	Torque limiter	×	×	×	×	×	×	×	×	×	(Note 1)
	5	Shaft (Conductive grease)	×	×	×	×	×	×	×	×	×	UKOG-0012QSZZ
Transport section/ paper exit reverse section/ duplex section	1	PS follower roller	×	○	○	○	○	○	○	○	○	
	2	Transport rollers	×	○	○	○	○	○	○	○	○	
	3	Transport paper guides	○	○	○	○	○	○	○	○	○	
	4	Discharge brush	×	×	×	×	×	×	×	×	×	
	5	Shaft (Conductive grease)	×	×	×	×	×	×	×	×	×	UKOG-0012QSZZ
	6	Paper dust cleaner	○	▲	▲	▲	▲	▲	▲	▲	▲	
	7	Sensors	○	○	○	○	○	○	○	○	○	Optical reflection sensor
Drive section	1	Gear (Grease)	×	×	×	×	×	×	×	×	×	UKOG-0307FCZZ
	2	Gear (Grease)	×	×	×	×	×	×	×	×	×	UKOG-0299FCZZ
	3	Gear (Grease)	×	×	×	×	×	×	×	×	×	UKOG-0062FCZZ
	4	Gear (Grease)	×	×	×	×	×	×	×	×	×	UKOG-0235FCZZ
	5	Gear (Conductive grease)	×	×	×	×	×	×	×	×	×	UKOG-0012QSZZ
	6	Belts		×	×	×	×	×	×	×	×	
Image-related sections	1		×	×	×	×	×	×	×	×		

(Document scan section)

Unit name	No.	Part name	When calling	AR-M550N/U (PM: 250K)	AR-M620N/U, AR-M700N/U (PM: 300K)	250K	500K	750K	1000K	1250K	1500K	1750K	2000K	Remark
				300K	600K	900K	1200K	1500K	1800K	2100K	2400K			
Optical section	1	Mirror, lens, reflector, sensors	○	○	○	○	○	○	○	○	○	○	○	
	2	Table glass/ Dust-proof glass/ OC	○	○	○	○	○	○	○	○	○	○	○	
	3	White reference glass	○	○	○	○	○	○	○	○	○	○	○	
	4	Rails		☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	
	5	Drive belt, drive wire, pulley		×	×	×	×	×	×	×	×	×	×	
SPF Paper feed/ Transport section	1	Paper feed roller	×	×	×	×	×	×	×	×	×	×	×	(Note 1)
	2	Pickup roller	×	×	×	×	×	×	×	×	×	×	×	(Note 1)
	3	Separation roller	×	×	×	×	×	×	×	×	×	×	×	(Note 1)
	4	No. 1 resist roller (Drive)	○	○	○	○	○	○	○	○	○	○	○	
	5	Torque limiter		×	×	×	×	×	×	×	×	×	×	(Note 1)
	6	Transport roller 1 (Drive)	○	○	○	○	○	○	○	○	○	○	○	
	7	Transport roller 2 (Drive)	○	○	○	○	○	○	○	○	○	○	○	
	8	Exposure section (CIS unit)	○	○	○	○	○	○	○	○	○	○	○	
Paper exit section	9	No. 2 resist roller (Drive)	○	○	○	○	○	○	○	○	○	○	○	
	10	Paper exit roller (Drive)	○	○	○	○	○	○	○	○	○	○	○	
Drive section	11	Gears (Grease)	×	×	×	×	×	×	×	×	×	×	×	UKOG-0299FCZZ
	12	Belts		×	×	×	×	×	×	×	×	×	×	

(Note 1) Replacement reference: For replacement, refer to each paper feed counter value.

Paper feed tray 1 and 2 : 200K or 1 year

Manual paper feed/paper feed tray 3 and 4 : 100K or 1 year

SPF section : 100K or 1 year

Torque limiter : 800K (However, 400K for manual paper feed section)

(NOTE) Paper feed section roller life

Since each roller life is 100K or 200K, if a certain paper feed unit is intensively used, its life may be expired before the regular maintenance timing.

In actual, however, different sizes of paper are used with different paper feed trays. Therefore, it is quite rare to have to replace one of the rollers before the maintenance timing.

When a certain size of paper is used intensively, it is advisable to set two or more paper feed trays for that paper size as far as possible. This note should be explained to the user.

When servicing, be sure to check the use frequency of each paper feed tray, and replace a roller if necessary.

When cleaning rollers, it is advisable to use wet waste cloth to wipe and clean.

Since the paper feed trays 3 and 4 are used for larger sizes of paper than the paper feed trays 1 and 2, the life times of their rollers are shorter than those of the paper feed rollers 1 and 2.

The degree of wear of the paper pickup roller is greater than that of the paper feed roller, which greater than that of the separation roller.

(Paper pickup roller > paper feed roller > separation roller)

Unit name		No.	Part name	When calling	AR-M550N/U (PM: 250K)	AR-M620N/U, AR-M700N/U (PM: 300K)	250K	500K	750K	1000K	1250K	1500K	1750K	2000K	Remark
					300K	600K	900K	1200K	1500K	1800K	2100K	2400K			
LCC	Paper feed separation section	1	Paper pickup roller /Paper feed rollers	×	○	○	○	○	○	○	○	○	○	○	(Note 3)
		2	Torque limiter	×	×	×	×	×	×	×	×	×	×	×	(Note 3)
	Transport section	3	Transport rollers	×	○	○	○	○	○	○	○	○	○	○	
		4	Transport paper guides	○	○	○	○	○	○	○	○	○	○	○	
	Drive section	5	Gears	×	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	(Specified position)
		6	Belt		×	×	×	×	×	×	×	×	×	×	
	Others	7	Sensors	×	×	×	×	×	×	×	×	×	×	×	
Saddle finisher Punch unit	Transport section	1	Transport rollers	×	○	○	○	○	○	○	○	○	○	○	
		2	Transport paper guides	×	○	○	○	○	○	○	○	○	○	○	
	Drive section	3	Gears	×	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	(Specified position)
		4	Belts		×	×	×	×	×	×	×	×	×	×	
	Staple process section	5	Knurling belt	×	○	○	○	○	○	○	○	○	○	○	(Note 4)
		6	Paddle	×	○	○	○	○	○	○	○	○	○	○	(Note 4)
	Others	7	Sensors	×	×	×	×	×	×	×	×	×	×	×	
		8	Discharge brush	×	×	×	×	×	×	×	×	×	×	×	

Unit name	No.	Part name	When calling	250K	500K	750K	1000K	1250K	1500K	1750K	2000K	Remark
				300K	600K	900K	1200K	1500K	1800K	2100K	2400K	
Saddle finisher Punch unit		Stapler unit										Replacement reference: Replace the unit at 500K staple.
		Stitcher unit (Stapler unit for saddle)										Replacement reference: Replace the unit at 200K staple.
		Punch unit										Replacement reference: Replace the unit at 1000K.
		Staple cartridge										User replacement at every 5000 pcs.
		Stitcher staple cartridge (Staple cartridge for saddle)										User replacement at every 2000 pcs.

Unit name		No.	Part name	When calling	250K	500K	750K	1000K	1250K	1500K	1750K	2000K	Remark
					300K	600K	900K	1200K	1500K	1800K	2100K	2400K	
Inserter	Paper feed	1	Paper pickup roller /Paper feed rollers	×	○	○	○	○	○	○	○	○	(Note 5)
	separation section	2	Torque limiter	×	×	×	×	×	×	×	×	×	(Note 5)
	Transport section	3	Transport rollers	×	○	○	○	○	○	○	○	○	
		4	Transport paper guides	○	○	○	○	○	○	○	○	○	
	Drive section	5	Gears	×	☆	☆	☆	☆	☆	☆	☆	☆	(Specified position)
		6	Belts		×	×	×	×	×	×	×	×	×
	Others	7	Sensors	×	×	×	×	×	×	×	×	×	×

(Note 3) Replacement reference: For replacement, refer to each paper feed counter value.

Paper feed roller related section: 200K or 1 year

Torque limiter: 800K

(Note 4) Replacement reference: For replacement, refer to the finisher paper exit counter value.

Knurling belt: 1000K

Paddle: 1000K

(Note 5) Replacement reference: For replacement, refer to the inserter paper feed port counter value.

Paper feed roller related section: 150K or 1 year

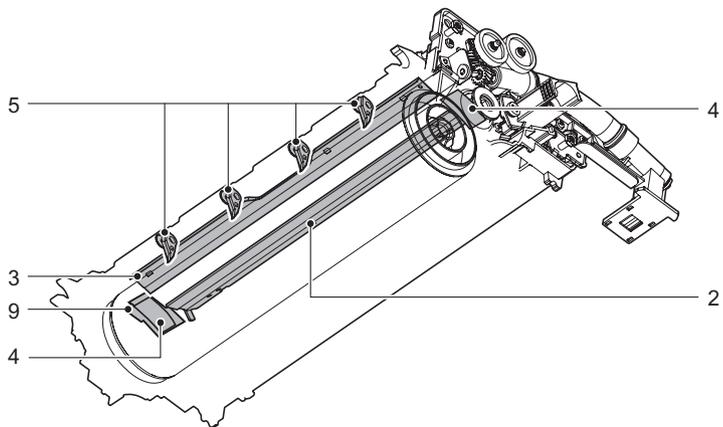
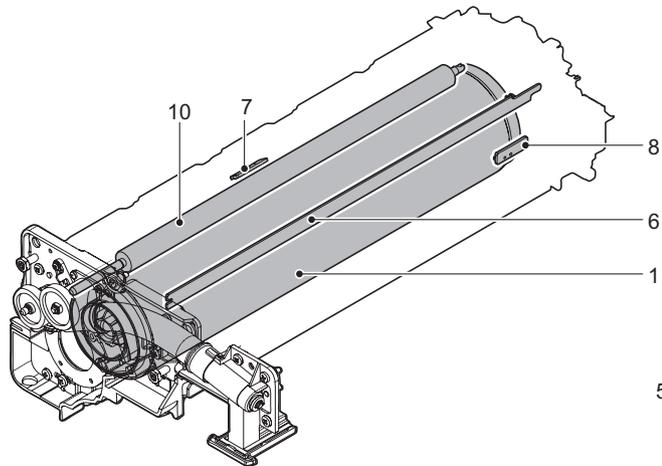
Torque limiter: 400K

2. Details

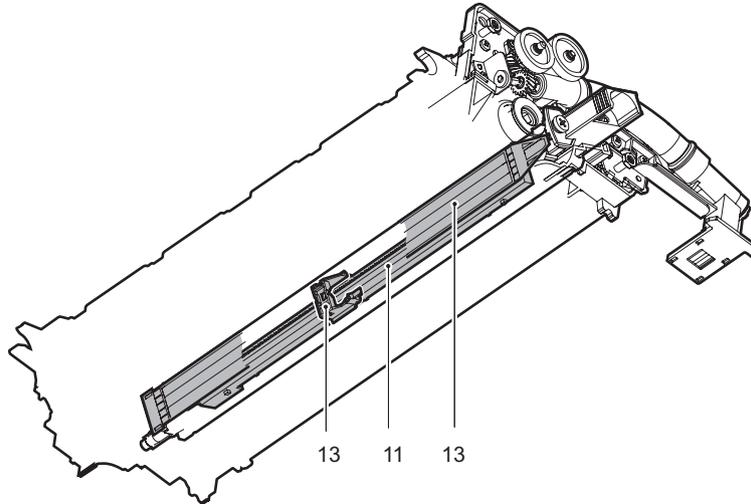
A. Drum peripheral section

X: Check (Clean, replace, or adjust as necessary.) ○: Clean ▲: Replace △: Adjust ☆: Lubricate □: Shift position

Unit name	No.	Part name	When calling	AR-M550N/U (PM: 250K)	AR-M620N/U, AR-M700N/U (PM: 300K)	250K	500K	750K	1000K	1250K	1500K	1750K	2000K	Remark
						300K	600K	900K	1200K	1500K	1800K	2100K	2400K	
Drum peripheral section	1	OPC drum	X	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	UKOG-0309FCZZ UKOG-0311FCZZ
	2	Cleaning blade	X	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	
	3	Toner reception seal	X	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	
	4	Side seal F/R	X	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	UKOG-0309FCZZ UKOG-0311FCZZ
	5	Drum separation pawl	X	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	
	6	Discharge lamp	X	○	○	○	○	○	○	○	○	○	○	
	7	Image density sensor	X	○	○	○	○	○	○	○	○	○	○	
	8	OPC drum marking sensor	X	○	○	○	○	○	○	○	○	○	○	
	9	Side seal R base sheet		▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	UKOG-0309FCZZ UKOG-0311FCZZ
	10	Cleaning brush		X	X	X	X	X	X	X	X	X	X	



Unit name	No.	Part name	When calling	AR-M550N/U (PM: 250K)	500K	750K	1000K	1250K	1500K	1750K	2000K	Remark
				AR-M620N/U, AR-M700N/U (PM: 300K)	300K	600K	900K	1200K	1500K	1800K	2100K	
Drum peripheral section	11	Sawtooth plate	○	▲	▲	▲	▲	▲	▲	▲	▲	
	12	Screen grid	×	▲	▲	▲	▲	▲	▲	▲	▲	
	13	MC cleaner		▲	▲	▲	▲	▲	▲	▲	▲	

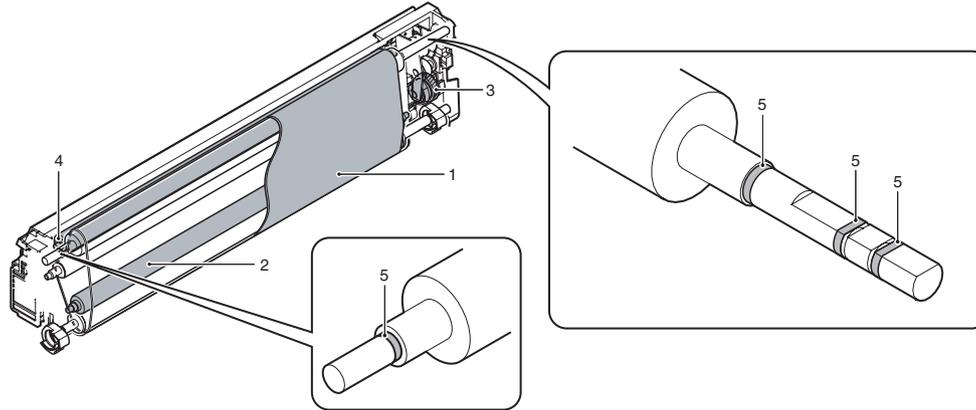


B. Transfer section

X: Check (Clean, replace, or adjust as necessary.) ○: Clean ▲: Replace △: Adjust ☆: Lubricate □: Shift position

Unit name	No.	Part name	When calling	250K	500K	750K	1000K	1250K	1500K	1750K	2000K	Remark
				300K	600K	900K	1200K	1500K	1800K	2100K	2400K	
Transfer section	1	Transfer belt	○	▲	▲	▲	▲	▲	▲	▲	▲	
	2	Transfer roller		▲	▲	▲	▲	▲	▲	▲	▲	
	3	Transfer drive gear		▲	▲	▲	▲	▲	▲	▲	▲	
	4	Transfer cleaning roller		▲	▲	▲	▲	▲	▲	▲	▲	
	5	Shaft (Conductive grease)	X	X	X	X	X	X	X	X	X	UKOG-0012QSZZ

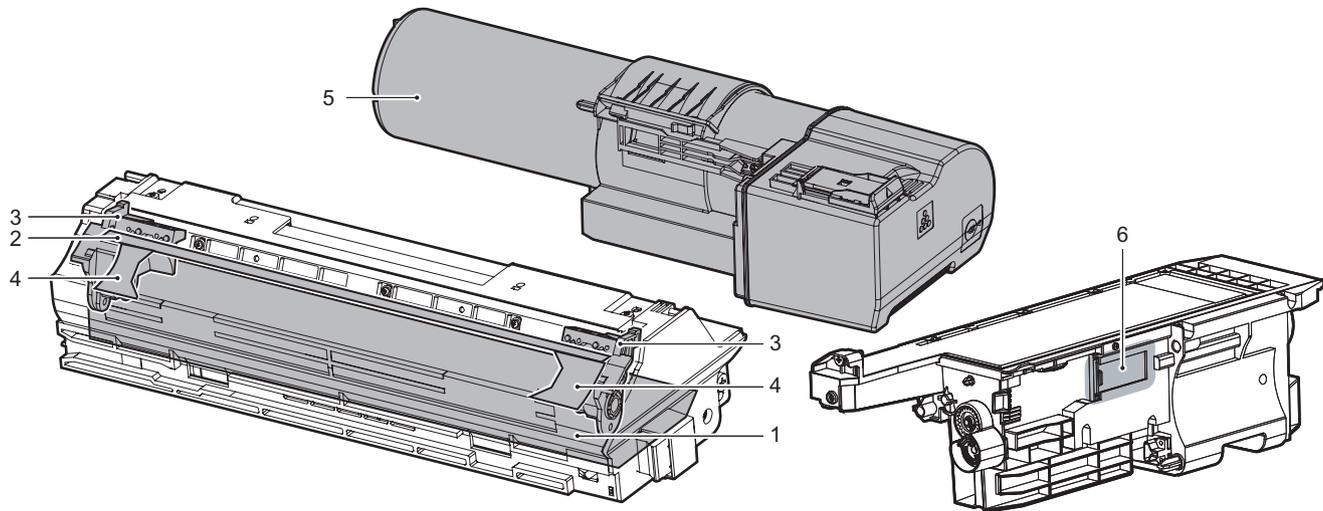
* When cleaning the transfer belt, do not use alcohol, solvent, and water, but use dry waste cloth.



C. Developing section

X: Check (Clean, replace, or adjust as necessary.) ○: Clean ▲: Replace △: Adjust ☆: Lubricate □: Shift position

Unit name	No.	Part name	When calling	AR-M550N/U (PM: 250K)	AR-M620N/U, AR-M700N/U (PM: 300K)	250K	500K	750K	1000K	1250K	1500K	1750K	2000K	Remark
				300K	600K	900K	1200K	1500K	1800K	2100K	2400K			
Developing section	1	Developer		▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	Supply when installing
	2	DV seal		▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	
	3	MG holder F/R	○	○	○	○	○	○	○	○	○	○	○	
	4	DV side seal F/R		▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	
	5	Toner bottle												Assembly when installing/ Replacement by user when empty
	6	Toner hopper	○	○	○	○	○	○	○	○	○	○	○	Clean the shutter area.

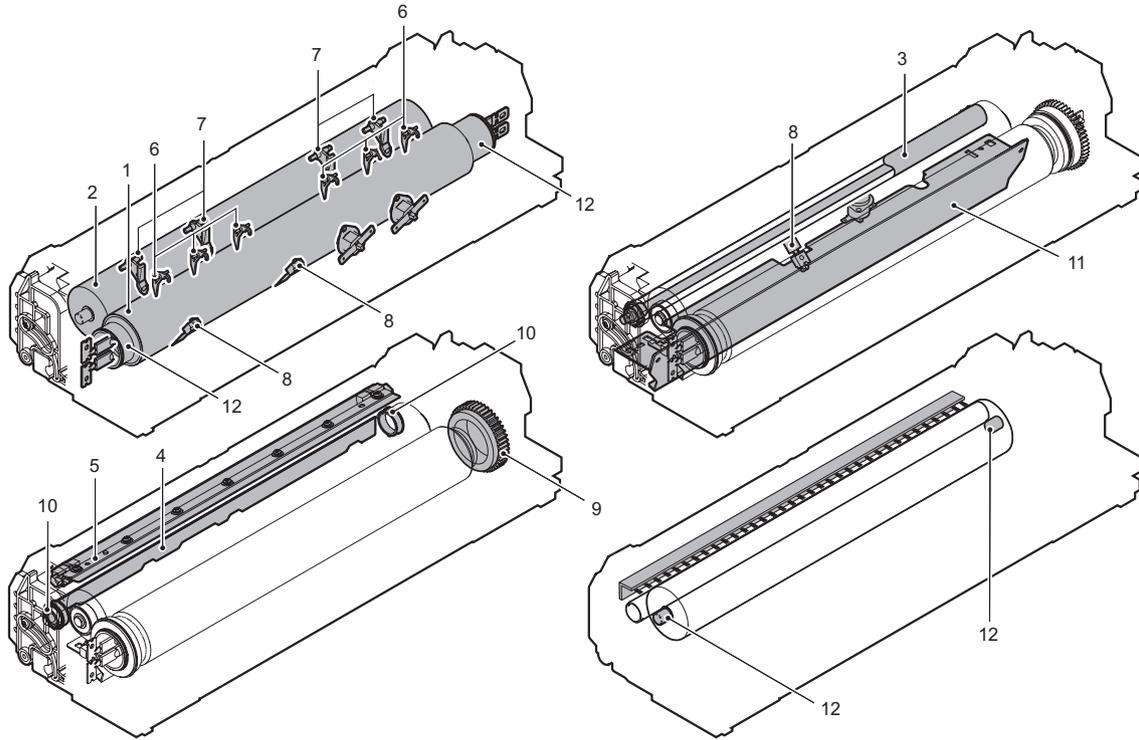


D. Fusing section

■ AR-M550N/U, AR-M620N/U

X: Check (Clean, replace, or adjust as necessary.) ○: Clean ▲: Replace △: Adjust ☆: Lubricate □: Shift position

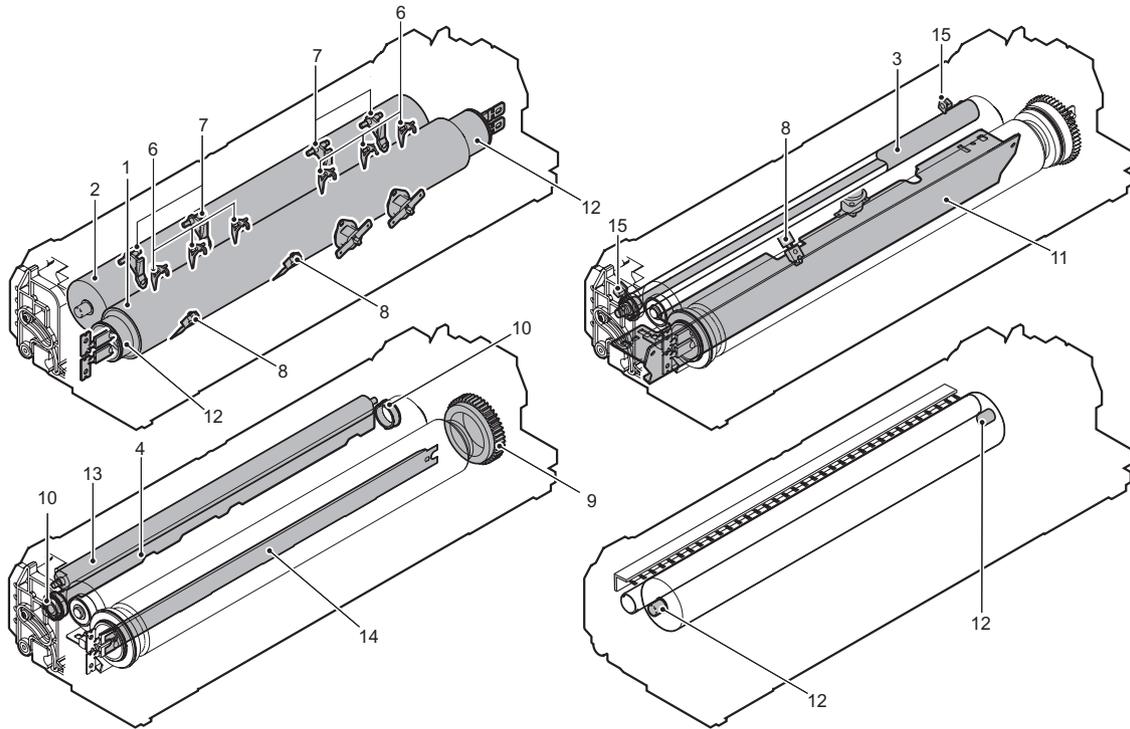
Unit name	No.	Part name	When calling	AR-M550N/U (PM: 250K)	500K	750K	1000K	1250K	1500K	1750K	2000K	Remark
				AR-M620N/U (PM: 300K)	300K	600K	900K	1200K	1500K	1800K	2100K	
Fusing section	1	Heat roller	×	▲	▲	▲	▲	▲	▲	▲	▲	
	2	Fusing roller (Pressing)	×	▲	▲	▲	▲	▲	▲	▲	▲	
	3	Sub heat roller	×	▲	▲	▲	▲	▲	▲	▲	▲	
	4	Cleaning sheet	×	▲	▲	▲	▲	▲	▲	▲	▲	
	5	Cleaning scraper	×	▲	▲	▲	▲	▲	▲	▲	▲	
	6	Heat roller separation pawl	×	▲	▲	▲	▲	▲	▲	▲	▲	
	7	Fusing roller (Pressing) separation pawl	×	▲	▲	▲	▲	▲	▲	▲	▲	
	8	Thermistor	×	×	×	×	×	×	×	×	×	Paper dust removal is required.
	9	Heat roller gear (Grease)		×	×	×	×	×	×	×	×	UKOG-0235FCZZ
	10	Sub heat roller bearing		▲	▲	▲	▲	▲	▲	▲	▲	
	11	Paper guides	○	○	○	○	○	○	○	○	○	
	12	Shaft (Grease)		☆	☆	☆	☆	☆	☆	☆	☆	UKOG-0235FCZZ



■ **AR-M700N/U**

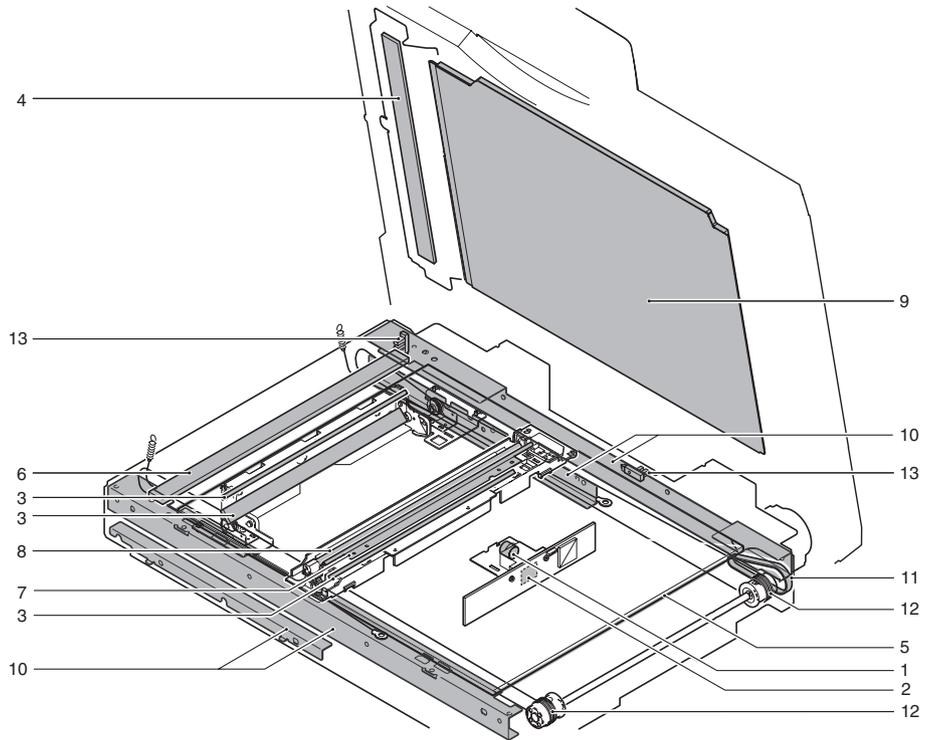
X: Check (Clean, replace, or adjust as necessary.) ○: Clean ▲: Replace △: Adjust ☆: Lubricate □: Shift position

		AR-M700N/U (PM: 300K)	When calling	300K	600K	900K	1200K	1500K	1800K	2100K	2400K	Remark
Unit name	No.	Part name										
Fusing section	1	Heat roller	×	▲	▲	▲	▲	▲	▲	▲	▲	
	2	Fusing roller (Pressing)	×	▲	▲	▲	▲	▲	▲	▲	▲	
	3	Sub heat roller	×	▲	▲	▲	▲	▲	▲	▲	▲	
	4	Cleaning sheet	×	▲	▲	▲	▲	▲	▲	▲	▲	
	6	Heat roller separation pawl	×	▲	▲	▲	▲	▲	▲	▲	▲	
	7	Fusing roller (Pressing) separation pawl	×	▲	▲	▲	▲	▲	▲	▲	▲	
	8	Thermistor	×	×	×	×	×	×	×	×	×	Paper dust removal is required.
	9	Heat roller gear (Grease)		×	×	×	×	×	×	×	×	UKOG-0235FCZZ
	10	Sub heat roller bearing		▲	▲	▲	▲	▲	▲	▲	▲	
	11	Paper guides	○	○	○	○	○	○	○	○	○	
	12	Shaft (Grease)		☆	☆	☆	☆	☆	☆	☆	☆	UKOG-0235FCZZ
	13	Oil roller	×	▲	▲	▲	▲	▲	▲	▲	▲	
	14	Cleaning plate	×	▲	▲	▲	▲	▲	▲	▲	▲	
	15	CL roller bearing	×	▲	▲	▲	▲	▲	▲	▲	▲	



E. Scanner section

Unit name	No.	Part name	When calling	250K	500K	750K	1000K	1250K	1500K	1750K	2000K	Remark
				300K	600K	900K	1200K	1500K	1800K	2100K	2400K	
Scanner section	1	Lens		○	○	○	○	○	○	○	○	
	2	CCD		○	○	○	○	○	○	○	○	
	3	Mirror		○	○	○	○	○	○	○	○	
	4	CIS filter glass		○	○	○	○	○	○	○	○	
	5	Table glass		○	○	○	○	○	○	○	○	
	6	Slit glass (SPF scan mode)		○	○	○	○	○	○	○	○	
	7	Reflector		○	○	○	○	○	○	○	○	
	8	Scanner lamp		○	○	○	○	○	○	○	○	
	9	Document mat		○	○	○	○	○	○	○	○	
	10	Rail (Grease)		☆	☆	☆	☆	☆	☆	☆	☆	
	11	Drive belt		×	×	×	×	×	×	×	×	
	12	Drive wire		×	×	×	×	×	×	×	×	
	13	Sensors		×	×	×	×	×	×	×	×	



F. SPF section

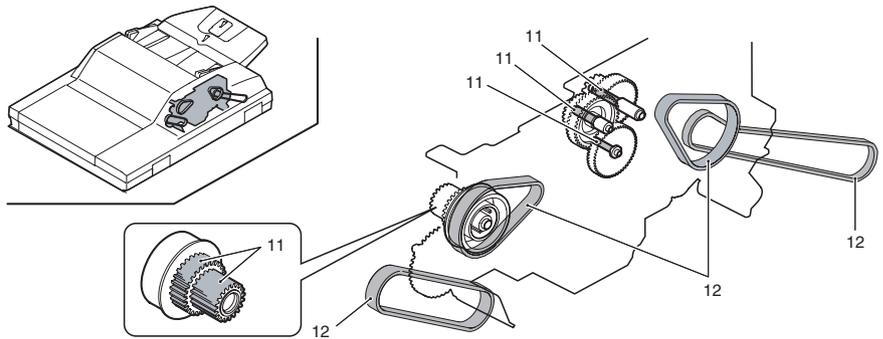
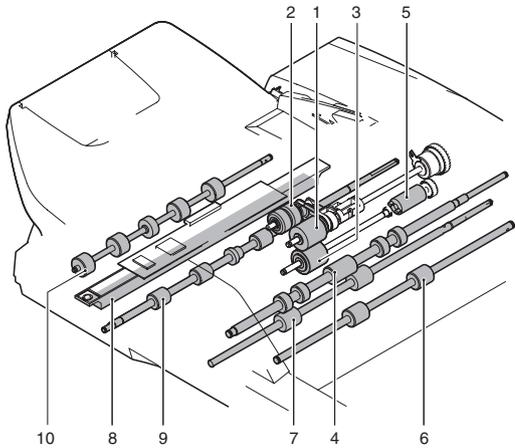
X: Check (Clean, replace, or adjust as necessary.) ○: Clean ▲: Replace △: Adjust ☆: Lubricate □: Shift position

		AR-M550N/U (PM: 250K)	When calling	250K	500K	750K	1000K	1250K	1500K	1750K	2000K	Remark
		AR-M620N/U, AR-M700N/U (PM: 300K)		300K	600K	900K	1200K	1500K	1800K	2100K	2400K	
Unit name	No.	Part name										
SPF Paper feed/ Transport section	1	Paper feed roller	X	X	X	X	X	X	X	X	X	(Note 1)
	2	Pickup roller	X	X	X	X	X	X	X	X	X	(Note 1)
	3	Separation roller	X	X	X	X	X	X	X	X	X	(Note 1)
	4	No. 1 resist roller (Drive)	○	○	○	○	○	○	○	○	○	
	5	Torque limiter		X	X	X	X	X	X	X	X	(Note 1)
	6	Transport roller 1 (Drive)	○	○	○	○	○	○	○	○	○	
	7	Transport roller 2 (Drive)	○	○	○	○	○	○	○	○	○	
	8	Exposure section (CIS unit)	○	○	○	○	○	○	○	○	○	
Paper exit section	9	No. 2 resist roller (Drive)	○	○	○	○	○	○	○	○	○	
	10	Paper exit roller (Drive)	○	○	○	○	○	○	○	○	○	
Drive section	11	Gears (Grease)	X	X	X	X	X	X	X	X	X	UKOG-0299FCZZ
	12	Belts		X	X	X	X	X	X	X	X	

(Note 1) Replacement reference: For replacement, refer to each paper feed counter value.

SPF section

: 100K or 1 year



G. Paper feed section

X: Check (Clean, replace, or adjust as necessary.) ○: Clean ▲: Replace △: Adjust ☆: Lubricate □: Shift position

Unit name	No.	Part name	When calling	AR-M550N/U (PM: 250K)	AR-M620N/U, AR-M700N/U (PM: 300K)	250K	500K	750K	1000K	1250K	1500K	1750K	2000K	Remark
						300K	600K	900K	1200K	1500K	1800K	2100K	2400K	
Paper feed section	1	Paper pickup roller	X	X	X	X	X	X	X	X	X	X	X	(Note 1)
	2	Paper feed roller	X	X	X	X	X	X	X	X	X	X	X	(Note 1)
	3	Separation roller	X	X	X	X	X	X	X	X	X	X	X	(Note 1)
	4	Torque limiter	X	X	X	X	X	X	X	X	X	X	X	(Note 1)
	5	Shaft (Conductive grease)	X	X	X	X	X	X	X	X	X	X	X	UKOG-0012QSZZ

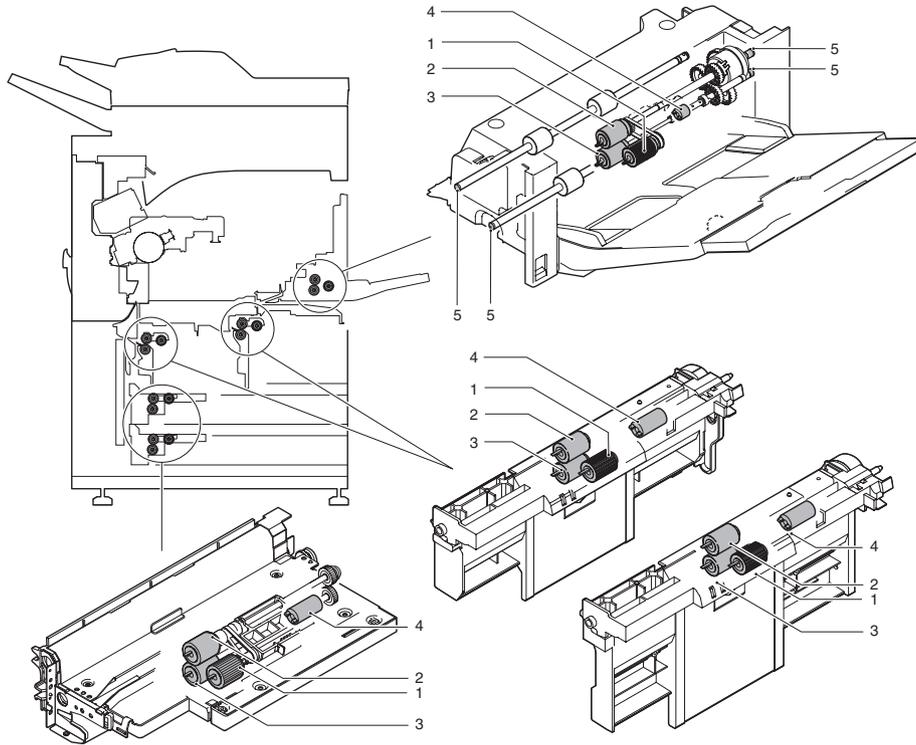
(Note 1) Replacement reference: For replacement, refer to each paper feed counter value.

Paper feed tray 1 and 2 : 200K or 1 year

Manual paper feed/paper feed tray 3 and 4 : 100K or 1 year

SPF section : 100K or 1 year

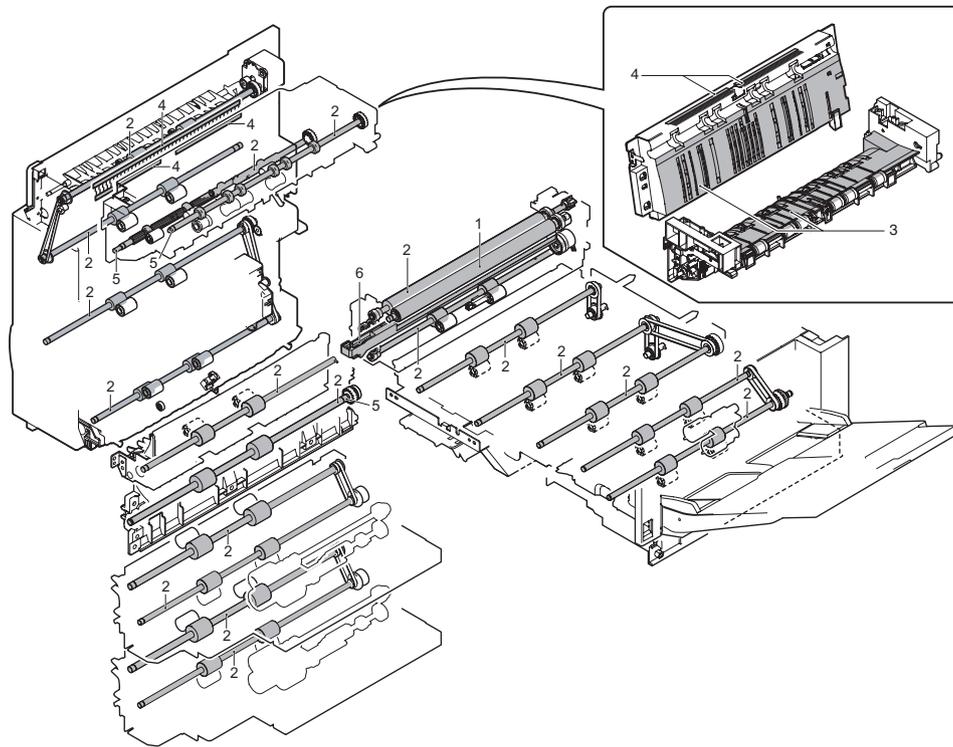
Torque limiter : 800K (However, 400K for manual paper feed section)



H. Transport section/paper exit reverse section/duplex section

X: Check (Clean, replace, or adjust as necessary.) ○: Clean ▲: Replace △: Adjust ☆: Lubricate □: Shift position

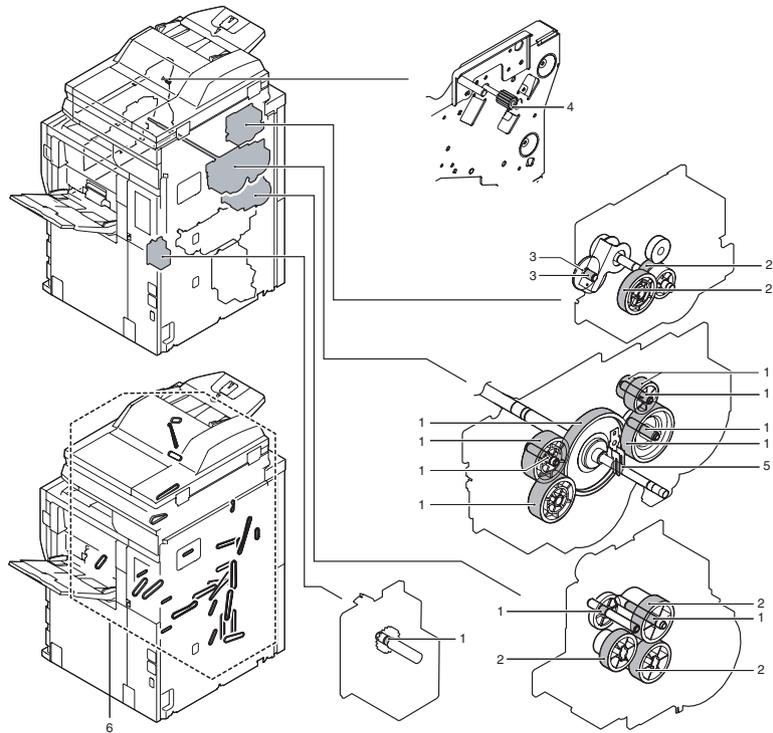
Unit name	No.	Part name	When calling	AR-M550N/U (PM: 250K)	AR-M620N/U, AR-M700N/U (PM: 300K)	250K	500K	750K	1000K	1250K	1500K	1750K	2000K	Remark
						300K	600K	900K	1200K	1500K	1800K	2100K	2400K	
Transport section	1	PS follower roller	X	○	○	○	○	○	○	○	○	○	○	
Paper exit reverse section/ duplex section	1	PS follower roller	X	○	○	○	○	○	○	○	○	○	○	
	2	Transport rollers	X	○	○	○	○	○	○	○	○	○	○	
	3	Transport paper guides	○	○	○	○	○	○	○	○	○	○	○	
	4	Discharge brush	X	X	X	X	X	X	X	X	X	X	X	
	5	Shaft (Conductive grease)	X	X	X	X	X	X	X	X	X	X	X	UKOG-0012QSZZ
Other	6	Paper dust cleaner	○	▲	▲	▲	▲	▲	▲	▲	▲	▲		



I. Drive section

×: Check (Clean, replace, or adjust as necessary.) ○: Clean ▲: Replace △: Adjust ☆: Lubricate □: Shift position

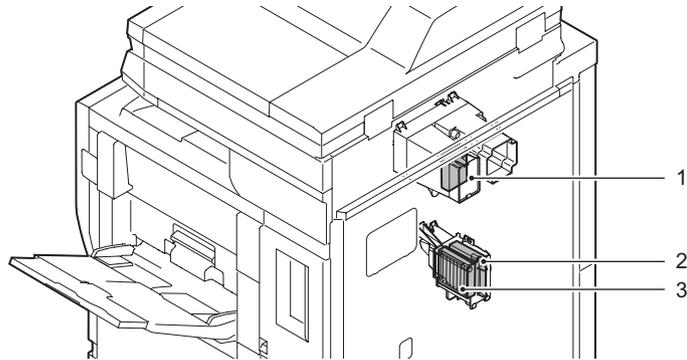
Unit name	No.	Part name	When calling	AR-M550N/U (PM: 250K)	500K	750K	1000K	1250K	1500K	1750K	2000K	Remark
				AR-M620N/U, AR-M700N/U (PM: 300K)	300K	600K	900K	1200K	1500K	1800K	2100K	
Drive section	1	Gear (Grease)	×	×	×	×	×	×	×	×	×	UKOG-0307FCZZ
	2	Gear (Grease)	×	×	×	×	×	×	×	×	×	UKOG-0299FCZZ
	3	Gear (Grease)	×	×	×	×	×	×	×	×	×	UKOG-0062FCZZ
	4	Gear (Grease)	×	×	×	×	×	×	×	×	×	UKOG-0235FCZZ
	5	Gear (Conductive grease)	×	×	×	×	×	×	×	×	×	UKOG-0012QSZZ
	6	Belts		×	×	×	×	×	×	×	×	



J. Filters

X: Check (Clean, replace, or adjust as necessary.) ○: Clean ▲: Replace △: Adjust ☆: Lubricate □: Shift position

Unit name	No.	Part name	When calling	250K	500K	750K	1000K	1250K	1500K	1750K	2000K	Remark
				300K	600K	900K	1200K	1500K	1800K	2100K	2400K	
Filters	1	Ozone filter		▲	▲	▲	▲	▲	▲	▲	▲	
	2	DV ozone filter		▲	▲	▲	▲	▲	▲	▲	▲	
	3	Toner filter		▲	▲	▲	▲	▲	▲	▲	▲	



3. Maintenance and disassembly

A. Necessary execution items in maintenance and servicing

(1) Execution items before maintenance and servicing

Item	Simulation	
Check the developer counter value.	22	13
Check the OPC drum counter value.	22	13
Check the print count mode in each section and each operation mode.	22	1
Check the number of paper jam troubles.	22	2
Check the positions and contents of paper jams.	22	3
Check the positions and contents of paper jams (SPF section).	22	12
Check the contents of troubles.	22	4
Print the setting values and the adjustment values.	22	6
Check the number of use of the SPF, the scanner, the finisher, and inserter, the stapler, and the punch.	22	8
Check the number of use of each paper feed section.	22	9
Check the ROM version.	22	5

(2) Necessary execution items in maintenance and servicing

The necessary execution items in maintenance are shown below. (The items necessary to be executed are marked with "*" in the table below.)

The following items must be executed regardless of maintenance or not. (*).

(*): When repairing and inspecting (without replacement of maintenance parts), installing, cleaning each section, etc.

No.	JOB No.	Work item	Simulation	When repairing (replacing consumable parts)/maintenance					When repairing (without replacement of consumable parts)/inspecting
				When installing	When replacing the OPC drum	When replacing developer	After cleaning the scanner (read) section	Periodic maintenance	
1	—	Toner concentration reference control level setting	25-2	*		*			
2	—	The photoconductor counter is cleared.	24-7		*				
3	—	The photoconductor rotation counter is cleared.	24-11		*				
4	ADJ9	Copy image quality adjustment (check)	46-2,9,10,11,18,31	*	*	*	*	*	
5	ADJ10	FAX mode print image quality adjustment (check)	46-12,13,14,15,16,45	*	*	*	*	*	
6	ADJ11	Scanner mode image quality adjustment (check)	46-21,22,23,24,25,27	*	*	*	*	*	

- The JOB No. indicates the title number of the adjustment item described in the chapter of the adjustments.
- Refer to the details based on this number according to necessity.

(3) Execution items after maintenance and servicing

Item	Simulation	
The paper jam/trouble data are cleared.	24	1
The use quantity counter of each paper feed section is cleared.	24	2
The numbers of use of the SPF, the scanner, the finisher, the inserter, the stapler, and the punch are cleared.	24	3
The maintenance counter is cleared.	24	4
The list of setting values and adjustment values is printed.	22	6

[8] OTHER

1. VARIOUS COUNTERS SPECIFICATIONS

A. Count specification

(1) Paper exit system counter

Counter	Count-up timing	Count-up number						Counter reset procedure, clear
		Simplex copy		Duplex copy				
		Paper feed tray – Main unit paper exit		Paper feed tray – ADU		ADU – Main unit paper exit		
		Small size	Large size	Small size	Large size	Small size	Large size	
Total counter (Note)	When transfer is completed	1	2 (1)	1	2 (1)	1	2 (1)	—
Maintenance counter	When transfer is completed	1	2 (1)	1	2 (1)	1	2 (1)	Sim24-4
Developer counter	When transfer is completed	1	2 (1)	1	2 (1)	1	2 (1)	Sim24-5
All valid paper counter (Note)	When paper exit	1	2 (1)	—	—	2	4 (2)	—
Copy counter (Copy valid paper)	When paper exit	1	2 (1)	—	—	2	4 (2)	Sim24-6
FAX counter	When paper exit	1	2 (1)	—	—	2	4 (2)	Sim24-10
Print counter	When paper exit	1	2 (1)	—	—	2	4 (2)	Sim24-9
Internet FAX counter	When paper exit	1	2 (1)	—	—	2	4 (2)	Sim24-15
Document filing counter	When paper exit	1	2 (1)	—	—	2	4 (2)	Sim24-15
Right side paper exit counter	When center paper exit	1	2 (1)	—	—	2	4 (2)	—
Other counter (Self print, etc.)	When paper exit	1	2 (1)	—	—	2	4 (2)	Sim24-9

Large size: A3, 11 x 17. (Greater size than paper length 384mm)

* (): Count-up number when setting to the large size single count up.

(2) Document, finishing, paper feed system counter

Counter	Mode	Count event	Count-up condition	Counter reset procedure, clear
SPF counter	All modes	SPF paper feed number	Count is made when starting SPF paper pick.	Sim24-3
Finish stamp counter	FAX send Internet FAX send	Finish stamp use number	Count is made when stamp is ON.	Sim24-3
Staple counter	All modes (Including inserter stand alone process)	Staple number	Count is made when bundle exit process is completed. Double count is made when stapling two positions. In the inserter stand alone mode, count is made when process is completed.	Sim24-3
Punch counter	All modes (Including inserter stand alone process)	Punch number	Count is made when bundle exit process is completed. 1 count regardless of the kind of the punch unit (2-hole, 3-hole, etc.) In the inserter stand alone mode, count is made when process is completed.	Sim24-3
Saddle staple counter	All modes (Including inserter stand alone process)	Saddle staple number	Count is made when bundle paper exit process is completed. Only one count is added. In the inserter stand alone mode, count is made when process is completed.	Sim24-3
Scan total counter	All modes	Scan number	Count is made when scan is completed.	Sim24-3
ADU counter	All modes	ADU paper feed number	Count is made when paper feed from the ADU section is started.	Sim24-2
Inserter counter	All modes (Including inserter offline process)	Inserter tray paper feed number	Count is made when paper feed from the inserter tray is started. In the inserter stand alone mode, count is made when process is completed.	Sim24-3

Counter		Mode	Count event	Count-up condition	Counter reset procedure, clear
Paper feed counter	Manual paper feed tray	All modes	Tray paper feed number	Count is made when paper feed from each tray is started.	Sim24-2
	Paper feed tray 1				Sim24-2
	Paper feed tray 2				Sim24-2
	Paper feed tray 3				Sim24-2
	Paper feed tray 4				Sim24-2
	LCC				Sim24-2

(3) Send system counter

Counter	Mode	Count event	Count-up condition	Counter reset procedure, clear
Accumulated number of FAX send	G3 FAX send	Number of send	Except for the serial transmit operation, one reservation is counted as one communication. For the serial transmit operation, count is made for each communication individually. Recall is not included. Polling is counted as a number of send.	Sim24-10
Accumulated page number of FAX send	G3 FAX send	Total page number of send	In the serial transmit operation, each communication is counted as one individually. In bulletin board send, the page number of send is counted.	Sim24-10
Accumulated time of FAX send	G3 FAX send	Send time (Including resending time.)		Sim24-10

Counter	Mode	Count event	Count-up condition	Counter reset procedure, clear
Accumulated page number of scanner scan	Scan to E-mail send SHARP DESK send FTP send	Page number of scan	Even in the serial transmit operation, the page number of one scan is counted. (The number of receivers is not counted.) In case of a send error (excluding document jam) • E-mail → Not counted. • SHARP DESK/FTP → Counted.	Sim24-15
Accumulated number of mail send	Scan to E-mail send	Number of mails reached to destination servers	Even in the serial transmit operation, the page number of one scan is counted. (The number of receivers is not counted.) Cancel and network error are not counted.	Sim24-15
Accumulated number of FTP send	SHARP DESK send FTP send	Number of send reached to destination servers	Mails transmitted by FTP send are counted in the accumulated number of mail send. Even in the serial transmit operation, the page number of one scan is counted. (The number of receivers is not counted.) Cancel and network error are also counted.	Sim24-15
Accumulated number of internet FAX send	Internet FAX send	Page number of send	Even in the serial transmit operation, the page number of one scan is counted. (The number of receivers is not counted.) The final send result is counted. A send error is counted. Resend is not counted. Cancel and CE error are not counted.	Sim24-15

Counter	Mode	Count event	Count-up condition	Counter reset procedure, clear
Accumulated number of internet FAX receive	Internet FAX send	Page number of scan	Even in the serial transmit operation, the page number of one scan is counted. (The number of receivers is not counted.) The final send result is counted. A communication error (except for document jam) is counted. Cancel and CE error are not counted. A send (transfer, F code relay broadcast) without document scan is not counted.	Sim24-15
Scanner trial counter	Internet FAX send Scan to E-mail send SHARP DESK send FTP send	Page number of scan	Count is made for every scan of page. Count is made even when send is not completed. The operation is terminated when the count number exceeds 500.	—
Page number of Scan to HDD	When reading SCAN TO HDD	HDD storage page number		Sim24-15

(4) Receive system counter

Counter	Mode	Count event	Count-up condition	Counter reset procedure, clear
The accumulated page number of FAX receive print	G3 FAX receive	Total output page number	The FAX separator sheet is also counted. When polling, the number of received pages is counted. Count by size and count in recovery are the same as the copier specifications. (Counted by the print system.)	Sim24-10
Accumulated time of FAX receive	G3 FAX receive	Receive time		Sim24-10
Accumulated number of internet FAX receive	Internet FAX receive	Receive number	A normal mail receive is also counted. Count is made regardless of normal or abnormal. Count is made regardless of print result.	Sim24-15
Accumulated page number of internet FAX receive print	Internet FAX receive	Total receive output number	Count is made when output is made on a normal mail receive. Print of mail text is not counted. The FAX separator sheet is also counted. Count by size and count in recovery are the same as the copier specifications. (Counted by the print system.)	Sim24-15

(5) Department counter

Operation content	Data location				Conforming count mode (SIM 26-5)			Count-up condition
	MFP Control PWB	FAX	Scanner control PWB	PCU PWB	TOTAL	Maintenance	DV	
Copy counter	●				■			
Print counter	●				■			
FAX send page number counter	●				■			Department FAX send page number • In the serial transmit operation, each communication is counted as one individually.
Network scanner counter	●				—	—	—	Department network scanner scan page number • iFAX and network scanner • Even in the serial transmit operation, the page number of one scan is counted. (The number of receivers is not counted.)
I-FAX send page number counter	●				■			Department FAX send page number • In the serial transmit operation, each communication is counted as one individually.
Document filing	●				■			

(6) Printer job count-up specification

	Total use page number counter		Department counter		
	PRINTS	OTHERS	Key operation number	Driver specification account number	Other department (OTHERS)
Printer job (Without account administration)	○	—	—	—	—
Printer job (With account specification) *	○	—	—	○	—
Printer job (Without account specification) *	○	—	—	—	○
Notice in printer job (Without account administration)	○	—	—	—	—
Notice in printer job (With account specification) *	○	—	—	—	○
Notice in printer job (Without account specification) *	○	—	—	—	○
List print	—	○	—	—	—
Total use page number print	—	○	—	—	—
Each department total page number print	—	○	—	—	—
Engine self print	—	—	—	—	—

* When there is "NO" in account administration, or when there is not "NO."

(7) Total counter specifications

The total count viewed from the user and the counter used for charging are “Total output counter (total valid paper counter).”

	Total output counter (Total valid paper counter)	Total counter
Display when the copy key is ON.	■	—
List print	■	—
Valid paper counter to send to serial RIC	■	—
Total counter to send to serial RIC	■	—
E-RIC mail text counter	■	—
E-RIC attached file	■	■
	(Counter for the first send)	(Counter to send in the midst of packet)
SIMULATION	Displayed/printed as Total output.	Displayed/printed as Total

(8) Blank paper count specification

Mode	Print mode	Count attribute		Blank paper count setting (SIM 26-52)				Remark
		Print surface		0: NO		1: YES		
		Front surface	Back surface	Small size	Large size	Small size	Large size	
Normal	Without print (Invalid paper exit)	×	—	0	0	0	0	
	Without print (Blank paper insertion)	△	—	0	0	1	2 (1) *1	
	Single face print (Single face mode)	○	—	1	2 (1) *1	1	2 (1) *1	SS/DS
	Single face print (Duplex mode)	○	×	1	2 (1) *1	1	2 (1) *1	SD (Odd number of documents)
	Duplex print	○	○	2	4 (2) *1	2	4 (2) *1	SD (Even number of documents)/ DD

Mode	Print mode	Count attribute		Blank paper count setting (SIM 26-52)				Remark
		Print surface		0: NO		1: YES		
		Front surface	Back surface	Small size	Large size	Small size	Large size	
Front cover	Without print	△	—	0	0	1	2 (1) *1	
	With print (Single face)	○	—	1	2 (1) *1	1	2 (1) *1	
	With print (Duplex)	○	○	2	4 (2) *1	2	4 (2) *1	
Back cover	Without print	×	△	0	0	1	2 (1) *1	
	With print (Single face)	×	○	1	2 (1) *1	1	2 (1) *1	
	With print (Duplex)	○	○	2	4 (2) *1	2	4 (2) *1	
Insert paper	Without print	△	—	0	0	1	2 (1) *1	
	With print (Single face)	○	—	1	2 (1) *1	1	2 (1) *1	
	With print (Duplex)	○	○	2	4 (2) *1	2	4 (2) *1	
OHP insert paper	Without print	△	—	0	0	1	2 (1) *1	
	With print (Single face)	○	—	1	2 (1) *1	1	2 (1) *1	
	With print (Duplex)	—	—	—	—	—	—	Duplex print inhibition

* Large size: A3, 11 x 17. (Greater size than paper length 384mm)

*1: Follows SIM 26-5 (Count-up mode). (Default: Double count-up (Set value: 2))

() : Large size single count-up setting (Count-up number when set to 1.)

○: Counts up.

×: Does not count up.

△: Follows SIM 26-52 setting.

0: Does not count up. (Japan/SCA default) 1: Counts up. (Other default)

—: Out of target (No print process)

(9) Consumables counter specification

Counter	Count-up timing	Count-up number						Counter reset procedure, clear
		Simplex print		Duplex print				
		Paper feed tray – Main unit paper exit		Paper feed tray – ADU		ADU – Main unit paper exit		
		Small size	Large size	Small size	Large size	Small size	Large size	
OPC drum counter	When transfer is completed	1	2 (1)	1	2 (1)	1	2 (1)	Sim24-7
OPC drum rotation counter (sec)	When transfer is completed	—	—	—	—	—	—	Sim24-11
Developer counter	When transfer is completed	1	2 (1)	1	2 (1)	1	2 (1)	Sim24-5
Developing roller rotation counter (sec)	When transfer is completed	—	—	—	—	—	—	Sim24-11
Toner counter	When transfer is completed	1	2 (1)	1	2 (1)	1	2 (1)	—
Toner supply counter (sec)	When transfer is completed	—	—	—	—	—	—	—

(10) Reset and set for supply counters

Work item	Test Command	Reset item	Included Test Command
Setting the toner concentration control level	Sim25-2	Developer counter	Sim24-5
		DV unit running time counter (sec)	Sim24-11
Reset the OPC drum counter	Sim24-7	OPC drum counter	—
Reset the Developer counter	Sim24-5	Developer counter	—
Reset the OPC drum running time counter (sec)	Sim24-11	OPC drum running time counter (sec)	—
Reset the DV running time counter (sec)	Sim24-11	DV running time counter (sec)	—

B. Location and display of each counter data

Simulation Code		Operation content	Data size	Data location				Conforming count mode (SIM 26-5)			Count-up condition
Main	Sub			MFP control PWB	FAX	Scanner control PWB	PCU PWB	TOTAL	Maintenance	DV	
22	01	Each counter display (Total/ Maintenance/ Developer/ SPF/ Staple/ Tray) 1: Total counter 2: Drum cartridge counter 3: Toner cartridge counter 4: Deve cartridge counter 5: Maintenance counter 6: Total output page number counter 7: Copy counter 8: Printer counter 9: FAX output counter 10: I-FAX output counter 11: Document filing output counter 12: Right side output counter 13: Other print counter				● ● ● ● ● ● ● ● ● ● ● ● ●	■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■		■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■		Count is made when the main unit paper exit is started. (When POP2 is ON) Refer to the "Count Specifications."
	02	Jam/ Trouble counter display 1: Paper jam 2: SPF jam 3: Trouble		● ● ●				— — —	— — —	— — —	Count is made when an event occurs. (A jam by closing the door during paper transport is not counted.) Count is made when an event occurs. (A jam by closing the door during paper transport is not counted.) Count is made when an event occurs. (Follows the trouble count method of SIM 26-35.)

Simulation Code		Operation content	Data size	Data location				Conforming count mode (SIM 26-5)			Count-up condition
Main	Sub			MFP control PWB	FAX	Scanner control PWB	PCU PWB	TOTAL	Maintenance	DV	
22	08	Document, staple counter display 1: SPF document feed page number 2: Scan number 3: Staple number 4: Punch number 5: SPF finish stamp number 6: Saddle staple number 7: Inserter number			● ●	● ●	— — — — — —	— — — — — —	— — — — — —	One count is made every time when SPF document is paper feed. One count is made every time when scan is completed. One count for every stapling (Stapling at two positions is counted as 2.) One count for every punching One count when stamp is started. One count for every saddle stapling One count for every paper pick-up	
	09	Paper feed counter display 1: Paper feed tray 1 (Tandem Left) 2: Paper feed tray 2 (Tandem Right) 3: Paper feed tray 3 4: Paper feed tray 4 5: MFT (Manual paper feed tray) 6: ADU 7: LCC				● ● ● ● ● ● ●	— — — — — — —	— — — — — — —	— — — — — — —	One count for every paper pick-up One count for every paper transport start from ADU. One count for every paper pick-up	

Simulation Code		Operation content	Data size	Data location				Conforming count mode (SIM 26-5)			Count-up condition
Main	Sub			MFP control PWB	FAX	Scanner control PWB	PCU PWB	TOTAL	Maintenance	DV	
22	11	FAX send/receive counter display									
		1: FAX send (Send counter)	32bit	●				—	—	—	Accumulated page number of send <ul style="list-style-type: none"> Except for the serial transmit operation, one reservation is counted as one communication. For the serial transmit operation, count is made for each communication individually. Recall is not included. Saved in the FAX-SRAM.
		2: FAX receive (Receive counter)	32bit	●				—	—	—	Accumulated number <ul style="list-style-type: none"> Count is made regardless of normal or abnormal completion. Saved in the 32bit counter and the FAX-SRAM.
		3: FAX output (FAX print counter)	32bit	●				■			The accumulated page number of FAX receive print Count by size and count in recovery are the same as the copier specifications. <ul style="list-style-type: none"> Counted by the print system.
		4: FAX send images (Send page number)	32bit	●				—	—	—	Refer to the "Count Specifications." Accumulated page number of send <ul style="list-style-type: none"> In the serial transmit operation, each communication is counted as one individually. Saved in the 32bit counter and the FAX-SRAM.
		5: Send time (Send time)	48bit	●				—	—	—	hhhhhhh:mm:ss Saved in the FAX-SRAM.
		6: Receive time (Receive time)	48bit	●				—	—	—	hhhhhhh:mm:ss Saved in the FAX-SRAM.

Simulation Code		Operation content	Data size	Data location				Conforming count mode (SIM 26-5)			Count-up condition
Main	Sub			MFP control PWB	FAX	Scanner control PWB	PCU PWB	TOTAL	Maintenance	DV	
22	13	Process section count data display 1: Drum counter 2: Drum rotating time 3: Toner counter 4: Toner supply time 5: Developer counter 6: Developer rotating time					● ● ● ● ●	— — —	— — —	■ — ■ — ■ —	Refer to the "Count Specifications." (Same as the maintenance counter.) Count for every second of rotation Refer to the "Count Specifications." (Same as the developer counter.) Count for every second of rotation Refer to the "Count Specifications." (Same as the developer counter.) Count for every second of rotation
	19	Display of counters related to the network scanner 1: Network scanner document scan page number counter 2: Mail send counter	32bit 32bit	● ●				— —	— —	— —	Accumulated page number of scanner scan • The page number of normal completion of iFAX, E-mail, and FTP (DESK) send. • In sequential broadcast, count is made when one destination send is normally completed. • In case of a communication error: (Except for document jam) For iFAX and E-mail, send is canceled and no page is sent. Therefore count is not made. For FTP (DESK), though send is canceled, data reached in the server remains, and only the page number of send is counted. • Saved in the FAX-SRAM. Accumulated number of mail send • The number of send mails of iFAX, E-mail, and FTP is counted. • Even in the serial system, one scan is counted. (The number of receivers is not counted.) • The number of mails reached to the server is counted. • Since server data are deleted in case of send cancel or a network error, count is not made. • Saved in the FAX-SRAM.

Simulation Code		Operation content	Data size	Data location				Conforming count mode (SIM 26-5)			Count-up condition
Main	Sub			MFP control PWB	FAX	Scanner control PWB	PCU PWB	TOTAL	Maintenance	DV	
22	19	3: FTP send counter	32bit	●				—	—	—	Accumulated number of FTP send <ul style="list-style-type: none"> The page number of FTP (DESK) send is counted. The FTP send mails are counted by the MAIL send counter. Even in the serial transmit operation, the page number of one scan is counted. (The number of receivers is not counted.) The number of mails reached to the server is counted. In case of send cancel or a network error, the server data cannot be deleted. Therefore, count is made. Saved in the FAX-SRAM.
		4: I-FAX original (Scan page number counter)	32bit	●				—	—	—	Accumulated page number of internet FAX scan <ul style="list-style-type: none"> A communication error (except for document jam) is counted. Cancel and CE error are not counted. A send (transfer, F code relay broadcast) without document scan is not counted. Saved in the FAX-SRAM.
		5: I-FAX send (Send counter)	32bit	●				—	—	—	Accumulated number of internet FAX send <ul style="list-style-type: none"> A send error is counted. Resend is not counted. Cancel and CE error are not counted. Saved in the 32bit counter and the FAX-SRAM.
		6: I-FAX receive (Receive counter)	32bit	●				■			Accumulated number of internet FAX send <ul style="list-style-type: none"> A normal mail receive is also counted. Saved in the 32bit counter and the FAX-SRAM.
		7: I-FAX output (Print page number counter)	32bit	●				—	—	—	Accumulated page number of internet FAX receive print <ul style="list-style-type: none"> Count by size and count in reprint after a jam are the same as the copier specifications.
		8: SCAN TO HDD (Save page number counter)	32bit	●				—	—	—	Page number of SCAN TO HDD save <ul style="list-style-type: none"> The page number of documents saved to HDD is counted.

2. Web setting service mode

A. Outline

The Web setting service mode provides the following functions:

- Font/Form Download
- Device Cloning

These functions are used to backup the user data and the key operator program setting data, and to import backup data to another machine. By using these functions, two or more machines can be set in the same conditions in a short time.

- i-Fax Setup

This function is used to backup i-Fax receive data to the FTP server.

By using this function, receive data are backed up to the FTP server when they cannot be printed by some reasons (paper empty, toner empty, paper jam, etc.) and can be printed out after recovery of the machine.

After completion of printing the backup data, they are deleted from the FTP server.

B. Operating procedures

Entering the Web setting mode

- 1) Boot the browser software.
- 2) Enter "xxx.xxx.xxx.xxx(IP address)/xxxx_xxxxx.html" and press ENTER key.
- 3) Enter the user name and the password, and press OK button.

Note: The default user name and the default password are as follows:

User name: service

Password: shArp

The password can be optionally changed in the following procedures:

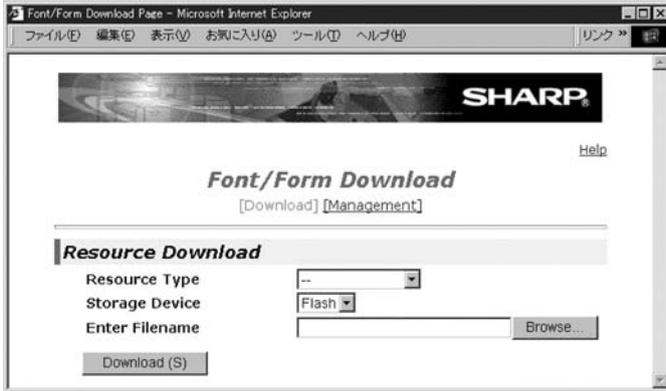
- 1) Enter "xxx.xxx.xxx.xxx(IP address)/password_setting.html" and press ENTER key.
- 2) Enter a new password.
- 3) Enter the new password again in the check column.
- 4) Press SUBMIT button.

C. Details

(1) Font / Form Download

(Font download)

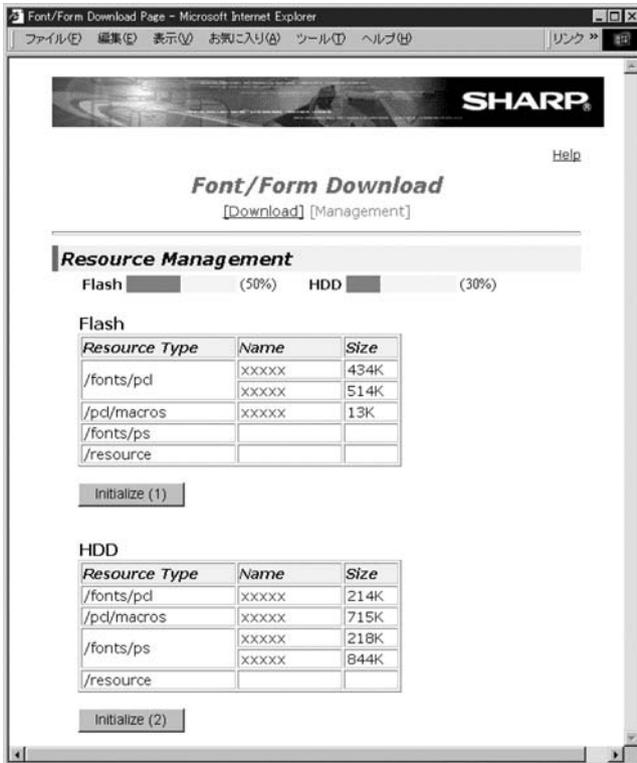
- 1) Press "xxx.xxx.xxx.xxx(IP address)/font_down.html" and press ENTER key.
- 2) Enter the user name and the password, and press OK button.



- 3) Select "Download" menu.
- 4) Select Resourced type.
- 5) Select Storage Device.
- 6) Select Font file.
- 7) Press "Download" button.

(Check or delete of downloaded font)

- 1) Press "xxx.xxx.xxx.xxx(IP address)/font_down.html" and press ENTER key.
- 2) Enter the user name and the password, and press OK button.
- 3) Select Management menu.



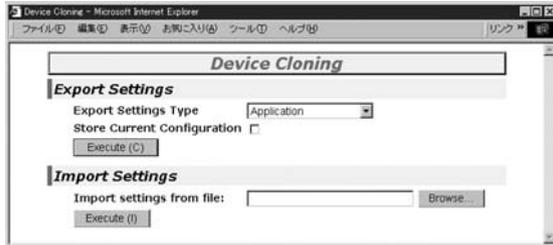
The list of downloaded fonts and the used percentage of the font area in the memory device are displayed.

Press "Initialize" button and press Yes key, and the downloaded fonts will be deleted.

(2) Device Cloning

(Backup)

- 1) Press "xxx.xxx.xxx.xxx(IP address)/device_cloning.html" and press ENTER key.
- 2) Enter the user name and the password, and press OK button.



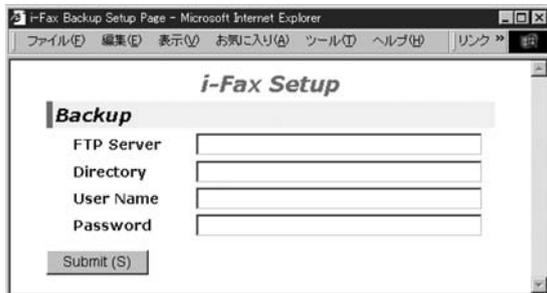
- 3) Select an item to be backed up. (Application / Key operator setting)
- 4) Press Execute key.
- 5) Press Save button. (File download mode)
- 6) Select the destination of save.
- 7) Press Save button.

(Import)

- 1) Press "xxx.xxx.xxx.xxx(IP address)/device_cloning.html" and press ENTER key.
- 2) Enter the user name and the password, and press OK button.
- 3) Select the backed up file (xxxx.bin).
- 4) Press Execute key.
The backed up data (setup data) are written into the machine.

(3) i-Fax Setup

- 1) Press "xxx.xxx.xxx.xxx(IP address)/ifax_ftp.html" and press ENTER key.
- 2) Enter the user name and the password, and press OK button.



- 3) Enter the FTP server address to which i-Fax receive data are backed up.
- 4) Enter the directory.
- 5) Enter the user name
- 6) Enter the password.
- 7) Press Submit button.

3. Paper jam code

A. Paper jam judgment conditions

JAM code	Content	JAM detection method		JAM judge time (JAMTST - JAMJD)	
		JAM detection timer start trigger (JAMTST)	JAM judge detector (JAMJD)	55/62 PPM MODEL (335mm/s)	70 PPM MODEL (395mm/s)
TRAY1	Tray 1 paper feed jam (PFD2 not-reached)	T1PFC ON	PFD2 ON	1608ms	1516ms
PFD2_NM1	PFD2 not-reached jam (Tray 3 feed paper)	VPM ON (When the paper lead edge comes to 40mm in front of the transport roller 13, VPM turns ON.)	PFD2_NM1	541ms	480ms
PFD2_NM2	PFD2 not-reached jam (Tray 4 feed paper)	VPM ON (When the paper lead edge comes to 40mm in front of the transport roller 13, VPM turns ON.)	PFD2_NM2	541ms	480ms
PFD2_NAD	PFD2 not-reached jam (ADU re-feed paper)	APPD2 ON	PFD2_NAD	819ms	710ms
PPD_NMF	PPD1 not-reached jam (Manual feed tray feed paper)	MPRD2 ON	PPD ON	429ms	364ms
PPD_NT1	PPD1 not-reached jam (Tray 1 feed paper)	PFD2 ON	PPD ON	352ms	298ms
PPD_NT2	PPD1 not-reached jam (Tray 2 feed paper)	MPRD2 ON	PPD ON	429ms	364ms
PPD_NM1	PPD1 not-reached jam (Tray 3 feed paper)	PFD2 ON	PPD ON	352ms	298ms

JAM code	Content	JAM detection method		JAM judge time (JAMTST - JAMJD)	
		JAM detection timer start trigger (JAMTST)	JAM judge dedtector (JAMJD)	55/62 PPM MODEL (335mm/s)	70 PPM MODEL (395mm/s)
PPD_NM2	PPD1 not-reached jam (Tray 4 feed paper)	PFD2 ON	PPD ON	352ms	298ms
PPD_NLC	PPD1 not-reached jam (LCC paper feed paper)	MPRD2 ON	PPD ON	429ms	364ms
PPD_NAD	PPD1 not-reached jam (ADU re-feed paper)	PFD2 ON	PPD ON	352ms	298ms
POD1_N	POD1 not-reached jam	RRC ON	POD1 ON	943ms	800ms
POD2_N	POD2 not-reached jam	POD1 ON	POD2 ON	429ms	364ms
AINPD_N (Saddle)	ADU paper entry sensor not-reached jam	DGS ON (When the paper lead edge is transported to 30mm apart from the switchback operation start position.)	AINPD ON (Saddle)	435ms	435ms
AINPD_N (Other)	ADU paper entry sensor not-reached jam	DGS ON (When the paper lead edge is transported to 30mm apart from the switchback operation start position.)	AINPD ON (Other)	318ms	318ms
APPD1_N	ADU transport sensor 1 not-reached jam	AINPD ON	APPD1ON	292ms	292ms
APPD2_N	ADU transport sensor 2 not-reached jam	APPD1 ON + 90mm	APPD2 ON	375ms	375ms
DESK1	Tray 3 paper feed jam (M1PFD not-reached)	M1PFC ON	M1PFD ON	1531ms	1450ms

JAM code	Content	JAM detection method		JAM judge time (JAMTST - JAMJD)	
		JAM detection timer start trigger (JAMTST)	JAM judge dedector (JAMJD)	55/62 PPM MODEL (335mm/s)	70 PPM MODEL (395mm/s)
DESK2	Tray 4 paper feed jam (M2PFD not-reached)	M2PFC ON	M2PFD ON	1531ms	1450ms
M1PFD_N2	M1PFD not-reached jam (Tray 4 feed paper)	M2PFD ON	M1PFD ON	513ms	435ms
MPRD2_N2	MPRD2 not-reached jam (Tray 2 feed paper)	VPM ON (When the paper lead edge comes to 40mm in front of the transport roller 4, VPM turns ON.)	MPRD2 ON	467ms	417ms
MPRD2_NM	MPRD2 not reached jam (Manual paper feed tray feed paper)	VPM ON (When the paper lead edge comes to 40mm in front of the transport roller 4, VPM turns ON.)	MPRD2 ON	467ms	417ms
MPRD2_NL	MPRD2 not-reached jam (LCC paper feed paper)	VPM ON (When the paper lead edge comes to 40mm in front of the transport roller 4, VPM turns ON.)	MPRD2 ON	467ms	417ms
TRAY2	Tray 2 paper feed jam (MPRD1 not-reached)	T2PFC ON	MPRD1 ON	1519ms	1440ms
MPRD1_NM	MPRD1 not-reached jam (Manual paper feed tray feed paper)	MPFD2 ON	MPRD1 ON	564ms	478ms
MPRD1_NL	MPRD1 not-reached jam (LCC paper feed paper)	MPFD2 ON	MPRD1 ON	564ms	478ms

JAM code	Content	JAM detection method		JAM judge time (JAMTST - JAMJD)	
		JAM detection timer start trigger (JAMTST)	JAM judge detector (JAMJD)	55/62 PPM MODEL (335mm/s)	70 PPM MODEL (395mm/s)
MPFD2_NM	MPFD2 not-reached jam (Manual paper feed tray feed paper)	MPFD1 ON	MPFD2 ON	570ms	483ms
MPFD2_NL	MPFD2 not-reached jam (LCC paper feed paper)	LPPD ON	MPFD2 ON	677ms	574ms
BPT	Manual tray feed jam (MPFD1 not-reached)	MPFC ON	MPFD1 ON	1367ms	1311ms
LPPD_N	LPPD not-reached jam	LTD ON(LCC)	LPPD ON	1447ms	1379ms
PFD2_ST1	PFD2 remaining jam (Tray 1 feed paper)	RRC ON	PFD2 OFF (PFD2 paper rear edge detection) + 65mm	PFD2 OFF (PFD2 paper rear edge detection) + 65mm	
PFD2_SM1	PFD2 remaining jam (Tray 3 feed paper)	M1PFD OFF (When paper is transported by 50mm from M1PFD paper rear edge detection.)	PFD2 OFF	671ms	569ms
PFD2_SM2	PFD2 remaining jam (Tray 4 feed paper)	M1PFD OFF (When paper is transported by 50mm from M1PFD paper rear edge detection.)	PFD2 OFF	671ms	569ms
PFD2_SAD	PFD2 remaining jam (ADU re-feed paper)	RRC ON	PFD2 OFF (PFD2 paper rear edge detection) + 65mm	PFD2 OFF (PFD2 paper rear edge detection) + 65mm	
PPD_ST1	PPD1 remaining jam (Tray 1 feed paper)	PFD2 OFF	PPD OFF	352ms	298ms

JAM code	Content	JAM detection method		JAM judge time (JAMTST - JAMJD)	
		JAM detection timer start trigger (JAMTST)	JAM judge detector (JAMJD)	55/62 PPM MODEL (335mm/s)	70 PPM MODEL (395mm/s)
PPD_ST2	PPD1 remaining jam (Tray 2 feed paper)	MPRD2 OFF	PPD OFF	429ms	364ms
PPD_SM1	PPD1 remaining jam (Tray 3 feed paper)	PFD2 OFF	PPD OFF	352ms	298ms
PPD_SM2	PPD1 remaining jam (Tray 4 feed paper)	PFD2 OFF	PPD OFF	352ms	298ms
PPD_SLC	PPD1 remaining jam (LCC paper feed paper)	MPRD2 OFF	PPD OFF	429ms	364ms
PPD_SAD	PPD1 remaining jam (ADU re-feed paper)	PFD2 OFF	PPD OFF	352ms	298ms
PPD_SMF	PPD1 remaining jam (Manual feed tray feed paper)	MPRD2 OFF	PPD OFF	429ms	364ms
POD1_S (Right paper exit, infinite form)	POD1 remaining jam	PPD OFF	POD1 OFF	1128ms	956ms
POD1_S (Left paper exit)	POD1 remaining jam	PPD OFF	POD1 OFF	1128ms	956ms
POD2_SR	POD2 remaining jam (When paper is discharged on the right side of the machine.)	POD1 OFF	POD2 OFF	429ms	364ms

JAM code	Content	JAM detection method		JAM judge time (JAMTST - JAMJD)	
		JAM detection timer start trigger (JAMTST)	JAM judge detector (JAMJD)	55/62 PPM MODEL (335mm/s)	70 PPM MODEL (395mm/s)
POD2_SL	POD2 remaining jam (When paper is discharged on the left side of the machine.)	POM1 ON (Switchback start)	POD2 OFF	Paper length + 115mm	
AINPD_S (Saddle paper exit)	ADU paper entry sensor remaining jam	POD2 OFF	AINPD OFF	187ms	187ms
AINPD_S (Other)	ADU paper entry sensor remaining jam	POD2 OFF	AINPD OFF	187ms	187ms
APPD1_S	ADU transport sensor 1 remaining jam	AINPD OFF	APPD1 OFF	292ms	292ms
APPD2_S	ADU transport sensor 2 remaining jam	LD ON	APPD2 OFF (APPD2 paper rear edge detection) + 65mm	APPD2 OFF (APPD2 paper rear edge detection) + 65mm	
M1PFD_S1	M1PFD remaining jam (Tray 3 feed paper)	M1PFD ON	M1PFD OFF	Paper length + 65mm	
M1PFD_S2	M1PFD remaining jam (Tray 4 feed paper)	M2PFD OFF	M1PFD OFF	513ms	435ms
M2PFD_S	M2PFD remaining jam	M2PFD ON	M2PFD OFF	Paper length + 65mm	
MPRD2_S2	MPRD2 remaining jam (Tray 2 feed paper)	MPRD1 OFF	MPRD2 OFF	653ms	554ms
MPRD2_SM	MPRD2 remaining jam (Manual paper feed tray feed paper)	MPRD1 OFF	MPRD2 OFF	653ms	554ms

JAM code	Content	JAM detection method		JAM judge time (JAMTST - JAMJD)	
		JAM detection timer start trigger (JAMTST)	JAM judge dedtector (JAMJD)	55/62 PPM MODEL (335mm/s)	70 PPM MODEL (395mm/s)
MPRD2_SL	MPRD2 remaining jam (LCC paper feed paper)	MPRD1 OFF	MPRD2 OFF	653ms	554ms
MPRD1_S2	MPRD1 remaining jam (Tray 2 feed paper)	MPRD1 ON	MPRD1 OFF	Paper length + 65mm	
MPRD1_SM	MPRD1 remaining jam (Manual paper feed tray feed paper)	MPFD2 OFF	MPRD1 OFF	564ms	478ms
MPRD1_SL	MPRD1 remaining jam (LCC paper feed paper)	MPFD2 OFF	MPRD1 OFF	564ms	478ms
MPFD2_SM	MPFD2 remaining jam (Manual paper feed tray feed paper)	MPFD1 OFF	MPFD2 OFF	570ms	483ms
MPFD2_SL	MPFD2 remaining jam (LCC paper feed paper)	LPPD OFF	MPFD2 OFF	1447ms	1379ms
MPFD1_S	MPFD1 remaining jam	MPFD1 ON	MPFD1 OFF	Paper length + 65mm	
LPPD_S	LPPD remaining jam	LTD OFF (LCC paper feed complete)	LPPD ON	1447ms	1379ms
PPD_PRI	PPD1 jam (Image ready request is not sent from ICU.)	Image data send ready request command is sent (PCU to MFP CONTROL)	Image data send ready status is sent. (MFP CONTROL to PCU)	3000ms	3000ms

JAM code	Content	JAM detection method		JAM judge time (JAMTST - JAMJD)	
		JAM detection timer start trigger (JAMTST)	JAM judge dedetector (JAMJD)	55/62 PPM MODEL (335mm/s)	70 PPM MODEL (395mm/s)
LPPD_LCC	LPPD jam (No reply in a certain time after preliminary paper feed from LCC and issuing the paper feed command.)	Preliminary paper feed request command is sent. (PCU to LCC)	Preliminary paper feed start status is sent. (LCC to PCU)	70sec	70sec

B. Inserter (AR-CF2) paper jam judgment conditions

JAM CODE	Name	JAM detection method		JAM judge distance
		JAM detection start trigger	JAM judge detector	
REG_SEN_N	Resist sensor not-reached JAM	Separation start	Resist sensor ON	(Distance from pick descending start to resist sensor ON) x 5
REG_SEN_S	Resist sensor remaining JAM	Transport start from the take-up position (*1)	Resist sensor OFF	Max. document length (WLT) - (Resist sensor OFF to take-up position) + 200mm
TIM_SEN_N	Timing sensor not-reached JAM	Resist sensor ON	Timing sensor ON	Distance from resist sensor ON to timing sensor ON + 200mm
TIM_SEN_S	Timing sensor remaining JAM	Resist sensor OFF	Timing sensor OFF	Distance from resist sensor OFF to timing sensor OFF + 200mm
HI_SEN_NI	Paper exit sensor not-reached JAM (Inserter paper feed)	Timing sensor ON	Paper exit sensor ON	Distance from timing sensor ON to paper exit sensor ON + 200mm
HI_SEN_NP	Paper exit sensor not-reached JAM (Main unit paper feed)	Main unit paper exit command receive	Paper exit sensor ON	Distance from main unit side to paper exit sensor ON + 500mm
HI_SEN_S	Paper exit sensor remaining JAM (Main unit paper feed)	After passing by 20mm from the paper exit sensor ON	Paper exit sensor OFF	Max. document length (WLT) + 200mm
	Paper exit sensor remaining JAM (Inserter paper feed)	Timing sensor OFF	Paper exit sensor OFF	Distance from timing sensor OFF to paper exit sensor OFF + 200mm
H_SEN_NIN	Reverse sensor not-reached JAM (When entering the reverse path)	Timing sensor ON	Reverse sensor ON	Distance from timing sensor ON to reverse sensor ON + 100mm
H_SEN_NOUT	Reverse sensor not-reached JAM (When exiting from the reverse path)	Switchback start	Reverse sensor ON	Distance from reverse stop position (*2) to reverse sensor ON + 100mm

JAM CODE	Name	JAM detection method		JAM judge distance
		JAM detection start trigger	JAM judge detector	
H_SEN_SIN	Reverse sensor remaining JAM (When entering the reverse path)	Timing sensor OFF	Reverse sensor OFF	Distance from timing sensor OFF to reverse sensor OFF + 100mm
H_SEN_SOUT	Reverse sensor remaining JAM (When exiting from the reverse path)	After passing 20mm from the reverse sensor ON	Reverse sensor OFF	Max. Document length (WLT) + 100mm

*1) The take-up position is 30mm downstream from the vertical path transport roller.

*2) The reverse stop position is 20mm downstream from the reverse sensor.

C. Finisher (AR-F15/F16) paper jam judgment conditions

JAM code	Content	JAM detection method		JAM judgment time (Stacker: LTR horizontal size Saddle: LTR vertical size)
		JAM detection timer start trigger	JAM judge detector	Common to 55/62, 70PPM MODELS (Main unit paper exit speed: Stacker: 800mm/s Saddle: 420mm/s)
FES_N	FINISHER entry port sensor not-reached JAM	Main unit paper exit command reception	The paper entry sensor is not turned ON within the specified time.	500ms

JAM code	Content	JAM detection method		JAM judgment time (Stacker: LTR horizontal size Saddle: LTR vertical size)
		JAM detection timer start trigger	JAM judge detector	Common to 55/62, 70PPM MODELS (Main unit paper exit speed: Stacker: 800mm/s Saddle: 420mm/s)
FES_S	FINISHER entry port remaining JAM	Paper entry sensor ON	The paper entry sensor is not turned OFF within the specified time.	540ms
	FINISHER buffer sensor not-reached JAM	Paper entry sensor ON	The buffer sensor is not turned ON within the specified time.	688ms
	FINISHER buffer sensor remaining JAM	Buffer sensor ON	The buffer sensor is not turned OFF within the specified time.	540ms
	FINISHER paper exit sensor not-reached JAM	Entry port sensor ON	The paper exit sensor is not turned ON within the specified time.	Straight path transport: 453ms Buffer path transport: 815ms
	FINISHER paper exit sensor remaining JAM	Paper exit sensor ON	The paper exit sensor is not turned OFF within the specified time.	840ms
FFPS_N	FINISHER saddle transport path sensor not-reached JAM	Entry port sensor ON	The saddle transport path sensor is not turned ON within the specified time.	914ms

JAM code	Content	JAM detection method		JAM judgment time (Stacker: LTR horizontal size Saddle: LTR vertical size)
		JAM detection timer start trigger	JAM judge detector	Common to 55/62, 70PPM MODELS (Main unit paper exit speed: Stacker: 800mm/s Saddle: 420mm/s)
FFPS_S	FINISHER saddle transport path sensor remaining JAM	Saddle transport path sensor ON	The saddle transport path sensor is not turned OFF within the specified time.	996ms
	FINISHER saddle paper exit sensor not-reached JAM	Folding edge sensor ON (Completion of thrust operation)	The saddle transport sensor is not turned ON though paper is transported in the specified distance.	180mm (Twice as much as the normal distance)
	FINISHER saddle paper exit sensor remaining JAM	Saddle paper exit sensor ON	The saddle paper exit sensor is not turned OFF though paper is transported in the specified distance.	209.25mm (1.5 times as much as the normal distance)
FEXIT_S	FINISHER bundle exit remaining JAM	Start of bundle exit to the stack tray	The staple tray sensor is not turned OFF within the specified time.	1000ms

JAM code	Content	JAM detection method		JAM judgment time (Stacker: LTR horizontal size Saddle: LTR vertical size)
		JAM detection timer start trigger	JAM judge detector	Common to 55/62, 70PPM MODELS (Main unit paper exit speed: Stacker: 800mm/s Saddle: 420mm/s)
FSTPL	FINISHER Stacker staple JAM	Start of stacker stapling	When the staple HP sensor does not sense ON within the specified time from staple HP sensor OFF in stapling process, and when the staple HP sensor detects ON in reverse rotation after stopping the stapler.	500ms
	FINISHER saddle staple JAM	Start of saddle stapling	When the staple HP sensor does not sense ON within the specified time from stapler HP sensor OFF in stapling process, and when the staple HP sensor detects ON in reverse rotation after stopping the stapler.	500ms
FPNCH	FINISHER punch JAM	Punch HP OFF after starting punching	The punch HP sensor does not turn ON within the specified time.	200ms
FDOP	FINISHER door open JAM	One of finisher doors open	Finisher door open is detected in finishing process.	---

[9] SIGNAL NAME LIST

Signal name	Name	Function/Operation	Connector level		Connector No.	Pin No.	PWB name	Remark
			"L"	"H"				
/MIMA	Scanner motor control signal (Phase /A)	Scanner motor control (Phase /A)	—	—	7	3	SCN	
/MIMB	Scanner motor control signal (Phase /B)	Scanner motor control (Phase /B)	—	—	7	4	SCN	
/SLUMB	SPF paper feed tray lift-up motor control signal (Phase /B)	SPF paper feed tray lift-up motor control (Phase /B)	—	—	11	2	SCN	
/SLUMA	SPF paper feed tray lift-up motor control signal (Phase /A)	SPF paper feed tray lift-up motor control (Phase /A)	—	—	11	1	SCN	
/SPFMA	SPF motor control signal (Phase /A)	SPF motor control (Phase /A)	—	—	12	11	SCN	
/SPFMB	SPF motor control signal (Phase /B)	SPF motor control (Phase /B)	—	—	12	15	SCN	
/VIDEO	Image data signal	Image signal to LSU (PCU output)	—	—	22	23	PCU	
38VMON	38V monitor signal	Detection of 38V for interlock	OFF	ON	19	14	PCU	
ACMON	AC waveform monitor signal	SUB power source AC wave high value monitor (For heater lamp ON control) (Phase control)	—	—	1	3	PCU	
ADD_CCD1	CCD serial data area identification number (CCD)	Identification of address data and image data area in CCD serial data	—	—	1	66	SCN	

Signal name	Name	Function/Operation	Connector level		Connector No.	Pin No.	PWB name	Remark
			"L"	"H"				
ADD_CCD2	CIS serial data area identification number (CIS)	Identification of address data and image data area in CIS serial data	—	—	10	13	SCN	
ADM1A	Duplex (ADU) motor 1 (Upstream side) control signal (Phase A)	Duplex (ADU) motor 1 (Upstream) control (Phase A)	—	—	10	9	PCU	
ADM1B	Duplex (ADU) motor 1 (Upstream side) control signal (Phase B)	Duplex (ADU) motor 1 (Upstream) control (Phase B)	—	—	10	11	PCU	
ADM1XA	Duplex (ADU) motor 1 (Upstream side) control signal (Phase /A)	Duplex (ADU) motor 1 (Upstream) control (Phase /A)	—	—	10	10	PCU	
ADM1XB	Duplex (ADU) motor 1 (Upstream side) control signal (Phase /B)	Duplex (ADU) motor 1 (Upstream) control (Phase /B)	—	—	10	12	PCU	
ADM2A	Duplex (ADU) motor 2 (Downstream side) control signal (Phase A)	Duplex (ADU) motor 2 (Upstream) control (Phase A)	—	—	10	13	PCU	
ADM2B	Duplex (ADU) motor 2 (Downstream side) control signal (Phase B)	Duplex (ADU) motor 2 (Upstream) control (Phase B)	—	—	10	15	PCU	
ADM2XA	Duplex (ADU) motor 2 (Downstream side) control signal (Phase /A)	Duplex (ADU) motor 2 (Upstream) control (Phase /A)	—	—	10	14	PCU	

Signal name	Name	Function/Operation	Connector level		Connector No.	Pin No.	PWB name	Remark
			"L"	"H"				
ADM2XB	Duplex (ADU) motor 2 (Downstream side) control signal (Phase /B)	Duplex (ADU) motor 2 (Upstream) control (Phase /B)	—	—	10	16	PCU	
AINPD	Duplex (ADU) paper entry detection signal	Duplex (ADU) paper entry detection, detection of paper exit to finisher	Paper pass	—	7	28	PCU	
APPD1	Duplex (ADU) paper pass detection signal 1	Duplex (ADU) upstream paper pass detection	Paper pass	—	7	24	PCU	
APPD2	Duplex (ADU) paper pass detection signal 2	Duplex (ADU) midstream paper pass detection	Paper pass	—	7	26	PCU	
AUD	Auditor installation detection signal	Auditor installation detection	Counter available		5	5	SCN	
BUP-PRout	Power save mode relay signal	Selection of power save mode and normal power mode	Relay OFF	Relay ON	19	9	PCU	
BZR	Buzzer signal	Key touch sound buzzer signal	Ring		1	86	SCN	
CA	Clear all (Auditor) signal	Clear all (Auditor)	Clear		5	3	SCN	
CCDFAN	CCD fan motor control signal	CCD fan motor control	ON		1	17	SCN	Not used.
CCFT	Backlight control signal	Backlight control	ON		1	94	SCN	
CFM-DC1	Cooling fan motor control signal (Power source)	Power cooling fan motor control	Max. force of wind	Stop	19	3	PCU	
CFM-DC2	Cooling fan motor control signal (Power source)	Power cooling fan motor control	Max. force of wind	Stop	19	4	PCU	
CFM-DV	Cooling fan motor control signal (Developing)	Developing cooling fan motor control	Max. force of wind	Stop	7	3	PCU	

Signal name	Name	Function/Operation	Connector level		Connector No.	Pin No.	PWB name	Remark
			"L"	"H"				
CFM-R1	Cooling fan motor control signal (LSU/Process section)	Cooling fan motor control (LSU, process section)	Max. force of wind	Stop	21	3	PCU	
CFM-R2	Cooling fan motor control signal (LSU/Process section)	Cooling fan motor control (LSU, process section)	Max. force of wind	Stop	21	4	PCU	
CFM-R3	Cooling fan motor control signal (LSU/Process section)	Cooling fan motor control (LSU, process section)	Max. force of wind	Stop	21	9	PCU	
CFM-U1	Cooling fan motor control	Cooling fan motor control (LSU, process section)	Max. force of wind	Stop	5	21	PCU	
CFM-U2	Cooling fan motor control signal (Paper exit, duplex (ADU) section) (Paper exit section rear side)	Paper exit, duplex (ADU) section cooling	Max. force of wind	Stop	5	28	PCU	
CFM-U3	Cooling fan motor control signal (Paper exit, duplex (ADU) section) (Front surface)	Paper exit, duplex (ADU) section cooling	Max. force of wind	Stop	5	27	PCU	
CHVACPWM	High voltage control output (Separation charger) (CHV)	Separation charger AC component PWM control	—	—	15	12	PCU	
CHVACREM	High voltage control output (Separation charger) (CHV)	Separation charger AC component ON/OFF control	ON	OFF	15	13	PCU	
CHV-PWM	High voltage control output (Separation charger) (CHV)	Separation charger DC component PWM control	—	—	15	10	PCU	
CHV-REM	High voltage control output (Separation charger) (CHV)	Separation charger DC component ON/OFF control	ON	OFF	15	11	PCU	
CISSET	CIS identification signal	CIS unit installation detection	CIS available		10	26	SCN	

Signal name	Name	Function/Operation	Connector level		Connector No.	Pin No.	PWB name	Remark
			"L"	"H"				
CISTH	CIS temperature detection signal	CIS temperature detection	—	—	13	1	SCN	Not used.
CL1	Scanner lamp control signal	Scanner lamp control	ON		1	71	SCN	
CLK_CCD1	CCD serial data clock signal (CCD)	CD serial data output timing control (CCD)	—	—	1	62	SCN	
CLK_CCD2	CIS serial data clock signal (CIS)	CIS serial data output timing control (CIS)	—	—	10	11	SCN	
COPY	Copy status (Auditor)	Copy status signal (Auditor)	Copying		5	2	SCN	
CRUCLK	Communication CLK	CRUM communication CLK	—	—	11	6	PCU	
CRUSDA	Communication data address signal	CRUM communication data address signal	—	—	11	8	PCU	
CV_CA	Clear all signal (Coin vendor)	Clear all (Coin vendor)	Clear		4	6	SCN	
CV_COPY	Copy enable signal (Coin vendor)	Copy enable (Coin vendor)	Copy enable		4	3	SCN	
CV_COUNT	Count up signal (Coin vendor)	Count-up (Coin vendor)	Count UP		4	4	SCN	
CV_DUPLEX	Print count identification signal (Duplex mode) (For coin vendor)	Print count identification signal (Duplex mode) (For coin vendor) (Identification of single count or double count)	Duplex mode		4	8	SCN	

Signal name	Name	Function/Operation	Connector level		Connector No.	Pin No.	PWB name	Remark
			"L"	"H"				
CV_SIZE0	Paper size signal 0 (Coin vendor)	Paper size 0 (Coin vendor)			4	9	SCN	
CV_SIZE1	Paper size signal 1 (Coin vendor)	Paper size 1 (Coin vendor)			4	10	SCN	
CV_SIZE2	Paper size signal 2 (Coin vendor)	Paper size 2 (Coin vendor)			4	11	SCN	
CV_SIZE3	Paper size signal 3 (Coin vendor)	Paper size 3 (Coin vendor)			4	12	SCN	
CV_STAPLE	Staple mode signal (Coin vendor)	Staple mode identification (Coin vendor)	Staple mode		4	7	SCN	
CV_START	Copy start signal (Coin vendor)	Copy start status (Coin vendor)	Copy start		4	5	SCN	
DCCNT	DC power control signal	DC power ON/OFF	OFF	ON	9 — 8 19 — 24		PCU	
DGS	Paper exit gate solenoid control signal	Paper exit gate control	Duplex	Simplex	7	27	PCU	
DL	Discharge lamp control signal	Discharge lamp control	ON	OFF	8	9	PCU	
DM	OPC drum motor rotating speed control signal (ON/OFF)	OPC drum motor ON/OFF	ON	OFF	6	5	PCU	
DMCLK	OPC drum motor rotating speed control (CLK) signal	OPC drum motor RPM control	—	—	6	7	PCU	
DMS	OPC drum marking sensor signal	OPC drum mark detection	—	—	8	4	PCU	
DMS-LED	OPC drum marking sensor LED control signal	OPC drum marking LED light quantity control	—	—	8	2	PCU	

Signal name	Name	Function/Operation	Connector level		Connector No.	Pin No.	PWB name	Remark
			"L"	"H"				
DM-T	OPC drum motor lock detection signal	OPC drum motor lock detection	Rotation	Stop/Lock	6	9	PCU	
DSKPFC1	Paper feed tray 3/4 paper transport clutch control signal 1	Paper feed tray 3/4 paper transport control	Paper transport	—	16	26	PCU	
DSKPFC2	Paper feed tray 3/4 paper transport clutch control signal 2	Paper feed tray 3/4 paper transport control	Paper transport	—	17	8	PCU	
DSR_FIN	Serial communication control signal	Receive control	—	—	17	17	PCU	
DSR_LCC	Serial communication control signal	Receive control	—	—	18	9	PCU	
DSR_SCN	Serial I/F send enable (MFP)	Receive control	—	—	9	46	SCN	
DSW-ADU	Duplex (ADU) cover open/close detection signal	Duplex (ADU) cover open/close detection	Duplex (ADU) door open	Duplex (ADU) door close	7	25	PCU	
DSW-DSK	Left door open/close detection signal (Desk section)	Left door open/close detection (Desk section)	Desk left door open	Desk left door close	17	28	PCU	
DSW-F_HV	DC low voltage power (+24V) line signal for generating high voltage	High voltage power source (+24V)	—	High voltage available	15	1	PCU	
DSW-F	Front door open/close detection signal	Front door open/close detection	Left door open or Front door open	Left door close and Front door close	2	28	PCU	
DSW-L	Left door open/close detection signal	Left door open/close detection	Left door open	Left door close	7	32	PCU	

Signal name	Name	Function/Operation	Connector level		Connector No.	Pin No.	PWB name	Remark
			"L"	"H"				
DSW-R	Manual feed open/close detection signal	Manual feed open/close detection	Left door open or Front door open or manual unit pull-out	Left door close and Front door close and manual unit insertion	13	26	PCU	
DTR_FIN	Serial communication control signal	Send control	—	—	17	15	PCU	
DTR_LCC	Serial communication control signal	Send control	—	—	18	7	PCU	
DTR_SCN	Serial I/F receive enable signal (MFP)	Send control	—	—	9	9	SCN	
DVCH1	DV unit identification signal 1	Detection of installation			12	6	PCU	
DVM	Developing motor control signal	Developing motor ON/OFF	ON	OFF	6	6	PCU	
DVMCLK	Developing motor rotating speed control (CLK) signal	Developing motor control RPM control	—	—	6	8	PCU	
DVM-T	Developing motor lock detection signal	Developing motor lock detection	Rotation	Stop/Lock	6	10	PCU	
DVPWM	Developing bias voltage control signal (PWM)	Developing bias PWM control	—	—	15	14	PCU	
DVREM	Developing bias control (ON/OFF) signal	Developing bias ON/OFF	ON	OFF	15	15	PCU	

Signal name	Name	Function/Operation	Connector level		Connector No.	Pin No.	PWB name	Remark
			"L"	"H"				
F0	Operation panel LED matrix signal 0	Switching	—	—	1	78	SCN	
F1	Operation panel LED matrix signal 1	Switching	—	—	1	80	SCN	
F2	Operation panel LED matrix signal 2	Switching	—	—	1	82	SCN	
F3	Operation panel LED matrix signal 3	Switching	—	—	1	84	SCN	
FBIAS	Fusing bias output control signal	Fusing bias output ON/OFF control	ON	OFF	7	23	PCU	
FRDY	FAX LED lighting signal	LED lighting control in power save mode, iFAX, FAX nighttime mode		LED ON	9	14	SCN	
FRM_CCD1	CCD image data effective area signal (CCD)	CCD image data effective area control (CCD)	—	—	1	61	SCN	
FRM_CCD2	CIS image data effective area signal (CIS)	CIS image data effective area control (CIS)	—	—	10	10	SCN	
FUM	Fusing motor control signal	Fusing motor ON/OFF	ON	OFF	6	13	PCU	
FUMCLK	Fusing motor rotating speed control (CLK) signal	Fusing motor control CLK	—	—	6	14	PCU	
FUM-T	Fusing motor lock detection signal	Fusing motor lock detection	Rotation	Stop/Lock	6	15	PCU	
FW	AC power source full wave signal	Power monitor	—	—	20	9	PCU	

Signal name	Name	Function/Operation	Connector level		Connector No.	Pin No.	PWB name	Remark
			"L"	"H"				
FW_SUB	Sub power source full wave signal	Sub power full wave signal	—	—	1	4	PCU	
FWP-PCU	Flash write protect signal	Flash write protect	—	—	9	6	PCU	
GBPWM	Making charger grid bias voltage (PWM) control signal	Main charger grid bias voltage (PWM) control	—	—	15	5	PCU	
HLCNT1	Upper fusing roller center heater lamp control signal	Upper fusing roller center heating control	OFF	ON	2	9	PCU	
HLCNT2	Upper fusing roller center heater lamp control signal	Upper fusing roller edges heating control	OFF	ON	2	11	PCU	
HLCNT3	Sub heat roller heater lamp control signal	Sub heat roller heater lamp control	OFF	ON	1	5	PCU	
HLPRout	Fusing heater lamp power relay control signal	Fusing heater lamp power relay control	Relay OFF	Relay ON	2	5	PCU	
HLPRout3	Fusing heater lamp power relay 3 control signal	Fusing heater lamp power relay 3 control	Relay OFF	Relay ON	2	7	PCU	
HPFC	Horizontal paper transport clutch control signal	Horizontal paper transport clutch control	Paper transport	—	12	7	PCU	
HPLS	Paper guide lock solenoid control signal	Paper guide lock solenoid control	Lock	—	12	4	PCU	
HSYNC	Horizontal sync signal	Horizontal sync	—	—	9	18	PCU	
HUS-DV	Developing humidity sensor	Developing section peripheral humidity detection	—	—	12	26	PCU	
HUS-TC	Transfer humidity sensor	Transfer section peripheral humidity detection	—	—	8	17	PCU	

Signal name	Name	Function/Operation	Connector level		Connector No.	Pin No.	PWB name	Remark
			"L"	"H"				
HVREMout	High voltage control output control signal (MC/DV/TC)	High voltage ON/OFF control signal (MC/DV/TC)	OFF	ON	15	16	PCU	
INTPR2out	Interlock power relay "RY5" control signal	AC PWB relay "RY5" control (38V line interlock relay)	Relay OFF	Relay ON	19	19	PCU	
INTPRout	Interlock power relay "RY4" control signal	AC PWB relay "RY4" control (38V line interlock relay)	Relay OFF	Relay ON	19	15	PCU	
LDON	Laser ON/OFF control signal	Laser ON/OFF control	—	—	22	27	PCU	
LED0	Document size detection LED control signal 1	Document size detection LED control	—	—	3	5	SCN	
LED1	Document size detection LED control signal 0	Document size detection LED control	—	—	3	6	SCN	
LPPD	LCC paper pass detection signal	Detection of paper entry from LCC	Paper pass	—	18	12	PCU	
LSU_S/H	Laser beam horizontal sync signal	Laser beam horizontal position timing control	—	—	22	25	PCU	
M1LUD	Paper tray upper limit detection signal (Paper feed tray 3)	Paper tray upper limit detection (Paper feed tray 3)	Upper limit	—	16	13	PCU	
M1LUM	Lift-up motor control signal (Paper feed tray 3)	Lift-up motor control (Paper feed tray 3)	Stop	Up	16	27	PCU	
M1PED	Paper empty detection signal (Paper feed tray 3)	Paper empty detection (Paper feed tray 3)	Paper empty	Paper present	16	7	PCU	
M1PFC	Paper feed clutch (M1) control signal (Paper feed tray 3)	Paper feed tray 3 paper feed control	Paper transport	—	16	25	PCU	
M1PFD	Paper pass detection signal (Multi paper feed tray 3)	Paper feed tray 3 paper pass detection	Paper pass	—	16	21	PCU	

Signal name	Name	Function/Operation	Connector level		Connector No.	Pin No.	PWB name	Remark
			"L"	"H"				
M1PUS	Paper pickup solenoid control signal (Paper feed tray 3)	Paper pickup roller control (Paper feed tray 3)	Roller UP	Paper feed	16	3	PCU	
M1PWS	Paper feed tray paper width detection signal (Paper feed tray 3)	Multi paper feed tray paper width detection (Paper feed tray 3)	—	—	16	32	PCU	
M1SPD	Paper remaining quantity detection signal (Paper feed tray 3)	Paper remaining quantity detection (Multi paper feed tray 3)	—	Remaining paper quantity 66% or less	15	31	PCU	
M1SS1	Paper size detection signal (Paper feed tray 3)	Paper size detection (Paper feed tray 3)			15	21	PCU	
M1SS2	Paper size detection signal (Paper feed tray 3)	Paper size detection (Paper feed tray 3)			15	23	PCU	
M1SS3	Paper size detection signal (Paper feed tray 3)	Paper size detection (Paper feed tray 3)			15	25	PCU	
M1SS4	Paper size detection signal (Paper feed tray 3)	Paper size detection (Paper feed tray 3)			15	27	PCU	
M2LUD	Paper tray upper limit detection signal (Paper feed tray 4)	Paper tray upper limit detection (Paper feed tray 4)	—	Upper limit detection	16	14	PCU	
M2LUM	Lift-up motor control signal (Paper feed tray 4)	Lift-up motor control (Paper feed tray 4)	Stop	Up	17	1	PCU	
M2PED	Paper empty detection signal (Paper feed tray 4)	Paper empty detection (Paper feed tray 4)	Paper empty	Paper present	16	8	PCU	
M2PFC	Paper feed clutch (M1) control signal (Paper feed tray 4)	Paper feed tray 4 paper feed control	Paper transport	—	17	7	PCU	

Signal name	Name	Function/Operation	Connector level		Connector No.	Pin No.	PWB name	Remark
			"L"	"H"				
M2PFD	Paper pass detection signal (Multi paper feed tray 4)	Paper feed tray 4 paper pass detection	Paper pass	—	16	22	PCU	
M2PUS	Paper pickup solenoid control signal (Paper feed tray 4)	Paper pickup roller control (Paper feed tray 4)	Roller UP	Paper feed	16	4	PCU	
M2SPD	Paper remaining quantity detection (Paper feed tray 4) signal	Paper remaining quantity detection (Paper feed tray 4)	—	Remaining paper quantity 66% or less	15	32	PCU	
M2SS1	Paper size detection signal (Paper feed tray 4)	Paper size detection (Paper feed tray 4)			15	22	PCU	
M2SS2	Paper size detection signal (Paper feed tray 4)	Paper size detection (Paper feed tray 4)			15	24	PCU	
M2SS3	Paper size detection signal (Paper feed tray 4)	Paper size detection (Paper feed tray 4)			15	26	PCU	
M2SS4	Paper size detection signal (Paper feed tray 4)	Paper size detection (Paper feed tray 4)			15	28	PCU	
MFPUS	Paper pickup solenoid (MFP) control signal (Manual paper feed)	Paper pickup solenoid (MPF) control (Manual paper feed)	Paper feed with the roller down	—	13	7	PCU	
MHPS	Scanner home position sensor signal	Scanner home position detection		Home position	6	1	SCN	
MHVREM	Main charger control signal	Main charger ON/OFF	ON	OFF	15	6	PCU	
MHV-T	Main charger trouble detection signal	Main charger trouble detection	Trouble, no MHV	Normal	15	7	PCU	

Signal name	Name	Function/Operation	Connector level		Connector No.	Pin No.	PWB name	Remark
			"L"	"H"				
MIMA	Scanner motor control signal (Phase A)	Scanner motor control (Phase A)	—	—	7	1	SCN	
MIMB	Scanner motor control signal (Phase B)	Scanner motor control (Phase B)	—	—	7	2	SCN	
MM	Main motor control signal	Main motor ON/OFF control	ON	OFF	17	14	PCU	
MMCLK	Main motor rotating speed control (CLK) signal	Main motor RPM control	—	—	17	16	PCU	
MM-T	Main motor lock detection signal	Main motor lock detection	Rotation	Stop/Lock	17	18	PCU	
MPED	Manual feed paper empty detection signal	Manual paper feed tray paper empty detection	Paper present	Paper empty	13	11	PCU	
MPFC	Paper feed clutch control signal (Manual feed)	Manual feed tray paper feed roller control	Paper feed	—	13	20	PCU	
MPFD1	Manual feed paper pass detection signal 1	Manual tray paper pass detection	—	Paper pass	13	21	PCU	
MPFD2	Manual feed paper pass detection signal 2	Manual tray and LCC paper pass detection	Paper pass	—	18	6	PCU	
MPFGS	Manual feed gate solenoid control signal	Manual feed gate control	Paper pass enable	Stopper	13	17	PCU	
MPFPWS	Manual feed paper width detection signal	Manual feed paper width detection	—	—	13	16	PCU	
MPLD1	Manual feed paper length detection signal 1	Manual paper feed tray paper length detection (Short)	—	Paper present	13	6	PCU	
MPLD2	Manual feed paper length detection signal 1	Manual paper feed tray paper length detection (Long)	—	Paper present	13	10	PCU	

Signal name	Name	Function/Operation	Connector level		Connector No.	Pin No.	PWB name	Remark
			"L"	"H"				
MPRD1	Paper feed tray 2 paper pass detection signal 1	Manual feed/paper feed tray 2/ LCC paper pass detection	Paper pass	—	12	23	PCU	
MPRD2	Paper feed tray 2 paper pass detection signal 2	Manual feed/paper feed tray 2/ LCC paper pass detection	Paper pass	—	12	29	PCU	
MSWMON	MSW monitor signal	Main switch monitor	—	—	19	23	PCU	
MSWOFF	MSW OFF signal	Main switch OFF signal	—	—	9	5	PCU	
MSWPR	Main switch power relay control signal	Main switch power relay control	Relay ON	Relay OFF	2	15	PCU	
MTOP1	Manual tray pull-out position detection signal 1	Manual paper feed tray pull-out position detection (Storing position)	Store	—	13	12	PCU	
MTOP2	Manual tray pull-out position detection signal 2	Manual paper feed tray pull-out position detection (Pull-out position)	Pull out	—	13	14	PCU	
OCSW	SPF open/close detection signal	Document size detection trigger	Close	—	3	3	SCN	
PAGE	Page signal	Print timing control for controller (Output for every page)	—	—	9	14	PCU	
PAGE1	Image effective area signal (CCD)	Indicates image data area of one page. (CCD)	—	—	1	68	SCN	
PAGE2	Image effective area signal (CIS)	Indicates image data area of one page. (CIS)	—	—	10	12	SCN	
PCS	Image density sensor signal	Detection of density of toner patch on the OPC drum	—	—	8	3	PCU	

Signal name	Name	Function/Operation	Connector level		Connector No.	Pin No.	PWB name	Remark
			"L"	"H"				
PCS-LED	Image density sensor LED current control signal	Image density sensor LED light emitting quantity control	—	—	8	1	PCU	
PCU_DSR	Serial communication control signal	Send control signal (Serial communication)	—	—	9	13	PCU	
PCU_DTR	Serial communication control signal	Receive control signal (Serial communication)	—	—	9	10	PCU	
PCU_RES	PCU reset signal	PCU reset by the controller	Operation enable	Reset	9	7	PCU	
PCU_RXD	Serial communication send data signal	Send data to the controller	—	—	9	17	PCU	
PCU_TXD	Serial communication receive data signal	Receive data from the controller	—	—	9	9	PCU	
PD	Document size detection signal	OC document size detection analog signal	—	—	1	74	SCN	
PDSEL0	Document detection select signal 0	Document size detection signal select	—	—	1	72	SCN	
PDSEL1	Document detection select signal 1	Document size detection signal select	—	—	1	21	SCN	
PDSEL2	Document detection select signal 2	Document size detection signal select	—	—	1	22	SCN	
PFD2	Paper pass detection signal 2	Paper pass detection (Left door unit) from duplex (ADU)/No. 1, 3, 4 paper feed tray	Paper pass	—	7	10	PCU	
PGMCLK	LSU motor RPM control signal (CLK)	LSU motor RPM control	—	—	22	6	PCU	

Signal name	Name	Function/Operation	Connector level		Connector No.	Pin No.	PWB name	Remark
			"L"	"H"				
PNC	Count-up signal (Auditor)	Count up (Auditor)	Count UP		5	1	SCN	
PNC-a	Count-up signal (Personal counter)	Count up (Personal counter)			2	20	PCU	
POD1	Paper exit detection 1 signal	Paper exit detection from fusing	Paper pass	—	5	3	PCU	
POD2	Paper exit detection 2 signal	Paper pass detection from paper exit	Paper pass	—	5	9	PCU	
POD3	Paper exit detection 3 signal	Paper exit detection to upper section paper exit tray (Full detection)	—	Paper pass (Full detection)	5	15	PCU	
POF	Power OFF status signal	Power OFF status	Power OFF	Power ON	9	3	PCU	
POF_SCN	Power off signal	Power OFF status signal (Output from PCU)	Power OFF		9	43	SCN	
POM1A	Paper exit motor 1 (Fusing side) control signal (Phase A)	Paper exit unit (Fusing side) paper transport	—	—	10	1	PCU	
POM1B	Paper exit motor 1 (Fusing side) control signal (Phase B)	Paper exit unit (Fusing side) paper transport	—	—	10	3	PCU	
POM1XA	Paper exit motor 1 (Fusing side) control signal (Phase /A)	Paper exit unit (Fusing side) paper transport	—	—	10	2	PCU	
POM1XB	Paper exit motor 1 (Fusing side) control signal (Phase /B)	Paper exit unit (Fusing side) paper transport	—	—	10	4	PCU	
POM2A	Paper exit motor 2 (Paper exit side) control signal (Phase A)	Paper exit unit (paper exit side) paper transport	—	—	10	5	PCU	
POM2B	Paper exit motor 2 (Fusing side) control signal (Phase B)	Paper exit unit (paper exit side) paper transport	—	—	10	7	PCU	

Signal name	Name	Function/Operation	Connector level		Connector No.	Pin No.	PWB name	Remark
			"L"	"H"				
POM2XA	Paper exit motor 2 (Fusing side) control signal (Phase /A)	Paper exit unit (paper exit side) paper transport	—	—	10	6	PCU	
POM2XB	Paper exit motor 2 (Fusing side) control signal (Phase /B)	Paper exit unit (Paper exit side) paper transport	—	—	10	8	PCU	
PPD	Resist roller front paper pass detection signal	Paper pass detection in front of resist roller	Paper pass	—	12	15	PCU	
PROFF_CNT	BUP-PR control signal (Main power OFF signal)	Main power OFF signal (output from controller)	—	End	9	4	PCU	
PRON_FAX	BUP-PR control signal (Main power ON signal)	Main power ON signal (Output front FAX unit)	Boot	—	9	1	PCU	
PSBC	Resist roller brake clutch control signal	Resist roller brake clutch control	—	Paper transport enable	12	11	PCU	
PSPS	Separation solenoid control signal	Separation solenoid control	Separation	—	8	13	PCU	
PWM-RSV1	Cooling fan motor control signal (Paper exit, duplex (ADU) section (Top surface))	Paper exit, duplex (ADU) section cooling	Max. blowing capacity	Stop	8	20	PCU	
READY	LSU motor lock detection signal	LSU motor lock detection	Rotation	Stop/Lock	22	5	PCU	
READY	Copy enable signal (Auditor)	Copy enable (Auditor)	Copy enable		5	4	SCN	
RES_CCD1	Reset signal (CCD)	Reset (CCD)		Reset	1	64	SCN	
RES_CCD2	Reset signal (CIS)	Reset (CIS)		Reset	10	15	SCN	

Signal name	Name	Function/Operation	Connector level		Connector No.	Pin No.	PWB name	Remark
			"L"	"H"				
RES_FIN	Finisher reset signal	Finisher reset	Operation enable	Reset	17	19	PCU	
RES_LCC	LCC reset signal	LCC reset	Operation enable	Reset	18	11	PCU	
RES_MFP	Main unit reset signal (MFP)	Not used.	Reset		9	12	SCN	
RES_SCN	Scanner reset signal	Scanner reset (output from controller)	Reset		9	44	SCN	
RRC	Resist roller clutch control signal	Resist roller clutch control (The relative position of print image and paper is controlled.)	Paper transport	—	7	4	PCU	
RTH1	Heat roller temperature detection signal	Heat roller temperature detection (Center section)	—	—	2	6	PCU	
RTH2	Pressure roller temperature detection signal	Pressure roller temperature detection (Edge section)	—	—	2	10	PCU	
RTH3	Sub heat roller temperature detection signal	Sub heat roller temperature detection	—	—	2	14	PCU	
RXD_CCD1	Serial I/F data (CCD)	Serial I/F data (CCD-scanner control PWB)	—	—	1	65	SCN	
RXD_CCD2	Serial I/F data (CIS)	Serial I/F data (CCD-scanner control PWB)	—	—	10	16	SCN	
RXD_FIN	Serial I/F data (FINISHER)	Serial I/F data (Finisher-PCU PWB)	—	—	17	13	PCU	
RXD_LCC	Serial I/F data (LCC)	Serial I/F data (LCC-PCU PWB)	—	—	18	5	PCU	

Signal name	Name	Function/Operation	Connector level		Connector No.	Pin No.	PWB name	Remark
			"L"	"H"				
RXD_SCN	Serial I/F data (Scanner control PWB)	Serial I/F data (Scanner control PWB - Controller)	—	—	9	45	SCN	
SCNSET	Scanner control PWB identification signal	Scanner control PWB installation detection	Scanner available		9	47	SCN	
SCOV	SPF cover switch signal	SPF cover open/close detection		Close	12	8	SCN	
SEG0	Operation panel LED matrix signal 0	Operation panel LED matrix	—	—	1	24	SCN	
SEG1	Operation panel LED matrix signal 1	Operation panel LED matrix	—	—	1	75	SCN	
SEG2	Operation panel LED matrix signal 2	Operation panel LED matrix	—	—	1	76	SCN	
SLEEP	Energy-saving mode display signal	LED lighting signal in energy saving mode		LED ON	9	15	SCN	
SLUMA	SPF tray lift-up motor control signal (Phase A)	SPF tray lift-up motor control (Phase A)	—	—	11	3	SCN	
SLUMB	SPF tray lift-up motor control signal (Phase B)	SPF tray lift-up motor control (Phase B)	—	—	11	4	SCN	
SOCD	SPF open/close detection signal	SPF open/close detection		Close	11	19	SCN	
SPED1	SPF document empty detection signal	SPF document empty detection	Paper present		12	12	SCN	
SPED2	SPF document detection signal	SPF document detection	Paper present		11	14	SCN	

Signal name	Name	Function/Operation	Connector level		Connector No.	Pin No.	PWB name	Remark
			"L"	"H"				
SPFC	SPF paper feed clutch control signal	SPF paper feed clutch control		ON	11	10	SCN	
SPFFAN	SPF fan motor control signal	SPF fan motor control	ON		11	11	SCN	
SPFMA	SPF paper feed, paper transport motor control signal (Phase A)	SPF paper feed, paper transport motor control (Phase A)	—	—	12	13	SCN	
SPFMB	SPF paper feed, paper transport signal (Phase B)	SPF paper feed, paper transport motor control (Phase B)	—	—	12	17	SCN	
SPFMO1	SPF paper feed, paper transport motor current control signal 1	SPF paper feed, paper transport motor current control	Power down		12	16	SCN	
SPFMO2	SPF paper feed, paper exit motor current control signal 2	SPF paper feed, paper transport motor current control	Power down		12	18	SCN	
SPFSET	SPF identification signal	SPF installation detection	SPF available		11	5	SCN	
SPLS1	SPF document length detection signal 1	SPF document length detection (Short)		Paper present	11	18	SCN	
SPLS2	SPF document length detection signal 2	SPF document length detection (Long)		Paper present	11	17	SCN	
SPOD	SPF paper exit detection signal	SPF paper exit detection	Paper exit		11	20	SCN	
SPPD1	SPF document paper pass detection 1 signal	SPF document paper pass detection 1	Paper present		12	10	SCN	
SPPD2	SPF document paper pass detection 2 signal	SPF document paper pass detection 2	Paper present		12	6	SCN	

Signal name	Name	Function/Operation	Connector level		Connector No.	Pin No.	PWB name	Remark
			"L"	"H"				
SPPD3	SPF document paper pass detection 3 signal	SPF document paper pass detection 3	Paper present		11	13	SCN	
SPPD4	SPF document paper pass detection 4 signal	SPF document paper pass detection 4	Paper present		11	12	SCN	
SPWS	SPF document size (Width) detection analog data signal	SPF document size (Width) detection	—	—	11	16	SCN	
SRRBC	SPF resist roller brake clutch control signal	SPF resist roller brake clutch control		ON	11	6	SCN	
SRRC	SPF resist roller clutch control signal	SPF resist roller clutch control		ON	11	7	SCN	
START	LSU motor control signal	LSU motor ON/OFF	ON	OFF	22	7	PCU	
STLD	SPF document tray lower limit detection signal	SPF document tray lower limit detection		Lower limit	11	15	SCN	
STMPS	Stamp solenoid control signal	Stamp solenoid control		Stamp ON	1	48	SCN	
STRBC	SPF paper transport clutch control signal	SPF paper transport roller brake clutch control		ON	11	9	SCN	
STRC	SPF paper transport clutch control signal	SPF paper transport clutch control		ON	11	8	SCN	
STRRBC	SPF paper transport resist brake clutch control signal	SPF paper transport resist brake clutch control		ON	12	20	SCN	
STRRC	SPF paper transport resist clutch control signal	SPF paper transport resist clutch control		ON	12	19	SCN	
STSET	Stamp identification signal	Stamp Yes/No detection	Stamp available		1	47	SCN	

Signal name	Name	Function/Operation	Connector level		Connector No.	Pin No.	PWB name	Remark
			"L"	"H"				
STUD	SPF document tray upper limit detection signal	SPF document tray upper limit detection		Upper limit	12	14	SCN	
SYNC	LSU horizontal sync detection signal	LSU horizontal sync detection (BD sensor signal)	—	—	22	29	PCU	
T1LUD	Paper feed tray upper limit detection signal (Paper feed tray 1)	Paper feed tray upper limit (Paper feed tray 1)	Upper limit	—	14	13	PCU	
T1LUM	Paper tray lift-up motor control signal (Paper feed tray 1)	Paper tray lift-up control (Paper feed tray 1)	Stop	Up	14	1	PCU	
T1PED	Paper empty detection signal (Paper feed tray 1)	Paper presence detection (Paper feed tray 1)	Paper empty	Paper present	14	15	PCU	
T1PFC	Paper feed clutch control signal (Paper feed tray 1)	Paper feed clutch control (Paper feed tray 1)	Paper transport	—	17	4	PCU	
T1PPD	Paper pass detection signal (Paper feed tray 1)	Paper pass detection from paper feed tray 1	Paper pass	—	25	3	PCU	
T1PUS	Paper pick-up solenoid control signal (Paper feed tray 1)	Paper pickup solenoid control (Paper feed tray 1)	Roller UP	Paper feed	14	7	PCU	
T1SPD	Paper remaining quantity detection signal (Paper feed tray 1)	Paper remaining quantity detection (Paper feed tray 1)	—	Remaining paper quantity 66% or less	14	16	PCU	
T2LUD	Paper tray upper limit detection signal (Paper feed tray 2)	Paper tray upper limit detection (Paper feed tray 2)	Upper limit	—	14	21	PCU	
T2LUM	Paper tray lift-up motor control signal (Paper feed tray 2)	Paper tray lift-up motor control (Paper feed tray 2)	Stop	Up	14	2	PCU	

Signal name	Name	Function/Operation	Connector level		Connector No.	Pin No.	PWB name	Remark
			"L"	"H"				
T2PED	Paper empty detection signal (Paper feed tray 2)	Paper presence detection (Paper feed tray 2)	Paper empty	Paper present	14	23	PCU	
T2PFC	Paper clutch control signal (Paper feed tray 2)	Paper feed clutch control (Paper feed tray 2)	Paper transport	—	12	3	PCU	
T2PUS	Paper pickup solenoid control signal (Paper feed tray 2)	Paper pickup solenoid control (Paper feed tray 2)	The roller lifts up.	Paper feed	14	8	PCU	
T2SPD	Paper remaining quantity detection signal (Paper feed tray 2)	Paper remaining quantity detection (Paper feed tray 2)	—	Remaining paper quantity 66% or less	14	22	PCU	
TANSET	Paper feed tray 1/2 (Tandem tray) detection signal	Paper feed tray 1, 2 (Tandem tray) insertion detection	Pull out	Insert	17	25	PCU	
TCBIAS	Transfer belt cleaning output control signal (ON/OFF)	Transfer belt cleaning bias ON/OFF control	ON	OFF	7	22	PCU	
TCBPWM	Transfer belt cleaning output control signal (PWM)	Transfer belt cleaning bias output voltage PWM control	—	—	7	18	PCU	
TCS	Toner density detection signal	Toner density detection	—	—	12	16	PCU	
TFSD	Toner remaining quantity detection signal	Toner hopper remaining quantity detection	Remaining quantity large	Remaining quantity small	11	11	PCU	
TH	LCD temperature sensor signal	LCD temperature detection	—	—	1	93	SCN	
TH-CL	OPC drum cleaner temperature sensor signal	OPC drum cleaner peripheral temperature detection	—	—	8	12	PCU	
TH-DV	Developing humidity detection signal	Developing section humidity detection	—	—	12	30	PCU	

Signal name	Name	Function/Operation	Connector level		Connector No.	Pin No.	PWB name	Remark
			"L"	"H"				
TH-EX	Paper exit unit temperature sensor	Paper exit unit peripheral temperature detection	—	—	5	31	PCU	
THPS1	Transfer belt contact/separation home position sensor 1	Transfer belt separation home position detection 1	—	Contact	7	6	PCU	Not used.
THPS2	Transfer belt contact/separation home position sensor 2	Transfer belt separation home position detection 2	—	Contact	7	14	PCU	
TH-RA	Machine temperature detection signal	Machine temperature detection	—	—	21	10	PCU	
THV+PWM	Transfer charger output control signal (THV)	Transfer charger output control (PWM control)	—	—	15	8	PCU	
THV+REM	Transfer charger control signal (THV)	Transfer charger ON/OFF control	ON	OFF	15	9	PCU	
TLS	Waste toner pipe lock detection signal	Waste toner pipe lock detection	—	Lock (Tilt)	8	16	PCU	
TM1A	Toner motor 1 control signal	Toner motor 1 ON/OFF control	—	—	11	1	PCU	
TM1B	Toner motor 1 control signal	Toner motor 1 ON/OFF control	—	—	11	3	PCU	
TM2A	Toner motor 2 control signal	Toner motor 2 ON/OFF control	—	—	11	5	PCU	
TM2B	Toner motor 2 control signal	Toner motor 2 ON/OFF control	—	—	11	7	PCU	
TNCA	Waste toner full detection signal	Waste toner full detection	—	—	11	12	PCU	Not used.
TRC_LCC	LCC paper feed timing signal	LCC paper feed timing control (Output from PCU)	—	—	18	13	PCU	

Signal name	Name	Function/Operation	Connector level		Connector No.	Pin No.	PWB name	Remark
			"L"	"H"				
TRMA	Transfer roller 15 drive motor control signal (Phase A)	Transport roller 15 drive motor control	—	—	10	17	PCU	
TRMB	Transfer roller 15 drive motor control signal (Phase B)	Transport roller 15 drive motor control	—	—	10	19	PCU	
TRMXA	Transfer roller 15 drive motor control signal (Phase /A)	Transport roller 15 drive motor control	—	—	10	18	PCU	
TRMXB	Transfer roller 15 drive motor control signal (Phase /B)	Transport roller 15 drive motor control	—	—	10	20	PCU	
TSGOUT	Toner den misty sensor gain control signal	Toner density sensor gain control	—	—	12	20	PCU	
TURM	Transfer separation motor control signal	Transfer unit separation control	Stop	Contact/ Release	7	16	PCU	
TXD_CCD1	Serial I/F data (CCD)	Serial I/F data (Scanner control PWB - CCD)	—	—	1	63	SCN	
TXD_CCD2	Serial I/F data (CCD)	Serial I/F data (Scanner control PWB - CCD)	—	—	10	14	SCN	
TXD_FIN	Serial I/F data (Finisher)	Serial I/F data (PCU PWB - Finisher)	—	—	17	11	PCU	
TXD_LCC	Serial I/F data (LCC)	aerial I/F data (Controller - Scanner control PWB)	—	—	18	3	PCU	
TXD_SCN	Serial I/F data (Scanner control PWB)	Serial I/F data (Controller - Scanner control PWB)	—	—	9	8	SCN	
VCCW_SCN	Scanner flash ROM write protect signal	Scanner flash ROM write protect		Write enable	9	10	SCN	

Signal name	Name	Function/Operation	Connector level		Connector No.	Pin No.	PWB name	Remark
			"L"	"H"				
VFM-BKL	Exhaust fan motor control signal (Rear left)	Exhaust fan motor control signal (O ³ exhaust, process section heat exhaust)	Max. force of wind	Stop	5	22	PCU	
VFM-BKR	Exhaust fan motor control signal (Rear right)	Exhaust fan motor control signal (Exhaust, duplex (ADU) section cooling)	Max. force of wind	Stop	6	17	PCU	
VFM-EX1	Exhaust fan motor control signal (LSU top plate front side)	Exhaust fan motor control signal (O ³ exhaust, process section heat exhaust)	Max. force of wind	Stop	5	4	PCU	
VFM-EX2	Exhaust fan motor control signal (LSU top plate center)	Exhaust fan motor control signal (O ³ exhaust, process section heat exhaust)	Max. force of wind	Stop	5	10	PCU	
VFM-EX3	Exhaust fan motor control signal (LSU top plate rear side)	Exhaust fan motor control signal (O ³ exhaust, process section heat exhaust)	Max. force of wind	Stop	5	16	PCU	
VIDEO	Image signal	Image signal to LSU	—	—	20	21	PCU	
VIDEOin-	Image signal	Image signal from controller to PCU PWB	—	—	9	21	PCU	
VIDEOin+	Image signal	Image signal from controller to PCU PWB	—	—	9	23	PCU	
VPMA	Paper transport motor control signal (Phase A)	Paper vertical transport motor control (Phase A)	—	—	10	21	PCU	
VPMB	Paper transport motor control signal (Phase B)	Paper vertical transport motor control (Phase B)	—	—	10	23	PCU	

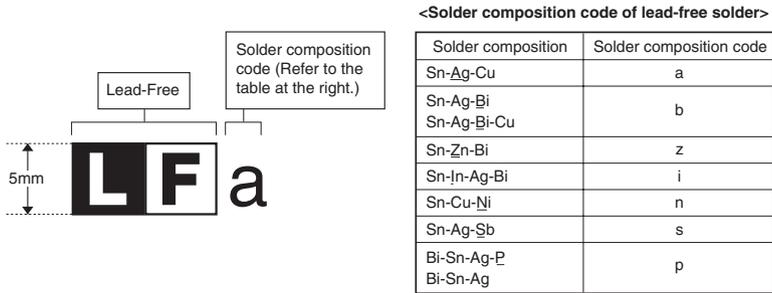
Signal name	Name	Function/Operation	Connector level		Connector No.	Pin No.	PWB name	Remark
			"L"	"H"				
VPMXA	Paper transport motor control signal (Phase /A)	Paper vertical transport motor control (Phase /A)	—	—	10	22	PCU	
VPMXB	Paper transport motor control signal (Phase /B)	Paper vertical transport motor control (Phase /B)	—	—	10	24	PCU	
VRB	Laser power control signal	Laser power control	—	—	22	17	PCU	
WAKE UP	Reset trigger signal from energy-saving mode	Reset trigger from energy saving mode	Energy-save reset		9	11	SCN	
WHPR2	Dehumidifier heater power relay 2 control signal	Dehumidifier heater control	Relay ON	Relay OFF	19	18	PCU	
XH	Touch panel area identification signal (Vertical direction)	Touch panel area identification (Vertical direction) X axis	—	—	1	96	SCN	
XL	Touch panel coordinates signal (Vertical direction)	Touch panel coordinates identification (Vertical direction) X axis	—	—	1	46	SCN	
YH	Touch panel area identification signal (Horizontal direction)	Touch panel area identification (Horizontal direction) Y axis	—	—	1	45	SCN	
YL	Touch panel coordinate signal (Horizontal direction)	Touch panel coordinates identification (Horizontal direction) Y axis	—	—	1	95	SCN	

LEAD-FREE SOLDER

The PWB's of this model employs lead-free solder. The "LF" marks indicated on the PWB's and the Service Manual mean "Lead-Free" solder.

The alphabet following the LF mark shows the kind of lead-free solder.

Example:



(1) NOTE FOR THE USE OF LEAD-FREE SOLDER THREAD

When repairing a lead-free solder PWB, use lead-free solder thread.

Never use conventional lead solder thread, which may cause a breakdown or an accident.

Since the melting point of lead-free solder thread is about 40°C higher than that of conventional lead solder thread, the use of the exclusive-use soldering iron is recommendable.

(2) NOTE FOR SOLDERING WORK

Since the melting point of lead-free solder is about 220°C, which is about 40°C higher than that of conventional lead solder, and its soldering capacity is inferior to conventional one, it is apt to keep the soldering iron in contact with the PWB for longer time. This may cause land separation or may exceed the heat-resistive temperature of components. Use enough care to separate the soldering iron from the PWB when completion of soldering is confirmed.

Since lead-free solder includes a greater quantity of tin, the iron tip may corrode easily. Turn ON/OFF the soldering iron power frequently.

If different-kind solder remains on the soldering iron tip, it is melted together with lead-free solder. To avoid this, clean the soldering iron tip after completion of soldering work.

If the soldering iron tip is discolored black during soldering work, clean and file the tip with steel wool or a fine file.

CAUTION FOR BATTERY REPLACEMENT

(Danish) ADVARSEL !
Lithiumbatteri – Eksplosionsfare ved fejlagtig håndtering.
Udskiftning må kun ske med batteri
af samme fabrikat og type.
Levér det brugte batteri tilbage til leverandoren.

(English) Caution !
Danger of explosion if battery is incorrectly replaced.
Replace only with the same or equivalent type
recommended by the manufacturer.

Dispose of used batteries according to manufacturer's instructions.

(Finnish) VAROITUS
Paristo voi räjähtää, jos se on virheellisesti asennettu.
Vaihda paristo ainoastaan laitevalmistajan suosittelemaan
tyyppiin. Hävitä käytetty paristo valmistajan ohjeiden
mukaisesti.

(French) ATTENTION
Il y a danger d'explosion s' il y a remplacement incorrect
de la batterie. Remplacer uniquement avec une batterie du
même type ou d'un type équivalent recommandé par
le constructeur.
Mettre au rebut les batteries usagées conformément aux
instructions du fabricant.

(Swedish) WARNING
Explosionsfara vid felaktigt batteribyte.
Använd samma batterityp eller en ekvivalent
typ som rekommenderas av apparatillverkaren.
Kassera använt batteri enligt fabrikantens
instruktion.

(German) Achtung
Explosionsgefahr bei Verwendung inkorrektter Batterien.
Als Ersatzbatterien dürfen nur Batterien vom gleichen Typ oder
vom Hersteller empfohlene Batterien verwendet werden.
Entsorgung der gebrauchten Batterien nur nach den vom
Hersteller angegebenen Anweisungen.

CAUTION FOR BATTERY DISPOSAL

(For USA, CANADA)

"BATTERY DISPOSAL"

THIS PRODUCT CONTAINS A LITHIUM PRIMARY
(MANGANESE DIOXIDE) MEMORY BACK-UP BATTERY
THAT MUST BE DISPOSED OF PROPERLY. REMOVE THE
BATTERY FROM THE PRODUCT AND CONTACT YOUR
LOCAL ENVIRONMENTAL AGENCIES FOR INFORMATION
ON RECYCLING AND DISPOSAL OPTIONS.

"TRAITEMENT DES PILES USAGÉES"

CE PRODUIT CONTIENT UNE PILE DE SAUVEGARDE DE
MÉMOIRE LITHIUM PRIMAIRE (DIOXYDE DE MANGANÈSE)
QUI DOIT ÊTRE TRAITÉE CORRECTEMENT. ENLEVEZ LA
PILE DU PRODUIT ET PRENEZ CONTACT AVEC VOTRE
AGENCE ENVIRONNEMENTALE LOCALE POUR DES
INFORMATIONS SUR LES MÉTHODES DE RECYCLAGE ET
DE TRAITEMENT.

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