

SERVICE MANUAL

bizhub C3110

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KONICA MINOLTA, INC.

Table of Contents

Revision List	1
bizhub C3110 Version 1.1	1
A SAFETY AND IMPORTANT WARNING ITEMS	A-1
1. IMPORTANT NOTICE	A-2
2. DESCRIPTION ITEMS FOR DANGER, WARNING AND CAUTION	A-3
2.1 Description items in this Service Manual	A-3
2.2 Description items for safety and important warning items	A-3
3. SAFETY WARNINGS	A-4
3.1 MODIFICATIONS NOT AUTHORIZED BY KONICA MINOLTA, INC	A-4 A-4
3.2 POWER PLUG SELECTION	A-5
3.2.1 Power Cord Set or Power Plug	A-5
3.3 CHECKPOINTS WHEN PERFORMING ON-SITE SERVICE	A-6
3.3.2 Installation Requirements	A-11
3.3.3 After Service	A-13
3.4 FUSE	A-18
3.5 Used Batteries Precaditoris	A-19
3.5.2 Germany	A-19
3.5.3 France	A-19
3.5.4 Denmark	A-19 A_19
3.5.6 Norway	A-19
3.6 Laser Safety	A-20
3.6.1 Laser Safety	A-20
3.6.2 Internal Laser Radiation	A-20 A-23
3.6.4 Laser Caution Label	A-23
3.6.5 PRECAUTIONS FOR HANDLING THE LASER EQUIPMENT	A-24
4. WARNING INDICATIONS ON THE MACHINE	A-25
4.1 Warning indications inside the machine	A-25
	Α-20 Λ_20
B NOTATION OF THE CONTENTS	В-1
1. Notation of the service manual	B-1
1.1 Product name	В-т В-1
1.3 Feeding direction	B-1
C PRODUCT SPECIFICATIONS	C-1
1 hizhub C3110	C-1
1.1 Type	C-1
1.2 Functions	C-1
1.3 Paper	C-2
1.4 Materials	C-2 C-2
1.5 Print volume	C-3
1.6 Machine specifications	C-3
1.7 Operating environment	C-3
2 PF_P14	C-5
2.1 Type	C-5
2.2 Paper type	C-5
2.3 Machine specifications.	C-5
2.4 Operating environment.	C-5
 I-Option LN-T00/LN-T07/LN-T08/LN-TTT 3.1 Available function for i-Ontion 	C-6.
3.1.1 List of advanced functions	C-6
3.1.2 Types of advanced functions	C-6
3.1.3 Activation procedures of i-Option	C-6
D OVERALL COMPOSITION	D-1
1. SYSTEM CONFIGURATION	D-1

	2.	SEC	CTION CONFIGURATION	D-2
	3.	PAP	PER PATH	D-3
	4.	CON	NTROL BLOCK DIAGRAM	D-4
	5.	IMA	GE CREATION PROCESS	D-5
Е	SE	RVI	ICE TOOL	E-1
	1.	Serv	vice material list	E-1
	2.	CE t	tool list	E-2
F	MA		ENANCE	F-1
•	1	CON		
	1. 2	PER		F-2
	۷.	2.1	bizhub C3110	F-2
			2.1.1 bizhub C3110	F-2
		2.2		F-2
	3	PER		2- ۲ F_3
	0.	Per	riodical replacement parts list	F-3
		3.1	bizhub C3110	F-3
		3.2	Option	F-3
	٨	0		г-з Е_Л
	4.	4.1	Life value of consumables and parts	F-4
		4.2	Details of the life specifications	F-4
	5.	PER	RIODICAL MAINTENANCE PROCEDURE	F-5
		5.1	Processing section	F-5
			5.1.1 Replacing the toner cartridge (C, M, Y, K)	F-5. F-7
		5.2	Transfer section	F-9
			5.2.1 Replacing the waste toner bottle	F-9
			5.2.2 Replacing the transfer roller	F-10.
		5.3	Fusing section	F-12
			5.3.1 Replacing the fuser unit	F-12
		5.4	Feed section	F-13.
			5.4.2 Replacing the manual tray separation roller	F-13 F-15
			5.4.3 Replacing the tray1 feed roller	F-16
			5.4.4 Replacing the tray1 separation roller	F-17
			5.4.5 Replacing the tray2 reed roller	F-18 F-18
\sim	יח	<u>م</u> ۸ ۵		C 1
G	יו ט י	SAC Date	biblied items (Opution	G-1
	1.	Pror	NIDITED ITEMS/CAUTION Disassembly/adjustment prohibited items	G-1 G-1
		1.1	1.1.1 Paint-locked screws	G-1
			1.1.2 Red-painted screws	G-1
			1.1.3 Variable resistors on board	G-1
			1.1.5 Fusing unit	G-1 G-1
		1.2	Caution	G-1
			1.2.1 Inspection before Servicing.	G-1
			1.2.2 Precautions for disassembly	G-2 G-2
	2	Disa	assembly/reassembly parts list	G-3
	2.	2.1	Main body	G-3
		2.2	Paper Feed Unit (PF-P14)	G-3
	~	2.3	FAX Kit (FK-512)	G-4
	3.	Disa	assembly/reassembly procedure (bizhub C3110)	G-5
		3.1 3.2	Left cover	G-5 G-5
		3.3	Rear right cover	G-5
		3.4	Exit cover.	G-6
		ა.5 ვი	Prontingin cover	G-6
		3.7	Upper cover	G-8
		3.8	Trav1	G-8

		~ ~ ~
	3.9 Manual tray	G-9
	3.10 MFP board (MFPB)	G-9
	3.11 Printer control board (PRCB)	G-11
	3.12 DC power supply (DCPU)	G-12
	3.13 High Voltage unit (HVT)	G-14
	3.14 SSD board (SSDB)	G-10
	3.15 PH UNIL	G-17 C 10
	3.10 Halu ulsk kii (HD-FUD) (Option)	G 19
	3.17 Network Interface Card (NC-F03) (Option)	G 10
	3.10 Daveloping motor (M1)	G 20
	3.19 Developing motor (M2)	G-20
	3.20 Transport motor (Mz).	G-20
	3.21 Color PC druin hiotor (M4)	G-21
	3.22 Do power supply lan motor (FM10)	G-21
	3.24 Trav1 paper feed clutch (CL1) / Manual trav paper feed clutch (CL2)	G-22
	3.25 Pagistration durch (CL3) / Manual tray paper reed durch (CL2)	0-22 G_23
	3.26 Topor supply dutch (CL3).	0-23
	3.27 Loon detection clutch (CL8))G-24 G-25
	3.28 Switchback roller feed clutch (CL 11) / Switchback roller reverse clutch (CL 12)	G-23
	3.20 Duploy convoyance rolled (dt 11) Switchback folier reverse cluter (dt 12)	0-20 C 20
	3.30. 2nd transfer pressure solenoid (SD2)	20_20
	3.31 Temperature/ humidity sensor (TEM/HI IMS)	0-30 G_21
	3.32 IDC sensor (IDC)	0-31 G_33
	3.33 Scanner motor (M101)	0-02 G_33
		0-33 G_34
	3.35 Scanner unit	0-34 G_35
	3.36 DE	0-35 G_36
	3.37 DE nick-un roller/DE feed roller	0-30 G_37
	3.38 DE senaration nad	0-37
		0-50
4.	Disassembly/reassembly procedure (PF-P14)	G-39
	4.1 Paper Feed Unit.	G-39
	4.2 Rear cover.	G-39
	4.3 Rear right cover	G-39
	4.4 PC control board (PCCB)	G-39
	4.5 Tray2 paper feed motor (M1)	G-40
	4.6 Tray2 paper feed clutch (CL1)	G-40
	4.7 Tray2 conveyance clutch (CL2)	G-41
5.	Disassembly/reassembly procedure (FK-512)	G-44
	5.1 FAX Kit	G-44
н сі		H_1
11 01		
1.	Cleaning parts list	H-1
2.	Cleaning procedure	H-2
	2.1 Manual tray feed roller	H-2
	2.2 Manual tray separation roller	H-2
	2.3 Tray1/ Tray2 feed roller	H-2
	2.4 Tray1 separation roller	H-3
	2.5 Tray2 separation roller	H-3
	2.6 The DF feed roller	H-3
	2.7 Laser irradiation section	H-4
	2.8 Conveyance roller	H-5
		14
I AD	303 TMENT/3ETTING	
1.	HOW TO USE THE ADJUSTMENT SECTION	l-1
	1.1 Advance checks	l-1
2.	UTILITY	I-2
	2.1 List of UTILITY mode	l-2
	List of UTILITY mode - outline	l-2
	2.1.1 Accessibility	 l-2
	,	
	2.1.2 Paper Settings	I-2
	2.1.2 Paper Settings 2.1.3 One-Touch Reg	I-2 I-2
	2.1.2 Paper Settings 2.1.3 One-Touch Reg 2.1.4 User Settings	
	 2.1.2 Paper Settings 2.1.3 One-Touch Reg 2.1.4 User Settings 2.1.5 Admin Settings - System Settings 	
	 2.1.2 Paper Settings	

	2.1.11 Admin Settings - System Connection	1_0
	2.1.1.1 Admin Sottings - System Common and Statings	
	2.1.12 Admin Setungs - Security Setungs	1-9
	2.1.13 Admin Settings - Paper Empty Set	I-10
	2.1.14 Admin Settings - License Management	I-10
	2.2 Starting/Exiting	I-10
	2.2.1. Starting procedure	I_10
	2.2.1 Starting procedure	
	2.2.2 Exiting procedure	I-10
3.	LIST OF SERVICE MODE	I-11
	3.1 List of service mode (outline)	I_11
	5.2 List of service mode (detail)	
	3.2.1 Machine	I-11
	3.2.2 Imaging ProcessAdj	I-12
	3.2.3 System 1	l-12
	3.2.4 System 2	I_12
	3.2.5 Counter	I-12
	3.2.6 PRINT MENU	I-12
	3.2.7 StateConfirmation	I-13
	3.2.8 Test Mode	I-13
	329 ADE	I_14
	2.2.10 Eox Sottingo	
	J.Z. IV I AN JEWINGS	1-14
4.	Service Mode	I-17
	4.1 STARTING/EXITING	I-17
		I_17
		·····
	4.1.2 Extense procedure	1-17
	4.2 Machine	I-17
	4.2.1 FusingTemperature	I-17
	4.2.2 ALIGNMENT	I-17
	4.2.3 Scanner Area	1-20
	4.2.4 Dedivergent	1.00
		1-22
	4.2.5 FUSER CONTROL	I-22
	4.2.6 SCAN ADJUST VALUE	I-23
	4.2.7 Main Scan Page	l-24
	4.2.8 FINELINE ADJ	1-24
		1.24
		1-24
	4.3 FIRMWARE VERSION	1-24
	4.3.1 Use	I-24
	4.3.2 Procedure	l-24
	4.4 Imaging ProcessAdi	
		1.24
		1-24
	4.4.2 Image Stabilizatio	1-25
	4.4.3 IMG ADJ THICK	I-25
	4.4.4 IMG ADJ BLACK	I-25
	4.5 System 1	
	4.5.1 EavTarnet	1-26
	4.5.3 Sleep ON/OFFChoice	I-26
	4.5.4 Install Date	I-26
	4.5.5 Machine StateLED S	I-26
	4.5.6 TONER OUT MODE	1-26
	4.0.1 GIVATOVALE FAGE	1-27
	4.6 System 2	1-27
	4.6.1 Paper Empty Alert	
	4.6.2 SOFT SWITCH	I-27
	4.6.3 Cov. Rate Screen	1-29
	4.6.4 App. Change Setting	1 20
	4.0.4 App. Change Setting	1-29
	4.7 Counter	1-29
	4.7.1 Life-REPLACE-FUSER UNIT	I-30
	4.7.2 Life-REPLACE-TRANS. BELT	I-30
	4.7.3 Life-REPLACE-TRANS, ROLLER	
		1-30
	4.8.1 Ivianagement LIST	1-30
	4.8.2 Adjustments List	I-30
	4.8.3 Service Parameter	
	4.8.4 Protocol Trace	1-30
	4.8.5 Eav Analysis List	1 24
	4.0.5 La Arialysis List.	
	4.8.6 Scan Event Log	I-31
	4.8.7 HALFTONE 64	I-31
	4.8.8 HALFTONE 128	I-31
	4.8.9 HALETONE 256	I_31
	4.9.10 Credition	10-11
		1-31

4.9 StateConfirmation	I-32
4.9.1 SENSOR CHECK	
4.9.2 Level History	
4.9.3 Temp. & Humidity	I-32
4.9.4 Memory/HDD State	I-33
4.9.5 COMP. CHECK	I-33
4.10 Test Mode	I-33
4.10.1 Fax Test-SignalSend Test	I-33
4.10.2 Fax Test-Signal RX Test	I-35
4.10.3 Fax Test-NCU TEST	I-36
4.10.4 Fax Test - Dial Test	l-36
4.11 ADF	
4.11.1 1-Side	
4.11.2 2-Side	
4.11.3 Register Loop-Back side	1-38
4.11.4 Center Adjustment	1-38
4.11.5 ADF(B) Side Edge	1-38
4.11.0 Feed Zoom	1-39
4.11.7 FD-Way. Auj. (D)	1-39
4.11.0 Wall Scall Dir Zm P	1-40
4.11.9 IViditi Scali Dii Zili-D	1-40
4.12.1 AA Setungs	۱ ۲۰ –۱
4.12.1 Modell/NCO	۱ ۲۰ –۱
4.12.2 Network	I_44
4.12.5 System.	1-40
	/ 4-ا ۱ ۸ ۹
4.12.5 COMMONICATION	1-40 1_52
4.12.0 List Output	1-52
4.12.7 FullculiFalance	1-53
4.12.0 Thiudization	1-53
4.12.5 Line 51D Setting (Address parameter)	1-53
4 13 1 ObOd##	1-54
4.13.2 0e000#	1-54 1_55
4.13.3 0e001#	
4.13.4 De001#	
4.13.5 0e002#	
4.13.6 De000#	
4.13.7 0e005#	I_62
4.13.8 0e000#	I-64
4 13 9 0e00a#	I-67
4.13.10 0e00b#	
4 13 11 0e00c#	I-72
4 13 12 0e00d#	I-75
4 13 13 0e00e#	I-78
4.13.14 0e00f#	
4 13 15 0e010#	I-82
4 13 16 0e011#	1-84
4 13 17 0e012#	I-85
4 13 18 0f000#	I-86
4.13.19 0f001#	
4.13.20 10000#	
4.13.21 10001#	
4.13.22 13000#, 13001#, 13002#, 13003#. 13004#. 13005#. 13006#	l-91
4.13.23 13007#, 13008#, 13009#, 1300a#. 1300b#	
4.14 2nd NIC settings	
4.14.1 Use	
4.14.2 Default setting	I-95
4.14.3 Setting item	
4.15 BK CLEAR.	
4.10 FIRMWARE UPDATE	I-95
4.16 FIRMWARE OPDATE	I-95 I-95
4.16.1 Use	I-95 I-95 I-96
4.16 FIRMWARE OPDATE 4.16.1 Use 4.16.2 Procedure 4.17 LoadableDriverInfo	1-95 1-95 1-96 1-96
4.16 FIRMWARE OPDATE 4.16.1 Use 4.16.2 Procedure. 4.17 LoadableDriverInfo. 4.17.1 Use	1-95 1-95 1-96 1-96 1-96
4.16 FIRMWARE OPDATE 4.16.1 Use 4.16.2 Procedure. 4.17 LoadableDriverInfo. 4.17.1 Use 4.17.2 Procedure.	1-95 1-95 1-96 1-96 1-96 1-96
4.16 FIRMWARE OPDATE 4.16.1 Use 4.16.2 Procedure. 4.17 LoadableDriverInfo. 4.17.1 Use 4.17.2 Procedure. 4.18 LOADABLE DOWNLOAD.	1-95 1-95 1-96 1-96 1-96 1-96 1-96
4.16 FIRMWARE OPDATE 4.16.1 Use 4.16.2 Procedure. 4.17 LoadableDriverInfo. 4.17.1 Use 4.17.2 Procedure. 4.18 LOADABLE DOWNLOAD. 4.18.1 Use	1-95 1-95 1-96 1-96 1-96 1-96 1-96
4.16 FIRMWARE OPDATE 4.16.1 Use 4.16.2 Procedure. 4.17 LoadableDriverInfo. 4.17.1 Use 4.17.2 Procedure. 4.18 LOADABLE DOWNLOAD. 4.18.1 Use 4.18.2 Required systems.	1-95 1-95 1-96 1-96 1-96 1-96 1-96 1-96 1-96

		4 19 4 Dropoduro	
		4.10.4 Plotedule	1-96
		4.19 HDD Format	I-96
		4.19.1 Use	I-96
		4.19.2 Procedure	I-96
		4.20 ENGINE DIPSW	
		4.20.1 USe	
		4.20.2 Procedure	
	_		
	5.	SecuritySer. Mode	
		5.1 List of SecuritySer. Mode	I-99
		5.2 STARTING/EXITING	
		Starting procedure	
		Exiting procedure	
		5.3 Billing Setting	
		5.3.1 Counter Setting	
		5.3.2 License Management - Get Request Code	1-100
		5.3.3 License Management - Initialize	1-100
		5.3.4 License Management - Acuvation	1-100
		5.3.5 License Management, Deac Compl. Code	1-103
		5.5.0 License Management - List EnabledEuro	100 1 106
		5.4 Admin Password	100 -ا ۱_106
		5.4.1 Use	100 -ا ۱_106
		5.4.2 Default setting	100 - ا ۱_106
		5.4.3 Procedure	I-106
		5.5 CE Password	I-107
		5.5.1 Use	I-107
		5.5.2 Default setting	I-107
		5.5.3 Procedure	I-107
	пг		1.4
J	RE		J- I
	1.	. Checking the current firmware version	J-1
	2.	. Firmware upgrading procedure by USB memory device	J-2
		2.1 Preparations for firmware rewriting	.1-2
		2.1.1 System requirements	J-2
		2.1.1 System requirements	J-2 J-2
		 2.1.1 System requirements	J-2 J-2 J-2
	3.	 2.1.1 System requirements. 2.1.2 Saving the firmware data into the USB memory device. 2.2 How to write firmware data. Checking the version after the firmware update. 	J-2 J-2 J-2 J-2 J-4
	3. 4	 2.1.1 System requirements	J-2 J-2 J-2 J-2 J-4 J-5
	3. 4.	 2.1.1 System requirements	J-2 J-2 J-2 J-4 J-5 J-5
	3. 4.	2.1.1 System requirements	J-2 J-2 J-2 J-2 J-4 J-4 J-5 J-5 J-5
	3. 4.	 2.1.1 System requirements	J-2 J-2 J-2 J-4 J-4 J-5 J-5 J-5 J-5 J-5
	3. 4.	 2.1.1 System requirements	J-2 J-2 J-2 J-4 J-4 J-5 J-5 J-5
к	3. 4. TF	2.1.1 System requirements	J-2 J-2 J-2 J-4 J-4 J-5 J-5 J-5 J-5 J-5 J-5
к	3. 4. TF 1.	 2.1.1 System requirements	J-2 J-2 .J-2 .J-4 .J-5 J-5 .J-5 .J-5 J-5 J-5 K-1 K-1
ĸ	3. 4. TF 1.	 2.1.1 System requirements	J-2 J-2 .J-2 .J-4 .J-5 J-5 .J-5 .J-5 J-5 J-5 K-1 K-1
ĸ	3. 4. TF 1.	2.1.1 System requirements	J-2 J-2 .J-2 .J-4 .J-5 J-5 J-5 J-5 J-5 K-1 K-1 K-1 K-1
ĸ	3. 4. TF 1.	 2.1.1 System requirements	J-2 J-2 J-2 J-4 .J-5 J-5 J-5 J-5 K-1 K-1 K-1 K-1 K-1 K-1
к	3. 4. TF	 2.1.1 System requirements	J-2 J-2 J-2 J-4 J-5 J-5 J-5 J-5 K-1 K-1 K-1 K-1 K-1 K-1 K-1
ĸ	3. 4. TF	 2.1.1 System requirements	J-2 J-2 J-2 J-4 J-5 J-5 J-5 J-5 J-5 K-1 K-1 K-1 K-1 K-1 K-1 K-2
к	3. 4. TF	 2.1.1 System requirements	J-2 J-2 J-2 J-4 J-5 J-5 J-5 J-5 J-5 K-1 K-1 K-1 K-1 K-1 K-2 K-2 K-2
к	3. 4. TF	 2.1.1 System requirements 2.1.2 Saving the firmware data into the USB memory device 2.2 How to write firmware data Checking the version after the firmware update How to install the i-Option data 4.1 Available function for i-Option 4.2 LK-107/LK-108 font data installation procedure 4.2.1 When the font data is ***.pdf format file ROUBLESHOOTING. 1.1 JAM display 1.2 List of JAM display resetting procedure 1.3 Sensor layout 1.4 Solution 1.4.1 Initial check items 1.4.2 Jam at fusing/exit section	J-2 J-2 J-2 J-4 J-5 J-5 J-5 J-5 J-5 K-1 K-1 K-1 K-1 K-1 K-2 K-2 K-2 K-2 K-2
к	3. 4. TF	 2.1.1 System requirements. 2.1.2 Saving the firmware data into the USB memory device. 2.2 How to write firmware data. Checking the version after the firmware update. How to install the i-Option data. 4.1 Available function for i-Option. 4.2 LK-107/LK-108 font data installation procedure. 4.2.1 When the font data is ***.pdf format file. ROUBLESHOOTING. JAM DISPLAY. 1.1 JAM display. 1.2 List of JAM display. 1.2.1 JAM display resetting procedure. 1.3 Sensor layout. 1.4 Solution. 1.4.1 Initial check items. 1.4.2 Jam at fusing/exit section. 1.4.3 Jam at transfer section.	J-2 J-2 J-2 J-4 J-5 J-5 J-5 J-5 J-5 K-1 K-1 K-1 K-1 K-1 K-2 K-2 K-2 K-2 K-2 K-2
К	3. 4. TF	2.1.1 System requirements	J-2 J-2 J-2 J-4 J-5 J-5 J-5 J-5 J-5 K-1 K-1 K-1 K-1 K-1 K-1 K-2 K-2 K-2 K-2 K-3 K-3
к	3. 4. TF	2.1.1 System requirements. 2.1.2 Saving the firmware data into the USB memory device. 2.2 How to write firmware data. 4.1 Available function after the firmware update. 4.1 Available function for i-Option. 4.2 LK-107/LK-108 font data installation procedure. 4.2.1 When the font data is ***.pdf format file. ROUBLESHOOTING. JAM DISPLAY. 1.1 JAM display. 1.2.1 JAM display. 1.2.1 JAM display. 1.2.1 JAM display. 1.3 Sensor layout. 1.4.1 Initial check items. 1.4.2 Jam at fusing/exit section. 1.4.3 Jam at transfer section. 1.4.4 Jam at manual tray paper feed section. 1.4.5 Jam at tray1 paper feed section.	J-2 J-2 J-2 J-4 J-5 J-5 J-5 J-5 J-5 K-1 K-1 K-1 K-1 K-1 K-2 K-2 K-2 K-2 K-3 K-4
к	3. 4. TF	 2.1.1 System requirements	J-2 J-2 J-2 J-4 J-5 J-5 J-5 J-5 J-5 K-1 K-1 K-1 K-1 K-1 K-1 K-2 K-2 K-2 K-2 K-3 K-4 K-4
к	3. 4. TF	2.1.1 System requirements 2.1.2 Saving the firmware data into the USB memory device	J-2 J-2 J-2 J-4 J-5 J-5 J-5 J-5 J-5 K-1 K-1 K-1 K-1 K-1 K-1 K-2 K-2 K-2 K-3 K-4 K-4 K-4 K-4
к	3. 4. TF	 2.1.1 System requirements	J-2 J-2 J-2 J-4 J-5 J-5 J-5 J-5 J-5 K-1 K-1 K-1 K-1 K-1 K-1 K-2 K-2 K-2 K-2 K-3 K-4 K-4 K-4 K-4 K-4 K-4
к	3. 4. TF	2.1.1 System requirements. 2.1.2 Saving the firmware data into the USB memory device. 2.2 How to write firmware data. 4. Checking the version after the firmware update. 4. How to install the i-Option data. 4.1 Available function for i-Option 4.2 LK-107/LK-108 font data installation procedure. 4.2.1 When the font data is ***.pdf format file. ROUBLESHOOTING. 1.1 JAM display. 1.2 List of JAM display. 1.2.1 JAM display. 1.2.1 JAM display. 1.4 Solution. 1.4.1 Initial check items. 1.4.2 Jam at fusing/exit section. 1.4.3 Jam at transfer section. 1.4.4 Jam at tray paper feed section. 1.4.5 Jam at tray2 paper feed section. 1.4.6 Jam at tray2 paper feed section. 1.4.7 Jam at tray2 paper feed section. 1.4.8 Jam at duplex paper feed section. 1.4.7 Jam at tray2 paper feed section. 1.4.8 Jam at tup paper feed section. 1.4.9 Jam at tray2 paper feed section. 1.4.6 Jam at tray2 paper feed section. 1.4.7 Jam at tray2 paper feed section. 1.4.8 Jam at duplex paper feed section. 1.4.9 Jam at tay2 vertical conveyance section. 1.4.10 Ja	J-2 J-2 J-2 J-4 J-5 J-5 J-5 J-5 J-5 J-5 K-1 K-1 K-1 K-1 K-1 K-1 K-2 K-2 K-2 K-2 K-2 K-3 K-4 K-4 K-4 K-4 K-4 K-4 K-4 K-4
к	3. 4. TF	2.1.1 System requirements	J-2 J-2 J-2 J-4 J-5 J-5 J-5 J-5 J-5 J-5 K-1 K-1 K-1 K-1 K-1 K-1 K-2 K-2 K-2 K-2 K-2 K-3 K-4 K-4 K-4 K-4 K-4 K-4 K-4 K-4 K-4 K-5 K-6 K-6 K-7 K-7
к	3. 4. TF 1.	2.1.1 System requirements	J-2 J-2 J-2 J-4 J-5 J-5 J-5 J-5 J-5 K-1 K-1 K-1 K-1 K-1 K-2 K-2 K-2 K-2 K-3 K-4 K-4 K-4 K-4 K-4 K-5 K-6 K-6 K-7 K-7
к	3. 4. TF 1.	2.1.1 System requirements	J-2 J-2 J-2 J-4 J-5 J-5 J-5 J-5 J-5 K-1 K-1 K-1 K-1 K-1 K-2 K-2 K-2 K-2 K-3 K-4 K-4 K-4 K-4 K-4 K-5 K-6 K-7 K-7 K-9
к	3. 4. TF 1.	 2.1.1 System requirements	J-2 J-2 J-2 J-4 J-5 J-5 J-5 J-5 J-5 K-1 K-1 K-1 K-1 K-1 K-2 K-2 K-2 K-2 K-3 K-4 K-4 K-4 K-4 K-4 K-5 K-6 K-6 K-7 K-7 K-9 K-9 K-9
к	3. 4. TF 1.	2.1.1 System requirements	J-2 J-2 J-2 J-4 J-5 J-5 J-5 J-5 J-5 J-5 K-1 K-1 K-1 K-1 K-1 K-1 K-2 K-2 K-2 K-2 K-2 K-3 K-4 K-4 K-4 K-4 K-4 K-4 K-4 K-4 K-5 K-6 K-6 K-7 K-7 K-7 K-9 K-9 K-9
к	3. 4. TF 1.	2.1.1 System requirements. 2.1.2 Saving the firmware data into the USB memory device. 2.2 How to write firmware data. Checking the version after the firmware update. How to install the i-Option data. 4.1 Available function for i-Option. 4.2 LK-107/LK-108 font data installation procedure. 4.2.1 When the font data is ***.pdf format file. ROUBLESHOOTING. JAM DISPLAY. 1.1 JAM display. 1.2 List of JAM display. 1.2 List of JAM display. 1.2 List of JAM display. 1.4 Solution. 1.4.1 Initial check items. 1.4.2 Jam at transfer section. 1.4.3 Jam at transfer section. 1.4.4 Jam at manual tray paper feed section. 1.4.5 Jam at tray1 paper feed section. 1.4.7 Jam at tray2 paper feed section. 1.4.8 Jam at duplex paper transport section. 1.4.9 Jam at duplex paper feed section. 1.4.1 Paper jam in control logic. PROCESS CAUTION INFROMATION. 2.1 Display procedure. 2.2 List. 2.3 Solution. 2.3 Solution.	J-2 J-2 J-2 J-4 J-5 J-5 J-5 J-5 J-5 J-5 K-1 K-1 K-1 K-1 K-1 K-1 K-2 K-2 K-2 K-2 K-2 K-3 K-4 K-4 K-4 K-4 K-4 K-4 K-4 K-5 K-6 K-6 K-7 K-7 K-7 K-9 K-9 K-9 K-9 K-9 K-9 K-9
К	3. 4. TF 1.	2.1.1 System requirements. 2.1.2 Saving the firmware data into the USB memory device. 2.2 How to write firmware data. (Checking the version after the firmware update. How to install the i-Option data 4.1 Available function for i-Option. 4.2 LK-107/LK-108 font data installation procedure. 4.2.1 When the font data is ***.pdf format file. ROUBLESHOOTING. .1.1 JAM display. 1.2 List of JAM display. 1.2 List of JAM display. 1.2 List of JAM display resetting procedure. 1.4.3 Sensor layout. 1.4.4 Jam at fusing/exit section. 1.4.3 Jam at transfer section. 1.4.4 Jam at manual tray paper feed section. 1.4.5 Jam at tray1 paper feed section. 1.4.7 Jam at tray2 paper feed section. 1.4.8 Jam at duplex paper feed section. 1.4.9 Jam at duplex paper feed section. 1.4.10 Jam at DF section. 1.4.11 Paper jam in control logic. PROCESS CAUTION INFROMATION 2.1 Display procedure. 2.2 List. 2.3 Solution. 2.3 LD Error. 2.3 LD Error. 2.3 LD Error.	J-2 J-2 J-2 J-4 J-5 J-5 J-5 J-5 J-5 K-1 K-1 K-1 K-1 K-1 K-1 K-2 K-2 K-2 K-2 K-2 K-3 K-4 K-4 K-4 K-4 K-4 K-4 K-4 K-5 K-6 K-6 K-6 K-7 K-7 K-7 K-9 K-9 K-9 K-9 K-9 K-9 K-9 K-9 K-9 K-9
к	3. 4. TF 1.	2.1.1 System requirements	J-2 J-2 J-2 J-4 J-5 J-5 J-5 J-5 J-5 K-1 K-1 K-1 K-1 K-1 K-1 K-2 K-2 K-2 K-2 K-2 K-2 K-3 K-4 K-4 K-4 K-4 K-4 K-4 K-5 K-6 K-6 K-6 K-7 K-7 K-7 K-9 K-9 K-9 K-9 K-9 K-9 K-9 K-9 K-9 K-9

		2.3.5 Color Registration Adj. (Adj. Value Error)	K-10
		2.3.6 Lamp lights on and AFE gain adjustment failure	K-10
3.	TRO	DUBLE CODE	K-12
-	3.1	Trouble code (Service Call)	K-12
	3.2	Trouble resetting procedure	K-12
	3.3	List of the trouble code	K-12
	3.4	Solution	K-15
		3.4.1 0010	K-15
		3.4.2 0017	K-15
		3.4.3 0018	K-15
		3.4.4 004A	K-16
		3.4.5 004E	K-16
		3.4.6 0062	K-17
		3.4.7 0094	K-17
		3.4.8 0096	K-18
		3.4.9 0101	K-18
		3.4.10 0300	K-19
		3.4.11 0310	K-19
		3.4.12 0315	K-20
		3.4.13 0500, 0502, 0503, 0510, 0520	K-20
		3.4.14 0F52, 0F53, 0F54, 0F55	K-21
		3.4.15 13C4, 13C5, 13C6, 13C7	K-22
		3.4.16 13CB, 13CC, 13CD, 13CE	K-22
		3.4.17 13DD	K-23
		3.4.18 13E2, 13E3	K-23
		3.4.19 13F0	K-24
		3.4.20 3C00	K-24
		3.4.21 3C10	K-24
		3.4.22 4091	K-25
		3.4.23 4092	K-25
		3.4.24 4901	K-25
		3.4.25 6751	K-26
		3.4.26 6790, 6791, 6792, 6793	K-26
		3.4.27 9401	K-27
		3.4.28 C151	K-27
		3.4.29 C161	K-28
		3.4.30 C164	K-28
		3.4.31 D004	K-28
		3.4.32 D091	K-29
		3.4.33 D092	K-29
		3.4.34 D093	K-29
		3.4.35 D094	K-30
		3.4.36 D095	K-30
		3.4.37 D096	K-30
		3.4.38 D0A2	K-30
		3.4.39 D0A3.	K-31
		3.4.40 D0A4	K-31
		3.4.41 D0A5	K-31
		3.4.42 DUA6	K-31
		3.4.43 D110	K-32
		3.4.44 UZ0Z	K-32
		3.4.45 D281	K-32
		3.4.40 D3A2	K-33
		3.4.47 D3F1	K-33
		3.4.46 D3F2	K-33
		3.4.49 D3F3	
		3.4.30 D3F4	
		3.4.51 D301	
		5-4-02 L 50m	
4.	ABO		K-36
	4.1	I roubleshooting of the abort code	K-36
		4.1.1 Contents	K-36
		4.1.2 Procedure	K-36
	4.2	FB0#	K-36
	4.3	FB1#	K-37
	4.4	FB4#	K-37
	4.5	FВ0#	K-37
	4.6		K-38
	4./		К-38
5.	FAX		K-40

5	5.1 The error in the transmission/reception system	K-40
5	5.2 BU##	K-40
Ę	5.4 B12#	К-40 К-40
5	5.5 B13#	K-40
5	5.6 B14#	K-41
5	5.7 B15#	K-41
5	5.8 B16#	K-41
5	5.9 B1/# 5.10 D19#	K-41
5	5.10 B10#	۲-4۱ ۲.42
5	5.12 TO#	K-42
5	5.13 T1#	K-42
5	5.14 T2#	K-43
5	5.15 T3#	K-43
5	5.16 T4#	K-43
5	D.17 15# 5.19 Te#	K-43 K 44
F	5.19 T7#	К-44 К-44
5	5.20 T8#	K-44
5	5.21 T9#	K-44
5	5.22 R0#	K-45
5	5.23 R1#	K-45
5	0.24 K2#	K-45 س س
Ę	5.26 R4#	К-40 К-46
5	5.27 R5#	K-46
5	5.28 R6#	K-46
5	5.29 R7#	K-47
5	5.30 R8#	K-47
÷	5.31 R9#	K-47
6. P	OWER SUPPLY TROUBLE	K-49
t c	5.1 Machine is not energized at all (DCPU operation check)	K-49 K 40
F	5.3 Fusing heaters do not operate	K-49 K-49
7 11		K-50
7. 11	7.1 Troubleshooting procedure overview	K-50
	7.1.1 Test pattern printing	K-50
7	7.2 Solution	K-50
	7.2.1 Image trouble sample illustrations.	K-50
	7.2.2 White line 1, White band 1, Color line 1, Color band 1	K-51
	7.2.5 White line 2, White band 2, Color line 2, Color band 2	
	7.2.5 Uneven density 2	K-54
	7.2.6 Faint image, low image density (ID lowering)	K-55
	7.2.7 Gradation reproduction failure	K-56
	7.2.8 Color reproducibility error.	K-56
	7.2.9 Incorrect color image registration	K-57
	7.2.10 Foggy background	
	7.2.12 Color spots	K-60
	7.2.13 Blurred image	K-61
	7.2.14 Back marking	K-61
	7.2.15 Blank copy, Black copy	K-62
	7.2.16 Uneven pitch	K-62
	7.2.17 Pool fusing performance, Onset	K-63
	7.2.19 Moire	K-64
	7.2.20 Skewed image	K-64
	7.2.21 Distorted image	K-64
8. IC		K-66
8. IC 8	3.1 IC protector outline	K-66 K-66
8. IC 8 8	3.1 IC protector outline	K-66 K-66 K-66
8. IC 8 8	3.1 IC protector outline	K-66 K-66 K-66 K-66
8. IC 8 8	3.1 IC protector outline	K-66 K-66 K-66 K-66 K-66 K-67
8. IC ٤ ٤ L PAR	3.1 IC protector outline	K-66 K-66 K-66 K-66 K-67 L-1
8. IC 8 8 L PAR 1. P	3.1 IC protector outline	K-66 K-66 K-66 K-66 K-67 L-1 L-1
8. IC 8 8 1. P. 1. P.	B.1 IC protector outline	K-66 K-66 K-66 K-67 L-1 L-1 L-1

	2. BOA	ARD CONNECTOR LAYOUT DRAWING	L-4
	2.1	Printer control board (PRCB)	L-4
	2.2	MFP board (MFPB)	L-5
	2.3	DC power supply (DCPU)	L-5
	2.4	High voltage unit (HV1)	L-6
	2.5	SSD board (SSDB)	L-0
	2.0	PC control board (PCCB)	L-0
	2 DEI		، ۱ 0
	J. KEL	AT CONNECTOR LATOUT DRAWING	L-0
Μ	TIMIN	G CHART	M-1
	1. Timi	ing chart	M-1
	1.1		M-1
м			N 1
IN	VVIENIN		IN-1
	1. bizh	ub C3110	N-1
	1.1	Main body (1/2)	N-1
	1.2	Main body (2/2)	N-2
0	THEO	RY OF OPERATION bizhub C3110	0-1
	1. INTE	ERFACE SECTION	0-1
	2 504	ANNER SECTION	∩_?
	2.1	Composition	0-2
	2.2	Drive	0-2
	2.3	Operation	0-2
		2.3.1 When the Start key is pressed	0-2
		2.3.2 Home position detection	0-3
		2.3.3 Shading compensation	0-3
	3. WRI	ITE SECTION	0-4
	3.1	Configuration	0-4
	3.2		0-4
			0-4
		3.2.2 Laser emission timing	0-4 0-5
		3.2.4 Color registration control (color shift correction) system	0-5
		3.2.5 Laser emission area	0-7
		3.2.6 PH unit temperature detection control	0-8
		3.2.7 Main scan magnification adjustment	O-8
		3.2.8 Image processing	0-8
	4. PHC	DTO CONDUCTOR SECTION	O-9
	4.1	Configuration	0-9
	4.2	Drive	0-9
	4.3	4 3 1 Photo conductor drive mechanism	0-9
		4.3.2 Charge roller	0-9 O-9
		4.3.3 Cleaning roller	0-10
		4.3.4 Imaging unit detection	O-10
		4.3.5 Imaging unit consumption rate detection	0-10
		4.3.6 Imaging unit life detection	O-10
	5. DEV	/ELOPING SECTION	0-12
	5.1	Configuration	0-12
	5.2	Drive	0-12
	5.3		0-12
		5.3.1 I ONER TIOW	0-12
		5.3.2 Developing system.	0-13 0-13
		5.3.4 Toner collecting port shutter mechanism	0-14
		5.3.5 Image processing	0-14
	6. TON	NER SUPPLY SECTION	O-15
	6.1	Configuration	0-15
	6.2	Drive	0-15
	6.3	Operation	O-15
		6.3.1 Toner collecting port shutter mechanism	O-15
		6.3.2 Toner replenishing mechanism.	0-16
		6.3.3 I oner replenishing control	0-16
		0.3.4 Auxiliary toner replenishing	0-17
		6.3.6 Toner consumption rate detection	0-17 0_17
			0-17

	0.3.7	Toner life detection	0-17
	6.3.8	Monochrome prints	0-17
7.	1ST TRA	NSFER SECTION	0-18
	7.1 Confi	guration	0-18
	7.2 Drive	<i>n</i>	0-18
	7.3 Oper	ation	0-18
	732	1st transfer roller pressure/retraction control	0-10
	7.3.2	Transfer helt cleaning mechanism	0-20
	7.3.4	1st transfer belt backward rotation control	0-20
	7.3.5	Toner collecting port shutter mechanism	0-20
	7.3.6	Transfer belt new article detection	0-21
	7.3.7	Transfer belt life detection	0-21
8.	2ND TRA	NSFER SECTION	0-22
	8.1 Confi	guration	0-22
	8.2 Drive		0-22
	8.3 Oper		0-22
	8.3.1 9.3.2	2nd transfer roller pressure mechanism	0-22
	833	2nd transfer voltage control (ATVC: auto transfer voltage control)	0-23
	8.3.4	2nd transfer roller cleaning control.	0-24
	8.3.5	Toner density detection control	0-24
	8.3.6	IDC sensor calibration control	0-24
	8.3.7	IDC sensor cover open/close mechanism	0-24
	8.3.8	2nd transfer roller new article detection	0-25
	8.3.9	2nd transfer roller life detection	0-25
	8.3.1		0-25
9.	TONER (COLLECTING SECTION	0-26
	9.1 Confi	guration	0-26
	9.2 Drive		0-26
	9.3 Oper 9.3 1	Toner flow at the imaging unit section	0-20 0-26
	9.3.2	Waste toner flow at transfer belt unit section/2nd transfer section.	0-20
	9.3.3	Waste toner collecting port shutter mechanism	0-27
	9.3.4	Waste toner bottle-in-position detection mechanism	0-28
	9.3.4 9.3.5	Waste toner bottle-in-position detection mechanism Waste toner flow in the waste toner bottle	0-28 0-28
	9.3.4 9.3.5 9.3.6	Waste toner bottle-in-position detection mechanism Waste toner flow in the waste toner bottle Waste toner near-full condition detection control	0-28 0-28 0-28
	9.3.4 9.3.5 9.3.6 9.3.7	Waste toner bottle-in-position detection mechanism Waste toner flow in the waste toner bottle Waste toner near-full condition detection control Waste toner full condition detection control	O-28 O-28 O-28 O-29
10.	9.3.4 9.3.5 9.3.6 9.3.7 PAPER	Waste toner bottle-in-position detection mechanism Waste toner flow in the waste toner bottle Waste toner near-full condition detection control Waste toner full condition detection control FEED SECTION (MANUAL TRAY)	O-28 O-28 O-28 O-29 O-30
10.	9.3.4 9.3.5 9.3.6 9.3.7 PAPER 10.1 Con	Waste toner bottle-in-position detection mechanism Waste toner flow in the waste toner bottle Waste toner near-full condition detection control Waste toner full condition detection control FEED SECTION (MANUAL TRAY) figuration.	O-28 O-28 O-28 O-29 O-30 O-30
10.	9.3.4 9.3.5 9.3.6 9.3.7 PAPER 10.1 Con 10.2 Driv	Waste toner bottle-in-position detection mechanism	O-28 O-28 O-28 O-29 O-30 O-30 O-30
10.	9.3.4 9.3.5 9.3.6 9.3.7 PAPER 10.1 Con 10.2 Driv 10.3 Ope 10.3	Waste toner bottle-in-position detection mechanism	0-28 0-28 0-29 0-30 0-30 0-30 0-30 0-30 0-30
10.	9.3.4 9.3.5 9.3.6 9.3.7 PAPER 10.1 Con 10.2 Driv 10.3 Ope 10.3. 10.3.	Waste toner bottle-in-position detection mechanism	0-28 0-28 0-29 0-30 0-30 0-30 0-30 0-30 0-30 0-31
10.	9.3.4 9.3.5 9.3.6 9.3.7 PAPER 10.1 Con 10.2 Driv 10.3 Ope 10.3. 10.3. 10.3.	Waste toner bottle-in-position detection mechanism	0-28 0-28 0-28 0-29 0-30 0-30 0-30 0-30 0-31 0-31
10.	9.3.4 9.3.5 9.3.6 9.3.7 PAPER 10.1 Con 10.2 Driv 10.3 Ope 10.3. 10.3. 10.3. 10.3.	Waste toner bottle-in-position detection mechanism	0-28 0-28 0-29 0-30 0-30 0-30 0-30 0-30 0-31 0-31 0-31
10.	9.3.4 9.3.5 9.3.6 9.3.7 PAPER 10.1 Cori 10.2 Driv 10.3 Ope 10.3. 10.3. 10.3. 10.3. PAPER	Waste toner bottle-in-position detection mechanism	0-28 0-28 0-28 0-29 0-30 0-30 0-30 0-30 0-31 0-31 0-33
10.	9.3.4 9.3.5 9.3.6 9.3.7 PAPER 10.1 Cori 10.2 Driv 10.3 Ope 10.3. 10.3. 10.3. 10.3. PAPER 11.1 Cori	Waste toner bottle-in-position detection mechanism	0-28 0-28 0-29 0-30 0-30 0-30 0-30 0-31 0-31 0-33 0-33 0-33
10.	9.3.4 9.3.5 9.3.6 9.3.7 PAPER 10.1 Con 10.2 Driv 10.3 Ope 10.3. 10.3. 10.3. 10.3. PAPER 11.1 Con 11.2 Driv	Waste toner bottle-in-position detection mechanism	0-28 0-28 0-29 0-30 0-30 0-30 0-30 0-30 0-31 0-31 0-33 0-33 0-33 0-33
10.	9.3.4 9.3.5 9.3.6 9.3.7 PAPER 10.1 Con 10.2 Driv 10.3 Ope 10.3. 10.3. 10.3. 10.3. PAPER 11.1 Con 11.2 Driv 11.3 Ope	Waste toner bottle-in-position detection mechanism	0-28 0-28 0-29 0-30 0-30 0-30 0-30 0-31 0-31 0-31 0-33 0-33 0-33 0-33 0-33
10.	9.3.4 9.3.5 9.3.6 9.3.7 PAPER 10.1 Con 10.2 Driv 10.3 Ope 10.3. 10.3. 10.3. 10.3. PAPER 11.1 Con 11.2 Driv 11.3 Ope 11.3.	Waste toner bottle-in-position detection mechanism	0-28 0-28 0-29 0-30 0-30 0-30 0-30 0-31 0-31 0-31 0-33 0-33 0-33 0-33 0-33 0-33 0-33 0-33 0-33 0-33 0-33
10.	9.3.4 9.3.5 9.3.6 9.3.7 PAPER 10.1 Cori 10.2 Driv 10.3 Ope 10.3. 10.3. 10.3. 10.3. 10.3. 10.3. 10.3. 10.3. 10.3. 10.3. 11.3. 11.2 Driv 11.3 Ope 11.3. 11.3. 11.3.	Waste toner bottle-in-position detection mechanism	O-28 O-28 O-28 O-29 O-30 O-30 O-30 O-30 O-30 O-31 O-31 O-31 O-33 O-33 O-33 O-33 O-33 O-33 O-33 O-34
10.	9.3.4 9.3.5 9.3.6 9.3.7 PAPER 10.1 Cori 10.2 Driv 10.3 Ope 10.3. 10.3. 10.3. 10.3. 10.3. 10.3. 10.3. 10.3. 11.3. 11.3 Ope 11.3. 11.3. 11.3. 11.3.	Waste toner bottle-in-position detection mechanism	0-28 0-28 0-28 0-29 0-30 0-30 0-30 0-30 0-30 0-31 0-31 0-31 0-33 0-33 0-33 0-33 0-33 0-34 0-34 0-34
10.	9.3.4 9.3.5 9.3.6 9.3.7 PAPER 10.1 Cori 10.2 Driv 10.3 Ope 10.3. 10.3. 10.3. 10.3. 10.3. 10.3. 11.3. 11.3 Ope 11.3 Ope 11.3. 11.3. 11.3. 11.3.	Waste toner bottle-in-position detection mechanism	0-28 0-28 0-29 0-30 0-30 0-30 0-30 0-30 0-31 0-31 0-31 0-33 0-33 0-33 0-33 0-33 0-34 0-34 0-34 0-34 0-34 0-34
10.	9.3.4 9.3.5 9.3.6 9.3.7 PAPER 10.1 Cori 10.2 Driv 10.3 Ope 10.3. 10.3. 10.3. 10.3. 10.3. 10.3. 10.3. 11.2 Driv 11.1 Cori 11.2 Driv 11.3 Ope 11.3. 11.3. 11.3. 11.3. 11.3.	Waste toner bottle-in-position detection mechanism	O-28 O-28 O-28 O-29 O-30 O-30 O-30 O-30 O-30 O-31 O-31 O-33 O-33 O-33 O-33 O-33 O-34 O-34 O-35 O-35 O-35
10.	9.3.4 9.3.5 9.3.6 9.3.7 PAPER 10.1 Cori 10.2 Driv 10.3 Ope 10.3. 10.3. 10.3. 10.3. 10.3. 10.3. 10.3. 10.3. 11.2 Driv 11.1 Cori 11.2 Driv 11.3 Ope 11.3. 11.3. 11.3. 11.3. 11.3. 11.3.	Waste toner bottle-in-position detection mechanism	0-28 0-28 0-28 0-29 0-30 0-30 0-30 0-30 0-30 0-31 0-31 0-31 0-33 0-33 0-33 0-33 0-34 0-34 0-35 0-35 0-36
10.	9.3.4 9.3.5 9.3.6 9.3.7 PAPER 10.1 Cori 10.2 Driv 10.3 Ope 10.3. 10.3. 10.3. 10.3. 10.3. 10.3. 10.3. 10.3. 10.3. 10.3. 11.3 11.3	Waste toner bottle-in-position detection mechanism	0-28 0-28 0-29 0-30 0-30 0-30 0-30 0-30 0-31 0-31 0-31 0-33 0-33 0-33 0-33 0-33 0-34 0-34 0-35 0-36 0-36 0-36
10. 11. 12.	9.3.4 9.3.5 9.3.6 9.3.7 PAPER 10.1 Cori 10.2 Driv 10.3 Ope 10.3. 10.3. 10.3. 10.3. 10.3. PAPER 11.1 Cori 11.2 Driv 11.3 Ope 11.3. 11	Waste toner bottle-in-position detection mechanism	0-28 0-28 0-28 0-29 0-30 0-30 0-30 0-30 0-31 0-31 0-31 0-31 0-33 0-33 0-33 0-33 0-33 0-33 0-34 0-35 0-36 0-36 0-36
10. 11. 12.	9.3.4 9.3.5 9.3.6 9.3.7 PAPER 10.1 Cori 10.2 Driv 10.3 Ope 10.3. 10.3. 10.3. 10.3. 10.3. 10.3. 10.3. 10.3. 10.3. 10.3. 11.3. 1	Waste toner bottle-in-position detection mechanism	0-28 0-28 0-28 0-29 0-30 0-30 0-30 0-30 0-30 0-31 0-31 0-31 0-33 0-33 0-33 0-33 0-34 0-34 0-35 0-36 0-36 0-36 0-36
10. 11. 12.	9.3.4 9.3.5 9.3.6 9.3.7 PAPER 10.1 Cori 10.2 Driv 10.3 Ope 10.3. 10.3. 10.3. 10.3. 10.3. 10.3. 10.3. 10.3. 10.3. 10.3. 11.3. 12.3. 13.3. 1	Waste toner bottle-in-position detection mechanism	0-28 0-28 0-28 0-29 0-30 0-30 0-30 0-30 0-30 0-31 0-31 0-31 0-33 0-33 0-33 0-33 0-33 0-34 0-35 0-36 0-36 0-36 0-36
10. 11. 12.	9.3.4 9.3.5 9.3.6 9.3.7 PAPER 10.1 Cori 10.2 Driv 10.3 Ope 10.3. 11.3. 11.3. 11.3. 11.3. 11.3. 11.3. 11.3. 11.3. 11.3. 11.3. 11.3. 11.3. 11.3. 11.3. 11.3. 11.3. 11.3. 11.3. 12.1. 12.1. 13. 12.2. Driv 12.2. Driv 12.3. Ope 12.3. 12.3. 12.3.	Waste toner bottle-in-position detection mechanism	O-28 O-28 O-28 O-29 O-30 O-30 O-30 O-30 O-30 O-31 O-31 O-31 O-33 O-33 O-33 O-33 O-33 O-34 O-34 O-35 O-36
10. 11. 12.	9.3.4 9.3.5 9.3.6 9.3.7 PAPER 10.1 Cori 10.2 Driv 10.3 Ope 10.3. 11.3. 11.3. 11.3. 11.3. 11.3. 11.3. 11.3. 11.3. 11.3. 11.3. 11.3. 11.3. 11.3. 11.3. 12.1. 0pe 12.2. Driv 12.3. Ope 12.3. 13.3.1	Waste toner bottle-in-position detection mechanism	O-28 O-28 O-28 O-29 O-30 O-30 O-30 O-30 O-30 O-31 O-31 O-31 O-33 O-33 O-33 O-33 O-33 O-33 O-34 O-34 O-36
10. 11. 12.	9.3.4 9.3.5 9.3.6 9.3.7 PAPER 10.1 Cori 10.2 Driv 10.3 Ope 10.3. 11.3. 11.3. 11.3. 11.3. 11.3. 11.3. 11.3. 11.3. 11.3. 11.3. 11.3. 11.3. 11.3. 11.3. 11.3. 11.3. 11.3. 12.3. 13.3. 1	Waste toner bottle-in-position detection mechanism Waste toner flow in the waste toner bottle Waste toner full condition detection control. Waste toner full condition detection control. FEED SECTION (MANUAL TRAY)	0-28 0-28 0-28 0-29 0-30 0-30 0-30 0-30 0-30 0-31 0-31 0-31 0-31 0-33 0-33 0-33 0-33 0-33 0-34 0-34 0-35 0-36 0-36 0-36 0-36 0-37 0-37 0-37
10. 11. 12.	9.3.4 9.3.5 9.3.6 9.3.7 PAPER 10.1 Cori 10.2 Driv 10.3 Ope 10.3. 11.3. 12.3.	Waste toner bottle-in-position detection mechanism	0-28 0-28 0-28 0-29 0-30 0-30 0-30 0-30 0-31 0-31 0-31 0-31 0-33 0-33 0-33 0-33 0-33 0-33 0-34 0-34 0-35 0-36 0-36 0-36 0-36 0-37 0-37 0-37 0-37 0-38 0-38 0-38 0-38 0-38 0-38 0-38
10.	9.3.4 9.3.5 9.3.6 9.3.7 PAPER 10.1 Cori 10.2 Driv 10.3 Ope 10.3. 11.3. 12.3. 12.3. 12.3. 12.3. 12.3. 12.3. 12.3. 12.3. 12.3. 12.3. 12.3. 12.3. 12.3.	Waste toner bottle-in-position detection mechanism. Waste toner flow in the waste toner bottle. Waste toner full condition detection control. Waste toner full condition detection control. FEED SECTION (MANUAL TRAY). figuration. e. ration. 1 Paper lift plate mechanism. 2 Paper separation mechanism. 3 Paper feed control. 4 Paper empty condition detection control. FEED SECTION (TRAY 1). figuration. e. ration. 1 Paper lift plate mechanism. 2 Paper separation mechanism. 3 Paper feed control. FEED SECTION (TRAY 1). figuration. e. ration. 1 Paper lift plate mechanism. 2 Paper separation mechanism. 3 Paper feed control. 4 Paper empty condition detection control. 5 Tray open/close detection control. 6 Paper jam detection control. 7 Registration neller control. 8 Registration roller control. 1 Conveyance speed control. 2 Registration roller control. 3 Control of loop formed before registrat	0-28 0-28 0-28 0-29 0-30 0-30 0-30 0-30 0-31 0-31 0-31 0-31 0-33 0-33 0-33 0-33 0-33 0-33 0-33 0-34 0-35 0-36 0-36 0-36 0-36 0-36 0-37 0-37 0-38 0-38 0-38 0-38
10.11.12.13.	9.3.4 9.3.5 9.3.6 9.3.7 PAPER 10.1 Cori 10.2 Driv 10.3 Ope 10.3. 11.3. 11.3. 11.3. 11.3. 11.3. 11.3. 11.3. 11.3. 11.3. 11.3. 11.3. 11.3. 11.3. 11.3. 11.3. 11.3. 11.3. 11.3. 11.3. 12.1 Cori 12.1 Cori 12.2 Driv 12.3 Ope 12.3. 13.3. 13.3	Waste toner bottle-in-position detection mechanism. Waste toner flow in the waste toner bottle. Waste toner full condition detection control. Waste toner full condition detection control. FEED SECTION (MANUAL TRAY). figuration. e. ration. 1 Paper lift plate mechanism. 2 Paper separation mechanism. 3 Paper feed control. 4 Paper empty condition detection control. FEED SECTION (TRAY 1). figuration. e. ration. 1 Paper lift plate mechanism. 2 Paper separation mechanism. 3 Paper feed control. 4 Paper empty condition detection control. FEED SECTION (TRAY 1). figuration. e. ration. 1 Paper lift plate mechanism. 2 Paper separation mechanism. 3 Paper feed control. 5 Tray open/close detection control. 5 Tray open/close detection control. 6 ration. 1 Conveyance speed control. 2 Registration roller control. 3 Control of loop formed before registration roller. 4 Paper neutralization. <	0-28 0-28 0-28 0-29 0-30 0-30 0-30 0-30 0-31 0-31 0-31 0-31 0-33 0-33 0-33 0-33 0-33 0-33 0-34 0-35 0-36 0-36 0-36 0-36 0-37 0-38 0-38 0-38 0-38 0-39 0-39 0-39 0-39 0-39

13.2 Drive	O-39
13.3 Operation	O-39
13.3.1 Fusing roller drive control.	O-39
13.3.2 Fusing temperature control	
13.3.4 Fusing speed control	
13.3.5 Detecting New Article	
13.3.6 Fusing unit life detection	0-42
14. PAPER EXIT/REVERSE SECTION	0-43
14.1 Configuration	O-43
14.2 Drive	0-43
14.3 Operation	
	0.46
15.1 Configuration	
15.2 Drive	
15.3 Operation	0-47
15.3.1 Paper transport control	0-47
15.3.2 Duplex print control	0-47
16. IMAGE STABILIZATION CONTROL	O-51
16.1 Outline	
16.2 Deration sequence	
16.2.2 Developing bias correction	0-51
16.2.3 Control of the maximum amount of toner sticking to the transfer belt	
16.2.4 Laser light intensity correction control	0-52
16.2.5 Gamma correction control	O-52
16.2.6 Color shift correction	0-52
16.3 Control descriptions	
16.3.2 Control sequence by mode	0-52 0-52
16.4 Operation timing	
16.4.1 Predrive operation	O-53
16.4.2 During a print cycle	O-53
16.4.3 Service Mode	0-53
16.4.4 Expert Adjustment	
17. POWER SUPPLY SECTION	
17.1 Power switch/Power key	0-54 0-54
17.1.2 Operation	
18 FAN CONTROL	Q-56
18.1 Configuration	
18.2 Operation	O-56
18.2.1 Function	O-56
18.2.2 Fan control	O-56
19. INDICATOR FUNCTION	O-57
19.1 Configuration	
19.2 Control	
19.2.1 Elloi lallip 19.2.2 Start lamn	0-57 0-57
PA AUTOMATIC DOCUMENT FEEDER SECTION	PA-1
1. Composition	PA-1
2. Drive	PA-2
3. Operation	PA-3
3.1 Document feed mechanism	PA-3
3.2 Document separation mechanism	PA-3
3.3 Document transport mechanism.	PA-4
3.4 Document exit mechanism	PA-4
Switching mechanism for tumover/paper exit	PA-4
4. Faper Fall.	PA-6
4.1 I-sided mode	ΡΑ-0 ΡΔ_6
PB THEORY OF OPERATION PF-P14	PB-1
1. Configuration	PB-1

	2. C	Drive		PB-2
	3. (Operation	٩	PB-3
		3.1 Pape	er feed control	PB-3
		3.1.1	Paper lift plate mechanism	PB-3
		3.1.2	2 Feed roller/vertical transport roller control	PB-3
		3.1.3	3 Paper separation mechanism	PB-4
		3.1.4	Paper detection mechanism	PB-4
		3.1.0	S Edge guide plate	PB-4 PR-4
		317	7 Trailing edge guide plate	PB-5
		3.1.8	Paper size detection control	PB-5
		3.1.9	Paper reference position adjustment mechanism	PB-5
		3.1.1	10 Paper jam detection control	PB-6
Q	PA	RTS GI	UIDE MANUAL (1st Edition)	Q-1
-	INF	ORMATI	ION FOR PARTS GUIDE MANUAL	Q-1
	НО	N TO M	AKE THE BEST USE OF THIS MANUAL	Q-2
	SYS		JTLINE	Q-3
	1. F	Printer Co	olor (bizhub C3110)	Q-4
		DIAGRA	M OF MAIN PARTS SECTION	Q-4
		1.1 ADF	UNIT	Q-5
		1.1.1	l P1	Q-5
		1.1.2	2 P2	Q-6
		1.2 IR U	NII	Q-7
		1.2.1 13 ∩¤⊏	ΓΡΟ Έρατιων ρανεί section	/-Q-1Q-1
		1.3 01 2	P4	0-D 8-Q
		1.4 EXT	ERNAL PARTS	Q-9
		1.4.1	l P5	Q-9
		1.5 POV	VER SUPPLY SECTION	Q-10
		1.5.1		Q-10
		1.6 TON	IER BOTTLE DRIVE SECTION	Q-11
		1.6.1 17 TPA		Q-11 O_12
		1.7 164	P8	Q-12 Q-12
		1.8 TRA	NSFER GUIDE SECTION	Q-13
		1.8.1	I P9	Q-13
		1.9 HIGH	H VOLTAGE SECTION	Q-14
		1.9.1	I P10	Q-14
		1.10 PR		Q-15
		1.10	1 P11 Seette section	Q-15 O 16
		1.11 04	1 P12	Q-10 0-16
		1.12 VE	RTICAL CONVEYANCE SECTION	Q-17
		1.12	1 P13	Q-17
		1.12	.2 P14	Q-18
		1.12	.3 P15	Q-19
		1.13 DU	P REVERSE DRIVE SECTION	Q-20
		1.13	.1 P10 SING SECTION	Q-20 0 21
		1 14	1 P17	
		1.15 MA	IN DRIVE SECTION	Q-22
		1.15	1 P18	Q-22
		1.15	.2 P19	Q-23
		1.15	.3 P20	Q-24
		1.16 PA	PER FEED DRIVE SECTION	Q-25
			1 P21	Q-25
		1.17 ELL 1.17	EUTRIDAL OUMPUNENTS	Q-26 0_26
		1.18 WIF	RING ACCESSORIES AND JIGS	Q-27
		1.18	1 P23	Q-27
		1.19 AC	CESSORY PARTS	Q-28
		1.19	1 P24	Q-28
		1.20 MA	INTENANCE LIST	Q-28
		1.21 DE		Q-29
	2. F	Paper Fe	eder (PF-P14)	Q-30
		2.1 EXT	EKNAL PARIS	Q-30
		2.1.1 2.2 FRA	ME SECTION	Q-30 Q-31

	2.2.1 P2	Q-31
2	2.3 PAPER TAKE-UP SECTION	Q-32
		Q-32
2	2.4 DRIVE SECTION	Q-33
2	2.5 PAPER TRAY SECTION	Q-34
	2.5.1 P5	Q-34
	2.5.2 P6	Q-35
2	2.6 WIRING ACCESSORIES AND JIGS	Q-36
	2.6.1 P7	Q-36
2	2.7 MAINTENANCE LIST	Q-36
3 E	ax Kit (FK-512)	Q-38
3	3.1 FK-512	Q-38
	3.1.1 P1	Q-38
3	3.2 DESTINATION	Q-38
4. M	lount Kit (MK-P04)	Q-40
4	4.1 MK-P04	Q-40
	4.1.1 P1	Q-40
- 5 Ц		Q-40
Э. П Г	DD (ПD-F00)	Q-42 0-42
	5.1.1 P1	Q-42
5	5.2 DESTINATION	Q-42
S LAY	OUT DRAWINGS FOR RELATED PARTS BY EACH TROUBLE CODE	S-1
1. 00	010	S-1
2. 00	017	S-2
3. 00	018	S-3
4. 00	D4A	S-4
5. 00	D4E	S-5
6. 00	062	S-6
7.00	094	S-7
8. 00	096	S-8
9. 0 [.]	101	S-9
10. (0300_0315	S-11
11 (n310	S-12
12 (0500 0502 0503 0510 0520	S-13
12. (DE52 0E53 0E54 0E55	S-14
14	1304 1305 1306 1307	-14 2_15
14.	1304, 1303, 1300, 1307	
10.	130B, 1300, 130D, 130E	
16.	13DD, 4091, 4092	
17. *	13E2, 13E3, 13F0, C164	S-18
18. 3	3C00, 3C10	S-19
19. 4	4901, C151, D2B1, D501	S-20
20. 6	6751, 6790, 6791, 6792, 6793, 9401	S-21
21. (C161, D3A2, D3F2, D3F3, D3F4	S-22
22. I	D004, D091	S-23
23. I	D092, D093, D094, D095, D096	S-24
24. I	D0A2, D0A3, D0A4, D0A5, D0A6	S-25

Revision List bizhub C3110 Version 1.1

No.	ID	Title	Ver.	Descriptions of revision	Date
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A SAFETY AND IMPORTANT WARNING ITEMS

Read carefully the safety and important warning items described below to understand them before doing service work.

1. IMPORTANT NOTICE

- Because of possible hazards to an inexperienced person servicing this product as well as the risk of damage to the product, KONICA MINOLTA, INC. (hereafter called KM) strongly recommends that all servicing be performed only by KM-trained service technicians.
- Changes may have been made to this product to improve its performance after this Service Manual was printed. Accordingly, KM does not warrant, either explicitly or implicitly, that the information contained in this service manual is complete and accurate.
- The user of this service manual must assume all risks of personal injury and/or damage to the product while servicing the product for which this service manual is intended. Therefore, this service manual must be carefully read before doing service work both in the course of technical training and even after that, for performing maintenance and control of the product properly.
- Keep this service manual also for future service.

2. DESCRIPTION ITEMS FOR DANGER, WARNING AND CAUTION

2.1 Description items in this Service Manual

In this Service Manual, each of three expressions " \triangle DANGER", " \triangle WARNING", and " \triangle CAUTION" are defined as follows.

When servicing the product, the relevant works (disassembling, reassembling, adjustment, repair, maintenance, etc.) need to be conducted with utmost care.



2.2 Description items for safety and important warning items

Symbols used for safety and important warning items are defined as follows:



Illustrations representing the power plug and wall outlet used in the following descriptions are only typical. Their shapes differ depending on the country or region.

3. SAFETY WARNINGS

3.1 MODIFICATIONS NOT AUTHORIZED BY KONICA MINOLTA, INC.

KONICA MINOLTA brand products are renowned for their high reliability. This reliability is achieved through high-quality design and a solid service network.

Product design is a highly complicated and delicate process where numerous mechanical, physical, and electrical aspects have to be taken into consideration, with the aim of arriving at proper tolerances and safety factors. For this reason, unauthorized modifications involve a high risk of degradation in performance and safety. Such modifications are therefore strictly prohibited. the points listed below are not exhaustive, but they illustrate the reasoning behind this policy.

3.1.1 Actions requiring special attention



WARNING

 Do not disable safety functions (for example, interlocks and safety circuits).
 Safety devices become inoperative, resulting in fire from high heat, electric shock, or injury.



3.2 POWER PLUG SELECTION

In some countries or areas, the power plug provided with the product may not fit the wall outlet used in the area. In that case, it is the obligation of the customer engineer (hereafter called the CE) to attach the appropriate power plug or power cord set in order to connect the product to the supply.

3.2.1 Power Cord Set or Power Plug



WARNING • Attach power plug which meets the following criteria: - having configuration intended for the connection to wall outlet appropriate for the product's rated voltage and current, and - the plug has pin/terminal(s) for grounding, and - meets regulatory requirements for the area. Use of inadequate cord set leads to the product connecting to inadequate power supply (voltage, current capacity, grounding), and may result in fire or electric shock. The wires in the power supply cord shall be connected to the terminals of the plug in accordance with the following: Color of the wire Terminal of the plug Marked with "L", "A" or "W" Brown Black or colored RED Marked with "N" Light Blue White or colored BLACK Marked with "E", "PE" or " <u></u>" Green-and-Yellow or colored GREEN or GREEN-AND-YELLOW Wrong connection may cancel safeguards within the product, and results in fire or electric shock.

3.3 CHECKPOINTS WHEN PERFORMING ON-SITE SERVICE

KONICA MINOLTA brand products are extensively tested before shipping, to ensure that all applicable safety standards are met, in order to protect the customer and customer engineer (hereafter called the CE) from the risk of injury. However, in daily use, any electrical equipment may be subject to parts wear and eventual failure. In order to maintain safety and reliability, the CE must perform regular safety checks.

- 3.3.1 Power Supply
 - (1) Connection to Power Supply



WARNING

• Make sure the power cord is plugged into the wall outlet securely.



If the power plug is left loose in the wall outlet, contact failure may occur, leading to abnormal heating of the power plug and a risk of fire.

(2) Ground Connection

	WARNING	
•	 Check whether the product is grounded properly. If current leakage occurs in an ungrounded product, you may suffer electric shock while operating the product. Connect power plug to grounded wall outlet. 	
	 Make sure of correct ground connection. If the grounding wire is connected to an inappropriate part, there is a risk of explosion or electric shock. Do not connect the grounding wire to any of the following parts: a. Gas pipe: Gas explosion or fire may result. b. Lightning rod: Risk of electric shock or fire during lightning. c. Grounding wire for telephone line: Risk of electric shock or fire during lightning. d. Water pipe and faucet: These parts do not serve as a ground connection because of a plastic part that is very often installed midway within the water pipe. 	

(3) Power Plug and Cord



- When unplugging the power cord, grasp the plug, not the cable.
 - The cable may be broken, leading to a risk of fire and electric shock.

(4) Wiring



3.3.2 Installation Requirements

(1) Prohibited Installation Places



 Do not place the product near flammable materials or volatile materials that may catch fire.

A risk of fire exists.

• Do not place the product in a place exposed to water such as rain.

A risk of fire and electric shock exists.

(2) When not Using the Product for a long time

WARNING

When the product is not to be used for an extended period of time (for holidays, for example), instruct the user to turn OFF the power switch and unplug the power cord from the power outlet.



Dust collected around the power plug and outlet may cause fire.

(3) Ventilation



(4) Stability



 Be sure to lock the caster stoppers. In the case of an earthquake, the product may slide, leading to an injury.

3.3.3 After Service

(1) Inspection before Servicing



- Do not leave the machine unattended during transportation, installation, and/or inspection.
 If the machine is left unattended, face protrusions toward the wall or take other necessary precautions to prevent a user or other person in the area from stumbling over a protrusion of the machine or being caught by a cable, possibly causing a fall to the floor or other personal injury.
- (2) Work Performed with the Product Powered On



• Do not keep gazing at a lamp light during the service procedure with the product powered ON.

Eyestrain may result.

(3) Safety Checkpoints









(4) Handling of Consumables

<u>∧</u>WARNING



- For handling of consumables (toner, developer, photoconductor, etc.) and their
 - storage precautions, see MSDS.

(5) Handling of Service Materials

A CAUTION

 \bigcirc

 Handle with care according to MSDS. Use of solvent may involve explosion, fire, or personal injury.

尺	

3.4 FUSE

CAUTION Double pole / neutral fusing

ATTENTION

Double pôle / fusible sur le neutre.

3.5 Used Batteries Precautions

3.5.1 ALL Areas

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 the manufacturer's instructions.

3.5.2 Germany

VORSICHT!

Explosionsgefahr bei unsachgemäßem Austausch der Batterie. Ersatz nur durch denselben oder einen vom Hersteller empfohlenen gleichwertigen Typ. Entsorgung gebrauchter Batterien nach Angaben des Herstellers.

3.5.3 France

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.

3.5.4 Denmark

ADVARSEL!

Lithiumbatteri - Eksplosionsfare ved fejlagtig håndtering. Udskiftning må kun ske med batteri af samme fabrikat og type. Levér det brugte batteri tilbage til leverandøren.

3.5.5 Finland, Sweden

VAROITUS

Paristo voi räjähtää, jos se on virheellisesti asennettu. Vaihda paristo ainoastaan laitevalmistajan suosittelemaan tyyppiin. Hävitä käytetty paristo valmistajan ohjeiden mukaisesti.

VARNING

Explosionsfara vid felaktigt batteribyte.

Använd samma batterityp eller en ekvivalent typ som rekommenderas av apparattillverkaren. Kassera använt batteri enligt fabrikantens instruktion.

3.5.6 Norway

ADVARSEL

Eksplosjonsfare ved feilaktig skifte av batteri.

Benytt samme batteritype eller en tilsvarende type anbefalt av apparatfabrikanten. Brukte batterier kasseres i henhold til fabrikantens instruksjoner.
3.6 Laser Safety

3.6.1 Laser Safety

This is a digital machine certified as a Class 1 laser product. There is no possibility of danger from a laser, provided the machine is serviced according to the instruction in this manual.

3.6.2 Internal Laser Radiation

- This product employs a Class 3B laser diode that emits an invisible laser beam. The laser diode and the scanning polygon mirror are incorporated in the print head unit.
- The print head unit is NOT A FIELD SERVICEABLE ITEM. Therefore, the print head unit should not be opened under any circumstances.

semiconductor laser		
Maximum power of the laser diode	22 mW	
Maximum average radiation power (*)	13.6 µW	
Wavelength	770 to 800 nm	

*at laser aperture of the Print Head Unit



[1] Laser Aperture of the Print Head Unit	
---	--

(1) U.S.A., Canada (CDRH Regulation)

- This machine is certified as a Class 1 Laser product under Radiation Performance Standard according to the Food, Drug and Cosmetic Act of 1990. Compliance is mandatory for Laser products marketed in the United States and is reported to the Center for Devices and Radiological Health (CDRH) of the U.S. Food and Drug Administration of the U.S. Department of Health and Human Services (DHHS). This means that the device does not produce hazardous laser radiation.
- The label shown on "A.3.6.3 Laser Safety Label" indicates compliance with the CDRH regulations and must be attached to laser products marketed in the United States.



Use of controls, adjustments or performance of procedures other than those specified in this manual may result in hazardous radiation exposure.

semiconductor laser			
Maximum power of the laser diode	22 mW		
Wavelength	770 to 800 nm		

(2) All Areas

▲ CAUTION

Use of controls, adjustments or performance of procedures other than those specified in this manual may result in hazardous radiation exposure.

semiconductor laser			
Maximum power of the laser diode 22 mW			
Wavelength	770 to 800 nm		

(3) Denmark

ADVARSEL

Usynlig laserstråling ved åbning, når sikkerhedsafbrydere er ude af funktion. Undgå udsættelse for stråling. Klasse 1 laser produkt der opfylder IEC60825-1 sikkerheds kravene.

halvlederlaser		
Laserdiodens højeste styrke 22 mW		
bølgelængden	770 to 800 nm	

(4) Finland, Sweden

LUOKAN 1 LASERLAITE KLASS 1 LASER APPARAT

▲VAROITUS!

Laitteen käyttäminen muulla kuin tässä käyttöohjeessa mainitulla tavalla saattaa altistaa käyttäjän turvallisuusluokan 1 ylittävälle näkymättömälle lasersäteilylle.

puolijohdelaser			
Laserdiodin suurin teho	22 mW		
aallonpituus	770 to 800 nm		

⚠VARNING!

Om apparaten används på annat sätt än i denna bruksanvisning specificerats, kan användaren utsättas för osynlig laserstrålning, som överskrider gränsen för laserklass 1.

halvledarlaser			
Den maximala effekten för laserdioden	22 mW		
våglängden	770 to 800 nm		



Avattaessa ja suojalukitus ohitettaessa olet alttiina näkymättomälle lasersäteilylle. Älä katso säteeseen.

⚠ VARNING!

Osynlig laserstråining när denna del är öppnad och spärren är urkopplad. Betrakta ej stråien.

(5) Norway

ADVERSEL

Dersom apparatet brukes på annen måte enn spesifisert i denne bruksanvisning, kan brukeren utsettes for unsynlig laserstrålning, som overskrider grensen for laser klass 1.

halvleder laser			
Maksimal effekt till laserdiode 22 mW			
bølgelengde	770 to 800 nm		

3.6.3 Laser Safety Label

A laser safety label is attached to the outside of the machine as shown below.



3.6.4 Laser Caution Label

A laser caution label is attached to the inside of the machine as shown below.



3.6.5 PRECAUTIONS FOR HANDLING THE LASER EQUIPMENT

- Be sure to unplug the power cord whenever performing a service job in the laser beam path (around the PH unit).
- If it is absolutely unavoidable to perform a service job with the power cord plugged in, strictly observe the following precautions:
 - 1. Before starting the service job, take off your watch, ring, and other reflective articles and be sure to wear laser protective goggles.
 - 2. Keep other personnel away from the work site.
 - 3. Do not bring any highly reflective tool into the laser beam path during the service procedure.

4. WARNING INDICATIONS ON THE MACHINE

Caution labels shown are attached in some areas on/in the machine. When accessing these areas for maintenance, repair, or adjustment, special care should be taken to avoid burns and electric shock.

4.1 Warning indications inside the machine



You may be burned or injured if you touch any area that you are advised not to touch by any caution label. Do not remove caution labels. If any caution label has come off or soiled and therefore the caution cannot be read, contact our service office.









Never touch the electrical contacts of the toner cartridge or the imaging unit, as an electrostatic discharge may damage the product.

4.2 Warning indications on the boards



 To avoid electric shock, after turning OFF the power switch, do not touch the DC power supply unit for 9 minutes.

If the DC power supply unit is faulty, it may take time before its voltage drops sufficiently.



5. MEASURES TO TAKE IN CASE OF AN ACCIDENT

- 1. If an accident has occurred, the distributor who has been notified first must immediately take emergency measures to provide relief to affected persons and to prevent further damage.
- 2. If a report of a serious accident has been received from a customer, an on-site evaluation must be carried out quickly and KM must be notified.
- 3. To determine the cause of the accident, conditions and materials must be recorded through direct on-site checks, in accordance with instructions issued by KM.
- 4. For reports and measures concerning serious accidents, follow the regulations specified by every distributor.

B NOTATION OF THE CONTENTS

1. Notation of the service manual

1.1 Product name

In this manual, each of the products is described as follows:

(1)	Bizhub C3110	Main body
(2)	Microsoft Windows Vista:	Windows Vista
	Microsoft Windows 7:	Windows 7
	Microsoft Windows 8:	Windows 8
	Microsoft Windows Server 2003:	Windows Server 2003
	Microsoft Windows Server 2008:	Windows Server 2008
	Microsoft Windows Server 2012:	Windows Server 2012

When the description is made in combination of the OS's mentioned above:

Windows Server 2012/8/7/Vista/Server 2008 /Server 2003 Windows 8/7/Vista Windows Server 2012/Server 2008/Server 2003

1.2 Brand name

The company names and product names mentioned in this manual are the brand name or the registered trademark of each company.

1.3 Feeding direction

- · When the long side of the paper is parallel with the feeding direction, it is called short edge feeding. The feeding direction which is perpendicular to the short edge feeding is called the long edge feeding. Short edge feeding will be identified with [S (abbreviation for Short edge feeding)] on the paper size. No specific notation is added for the
- long edge feeding. When the size has only the short edge feeding with no long edge feeding, [S] will not be added to the paper size. <Sample notation>

Paper size	Feed direction	Notation
A5	Long edge feeding	A5
	Short edge feeding	A5S
A4	Short edge feeding	A4

C PRODUCT SPECIFICATIONS

1. bizhub C3110

1.1 Type

Туре	Flatbed full-color printer/copier/scanner with stationary plate and DF
Printing system	Semiconductor laser to plain paper
Printing process	Laser electrostatic printing system
Exposure system	4 laser diode and 1 polygon mirror
PC drum type	OPC (organic photo conductor):KM110
Scanning density	Main scan direction: 600 dpi, Sub scan direction: 600 dpi,DF:600dpi(Max)
Print resolution	600 x 600 dpi, 1200 x 1200 dpi
Exposure lamp	LED
Original scanning	 Flatbed CIS module scanning system Sheet through system when DF is used
Registration	Rear left edge
Paper feeding system	 Manual Tray: Small roller separation system with torque limiter Tray1: Small roller separation system with torque limiter
Developing system	Single-element developing system
Charging system	Charge roller system
Image transfer system	Interpaperte transfer belt system
Paper separating system	Curvature separation + charge-neutralizing system
Fusing system	Belt fusing
Paper exit system	Face down (Output tray capacity: 150 sheets (A4S/LetterS))

NOTE

• These specifications are subject to change without notice.

1.2 Functions

Types of original	Sheets Books			
	Three-dimensional objects			
Max. original size	A4S or Legal(DF only)			
Max. original weight	• 3kg(6.6lb)			
Multiple copies	• 1 to 99			
Warm-up time	Avg. 36 seconds (Time until the printer can start printing after being turned on at room temperature (23°C))			
Process speed	 185 mm/sec. (plain paper, 600 dpi) 92.5 mm/sec. (thick paper1/2, envelope, post card, label, 1200dpi) 			
First-page output time	Simplex: (Monochrome/Full color)	 12.9 seconds for A4S (plain paper) 12.9 seconds for Letter (plain paper) 		
Print speed	Simplex: Monochrome/Full color:	 31.0 page per minutes for A4S (plain paper) 32.5 page per minutes for Letter (plain paper) 15.5 page per minutes for A4S (thick paper1/2) 16.0 page per minutes for Letter (thick paper1/2) 		
	Duplex (double-sided): Monochrome/Full color:	 31.0 sheet per minutes for A4S (plain paper) 32.5 sheet per minutes for Letter (plain paper) 		
Image loss	Сору	 Leading edge: 4 mm(0.15 inch) Trailing edge: 4 mm(0.15 inch) Rear edge: 4 mm(0.15 inch) Front edge: 4 mm(0.15 inch) 		
	Print	 Leading edge: 4.2 mm (0.16 inch) Trailing edge: 4.2 mm (0.16 inch) Rear edge: 4.2 mm (0.16 inch) Front edge: 4.2 mm (0.16 inch) 		
Fixed zoom ratios	Reduction	Metric area	x0.25 x0.50 x0.70 x0.86	
		Inch area	x0.25 x0.50 x0.64 x0.78	
	Enlargement	Metric area	x1.15 x1.41 x2.00 x4.00	

		Inch area	x1.29 x1.54 x2.00 x4.00
Variable zoom ratios	0.25 to 4.00	in 0.01 increments	
Paper size	Manual bypass	A4S to A6S Legal	
	Tray 1	A4S to A6S	
	Tray 2 (Option)	A4S to B5S Legal	
External memory function	 USB flash memory compatible with the USB (1.1/2.0) interface FAT32-formatted memory device Not including security features (Possible to turn OFF security features) Memory capacity of 2GB or less recommended. A USB flash memory that appears as multiple drives on a computer cannot be used. 		
Memory capacity	1GB (Max.2GB:Option)		

NOTE

• These specifications are subject to change without notice.

1.3 Paper

Туре		Paper source (maximum tray capacity)		
		Manual Feed Tray	Tray 1	Tray 2
Plain paper (60 to 90 g/m2; 16 to 24 lb)		100 shasts	050 abaata	F00 abaata
	Recycled paper (60 to 90 g/m2; 16 to 24 lb)	100 sheets	250 sheets	SUD SHEELS
	Thick 1 (91 to 150 g/m2)			
	Thick 2 (151 to 210 g/m2)			
Banar tuna	Label			
Paper type	Letterhead	20 sheets	20 sheets	
	Glossy 1 (100 to 128 g/m2)			-
	Glossy 2 (129 to 158 g/m2)			
	Postcard			
	Envelope	10 sheets	-	
Papar dimonsions	Width	92 to 216 mm* (3.6 to 8.5 inch)	92 to 216 mm* (3.6 to 8.5 inch)	B5S,Exective,Letter S
Paper unnensions	Length	148 to 356 mm* (5.8 to 14.0 inch)	148 to 297 mm* (5.8 to 11.7 inch)	A4S,G-Legal,Legal

• *: If the width set 210 mm to 216 mm, the max. length is to 279.6 mm.

NOTE

• These specifications are subject to change without notice.

1.4 Materials

Materials	Number of prints (Field standard yield)	Parts name
Toner cartridge/C	4,700 prints	TNP51C
Toner cartridge/M	4,700 prints	TNP51M
Toner cartridge/Y	4,700 prints	TNP51Y
Toner cartridge/K	4,700 prints	TNP51K
Imaging unit/C	20,000 prints	IUP23C
Imaging unit/M	20,000 prints	IUP23M
Imaging unit/Y	20,000 prints	IUP23Y
Imaging unit/K	20,000 prints	IUP23K
Waste toner box	19,700 prints	WB-P03

1.4.1 Conditions for defining the life value for the field standard yield

Specified conditions	bizhub C3110		
Copy/print method	2 P/J		
Copy/print conditions	Standard resolu	Standard resolution, plain paper, 1-sided mode	
Color ratio	20%		
Original density	B/W = 6 % for each color, 6 % for black		
Average print volume/month	US	420 prints/month (Color)	
		1,680 prints/month (Black)	
	EU	500 prints/month (Color)	

2,000 prints/month (Black)

1.5 Print volume

Average	US	Color print	420 prints/month
		Black print	1,680 prints/month
	EU	Color print	500 prints/month
		Black print	2,000 prints/month
Maximum		120,000 prints/month	

1.6 Machine specifications

Voltage:		AC 110V, 127V, 120 V, 220 to 240 V
Power requirements	Frequency:	50 to 60 Hz
Max power consumption		 1,000 W or less (110 V) 1,100 W or less (120 V) 1,200 W or less (127 V) 1,200 W or less (220-240 V)
Dimensions		 446.5 (W) x 544 (D) x 500 (H) mm 17.6 (W) x 21.4 (D) x 19.6 (H) inch
Weight		 29.5 kg (65lb) or less without consumables 34.3 kg (75.6 lb) or less with consumables
Operating noise		 During standby:33 dB (A) or less During printing:53 dB (A) or less

NOTE

• These specifications are subject to change without notice.

1.7 Operating environment

Temperature	10°C to 30°C (50°F to 86°F) (Fluctuations of no more than 10°C (18°F) within an hour.)
Humidity	15% to 85% (Fluctuations of no more than 10% within an hour.)

NOTE

• These specifications are subject to change without notice.

1.8 Print functions

	bizhub C3110			
First print time	Simplex:	12.9 seconds for A4S (plain paper)		
(Tray1/2 A4S or 8 1/2 x 11, full size)	(Monochrome/Full color)	12.9 seconds for Letter (plain paper)		
	Duplex: (Monochrome/Full color)	18.1 seconds for A4S (plain paper)		
Printing speed for multi-print cycle (A4S or 8 1/2 x 11, plain paper)	Simplex:	 31.0 page per minutes for A4S (plain paper) 32.5 page per minutes for Letter (plain paper)		
	Duplex (double- sided):	 31.0 sheet per minutes for A4S (plain paper) 32.5 sheet per minutes for Letter (plain paper)		
Print resolution	 Standard: 600 dpi High quality: 1,200 	 Standard: 600 dpi in main scanning direction x 600 dpi in sub scanning direction High quality: 1,200 dpi in main scanning direction x 1,200 dpi in sub scanning direction 		
Printer language	PCL5c/e Emulation,PCL 6 (XL Version 3.0) Emulation,PostScript 3 Emulation (3016),XPS ver. 1.0,PPML/GA2.2,PPML/VDX,OpenXPS,PDF Direct Printing (Version 1.7)			
Supported operating systems (server)	Windows Server 2003 SP2 / 2008 SP2/ 2012 / 2012 R2 Windows Server 2003 x64 Edition SP2 / 2008 x64 Edition SP2			
Supported operating systems (client)	 Windows SP3 / Vista SP2 / 7 SP1 / 8 / 8.1 Windows x64 Edition SP2/ Vista x64 Edition SP2 Macintosh OS X ver 10.2.8 or later Red Hat Enterprise Linux 5 or later 			
Printer driver (PCL6)	 Windows Vista / 7 / 8 / 8.1 / Server 2003 / 2008 / 2012 / 2012 R2 Windows Server 2003 / Vista / Server 2008 x64 Edition 			
Printer driver (PostScript 3)	 Windows Vista / 7 / 8 / 8.1 / Server 2003 / 2008 / 2012 / 2012 R2 Windows Server 2003 / Vista / Server 2008 x64 Edition PPD + PDE printer driver of Macintosh OS X 10.2.8 or later PPD file used for Red Hat Enterprise Linux printer driver 			
Printer driver (XPS)	Windows Vista / 7 / 8 / 8.1 / Server 2003 / 2008 / 2012 / 2012 R2 Windows Vista / Server 2008 x64 Edition			
Work memory	1GB (Max. 2GB: Option)			
Host interface	Ethernet 10Base-T, 100Base-TX, 1000Base-T, USB2.0/1.1, USB_Host			
Built-in fonts (PCL)	European 80 fonts			

Built-in fonts (PostScript 3	European 137 fonts (Type1 font)
Emulation)	

• *With HDD installed

NOTE
• These specifications are subject to change without notice.

2. PF-P14

2.1 Type

Name	Add-on 500-sheet paper feed cassette
Туре	Front-loading type
Installation	Desk type
Paper feeding system	Paper separation by a small-diameter roller with torque limiter
Document alignment	Center

2.2 Paper type

Paper size	B5S(JIS)/Executive/LetterS/A4S/Letter Plus/G-Legal/Legal
Paper type	 Plain paper: 60 to 90 g/m2 (16 to 24 lb) Recycled paper: 60 to 90 g/m2 (16 to 24 lb)
Capacity	500 sheets

2.3 Machine specifications

Power Requirements	 DC 24 V ± 10% (supplied from the main body) DC 3.3 V ± 5%
Max. Power Consumption	16 W or less
Dimensions	 447 mm (W) × 519 mm (D) × 117 mm (H) 17.6 inch (W) × 20.4 inch (D) × 4.6 inch (H)
Weight	• Approx. 8.0 kg (17 ³ /4 lb)

2.4 Operating environment

Humidity 15% to 85% (with a fluctuation of 20%h)	

NOTE

• These specifications are subject to change without notice.

3. i-Option LK-106/LK-107/LK-108/LK-111

3.1 Available function for i-Option

· The functions available for i-Option are as follows.

3.1.1 List of advanced functions

Function	Overview
Barcode font	Allows you to generate a bar code based on data sent to this machine from the ERP (Enterprise Resource Planning) system, and print it from this machine. You can directly print data without using the printer driver.
Unicode font	Allows you to print text information (unicode) of multiple languages sent to this machine from the ERP (Enterprise Resource Planning) system. You can directly print data without using the printer driver.
OCR font	OCR font can be used on this machine.*
ThinPrint function	Allows you to enable the ThinPrint function on this machine. ThinPrint is such a function allows you to make a speedy print by compressing the data or controlling the marginal zone when sending a print job from ThinPrint Engine (.print Engine) to ThinPrint Client (.print Client). This machine operates as ThinPrint Client (.print Client).

• *: OCR font is standardized font that enables text to be appropriately recognized when the OCR (Optical Character Recognition) is used.

3.1.2 Types of advanced functions

(1) Table 1

	Kit name i-Option						
Function							
	LK-106 LK-107 LK-108		LK-108	LK-111			
Barcode font	0	-	-	-			
Unicode font	-	0	-	-			
OCR font	-	-	0	-			
ThinPrint function	-	-	-	0			

3.1.3 Activation procedures of i-Option

- For details of the activation procedures, refer to the followings.

 Activation via ADDMIN SETTINGS: I.2.1.14 Admin Settings License Management
- Activation via Service Mode: I.5.3.4 License Management Activation

D OVERALL COMPOSITION

1. SYSTEM CONFIGURATION



[1]	bizhub C3110	[2]	HD-P06 (Hard disk kit)
[3]	AU-201 (Authentication Unit)	[4]	i-Option (LK-106/107/108/111)
[5]	MK-P04 (Mounting Kit)	[6]	FK-512 (Fax kit)
[7]	MK-P07 (Mounting kit) *	[8]	NC-P03 (Network card) *
[9]	PF-P14 (Paper feed unit)	-	-

*: Only the machine where a "•" mark is put beside the serial code on the maker plate is allowed to install the Network card. (This function is to be soon mounted.)

2. SECTION CONFIGURATION



[1]	DF section	[2]	Scanner section
[3]	Fusing section	[4]	Duplex section
[5]	Transfer section (2nd transfer)	[6]	Registration roller
[7]	Manual feed tray section	[8]	Paper feed section (Tray 2)
[9]	Paper feed section (Tray 1)	[10]	Write section
[11]	Imaging unit section	[12]	Transfer section (1st transfer)
[13]	Power supply section	-	-

3. PAPER PATH



4. CONTROL BLOCK DIAGRAM



Control system line

Image bus line

5. IMAGE CREATION PROCESS



[1]	Image processing board	The intensity of the laser light is controlled based on the image signal transmitted to this board.
[2]	LD exposure	• The surface of the PC drum is irradiated with laser light, and an electrostatic latent image is thereby formed.
[3]	PC drum	• The image of the original projected onto the surface of the PC drum is changed to a corresponding electrostatic latent image.
[4]	PC drum charging	Apply DC (-) charge to the drum.
[5]	Developing	• The toner, agitated and negatively charged in the toner chamber, is attracted onto the electrostatic latent image formed on the surface of the PC drum. It is thereby changed to a visible, developed image.
[6]	1st image transfer	• A DC positive voltage is applied to the backside of the transfer belt, thereby allowing the visible, developed image on the surface of each of the PC drums (Y, M, C and K) to be transferred onto the transfer belt.
[7]	2nd image transfer	• A DC positive voltage is applied to the backside of the paper, thereby allowing the visible, developed image on the surface of the transfer belt to be transferred onto the paper.
[8]	Paper separation	• The paper, which has undergone the 2nd image transfer process, is neutralized so that it can be properly separated from the transfer belt.
[9]	Transfer belt cleaning	The residual toner left on the surface of the transfer belt is scraped off.
[10]	Photo conductor cleaning	The residual toner left on the photo conductor is scraped off.

E SERVICE TOOL

1. Service material list

Tool name	Shape	Material No.	Remarks
Cleaning pad		000V-18-1	10pcs/1pack
Isopropyl alcohol		000V-19-0	-

2. CE tool list

Tool name	Shape	Quantity	Parts No.
Laser lens cleaning tool		1	A0VD 1089 ##

F MANTENANCE

1. CONCEPT OF PERIODICAL MAINTENANCE

Cleaning/replacement cycle for each maintenance item of main body/options can be evaluated with the total counter or each life counter value of [SERVICE MODE] -> [PRIINT MENU] -> [Management List].

2. PERIODICAL MAINTENANCE ITEMS

2.1 bizhub C3110

2.1.1 bizhub C3110

(1) Periodical maintenance 1 (Total counter; every 20,000 counts or upon each call)

No.	Section	Description/part name	Qt.	Clean	Check	Replace	Descriptions
1	Overall	Paper feed and image conditions	-		•		
2		Appearance	-	•	•		
3	Conveyance section	Registration roller	-	•			
4	Processing section	Around waste toner port	-	•			
5	Duplex section	Duplex transport roller	-	•			

(2) Periodical maintenance 2 (Field standard yield; every 4,700 sheets)

No.	Section	Description/part name	Qt.	Clean	Check	Replace	Descriptions
1	Processing section	Toner cartridge/Y,M,C,K	1			•	

(3) Periodical maintenance 3 (Field standard yield; every 19,700 sheets)

No.	Section	Description/part name	Qt.	Clean	Check	Replace	Descriptions
1	Processing section	Waste toner bottle	1			•	

(4) Periodical maintenance 4 (Field standard yield; every 20,000 sheets)

No.	Section	Description/part name	Qt.	Clean	Check	Replace	Descriptions
1	Processing section	Imaging unit/Y,M,C,K	1			•	

(5) Periodical maintenance 5 (Life counter; every 100,000 sheets)

No.	Section	Description/part name	Qt.	Clean	Check	Replace	Descriptions
1	Fusing section	Fusing unit	1			•	
2	Image transfer section	Transfer belt unit	1			•	
3		Transfer roller	1			•	

(6) Periodical maintenance 6 (Life counter; every 300,000 counts)

No.	Section	Description/part name	Qt.	Clean	Check	Replace	Descriptions
1	Paper feed section	Tray1 feed roller	1			•	*
2		Tray 1 separation roller	1			•	
3		Manual tray feed roller	1			•	*
4		Manual feed tray separation roller	1			•	

*: Replace those parts at the same time.

2.2 Option

2.2.1 PF-P14

(1) Periodical maintenance 1 (life counter; every 300,000 counts)

No.	Section	Description/part name	Qt.	Clean	Check	Lubrication	Replace	Descriptions
1	Overall	Paper feed and image conditions			•			
2		Appearance	-	•	•			
3	Paper feed section	n Tray2 feed roller					•	*
4		Tray2 separation roller	1				•	

• *: Replace those parts at the same time.

3. PERIODICAL REPLACEMENT PARTS LIST

Periodical replacement parts list

- To ensure that the machine produces good copies and to extend its service life, it is recommended that the maintenance jobs described in this schedule be carried out as instructed.
- Replace with reference to the numeric values displayed on the total counter, the life counter, the field standard yield or the messages displayed on the control panel.

3.1 bizhub C3110

Classificatio n	Parts name	Parts No.	Qt.	Replacing cycle	Descriptions	Ref. page
Paper feed section	Tray1 feed roller	4138 3032 ##	1	300,000	*1	F.5.4.3 Replacing the tray1 feed roller
	Tray 1 separation roller	4658 0151 ##	1	300,000	*3	F.5.4.4 Replacing the tray1 separation roller
	Manual tray feed roller	4138 3032 ##	1	300,000	*1	F.5.4.1 Replacing the manual tray feed roller
	Manual tray separation roller	4658 0151 ##	1	300,000	*3	F.5.4.2 Replacing the manual tray separation roller
Processing section	Toner cartridge/Y,M,C,K	-	1	4,700	*2	F.5.1.1 Replacing the toner cartridge (C, M, Y, K)
	Imaging unit/Y,M,C,K	-	1	20,000	*2	F.5.1.2 Replacing the imaging unit (C, M, Y, K)
	Waste toner bottle	A1AU0Y1	1	19,700	*2 *4	F.5.2.1 Replacing the waste toner bottle
Image transfer	Transfer belt unit	A1480Y1	1	100,000	*1	F.5.2.3 Replacing the transfer belt unit
section	Transfer roller	A1480Y2	1	100,000	*1	F.5.2.2 Replacing the transfer roller
Fusing section	Fusing unit	US: A148010 EU: A148022	1	100,000	*1	F.5.3.1 Replacing the fuser unit

*1: Actual durable cycle (life counter value)

*2: Field standard yield

*3: Replace those parts at the same time.

*4: A waste toner full condition is detected with detecting the actual waste toner emissions.

3.2 Option

3.2.1 PF-P14

Parts name	Parts No.	Qt.	Replacing cycle	Descriptions	Ref. Page
Tray2 Feed roller	4537 6214 ##	1	300,000	*1	F.5.4.5 Replacing the tray2 feed roller
Tray2 Separation roller	4658 0151 ##	1	300,000	*2	F.5.4.6 Replacing the tray2 separation roller

*1: Actual durable cycle (life counter value)

*2: Replace those parts at the same time.

4. CONCEPT OF PARTS LIFE

4.1 Life value of consumables and parts

- The life counter value of each material and parts is available from [SERVICE MODE] -> [PRINT MENU] -> [Management List].
- Life specification value means an actual life terminated when prints are made under the conditions as defined in the next section, "Specified conditions of field standard yield."

Consumables/parts name	Target model	Field standard yield *	Near life	Life	Life stop
Imaging unit (C/M/Y/K)	C3110	20,000 sheets	17,000 sheets	20,000 sheets	21,000 sheets
Transfer belt unit	C3110	100,000 sheets	80,000 sheets	100,000 sheets	-
Transfer roller	C3110	100,000 sheets	80,000 sheets	100,000 sheets	-
Toner cartridge (C/M/Y/K)	C3110	4,700 sheets	-	-	-
Waste toner bottle	C3110	19,700 sheets	-	-	-
Fusing unit	C3110	100,000 sheets	80,000 sheets	100,000 counts	-

The actual life may vary greatly depending on how the machine has been used and other factors.

• *: For details of conditions of field standard yield, see "C.1.4.1 Conditions for defining the life value for the field standard yield".

4.2 Details of the life specifications

Item	Description
Waste toner bottle	The waste toner near full sensor detects near full for the toner replenishment level of the waste toner bottle. When the waste toner near full is detected, the waste toner counter starts counting, and the waste toner full is detected when the life threshold is reached.
Fusing unit *	Each of the number of prints, fusing unit drive time, and fusing heater ON time is counted and a condition is detected when either one of these counts reaches the corresponding set life value.
Transfer belt unit *	Number of prints and rotation time of the transfer belt are counted, and detected when one of those two reaches to the life value.
Transfer roller *	Number of prints is counted, and detected when it reaches to the life value.
Imaging unit/Y,M,C,K	Number of prints, fusing unit drive time and rotation time of the photo conductor are counted respectively, and detected when one of those values reaches to the set life value.

 *: When the part is replaced with a new one, the life counter value needs to be reset. [SERVICE MODE] -> [COUNTER] -> [LIFE] -> [REPLACE]

5. PERIODICAL MAINTENANCE PROCEDURE

5.1 Processing section

5.1.1 Replacing the toner cartridge (C, M, Y, K)

NOTE

• Be sure to replace the toner cartridge with a new one.

Using a used toner cartridge may make the indication remained on the message window, or make the residual toner amount fail to be displayed correctly.

(1) Periodically replaced parts/cycle

• Toner cartridge (C, M, Y, K): Every 4,700 images

(2) Removal procedure



1. Open the front cover [1].

2. Slide the lock lever [1] to the left.

3. Grab the handle of the toner cartridge [1] to be replaced, and then pull out the toner cartridge [1].

(3) Reinstallation procedure



1. Take the toner cartridge [2] out of its plastic bag [1].



[1]



2. Gently shake the toner cartridge [1] several times to agitate the toner.

3. Peel off the protective film tape [1] from the left side of the toner cartridge.

- 4. Insert the toner cartridge [1] into the machine. **NOTE**
 - Never touch the electrical contacts [2] of the toner cartridge, as an electrostatic discharge may damage the product.

5. Slide the lock lever [1] to the right to lock the toner cartridge.

6. Remove the protective film [1].







7. Close the front cover [1].



5.1.2 Replacing the imaging unit (C, M, Y, K)

- (1) Periodically replaced parts/cycle
- Imaging unit (C, M, Y, K): Every 20,000 images (2 pages/job)

(2) Removal procedure

- 1. Remove the toner cartridge.
- F.5.1.1 Replacing the toner cartridge (C, M, Y, K) 2. Remove the waste toner bottle.
- F.5.2.1 Replacing the waste toner bottle

- 3. Press down the "Push" marked place [1].
- 4. Pull the imaging unit [2] out.



(3) Reinstallation procedure



1. Take the imaging unit [2] out of the plastic bag [1].



F MANTENANCE > 5. PERIODICAL MAINTENANCE PROCEDURE

2. Hold the imaging unit with both hands, and then shake it twice as shown in the illustration.

- 3. Remove the protective cover [1] from the imaging unit.
- 4. Remove all packing tape [2] from the imaging unit.

- 5. Remove the paper [1] from the imaging unit.
- 6. Remove the protective cover [2] from the imaging unit.

7. Slide the imaging unit [1] in. **NOTE**

 Never touch the electrical contacts [2] of the toner cartridge, as an electrostatic discharge may damage the product.







- 8. Install the waste toner bottle. F.5.2.1 Replacing the waste toner bottle
- 9. Install the toner cartridge.
- F.5.1.1 Replacing the toner cartridge (C, M, Y, K)
- 10. Close the front cover.

5.2 Transfer section

- 5.2.1 Replacing the waste toner bottle
 - (1) Periodically replaced parts/cycle
 - · Waste toner bottle: Every 19,700 images (2 pages/job)

(2) Removal procedure

[1]



2. Raise the left and right handles [1] to unlock the waste toner bottle.

3. Grab the left and right handles, remove the waste toner bottle [1].





[1]

4. To reinstall, reverse the order of removal.

5.2.2 Replacing the transfer roller

(1) Periodically replaced parts/cycle

Transfer roller: Every 100,000 images (2 pages/job)

(2) Removal procedure



1. Open the right door [1].

F-9

- [1] ×
- [2]

2. Push two levers [1] inside to unlock, and rotate the transfer roller [2] in the direction of the arrow.

3. Remove the transfer roller [1].

- 4. To reinstall, reverse the order of removal.
- 5. From the Menu, select [Service Mode] -> [Counter] -> [LIFE] -> [REPLACE] -> [TRANS. ROLLER], and select "YES". I.4.7.3 Life-REPLACE-TRANS. ROLLER
- 6. From the Menu, select [Admin Settings] -> [Printer Settings] -> [QUALITY MENU] -> [CARIBRATION] -> [Image Stabilization] and execute this function.

5.2.3 Replacing the transfer belt unit

(1) Periodically replaced parts/cycle

Transfer belt unit: Every 100,000 images (2 pages/job)

(2) Removal procedure

- 1. Turn OFF the power switch.
- 2. Remove the waste toner bottle.
- F.5.2.1 Replacing the waste toner bottle 3. Remove the toner cartridge (C,M,Y,K).
- F.5.1.1 Replacing the toner cartridge (C, M, Y, K) 4. Remove the imaging unit (C,M,Y,K).
 - F.5.1.2 Replacing the imaging unit (C, M, Y, K)
- 5. Open the right door [1].





6. Remove the cover [1].



- Completely insert the protective sheet [1] supplied with the transfer belt unit in the direction of the arrow. NOTE
 - If the protective sheet is not supplied, use two sheets of A4 or Letter paper.
- 8. Hold the both handles [1] and lower the guide [2].

9. Hold the handles, and then carefully pull out the transfer belt unit [1].

10. Remove the protective cover [1] from the new transfer belt unit.
NOTE

Be careful not to touch the surface of the belt.

11. Insert the transfer belt unit [2] along the rails [1].



12. Hold the both handles [1] and raise the guide [2].

13. Pull the protective sheet [1] out.

- 14. To reinstall, reverse the order of removal.
- 15. From the Menu, select [Service Mode] -> [Counter] -> [LIFE] -> [REPLACE] -> [TRANS. BELT], and select "YES".
- I.4.7.2 Life-REPLACE-TRANS. BELT
- 16. From the Menu, select [Admin Settings] -> [Printer Settings] -> [QUALITY MENU] -> [CARIBRATION] -> [Image Stabilization] and execute this function.

5.3 Fusing section

5.3.1 Replacing the fuser unit

CAUTION
• The temperature gets high in the vicinity of the fuser unit. You may get burned when you come into contact with the area. Before replacement operations, make sure that more than 20 minutes have elapsed since the main and sub power switches were turned off.

(1) Periodically replaced parts/cycle

Fuser unit: Every 100,000 images (2 pages/job)

(2) Procedure

1. Turn OFF the power switch, unplug the power cord from the power outlet, and let the machine to stand idle for about 20 min.

2. Open the right door [1].


3. Open the fuser unit cover [1].







5. Remove the fuser unit [1].

4. Pull down two levers [1].

- 6. Install the new fuser unit.
- To reinstall, reverse the order of removal. 7.
- 8. From the Menu, select [SERVICE MODE] -> [COUNTER] -> [LIFE] -> [REPLACE] -> [FUSER UNIT] and execute this function to reset the fuser unit counter value. I.4.7.1 Life-REPLACE-FUSER UNIT

5.4 Feed section

5.4.1 Replacing the manual tray feed roller

(1) Periodically replacing parts/cycle

Manual tray feed roller: Every 300,000 counts

(2) Procedure

- 1. Remove the manual tray.
- G.3.9 Manual tray
- 2. Open the right door.



3. Detach the spring [1] from the hook [2] in order to unlock the plate.

4. Remove two springs [1].



5. Close the right door.



[1]



[1]



[1]

6. Remove six screws [1], and remove the manual tray feed roller assy [2].

7. Remove the E-ring [1] and the bearing [2], and move the manual tray feed roller assy [3] in the direction of the arrow.

NOTE

When reinstalling the manual tray feed roller assy, the stopper [1] must be located under the shaft [2] as shown in the illustration. 9. To reinstall, reverse the order of removal.



5.4.2 Replacing the manual tray separation roller(1) Periodically replacing parts/cycle

Manual tray separation roller: Every 300,000 counts

(2) Procedure

- 1. Remove the manual tray.
- G.3.9 Manual tray
- 2. Open the right door.





8. Remove the C-clip [1] and mechanism clutch [2], and remove the manual tray feed roller [3].

NOTE

• When reinstalling the feed roller [1], make sure that it is mounted in the direction shown in the illustration.

3. Detach the spring [1] from the hook [2] in order to unlock the plate.

4. Remove two springs [1].









[1]



9. To reinstall, reverse the order of removal.

5.4.3 Replacing the tray1 feed roller

- (1) Periodically replacing parts/cycle
- Tray1 feed roller: Every 300,000 counts

6. Remove six screws [1], and remove the manual tray feed roller assy [2].

7. Remove the spring [1], and remove the manual tray separation roller assy [2].

8. Remove the C-clip [1], and remove the manual tray separation roller [2].

(2) Procedure

- 1. Remove the tray1.
- G.3.8 Tray1









[1]



5. To reinstall, reverse the order of removal.

5.4.4 Replacing the tray1 separation roller

(1) Periodically replacing parts/cycle

Tray 1 separation roller: Every 300,000 counts

(2) Procedure

1. Pull out the tray1.



[1]

- 2. Lock the paper lift metal plate [1].
- 3. Remove two E-rings [2] and the bushing [3].

4. Remove the C-clip [1], and remove the tray1 feed roller [2].

- NOTE
 - When reinstalling the feed roller [1], make sure that it is mounted in the direction shown in the illustration.

2. Remove the spring [1].

3. Remove the tray 1 separation roller assy [1].



[1]







5. To reinstall, reverse the order of removal.

5.4.5 Replacing the tray2 feed roller

- (1) Periodically replaced parts/ cycle
- Tray2 feed roller: Every 300,000 counts

(2) Procedure

1. Slide out tray2.



5.4.6 Replacing the tray2 separation roller

(1) Periodically replacing parts/cycle

Tray2 separation roller: Every 300,000 counts

(2) Procedure

1. Pull out the tray2.



- 2. Lock the paper lifting metal plate [1].
- 3. Remove two C-clips [2] and the bearing [3] at the front, and remove the tray2 feed roller [4].

2. Remove two screws [1], and remove the tray2 separation roller assy [2].

3. Remove the C-clip [1], and remove the tray2 separation roller [2].



4. To reinstall, reverse the order of removal.

G DISASSEMBLING/REASSEMBLING

1. Prohibited items/Caution

1.1 Disassembly/adjustment prohibited items

1.1.1 Paint-locked screws

NOTE

- To prevent loose screws, a screw lock in blue or green series color is applied to the screws.
- The screw lock is applied to the screws that may get loose due to the vibrations and loads created by the use of machine or due to the vibrations created during transportation.
- · If the screw lock coated screws are loosened or removed, be sure to apply a screw lock after the screws are tightened.

1.1.2 Red-painted screws

NOTE

- The screws which are difficult to be adjusted in the field are painted in red in order to prevent them from being removed by mistake.
- Do not remove or loosen any of the red-painted screws in the field. It should also be noted that, when two or more screws are used for a single part, only one representative screw may be marked with the red paint.

1.1.3 Variable resistors on board

NOTE

Do not turn the variable resistors on boards for which no adjusting instructions are given in Adjustment/Setting.

1.1.4 PH unit

• The laser runs inside the PH unit. Opening the cover may cause dust to enter and interrupt the laser. Do no remove any screw which may disassemble the PH unit.

1.1.5 Fusing unit

Inner part of the fusing unit and the position of the fusing roller are adjusted prior to shipping. Do not remove any screw which may disassemble the fusing unit.

1.2 Caution

1.2.1 Inspection before Servicing



- When removing a circuit board or other electrical component, refer to "Handling of PWBs" and follow the corresponding removal procedures.
- The removal procedures given in the following omit the removal of connectors and screws securing the circuit board support or circuit board.

• Where it is absolutely necessary to touch the ICs and other electrical components on the board, be sure to ground your body.

1.2.2 Precautions for disassembly

- When accessing a hard-to-view or narrow spot, be careful about sharp edges and burrs of the frame and parts. They may injure your hands or fingers.
- If it is absolutely necessary to service the machine with the door open or external covers removed, always be attentive to the motion of the internal parts.
- A normally protected part may cause unexpected hazards.
- When removing a part that secures a motor, gear, or other moving part, disassembling a unit, or reinstalling any of such parts and units, be careful about moving parts and use care not to drop any part or unit. During the service procedure, give sufficient support for any heavy unit. You may be injured by a falling part or unit.

1.2.3 Precautions during setup or transportation

- Whenever mounting an option on the machine, be attentive to the motion of the fellow worker of the joint work. The fellow worker may be injured with his or her finger or hand pinched between the machine and the option.
- When mounting an option on the machine, be careful about the clearance between the machine and the option.
- You may be injured with your finger or hand pinched between the machine and the option.
 Do not leave the machine unattended during transportation, installation, and inspection of the machine. If it is to be unavoidably left unattended, face protrusions toward the wall or take other necessary risk reducing action.
- The user may stumble over a protrusion of the machine or be caught by a cable, falling to the floor or being injured.

2. Disassembly/reassembly parts list

2.1 Main body

Section	Part name	Ref. page
	Rear cover	G.3.1 Rear cover
	Left cover	G.3.2 Left cover
	Rear right cover	G.3.3 Rear right cover
Exterior parts	Exit cover	G.3.4 Exit cover
	Front right cover	G.3.5 Front right cover
	Operation panel	G.3.6 Operation panel
	Upper cover	G.3.7 Upper cover
	MFP board (MFPB)	G.3.10 MFP board (MFPB)
	Printer control board (PRCB)	G.3.11 Printer control board (PRCB)
	DC power supply (DCPU)	G.3.12 DC power supply (DCPU)
Boards and etc.	High voltage unit/1 (HV1)	G.3.13 High voltage unit (HV1)
	Temperature/ humidity sensor (TEM/HUMS)	G.3.31 Temperature/ humidity sensor (TEM/HUMS)
	IDC sensor (IDC)	G.3.32 IDC sensor (IDC)
	Manual tray	G.3.9 Manual tray
	Tray1	G.3.8 Tray1
	PH unit	G.3.15 PH unit
	Hard disk kit (HD-P06) *1	G.3.16 Hard disk kit (HD-P06) (Option)
Units	Network interface card (NC-P03) *1	G.3.16 Hard disk kit (HD-P06) (Option)
	CIS module	G.3.34 CIS module
	Scanner unit	G.3.35 Scanner unit
	DF	G.3.36 DF
	Backup battery	G.3.18 Backup battery
	Developing motor (M1)	G.3.19 Developing motor (M1)
	Transport motor (M2)	G.3.20 Transport motor (M2)
	Color PC drum motor (M4)	G.3.21 Color PC drum motor (M4)
	DC power supply fan motor (FM10)	G.3.22 DC power supply fan motor (FM10)
	Cooling fan motor (FM11)	G.3.23 Cooling fan motor (FM11)
	Tray1 paper feed clutch (CL1)	G.3.24 Tray1 paper feed clutch (CL1) / Manual tray paper feed clutch (CL2)
	Manual tray paper feed clutch (CL2)	
	Registration clutch (CL3)	G.3.25 Registration clutch (CL3)
	Toner supply clutch/Y (CL4)	G.3.26 Toner supply clutch/Y (CL4) / Toner supply clutch/M (CL5) Toner supply
	Toner supply clutch/M (CL5)	clutch/C (CL6) / Toner supply clutch/K (CL7)
Other parts	Toner supply clutch/C (CL6)	
	Toner supply clutch/K (CL7)	
	Loop detection clutch (CL8)	G.3.27 Loop detection clutch (CL8)
	Switchback roller feed clutch (CL11)	G.3.28 Switchback roller feed clutch (CL11) / Switchback roller reverse clutch (CL12)
	Switchback roller reverse clutch (CL12)	
	Duplex conveyance roller clutch (CL13)	G.3.29 Duplex conveyance roller clutch (CL13)
	2nd transfer release solenoid (SD2)	G.3.30 2nd transfer pressure solenoid (SD2)
	Scanner motor (M101)	G.3.33 Scanner motor (M101)
	DF pick-up roller	G.3.37 DF pick-up roller/DF feed roller
	DF feed roller	
	DF separation pad	G.3.38 DF separation pad

• *1: Option

2.2 Paper Feed Unit (PF-P14)

Section	Part name	Ref. page
Unit	Paper Feed Unit r	G.4.1 Paper Feed Unit
Exterior parts	Rear cove	G.4.2 Rear cover

		Rear right cover	G.4.3 Rear right cover
	Board and etc	PC control board (PCCB)	G.4.4 PC control board (PCCB)
		Tray2 paper feed motor (M1)	G.4.5 Tray2 paper feed motor (M1)
	Other parts	Tray2 paper feed clutch (CL1)	G.4.6 Tray2 paper feed clutch (CL1)
		Tray2 conveyance clutch (CL2)	G.4.7 Tray2 conveyance clutch (CL2)

2.3 FAX kit (FK-512)

Section	Part name	Ref. page
Unit	FAX kit	G.5.1 FAX Kit

3. Disassembly/reassembly procedure (bizhub C3110)

3.1 Rear cover



2. Remove six screws [1], and remove the rear cover [2].

1. Remove the rear center cover [1].

3.2 Left cover

- 1. Slide out tray1.
- 2. Open the front cover.
- 3. Remove the waste toner bottle.
- F.5.2.1 Replacing the waste toner bottle 4. Remove the rear cover.
 - G.3.1 Rear cover



3.3 Rear right cover

- 1. Remove the Rear cover.
- G.3.1 Rear cover
- 2. Open the right door.



3. Remove six screws [1].

G-5

5. Remove four screws [1], and remove the left cover [2].



3.4 Exit cover

1. Open the right door.



3.5 Front right cover

- Open the front door.
 Open the right door.
- 3. Remove the waste toner bottle.
- F.5.2.1 Replacing the waste toner bottle





[1]

- G DISASSEMBLING/REASSEMBLING > 3. Disassembly/reassembly procedure (b...
- 4. Release the tab [1], raise the scanner unit, and remove the rear right cover [2].

2. Unhook two tabs [1], and remove the exit cover [2].

4. Remove two caps [1].

5. Remove two screws [1].



6. Remove two screws [1].

[1]



8. Pull out the tray 1.



3.6 Operation panel

1. Remove the DF. G.3.36 DF





[1]

- 7. Unhook the tab [1], and raise the operation panel. **NOTE**
 - When unhook the tab [1], use the flathead screwdriver or the similar tool.

9. Unhook three tabs [1], and remove the front right cover [2].

- 2. Remove twelve screws [1], and remove the original glass [2]. NOTE
 - During installation of the original glass, use care not to allow dust or dirt to enter the machine. Clean any dust or dirt that may have entered before attempting to install the original glass.
- 3. Remove two screws [1].

4. Disconnect the flat cable [1], and remove the operation panel [2].



5. To reinstall, reverse the order of removal.

3.7 Upper cover

- 1. Remove the waste toner bottle.
- F.5.2.1 Replacing the waste toner bottle
- 2. Remove the rear cover. G.3.1 Rear cover
- 3. Remove the left cover.
- G.3.2 Left cover
- 4. Remove the DF.
- G.3.36 DF
- 5. Remove the scanner unit. G.3.35 Scanner unit
- 6. Remove the front right cover. G.3.5 Front right cover



8. To reinstall, reverse the order of removal.

3.8 Tray1



7. Remove four screws [1], and remove the upper cover [2].

- 1. Pull out the tray 1 [1].
- 2. While pushing the left and right tabs [2], remove the tray 1 [1].

3.9 Manual tray

- 1. Unlock six tabs [1], and remove the manual tray [2].
 - NOTE

 Insert a flat-blade screwdriver into each of the four places and unlock the tab.

- 2. To reinstall, reverse the order of removal.

3.10 MFP board (MFPB)

NOTE

Never use the combination of the used MFP board removed from another machine and the original EEPROM. This combination
causes corruption of stored data.

Note that the combination of the original MFP board and the used EEPROM removed from another machine also causes the same problem.

- When replacing the MFP board, in order to make the existing counter data become available in the new board, be sure to back up the counter data following the replacement procedure below.
- 1. Remove the waste toner bottle.
- F.5.2.1 Replacing the waste toner bottle 2. Remove the rear cover.
- G.3.1 Rear cover
- 3. Remove the left cover. G.3.2 Left cover
- 4. Remove the SSD board. G.3.14 SSD board (SSDB)
- 5. Remove the FAX board (Option).
- G.5.1 FAX Kit



- 6. Disconnect all connectors and flat cables.
- Remove four wire saddles [1].
- 7. Remove ten screws [2], and remove the MFP board [3].

- 8. Install the new MFP board.
- 9. Install the removed SSD board on the new MFP board.
- Connect the MFP board to the disconnected connectors and flat cables. Install the four removed wire saddles.
- 11. Turn ON the power switch.
 - NOTE
 - Do not perform any printing operation at this stage.

12. Call [SERVICE MODE] to the display.

- Select [Switch 7] in [SYSTEM 2] -> [SOFT SWITCH], change setting value to [159]. NOTE
 - When the optional hard disk HD-P06 is installed, although a service call D093 occurs, you can enter the service mode as it is.

14. Turn OFF the power switch.







- 16. Turn ON the power switch.
- 17. Counter data starts to be backed up.
 - NOTE
 - Do not perform any printing operation at this stage.
 - Do not turn OFF the power switch during the backup process.
 - <When backup is completed successfully>
 - When backup is completed successfully, "Service Call: D3F1" appears on the screen.
 - When backup is completed successfully, the setting of soft switch automatically returns to the initial value of "0."
 - <When backup results in an abnormal end>
 - When backup results in an abnormal end, "Service Call: D3F4" appears on the screen.
 - NOTE
 - If an abnormal end recurs after turning OFF/ON the power switch of the machine again, the MFP board or the EEPROM can be damaged.
- 18. Turn OFF the power switch.
- 19. Turn ON the power switch of the machine and confirm that the machine operates properly.



 If the service call: D093 (wrong hard disk) occurs continuously even when the above procedures have been performed, format the hard disk in accordance with the following procedures.

15. Remove the new EEPROM [1] from the MFP board, and mount the old EEPROM [2] that is located on the old MFP board.

- NOTE
 - When mounting EEPROM (IC15), make sure the notches ("A") are precisely lined up.



1. Call [SERVICE MODE] to the display.

2. Select [HDD FORMAT] and press the [Menu/Select] key to execute HDD format.

3. After completing format, turn OFF the power switch of the machine.

4. Turn ON the power switch.

5. Install the Unicode font (LK-107) and OCR font (LK-108) for i-Option to the HDD.

J.4.2 LK-107/LK-108 font data installation procedure

20. To reinstall, reverse the order of removal.

3.11 Printer control board (PRCB)

NOTE

Never use the combination of the used MFP board removed from another machine and the original EEPROM. This combination
causes corruption of stored data.
 Net that the combination of the original MEP board and the used EEPROM removed from another machine also equal the combination.

Note that the combination of the original MFP board and the used EEPROM removed from another machine also causes the same problem.

- 1. Remove the waste toner bottle. F.5.2.1 Replacing the waste toner bottle
- 2. Remove the rear cover. G.3.1 Rear cover
- 3. Remove the left cover. G.3.2 Left cover



4. Remove fourteen screws [1], and remove the board protective shield [2].

- 5. Disconnect all connectors and flat cables.
- 6. Remove six screws [1], and remove the printer control board [2].



A CSU A CSU

G DISASSEMBLING/REASSEMBLING > 3. Disassembly/reassembly procedure (b...

NOTE

 When the printer control board (PRCB) has been replaced, be sure to remount EEPROM [1] (ICS1).Unmount EEPROM [2] (ICS1) from the old printer control board and mount it on the new printer control board.

NOTE

• When mounting EEPROM (ICS1), make sure the notches "A" are precisely lined up.

7. To reinstall, reverse the order of removal.

3.12 DC power supply (DCPU)



To avoid electric shock, after turning OFF the power switch, do not touch the DC power supply unit for 9 minutes.
 If the DC power supply unit is faulty, it may take time

If the DC power supply unit is faulty, it may take time before its voltage drops sufficiently.

1.	Remove the fuser unit.
	F.5.3.1 Replacing the fuser unit
2.	Remove the waste toner bottle.
	F.5.2.1 Replacing the waste toner bottle
З.	Remove the rear cover.
	G.3.1 Rear cover
4.	Remove the left cover.
	G.3.2 Left cover
5.	Remove the DF.
	G.3.36 DF
6.	Remove the scanner unit.
	G.3.35 Scanner unit
7.	Remove the front right cover.
	G.3.5 Front right cover
8.	Remove the upper cover.
	G.3.7 Upper cover

















9. Disconnect the connector [1].

10. Remove the screw [2], and remove the exit drive assy [3].

11. Disconnect two connectors [1].

- 12. Remove all harness from eight wire saddles [1].
- 13. Unhook two tabs [2], and remove the harness guide [3].

14. Remove eight screws [1], and remove the DC power supply protective cover [2].

15. Disconnect five connectors [1].



17. To reinstall, reverse the order of removal.

3.13 High voltage unit (HV1)

- 1. Remove the waste toner bottle.
- F.5.2.1 Replacing the waste toner bottle 2. Remove the rear cover.
- G.3.1 Rear cover
- 3. Remove the left cover. G.3.2 Left cover
- 4. Remove the rear right cover. G.3.3 Rear right cover
- Remove the printer control board.
 G.3.11 Printer control board (PRCB)
- 6. Remove the FAX board (Option). G.5.1 FAX Kit







[1]

16. Remove seven screws [1] and two board supports [2], and remove the DC power supply [3].

7. Remove nine screws [1], and remove the metal plate [2].

- Remove four connectors [1] and three flat cables [2] from the MFP board.
- 9. Remove the harness from seven wire saddles [3].

10. Remove four screws [1], and remove the MFP board assy [2].



[1]









[1]

11. Remove two screws [1], and remove the metal plate [2].

- 12. Remove the harness from four wire saddles [1].
- 13. Disconnect the connector [2].

14. Remove three screws [1], and remove the metal plate [2].

15. Remove two screws [1], and remove the protective sheet [2].

16. Detach the spring from two hooks [1].

17. Remove six screws [1] and three tabs [2].

18. Disconnect the flat cable [3], and remove the high voltage unit [4].



19. To reinstall, reverse the order of removal.

3.14 SSD board (SSDB)

NOTE

• When replacing the SSD board, be sure to update the firmware to the latest version. 1. Remove the rear center cover [1].





[2]



4. To reinstall, reverse the order of removal.

2. Remove two screws [1], and remove the metal plate panel [2].

3. Unhook two tabs [1], and remove the SSD board [2].

3.15 PH unit



• Do not replace the printer head unit while the power is ON.

Laser beam generated during the above mentioned activity may cause blindness.



- Do not disassemble or adjust the printer head unit. Laser beam generated during the above mentioned activity may cause blindness.
- 1. Remove the toner cartridge (C, M, Y, K). F.5.1.1 Replacing the toner cartridge (C, M, Y, K)
- 2. Remove the waste toner bottle. F.5.2.1 Replacing the waste toner bottle
- 3. Remove the imaging unit (C, M, Y, K).
- F.5.1.2 Replacing the imaging unit (C, M, Y, K) 4. Remove the rear cover.
- G.3.1 Rear cover
- 5. Remove the left cover. G.3.2 Left cover
- 6. Remove the rear right cover.
- G.3.3 Rear right cover 7. Remove the FAX board (Option).
- G.5.1 FAX Kit
- 8. Remove the MFP board. G.3.10 MFP board (MFPB)
- 9. Remove the printer control board. G.3.11 Printer control board (PRCB)
- 10. Remove the high voltage unit. G.3.13 High voltage unit (HV1)





[1]



11. Remove the screw [1], and remove the rail [2].

12. Cut the tie band [1], and remove the harness from three harness guides [2].

13. Remove the PH unit [1].



- 14. To reinstall, reverse the order of removal.
- 15. Turned ON the power switch after installed.
- 16. Select [Service Mode] -> [Imaging ProcessAdj] -> [Image Stabilizatio] -> [600dpi] to perform image stabilization.
- I.4.4.2 Image Stabilizatio
- 17. Select [Service Mode] -> [Machine] -> [SCAN ADJUST VALUE] to adjust the magnification in the main scan direction. **I.4.2.6 SCAN ADJUST VALUE**
- 18. Select [Service Mode] -> [Machine] -> [ALIGNMENT] -> [LEFT ADJUSTMENT] to adjust the side edge of each paper feeding port. I.4.2.2.(2) LEFT ADJUSTMENT
- 19. Select [Service Mode] -> [Machine] -> [ALIGNMENT] -> [LEFT ADJ DUPLEX] to adjust the side edge of each paper feeding port. I.4.2.2.(4) LEFT ADJ DUPLEX

3.16 Hard disk kit (HD-P06) (Option)

1. Remove the rear center cover [1].





[2]







- 3. Disconnect two connectors [1].
- 4. Remove the screw [2], and remove the hard disk kit [3].

2. Remove two screws [1], and remove the metal plate panel [2].

- 5. To reinstall, reverse the order of removal. NOTE
 - Take notice that, do not catch the cable.

3.17 Network interface card (NC-P03) (Option)

- 1. Remove the waste toner bottle.
- F.5.2.1 Replacing the waste toner bottle
- Remove the rear cover. 2. G.3.1 Rear cover

- Remove the left cover. G.3.2 Left cover
 Remove the hard disk (option).
- G.3.16 Hard disk kit (HD-P06) (Option)

5. Remove fourteen screws [1], and remove the board protective shield [2].

6. Disconnect the connector (CN501) [1], and remove the cable from

7. Remove the screw [3], and remove the network interface card assy

- 8. Perform the installation in a reverse procedure of the removal.

3.18 Backup battery

NOTE

- This printer uses a lithium battery to backup memory. Replace the battery with our specified memory backup battery (CR2032). Use of a different battery or the one not equal to our specified battery may present risk of explosion.
- Before your backup battery replacement, refer to the section [G.1.1.4 PH unit].
 - 1. Remove the rear center cover [1].

two wire saddles [2].

[4].



[1]



[2]

2. Remove two screws [1], and remove the metal plate panel [2].

3. Remove the backup battery [1].



NOTE

bizhub C3110

• When inserting the new backup battery, be sure that the + side faces toward the downward.

3.19 Developing motor (M1)

- 1. Remove the waste toner bottle. F.5.2.1 Replacing the waste toner bottle
- 2. Remove the rear cover. G.3.1 Rear cover
- Remove the left cover.
 G.3.2 Left cover
- Remove the rear right cover.
 G.3.3 Rear right cover
- Remove the printer control board.
 G.3.11 Printer control board (PRCB)
- 6. Remove the FAX board (Option).
- G.5.1 FAX Kit 7 Remove the high year
- 7. Remove the high voltage unit. G.3.13 High voltage unit (HV1)



10. To reinstall, reverse the order of removal.

3.20 Transport motor (M2)

- 1. Remove the waste toner bottle. F.5.2.1 Replacing the waste toner bottle
- 2. Remove the rear cover. G.3.1 Rear cover
- 3. Remove the left cover. G.3.2 Left cover
- 4. Remove the rear right cover. G.3.3 Rear right cover
- Remove the printer control board.
 G.3.11 Printer control board (PRCB)
- Remove the FAX board (Option).
 G.5.1 FAX Kit
- Remove the high voltage unit.
 G.3.13 High voltage unit (HV1)





- 8. Remove four screws [1].
- 9. Disconnect the connector [2], and remove the developing motor [3]. NOTE
 - When installing the motor, try to insert it straight, and take care not to damage the gears.

- 8. Remove four screws [1].
- 9. Disconnect the connector [2], and remove the transport motor [3]. NOTE
 - When installing the motor, try to insert it straight, and take care not to damage the gears.

10. To reinstall, reverse the order of removal.

3.21 Color PC drum motor (M4)

- 1. Remove the waste toner bottle. F.5.2.1 Replacing the waste toner bottle
- 2. Remove the rear cover.
- G.3.1 Rear cover
- 3. Remove the left cover. G.3.2 Left cover
- 4. Remove the rear right cover. G.3.3 Rear right cover
- 5. Remove the printer control board. G.3.11 Printer control board (PRCB)
- 6. Remove the FAX board (Option). G.5.1 FAX Kit
- Remove the high voltage unit. G.3.13 High voltage unit (HV1)



 Remove three screws [1].
 Disconnect the connector [2], and remove the color PC drum motor [3].

NOTE

• When installing the motor, try to insert it straight, and take care not to damage the gears.

10. To reinstall, reverse the order of removal.

3.22 DC power supply fan motor (FM10)

- 1. Remove the waste toner bottle.
- F.5.2.1 Replacing the waste toner bottle 2. Remove the rear cover.
- G.3.1 Rear cover
- 3. Remove the left cover.
- G.3.2 Left cover 4. Remove the DF.
- G.3.36 DF
- 5. Remove the scanner unit. G.3.35 Scanner unit
- 6. Remove the front right cover. G.3.5 Front right cover
- Remove the upper cover.







11. To reinstall, reverse the order of removal.

- 8. Disconnect the connector [1], and remove the harness from the wire saddle [2].
- 9. Remove two screws [3], and slide the duct [4].

10. Remove the DC power supply fan motor [1].

G DISASSEMBLING/REASSEMBLING > 3. Disassembly/reassembly procedure (b...

3.23 Cooling fan motor (FM11)

- Remove the waste toner bottle.
 F.5.2.1 Replacing the waste toner bottle
 Remove the rear cover.
- G.3.1 Rear cover 3. Remove the left cover.
- 3. Remove the left cover. G.3.2 Left cover
- 4. Remove the DF. G.3.36 DF
- Remove the scanner unit.
 2.2.25 Scanner unit.
- G.3.35 Scanner unit6. Remove the front right cover.G.3.5 Front right cover
- 7. Remove the upper cover.



[1]

- 8. Disconnect the connector [1], and remove the harness from the wire saddle [2].
- 9. Remove two screws [3], and slide the duct [4].

- 10. Remove two screws [1].
- 11. Remove the cooling fan motor [2].



[2]

3.24 Tray1 paper feed clutch (CL1) / Manual tray paper feed clutch (CL2)

- 1. Remove the waste toner bottle. F.5.2.1 Replacing the waste toner bottle
- Remove the rear cover.
- G.3.1 Rear cover
- 3. Remove the left cover. G.3.2 Left cover
- 4. Remove the rear right cover. G.3.3 Rear right cover
- 5. Remove the printer control board. G.3.11 Printer control board (PRCB)
- 6. Remove the FAX board (Option).
- G.5.1 FAX Kit 7. Remove the high voltage unit.
- G.3.13 High voltage unit (HV1)8. Remove the transport motor.
- G.3.20 Transport motor (M2)

[1]



9. Remove the harness from the harness guide [1].







18. To reinstall, reverse the order of removal.

3.25 Registration clutch (CL3)

1. Open the right door.



- 10. Remove the E-ring [1].
- 11. Remove four screws [2].
- 12. Remove the bearing [3] and remove the fixing metal plate [4].

- 13. Remove the E-ring [1].
- 14. Disconnect the connector [2], and remove the tray1 paper feed clutch [3].

- 15. Remove the bearing [1].
- 16. Remove the E-ring [2].17. Disconnect the connector [3], and remove the manual tray paper feed clutch [4].

- 2. Remove the screw [1], and remove the fixed cover [2].
- 3. Remove the spring [3].
- Remove four screws [4], and remove the harness cover [5]. 4.
- 5. Remove the spring [6].
- 6. Remove the conveyance unit [7].

- 7. Disconnect the connector [1].
- 8. Remove the E-ring [2].
- 9. Remove the bushing [3], and remove the registration clutch [4].



10. To reinstall, reverse the order of removal.

3.26 Toner supply clutch/Y (CL4) / Toner supply clutch/M (CL5) Toner supply clutch/C (CL6) / Toner supply clutch/K (CL7)

- 1. Remove the toner cartridge (C,M,Y,K). F.5.1.1 Replacing the toner cartridge (C, M, Y, K)
- 2. Remove the waste toner bottle. F.5.2.1 Replacing the waste toner bottle
- 3. Remove the imaging unit (C,M,Y,K). F.5.1.2 Replacing the imaging unit (C, M, Y, K)
- Remove the fuser unit.
 E 5.3.1 Perfacing the fuser unit.
- F.5.3.1 Replacing the fuser unit 5. Remove the rear cover.
- G.3.1 Rear cover
- Remove the left cover.
 G.3.2 Left cover
- 7. Remove the DF.
- G.3.36 DF

[3]

[2]

- 8. Remove the scanner unit. G.3.35 Scanner unit
- 9. Remove the front right cover. G.3.5 Front right cover
- 10. Remove the upper cover. G.3.7 Upper cover





13. Disconnect two connectors [1].



[1]

14. Remove the harness from four wire saddles [1].









20. To reinstall, reverse the order of removal.

3.27 Loop detection clutch (CL8)

- 1. Remove the fuser unit.
- F.5.3.1 Replacing the fuser unit 2. Remove the waste toner bottle.
- F.5.2.1 Replacing the waste toner bottle.
- 3. Remove the rear cover.

- 15. Remove two screws [1].
- While releasing the lock with the inserted metal ruler [2] or another similar tool as shown in the illustration, remove the toner box drive Assy [3].

NOTE

• When installing the toner box drive assy, the shaft [1] is certainly set to the drive connection section [2].

17. Remove the harness from guide, and disconnect the connector [1].18. Remove the screws [2], and remove the cover [3].

19. Remove the toner supply clutch [1].

G.3.1 Rear cover

- 4. Remove the left cover. G.3.2 Left cover
- 5. Remove the rear right cover. G.3.3 Rear right cover
- 6. Remove the FAX board (Option). G.5.1 FAX Kit
- 7. Remove the printer control board. G.3.11 Printer control board (PRCB)
- 8. Remove the high voltage unit. G.3.13 High voltage unit (HV1)
- 9. Remove the DF. G.3.36 DF
- 10. Remove the scanner unit. G.3.35 Scanner unit
- 11. Remove the front right cover. G.3.5 Front right cover
- 12. Remove the upper cover. G.3.7 Upper cover
- G.3.7 Upper cover
 13. Remove DC power supply fan motor.
 G.3.22 DC power supply fan motor (FM10)



[2]









[2]

- 14. Disconnect the connector [1], and remove the screw [2].
- 15. Remove the exit drive assy [3].

16. Disconnect two connectors [1].

17. Remove the harness from eight wire saddles [1].

18. Unlock two tabs [1], and remove the harness guide [2].





[2]





[2]



[1]

19. Remove eight screws [1], and remove the DC power supply protective cover [2].

20. Remove two screws [1], and remove the power supply cooling fan cover [2].

21. Remove the harness from three wire saddles [1].

22. Remove three screws [1], and remove the metal plate [2].

23. Disconnect the connector [1].24. Remove two screws [2].







- 25. Remove the E-ring [1] and bushing [2], and remove the holder [3]. NOTE
 - Before removing the holder [3], attach tape or similar material [4] to the section shown in the illustration to prevent the shaft from falling down and being lost.

26. Remove the gear [1], and remove the loop detection clutch [2].

27. To reinstall, reverse the order of removal.

[2]

3.28 Switchback roller feed clutch (CL11) / Switchback roller reverse clutch (CL12)

- 1. Remove the fuser unit.
- F.5.3.1 Replacing the fuser unit
- 2. Remove the waste toner bottle. F.5.2.1 Replacing the waste toner bottle
- 3. Remove the rear cover.
- G.3.1 Rear cover4. Remove the left cover.
- G.3.2 Left cover5. Remove the DF.
- G.3.36 DF
- 6. Remove the scanner unit. G.3.35 Scanner unit
- 7. Remove the front right cover. G.3.5 Front right cover
- 8. Remove the upper cover. G.3.7 Upper cover





[2]



- 9. Disconnect the connector [1], and remove the screw [2].
- 10. Remove the exit drive assy [3].

11. Disconnect two connectors [1].







[4] [2] [4]





[2]



20. To reinstall, reverse the order of removal.

3.29 Duplex conveyance roller clutch (CL13)

1. Open the right door.

12. Remove the screw [1].

- 13. While pushing the tab [2] in the direction of the arrow to unlock it, diagseemble and remove the exit drive assey [3]
 - disassemble and remove the exit drive assy [3].

- 14. Disconnect two connectors [1].
- 15. Remove two E-rings [2] and two bushings [3].
- 16. Remove two screws [4], and remove the gear assy [5].

17. Remove two gears assy [1].

18. Remove two bushings [1], and remove the metal plate [2].

Remove two gears [1] and remove the switchback roller feed clutch
 [2] or the switchback roller reverse clutch [3].




9. To reinstall, reverse the order of removal.

3.30 2nd transfer pressure solenoid (SD2)

- 1. Remove the registration clutch.
- G.3.25 Registration clutch (CL3)
- 2. Remove the replacing the transfer roller. F.5.2.2 Replacing the transfer roller





- 2. Remove the screw [1], and remove the fixed cover [2].
- 3. Remove the spring [3].
- 4. Remove four screws [4], and remove the harness cover [5].
- 5. Remove the spring [6].
- 6. Remove the conveyance unit [7].

- 7. Remove the connector from the holder, and disconnect the connector [1].
- 8. Remove the E-ring [2], and remove the duplex conveyance assy [3].

3. Remove two screws [1], and remove the duplex conveyance roller assy [2].

4. Remove two screws [1] and unlock two tabs [2], and remove the holder [3].



[1] [2]







7. To reinstall, reverse the order of removal.

3.31 Temperature/ humidity sensor (TEM/HUMS)

1. Open the right door.





4. To reinstall, reverse the order of removal.

NOTE

 If the gears come off and they need to be reinstalled, align the hole [1] on the gear with the marked line [2] on the holder.

5. Remove the screw [1], and pull the 2nd transfer release solenoid [2] out.

6. Disconnect the connector [1], and remove the 2nd transfer release solenoid.

- Remove the screw [1] and remove the sensor holder [2] as shown in the illustration.
 NOTE
 - Do not jerk off the sensor holder, to which a harness is connected.
- 3. Disconnect the connector [1], and remove the temperature/ humidity sensor [2].

3.32 IDC sensor (IDC)

- 1. Remove the toner cartridge (C,M,Y,K). F.5.1.1 Replacing the toner cartridge (C, M, Y, K)
- 2. Remove the waste toner bottle.
- F.5.2.1 Replacing the waste toner bottle3. Remove the imaging unit (C,M,Y,K).
- F.5.1.2 Replacing the imaging unit (C, M, Y, K) Remove the transfer belt unit. 4.
- F.5.2.3 Replacing the transfer belt unit







[2]



5. Hold the both handles [1] and raise the guide [2].

- 6. Raise the guide [1] further and remove it.
 - NOTE
 - · Do not jerk off the sensor holder, to which a harness is connected.

7. Remove two screws [1], and remove the sensor cover [2].

8. While slightly raising the ground plate [1], remove the IDC sensor [2].



10. To reinstall, reverse the order of removal.

3.33 Scanner motor (M101)

- 1. Remove the rear cover.
- G.3.1 Rear cover
- 2. Remove the DF. G.3.36 DF







[1]

- 9. Disconnect the connector [1], and remove the IDC sensor [2]. NOTE
 - Be careful not to break the sensor head [3] of the IDC sensor.

- 3. Remove 12 screws [1], and remove the original glass [2]. NOTE
 - During installation of the original glass, use care not to allow dust or dirt to enter the machine. Clean any dust or dirt that may have entered before attempting to install the original glass.
- 4. Remove the screw [1], and remove the earth cable [2].

5. Disconnect the connector [1], and remove it from three wire saddles [2].





[1]





9. To reinstall, reverse the order of removal.

3.34 CIS module

- 1. Remove the rear cover.
- G.3.1 Rear cover 2. Remove the DF.



6. Remove the harness [1] from two harness guides [2].

7. While releasing the stopper, remove the belt [1].

8. Remove three screws [1], and remove the scanner motor [2].

- 3. Remove 12 screws [1], and remove the original glass [2]. NOTE
 - During installation of the original glass, use care not to allow dust or dirt to enter the machine. Clean any dust or dirt that may have entered before attempting to install the original glass.

5. To reinstall, reverse the order of removal.

3.35 Scanner unit

- 1. Remove the rear cover.
- G.3.1 Rear cover
- 2. Remove the DF. G.3.36 DF







[1]



- G DISASSEMBLING/REASSEMBLING > 3. Disassembly/reassembly procedure (b...
- 4. Disconnect the flat cable [1], and remove CIS module [2].

3. Remove two caps [1].

4. Remove two screws [1].

5. Remove four screws [1].

- 6. Disconnect two flat cables [1].
- 7. Disconnect the connector [2], and remove it from three wire
- saddles[3].8. Disconnect the USB cable [4] from the MFP board, and remove it from the wire saddle [5]. NOTE
 - · When disconnecting the flat cable, make sure not to lose the ferrite core [6].



11. Open the right door.



14. To reinstall, reverse the order of removal.

3.36 DF

1. Remove the rear cover. G.3.1 Rear cover



[1] [1]







[2] [3]

- 9. Remove the harness [1] from the harness guide [2].
- 10. Remove the earth cable [3] from the wire saddle [4] and the harness guide [2].

- 12. Remove the tab [1].13. Remove the scanner unit.
 - NOTE
 - When unhook the tab [1], use the flathead screwdriver or the similar tool.

2. Remove fourteen screws [1], and remove the board protective shield [2].

3. Disconnect three connectors [1].

- 4. Remove the harness from three wire saddles [1].
- 5. Remove the screw [2], and remove the earth cable [3] from wire saddle.

6. Remove two screws [2], and remove the DF [1].



7. To reinstall, reverse the order of removal.

3.37 DF pick-up roller/DF feed roller











1. Open the DF feed cover [1].

- Remove the spring [1].
 Remove two C-clips [2], and remove pushing [3].

- 4. Remove the C-ring [1], and remove the gear [2].
- 5. Remove the bushing [3].

- 6. Remove the pin [1].7. Move the shaft [2] in the direction of the arrow, and remove the roller unit [3].



8. Remove two levers [1], and remove the pick-up roller [2].

9. Remove the shaft [1], remove the feed roller [2].



10. To reinstall, reverse the order of removal.

3.38 DF separation pad







3. To reinstall, reverse the order of removal.

1. Open the DF feed cover [1].

2. Unhook two tabs [1], and remove the DF separator pad [2].

4. Disassembly/reassembly procedure (PF-P14)

4.1 Paper Feed Unit

- NOTE
- Whenever removing or reinstalling the Paper Feed Unit, be sure first to unplug the power cord of the printer from the power outlet.
 - 1. Open the right door [1].
 - 2. Lift the printer main body and then remove the Paper Feed Unit [2] from the printer.



4.2 Rear cover

1. Remove the Paper Feed Unit from the machine.



2. Remove four screws [1], and remove the rear cover [2].

4.3 Rear right cover

- 1. Remove the Paper Feed Unit from the machine.
- G.4.1 Paper Feed Unit 2. Remove the rear cover.
- G.4.2 Rear cover

[2]



3. Remove two screws [1], and remove the rear right cover [2].

4.4 PC control board (PCCB)

- 1. Remove the Paper Feed Unit from the machine. G.4.1 Paper Feed Unit
- 2. Remove the rear cover. G.4.2 Rear cover



[1]

3. Disconnect five connectors [1] from the PC control board.

4. Remove four screws [1], and remove the PC control board [2].



[2]

- 1. Remove the Paper Feed Unit from the machine. G.4.1 Paper Feed Unit
- 2. Remove the rear cover.
- G.4.2 Rear cover



Disconnect the connector [1].
 Remove four screws [2], and remove the tray2 paper feed motor [3].

- 4.6 Tray2 paper feed clutch (CL1)
- 1. Remove the Paper Feed Unit from the machine. G.4.1 Paper Feed Unit
- 2. Remove the rear cover. G.4.2 Rear cover
- Remove the rear right cover.
- G.4.3 Rear right cover
- 4. Remove the tray2 paper feed motor. G.4.5 Tray2 paper feed motor (M1)
- 5. Open the right door.



6. Remove three screws [1], and remove the protect metal plate [2].





4.7 Tray2 conveyance clutch (CL2)

- 1. Remove the Paper Feed Unit from the machine. G.4.1 Paper Feed Unit
- 2. Remove the rear cover.
- G.4.2 Rear cover
- 3. Remove the rear right cover.
- G.4.3 Rear right cover4. Remove the tray2 paper feed motor.
- G.4.5 Tray2 paper feed motor (M1)
- 5. Open the right door.

- G DISASSEMBLING/REASSEMBLING > 4. Disassembly/reassembly procedure (P...
- 7. Remove the harness clamp [1], and remove the harness from the wire saddle [2].

- 8. Remove the harness from two edge covers [1] and wire saddle [2].
- 9. Remove the E-ring [3].

10. Remove five screws [1], and remove the gear fixing metal plate [2].

- 11. Remove the bearing [1].
- 12. Disconnect the connector [2], and remove the tray2 paper feed clutch [3].



[2]



[2] [1]







[1]

6. Remove three screws [1], and remove the protect metal plate [2].

7. Remove the harness clamp [1], and remove the harness from the wire saddle [2].

- 8. Remove the harness from two edge covers [1] and the wire saddle
- [2].9. Remove the E-ring [3].

10. Remove five screws [1], and remove the gear fixing metal plate [2].

11. Disconnect the connector [1].

[2] [1]

- 12. Cut the tie band [1].
 13. Remove the C-ring [2] and the E-ring [3].
 14. Remove the tray2 conveyance clutch [4].



5. Disassembly/reassembly procedure (FK-512)

5.1 FAX Kit

- 1. Disconnect the modular cable on the LINE port.
- 2. Remove the rear cover.
- G.3.1 Rear cover





3. Remove fourteen screws [1], and remove the board protective shield [2].

4. Remove two screws [1], and remove the insulating sheet [2].



[2] [1]



[3] [2] [1] [3]



10. To reinstall, reverse the order of removal.

- 5. Disconnect two connectors [1].
- 6. Remove two screws [2], and remove the FAX board (Option) [3].

- 7. Remove the harness from seven wire saddles [1].
- 8. Disconnect two connectors [2], and remove two cables [3].

9. Disconnect three connectors [1], and remove the mounting plate [2].

H CLEANING/LUBRICATION

1. Cleaning parts list

Section		Part name	Ref.Page
	Manual trav	Manual tray feed roller	H.2.1 Manual tray feed roller
	Manual tray	Manual tray separation roller	H.2.2 Manual tray separation roller
Main body	Tray1	Tray1 feed roller	H.2.3 Tray1/ Tray2 feed roller
Main body		Tray1 separation roller	H.2.4 Tray1 separation roller
	DF	The DF feed roller	H.2.6 The DF feed roller
	Processing section	Laser irradiation section	H.2.7 Laser irradiation section
Paper Feed Unit		Tray2 feed roller	H.2.3 Tray1/ Tray2 feed roller
	Rollers	Tray2 separation roller	H.2.5 Tray2 separation roller
		Conveyance roller	H.2.8 Conveyance roller

2. Cleaning procedure

2.1 Manual tray feed roller

- NOTE
 - The alcohol described in the cleaning procedure represents the isopropyl alcohol.
- 1. Open the tray1.



2. Press down the paper lifting metal plate [1].

3. Using a cleaning pad dampened with alcohol, wipe the manual tray feed roller [1] clean of dirt.

2.2 Manual tray separation roller NOTE

- The alcohol described in the cleaning procedure represents the isopropyl alcohol.
- 1. Remove the manual tray separation roller unit.
 - F.5.4.2 Replacing the manual tray separation roller

[1]

Э



2. Using a cleaning pad dampened with alcohol, wipe the manual tray separation roller [1] clean of dirt.

2.3 Tray1/ Tray2 feed roller

NOTE

- The alcohol described in the cleaning procedure represents the isopropyl alcohol.
- 1. Slide out tray1/ tray2.



2. Using a cleaning pad dampened with alcohol, wipe the tray1/ tray2 feed roller [1] clean of dirt.

2.4 Tray1 separation roller NOTE

- The alcohol described in the cleaning procedure represents the isopropyl alcohol. ٠
- 1. Remove the tray1 separation roller unit. F.5.4.4 Replacing the tray1 separation roller
 - [1]

2. Using a cleaning pad dampened with alcohol, wipe the tray1 separation roller [1] clean of dirt.



2.5 Tray2 separation roller NOTE

• The alcohol described in the cleaning procedure represents the isopropyl alcohol.

1. Pull out tray2.



- [2]

[1]

2.6 The DF feed roller

NOTE The alcohol described in the cleaning procedure represents the isopropyl alcohol. ٠

1. Open the feed cover.



2. Remove the C-ring [1] and the bearing [2], and remove the tray2 feed roller unit [3].

3. Using a cleaning pad dampened with alcohol, wipe the tray2 separation roller [1] clean of dirt.

2. Using a cleaning pad with alcohol, wipe the pick-up roller [1] /feed roller [2] clean of dirt.



2.7 Laser irradiation section

1. Slide out tray1.





4. Close the tray1.



2. Remove the cover [1].

3. Remove the laser lens cleaning tool [1].

5. Open the front cover [1].



- Remove the waste toner bottle [1].
 F.5.2.1 Replacing the waste toner bottle
 Remove the toner cartridge [2].
- Remove the toner cartridge [2].
 F.5.1.1 Replacing the toner cartridge (C, M, Y, K)
 Remove the imaging unit [3].
- F.5.1.2 Replacing the imaging unit (C, M, Y, K)

9. Attach the cover [1] to the removed imaging unit.





10. Insert the laser lens cleaning tool [1] into the imaging unit opening [2], pull it out, and then repeat this back and forth movement 2 or 3 times.

NOTE

 Never touch the electrical contacts of the toner cartridge or the imaging unit, as an electrostatic discharge may damage the product.

2.8 Conveyance roller NOTE

- The alcohol described in the cleaning procedure represents the isopropyl alcohol.
 - 1. Open the right door [1].





2. Wipe the conveyance roller [1] clean of dirt using a cleaning pad dampened with alcohol.

I ADJUSTMENT/SETTING

1. HOW TO USE THE ADJUSTMENT SECTION

"Adjustment/Setting" contains detailed information on the adjustment items and procedures for this machine.

1.1 Advance checks

- Before attempting to solve the customer problem, the following advance checks must be made. Check to see if:
- The power supply voltage meets the specifications.
- The power supply is properly grounded.
- The machine shares the power supply with any other machine that draws large current intermittently (e.g., elevator and air conditioner that generate electric noise).
- The installation site is environmentally appropriate: high temperature, high humidity, direct sunlight, ventilation, etc.; levelness of the installation site.
- The original has a problem that may cause a defective image.
- The density is properly selected.
- The original glass, slit glass, or related part is dirty.
- Correct paper is being used for printing.
- The units, parts, and supplies used for printing (developer, PC drum, etc.) are properly replenished and replaced when they reach the end of their useful service life.
- Toner is not running out.

MARNING

- To unplug the power cord of the machine before starting the service job procedures.
- If it is unavoidably necessary to service the machine with its power turned ON, use utmost care not to be caught in the scanner cables or gears of the exposure unit.
- Special care should be used when handling the fusing unit which can be extremely hot.

▲ CAUTION

- The imaging unit has a strong magnetic field. Keep watches and measuring instruments away from it.
- Take care not to damage the PC drum with a tool or similar device.
- Do not touch IC pins with bare hands.

2. UTILITY

2.1 List of UTILITY mode

List of UTILITY mode - outline

NOTE

- Keys displayed on screens are different depending on the setting.
- The function tree is shown to comply with the format displayed on the screen.

2.1.1 Accessibility

		Accessibility		
KeyRepeat/Interval	Time to Start			
	Interval			
Message Display Tm				
Sound Settings	Operation Confirm	Input Confirmation	Input Confirmation	
			Volume	
		Invalid Sound	Invalid Sound	
			Volume	
	SuccessCompletion	Operation Complete	Operation Complete	
			Volume	
		TX Complete	TX Complete	
			Volume	
	Completed Prep	Completed Prep		
		Volume		
	Caution Sound	LowCaution(Level 1)	LowCaution(Level 1)	
			Volume	
		LowCaution(Level 2)	LowCaution(Level 2)	
			Volume	
		LowCaution(Level 3)	LowCaution(Level 3)	
			Volume	
		Severe Caution Snd	Severe Caution Snd	
			Volume	
LCD CONTRAST				

2.1.2 Paper Settings

Paper Settings			
MANUAL	PAPER TYPE		
	PAPER SIZE		
TRAY1	PAPER TYPE		
	PAPER SIZE		
TRAY2 *1	PAPER TYPE		
	PAPER SIZE		

• *1: It will be displayed only when the optional paper feed unit PF-P14 is mounted.

2.1.3 One-Touch Reg

One-Touch Reg			
E-mail	Name		
	Favorites		
	Destination		
Fax	Name		
	Favorites		
	Destination		

2.1.4 User Settings

User Settings				
System Settings	Language Selection			
	UNIT OF MEASURE			
	PAPER SOURCE	Auto Tray Select	Tray 1	
			Tray 2 ^{*1}	
			MANUAL	

		User Settings				
		Auto Tray Switch				
		Print Lists				
Copier Settings	Auto Zoom Combine					
	Def. Copy Settings					
	Sep. Scan Setting					
Scan/Fax Settings	Bk Compression Lvl					
	Def. Fax Settings					
	Def. Scan Settings					
	Print Reports	TX Report				
		RX Report				
Printer Settings	PAPER MENU	DEFAULT TRAY	TRAY 1			
			TRAY 2 *1			
			MANUAL			
		Any Tray Setting	MANUAL	Manual Any Size		
				Manual Any Type		
			TRAY 1	Tray1 Any Size		
				Tray1 Any Type		
			TRAY 2 *1	Tray2 Any Type		
		COPIES				
		COLLATE 2				
		ORIENTATION				
		Minimal Print				
		TIFF Paper Setting				
	Print Reports	Statistics Page				
		Counter List				
	OOXML Print Set *2	OOXML Print Mode				
		Sheet/Book Print				
		PAPER				
		PAPER TYPE				
	Layout - Combination	Layout Settings				
		Line				
		Column				
		Aggr. Order				
		Aggr. Direction				
		Layout Settings	Pg Space - Line			
			Pg Space - Column			
			Pg Margin - Top			
			Pg Margin - Bottom			
			Pg Margin - Left			
			Pg Margin - Right			
			Pg Magnification			
			Pg Zoom - Manual			
				Pg Frame		

*1: It will be displayed only when the optional paper feed unit PF-P14 is mounted.
*2: It will be displayed only when the optional hard disk HD-P06 is mounted.

2.1.5 Admin Settings - System Settings Γ

	/	Admin Settings - System Set	ttings	
Pwr Sup/Pwr Sav	ENERGY SAVER	ON/OFF		
		Time Settings		
	Enter Pwr Save Md	1		
	Pwr Cons Sleep Md			
CLOCK	Date Setting			
	Time Setting			
	TIME ZONE			
Daylight Saving	Daylight Saving			
	Offset			
WeeklyTmr Settings	Enable Settings			
	Time Settings	Check Settings		
		Sunday	ON TIME	
			OFF TIME	
			Set/Clear	
		Monday	ON TIME	
			OFF TIME	
			Set/Clear	
		Tuesday	ON TIME	
			Set/Clear	
		Wednesday		
		Weahooday		
			Set/Clear	
		Thursday		
		Indisday		
			Sot/Cloar	
		Friday		
		Fluay		
		Saturday		
		Saturday		
		All Setting	Set/Clear	
			All Set/Clear	
	Overtime Password	ON/OFF		
		ENTER PASSWORD		
	Pwr SaveMd Setting			
RestrictUserAccess	Registering and Changing	Addr.		
Expert Adjustment	ALIGNMENT	TOP ADJUSTMENT	PLAIN PAPER	
			THICK	
			THICK 2	
			ENVELOPE	
		LEFT ADJUSTMENT	LEFT ADJ TRAY1	
			LEFT ADJ TRAY2 ^{*1}	
			LEFT ADJ MANUAL	
		LeadEdgeAdj-Side2	PLAIN PAPER	
			THICK	
			THICK 2	
		LEFT ADJ DUPLEX	LEFT ADJ TRAY1	
			LEET ADJ TRAY2 *1	
			LEFT AD.I MANUAI	
		Media Adjustment	First Side	PI AIN PAPER

	A	Admin Settings - System Se	ttings	
				THICK 2
				GLOSSY 1
				GLOSSY 2
				POSTCARD
				ENVELOPE
				LABEL
			Second Side	PLAIN PAPER
				THICK 1
				THICK 2
		IMAGE ADJ PARAM		
	IMG ADJ THICK	THICK/1200dpi	YELLOW	
			MAGENTA	
			CYAN	
			BLACK	
	IMG ADJ BLACK			
	MAIN SCAN ADJUST	YELLOW		
		MAGENTA		
		CYAN		
	Main Scan Page			
	Fine Line ADJ			
	PRINT MENU	Event Log		
		HALFTONE 64	CYAN 64	
			Magenta 64	
			YELLOW 64	
			BLACK 64	
		HALFTONE 128	CYAN 128	
			Magenta 128	
			YELLOW 128	
			BLACK 128	
		HALFTONE 256	CYAN 256	
			Magenta 256	
			YELLOW 256	
			BLACK 256	
		Gradation		
	Life	REPLACE	FUSER UNIT	
			TRANS. BELT	
			TRANS. ROLLER	
List/Counter	Job Settings List			
	Activity Report			
	UserAcct Cnt Ls Pg			
	Scan Comm Report			
Priority Tray				
Reset Settings	System auto reset	Priority Mode		
		ON/OFF		
		Reset Time		
	Auto Reset	Сору		
		Scan		
		Fax		
Folder Settings	Doc Del Tm Setting *2	Time Settings		
	Ľ	Custom Setting		
	ExtMemFuncSettings	Restrict ScantoUSB		
		Print Document *2		

*1: It will be displayed only when the optional paper feed unit PF-P14 is mounted.
*2: It will be displayed only when the optional hard disk HD-P06 is mounted.

2.1.6 Admin Settings - Admin/Mach Setgs

Admin Settings - Admin/Mach Setgs			
Admin Registration	Name		

	Admin Settings - Admin/Mach Setgs			
	E-MAIL ADDRESS			
Extension No.				
Input Machine Addr	Device Name			
	E-MAIL ADDRESS			

2.1.7 Admin Settings - Address Reg List

		Admin Settings - Address Reg List
Speed Address List	E-mail	Starting Dest. No.
		Number of Dest.
		PRINT
	Fax ^{*1}	Starting Dest. No.
		Number of Dest.
		PRINT
	SMB	Starting Dest. No.
		Number of Dest.
		PRINT
	FTP	Starting Dest. No.
		Number of Dest.
		PRINT
Group Address List	Starting Dest. No.	
	Number of Dest.	
	PRINT	
Program List	E-mail	Starting Dest. No.
		Number of Dest.
		PRINT
	Fax *1	Starting Dest. No.
		Number of Dest.
		PRINT
	SMB	Starting Dest. No.
		Number of Dest.
		PRINT
	FTP	Starting Dest. No.
		Number of Dest.
		PRINT
	Address Book	Starting Dest. No.
		Number of Dest.
		PRINT
	Group	Starting Dest. No.
		Number of Dest.
		PRINT
E-MailSub/TextList	· ·	

• *1: It will be displayed only when the optional fax kit FK-512 is mounted.

2.1.8 Admin Settings - ETHERNET

		Admin Settings - ETHE	RNET		
TCP/IP	ENABLE	ENABLE			
	IPv4 Settings	IP ADDRESS	IP ADDRESS		
		SUBNET MASK	SUBNET MASK		
		DEFAULT GATEWAY			
		IP Appl Method	DHCP		
			BOOTP		
			ARP/PING		
			AUTO IP Settings		
	IPv6	ENABLE	ENABLE		
		AUTO SETTING	AUTO SETTING		
		GLOBAL ADDRESS	GLOBAL ADDRESS		
		GATEWAY ADDRES	3		
		LINK LOCAL			

		Admin Settings - ETHERNET		
	DNS Host	DYNAMIC DNS		
	IPSEC	IPSEC		
	ACCESS PER.			
	ACCESS REFUSE			
	RAW PORT	ENABLE		
		BIDIRECTIONAL		
HTTP	HTTP			
	IPP			
FTP	FTP			
E-mail Settings	SMTP			
SNMP				
BONJOUR				
WSD PRINT	WSD PRINT			
Detail Settings	Device Setting	SPEED/DUPLEX		
	SLP			
IEEE802.1X				
Extnd Network Set				

2.1.9 Admin Settings - Printer Settings

Admin Settings - Printer Settings					
DO STARTUP PAGE					
AUTO CONTINUE					
Paper Settings	PAPER TYPE	PAPER SIZE			
		CUSTOM SIZE	LENGTH		
			WIDTH		
UNIT OF MEASURE					
HOLD JOB TIMEOUT *1					
QUALITY MENU	COLOR MODE				
	Brightness				
	Halftone	IMAGE PRINTING			
		TEXT PRINTING			
		GRFX. PRINTING			
	EDGE ENHANCEMENT	IMAGE PRINTING			
		TEXT PRINTING			
		GRFX. PRINTING			
	Edge Strength				
	Economy Print				
	PCL SETTING	Contrast			
		IMAGE PRINTING	RGB Source		
			RGB Intent		
			RGB Gray		
		TEXT PRINTING	RGB Source		
			RGB Intent		
			RGB Gray		
		GRFX. PRINTING	RGB Source		
			RGB Intent		
			RGB Gray		
	PS SETTING	Image Printing	RGB Source		
			RGB Intent		
			RGB Gray		
			Dest. Profile		
		TEXT PRINTING	RGB Source		
			RGB Intent		
			RGB Gray		
			Dest. Profile		
		GRFX. PRINTING	RGB Source		
			RGB Intent		

		Admin Settings - Printer Se	ettings			
			RGB Gray			
			Dest. Profile			
		SIMULATION	Simulation Profile			
			Sim. Intent			
			CMYK Gray			
	CALIBRATION	Tone Calibration	1			
		CMYK DENSITY	CYAN	Highlight		
				MIDDLE		
				Shadow		
			MAGENTA	Highlight		
				MIDDLE		
				Shadow		
			YELLOW	Highlight		
				MIDDLE		
				Shadow		
			BLACK	Highlight		
				MIDDLE		
				Shadow		
		Image Stabilization		· ·		
	COLOR SEPARATIO	COLOR SEPARATION				
EMULATION	DEF. EMULATION	DEF. EMULATION				
	PS Setting	WAIT TIMEOUT				
		PS ERROR PAGE	PS ERROR PAGE			
		PS PROTOCOL	PS PROTOCOL			
		AUTO TRAPPING	AUTO TRAPPING			
		BLACK OVERPRINT				
	PCL Settings	CR/LF MAPPING	CR/LF MAPPING			
		LINE PER PAGE	LINE PER PAGE			
		FONT SOURCE	FONT NUMBER			
			PITCH SIZE			
			POINT SIZE			
			SYMBOL SET			
		Barcode Font Setg	Line Width			
			Space Width			
	XPS *1	DIGITAL SGN.	DIGITAL SGN.			
		XPS ERROR PAGE	XPS ERROR PAGE			

• *1: It will be displayed only when the optional hard disk HD-P06 is mounted.

2.1.10 Admin Settings - Fax Settings

Admin Settings - Fax Settings *1		
Header Information	Sender	
	Sender Fax No.	
Header/Footer Pos	Header Position	
	TTI Print Area	
	Print RX Name	
	Footer Position	
Line Param Setting	Dialing Method	
	RX MODE	
	Ring Pattern	
	Number of RX Rings	
	Number of Redials	
	Redial Interval	
	LINE MONITOR	
	LINE Mon Vol - TX	
	LINE Mon Vol - RX	
	Manual RX V.34 OFF	
TX/RX Settings	Duplex Print(RX)	
	Inch Over A4	

		Admin Settings - Fax Settings *1
	Print Paper Select	
	Print Paper Size	
	Tray RX Print	
	Reduction Ratio	
	PrintSeparateFaxPg	
	FileAfterPollingTX	
Function Settings	Func ON/OFFSetting	F-Code TX
		Restrict Fax TX
		Restrict Fax RX
		Restrict PC-Fax TX
	Memory RX Setting	ON/OFF
		Password
	Forward TX Setting	Enable Settings
		Forward Dest.
		Output Method
	Remote RX Settings	Remote RX Settings
		Password
	PC-Fax RX Settings	ENABLE
		PRINT
	Night RX Settings	Night Fax RX Print
		Night RX Start Tm
		Night RX End Time
PBX CX Settings	PBX CX Settings	
	Password	
Report Settings	Activity Report	Output Settings
		Output Tm Setting
		Output Lim Setting
		Rmk Col PrintSetup
	TX Result Report	Output Settings
		TX ResultRptImage
	Timer ReservTX Rpt	
	PC-Fax TX Err Rpt	
	BroadcastResultRpt	Enable Settings
		Output Settings
	TX Result RptCheck	
Job Settings List		

Job Settings List

• *1: It will be displayed only when the optional fax kit FK-512 is mounted.

2.1.11 Admin Settings - System Connection

Admin Settings - System Connection	
------------------------------------	--

Admin Dispatch

2.1.12 Admin Settings - Security Settings

Admin Settings - Security Settings			
Admin. Password			
Security Details	Password Rules		
	Manual Destination		
	Job Log *1	Job Log	
		Billing Log	
		Count Log	
		Audit Log	
		Overwrite	
		Erase Job Log	
	Initialize	RESTORE NETWORK	
		RESTORE PRINTER	
		RESTORE ALL	
EnhancedSecurityMd			

	Ad	min Settings - Security Settings
HDD Settings ^{*1}	Check HDD Capacity	
	Overwrite All Data	HDD Overwrite Meth
		Start
	HDD Format	
	HDD EncryptSetting	
SSD Settings	Overwrite All Data	
	SSD Format	

• *1: It will be displayed only when the optional hard disk HD-P06 is mounted.

2.1.13 Admin Settings - Paper Empty Set

Admin Settings - Paper Empty Set		
TRAY 1		
TRAY 2 *1		
MANUAL		

• *1: It will be displayed only when the optional paper feed unit PF-P14 is mounted.

2.1.14 Admin Settings - License Management

Admin Settings - License Management		
Get Request Code		
Activation		
List EnabledFunc		

2.2 Starting/Exiting

2.2.1 Starting procedure

- 1. On the main screen, press the ▲ or ▼ key to select [UTILITY], then press the Select key.
- 2. The utility mode screen will appear.

2.2.2 Exiting procedure

• Press the Stop/Reset key.

3. LIST OF SERVICE MODE

3.1 List of service mode (outline)

NOTE

After exiting Service Mode, you must turn OFF the main power switch. Turning ON the main power switch again makes the changes to the Service Mode setting take effect.

	•	
Service Mode	Machine	I.3.2.1 Machine
	FIRMWARE VERSION	I.4.3 FIRMWARE VERSION
	Imaging ProcessAdj	I.3.2.2 Imaging ProcessAdj
	System 1	I.3.2.3 System 1
	System 2	1.3.2.4 System 2
	Counter	I.3.2.5 Counter
	PRINT MENU	I.3.2.6 PRINT MENU
	StateConfirmation	I.3.2.7 StateConfirmation
	Test Mode *1	I.3.2.8 Test Mode
	ADF	1.3.2.9 ADF
	Fax Settings *1	I.3.2.10 Fax Settings
	2nd NIC settings	I.4.14 2nd NIC settings
	BK CLEAR	I.4.15 BK CLEAR
	Firmware Update	I.4.16 FIRMWARE UPDATE
	LoadableDriverInfo	I.4.17 LoadableDriverInfo
	Loadable Driver Download *2	I.4.18 LOADABLE DOWNLOAD
	HDD Format	I.4.19 HDD Format
	ENGINE DIPSW	I.4.20 ENGINE DIPSW

• *1: It will be displayed only when the optional fax kit FK-512 is mounted.

• *2: It will be displayed only when the USB memory is connected to the machine.

3.2 List of service mode (detail)

3.2.1 Machine

NOTE

• After exiting Service Mode, you must turn OFF the main power switch. Turning ON the main power switch again makes the changes to the Service Mode setting take effect.

Machine		Ref. Page
PLAIN PAPER		I.4.2.1 FusingTemperature
THICK		
ENVELOPE		
TOP ADJUSTMENT	PLAIN PAPER	I.4.2.2.(1) TOP ADJUSTMENT
	ТНІСК	
	THICK 2	
	NVELOPE	
LEFT ADJUSTMENT	LEFT ADJ TRAY1	I.4.2.2.(2) LEFT ADJUSTMENT
	LEFT ADJ TRAY2	
	LEFT ADJ MANUAL	
LeadEdgeAdj-Side2	PLAIN PAPER	I.4.2.2.(3) LeadEdgeAdj-Side2
	ТНІСК	
	THICK 2	
LEFT ADJ DUPLEX	LEFT ADJ TRAY1	I.4.2.2.(4) LEFT ADJ DUPLEX
	LEFT ADJ TRAY2	
	LEFT ADJ MANUAL	
IMAGE ADJ PARAM		I.4.2.2.(5) IMAGE ADJ PARAM
Offset		I.4.2.3.(1) Offset
FB Side Edge		I.4.2.3.(2) FB Side Edge
Main ScanZoom Adj.		I.4.2.3.(3) Main ScanZoom Adj
Sub ScanZoom Adj.		I.4.2.3.(4) Sub ScanZoom Ad
LD LightWidth Adj.		I.4.2.4 LD adjustment
	I.4.2.5 FUSER CONTROL	
YELLOW		I.4.2.6 SCAN ADJUST VALUE
MAGENTA		
CYAN		
	I.4.2.7 Main Scan Page	
	I.4.2.8 FINE LINE ADJ	
	Machine PLAIN PAPER THICK ENVELOPE TOP ADJUSTMENT LEFT ADJUSTMENT LeadEdgeAdj-Side2 LEFT ADJ DUPLEX IMAGE ADJ PARAM Offset FB Side Edge Main ScanZoom Adj. Sub ScanZoom Adj. LD LightWidth Adj. YELLOW MAGENTA CYAN	Machine PLAIN PAPER THICK ENVELOPE TOP ADJUSTMENT PLAIN PAPER THICK THICK THICK THICK THICK 2 NVELOPE LEFT ADJUSTMENT LEFT ADJ TRAY1 LEFT ADJ MANUAL LEFT ADJ MANUAL LeadEdgeAdj-Side2 PLAIN PAPER THICK THICK THICK 2 LEFT ADJ TRAY2 LEFT ADJ DUPLEX LEFT ADJ TRAY1 LEFT ADJ TRAY2 LEFT ADJ TRAY2 LEFT ADJ TRAY2 LEFT ADJ TRAY2 LEFT ADJ TRAY2 LEFT ADJ MANUAL IMAGE ADJ PARAM Offset FB Side Edge Main ScanZoom Adj. Sub ScanZoom Adj. LD LightWidth Adj. YELLOW MAGENTA CYAN

Machine	Ref. Page
IU YieldSettings	I.4.2.9 IU YIELD SETTINGS

3.2.2 Imaging ProcessAdj

NOTE

After exiting Service Mode, you must turn OFF the main power switch. Turning ON the main power switch again makes the changes to the Service Mode setting take effect.

Imaging ProcessAdj			Ref. Page
Transfer VoltageFi	Secondarytransfer	Frist Side	I.4.4.1 Transfer VoltageFi
		Second Side	
Image Stabilizatio			I.4.4.2 Image Stabilizatio
IMG ADJ THICK	THICK	YELLOW	I.4.4.3 IMG ADJ THICK
		MAGENTA	
		CYAN	
		BLACK	
	1200dpi	YELLOW	
		MAGENTA	
		CYAN	
		BLACK	
IMG ADJ BLACK	·		I.4.4.4 IMG ADJ BLACK

3.2.3 System 1

NOTE

• After exiting Service Mode, you must turn OFF the main power switch. Turning ON the main power switch again makes the changes to the Service Mode setting take effect.

System 1	Ref. Page
FaxTarget*1	I.4.5.1 FaxTarget
SERIAL NUMBER	I.4.5.2 SERIAL NUMBER
Sleep ON/OFFChoice	I.4.5.3 Sleep ON/OFFChoice
Install Date	I.4.5.4 Install Date
Machine StateLED S	I.4.5.5 Machine StateLED S
TONER OUT MODE	I.4.5.6 TONER OUT MODE
GRAYSCALE PAGE	I.4.5.7 GRAYSCALE PAGE

• *1: It will be displayed only when the optional fax kit FK-512 is mounted.

3.2.4 System 2

NOTE

[•] After exiting Service Mode, you must turn OFF the main power switch. Turning ON the main power switch again makes the changes to the Service Mode setting take effect.

System 2			Ref. Page
Paper Empty Alert	Near Empty	TONER LOW	I.4.6.1 Paper Empty Alert
		I-UNIT LOW	
		Waste Toner Box	
SOFT SWITCH			I.4.6.2 SOFT SWITCH
Cov. Rate Screen			I.4.6.3 Cov. Rate Screen
App. Change Setting			I.4.6.4 App. Change Setting

3.2.5 Counter

NOTE

• After exiting Service Mode, you must turn OFF the main power switch. Turning ON the main power switch again makes the changes to the Service Mode setting take effect.

Counter Ref. Page	Counter	
FUSER UNIT I.4.7 Counter	REPLACE	Life
TRANS. BELT		
TRANS. ROLLER		
FUSER UNIT I.4.7 Counter TRANS. BELT TRANS. ROLLER		Life

3.2.6 PRINT MENU

NOTE

 After exiting Service Mode, you must turn OFF the main power switch. Turning ON the main power switch again makes the changes to the Service Mode setting take effect.

PRINT MENU		Ref. Page
Management List		I.4.8.1 Management List
Adjustments List		I.4.8.2 Adjustments List
Service Parameter*1		I.4.8.3 Service Parameter
Protocol Trace*1	Last	I.4.8.4 Protocol Trace
	Error	
Fax Analysis List*1		I.4.8.5 Fax Analysis List
Scan Event Log		I.4.8.6 Scan Event Log
HALFTONE 64	CYAN 64	I.4.8.7 HALFTONE 64
	Magenta 64	
	YELLOW 64	
	BLACK 64	
HALFTONE 128	CYAN 128	I.4.8.8 HALFTONE 128
	Magenta 128	
	YELLOW 128	
	BLACK 128	
HALFTONE 256	CYAN 256	1.4.8.9 HALFTONE 256
	Magenta 256	
	YELLOW 256	
	BLACK 256	
Gradation		I.4.8.10 Gradation

• It will be displayed only when the optional fax kit FK-512 is mounted.

3.2.7 StateConfirmation

NOTE

• After exiting Service Mode, you must turn OFF the main power switch. Turning ON the main power switch again makes the changes to the Service Mode setting take effect.

	StateConfirmation	Ref. Page
SENSOR CHECK	1st.	I.4.9.1 SENSOR CHECK
	2nd.	
	Manual Feed	
	Other	
Level History		I.4.9.2 Level History
Temp. & Humidity		I.4.9.3 Temp. & Humidity
Memory/HDD State		I.4.9.4 Memory/HDD State
Component Check		I.4.9.5 COMP. CHECK

3.2.8 Test Mode

NOTE

After exiting Service Mode, you must turn OFF the main power switch. Turning ON the main power switch again makes the changes to the Service Mode setting take effect.

Test Mode		Ref. Page	
Fax Test	SignalSend Test	V34 Main CH	I.4.10.1 Fax Test-SignalSend Test
		V8	
		V17	
		V29	
		V27ter	
		V21	
		PB	
		DP	
		Special Tone	
		Optional Tone	
		PB Tone(High)	
		PB Tone(Low)	
		Pseudo Ring	
	Signal RX Test	V17	I.4.10.2 Fax Test-Signal RX Test
		V29	
		V27 ter	
		V21	
		РВ	

Test Mode			Ref. Page
		Special Ton	
	NCU Test	CML Relay	I.4.10.3 Fax Test-NCU TEST
		CTL Relay	
		TEL Relay	
		DC-LOOPDetect	
		Speaker	
		Outside Ring Send	
		Audio Resp Send	
	Dial Test	Dial Number	I.4.10.4 Fax Test - Dial Test
		Dialing Method	
		DialTone Detection	
		BUSYTONE Detection	

3.2.9 ADF

NOTE

After exiting Service Mode, you must turn OFF the main power switch. Turning ON the main power switch again makes the changes to the Service Mode setting take effect.

	DF	Ref. Page
1-Side		I.4.11.1 1-Side
2-Side		I.4.11.2 2-Side
Register Loop	Back side	I.4.11.3 Register Loop-Back side
Center Adjustment		I.4.11.4 Center Adjustment
ADF(B) Side Edge		I.4.11.5 ADF(B) Side Edge
Feed Zoom		I.4.11.6 Feed Zoom
FD-Mag. Adj. (B)		I.4.11.7 FD-Mag. Adj. (B)
Main Scan Dir Zm		I.4.11.8 Main Scan Dir Zm
Main Scan Dir Zm-B		I.4.11.9 Main Scan Dir Zm-B

3.2.10 Fax Settings

NOTE

After exiting Service Mode, you must turn OFF the main power switch. Turning ON the main power switch again makes the changes to the Service Mode setting take effect.

FAX Settings		Ref. Page	
Modem/NCU	V34	RX Max. Bit Speed	I.4.12.1.(1) V34: RX Max. Bit Speed
		TX Max. Bit Speed	I.4.12.1.(2) V34: TX Max. Bit Speed
		Control CH Speed	I.4.12.1.(3) V34: Control CH Speed
		V34Tran.PT	I.4.12.1.(4) V34: V34 Tran.PT
	V17 SendMax Speed	TX Max. Speed	I.4.12.1.(5) V17 Send Max Speed: TX Max. Speed
		RX Max. Speed	I.4.12.1.(6) V17 Send Max Speed: RX Max. Speed
	TxATT	PIX TxATT	I.4.12.1.(7) TxATT: PIX TxATT
		TONE/Pro Sig TxATT	I.4.12.1.(8) TxATT: TONE/Pro Sig TxATT
		CED/ANSam TxATT	I.4.12.1.(9) TxATT: CED/ANSam TxATT
		DTMF TxATT	I.4.12.1.(10) TxATT: DTMF TxATT
	Level	CD/SED ON Level	I.4.12.1.(11) Level: CD/SED ON Level
		DTMF H-L LvI Diff	I.4.12.1.(12) Level: DTMF H-L LvI Diff
	Cable EQL		I.4.12.1.(13) Cable EQL
Network	RX Sig Detn Md		I.4.12.2.(1) RX Sig Detn Md
	BUSYTONE Detection		I.4.12.2.(2) BUSYTONE Detection
	BUSYTONE Detn Time		I.4.12.2.(3) BUSYTONE Detn Time
	1300Hz Detection		I.4.12.2.(4) 1300Hz Detection
	DialTone Detection		I.4.12.2.(5) DialTone Detection
	DC-LOOP Check		I.4.12.2.(6) DC-LOOP Check
	min.RING OFF Time		I.4.12.2.(7) min.RING OFF Time
	Partner Resp Time		I.4.12.2.(8) Partner Resp Time
	Pause Time		I.4.12.2.(9) Pause Time
	Pseudo RBTFormat		I.4.12.2.(10) Pseudo RBTFormat
	Pseudo RBT TX LvI		I.4.12.2.(11) Pseudo RBT TX Lvl

System Display Setting CompulsoryMemory R I.4.12.3.(1) Display Setting: CompulsoryMemory R System Function Fax Board Watchdog I.4.12.3.(2) System Function: F Watchdog Fax BT Rewrite ISW I.4.12.3.(3) System Function: F	ax Board	
System Function Fax Board Watchdog I.4.12.3.(2) System Function: F Watchdog Fax BT Rewrite ISW I.4.12.3.(3) System Function: F	ax Board	
Fax BT Rewrite ISW I.4.12.3.(3) System Function: F	DT	
Rewrite ISW	ax BT	
Error Code Dispaly I.4.12.3.(4) System Function: E Display	Fror Code	
Comm Setting Error Pg Resending I.4.12.3.(5) Communication Set Pg Resending Pg Resending Pg Resending	tting: Error	
#ofRedials(Err Pg) I.4.12.3.(6) Communication Set #ofRedials(Err Pg)	tting:	
Fax File Format I.4.12.4 Fax File Format		
COMMUNICATION Protocol V8/V34 Protocol I.4.12.5.(1) Protocol: V8 / V34 F	Protocol	
V17EP TONE I.4.12.5.(2) Protocol: V17EP TO	ONE	
V29EP TONE I.4.12.5.(3) Protocol: V29EP TO	ONE	
V17EP TONE I.4.12.5.(4) Protocol: V17EP TO	ONE	
ANSam Send Time I.4.12.5.(5) Protocol: ANSam S	end Time	
Int'l Comm. Functio Foreign Comm Func I.4.12.5.(6) Int'l Comm. Functio Comm Func	: Foreign	
DIS Waiting Times I.4.12.5.(7) Int'I Comm. Functio Waiting Times	: DIS	
V34 Speed I.4.12.5.(8) Int'I Comm. Functio Speed	: V34	
V17 Speed I.4.12.5.(9) Int'I Comm. Functio Speed): V17	
V29 Speed I.4.12.5.(10) Int'l Comm. Functi Speed	io: V29	
TIMER T1 I.4.12.5.(11) TIMER: T1		
DCS-TCF DELAY I.4.12.5.(12) TIMER: DCS-TCF	DELAY	
CED-DIS DELAY I.4.12.5.(13) TIMER: CED-DIS	DELAY	
PIX-PMC DELAY I.4.12.5.(14) TIMER: PIX-PMC	DELAY	
EOL-EOL I.4.12.5.(15) TIMER: EOL-EOL		
CFR-PIXWAIT I.4.12.5.(16) TIMER: CFR-PIXW	NAIT	
EOM-PIXWAIT I.4.12.5.(17) TIMER: EOM-PIX	WAIT	
JM WAIT I.4.12.5.(18) TIMER: JM WAIT		
Others ECM OFF I.4.12.5.(19) Others: ECM OFF		
Fr Size at ECM TX I.4.12.5.(20) Others: Fr Size at	ECM TX	
Cording Ability I.4.12.5.(21) Others: Coding At	oility	
List Output Rpt Addition Info I.4.12.6.(1) Rpt Addition Info	-	
TX ResultRptImage I.4.12.6.(2) TX ResultRptImage	;	
ProtTraceAutoOut I.4.12.6.(3) ProtTraceAutoOut		
FunctionParameter I.4.12.7 FunctionParameter		
Initialization Fax Func Parameter I.4.12.8 Initialization		
Comm Journal Data		
Line STD.Settings Partner Resp Time I.4.12.9 Line STD Settings		
Always OffHook		
DialTone Detection		
BUSYTONE Detection		
Error Pg Resending		
#ofRedials (Err Pg)		
Reduce RX err		
Busvtone Detn Time		
Number of Redials		
Redial Interrval		
RX Sig Detn Md		
Number of RX Rings		
Detection time		
Pause Time		
Line Mon Vol-TX		
FAX Settings		Ref. Page
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	Line Mon Vol-RX	

4. Service Mode

4.1 STARTING/EXITING

4.1.1 STARTING PROCEDURE

NOTE

• Make sure not to reveal the password of the service mode to any unauthorized person.

(1) Procedure

- 1. Select [Utility] on the menu screen and press the Select key.
- 2. Press the following keys in this order.
- Stop/Reset -> 0 -> 0 -> Stop/Reset -> 0 -> 1
- Using the keyboard, type the CE password. The initial setting for CE password is "92729272."
- 4. Press the Select key.
 - NOTE
 - Pressing the * key on the control panel each time switches the input mode.
 - Access attempts to the Service Mode with a CE password is limited to up to 3 times.
 - If the number of invalid access attempts reaches three, your access is locked. Until access lock is released, the Service Mode is not accessible.
 - To release access lock, turning OFF/ON the power switch and rebooting the machine is necessary.
 - (When the machine is rebooted, the invalid access attempts count is cleared.)
 - The service code entered is displayed as " * ".
- 5. The Service Mode menu will appear.
 - NOTE
 - Be sure to change the CE password if it is set by default.
 - For how to change the CE password, refer tol.5.5 CE Password.
 - Never forget the CE password.

4.1.2 Exiting procedure

Press the Stop/Reset key.

4.2 Machine

4.2.1 FusingTemperature

(1) Use

- To adjust the fusing heating temperature individually for each paper type so as to ensure good fusing performance that varies with varying environmental conditions.
- When fusing performance is poor, or wax streak or offset occurs when the type of paper is changed or environmental conditions change.
 Use this function when curled paper, or paper jam as a result of the curled paper, occurs under varying environmental conditions or depending on the type of paper used.

(2) Setting item

PLAIN PAPER	-10 °C to 0 °C (step: 5 °C)
THICK	-10 °C to 0 °C (step: 5 °C)
ENVELOPE	-10 °C to 0 °C (step: 5 °C)

(3) Procedure

- 1. Call the Service Mode to the screen.
- 2. Select [Fusing Temperature] and press the Select key.
- 3. Select the type of paper and press the Select key.

4. Select desired setting value with the up key/down key and press the Select key.

<Adjustment instructions>

Fusing failure	Increase the setting value.	
Uneven waxing	Increase the setting value.	
Offset	Increase the setting value.	
Curled paper	Increase the setting value.	

4.2.2 ALIGNMENT

(1) TOP ADJUSTMENT

(a) Use

- To vary the print start position in the sub scan direction for each of different paper types. (to adjust the timing where paper is sent out from the registration roller)
- The PH unit has been replaced.
- · The paper type has been changed.
- The print image deviates in the sub scan direction.
- · A faint image occurs on the leading edge of the image.
- This setting can be made independently for PLAIN PAPER, THICK, THICK 2 and ENVELOPE.

(b) Setting range

		-	
A	 ●		

· Adjust so that width A on the one-sided printed page falls within the target range.

Target	4.2 mm ± 2.0 mm
Setting range	-3.15 mm to + 3.15 mm (in 0.21 mm increments)

(c) Procedure

- 1. Check width A on the printed page.
- 2. If width A falls outside the target, follow the adjustment procedures below.
- 3. Call the Service Mode to the screen.
- 4. Select [TOP ADJUSTMENT] and press the Select key.
- 5. Select the type of paper and press the Select key.
- 6. Select the adjusted value with the up key/down key and press the Select key.
- 7. Increase the setting value, if width A on the printed page is shorter than the target value.
- Decrease the setting value, if width A on the printed page is longer than the target value.
- 8. Back to the basic screen.
- 9. Produce a printed page again and make sure that the image is not faulty.
- 10. Following the same procedure, adjust for each paper.

(2) LEFT ADJUSTMENT

(a) Use

- To vary the print start position in the main scan direction for each paper source.
- The PH unit has been replaced.
- A paper feed unit has been added.
- The print image deviates in the main scan direction.
- This setting can be made independently for LEFT ADJ TRAY1, LEFT ADJ TRAY2 and LEFT ADJ MANUAL.

(b) Setting range



• Adjust so that width A on the one-sided printed page falls within the target range.

Target	4.2 mm ± 2.0 mm
Setting range	-3.15 mm to + 3.15 mm (in 0.21 mm increments)

(c) Procedure

- 1. Check width A on the printed page.
- 2. If width A falls outside the target, follow the adjustment procedures below.
- 3. Call the Service Mode to the screen.
- 4. Select [LEFT ADJUSTMENT] and press the Select key.
- 5. Select the type of paper and press the Select key.
- 6. Select the adjusted value with the up key/down key and press the Select key.
- 7. Increase the setting value, if width A on the printed page is shorter than the target value. Decrease the setting value, if width A on the printed page is longer than the target value.
- 8. Back to the basic screen.
- 9. Produce a printed page again and make sure that the image is not faulty.
- 10. Following the same procedure, adjust for each paper source.

(3) LeadEdgeAdj-Side2

(a) Use

- For individual types of paper, this function allows the adjustment of the image write start position in the sub scan direction on the 2nd side of duplex printing.
- This adjustment is made when the image on the 2nd side of paper deviates from the original position in the sub scan direction.
- This adjustment can be made independently for each of PLAIN PAPER, THICK and THICK 2.

(b) Setting range



- Adjust so that width A on the 2-sided printed page falls within the target range.
- For measurement, use the image produced on the backside of the width A.
 Target 4.2 mm ± 2.0 mm
 Setting range -3.15 mm to +3.15 mm (in 0.21 mm increments)

(c) Procedure

- 1. Check width A on the printed page.
- 2. If width A falls outside the target, follow the adjustment procedures below.
- 3. Call the Service Mode to the screen.
- 4. Select [LeadEdgeAdj-Side2] and press the Select key.
- 5. Select the type of paper and press the Select key.
- 6. Select the adjusted value with the up key/down key and press the Select key.
- 7. Increase the setting value, if width A on the printed page is shorter than the target value.
- Decrease the setting value, if width A on the printed page is longer than the target value. 8. Back to the basic screen.
- 9. Produce a printed page again and make sure that the image is not faulty.
- 10. Following the same procedure, adjust for each paper.

(4) LEFT ADJ DUPLEX

(a) Use

- · To vary the print start position in the main scan direction for each paper source in the 2-Sided mode.
- The image on the backside of the 2-sided print deviates in the main scan direction.
- This setting can be made independently for LEFT ADJ TRAY1, LEFT ADJ TRAY2 and LEFT ADJ MANUAL.

(b) Setting range



- · Adjust so that width A on the 2-sided printed page falls within the target range.
- For measurement, use the image produced on the backside of the width A.

Target	4.2 mm±2.0 mm
Setting range	-3.15 mm to +3.15 mm (in 0.21 mm increments)

(c) Procedure

- 1. Check width A on the printed page.
- 2. If width A falls outside the target, follow the adjustment procedures below.
- 3. Call the Service Mode to the screen.
- 4. Select [LEFT ADJ DUPLEX] and press the Select key.
- 5. Select the type of paper and press the Select key.
- 6. Select the adjusted value with the up key/down key and press the Select key.

- 7. Increase the setting value, if width A on the printed page is shorter than the target value. Decrease the setting value, if width A on the printed page is longer than the target value.
- 8. Back to the basic screen.
- 9. Produce a printed page again and make sure that the image is not faulty.
- 10. Following the same procedure, adjust for each paper source.

(5) IMAGE ADJ PARAM

(a) Use

- Adjusts the printer in case of an image quality problem (uneven density)
- To correct image quality problems (uneven density) due to the machine being operated at a high altitude.

(b) Default setting

• 0

(c) Setting range

• 0 to 6 (Step:1)

(d) Procedure

- 1. Call the Service Mode to the screen.
- 2. Select [IMAGE ADJ PARAM] and press the Select key.
- 3. Select the adjusted value with the up key \blacktriangle /down key \blacktriangledown and press the Select key.
- 4. Back to the basic screen.
- 5. Check the print image for any image problem.

NOTE

· When the setting value is changed, the image stabilization will be executed automatically.

4.2.3 Scanner Area

- · Use the following color chart for the adjustment of the scanner section.
- If the color chart is not available, a scale may be used instead.



Original réference B

Adjustment item	Ref. page
A: Offset	I.4.2.3.(1) Offset
B: FB Side Edge	I.4.2.3.(2) FB Side Edge
C: Main ScanZoom Adj	I.4.2.3.(3) Main ScanZoom Adj
D: Sub ScanZoom Adi	1.4.2.3.(4) Sub ScanZoom Ad

(1) Offset

(a) Use

- · To adjust variations in mounting accuracy of the original width scale by varying the scan start position in the sub scan direction.
- When the Scanner unit is replaced.
- When the MFP board is replaced.

(b) Setting range



Measure width A on the color chart and width A on the produced copy and adjust so that the error falls within the target range.
An adjustment must have been completed correctly of [TOP ADJUSTMENT] of [ALIGNMENT].

Target	Width A: ± 2.50 mm
Setting range	-5.00 mm +5.00 mm (in 0.01 mm increments)

(c) Procedure

- 1. Call the Service Mode to the screen.
- 2. Select [Offset] and press the Select key.
- 3. Position the color chart correctly so that the original reference point is aligned with the scale.
- 4. Press the Start key to make a copy.
- 5. Check width A on the produced copy.
- 6. If width A falls outside the target range, vary the setting value using the up key ▲/down key ▼.
 - If width A on the copy is shorter than width A on the color chart, increase the setting value.
 - · If width A on the copy is longer than width A on the color chart, decrease the setting value.
- 7. Return to the basic screen.
- 8. Make a copy again. Make the adjustment until the target range is satisfied.

(2) FB Side Edge

- (a) Use
- To adjust part-to-part variations in accuracy of scanner parts and their mounting accuracy by varying the scan start position in the main scan direction.
- · When the Scanner unit is replaced.
- When the MFP board is replaced.

(b) Setting range



- Measure width B on the color chart and width B on the produced copy and adjust so that the error falls within the target range.
- An adjustment must have been completed correctly of [LEFT ADJUSTMENT] of [ALIGNMENT].

Target	Width B: ±2.00 mm
Setting range	-5.00 mm to + 5.00 mm (in 0.01 mm increments)

(c) Procedure

- 1. Call the Service Mode to the screen.
- 2. Select [FB Side Edge] and press the Select key.
- 3. Position the color chart correctly so that the original reference point is aligned with the scale.
- 4. Press the Start key to make a copy.
- 5. Check width B on the produced copy.
- 6. If width B falls outside the target range, vary the setting value using the up key ▲/down key ▼.
 If width B on the copy is shorter than width B on the color chart, increase the setting value.
 - If width B on the copy is longer than width B on the color chart, decrease the setting value.
- 7. Return to the basic screen.
- 8. Make a copy again. Make the adjustment until the target range is satisfied.

(3) Main ScanZoom Adj

(a) Use

- · To adjust the zoom ratio in the main scan direction for the scanner section.
- The scanner unit has been replaced.
- When the MFP board is replaced.

(b) Setting range



- Measure width C on the color chart and width C on the produced copy and adjust so that the error falls within the target range.
- An adjustment must have been completed correctly of the printer side.

Target	Width C: ± 2.0 mm
Setting range	-2.00% to + 2.00% (in 0.01% increments)

* Standard size when using a scale: 200.0 mm

(c) Procedure

- 1. Call the Service Mode to the screen.
- 2. Select [Main ScanZoom Adj] and press the Select key.
- 3. Position the color chart correctly so that the original reference point is aligned with the scale.
- 4. Press the Start key to make a test pattern.
- 5. Check width C on the produced copy.
- 6. If width C falls outside the target range, vary the setting value using the up key ▲/down key ▼.
 - If width C on the copy is shorter than width C on the color chart, increase the setting value.
 - If width C on the copy is longer than width C on the color chart, decrease the setting value.
- 7. Return to the basic screen.
- 8. Make a copy again. Make the adjustment until the target range is satisfied.

(4) Sub ScanZoom Ad

- (a) Use
 - To adjust the zoom ratio in the sub scan direction for the scanner section.
- When the MFP board is replaced.

(b) Setting range



- Measure width D on the color chart and width D on the produced copy and adjust so that the error falls within the target range.
- An adjustment must have been completed correctly of the printer side.

Target	Width D: ± 2.0 mm
Setting range	-2.00% to 2.00% (in 0.01% increments)

* Standard size when using a scale: 200.0 mm

(c) Procedure

- 1. Call the Service Mode to the screen.
- 2. Touch these keys in this order: [Scan Area] -> [Sub Scan Zoom Adj].
- 3. Position the color chart correctly so that the original reference point is aligned with the scale.
- 4. Press the Start key to make a test pattern.
- 5. Check width D on the produced copy.
- If width D falls outside the target range, vary the setting value using up key ▲/down key ▼.
 - If width D on the copy is shorter than width D on the color chart, increase the setting value. If width D on the copy is longer than width D on the color chart, decrease the setting value.
- 7. Return to the basic screen.
- 8. Make a copy again. Make the adjustment until the target range is satisfied.

4.2.4 LD adjustment

(1) LD Light Width Adjustment

(a) Use

To adjust the amount to be added to the laser pulse width.

(b) Default setting

• 3

(c) Setting range

• 0 to 6 (Step: 1)

(d) Procedure

- 1. Call the Service Mode to the screen.
- 2. Select LD LightWidth Adj.] and press the Select key.
- Select desired setting value with the up key ▲/down key ▼ and press the Select key.

4.2.5 FUSER CONTROL

(1) Use

- To set the heater lamp lighting control that complies with the flicker standard.
 - 0: Not specify the flicker control
 - 1: Perform the flicker control
 - 2: Not perform the flicker control

(2) Default setting

• 0

(3) Setting item

• 0 to 2 (Step: 1)

(4) Procedure

- 1. Call the Service Mode to the screen.
- 2. Select [FUSER CONTROL] and press the Select key.
- 3. Select desired setting value with the up key ▲/down key ▲ and press the Select key.

4.2.6 SCAN ADJUST VALUE

(1) Use

- To make the zoom adjustment in the main scanning direction.
- Use the function when the PH unit has been replaced with a new one.
- This adjustment needs to be made when the setting value has been reset as a result of the replacement of EEPROM on the printer control board.

(2) Default setting

• 0

(3) Setting range

• -42 to +42 (Step: 1)

(4) Procedure

- 1. Select [Main Scan Page] and press the Select key.
- 2. Select [PRINT] and press the Select key.



- 3. Using the produced test pattern, adjust so that the gray line on each color pattern extends in parallel with the main scanning direction. Follow the steps given below to calculate the setting value of each of cyan, magenta, and yellow:
 - 1. On the ends on side A and side B on each color pattern, identify the numeral at which the darkest gray line is located. (For the sample yellow pattern, the numerals are "1" on side A and "7" on side B.)
 - 2. The setting value is the numeral on side B subtracted from the numeral on side A. (For the sample yellow pattern, 1 7 = 6 and the setting value is "-6".)
- 4. Call the Service Mode to the screen.
- 5. Select [SCAN ADJUST VALUE] and press the Select key.
- 6. Select the color to be adjusted with the up key ▲/down key ▲ and press the Select key.
- 7. Enter the setting value calculated in step 2 and press the Select key.
- 8. Enter the setting value for each of cyan, magenta, and yellow.
- 9. Using [Main Scan Page], produce a test pattern again and check the result of the adjustment.
- Specifications: The positions at which the darkest gray lines are located on the ends on side A and side B should fall within two steps.

4.2.7 Main Scan Page

(1) Use

• To print a test pattern to be used for the zoom adjustment in the main scanning direction.

(2) Procedure

- 1. Call the Service Mode to the screen.
- 2. Select [Main Scan Page] and press the Select key.
- 3. Select [PRINT] and press the Select key.
- 4. The test pattern is produced.

4.2.8 FINE LINE ADJ

(1) Use

• Adjust how fine lines are reproduced by changing the applied voltage (VC) to the electrostatic roller.

(2) Default setting

• 0

(3) Setting item

-4 to 3 (step:1*)
 *: 10V per 1 step

NOTE

• The setting can be set by user in [Admin Settings] -> [System Settings]-> [Expert Adjustment]-> [Fine Line ADJ]. However, the adjustable range of the parameter is narrowed to -3 to 2.

4.2.9 IU YIELD SETTINGS

(1) Use

· Sets the timing of life stop (prohibition of printing) of the imaging unit.

•		<i>c, c c</i>					
STANDARD	Causes the life stop (prohibition of printing) event to occur at a consumption rate of 105% (equivalent to 21,000 printed pages).						
EXTENSION	Causes the life stop (prohi printed pages).	Causes the life stop (prohibition of printing) event to occur at a consumption rate of 167% (equivalent to 33,400 printed pages).					
		STANDARD	EXTENSION				
Life (prohibition of printing) threshold value (consumption rate)		105% (equivalent to 21,000 printed pages)	167% (equivalent to 33,400 printed pages)				

NOTE

• For more details, see F.4.1 Life value of consumables and parts.

(2) Default setting

STANDARD

(3) Setting item

- "STANDARD"
- EXTENSION

4.3 FIRMWARE VERSION

4.3.1 Use

- To check the firmware version.
- · To use when the firmware is updated.
- When the boards is replaced.

4.3.2 Procedure

- 1. Call the Service Mode to the screen.
- 2. Select [FIRMWARE VERSION] and press the Select key.
- 3. Select desired firmware and press the Select key to check the firmware version.

4.4 Imaging ProcessAdj

4.4.1 Transfer VoltageFi

(1) Secondarytransfer

(a) Use

- Adjust the 2nd image transfer output (ATVC) on the 1st page and the 2nd page for each paper type.
- To use when the transfer failure at the trailing edge occurs.

(b) Setting range

- -8 to +7 (step: 1 *)
- *1: step is equivalent to 100 V.

(c) Procedure

- 1. Call the Service Mode to the screen.
- 2. Select [Transfer VoltageFi] -> [Secondarytransfer] and press the Select key.
- 3. Select the side of the image (the 1st side or the 2nd side) on which image transfer failure occurs and press the Select key.
- 4. Select the paper type with the transfer failure and press the Select key.
- 5. Select desired setting value with the up key ▲/down key ▼ and press the Select key.
 - To increase the ATVC value, increase the setting value.
 - To decrease the ATVC value, decrease the setting value.
- 6. Press the Select key to validate the setting value.
- 7. Check the print image for any image problem.

4.4.2 Image Stabilizatio

(1) Use

- To carry out an image stabilization sequence after the historical data of image stabilization control has been initialized.
- Use if an image problem persists even after gradation adjustment has been executed.
- · Use if tone reproduction and maximum density are faulty even after stabilizer mode has been executed.
- · When color shift correction is needed again after the machine maintenance.

(2) Setting item

- 600dpi
- 1200dpi
- CANCEL
- (3) Procedure
- 1. Call the Service Mode to the screen.
- 2. Select [Image Stabilizatio] and press the Select key.
- 3. Select [600dpi] or [1200dpi] by using the up key/down key, and press the Select key.
- 4. The image stabilization is executed.

4.4.3 IMG ADJ THICK

(1) Use

- To adjust the density of printed images for Thick Paper and 1200 dpi.
- · Use to vary the density of printed images for Thick Paper and 1200 dpi.

(2) Default setting

• 0

(3) Setting range

-5 to 5 (step: 1)

(4) Procedure

- 1. Call the Service Mode to the screen.
- 2. Select [IMG ADJ THICK], select the desired setting value using up key ▲/down key ▼ and press the Select key.
- Select the desired color, and change the setting value using up key ▲/down key ▼ or the 10-key pad.
 - · Light color: Increase the setting value.
 - Dark color: Decrease the setting value.
- 4. Press the Select key to validate the setting value.

4.4.4 IMG ADJ BLACK

(1) Use

- · To fine-adjust the density of the printed image for a black print.
- To vary the density of the printed image of a black print.

(2) Default setting

• 0

(3) Setting range

• -2 to 2 (step: 1)

(4) Procedure

- 1. Call the Service Mode to the screen.
- 2. Select [IMG ADJ BLACK] and press the Select key.
- 3. Change the adjusted value using up key ▲/down key ▼ or 10-key.
 - Black is light: Increase the setting value.
 - Black is dark: Decrease the setting value.
- 4. Press the Select key to validate the setting value.

4.5 System 1

4.5.1 FaxTarget

It will be displayed only when the optional FAX kit FK-512 is mounted.

(1) Use

- To set the region (country) in which the machine is installed
- Upon setup.

(2) Procedure

- 1. Call the Service Mode to the screen.
- 2. Select [FaxTarget] and press the Select key.
- 3. Select the applicable marketing area using up key ▲/down key ▼ and press the Select key.

(3) Setem

U.S.A, Canada, Mexico, Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, The Netherlands, Norway, Poland, Portugal, Spain, Sweden, Switzerland, The U.K., Russia, Argentina, Brazil, South Africa, Australia, New Zealand, China, Hong Kong, Malaysia, Singapore, Korea, Taiwan, Israel, "Japan", Saudi Arabia, Turkey, Hungary, Slovakia, Vietnam, The Czech Republic, The Philippines, EU

4.5.2 SERIAL NUMBER

- (1) Use
- · To display the serial number

(2) Procedure

- 1. Call the Service Mode to the screen.
- 2. Select [System1] -> [SERIAL NUMBER] and press the Select key.

4.5.3 Sleep ON/OFFChoice

(1) Use

 To display the option of "ON/OFF" for the [ENERGY SAVER] screen available from [UTILITY] -> [Administrator Settings] -> [System Settings] -> [Pwr Sup/Pwr Sav].

(2) Default setting

Restrict

(3) Setting item

- Allow
- "Restrict"

4.5.4 Install Date

- (1) Use
- · To register the date the main body was installed.
- Upon setup.

(2) Procedure

- 1. Call the Service Mode to the screen.
- 2. Select [Install Date] and press the Select key.
- 3. The set date of installation is displayed.
- 4. Press the Select key, and enter the new date of installation from the 10-key pad.
- 5. Press the Select key to set the date of installation.

4.5.5 Machine StateLED S

Not used

4.5.6 TONER OUT MODE

(1) Use

• To set whether to permit monochrome printing when the toner cartridge/Y, M, C runs out of toner (empty condition)

(2) Default setting

Mode 1

- "Mode 1": Allow
- Mode 2: Restrict

4.5.7 GRAYSCALE PAGE

(1) Use

· To handle a job specified for color printing as a monochrome page

(2) Default setting

• AUTO

(3) Setting item

- "AUTO": Automatically make monochrome determination according to the job data (the same as in monochrome printing for duplex printing)
- GRAYSCALE PRINT: Automatically make monochrome determination for each page
- COLOR PRINT: Perform color printing for any job that is specified for color printing

4.6 System 2

4.6.1 Paper Empty Alert

(1) Near Empty / Near Full Display Setting

(a) Use

- To set whether to give the alert display for a near-empty condition of the toner cartridge IC near life, and a near-full condition of the waste toner bottle.
- To be used for setup.

(b) Default setting

• ON

(c) Setting item

- ON (Alert is displayed.)
- "OFF" (Alert is not displayed.)

4.6.2 SOFT SWITCH

(1) Use

• To set the operating characteristic of each function from software switch depending on what types of printing are normally made.

(2) Procedure

- 1. Call the Service Mode to the screen.
- 2. Select [SOFT SWITCH] and press the Select key.
- 3. Select the switch to be changed using up key ▲/down key ▼ and press the Select key.
- 4. Change the setting value using up key ▲/down key ▼ or the 10-key pad, and press the menu select key.

(3) Details of the software switch settings

NOTE

• For switches not mentioned in the list below, use them in the default value unless indicated otherwise.

Switch No.	Function	Setting value	Details	Default value	Reference
3	Overwriting data with same file name at secure printing	0	Overwrite the data with a same file name at secure printing.	16	-
		16	Not overwrite the data with a same file name at secure printing.		
7	Counter back up	159	Back up the counter data from EEPROM of the MPF board.	0	-
12	OpenAPI certification management system	0	Not certified. Connection disabled without certification. Deletion of prohibition list disabled.	0	-
		1	Certified.		
		2	Connection enabled without certification.		
		10	Deletion of prohibition list enabled.		
26	Selection of enabling or	0	Enabled	0	-
	disabling the encryption PDF function	80	[PDF Encrypt] key not available in Scan -> [Application] -> [File Type].		

Switch No.	Function	Setting value	Details	Default value	Reference
27	Binding position in 2-sided -> 2-sided	0	Use the binding position set for the original as the binding position.	0	-
		1	Determine the paper direction based on the print size.		
58	Switching between 1- sided print and 2-sided print for the odd page	0	Unavailable to 1-sided only/2-sided prohibited rules.	0	-
		16	Available to 1-sided only/ 2-sided prohibited rules.		
59	Display setting of [Engine FW Dip SW]	0	Not displayed.	0	I.4.20 ENGINE DIPSW
67	Operation setting for color printing	0	Perform grayscale printing forcibly. (For users or accounts prohibited from performing color printing, grayscale printing is performed forcibly if it is permitted.)	0	-
		1	Cancel a job.		
81	PKI mode setting	0	Standard function (PKI not supported).	0	-
104	Forly morning reheat	2	PKI supported.	0	
104	Early morning reboot function	2	o'clock.	U	-
		Ζ	o'clock 15 minute.		
		4	Execute rebooting at 4 o'clock 30 minute.		
			Do not execute rebooting.		
120	120 Change data format of scanned file names	0	YYMMDDhhmm(conventi onal specifications).	0	-
		1	Format compatible with the marketing destination		
145	Operation upon mismatch in size during paper	0	Stop immediately (misfeed).	0	-
	tray and tray 1 are available)	2	Stop as necessary (stop after the paper has been discharged).		
146	Uneven density during 2-	0	No restrictions.	0	-
	sided printing	1	2-sided printing of single sheet circulation (high- speed 2-sided printing not performed).		
157	Set the upper limit for the time span switching to the	0	Do not change the upper limit.	0	-
	power saving mode to 240 minutes.	2	Change the upper limit to 240 minutes.		
251	Disable the PSWC direct print function	1	Disable the PSWC direct print function.	0	-
	Enable or disable a USB port from PSWC	2	Use the function to enable or disable a USB port from PSWC.		
255	Handling image loss at printing	2	When printing, control the image loss (margin) at each edge within 2 mm.	0	-
	Acquire JobLog via MIB	8	Acquire JobLog via MIB.		
299	Restriction on the file format at WSD scan	0	"XPS" can be selected at WSD scan.	0	-
		1	"XPS" cannot be selected at WSD scan.		

(4) Software Switch Setting list

• The list of the setting values of Software Switch Setting can be print from [Service Mode] -> [PRINT MENU] -> [Management List].

														P 5
						Machi	ne Manag	ge mer	nt List				11/05/201	13 15:40
												Serial N	o. A6VF011	000019
													TC: 00	0000046
No	81T	HEX	No	BIT	HEX	No	BIT	HEX	No	BIT	HEX	No	BIT	HEX
001	00000000	(00)	065	00000000	(00)	129	00000000	(00)	193	00000000	(00)	257	00000000	(00)
003	00010000	(10)	067	00000000	(00)	131	00000000	(00)	195	00000000	(00)	259	00000000	(00)
004	00000000	(00)	068	00000000	(00)	132	00000000	(00)	196	00000000	(00)	260	00000000	(00)
005	00000000	(00)	070	000000000	(00)	134	00000000	(00)	198	000000000	(00)	262	00000000	(00)
007	00000000	(00)	071	00000000	(00)	135	00000000	(00)	199	00000000	(00)	263	00000000	(00)
008	00000000	(00)	072	00000000	(00)	136	00000000	(00)	200	00000000	(00)	264	00000000	(00)
010	00000000	(00)	074	00000000	(00)	138	00000000	(00)	202	00000000	(00)	266	00000000	(00)
011	00000000	(00)	075	00000000	(00)	139	00000000	(00)	203	00000000	(00)	267	00000000	(00)
012	000000000	(00)	078	000000000	(00)	140	00000000	(00)	204	000000000	(00)	269	000000000	(00)
014	00000000	(00)	078	00000000	(00)	142	00000000	(00)	206	00000000	(00)	270	00000000	(00)
015	000000000	(00)	079	000000000	(00)	143	00000000	(00)	207	000000000	(00)	271	00000000	(00)
017	000000000	(00)	081	000000000	(00)	145	00000000	(00)	209	00000000	(00)	273	00000000	(00)
018	00000000	(00)	082	00000000	(00)	146	00000000	(00)	210	00000000	(00)	274	00000000	(00)
019	00000000	(00)	083	00000000	(00)	147	00000000	(00)	212	00000000	(00)	275	00000000	(00)
021	00000000	(00)	085	00000000	(00)	149	00000000	(00)	213	00000000	(00)	277	00000000	(00)
022	00000000	(00)	086	00000000	(00)	150	00000000	(00)	214	00000000	(00)	2/8	00000000	(00)
023	000000000	(00)	088	000000000	(00)	152	00000000	(00)	216	00000000	(00)	280	00000000	(00)
025	00000000	(00)	089	00000000	(00)	153	00000000	(00)	217	00000000	(00)	281	00000000	(00)
026	00000000	(00)	090	000000000	(00)	154	00000000	(00)	218	000000000	(00)	282	00000000	(00)
028	00000000	(00)	092	00000000	(00)	156	00000000	(00)	220	00000000	(00)	284	00000000	(00)
029	00000000	(00)	093	00000000	(00)	157	00000000	(00)	221	00000000	(00)	285	00000000	(00)
030	00000000	(00)	094	000000000	(00)	158	00000000	(00)	223	00000000	(00)	280	00000000	(00)
032	00000000	(00)	096	00000000	(00)	160	00000000	(00)	224	00000000	(00)	288	00000000	(00)
033	00000000	(00)	097	00000000	(00)	161	00000000	(00)	225	000000000	(00)	289	00000000	(00)
035	000000000	(00)	099	000000000	(00)	163	00000000	(00)	227	00000000	(00)	291	00000000	(00)
036	00000000	(00)	100	00000000	(00)	164	00000000	(00)	228	00000000	(00)	292	00000000	(00)
038	00000000	(00)	102	000000000	(00)	166	00000000	(00)	229	00000000	(00)	293	00000000	(00)
039	00000000	(00)	103	00000000	(00)	167	00000000	(00)	231	00000000	(00)	295	00000000	(00)
040	00000000	(00)	104	00000000	(00)	168	00000000	(00)	232	00000000	(00)	296	00000000	(00)
042	00000000	(00)	106	00000000	(00)	170	00000000	(00)	234	00000000	(00)	298	00000000	(00)
043	00000000	(00)	107	00000000	(00)	171	00000000	(00)	235	00000000	(00)	299	00000000	(00)
044	00000000	(00)	108	000000000	(00)	172	00000000	(00)	236	00000000	(00)			
046	00000000	(00)	110	00000000	(00)	174	00000000	(00)	238	00000000	(00)			
047	00000000	(00)	111	00000000	(00)	175	00000000	(00)	239	00000000	(00)			
048	000000000	(00)	113	000000000	(00)	177	00000000	(00)	241	00000000	(00)			
050	00000000	(00)	114	00000000	(00)	178	00000000	(00)	242	00000000	(00)			
051	00000000	(00)	115	00000000	(00)	1/9	00000000	(00)	243	00000000	(00)			
053	00000000	(00)	117	00000000	(00)	181	00000000	(00)	245	00000000	(00)			
054	00000000	(00)	118	00000000	(00)	182	00000000	(00)	246	00000000	(00)			
056	00000000	(00)	120	00000000	(00)	184	00000000	(00)	248	00000000	(00)			
057	00000000	(00)	121	00000000	(00)	185	00000000	(00)	249	00000000	(00)			
058	00000000	(00)	122	00000000	(00)	186	000000000	(00)	250	00000000	(00)			
060	00000000	(00)	124	00000000	(00)	188	00000000	(00)	252	00000000	(00)			
061	00000000	(00)	125	00000000	(00)	189	00000000	(00)	253	00000000	(00)			
062	00000000	(00)	120	00000000	(00)	190	00000000	(00)	255	00000000	(00)			
064	00000000	(00)	128	00000000	(00)	192	00000000	(00)	256	00000000	(00)			

4.6.3 Cov. Rate Screen

(1) Use

• To set whether or not to display a coverage rate on the Counter List.

(2) Default setting

• OFF

(3) Setting item

- ON "OFF"

4.6.4 App. Change Setting

Not used

4.7 Counter

The counter displays the counts of various counters to allow the technical representative to check or set as necessary.

4.7.1 Life-REPLACE-FUSER UNIT

- (1) Use
- · Resets the fuser unit counter.
- To use when the fuser unit has been replaced.

(2) Procedure

- 1. Call the Service Mode to the screen.
- 2. Select [Counter] -> [Life] -> [REPLACE] -> [FUSER UNIT], and select "YES".
- 3. Press the Select key and reset the counter.

4.7.2 Life-REPLACE-TRANS. BELT

(1) Use

- Resets the transfer belt unit counter.
- · To use when the transfer belt unit has been replaced.

(2) Procedure

- 1. Call the Service Mode to the screen.
- 2. Select [Counter] -> [Life] -> [REPLACE] -> [TRANS. BELT], and select "YES."
- 3. Press the Select key and reset the counter.

4.7.3 Life-REPLACE-TRANS. ROLLER

(1) Use

- · Resets the transfer roller unit counter.
- To use when the transfer roller unit has been replaced.

(2) Procedure

- 1. Call the Service Mode to the screen.
- 2. Select [Counter] -> [Life] -> [REPLACE] -> [TRANS. ROLLER], and select "YES."
- 3. Press the Select key and reset the counter.

4.8 PRINT MENU

4.8.1 Management List

(1) Use

- · To produce an output of a list of setting values, adjustment values, total counter values, and others.
- At the end of setup or when a malfunction occurs.
- To produce an output of a list of Software Switch Setting.

(2) Procedure

- ¹. Load the A4 or 8 $^{1}/_{2}$ x 11 plain paper to a paper source.
- 2. Select [Print], and press the Select key.
- 3. The time-of-day and date will also be printed.

4.8.2 Adjustments List

- (1) Use
- · To output the adjustment list for machine adjustment, process adjustment, etc. in Service Mode.
- · At the end of setup or when a malfunction occurs.

(2) Procedure

- ¹. Load the A4 or $8^{1/2}$ x 11 plain paper to a paper source.
- 2. Select [Print], and press the Select key.
- 3. The time-of-day and date will also be printed.

4.8.3 Service Parameter

(1) Use

- · Output a FAX Service Mode set value list.
- It will be displayed only when the optional fax kit FK-512 is mounted.

(2) Procedure

- ¹. Load the A4 or 8 $\frac{1}{2}$ x 11 plain paper to a paper source.
- 2. Select [Print], and press the Select key.
- 3. The time-of-day and date will also be printed.

4.8.4 Protocol Trace

- (1) Use
 - Protocol Trace List (Last):
 - The facsimile protocol of the communication which was executed previously is output.

- Protocol Trace List (Error):
 Output the face imile precedure f
- Output the facsimile procedure for the last error communication.
- It will be displayed only when the optional fax kit FK-512 is mounted.

(2) Procedure

- ^{1.} Load the A4 or 8 1 /₂ x 11 plain paper to a paper source.
- 2. Select [Last] or [Error], and press the Select key...
- 3. Select [Print], and press the Select key.
- 4. The time-of-day and date will also be printed.

4.8.5 Fax Analysis List

(1) Use

- Following list is output in the Fax Analysis List.
 - Communication Report RX Result
 - Communication Report RX Result
 - Machine Management List
 - Fax Set Up Information List
 - Service Parameter List
 - Protocol Trace List (Error)
 - It will be displayed only when the optional fax kit FK-512 is mounted.

(2) Procedure

- ¹. Load the A4 or 8 $\frac{1}{2}$ x 11 plain paper to a paper source.
- 2. Select [Print], and press the Select key.
- 3. The time-of-day and date will also be printed.

4.8.6 Scan Event Log

Not used

4.8.7 HALFTONE 64

(1) Use

- · Print a halftone pattern of density 25% for each CMYK color.
- Used for checking uneven density and pitch noise.

(2) Procedure

- 1. Load the A4 plain paper to a paper source.
- 2. Select [Halftone 64], and press the Select key.
- 3. Select the desired color using up key ▲/down key ▼ and press the Select key.
- 4. Select [Print], and press the Select key.

4.8.8 HALFTONE 128

- (1) Use
- · Print a halftone pattern of density 50% for each CMYK color.
- · Used for checking uneven density and pitch noise.

(2) Procedure

- 1. Load the A4 plain paper to a paper source.
- 2. Select [Halftone 128], and press the Select key.
- 3. Select the desired color using up key \blacktriangle /down key \lor and press the Select key.
- 4. Select [Print], and press the Select key.

4.8.9 HALFTONE 256

(1) Use

- Print a halftone pattern of density 100% for each CMYK color.
- Used for checking uneven density and pitch noise.

(2) Procedure

- 1. Load the A4 plain paper to a paper source.
- 2. Select [Halftone 256], and press the Select key.
- 3. Select the desired color using up key ▲/down key ▼ and press the Select key.
- 4. Select [Print], and press the Select key.

4.8.10 Gradation

(1) Use

- Print a gradation pattern.
- · Used for checking gradation reproducibility.

(2) Procedure

- 1. Load the A4 plain paper to a paper source.
- 2. Select [Gradation], and press the Select key.
- 3. Select [Print], and press the Select key.

4.9 StateConfirmation

4.9.1 SENSOR CHECK

(1) Use

- To display the states of the input ports of sensors and switches when the machine remains stationary.
- Used for troubleshooting when a malfunction or a misfeed occurs.

(2) Procedure

- The operation of each of the switches and sensors can be checked on a real-time basis.
- It can be checked as long as the 5-V power line remains intact even when a door is open.

(a) Sensor check list

Symbol	Papel display	Part/signal name	Operation characteristics/panel display			
Symbol	Fanel display	Faivsighai hame	ON	OFF		
-	1st.					
PS2	Paper Empty Sensor	Tray1 paper empty sensor	Paper present	Paper not present		
PS1	Tray 1 set sensor	Tray 1 set sensor	In position	Out of postion		
-	2nd.					
PS1	Paper Empty Sensor	Tray2 paper empty sensor	Paper present	Paper not present		
PS3	Paper Feed Sensor	Tray2 paper feed sensor	Paper present	Paper not present		
	Size Detect Sensor 1		ON	OFF		
SW1	Size Detect Sensor 2	Tray2 paper size switch	ON	OFF		
	Size Detect Sensor 3		ON	OFF		
-	Manual Feed					
PS3	Paper Empty Sensor	Manual tray paper empty sensor	Paper present	Paper not present		
-	Other					
PS5	Registration sensor	Registration sensor	Paper present	Paper not present		
PS6	Paper Loop Sensor	Loop detection sensor	Paper present	Paper not present		
PS8	Exit Sensor	Exit sensor	Paper present	Paper not present		
PS7	Outbin full sensor	Paper full sensor	Paper present	Paper not present		
PS9	Duplex sensor	Duplex conveyance sensor	Paper present	Paper not present		
PS17	Transfer Belt Retraction	1st transfer pressure sensor	Not Retracted	Retracted		
PS12	West Toner Sensor	Waste toner near full sensor	Full	Not full		
PS101	Original Det Sensor	Document detection sensor	Paper present	Paper not present		
PS102	RS Sensor	Document read sensor	Paper present	Paper not present		
PS103	DP Sensor	Document loop sensor	Paper present	Paper not present		
-	Fuser set sensor	Fusing unit				

4.9.2 Level History

(1) Use

- · IDC Sensor (Transfer belt bare surface level) as adjusted through the image stabilization sequence and 2nd Transfer output value.
- Used for troubleshooting of image problems.

(2) Item

IDC BASE REFLECTION	Shows the intensity adjustment value (0 to 1023) of the IDC sensor. The normal value is 35 to 110, but the value increases depending on how long the machine has been used.
2nd Transfer output value	 Displays the 2nd transfer output value (-800 to 5000V). This function displays the 2nd transfer output value in the last print cycle, though the output value varies for different types of paper.

4.9.3 Temp. & Humidity

(1) Use

- · To display the temperature and humidity inside the machine
- Used as reference information when a malfunction occurs.

(2) Setting range

Temp-Inside

0 to 100 °C in 1 °C increments

Humidity

0 to 100 % in 1 % increments

4.9.4 Memory/HDD State

- (1) Use
- To display the condition and amount of the memory, disk and SSD.

4.9.5 COMP. CHECK

(1) Use

- To perform an operation check for each electric component.
- The following electric components can be checked.

Key name	The electrical parts name	The electrical parts sign
LA FAN (H-S)	DC power supply fan motor	FM10
DUP FAN (H-S)	Cooling fan motor	FM11
DUP FAN (M-S)	Cooling fan motor	FM11
CONT Fan (H-S)	Not used.	-
CONT Fan (M-S)	Not used.	-
POLYGON MOTOR	Polygon motor	M5
T2 feeding motor	Tray2 paper feed motor	M1
COLOR PC MOTOR	Color PC drum motor	M4
DEV MOTOR K	Developing motor	M1
DEV MOTOR YMCK	Developing motor	M1
TRAY 1 FEED CLUTCH	Tray 1 paper feed clutch	CL1
Manual feed clutch	Manual tray paper feed clutch	CL2
SYNCRPLLER CLUTCH	Registration clutch	CL3
2ND TRANS CLUTCH	2nd transfer pressure solenoid	SD2
1ST TRANS CLUTCH	1st transfer pressure solenoid	SD1
TRAY2 FEED CLUTCH	Tray2 paper feed clutch	CL1
TONER CLUTCH Y	Toner supply clutch/Y	CL4
TONER CLUTCH M	Toner supply clutch/M	CL5
TONER CLUTCH C	Toner supply clutch/C	CL6
TONER CLUTCH K	Toner supply clutch/K	CL7
DUP NORMAL CLUTCH	Switchback roller feed clutch	CL11
DUP REV CLUTCH	Switchback roller reverse clutch	CL12
DUP FEED CLUTCH	Duplex conveyance roller clutch	CL13
MAIN MOTOR	Transport motor	M2
Fuser LoopClutch	Loop detection clutch	CL8
FB Scan	Scanner unit	-
DF Scan Simplex	Scanner motor	M101
	Pressure solenoid	SD101
DF Scan Duplex	Scanner motor Pressure solenoid	M101 SD101
CheckDF Motor	DF transport motor	M100
CheckBringPaperSL	Pressure solenoid	SD101
CheckDuplexSL	Pressure solenoid	SD101
Check Lamp	Not used.	-

(2) Procedure

- 1. Call the Service Mode to the screen.
- 2. Select [Component Check], and press the Select key.
- 3. Select the necessary electric component using up key ▲/down key ▼ and press the Select key.
- 4. Select [Execute], and press the Select key. This causes the corresponding component to start operating.
- 5. To check an electric component which may stop running in midstream, press the Select key to stop the operation.

NOTE

• No check results are displayed for the DF motor. Press the Select key. to stop the operation as required.

4.10 Test Mode

- · A fax communication test is conducted in the test mode.
- It will be displayed only when the optional fax kit FK-512 is mounted.

4.10.1 Fax Test-SignalSend Test

- (1) Use
- Image information signals, control signals and DTMF can be individually output.

• Signal sounds are monitored by the monitor speaker.

(2) Procedure

- 1. Call the Service Mode to the screen.
- 2. Select [SignalSend Test] and press the Select key.
- 3. Select the parameter you would like to test using up key ▲/down key ▼ and press the Select key.
- 4. Press the Start key.
- (In order to move to another test, select the next test item after pressing the Stop/Reset key.)

NOTICE

- · Signal is output from pressing the Start key to pressing the Stop key.
- [Administrator Settings] -> [Fax Settings] -> [Line Parameter Setting] -> [Line Monitor] should be set to "Until Connection Complete" or "Until Transmission Complete".

(a) V34 Main CH: Default setting

• 33600

(b) V34 Main CH: Setting range

• 2400 to "33600" (step: 2400)

(c) V8: Default setting

• CM

(d) V8: Setting item

• "CM"

(e) V17: Default setting

• 14400bps

(f) V17: Setting item

- "14400bps"
- 12000bps
- 9600bps
- 7200bps

(g) V29: Default setting

• 9600bps

(h) V29: Setting item

- "9600bps"
- 7200bps

(i) V27ter: Default setting

• 4800bps

(j) V27ter: Setting item

- "4800bps"
- 2400bps

(k) V21

No parameters

(I) PB: Setting item

• "0" to 9, *, #, A, B, C, D

(m) DP: Setting range

• "0" to 9

(n) Special Tone: Default setting

• 1100Hz

(o) Special Tone: Setting item

- "1100Hz"
- 1300Hz
- 1650Hz
- 2100Hz

(p) Optional Tone: Default setting

• 200Hz

(q) Optional Tone: Setting range

• "200" to 4000Hz (step: 100Hz)

(r) PB Tone (High): Default setting

• 1209Hz

(s) PB Tone (High): Setting item

- "1209Hz"
- 1336Hz
- 1477Hz
- 1633Hz

(t) PB Tone (Low): Default setting

• 697Hz

(u) PB Tone (Low): Setting item

- "697Hz"
- 770Hz
- 852Hz
- 941Hz

(v) Pseudo Ring

No parameters

4.10.2 Fax Test-Signal RX Test

- (1) Use
 - Check a signaling tone by connecting the machine to the line to output a test signal of the fax board.
- · Signal sounds are monitored by the monitor speaker.

(2) Procedure

- 1. Call the Service Mode to the screen.
- 2. Select [Signal RX Test] and press the Select key.
- 3. Select the parameter you would like to test using up key \blacktriangle /down key \checkmark and press the Select key.
- 4. Press the Start key.
- (In order to move to another test, select the next test item after pressing the Stop/Reset key.)

NOTICE

- Signal is received from pressing the Start key to pressing the Stop/Reset key.
- Administrator Settings] -> [Fax Settings] -> [Line Parameter Setting] -> [Line Monitor] should be set to "Until Connection Complete" or
- "Until Transmission Complete".
- The results of tests are shown as follows

 OK/NG
 Results of signal reception

(a) V17: Default setting

• 14,400bps

(b) V17: Setting item

- "14,400bps"
- 12,000bps
- 9,600bps
- 7,200bps

(c) V29: Default setting

• 9,600bps

(d) V29: Setting item

- "9,600bps"
- 7,200bps

(e) V27ter: Default setting

• 4,800bps

(f) V27ter: Setting item

- "4,800bps"
- 2,400bps

(g) V21

No parameters

(h) PB: Setting item

• 0 to 9, *, #, A, B, C, D

(i) Special Tone: Default setting

• 1,100Hz

(j) Special Tone: Setting item

- "1,100Hz"
- 1,300Hz
- 2,100Hz

4.10.3 Fax Test-NCU TEST

- (1) Use
- To check the operation of NCU.

(2) Procedure

- 1. Call the Service Mode to the screen.
- 2. Select [NCU TEST] and press the Select key.
- 3. Select the parameter you would like to test using up key ▲/down key ▼ and press the Select key.
- 4. Press the Start key.
- (In order to move to another test, select the next test item after pressing the Stop/Reset key.)

NOTE

- When CML / CTL / TEL relay test is selected and the Start key is pressed, ON is displayed in the parameter and relay is turned to ON. When the Stop key is pressed, relay is turned OFF.
- When the DC-LOOP detection test is selected and Start key is pressed, DT=0001 is shown in the title row in case of detecting the DC-LOOP. If not detected, DT=0000 is displayed.

Contents of test	Device to be tested
CML Relay	IC401, IC402
CTL Relay	RL501
TEL Relay	RL502 *
DC-LOOP Detect	
Speaker	
Outside Ring Send	
Audio Response Send	

• * RL502 mounts only the Japanese.

4.10.4 Fax Test - Dial Test

- (1) Use
- To conduct a dial test for fax communication

(2) Procedure

(a) Dial Number

- 1. Call the Service Mode to the screen.
- 2. Select [Dial Test] and press the Select key.
- 3. Set each of [Dialing Method], [Dial Tone Detection], and [BUSY TONE Detection].
- 4. Select [Dial Number] and press the Select key.
- 5. Enter the dial number from the 10-key pad. and press the start key.

(b) Dialing Method: Setting item

- PB
- 10pps

(c) Dial Tone Detection: Setting item

- "ON"
- OFF

(d) BUSY TONE Detection: Setting item

- "ON"
- OFF

4.11 ADF

4.11.1 1-Side

(1) Use

- To adjust part-to-part variations in manufacturing and mounting accuracy of scanner parts by varying the start-of-scan position in the subscanning direction during DF scan (front side)
- When scanner unit and DF has been replaced.
- When the MFP board is replaced.

NOTE

Make this adjustment after [Feed Zoom] has been adjusted. I.4.11.6 Feed Zoom

(2) Procedure



- Adjust so that the difference between width A on the chart and that on the copy of the chart falls within the standard value.
- Reference value: 0±3.0 mm
- · Default setting: 0.00mm
- Setting range: -5.00mm to 5.00mm (in 0.01 mm increments)
- 1. Make a copy of the chart in full size.
 - NOTE
 - Load the chart in the DF with the blank side downward.
 - Use A4-size paper loaded in tray 1 to make the copy.
- 2. Measure width A on the chart and that on the copy. If the difference between the two falls outside the standard value, perform the following steps to make an adjustment.
- 3. Call the Service Mode to the screen.
- 4. Select [1-Side], and press the Select key.
- 5. Change the adjusted setting value using up key ▲/down key ▼ and press the Select key.
 - If width A on the copy of the chart is greater than width A on the chart, decrease the setting value.
 - If width A on the copy of the chart is smaller than width A on the chart, increase the setting value.
- 6. Exit the Service Mode.
- 7. Make another copy to make sure that the specifications are met. Repeat the adjustment procedure until the specifications are met.
- 8. Turn OFF the main power switch, wait for 10 sec., then turn the switch ON.

4.11.2 2-Side

(1) Use

- To adjust part-to-part variations in manufacturing and mounting accuracy of scanner parts by varying the start-of-scan position in the subscanning direction during DF scan (back side)
- When scanner unit and DF has been replaced.
- When the MFP board is replaced.

NOTE

• Make this adjustment after [FD-Mag. Adj. (B)] has been adjusted. I.4.11.7 FD-Mag. Adj. (B)

(2) Procedure



- Adjust so that the difference between width A on the chart and that on the copy of the chart falls within the standard value.
- Reference value: 0±3.0 mm
- Default setting: 0.00 mm
- Setting range: -5.00mm to 5.00mm (in 0.01 mm increments)
- 1. Make a copy of the chart in full size.
 - NOTE
 - Load the chart in the DF with the blank side upward.
 - Use A4-size paper loaded in tray 1 to make the copy.
- Measure width A on the chart and that on the copy. If the difference between the two falls outside the standard value, perform the following steps to make an adjustment.
- 3. Call the Service Mode to the screen.
- 4. Select [2-Side], and press the Select key.

- 5. Using the up key ▲/down key ▼, vary the setting value and then press the Select key.
- If width A on the copy of the chart is greater than width A on the chart, decrease the setting value.
- If width A on the copy of the chart is smaller than width A on the chart, increase the setting value.
- 6. Exit the Service Mode.
- 7. Make another copy to make sure that the specifications are met. Repeat the adjustment procedure until the specifications are met.
- 8. Turn OFF/ON the main power switch.

4.11.3 Register Loop-Back side

(1) Use

- · To adjust the length of the loop to be formed in paper before the registration rollers.
- When an original misfeed or skew occurs.

(2) Procedure

- 1. Call the Service Mode to the screen.
- 2. Select [ADF] -> [Register Loop], and press the Select key.
- 3. Use the up key ▲/down key ▼ to change the setting value, and press the Select key.
- Use the up key ▲ to increase the looping amount above the input value, and use the down key ▼ to decrease the looping amount below the input value.
- 4. Exit the Service Mode.
- 5. Turn OFF/ON the main power switch.

(3) Default setting

• 0.0 mm

(4) Setting range

-5.00 mm to 5.00 mm (in 0.50 mm increments)

4.11.4 Center Adjustment

(1) Use

- To adjust part-to-part variations in manufacturing and mounting accuracy of scanner parts by varying the start-of-scan position in the main scanning direction during DF scan (front side).
- When scanner unit and DF has been replaced.
- When the MFP board is replaced.

NOTE

Make this adjustment after " Feed Zoom" has been adjusted.
 I.4.11.6 Feed Zoom

(2) Procedure



- Adjust so that the difference between width A on the chart and that on the copy of the chart falls within the standard value.
- Reference value: 0 ± 3.0 mm
- Default setting: 0.0 mm
- Setting range: -5.00mm to 5.00mm (in 0.01 mm increments)
- 1. Make a copy of the test pattern.
 - NOTE
 - · Load the chart in the DF with the blank side downward.
 - Use A4-size paper loaded in tray 1 to make the copy.
- 2. Measure width A on the chart and that on the copy. If the difference between the two falls outside the standard value, perform the following steps to make an adjustment.
- 3. Call the Service Mode to the screen.
- 4. Select [Main Scanning Direction 1-side, and press the Select key.
- 5. Use the up key ▲/down key ▼ to change the setting value, and press the Select key.
- If width A on the copy of the chart is greater than width A on the chart, decrease the setting value.
- If width A on the copy of the chart is smaller than width A on the chart, increase the setting value.
- 6. Exit the Service Mode.
- 7. Make another copy to make sure that the specifications are met. Repeat the adjustment procedure until the specifications are met.
- 8. Turn OFF/ON the main power switch.

4.11.5 ADF(B) Side Edge

- (1) Use
 - To adjust part-to-part variations in manufacturing and mounting accuracy of scanner parts by varying the start-of-scan position in the main scanning direction during DF scan (back side).
- · When scanner unit and DF has been replaced.

- When the MFP board is replaced. **NOTE**
- Make this adjustment after [FD-Mag. Adj. (B)] has been adjusted.
 I.4.11.7 FD-Mag. Adj. (B)
- (2) Procedure



- Adjust so that the difference between width A on the chart and that on the copy of the chart falls within the standard value.
- Reference value: 0±3.0 mm
- Default setting: 0
- Setting range: -5.00 mm to 5.00 mm (in 0.01 mm increments)
- 1. Make a copy of the chart in full size.
 - NOTE
 - Load the chart in the DF with the blank side upward.
 - Use A4-size paper loaded in tray 1 to make the copy.
- Measure width A on the original test pattern and that on the copy. If the difference between the two falls outside the specified range, perform the following steps to make an adjustment.
- 3. Call the Service Mode to the screen.
- 4. Select [Main Scanning Direction 2-side], and press the Select key.
- 5. Use the up key ▲/down key ▼ to change the setting value, and press the Select key.
 - If width A on the copy of the chart is greater than width A on the chart, decrease the setting value.
 - If width A on the copy of the chart is smaller than width A on the chart, increase the setting value.
- 6. Exit the Service Mode.
- 7. Make another copy to make sure that the specifications are met. Repeat the adjustment procedure until the specifications are met.
- 8. Turn OFF/ON the main power switch.

4.11.6 Feed Zoom

(1) Use

- · To adjust the scanning zoom ratio in the front side paper feeding direction through the DF (sub-scanning direction).
- · When scanner unit and DF has been replaced.
- When the MFP board is replaced.

(2) Procedure



- · Adjust so that the difference between width A on the chart and that on the copy of the chart falls within the standard value.
- Reference value:0+/-1.0%
- Default setting: 0.00%
- Setting range: -2.00% to 2.00% (in 0.01% increments)
- 1. Make a copy of the chart in full size.
 - NOTE
 - Load the chart in the DF with the blank side downward.
 - Use A4-size paper loaded in tray 1 to make the copy.
- 2. If the width A on the chart and that on the copy is greater than ±2.5 mm, perform the following steps to make an adjustment.
- 3. Call the Service Mode to the screen.
- 4. Select [Feed Zoom], and press the Select key.Select [Feed Zoom], and press the Select key.
- 5. Use the up key \blacktriangle /down key \blacktriangledown to change the setting value, and press the Select key.
- 6. Exit the Service Mode.
- 7. Make another copy to make sure that the specifications are met. Repeat the adjustment procedure until the specifications are met.
- 8. Turn OFF/ON the main power switch.

4.11.7 FD-Mag. Adj. (B)

(1) Use

- To adjust the scanning zoom ratio in the back side paper feeding direction through the DF (sub-scanning direction).
- · When scanner unit and DF has been replaced.
- When the MFP board is replaced.

(2) Procedure



- Adjust so that the difference between width A on the chart and that on the copy of the chart falls within the standard value.
- Reference value: 0±1.0%
- Default setting: 0.00%
- Setting range: -2.00% to +2.00% (in 0.01% increments)
- 1. Make a copy of the chart in full size.
 - NOTE

Load the chart in the DF with the blank side upward.

- Use A4-size paper loaded in tray 1 to make the copy.
- 2. If the width A on the chart and that on the copy is greater than ±2.5 mm, perform the following steps to make an adjustment.
- Call the Service Mode to the screen.
 Select IFD-Mag. Adj. (B)], and press the Select I
- Select [FD-Mag. Adj. (B)], and press the Select key.
 Let the up key ▲ /dewn key ▼ to change the setting value, and press
- 5. Use the up key ▲/down key ▼ to change the setting value, and press the Select key.
- 6. Exit the Service Mode.
- 7. Make another copy to make sure that the specifications are met. Repeat the adjustment procedure until the specifications are met.
- 8. Turn OFF/ON the main power switch.

4.11.8 Main Scan Dir Zm

(1) Use

- To adjust the scanning zoom ratio in the front side main scanning direction through the DF.
- When scanner unit and DF has been replaced.
- When the MFP board is replaced.

(2) Procedure



- Adjust so that the difference between width A on the chart and that on the copy of the chart falls within the standard value.
- Reference value: 0±1.0%
- Default setting: 0.00%
- Setting range: -2.00% to +2.00% (in 0.01% increments)
- 1. Make a copy of the chart in full size.

NOTE

• Load the chart in the DF with the blank side downward.

- Use A4-size paper loaded in tray 1 to make the copy.
- 2. If the width A on the chart and that on the copy is greater than ±1.5 mm, perform the following steps to make an adjustment.
- 3. Call the Service Mode to the screen.
- 4. Select [Main Scan Dir Zm], and press the Select key.
- 5. Use the up key ▲/down key ▼ to change the setting value, and press the Select key.
- 6. Exit the Service Mode.
- 7. Make another copy to make sure that the specifications are met. Repeat the adjustment procedure until the specifications are met.
- 8. Turn OFF/ON the main power switch.

4.11.9 Main Scan Dir Zm-B

(1) Use

- · To adjust the scanning zoom ratio in the back side main scanning direction through the DF.
- When scanner unit and DF has been replaced.
- When the MFP board is replaced.

(2) Procedure



- Adjust so that the difference between width A on the chart and that on the copy of the chart falls within the standard value.
- Reference value: 0±1.0%
- · Default setting: 0.00%
- Setting range: -2.00% to +2.00% (in 0.01% increments)
- 1. Make a copy of the chart in full size.
 - NOTE

Load the chart in the DF with the blank side upward.

- Use A4-size paper loaded in tray 1 to make the copy.
- 2. If the width A on the chart and that on the copy is greater than ±1.5 mm, perform the following steps to make an adjustment.
- 3. Call the Service Mode to the screen.
- 4. Select [Main Scan Dir Zm-B], and press the Select key.
- 5. Use the up key ▲/down key ▼ to change the setting value, and press the Select key.
- 6. Exit the Service Mode.
- 7. Make another copy to make sure that the specifications are met. Repeat the adjustment procedure until the specifications are met.
- 8. Turn OFF/ON the main power switch.

4.12 FAX Settings

• It will be displayed only when the optional fax kit FK-512 is mounted.

4.12.1 Modem/NCU

(1) V34: RX Max. Bit Speed

(a) Use

· To set the max. bit speed for reception in V.34.

(b) Default setting

• 33600 bps

(c) Setting item

- 2400 bps
- 4800 bps
- 7200 bps
- 9600 bps
- 12000 bps
- 14400 bps
- 16800 bps
- 19200 bps 21600 bps
- 21000 bps
 24000 bps
- 24000 bps
 26400 bps
- 28800 bps
- 31200 bps
- "33600 bps"

(2) V34: TX Max. Bit Speed

- (a) Use
- · To set the max. bit speed for transmission in V.34.

(b) Default setting

• 33600 bps

- 2400 bps
- 4800 bps
- 7200 bps
- 9600 bps
- 12000bps
- 14400 bps
- 16800 bps
- 19200 bps21600 bps
- 24000 bps

- 26400 bps
- 28800 bps
- 31200 bps
- "33600 bps"

(3) V34: Control CH Speed

(a) Use

- A bit speed of the control channel.
- The negotiation of 2400/1200 is performed in the V.34 start-up procedure.

(b) Default setting

• 1200 bps

(c) Setting item

- "1200 bps"
- 2400 bps

(4) V34: V34 Tran.PT

(a) Use

• To set the number of training points at V34.

(b) Default setting

Auto

(c) Setting item

- "Auto"
- 16 pts
- 4 pts

(5) V17 Send Max Speed: TX Max. Speed

(a) Use

• To set the max. speed for transmission.

(b) Default setting

• V17-14400bps

(c) Setting item

- "V17-14400bps"
- V17-12000bps
- V17-9600bps
- V17-7200bpsV29-9600bps
- V29-7200bps
- V27-4800bps
- V27-2400bps

(6) V17 Send Max Speed: RX Max. Speed

- (a) Use
- To set the max. speed for reception.

(b) Default setting

• V17-14400bps

(c) Setting item

- "V17-14400bps"
- V29-9600bps
- V27-4800bps

(7) TxATT: PIX TxATT

(a) Use

- To set the output level of PIX TxATT.
- Directly sets modem. There are no external attenuator.

(b) Procedure

· The setting value are different depending on the country.

(8) TxATT: TONE/Pro Sig TxATT

(a) Use

- To set the output level of TONE/Procedure Signal TxATT.
- Directly sets modem. There are no external attenuator.

(b) Procedure

• The setting value are different depending on the country.

(9) TxATT: CED/ANSam TxATT

(a) Use

- To set the output level of CED/ANSam TxATT.
- Directly sets modem. There are no external attenuator.

(b) Procedure

• The setting value are different depending on the country.

(10) TxATT: DTMF TxATT

(a) Use

- To set the output level of DTMF TxATT.
- Directly sets modem. There are no external attenuator.

(b) Procedure

• The setting value are different depending on the country.

(11) Level: CD/SED ON Level

(a) Use

- To set reception signal sensitivity level.
- SED is not used.

(b) Default setting

• -48 dBm

(c) Setting item

- "-48 dBm"
- -43 dBm
- -38 dBm
- -33 dBm

(12) Level: DTMF H-L LvI Diff

- (a) Use
- To set DTMF H-L level difference.

(b) Default setting

• 2.0 dB

(c) Setting item

- 1.0 dB
- 1.5 dB
- "2.0 dB"
- 2.5 dB 3.0 dB
- 3.5 dB
- 4.0 dB

(13) Cable EQL

- (a) Use
- · Frequency response of the cable attenuation equalizer.





(b) Default setting

• 0 km

(c) Setting item

- "0 km"
- 1.8 km
- 3.6 km
- 7.2 km

4.12.2 Network

(1) RX Sig Detn Md

(a) Use

- To set whether to detect the receive signal by the number of times or by time.
- Sets to "Time" when ringer can not be detected by the number.

(b) Default setting

· No. of Times

(c) Setting item

- "No. of Times"
- Time

(2) **BUSYTONE** Detection

(a) Use

· To set whether to use the Busy Tone detection or not.

(b) Default setting

• ON

(c) Setting item

- "ON"
- OFF

(3) BUSYTONE Detn Time

(a) Use



(b) Default setting

• 0

(c) Setting range

• "0" to 15 count (step: 1 count)

(4) 1300Hz Detection

- (a) Use
- To set whether to use the 1300 Hz detection or not.
- Set this function to "ON" if the facsimile network (F-net) is to be used.

(b) Default setting

• OFF

(c) Setting item

- ON
- "OFF"

(5) DialTone Detection

(a) Use

· To set whether to use the Dial Tone detection or not.

(b) Default setting

• ON

(c) Setting item

- "ON"
- OFF

(6) DC-LOOP Check

(a) Use

- Checks the DC loop current before dialing.
- When the current is zero, an error occurs. (T.80)
- · You can change the setting to be compliant to standards in other countries. In Japan, set this parameter to OFF.

(b) Default setting

• OFF

(c) Setting item

- ON
- "OFF"

(7) min.RING OFF Time

(a) Use

Minimum time to recognize ringer interval.



	а	To avoid judging "a" as a ring-off time.	b	Ring-off time
--	---	--	---	---------------

(b) Default setting

• 0 ms

(c) Setting range

• "0" to 1000 ms (step: 100 ms)

(8) Partner Resp Time

- (a) Use
- To set the response waiting time.

Response waiting timer (55sec)	Calling	Starts after dialing. Until CED is received.
	1	

(b) Default setting

55 sec.

(c) Setting range

• 35 to 115 sec (step: 5 s)

(9) Pause Time

(a) Use

· The pause time for one pause key (pause between digits)

(b) Default setting

1 sec.

(c) Setting range

• "1" to 7 sec (step: 1 s)

(10) Pseudo RBTFormat

(a) Use

· To set the pseudo-ring back tone format to be returned to the calling side

(b) Setting item

- JP
- US
- GB
- GE

• None NOTE

• The setting value are different depending on the country.

(11) Pseudo RBT TX LvI

- (a) Use
- To set the pseudo-ring back tone level

(b) Default setting

• -10 dBm

(c) Setting range

• -15 to "-10 dBm" (Step: 1 dBm)

4.12.3 System

(1) Display Setting: CompulsoryMemory R

- (a) Use
- · To set whether to use the compulsory memory reception function or not.

(b) Default setting

• ON

(c) Setting item

• "ON"

• OFF

- NOTE
- When turned "ON", the function permits selection of ON or OFF setting for the compulsory memory reception function that allows a document when received not to be printed automatically and, instead, to be printed through manual operation.

(2) System Function: Fax Board Watchdog

(a) Use

• To set whether to enable watchdog by the fax board CPU or not.

ON	Reset when hung up.
OFF	Keeps being hung up.

(b) Default setting

- ON
- (c) Setting item
- "ON"
- OFF

(3) System Function: Fax BT Rewrite ISW

- (a) Use
- Required when a BOOT BLOCK program is upgraded or a hardware is changed.

Flash memory

	_
Application program area	
BOOT BLOCK	ISW program System initialization
	program

(b) Default setting

• OFF

(c) Setting item

- ON "OFF"

(4) System Function: Error Code Display

- (a) Use
- · To set the communication error code display time.

(b) Default setting

• 20 s

(c) Setting item

- 10 to 250 s (step: 10 s)
- HOLD

(5) Communication Setting: Error Pg Resending

(a) Use

· To set whether to retransmit, after a communication error occurs, the document starting with the error page or all pages.

Error Page	Retransmit the document starting with the error page	
All Page	Retransmit the document all pages	

(b) Default setting

· Error Page

(c) Setting item

- "Error Page"
- · All Page

(6) Communication Setting: #ofRedials(Err Pg)

(a) Use

- · To set the number of redials for the error page.
- · Counted as a busy redial when the error page redial is busy.

(b) Default setting

• 3

(c) Setting range

• 0 to 7 (step: 1)

4.12.4 Fax File Format

The following data can be initialized.

- All of the scan/fax documents stored in the box are erased.
- · All of the boxes produced automatically by the F code are erased.

(1) Procedure

- 1. Call the Service Mode to the screen.
- 2. Select [Fax File Format], and press the Select key.
- 3. Select [Start] and press the Select key...
- 4. The Fax File Format is executed.
- 5. All saved data are deleted and the machine restarts automatically.

4.12.5 COMMUNICATION

(1) Protocol: V8 / V34 Protocol

- (a) Use
- To set whether to use the V.8/V.34 protocol or not.

(b) Default setting

• ON

(c) Setting item

- "ON"
- OFF

(2) Protocol: V17EP TONE

- (a) Use
- Whether the EP tone (Echo Protect: 2100Hz) is added to the top of the training signal.

(b) Default setting

• ON

(c) Setting item

- "ON"
- OFF

(3) Protocol: V29EP TONE

- (a) Use
- Whether the EP tone (Echo Protect: 2100Hz) is added to the top of the training signal.

(b) Default setting

• OFF

(c) Setting item

- ON "OFF"

(4) Protocol: V17EP TONE

(a) Use

- V.34 is not used when a dash (-) is added at the top of dial number.
- (b) Default setting
- OFF

(c) Setting item

- ON
- "OFF"

(5) Protocol: ANSam Send Time

- (a) Use
- To set the transmission time for the V.8 protocol signal ANSam.

(b) Default setting

• 4.0 sec

- 1.0 sec
- 1.5 sec
- 2.0 sec
- 2.5 sec • 3.0 sec
- 3.5 sec
- "4.0 sec"
- 4.5 sec
- 5.0 sec
- 5.5 sec

(6) Int'l Comm. Functio: Foreign Comm Func

(a) Use

· To set whether or not to use the mode that employs the number of DIS waiting times.

(b) Default setting

• ON

(c) Setting item

- "ON"
- OFF

(7) Int'l Comm. Functio: DIS Waiting Times

(a) Use

• To set the number of DIS waiting times.

(b) Default setting

• 1

(c) Setting item

- "1"
- 2

(8) Int'l Comm. Functio: V34 Speed

(a) Use

• To set the V.34 international communication mode speed.

(b) Default setting

• 28800 bps

(c) Setting item

- 16800
- 19200
- 21600
- 24000 26400
- "28800"
- 31200
- 33600

(9) Int'l Comm. Functio: V17 Speed

- (a) Use
- To set the V.17 international communication mode speed.

(b) Default setting

• 7200 bps

(c) Setting item

- "7200"
- 9600
- 12000
- 14400

(10) Int'l Comm. Functio: V29 Speed

- (a) Use
- To set the V.29 international communication mode speed.

(b) Default setting

• 4800 bps

- 2400
- "4800"
- 72009600

(11) TIMER: T1

(a) Use

T1 timer (T.30 standard)	Calling	Designate by the response waiting timer
	Called	Starts after DIS is output. The waiting time until DCS is received.
Response waiting timer (55sec)	Calling	Starts after dialing. Until CED is received.

(b) Default setting

• 35 ms

(c) Setting range

• 30 to 90 ms (step: 1 ms)

(12) TIMER: DCS-TCF DELAY

(a) Use

· To set the delay time between DCS and TCF.



PMC: Post Message Command

(b) Default setting

• 80 ms

(c) Setting item

- 50 ms
- 60 ms
- 70 ms
- "80 ms"
- 90 ms100 ms
- 100 ms
- 120 ms
- 130 ms
- 140 ms
- 150 ms

(13) TIMER: CED-DIS DELAY

- (a) Use
- To set the delay time between CED and DIS.

DIS CED

DCS TCF PIX PMC

PMC: Post Message Command

(b) Default setting

• 80 ms

- 50 ms
- 60 ms
- 70 ms
- "80 ms"
- 90 ms
- 100 ms110 ms
- 120 ms
- 130 ms
- 140 ms
- 150 ms

(14) TIMER: PIX-PMC DELAY

- (a) Use
 - · To set the delay time between PIX and PMC.



(b) Default setting

• 80 ms

(c) Setting item

- 50 ms
- 60 ms
- 70 ms
- "80 ms" •
- 90 ms
- 100 ms
- 110 ms
- 120 ms
- 130 ms • 140 ms
- 150 ms

(15) TIMER: EOL-EOL

- (a) Use
- · To set the transmission time between EOLs. EOL 1 line data EOL 1 line data



(b) Default setting

• 13.0 sec.

(c) Setting range

• 4.0 to 25.5 sec (step: 0.5 sec)

(16) TIMER: CFR-PIXWAIT

(a) Use

- · Sets the waiting time from CFR is sent to the image signals are received.
- · Radio fax on boats occasionally requires more than 6 sec.

(b) Default setting

• 5.5 sec

(c) Setting range

• "6.0" to 25.5 sec (step: 0.5 sec)

(17) TIMER: EOM-PIXWAIT

- (a) Use
- Waiting time to receive PIX before sending DIS when EOM is used.
- Some fax machines sends PIX without returning to Phase B in spite of EDM.

(b) Default setting

• 6.0 sec

(c) Setting range

• "5.5" to 25.5 sec (step: 0.5 sec)

(18) TIMER: JM WAIT

- (a) Use
 - · Time to continue outputting CM until receiving JM.
(b) Default setting

• 9.0 sec

(c) Setting range

• 6.0 to 25.5 sec (step: 0.5 sec)

(19) Others: ECM OFF

(a) Use

· To set whether to turn OFF the reception ECM (error correction mode)

(b) Default setting

• ON

(c) Setting item

- "ON"
- OFF

(20) Others: Fr Size at ECM TX

- (a) Use
- To set the frame size at ECM transmission.

(b) Default setting

• 256

(c) Setting item

- 64
- "256"

(21) Others: Coding Ability

(a) Use

- To set the coding ability.
- Effective to both sending and reception.

(b) Default setting

• MH/MR/MMR/JBIG

(c) Setting item

- MH
- MH/MR
- MH/MR/MMR
- "MH/MR/MMR/JBIG"

4.12.6 List Output

(1) Rpt Addition Info

(a) Use

· To set whether or not to add the diagnosis code or dial number to the communication journal.

Diagnosis Code	The diagnosis code is printed on the communication journal.
Dial Number	The dial number is printed on the communication journal.

(b) Default setting

• OFF

(c) Setting item

- · Diagnosis Code
- Dial Number
- "OFF"

(2) TX ResultRptImage

(a) Use

- To set whether or not to add image to the transmission result report.
- Even if set to "ON" images are not attached at the time of the quick memory transmission and the manual transmission.

(b) Default setting

• ON

(c) Setting item

- "ON"
- OFF

(3) ProtTraceAutoOut

- (a) Use
 - To set the timing for the protocol trace auto output.

(b) Default setting

• OFF

(c) Setting item

- Always
- Error
- "OFF"

4.12.7 FunctionParameter

(1) Use

· Function parameters can be set through addressing.

(2) Procedure

- 1. Call the Service Mode to the screen.
- 2. Select [FunctionParameter], and press the Select key.
- 3. Select the address input area and enter the address.
- 4. Select the [data] and enter numerals in binary.
- 5. When the address and the value are correct, select [Start], and press the Select key.

(3) Address parameter list

NOTE

- When changing a value in this address parameter list, be sure to comply with the phone line standards of other countries.
 Depending on values that have been changed, compliance with the phone line standards of other countries may not be
- obtained.
 - FAX setting (Address parameter list: for line 1)

4.12.8 Initialization

(1) Use

• The following data can be initialized. Select data you want to initialize and touch the [Yes].

Fax Func Parameter	The function set condition is initialized into the Factory Default condition.
Comm Journal Data	All of the Communication Journal is erased.

NOTICE

 For the formats of the Abbreviated Registration Data, the Program Registration Data, The Group Registration Data, and the F-code Box Data, see I.4.12.4 Fax File Format.

(2) Procedure

- 1. Call the Service Mode to the screen.
- 2. Select [Initialization], and press the Select key.
- 3. Select data you want to initialize using up key \blacktriangle /down key \blacktriangledown and press the Select key.
- 4. Select [ON], and press the Select key.
- 5. The data selected is initialized.

4.12.9 Line STD Settings

(1) Use

- · The screen that consolidates various types of setting parameters for improved work efficiency
- · For details of each type of setting parameter, see the following table.

Partner Resp Time	I.4.12.2.(8) Partner Resp Time
Always OffHook	To set to always off state.
DialTone Detection	I.4.12.2.(5) DialTone Detection
BUSYTONE Detection	I.4.12.2.(2) BUSYTONE Detection
Error Pg Resending	I.4.12.3.(5) Communication Setting: Error Pg Resending
#ofRedials (Err Pg)	I.4.12.3.(6) Communication Setting: #ofRedials(Err Pg)
Reduce RX err	Set when V.17 has to be used for sending fax in a poor line condition.
Busytone Detn Time	I.4.12.2.(3) BUSYTONE Detn Time
Number of Redials	To set the number of redials. (Default setting: The default setting is different depending on the country.)
Redial Interval	To set the interval for redialing. (Default setting: 3 min.)

RX Sig Detn Md	I.4.12.2.(1) RX Sig Detn Md
Number of RX Rings	To set the number of times to receive call rings. (Default setting: 2)
Receive Time	To set the time of receive interval. (Default setting: 6 sec.)
Pause Time	I.4.12.2.(9) Pause Time
Line Mon Vol-TX	To set the volume of the speaker for the sent signal sound. (Default setting: 3)
Line Mon Vol-RX	To sets the volume for the speaker of this machine when outputting the communication sound created on destination side (including exchange equipments or terminals). (Default setting: 4)

4.13 FAX setting (Address parameter)

4.13.1 0b00##

		Bit				Default		CS	RC
Address	Items	No	Contents	Setting	Japan	North America	Europe	Command	Parameter
0b0000	Redial interval	7		Utility	0x03	0x03	0x03	X0	00
		6		Mode					
		5		(0-3)					
		4							
		3	Redial interval (min, HEX, 0 - 15)						
		2							
		1							
		0							
0b0001	No. of busy	7		Utility	0x03	0x01	0x03	X0	01
	redials	6		Mode (0-2)					
		5		(0-2)					
		4							
		3	No. of busy redials (No, HEX, 0 - 15)						
		2							
		1							
		0							
0b0002	No. of error	7		Utility	0x03	0x01	0x03	X0	02
	redials	6		Mode					
		5		Setting					
		4		(0-2)					
		3	No. of error redials (No, HEX, 0 - 15)						
		2							
		1							
		0							
0b0003	Reserved area	7		-	-	-	-	-	03 - 0F
-0b000f		6							
		5							
		4							
		3							
		2							
		1							
		0							
0b0010	Inter-station	7	HEX (unit: second)(00 - ffh)(00	-	0x03	0x03	0x03	X0	10
	timer	6	means 03)						
		5							
		4							
		3							
		2							
		1							
		0							
0b0011	Reserved area	7		-	-	-	-	-	11 - 6F
-0b006 f		6							
		5							
		4							
		3							

		Dit	Dit	Setting	Default			CSRC	
Address	Items	No	Contents		Japan	North America	Europe	Command	Parameter
		2							
		1							
		0							

4.13.2 0e000#

		Dit				Default		CS	RC
Address	Items	No	Contents	Setting	Japan	North America	Europe	Command	Parameter
0e0000	Error line	7	RTP transmission	-	0x01	0x01	0x82	X1	00
	processing/	6							
	Judgment	5	Error line recirculation						
		4	Addition of error line						
		3							
		2	Judgment of No. of sequential error lines						
		1	Error line rate judgment						
		0	Judgment of No. of error lines						
0e0001	No. of error	7	No. of very good judgment lines	-	0x10	0x10	0x10	X1	01
	lines-very good	6	(HEX) No. of error						-
		5	linesVeryGoodErrorNum, MCF is						
		4	transmitted.						
		2	-						
		3	-						
		2	-						
		1	-						
		0							
0e0002	No. of error	7	No. of good judgment error lines	-	0x40	0x40	0x80	X1	02
	intes-good	6	$-VervGoodErrorNum$						
		5	linesGoodErrorNum, RTP is						
		4	transmitted						
		3							
		2							
		1							
		0	1						
0e0003	No. of error	7	No. of bad judgment error lines	-	0x80	0x80	0xff	X1	03
	lines-bad	6	(HEX)						
		5	GoodErrorNum <no. error="" lines<="" of="" td=""><td></td><td></td><td></td><td></td><td></td><td></td></no.>						
		4	No. of error lines>BadErrorNum, it is						
		3	considered to be error line over.						
		2	-						
		1	-						
		0	-						
0e0004	Rate of error	7	Rate of very good judgment error	-	0x05	0x05	0x05	X1	04
300004	lines-very good	6	lines (HEX, %)		0,00	0,000	0,000		
		5	Rate of error						
			InesVeryGoodErrorPercent, MCF is						
		4							
		3	-						
		2	-						
		1	-						
		0							
0e0005	Rate of error	7	Rate of good judgment error lines	-	0x0a	0x0a	0x0a	X1	05
	ines-good	6	VervGoodErrorPercent <rate error<="" of="" td=""><td></td><td></td><td></td><td></td><td></td><td></td></rate>						
		5	linesGoodErrorPercent, RTP is						
		4	transmitted.						
		3	Rate of error						
		2	transmitted.						
		1							

		Bit				Default		CS	RC
Address	Items	No	Contents	Setting	Japan	North America	Europe	Command	Parameter
		0							
0e0006	No. of	7	No. of bad judgment sequential error	-	0x03	0x03	0x03	X1	06
	continuous error lines-bad	6	Ines (HEX) Normal						
	enor ines-bau	5	linesErrorContNormal MCE is						
		4	transmitted.						
		3	No. of sequential error						
		2	lines>ErrorContNormal, RTN is						
		1	transmitted.						
		1	-						
		0							
0e0007	No. of	7	No. of bad judgment sequential error	-	0x06	0x06	0x06	X1	07
	error lines-bad	6	No. of sequential error						
		5	linesErrorContNormal, MCF is						
		4	transmitted.						
		3	No. of sequential error						
		2	lines>ErrorContNormal, RTN is						
		1	transmitted.						
		0	-						
00000	No. of	7	No of had judgment convertial arrest		0,000	0.00	0.000	V4	00
060008	INO. OT	/	INO. OF DAG JUGGMENT SEQUENTIAL ERFOR	-	0X09	0x09	0x09	X1	80
	error lines-bad	6	No. of sequential error						
		5	linesErrorContNormal, MCF is						
		4	transmitted.						
		3	No. of sequential error						
		2	lines>ErrorContNormal, RTN is						
		1							
		0	-						
0-0000	No. of		No. of bod independence of a superior of the		00.	00.	0.00	×4	00
060009	NO. OF	1	lines (HEX) Super fine	-	UXUC	UXUC	UXUC		09
	error lines-bad	6	No. of sequential error						
		5	linesErrorContNormal, MCF is						
		4	transmitted.						
		3	No. of sequential error						
		2	Ines>ErrorContNormal, RIN is						
		1							
		0	-						
00000	ED tono	7		L Itility	0,06	0,06	0,06	V1	0.0
ueuuua	addition	1	-	Mode	0000	0000	0000		UA
	addition	6	-	Special					
		5	_	Setting					
		4		(0,2)					
		3							
		2	V.17						
		1							
		0	V.29						
0e000h	CED detection-	7	-	-	0x00	0x00	0x00	X1	0B
	transmission	6	1		5,00	57.00	5700		
	frequency	-	-						
		5	-						
		4	4						
		3							
		2							
		1	CED detection						
			0: Detect 1: Not detect						
		0	CED transmission frequency 0: 2100Hz						
0e000c	rsi/CSI/CIG parameter	7	I SI transmission 0: No 1: Always	-	0xe0	0xe0	Oxe0 Oxe0	X1	0C
		6	CSI transmission						
			0: No						
			1: Always						

		Dit				Default		CS	RC
Address	Items	No	Contents	Setting	Japan	North America	Europe	Command	Parameter
		5	CIG transmission						
			0: No 1: Always						
		4	T. Always	_					
		- - २	-						
		2	-						
		1							
		0	Character ID is put on CSI	-					
0e000d	G3ModeError	7	Ph-C8 min. limit timer at Non-ECM 0: No 1: Yes	Utility Mode Special	0x00	0x00	0x44	X1	0D
		6	Selection of "-"at dial top 0: OFF 1: ON	Setting (6)					
		5	RTN reception 0: step down 1: Line disconnect.						
	4 Remote reception ID received 1: No limit 3 DIS retransmission interval in manual reception 0: 4.5 sec. 1: 3.0 sec.								
		3	DIS retransmission interval in manual reception 0: 4.5 sec. 1: 3.0 sec.						
		2	DCN transmission at T200	-					
		1	DIS length at reception limited to 4byte 0: No limit 1: Limit						
		0	DCN transmitted at stop of ph.C	-					
0e000e	Step up/down	7	Strict TCF check 0: Normal 1: Strict check	-	0x00	0x00	0x00	X1	0E
		6		-					
		5	1						
		4	1						
		3	1						
		2	1						
		1							
		0	The PC/BC of the PostMsg is checked while in the ECM reception. 0: Yes 1: No						
0e000f	Delay timer	7	DCS - TCF delay timer Unit: (10 ms,	Utility	0x08	0x08	0x08	X1	0F
	between DCS-	6	HEX)	Mode					
		5	1	Special					
		4		9					
		3							
		2							
		1							
		0							

4.13.3 0e001#

Address	Items	Bit No	Contents	Setting	Default			CSRC	
					Japan	North America	Europe	Command	Parameter
0e0010	Delay timer	7	PIX - PMC delay timer Unit: (10 ms,	Utility	0x08	0x08	0x08	X1	10
	between PIX-	6	HEX)	Mode					
PMC	PIVIC	5		Setting					
		4		J					
		3]						

		Bit				Default		CS	RC
Address	Items	No	Contents	Setting	Japan	North America	Europe	Command	Parameter
		2	-						
		0							
0e0011	Delay timer	7	CED - DIS delay timer (Unit: 10 ms,	Utility	0x08	0x08	0x08	X1	11
	between CED-	6	HEX)	Mode					
	013	5		Setting					
		4	-	_					
		3	-						
		2	-						
		0	-						
0e0012	T1 timer for	7	T1 timer for transmission (Unit: 1sec.	Utilitv	0x23	0x23	0x23	X1	12
	calling	6	HEX)	Mode					
		5		Special Setting					
		4		Coung					
		3							
		2	-						
		1	-						
0-0012	T1 times for	0	T1 times for recention (Units 1 and	1 14:1:4. /	0.22	0.22	0.22	V1	10
00013	called	6	HEX)	Mode	0x23	0x23	0x23		13
		5		Special					
		4	-	Setting					
		3	-						
		2							
		1							
		0							
0e0014	ph.C reception	7	Max. reception time per page (Unit:	-	0x0f	0x0f	0x0f	X1	14
		6							
		5	-						
		2	-						
		1	-						
		0							
0e0015	Timer between	7	EOL - EOL timer (Unit: 100 ms,	Utility	0x82	0x82	0x82	X1	15
	EOLS	6	HEX)	Mode Special					
		5	-	Setting					
		4							
		3	-						
		1							
		0	-						
0e0016	Timer between	7	Timer between frames (Unit: 1 sec,	-	0x23	0x23	0x23	X1	16
	frames	6	HEX)						
		5	-						
		4							
		3							
		2	-						
		0	-						
0e0017	ANSam signal	7	ANSam signal transmission time	Utilitv	0x28	0x28	0x28	X1	17
	transmission	6	(Unit: 100 ms, HEX)	Mode	-	-	-		
	time	5		Special Setting					
		4		county					
		3							

		Dit				Default		CS	RC
Address	Items	Bit No	Contents	Setting	Japan	North America	Europe	Command	Parameter
		2							
		1							
		0							
0e0018	Ci signal	7	Ci signal transmission time (Unit:	-	0x05	0x05	0x05	X1	18
	transmission	6	100 ms, HEX)						
	ume	5							
		4							
		3							
		2							
		1							
		0							
0e0019	High-speed	7	High-speed signal transmission	-	0x37	0x37	0x37	X1	19
	signal	6	waiting delay timer						
	transmission	5	(Unit: 10 ms, HEX) (Between CFR-						
	timer	4							
		3	-						
		2	-						
		1	-						
		0							
0e001a	ph C top	7	ph C top dummy data transmission	-	0x04	0x04	0x04	X1	1A
000014	dummy data	6	time		ono i	0,01	UNU I		
	transmitting	5	(Unit: 100 ms, HEX) (Dummy data						
	time	1	for non-ECM /Preamble at ECM)						
		4							
		2							
		2	-						
		0	_						
0-001b	DTC Counter	7			0,01	0.01	0.01	V1	10
00010	RTC Counter	1	_	-	0001	UXUT	0x01		ID
		6	_						
		5							
		4	-						
		3							
		2	The EOL counter judged to be RTC 1000 , EOL *2,001, EOL *3,010, EOL *4						
		1	011: EOL*5 100: EOL*6						
		0							10
0e001c	Closed area	1		-	0x00	0x00	0x00	X1	10
	communication	6	-						
		5	-						
		4							
		3							
		2							
		1							
0.001		0	Reserved		AL: 0	ALL 0	ALL 0		45 -
0e001d -	Machine	7	ASCII [20] When ID is less than 20	Utility Mode	ALL 0x20	ALL 0x20	ALL 0x20	X1	1D – 1F
000011		6	space at the top. (No NULL	MOUE					
		5	terminators)						
		4	-						
		3	-						
		2							
		1							
		0							

4.13.4 0e002#

		Bit			Default			CSRC	
Address	Items	No	Contents	Setting	Japan	North America	Europe	Command	Parameter
0e0020 -	Machine	7	ASCII [20] When ID is less than 20	Utility	ALL 0x20	ALL 0x20	ALL 0x20	X1	20 – 2F
0e002f	password [20]	6	digits, justify to the left and insert	Mode					
		5	terminators)						
		4							
		3							
		2							
		1							
		0							

4.13.5 0e003#

Addroop	Items	Bit	t Contonto			Default		CS	RC
Address	Items	No	Contents	Setting	Japan	North America	Europe	Command	Parameter
0e0030	Machine	7	ASCII [20] When ID is less than 20	Utility	ALL 0x20	ALL 0x20	ALL 0x20	X1	30
	password [20]	6	digits, justify to the left and insert	Mode					
		5	terminators)						
		4							
		3							
		2							
		1							
		0							
0e0031 -	CSRC	7	ASCII [20] When ID is less than 20	-	ALL 0x20	ALL 0x20	ALL 0x20	X1	31 – 3F
060031	password [20]	6	space at the top. (No NULL						
		5	terminators)						
		4							
		3							
		2							
		1							
		0							

4.13.6 0e004#

A		Dit			Default			CSRC	
Address	Items	No	Contents	Setting	Japan	North America	Europe	Command	Parameter
0e0040 -	CSRC	7	ASCII [20] When ID is less than 20	-	ALL 0x20	ALL 0x20	ALL 0x20	X1	40 - 44
0e0044	password [20]	6	digits, justify to the left and insert						
		5	space at the top. (NO NULL						
		4							
		3							
		2	-						
		1							
		0							
0e0045	Watch dog	7		Utility	0x01	0x01	0x01	X1	45
		6		Mode					
		5		Special					
		4		(0)					
		3	-						
		2							
		1							
0e0046 T2 timer a CFR		0	Watch dog 0: OFF 1: ON						
	T2 timer after	7	T2 timer value after CFR x100ms	Utility	0x3c	0x3c	0x3c	X1	46
	CFR	6	(HEX)	Mode	e al C				
		5		Special					
		4]						

Address Items Not in interval interv			Bit				Default		CS	RC
3 3 4 0 1	Address	Items	No	Contents	Setting	Japan	North America	Europe	Command	Parameter
CeeDOA7 T2 timer after EOM T2 timer after EOM T2 timer after EOM x100ms (HEX) Utility Mode Setting Dx37 0x37 0x37 X1 47 0e0047 T2 timer after EOM x100ms (HEX) Utility Mode Setting Dx37 0x37 0x37 0x37 X1 47 0e0048 JIM waiting timer 7 JM waiting timer value x100ms 4 Utility Mode Setting 0x58 0x58 0x58 X1 48 0e0049 Destination 7 0x001*Camed 0x02*Lippen 4 Service Mode 0x02 0x00 0x05 X1 49 0e0049 Destination 7 0x001*Camed 0x02*Lippen 4 Service NoC6*Fraine 0x01*Service 0x00* Service Mode 0x00 0x05 X1 49 0e0049 Destination 7 0x00*Fraine 0x01*Cernate 0x02*Lippen 5 Service NoC6*Fraine 0x01*Service 0x00* Service Mode 0x00 0x05 X1 49 0e0049 Destination 7 0x00*Fraine 0x01*Cernate 0x01*Cernate 0x10*Wrem Service NoC6 0x00 0x01 X1 49 0e004			3	-						
Outcome Tote inter after EOM Tote inter after EOM Tote inter after EOM x100ms (HEX) EOM Utility Mode Special 2 Dx37 Dx37 X1 47 080047 T2 timer after after EOM x100ms (HEX) 2 Utility Mode Special 2 Dx37 Dx37 Dx37 X1 47 080048 JIM waiting timer value x100ms Immer J JM waiting timer value x100ms (HEX) Utility Mode Secting Dx5a Dx5a Dx5a X1 48 080049 Destination 1 7 Dx00: US 0x01: Canada 0x02: Japan 5 Secting Secting 0x00 Dx08 X1 49 080049 Destination 1 7 Dx00: US 0x01: Canada 0x02: Japan 5 Secting Secting 0x00 Dx08 X1 49 080049 Destination 1 7 Dx00: US 0x01: Canada 0x02: Japan 5 Secting Secting 0x00 Dx08 X1 49 080040 Foreirad 0x0: Filand 0x1: Filand 0x2: Filand 0x1: Filand 0x1: Filand 0x1: Filand 0x1: Filand 0x1:			2	-						
000047 T2 timer after EOM 0 6 5 4 4 3 2 1 1 0 T2 timer after EOM x100ms (HEX) 5 6 6 4 3 2 1 1 0 Utility Mdds Secting 0x37 0x37 0x37 0x37 X1 47 000048 JIM waiting timer 7 4 4 3 2 1 JM waiting timer value x100ms 6 1 Utility Mode Special 0x37 0x37 0x37 0x58 X1 48 080048 JIM waiting timer 7 4 4 3 2 JM waiting timer value x100ms 6 1 Utility Mode Special 0x58 0x58 0x58 X1 48 080049 Destination 6 6 4 3 0x001: CS 0x01: Canada 0x02: Japan 6 0x002 Service Mode 0x02 0x00 0x05 X1 49 080049 Destination 6 0 0x001: Finitered 0x02: Internet 1 Demark 0x12: Taiwan 0 De 18: Saud Arabia 0x15: China 0 De 18: Saud Arabia 0x17: Taiwan 0 De 18: Saud Arabia 0x17: Taiwan 0 DE 18: Saud Arabia 0x21: Worther Arabia 0x12: Worther 0 DE 2: Philippines 0x23: Russia - 0x01 0x01 X1 4A 0e0048 Function when revision 1 300 0 Signal is communication 4 0 0 0x01 0x01 X1 4A 1 0 Charge-over of the silent interval toriter manu with V 21 0 -			1	-						
0e00-7 12 time rates 7 00000 00000 00000 00000 00000 00000 000000 000000 000000 000000 000000 000000 0000000 0000000 00000000 00000000000000 000000000000000000000000000000000000	0-0047	TO times offer	0		1 14:1:4	0.07	0	0	×4	47
Image: Part of the second se	0e0047	EOM		12 timer after EOM x100ms (HEX)	Mode	0x37	0x37	0x37	X1	47
Image: Setting in the settin			5	-	Special					
Image: Second			5	-	Setting					
0e0048 Jifk variing timer value x100ms Utility 0x5a 0x5a 0x5a X1 48 0e0048 Jifk variing timer value x100ms Utility 0x5a 0x5a 0x5a X1 48 1 7 4			4	-						
Image: constraint of the second sec			2	-						
Qe0048 JJM waiting timer 7 (HEX) JM waiting timer value x100ms (HEX) Volity Mode Special 2 0x5a 0x5a 0x5a X1 48 0 0 0 0x5a 0x5a 0x5a 0x5a X1 48 0 <t< td=""><td></td><td></td><td>1</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>			1							
De0048 JM waiting timer 7 JM waiting timer value x100ms Utility Mode Special Setting 0x5a 0x5a 0x5a 0x5a X1 48 0 1 0			0							
Occur of immer Temper (HEX) Temper (HEX) Mode (HEX) Mode Setting Out (HEX) Mode (HEX) Mode (HEX) <t< td=""><td>0e0048</td><td>.IIM waiting</td><td>7</td><td>IM waiting timer value x100ms</td><td>Utility</td><td>0x5a</td><td>0x5a</td><td>0x5a</td><td>X1</td><td>48</td></t<>	0e0048	.IIM waiting	7	IM waiting timer value x100ms	Utility	0x5a	0x5a	0x5a	X1	48
Image: Second	000010	timer	6	(HEX)	Mode	ondu	0x0u	0x0u		10
0e0049 Destination 7 0x00: US 0x01: Canada 0x02: Japan 0x03: Australia 0x04. New Zealand 0x05: Europe 0x06: Germany 0x07 4 Service 0x00 0x02 0x00 0x05 X1 49 0e0049 Destination 7 0x00: US 0x01: Canada 0x02: Japan 0x05: Europe 0x06: Germany 0x07 4 Mode 0x05: Europe 0x06: Germany 0x07 4 Mode 0x06: Parace 0x09: Switzerland 0x0A: Netherhands 0x06: Belgium 0x0A: Netherhands 0x06: Delagium 0x0A: Netherhands 0x06: Delagium 0x0A: Netherhands 0x06: Delagium 0x18: Saud Arbaila 0x19: China 0x01: Sauda Arbaila 0x19: China 0x18: Sauda Arbaila 0x18: China 0x18: Sauda Arbaila 0x19: China 0x18: Sauda Arbail			5	-	Special					
Image: Constraint of the second sec			4	-	Setting					
Image: Constraint of the second state of th			3	-						
Image: Constraint of the second state of th			2	-						
0 0			1	-						
Destination 7 0x00: US 0x01: Canada 0x02: Japan 0x05: Europe 0x06: Germany 0x07: 5 Service Mode 0x02 0x00 0x05 X1 49 0x06: Lorope 0x06: Germany 0x07: 5 Mode Mode Mode Mode Note			0	-						
0e004a Function when DIS signal is created 7 1 Charge-over of the silent interval between ANSam and DIS (For revision T.30) - 0x01 0x01 X1 4A 0e004b Signal check at the time of F code communication 7 1 - 0x01 0x01 X11 45 0e004b Function when DIS signal is created 7 2 - 0x01 0x01 X11 40 0 0x12 Suspan bx14: Portugal 0x15: Poland 0x14: Portugal 0x15: Poland 0x14: Matysia 0x19: China 0x14: Matysia 0x19: China 0x22: Philippines 0x23: Russia - 0x01 0x01 X11 4A 0	0e0049	Destination	7	0x00: US 0x01: Canada 0x02: Japan	Service	0x02	0x00	0x05	X1	49
0e004b Signal check at the time of F code communication 7 4 5 5 5 5 5 6 6 7 6 7 6 7 6 7 6 7 7 6 7 7 7 7			6	0x03: Australia 0x04: New Zealand	Mode					
0e004b Function when DIS signal is created 7 0 Charge-over of the silent interval between ANSam and DIS (For revision T.30) 0 - 0x01 Xx1 4A 0e004b Signal check at the time of F code communication 7 0 Charge-over of the silent interval between ANSam and DIS (For revision T.30) 0 - 0x01 0x01 X11 4A 0e004b Signal check at the time of F code communication 7 0 Charge-over of the silent interval between ANSam and DIS (For revision T.30) 0 - 0x01 0x01 X11 4A 0e004b Signal check at the time of F code communication 7 0 Check of PWD and SID received signal in F code communication 0 - 0x00 0x00 X11 4B			5	0x05: Europe 0x06: Germany 0x07:						
0e004b Signal check at the time of F code communication 7 6 4 3 2 - 0x01 0x01 0x01 x11 December Signal bit / 2 - 0x01 0x01 x01			4	0x0A: Netherlands 0x0B: Belgium						
2 Sweden 0x05: Finland 0x10: Ireland 0x14: Demark 0x12: Italy 0x13: 1 Spain 0x14: Portugal 0x15: Poland 0x18: Saudi Arabia 0x19: China 0x18: Saudi Arabia 0x19: China 0x17: Karea 1x01: Hong Kong 0x1C: General purpose (OT) 0x1F: Argentina 0x22: Publippines 0x23: Russia - 0x01 0x01 X1 4A 0e004a Function when realed - 0x01 0x01 0x01 X1 4A 0 1 Change-over of the silent interval between ANSam and DIS (For revision T.30) 0: Silent interval of 450 ms 1: 75 ms - 0x00 0x00 0x10 X1 4B 0e004b Signal check at the time of F code communication 7 6 - 0x00 0x00 0x00 X1 4B 0e004b Signal check at the time of F code communication 7 6 - 0x00 0x00 0x00 X1 4B			3	0x0C: Austria 0x0D: Norway 0x0E:						
0e004a Function when DS signal is created 7 4 3 2 - 0x11 : Definition 0x12 : Italy 0x15: Spain 0x14: Portugal 0x15: Poland 0x16: South Africa 0x17: Taiwan 0x18: Sudi Ax1ab 0x19: China 0x18: Sudi Ax1ab 0x19: China 0x16: Korea 0x1D: Hong Kong 0x1C: Korea 0x1D: Hong Kong 0x1C: Korea 0x1D: Hong Kong 0x1C: Korea 0x1D: Hong Kong 0x1C: Korea 0x1D: Hong Kong 0x12: Philippines 0x23: Russia - 0x01 0x01 0x11 X1 4A 0e004a Function when DIS signal is created 7 6 4 4 3 - 0x01 0x01 0x01 X1 4A 0 V8 capability, if available, of DIS to transmit with V.21 0: V8bitOPF - 0x00 0x00 0x00 X1 4B 0e004b Signal check at the time of F code communication 0 7 6 5 1 - 0x00 0x00 0x00 X1 4B 0e004b Signal check at the time of F code communication 0: Signal in F code communication 0: Signal in F code communication 0: Signal checked 1: PVD and SID received signal in F code communication 0: Signal checked 1: PVD and SID net distinguished - 0x00 0x00 X1 4B			2	Sweden 0x0F: Finland 0x10: Ireland						
0e004a Function when DIS signal is created 7 - 0x01 0x01 0x11 X1 4A 0e004a Function when DIS signal is created 7 - 0x01 0x01 0x01 X1 4A 1 Change-over of the silent interval of 450 ms - 0x10 0x01 0x01 X1 4A 2 - - 0x01 0x01 0x01 X1 4A 3 - 1 Change-over of the silent interval of 450 ms - - 0x00 0x01 0x01 X1 4A 0 V8 capability, if available, of DIS to transitivity if v21 - 0x00 0x00 0x00 0x00 X1 4B 0e004b Signal check at the time of F code communication 7 - - 0x00 0x00 0x00 X1 4B 0 Check of PWD and SID received signal in F code communication 0: Signal in F code com			1	Spain 0x14: Portugal 0x15: Poland						
0x18: Saudi Arabia 0x19: China 0x14: Malaysia 0x19: China 0x00: Nal Pisingapore 0x1C: Korea 0x1D: Hong Kong 0x1E: General purpose (07) 0x1F: Argentina 0x20: Pazil 0x21: Vietnam 0x22: Philippines 0x23: Russia - 0x01 0x01 X1 4A 0e004a Function when DIS signal is created 7 - 0x01 0x01 X1 4A 1 Change-over of the silent interval between ANSam and DIS (For revision T.30) 0: Silent interval of 450 ms - 0x00 0x00 0x10 X1 4A 0 0. Silent interval of 450 ms 1: 75 ms - 0x00 0x00 0x00 X1 4B 0e004b Signal check at the time of F code communication 0: VobitOFF - 0x00 0x00 0x00 X1 4B 0 Ocheck of PWD and SID received signal in F code communication 0: Signal checked - - -			0	0x16: South Africa 0x17: Taiwan						
0x14. Margaba 0x1B. Singaple 0x15. Korea 0x1D. Hong Kong 0x1E. Korea 0x1D. Hong Kong 0x2: Philippines 0x23: Russia 0e004a Function when DIS signal is created 1 4 3 2 1 1 Change-over of the silent interval between ANSam and DIS (For revision T.30) 0: Signal check at the time of F code communication 4 3 2 1 Change-over of the silent interval between ANSam and DIS (For revision T.30) 0: Signal check at the time of F code communication 7 4 3 2 1 0 Check of PWD and SID received signal in F code communication 0: Signal checked 1: PWD and SID not distinguished				0x18: Saudi Arabia 0x19: China						
Oe004a Function when DIS signal is created 7 4 4 3 2 - 0x01 0x01 0x11 X1 4A 0e004a Function when DIS signal is created 7 4 3 2 - 0x01 0x01 0x01 X1 4A 1 Change-over of the silent interval between ANSam and DIS (For revision T.30) 0: Silent interval of 450 ms 1: 75 ms - 0x00 0x01 0x11 X1 4A 0 V8 capability, if available, of DIS to transmit with V.21 0: V8bitOFF - 0x00 0x00 0x00 X1 4B 0e004b Signal check at the time of F code communication 7 6 5 - 0x00 0x00 0x00 X1 4B 1 0 Check of PWD and SID received signal in F code communication 0: Signal checked 1: PWD and SID received signal in F code communication 0: Signal checked - 0x00 0x00 X1 4B				0x1C: Korea 0x1D: Hong Kong						
Argentina 0x20: Brazil 0x21: Vietnam 0x22: Philippines 0x23: Russia 0e004a Function when DIS signal is created 7 6 5 4 3 - 0x01 0x01 0x01 X1 4A 1 6 - 0x01 0x01 0x01 0x01 X1 4A 2 - 0x01 0x01 0x01 0x01 X1 4A 1 Change-over of the silent interval between ANSam and DIS (For revision T.30) 0 V8 capability, if available, of DIS to transmit with V.21 - 0x00 0x00 0x00 X1 4B 0e004b Signal check at the time of F code communication 7 6 5 - 0x00 0x00 0x00 X1 4B 1 Check of PWD and SID received signal in F code communication 0: Signal checked ti.PWD and SID not distinguished - 0x00 0x00 0x00 X1 4B				0x1E: General purpose (OT) 0x1F:						
De004a Function when DIS signal is created 7 6 4 3 7 6 5 4 3 1 Change-over of the silent interval between ANSam and DIS (For revision T.30) 0. C: Silent interval of 450 ms 1: 75 ms - 0x01 0x01 X1 4A 0 V8 capability, if available, of DIS to the time of F code communication 0 V8 capability, if available, of DIS to the time of F code communication - 0x00 0x00 0x00 X1 4B				Argentina 0x20: Brazil 0x21: Vietnam						
DIS signal is created 6 4 - 3 - 2 - 1 Change-over of the silent interval between ANSam and DIS (For revision T.30) 0. Silent interval of 450 ms 1. 75 ms 0 V8 capability, if available, of DIS to transmit with V.21 0. V8bitON 1. V8bitOFF 0 V8 capability, if available, of DIS to transmit with V.21 0. V8bitOFF 0 V8 capability. Fi available, of DIS to transmit with V.21 0. V8bitOFF 0 V8 capability. Fi available, of DIS to transmit with V.21 0. V8bitOFF 0 0 0 0 0 Change-over of the silent interval of 450 ms 1. V8bitOFF 0 0 0 Change-over of the silent interval of 450 ms 1. V8bitOFF 0 0 0 Change-over of the silent interval of 450 ms 1. V8bitOFF 1 0 0 Check of PWD and SID received signal in F code communication 0. Signal checked 1. PWD and SID not distinusished	0e004a	Function when	7		_	0x01	0x01	0x01	X1	4A
created 5 4 3 2 - 1 Change-over of the silent interval between ANSam and DIS (For revision T.30) 0: Silent interval of 450 ms 0: Silent interval of 450 ms 1: 75 ms 0 V8 capability, if available, of DIS to transmit with V.21 0: V8bitON V8 capability. V21 0: V8bitON - 1: V8bitOFF 0e004b Signal check at the time of F code communication 4 3 2 1 0 Check of PWD and SID received signal in F code communication 0: Signal checked 1 0 0 Check of PWD and SID received signal in F code communication 0: Signal signal on SID neceived		DIS signal is	6	-						
4 - 2 - 1 Change-over of the silent interval between ANSam and DIS (For revision T.30) 0: Silent interval of 450 ms 1: 75 ms 0 V8 capability, if available, of DIS to transmit with V.21 0: V8bitON 1: V8bitOFF 0e004b Signal check at the time of F code communication 4 2 1 0 Check of PWD and SID received signal in F code communication 0: Signal checked 1 0 Check of PWD and SID received signal in F code communication 0: Signal in F code communication 0: Signal checked		created	5	-						
0e004b Signal check at the time of F code communication 7 1 Check of PWD and SID received signal in F code communication 0: Signal checked - 0x00 0x00 X1 4B			4	-						
 			3	-						
1 Change-over of the silent interval between ANSam and DIS (For revision T.30) 0: Silent interval of 450 ms 0: Silent interval of 450 ms 1: 75 ms 0 V8 capability, if available, of DIS to transmit with V.21 0: V8bitON 1: V8bitOFF 0e004b Signal check at the time of F code communication 4 - 2 - 1 Ocheck of PWD and SID received signal in F code communication 0: Signal checked - 1 Ocheck of 1: PWD and SID net distinguished			2	-						
between ANSam and DIS (For revision T.30) between ANSam and DIS (For revision T.30) 0: Silent interval of 450 ms 1: 75 ms 0 V8 capability, if available, of DIS to transmit with V.21 0: V8bitON 1: V8bitOFF 0 0: V8bitON 1: V8bitOFF 0 0: V8bitON 1: V8bitOFF 0: Code communication 1 1 0: Check of PWD and SID received signal in F code communication 0: Signal checked 1: PWD and SID not distinguished			1	Change-over of the silent interval						
0 Cisilent interval of 450 ms 1: 75 ms 0 0 V8 capability, if available, of DIS to transmit with V.21 0: V8bitON 1: V8bitOFF 0 V8 capability, if available, of DIS to transmit with V.21 0: V8bitON 1: V8bitOFF 0 Code communication 4 - 2 - 1 - 0 Check of PWD and SID received signal in F code communication 0: Signal checked 0: Signal checked 1: PWD and SID not distinguished				between ANSam and DIS (For						
0 V8 capability, if available, of DIS to transmit with V.21 0: V8bitON 0: V8bitON 1: V8bitOFF - 0e004b Signal check at the time of F code communication 0 5 4 - 2 - 1 - 0 Check of PWD and SID received signal in F code communication 0: Signal checked 1: PWD and SID not distinguished				0: Silent interval of 450 ms						
0 V8 capability, if available, of DIS to transmit with V.21 0: V8bitON 0: V8bitON 1: V8bitOFF 0: V8bitOFF 0e004b Signal check at the time of F code communication 7 6 5 2 - 0x00 0x00 X1 4B 3 2 1 0 Check of PWD and SID received signal in F code communication - 0: Signal checked - - 0 Image: Check of the communication of th				1: 75 ms						
0e004b Signal check at the time of F code communication 7 - 0x00 0x00 X1 4B 3 - 0x00 0x00 0x00 X1 4B 3 - 0x00 0x00 0x00 X1 4B 0 Check of PWD and SID received signal in F code communication - 0x00 0x00 1 - 0: Signal checked 1: PWD and SID not distinguished - 0x00 0x00 1 - -			0	V8 capability, if available, of DIS to						
0e004b Signal check at the time of F code communication 7 6 - 0x00 0x00 0x00 X1 4B 3 2 1 - 0x00 0x00 1 1 0 Check of PWD and SID received signal in F code communication 0 Checked 1 1				transmit with V.21						
0e004b Signal check at the time of F code communication 7 6 - 0x00 0x00 0x00 X1 4B 3 2 1 - 0x00 0x00 0x00 1 4B 0 Check of PWD and SID received signal in F code communication 0: Signal checked 1: PWD and SID not distinguished - 0x00 0x00 0x00 X1 4B				1: V8bitOFF						
the time of F code communication 6 5 4 3 2 1 0 0 Check of PWD and SID received signal in F code communication 0: Signal checked 1: PWD and SID not distinguished	0e004b	Signal check at	7		-	0x00	0x00	0x00	X1	4B
code 5 4 3 2 1 0 Check of PWD and SID received signal in F code communication 0: Signal checked 1: PWD and SID not distinguished 1: PWD and SID not distinguished		the time of F	6	-						
4 3 2 1 0 Check of PWD and SID received signal in F code communication 0: Signal checked 1: PWD and SID not distinguished		communication	5	1						
3 2 1 0 Check of PWD and SID received signal in F code communication 0: Signal checked 1: PWD and SID not distinguished		Communication	4	1						
2 1 0 Check of PWD and SID received signal in F code communication 0: Signal checked 1: PWD and SID not distinguished			3							
1 0 Check of PWD and SID received signal in F code communication 0: Signal checked 1: PWD and SID not distinguished			2	1						
0 Check of PWD and SID received signal in F code communication 0: Signal checked 1: PWD and SID not distinguished			1	1						
signal in F code communication 0: Signal checked 1: PWD and SID not distinguished			0	Check of PWD and SID received						
1: PWD and SID not distinguished				signal in F code communication						
				1: PWD and SID not distinguished						

		Dit				Default		CS	RC
Address	Items	No	Contents	Setting	Japan	North America	Europe	Command	Parameter
0e004c	No. of CI signal	7	CI signal repetitive transmission	-	0x03	0x03	0x03	X1	4C
	transmission in	6	frequency when no ANSam received						
	transmission	5							
		4							
		3							
		2							
		1							
		0							
0e004d	Tone detection	7	PB OFF time integration	-	0x55	0x55	0x55	X1	4D
	time (PB)	6							
		5	_						
		4							
		3	PB ON time integration						
		2							
		1	-						
		0							
0e004e	Lime for	/	Waiting event from modem/ Response waiting timeout time	-	0x00	0x00	0x00	X1	4E
	response	6	(x10sec, HEX)						
	waiting timeout	5	(0 counted as 90 sec.)						
		4	-						
		3 2	-						
		2	-						
		0	-						
0e004f	Continuous	7	Sequential CRP reception frequency	_	0x00	0x00	0x00	X1	4F
00001	CRP reception	6	resulting in error (x1 time, HEX)		0x00	0x00	UNUU		
	frequency	5	(0 counted as 3 times)						
	resulting in an _	4	-						
		3	-						
		2	-						
		1	1						
		0	1						

4.13.7 0e005#

		Bit			Default			CSRC	
Address	Items	No	Contents	Setting	Japan	North America	Europe	Command	Parameter
0e0050	1300Hz line	7	1300Hz tone detection time for no-	-	0x17	0x17	0x17	X1	50
	seizure	6	ringing reception (x100ms, HEX)						
	detection time	5							
		4							
		3							
		2							
		1							
		0							
0e0051	1300-Hz toner	0-Hz toner 7		-	0x85	0x85	0x85	X1	51
	detection	6							
	pattern	5							
	-	4							
		3							
	-	2							
		1	1300-Hz toner detection frequency						
		0	pattern 00: 1300Hz±30Hz 01: 1300Hz±10Hz						

		Bit				Default		CS	RC
Address	Items	No	Contents	Setting	Japan	North America	Europe	Command	Parameter
0e0052	German specifications	7	Customized mode (error line-related FP overwriting canceled for EU destination)	-	0x00	0x00	0x0f	X1	53
		6		-					
		5							
		4							
		3	ERR transmission (DTS sequence)						
		2	DCN reception error ignored	_					
		1	Line disconnected within 6 sec. after CD OFF in ph.C	-					
		0	Line disconnected upon reception of DIS to DTC						
0e0053	Retransmission	7	DIS re-transmission interval in	-	0x1e	0x1e	0x1e	X1	53
	(Auto	6							
	reception)	5	-						
		4	-						
		3	-						
		2	-						
		1	-						
00054	TTI for	7		_	0×03	0^03	0×03	¥1	54
060034	transmission	6	-	-	0x03	0.005	0.005		54
		5	-						
		4							
		3							
		2	-						
		1	TTI in transmission TTI added	-					
		0	00: OFF 01: (OFF) 10: INSIDE 11: OUTSIDE						
0e0055	Image	7		-	0x00	0x00	0x00	X1	55
	reduction	6							
	parameter	5							
		4							
		3	-						
		2	-						
		1		-					
		0	scanning direction 0: Thick line kept 1: Thick line not kept						
0e0056	Main body	7	Timer for waiting a transmission	-	0x08	0x08	0x08	X1	56
	transmission	6	body during turnaround of polling						
	command wait	5	transmission (x100ms, HEX) (0 is						
	timer	4	detaulted to 8 sec.)						
		3	4						
		2 1	-						
		0	-						
0e0057	Post message	7	Guarantee time for switching to the	-	0x00	0x00	0x00	X1	57
	command	6	post message command receiving		5	5			
	receive mode	5	mode (x100ms, HEX) (0 is defaulted						
	guarantee time	4							
	-	3	1						
		2	1						
		1	1						
		0]						
0e0058 -	Reserved area	7		-	ALL 0x00	ALL 0x00	ALL 0x00	X1	58 -
		6							

Addross		Dit				Default	CSRC		
Address	Items	No	Contents	Setting	Japan	North America	Europe	Command	Parameter
		5							
		4							
		3							
		2							
		1							
		0							

4.13.8 0e009#

		Bit				Default		CS	RC
Address	Items	No	Contents	Setting	Japan	North America	Europe	Command	Parameter
0e0090	Transmission	7	Tone signal/FSK transmission ATT	Utility	0xaa	0xaa	0xaa	XB	00
	ATT	6	(HEX) every 1 dBm (0 to -15dBm)	Mode					
		5		Setting					
		4							
		3	High-speed signal transmission ATT						
		2	(HEX) every 1 dBm (0 to -15dBm)						
		1							
		0							
0e0091	CED	7		Utility	0x0a	0x0a	0x0a	XB	01
	transmission	6		Mode					
	ATT	5		Setting					
		4		(0-3)					
		3	CED/ANS transmission ATT (HEX)						
		2	every 1 dBm (0 to -15dBm)						
		1							
		0							
0e0092	CD/SED ON	7		Utility	0x03	0x03	0x03	XB	02
	level	6		Mode					
		5		Setting					
		4	-	(0,1)					
		3							
		2							
		1	CD/SED ON level [dBm]						
		0	00: -33 01: -38 10: -43						
			11: -48						
0e0093	Cable	7		Utility	0x00	0x00	0x00	ХВ	03
	equalizer	6		Mode					
		5	Cable EQL transmission/reception	Setting					
		4	selection	(4,5)					
			01: Transmission only						
			10: Reception only						
			11: Both transmission and reception						
		3	_						
		2							
		1	Cable EQL parameter selection						
		0	01: 3.6km						
			10: 7.2km						
			11: NTT4						
0e0094	Number of V34	7		Utility	0x00	0x00	0x00	XB	04
	Point	6		Mode Special					
		5		Setting					
		4		(4,5)					
		3							
		2]					

		Bit				Default		CS	RC
Address	Items	No	Contents	Setting	Japan	North America	Europe	Command	Parameter
		1 0	V34 Point 00: Auto 01: 16Point 10: 24Point						
0e0095	TEL/FAX switching	7	Time from vocal response to RBT transmission (CNG detection waiting time 2) 0: 4 sec. 1: 2 sec.	Utility Mode Special Setting (4,5)	0x00	0x00	0x00	ХВ	05
		6	Time from reception to voice response transmission (CNG detection waiting time 1) 0: 2 sec. 1: 4 sec.						
		5	TEL/FAX switching mode 0: Disabled 1: Enabled						
		4	External telephone no ringing setting 0: Disabled 1: Enabled (disconnected)						
		3	TEL/FAX switching ON response details 0: Voice response + RBT transmission 1: RBT transmission only						
		2	Voice response content selection (bit3 is available only when 0 is selected 1: Only for voice response 2 0: Voice response (1+2)						
		1	Reserved						
		0							
0e0096	Ring Back	7	RBT format	Utility	0x2a	0x4a	0x68	XB	06
	parameter	6	001: Japan	Special					
		5	010: US	Setting					
			011: UK 100: Germany 101 to 111: Others	(0-3,5-7)					
		4	CED transmitted upon TEL/FAX switching						
		3	RBT transmission level (HEX)						
		2							
		1							
0.0007	Internetional	0		1 14:1:4	040	040	040	VD	07
060097	com mode operation		0: Always 1 time 1: Twice in overseas communication	Mode Special	0x40	0x40	0x40	XB	07
		6	Overseas communication 0: No 1: Yes	Setting (6,7)					
		5							
		4							
		3							
		2							
		1							
		0							
0e0098	Starting speed	7		Utility	0x02	0x02	0x02	ХВ	08
	In International	6		Mode Special					
	modem)	5		Setting					
	, í	4	9600bps/V.29	(0,1,3,4)					
		3	7200bps/V.29						
		2							
		1	4800bps/V.27ter						

		Dit			Default			CSRC	
Address	Items	No	Contents	Setting	Japan	North America	Europe	Command	Parameter
		0	2400bps/V.27ter						
0e0099	Starting speed	7	14400bps/V.17	Utility	0x10	0x10	0x10	XB	09
	in international	6	12000bps/V.17	Mode					
	V33 modem)	5	9600bps/V.17	Setting					
	,	4	7200bps/V.17	(4-7)					
		3							
		2							
		1							
		0							
0e009a	Starting speed	7	33600bps/V.34	Utility	0x20	0x20	0x20	XB	0A
	in international	6	31200bps/V.34	Mode					
	mode (V34)	5	28800bps/V.34	Setting					
		4	26400bps/V.34	ootang					
		3	24000bps/V.34						
		2	21600bps/V.34	1					
		1	19200bps/V.34	-					
		0	16800bps/V.34	-					
0e009b	CD OFF timer	7	CD OFF timer (Unit: 100 ms. HEX)	-	0x14	0x14	0x14	XB	0B
		6							
		5	-						
		4	-						
		7	-						
		3	-						
		2	-						
			-						
0 - 000 -		- 0	OD ON integration times (1151) 400		000	000	000	VD	
060090	CD ON	1	ms HEX)	-	0x06	0x06	0x06	XB	00
	Integration time	6							
		5	-						
		4	-						
		3	-						
		2							
		1							
		0							
0e009d	Symbol rate	7	V34 controlled ch data rate	Utility	0x05	0x05	0x05	XB	0D
	maximum		0: 1200	Mode					
		6	Reserved	Setting					
		5	Reserved	(0-3,7)					
		5	-						
		4	Max allowable averbal aread	-					
		3							
		2	0001: Reserved						
		1	0010: 2800						
		0	0011: 3000						
			0101: 3429						
0e009e	V34 primarv	7	Number of fallback frame errors	-	0x03	0x03	0x03	ХВ	0E
-	channel	6	(HEX)		-		-		
	fallback	5	1						
		4	1						
		3	-						
		2	-						
		1	-						
		0	-						
00004	Record	7			0.00	0,00	0,000		05
060091	Reserveu		4	-	UXUU	UXUU	0,00		UF
		6	-						
		5	-						
		4	J						

		Dit			Default			CSRC	
Address	Items	No	Contents	Setting	Japan	North America	Europe	Command	Parameter
		3							
		2							
		1							
		0							

4.13.9 0e00a#

		Bit				Default		CS	RC
Address	Items	No	Contents	Setting	Japan	North America	Europe	Command	Parameter
0e00a0	V34 off Rx-V34	7	Timer value after V34 reception error	-	0x0a	0x0a	0x0a	XB	10
	off time after	6	used to reset V34 off reception (min,						
	error	5	(Valid only when transmission side						
		4	cannot be specified)						
		3							
		2	-						
		1	-						
		0	-						
0e00a1	V34 off Rx-V17	7	No. of continuous success of V17	-	0x0a	0x0a	0x0a	XB	11
	OK Rx times to	6	receptions used to reset V34 off		enteu.		- Chica		
	reset V34 off	5	reception after V34 reception error						
	Rx	1	(times, HEX)						
		4	can be specified with Caller ID)						
		3							
		2	-						
		1	-						
		0							
0e00a2	(Inhibit of) V34 off Rx-Function ON/OFF	7	V34off function for manual reception 0: Enable 1: Disable	-	0x00	0x00	0x00	ХВ	12
		6							
		5							
		4							
		3	-						
		2	-						
		1	V 34 OFF reset mode = No. of						
			successful consecutive V.17 reception times (ID specified) 0: Enabled 1: Disabled						
		0	V.34 OFF reset mode = time (ID cannot be specified) 0: Enabled 1: Disabled						
0e00a3	JBIG	7		-	0x01	0x01	0x01	XB	13
	parameter	6							
		5							
		4							
		3							
		2							
		1	Use of following FP JBIG option LO size at reduction 0: No. 1: Yes						
		0	JBIG optional L0 capacity 0: No, 1: Yes						
0e00a4 -	JBIG LO size	7	JBIG optional LO size used for	-	0x00	0x00	0x00	XB	14 - 17
0e00a7		6	reduction (HEX) (setting range:		0x00	0x00	0x00		
		5	0x01to0xfffffff)		0x00	0x00	0x00		
		4	_ [v] – nn, [i] – nL, [2] = LH, [3] = LL		0000	0000	0000		
		3	1						
		2	1						
1		-]	I	I				I

		Bit			Default			CSRC		
Address	Items	No	Contents	Setting	Japan	North America	Europe	Command	Parameter	
		1								
0e00a8	(Inhibit of)	7		-	0x00	0x00	0x00	ХВ	8	
	JBIG off Rx-	6								
	Function ON/	5								
	OFF									
		2	-							
		3	-							
		2		-						
		1	JBIG off function at A3 high- definition reception (DIS re- transmission) 0: OFF, 1: ON							
		0	JBIG off function after JBIG reception error 0: Enable 1: Disable							
0e00a9	JBIG off Rx-	7	Timer value after JBIG reception	-	0x0a	0x0a	0x0a	XB	9	
	JBIG off time	6	error to reset JBIG off reception							
	alter error	5								
		4								
		3	-							
		2	-							
		1								
		0								
0e00aa	PBX dial tone	7		_	0x08	0x00	0x00	XB	1Δ	
ocoodd	detection	6			0,00	0,000	0,00			
	frequency	5	-							
	upper limits	1	PPX dial tana datastian fraguanay	-						
		4	upper limit							
		3	1: 155±65Hz							
		2	2: 1155±25Hz							
		1	3: 375±75Hz							
		0	5: 425±75Hz							
			6: 440±75Hz							
			7: 375±100Hz							
			8: 400±100Hz							
			10: 440±100Hz							
			11: 375±125Hz							
			12: 400±125Hz							
			13. 425±125Hz 14 [.] 440+125Hz							
			15: 375±150Hz							
			16: 400±150Hz							
			17: 425±150Hz 18: 440+150Hz							
			19: 465±205Hz							
			20: 350±25Hz(Dual)							
			21: 620±25Hz(Dual)							
			23: 50±100Hz(Dual)							
0e00ab	PBX dial tone	7	PBX dial tone detection time or max.	-	0x32	0x00	0x00	XB	1B	
	detection time	6	ON time value (unit: 20 ms, HEX)							
		5	-							
		4	4							
		3								
		2	-							
		1	-							
			-							
0000			DDV dial tana ON time with under		000	000	000	VD	40	
veuuac	ON time min		unit 20ms HFX)	-	UXUU	UXUU	UXUU	XB	10	
	value	6								
		5	J							

		Dit				Default		CS	RC
Address	Items	No	Contents	Setting	Japan	North America	Europe	Command	Parameter
		4							
		3							
		2							
		1							
		0							
0e00ad	PBX dial tone	7	PBX dial tone OFF time max. value	-	0x00	0x00	0x00	XB	1D
	OFF time max.	6	(unit: 20 ms, HEX)						
	value	5							
		4							
		3							
		2							
		1							
		0							
0e00ae	PBX dial tone	7	PBX dial tone OFF time min. value	-	0x00	0x00	0x00	XB	1E
	OFF time min.	6	(unit: 20 ms, HEX)						
	value	5							
		4							
		3							
		2							
		1							
		0							
0e00af	PBX dial tone	7	PBX dial tone waiting time or pre-	-	0x03	0x03	0x03	XB	1F
	waiting time	6	pause time (unit: 1 sec, HEX)						
		5							
		4							
		3							
		2							
		1							
		0							

4.13.10 0e00b#

		Dit				Default		CS	RC
Address	Items	No	Contents	Setting	Japan	North America	Europe	Command	Parameter
0e00b0	PBX dial tone	7	Instantaneous shutdown time (unit:	-	0x00	0x00	0x00	XB	20
	instantaneous	6	20 ms, HEX) or tone detection						
	break detection	5	frequency (times, HEX)						
	une	4							
		3							
		2	-						
		1	-						
		0	-						
0e00b1	1st dial tone	7		-	0x08	0x14	0x13	ХВ	21
	detection	6	-						
frequency	5	-							
	pattern	4	1st dial tone detection frequency						
		3	pattern						
		2	1: 155±65Hz						
		1	2: 1155±25HZ						
			4: 400+75Hz						
			5 [.] 425+75Hz						
			6: 440±75Hz						
			7: 375±100Hz						
			8: 400±100Hz						
			9: 425±100Hz						
			10: 440±100Hz						
			11: 375±125Hz						
			12: 400±125Hz						
] 13: 425±125Hz						

		Dit				Default		CS	RC
Address	Items	No	Contents	Setting	Japan	North America	Europe	Command	Parameter
		0	14: 440±125Hz 15: 375±150Hz 16: 400±150Hz 17: 425±150Hz 18: 440±150Hz 19: 465±205Hz 20: 350±25Hz(Dual) 21: 620±25Hz(Dual) 22: 400±75Hz(Dual) 23: 50±100Hz(Dual)						
0e00b2	1st dial tone	7	1st dial tone detection time or ON	-	0x32	0x32	0x1a	XB	22
		6							
		4							
		3							
		2							
		1							
0e00b3	1st dial tone	7	1st dial tone ON time min_value		0x00	0x00	0x00	XB	23
	ON time min.	6	(unit: 20 ms, HEX)		0,00	5,00	5,000		20
	value	5							
		4	-						
		3	_						
		2							
		0							
0e00b4	1st dial tone	7	1st dial tone OFF time max. value	-	0x00	0x00	0x00	XB	24
	OFF time max.	6	(unit: 20 ms, HEX)						
	value	5							
		4							
		3							
		2	-						
		0	-						
0e00b5	1st dial tone	7	1st dial tone OFF time min. value	-	0x00	0x00	0x00	ХВ	25
	OFF time min.	6	(unit: 20 ms, HEX)						
		5							
		4	-						
		2							
		1	-						
		0							
0e00b6	1st dial tone	7	1st dial tone waiting time or pre-	-	0x03	0x03	0x04	XB	27
		6	$\frac{1}{2}$						
		4							
		3	-						
		2							
		1							
0-0057	1 at al:-1 t-	0	Instantan and states to the P		000	000	005	VD	
000007	ist dial tone instantaneous	/ 6	time (unit: 20 ms, HEX) or tone	-	UXU0	UXU0	UXU5	XR	28
	break detection	5	detection frequency (times, HEX)						
	une	4							
		3							
		2	-						
		1							
		0							

		Bit			Default			CSRC	
Address	Items	No	Contents	Setting	Japan	North America	Europe	Command	Parameter
0e00b8	2nd dial tone	7		-	0x08	0x00	0x00	XB	28
	detection	6							
	upper limits	5							
		4	2nd dial tone detection frequency						
		3	upper limits						
		2	1: 155±65Hz						
		1	3: 375+75Hz						
		0	4: 400±75Hz						
			5: 425±75Hz						
			6: 440±/5HZ 7: 375+100Hz						
			8: 400±100Hz						
			9: 425±100Hz						
			10: 440±100Hz						
			11: 375±125Hz						
			13: 425±125Hz						
			14: 440±125Hz						
			15: 375±150Hz						
			16: 400±150Hz						
			18: 440±150Hz						
			19: 465±205Hz						
			20: 350±25Hz(Dual)						
			21: 620±25HZ(Dual)						
			23: 50±100Hz(Dual)						
0e00b9	2nd dial tone	7	2nd dial tone detection time or ON	-	0x08	0x00	0x00	ХВ	29
	detection time	6	time max. value (unit: 20 ms, HEX)						
		5	-						
		4	-						
		3	-						
		2							
		1							
		0	-						
00000	2nd dial tono	7	2nd dial tone ON time min value (20		0×02	0×00	0×00	VP	24
UEUUDa	ON time min.	6	ms. HEX)	-	0,02	0,00	0,00		28
	value	5	-, ,						
		5	-						
		4	-						
		3	-						
		2	-						
		1	-						
		0							
0e00bb	2nd dial tone	7	2nd dial tone OFF time max. value		0x0a	0x00	0x00	XB	2B
	value	6							
		5							
		4							
		3							
		2							
		1							
		0							
0e00bc	2nd dial tone	7	2nd dial tone OFF time min. value	-	0x04	0x00	0x00	XB	2C
	OFF time min.	6	(20 ms, HEX)						
	value	5	1						
		4	1						
		3	1						
		2	1						
		1	-						
		0	-						
0e00bd	2nd dial tono	7	2nd dial tone waiting time or pro	_	0×03	0×03	0×03	YR	20
060000	waiting time	6	pause time (unit: 1 sec, HEX)	_	0,000	0,03	0703		20

		Dit				Default		CSRC		
Address	Items	No	Contents	Setting	Japan	North America	Europe	Command	Parameter	
		5								
		4								
		3								
		2	-							
		1	-							
		0	-							
0e00be	2nd dial tone	7	Instantaneous shutdown detection	-	0x03	0x00	0x00	ХВ	2E	
	instantaneous	6	time (unit: 20 ms, HEX) or tone							
	break detection	5	detection frequency (times, HEX)							
	time	4	-							
		т 3	-							
		2								
		1								
		0	-							
0e00bf	3rd dial tone	7		-	0x00	0x00	0x00	ХВ	2F	
	detection	6	-							
	frequency	5	-							
	upper limits	4	3rd dial tone detection frequency							
		2	upper limits							
		2	1: 155±65Hz							
		2	2: 1155±25Hz							
		1	3: 3/5±/5Hz							
		0	4.400±75Hz							
			6: 440±75Hz							
			7: 375±100Hz							
			8: 400±100Hz							
			9: 425±100Hz							
			10: 440±100Hz							
			11. 375±125Hz							
			13: 425+125Hz							
			14: 440±125Hz							
			15: 375±150Hz							
			16: 400±150Hz							
			17: 425±150Hz							
			10: 440±150HZ 19: 465+205Hz							
			20: 350+25Hz(Dual)							
			21: 620±25Hz(Dual)							
			22: 400±75Hz(Dual)							
			23: 50±100Hz(Dual)							

4.13.11 0e00c#

Address		Bit				Default		CSRC	
Address	Items	No	Contents	Setting	Japan	North America	Europe	Command	Parameter
0e00c0	Busy tone	7		-	0x08	0x15	0x09	ХВ	30
	detection	6							
	pattern	5							
		4	Busy tone detection frequency						
		3	pattern						
		2	2: 1155±05HZ						
		1	3: 375±75Hz						
			4: 400±75Hz						
			5: 425±75HZ 6: 440+75Hz						
			7: 375±100Hz						
			8: 400±100Hz						
			9: 425±100Hz						
			10: 440±100Hz						
			11: 375±125Hz						
			12: 400±125Hz						
			13: 425±125Hz						
			14: 440±125Hz						

		Bit				Default		CS	RC
Address	Items	No	Contents	Setting	Japan	North America	Europe	Command	Parameter
		0	15: 375±150Hz 16: 400±150Hz 17: 425±150Hz 18: 440±150Hz 19: 465±205Hz 20: 350±25Hz(Dual) 21: 620±25Hz(Dual) 22: 400±75Hz(Dual) 23: 50±100Hz(Dual)						
0e00c1	Busy tone ON time max. value	7 6 5 4 3 2 1 0	Busy tone ON time max. value (unit: 20 ms, HEX)	-	0x1e	0x1e	0x16	ХВ	31
0e00c2	Busy tone ON time min. value	7 6 5 4 3 2 1 0	Busy tone ON time min. value (unit: 20 ms, HEX)	_	0x14	0x14	0x05	ХВ	32
0e00c3	Busy tone OFF time max. value	7 6 5 4 3 2 1 0	Busy tone OFF time max. value (unit: 20 ms, HEX)	-	0x1e	0x1e	0x1f	ХВ	33
0e00c4	Busy tone OFF time min. value	7 6 5 4 3 2 1 0	Busy tone OFF time min. value (unit: 20 ms, HEX)	-	0x14	0x14	0x09	ХВ	34
0e00c5	Ringer detection pattern	7 6 5 4 3 2 1	Custom mode 0: OFF(to comply with bits 3-0) 1: ON(to comply with bits 5-4) Custom mode ringer detection pattern 00: Single 01: Double 10: Triple *The specified time is set in DRPD_Custom[]. The judge time is adjusted in common between DRPD_1st[] to 3rd[]. Ringer detection pattern 0000: Normal 0001: DRPD_Single 0010: DRPD_Double 0011: DRPD_Triple1 0100: DRPD_Triple2 0101: DRPD_NZDA1 0110: DRPD_NZDA2	Utility Mode Special Setting	0x00	0x00	0x00	XB	35

		D:4				Default		CS	RC
Address	Items	Bit No	Contents	Setting	Japan	North America	Europe	Command	Parameter
		0	0111: DRPD_NZDA3 1000: DRPD_NZDA4 *Normal should be set within Ringer[2] to [5]. At DRPD, the margin time (min, max) is set from the specified time. (unit: 1 Hz, HEX)						
0e00c6	Ringer	7	Ringer detection frequency upper	-	0x46	0x46	0x46	XB	36
	detection	6	limit (unit: 1 Hz, HEX)						
	upper limits	5							
		4	_						
		3	-						
		2	-						
		1	-						
000007	Bingor	7	Pinger detection frequency lower		0×00	0×00	0×00	VD	27
000007	detection	6	limit (unit: 1 Hz, HEX)	-	UXUC	UXUC	UXUC	AD ND	57
	frequency	5							
	lower limits	4							
		3	4						
		2	-						
		1	-						
		0							
0e00c8	Ringer ON time	7	Ringer ON time max. value (unit: 20	-	0x00	0x00	0x00	XB	38
	max. value	6	ms, HEX)						
		5							
		4	_						
		3	-						
		2	-						
		1	-						
00000	Pingor ON time	7	Pinger ON time min value (unit: 20		0×02	0×02	0×08	VP	30
060009	min. value	6	ms, HEX)	-	UXUa	UXUa	0,000	AD ND	39
		5							
		4	-						
		3	-						
		2							
		1							
		0							
0e00ca	Ringer OFF	7	Ringer OFF time max. value (unit:	-	0x3c	0x3c	0x46	XB	3A
	time max.	6	100 ms, HEX)						
		5	-						
		4 2	-						
		2	-						
		1	-						
		0	1						
0e00cb	Ringer OFF	7	Ringer OFF time min. value (unit:	Utility	0x02	0x00	0x00	ХВ	3B
	time max.	6	100 ms, HEX)	Mode					
	value	5		Special Setting					
		4]						
		3							
		2							
		1	-						
0.00		0			0.00	0.00	0.00		
UeUUcc	ORPD ringer ON time max.	(טאט ringer ON time maximum value adjustment (unit: 20 ms. HFX)	-	0x09	0x09	0x09	XB	30
	value	5							
	adjustment	5]						

		Dit				Default		CS	RC
Address	Items	No	Contents	Setting	Japan	North America	Europe	Command	Parameter
		4							
		3							
		2							
		1							
		0							
0e00cd	DRPD ringer	7	DRPD ringer ON time minimum	-	0x09	0x09	0x09	XB	3D
	ON time min.	6	value adjustment (unit: 20 ms, HEX)						
	adjustment	5							
		4							
		3							
		2							
		1							
		0							
0e00ce	DRPD ringer	7	DRPD ringer OFF time maximum	-	0x09	0x09	0x09	XB	3E
	OFF time max.	6	value adjustment (unit: 20 ms, HEX)						
	adjustment	5	_						
		4	_						
		3	_						
		2	_						
		1	_						
		0							
0e00cf	DRPD ringer	7	DRPD ringer OFF time minimum	-	0x09	0x09	0x09	XB	3F
	OFF time min.	6	Value adjustment (unit: 20 ms, HEX)						
	adjustment	5							
		4							
		3	_						
		2							
		1							
		0							

4.13.12 0e00d#

						Default		(CSRC
Address	Items	Bit No	Contents	Setting	Japan	North Ameri ca	Europ e	Comman d	Parameter
0e00d0	DRPD maximum	7	DRPD ringer maximum OFF time	-	0x05	0x05	0x05	XB	40
	OFF time max.	6	maximum value adjustment (unit: 100 ms_HEX)						
		5							
		4							
		3							
		2							
		1							
0.00.14		0			0.05	0.0-	0.05		
0e00d1	OFF time min	7	DRPD ringer maximum OFF time minimum value adjustment (unit	-	0x05	0x05	0x05	ХВ	41
	value adjustment	6	100 ms, HEX)						
		C A							
		ד מ							
		2							
		1							
		0							
0e00d2	DRPD Single Ring	7	DRPD Single Ring	-	0x50	0x50	0x50	XB	42
	STOPdetermination	6	STOPdetermination time (1unit:						
	time	5	100 ms, HEX)						
		4							
		3							

					Default			CSRC	
Address	Items	Bit No	Contents	Setting	Japan	North Ameri ca	Europ e	Comman d	Parameter
		2 1 0							
0e00d3	DRPD Double Ring STOPdetermination time	7 6 5 4 3 2 1 0	DRPD Double Ring STOPdetermination time (unit: 100 ms, HEX)	-	0x50	0x50	0x50	ХВ	43
0e00d4	DRPD Triple1 Ring STOPdetermination time	7 6 5 4 3 2 1 0	DRPD Triple1 Ring STOPdetermination time (unit: 100 ms, HEX)	-	0x50	0x50	0x50	ХВ	44
0e00d5	DRPD Triple2 Ring STOPdetermination time	7 6 5 4 3 2 1 0	DRPD Triple2 Ring STOPdetermination time (unit: 100 ms, HEX)	-	0x50	0x50	0x50	ХВ	45
0e00d6	DRPD NZ-DA1 Ring STOPdetermination time	7 6 5 4 3 2 1 0	DRPD NZ-DA1 Ring STOPdetermination time (unit: 100 ms, HEX)	-	0x3c	0x3c	0x3c	ХВ	46
0e00d7	DRPD NZ-DA2 Ring STOP determination time	7 6 5 4 3 2 1 0	DRPD NZ-DA2 Ring STOPdetermination time (unit: 100 ms, HEX)	-	0x3c	0x3c	0x3c	ХВ	47
0e00d8	DRPD NZ-DA3 Ring STOP determination time	7 6 5 4 3 2 1 0	DRPD NZ-DA3 Ring STOP determination time (unit: 100 ms, HEX)	-	0x32	0x32	0x32	ХВ	48
0e00d9	DRPD NZ-DA4 Ring STOPdetermination time	7 6 5 4	DRPD NZ-DA4 Ring STOP determination time (unit: 100 ms, HEX)	-	0x32	0x32	0x32	ХВ	49

						Default		(CSRC
Address	Items	Bit No	Contents	Setting	Japan	North Ameri ca	Europ e	Comman d	Parameter
		3 2 1 0							
0e00da	Custom 1st ringer ON time specified value	7 6 5 4 3 2 1 0	Custom 1st ringer ON time specified value (unit: 100 ms, HEX)	-	0x00	0x00	0x00	ХВ	4A
0e00db	Custom 1st ringer OFF time specified value	7 6 5 4 3 2 1 0	Custom 1st ringer OFF time specified value (unit: 100 ms, HEX)	-	0x00	0x00	0x00	ХВ	4B
0e00dc	Custom 2nd ringer ON time specified value	7 6 5 4 3 2 1 0	Custom 2nd ringer ON time specified value (unit: 100 ms, HEX)	-	0x00	0x00	0x00	ХВ	4C
0e00dd	Custom 2nd ringer OFF time specified value	7 6 5 4 3 2 1 0	Custom 2nd ringer OFF time specified value (unit: 100 ms, HEX)	-	0x00	0x00	0x00	ХВ	4D
0e00de	Custom 3rd ringer ON time specified value	7 6 5 4 3 2 1 0	Custom 3rd ringer ON time specified value (unit: 100 ms, HEX)	-	0x00	0x00	0x00	ХВ	4E
0e00df	Custom 3rd ringer OFF time specified value	7 6 5 4 3 2 1 0	Custom 3rd ringer OFF time specified value (unit: 100 ms, HEX)	-	0x00	0x00	0x00	ХВ	4F

	-	Bit				Default	1	CS	RC
Address	Items	No	Contents	Setting	Japan	North America	Europe	Command	Parameter
0e00e0	Custom ring OFF	7	Custom ring OFF determination time (unit: 100 ms. HEX)	-	0x00	0x00	0x00	ХВ	50
	determination	5	-						
	time	4	-						
		3	-						
		2	-						
		1							
		0							
0e00e1	PB dial signal	7	PB dial signal transmission time	-	0x15	0x19	0x15	XB	51
	time	6							
		5	-						
		4	-						
		2	-						
		1	-						
		0	-						
0e00e2	PB dial inter	7	PB dial inter digit pause time (unit: 5	-	0x11	0x15	0x11	ХВ	52
	digit pause	6	ms, HEX)						
		5	-						
		4	-						
		3	-						
		2	-						
		0	-						
0e00e3	10pps pulse dial	7	10pps pulse dial break rate (%,	-	0x44	0x3d	0x3d	ХВ	53
	break rate	6	HEX)						
		5							
		4							
		3	-						
		2	-						
		1	-						
0e00e4	10pps pulse dial	7	10pps pulse dial break time	-	0x1f	0x1c	0x1c	XB	54
	break time	6							
		5	-						
		4							
		3	-						
		2	-						
			-						
00005		7	10pps pulse dial inter digit pause		0v68	0v68	0250	YR	55
300000	inter digit pause	6	(unit: 10 ms, HEX)	_		0,00			
		5	-						
		4							
		3							
		2	-						
		1							
000006	20ppp pulso dial	0	20ppa pulsa dial maka tima		0.07	0,00	0,00		FO
UEUUED	make time	6	20pps pulse dial make time	-		0x09	0x09	AB	סכ
		5	-						
		4	-						
		3	1						
		2							
		1							

		Dit				Default		CS	RC
Address	Items	No	Contents	Setting	Japan	North America	Europe	Command	Parameter
		0							
0e00e7	20pps pulse dial	7	20pps pulse dial break time	-	0x10	0x0E	0x0E	XB	57
	break time	6							
		5							
		4	-						
		3							
		2	-						
		1	-						
0e00e8	20pps pulse dial	7	20pps pulse dial inter digit pause	_	0x59	0x40	0x5c	XB	58
	inter digit pause	6	(unit: 10 ms, HEX)						
		5	-						
			-						
		-							
		3	-						
		2	-						
			-						
0.00.0		0					0.00		
0e00e9	PB signal	1	PB signal transmission level (unit: 1	Utility	0x0a	0x0a	0x06	XB	59
	level	6		Special					
		5	-	Setting					
		4	_						
		3							
		2	_						
		1							
		0							
0e00ea	PB signal level	7	PB level difference (HL) (unit: 0.5	Utility	0x04	0x04	0x04	XB	5A
	difference (HL)	6	dBm, HEX)	Mode					
		5		Setting					
		4		County					
		3	-						
		2	-						
		1	-						
		0	-						
0e00eb	DcLoop	7	DCLOOP integration time at CML	-	0x50	0x50	0x50	ХВ	5B
	integration time	6	relay OFF (unit: 5 ms, HEX) (Lower						
	when CML is set	5	limit 20 ms)						
		4	-						
		3	-						
		2	-						
		1	1						
		0	1						
0e00ec	DcLoop	7	DCLOOP integration time at CMI	-	0x10	0x10	0x10	XB	5C
	integration time	6	relay ON (unit: 5 ms, HEX) (Lower						
	when CML is set	5	limit 20 ms)						
	to ON	4	-						
		7	-						
		2	-						
		4	-						
			-						
00000	Dougo time	7		1 14:11:4	0-04	0-04	0-04		50
vevued	Pause time		-	Mode	UXUT	UXUT		XB	50
		6	-	Special					
		5	4	Setting					
		4	4	(0-2)					
		3							
		2	Pause time (unit: sec, HEX)						
		1	1						
		0							

		Dit				Default		CS	RC
Address	Items	No	Contents	Setting	Japan	North America	Europe	Command	Parameter
0e00ee	DCLOOP check mode	7	DC-LOOP check 0: No 1: Always	Utility Mode Special	0x00	0x00	0x00	ХВ	5E
		6		Setting					
		5		(0,1)					
		4							
		3							
		2							
		1							
		0							
0e00ef	DCLOOP	7	DCLOOP waiting time (unit: 100	-	0x00	0x00	0x00	XB	5F
	waiting time	6	ms, HEX)						
		5							
		4	-						
		3							
		2							
		1							
		0							

4.13.14 0e00f#

		Bit				Default		CS	RC
Address	Items	No	Contents	Setting	Japan	North America	Europe	Command	Parameter
0e00df	DCLOOP	7	DCLOOP instantaneous shutdown	-	0x00	0x00	0x00	XB	60
	instantaneous	6	allowable time (unit: 10 ms, HEX) (at						
	allowed time	5	dialing)						
	(ph.A)	4							
		3	_						
		2	_						
		1	_						
		0							
0e00f1	DCLOOP	7	DCLOOP instantaneous shutdown	-	0x00	0x00	0x00	XB	61
	shutdown	6	(after completion of dialing and after						
	allowed time	5	CML ON at the time of reception)						
	(ph.B)	4	-						
		3	-						
		2	-						
		1	-						
0-000	Distance	0		1.141114	010	0.10	010	VD	
0e00f2	RING DET	6	-	Mode	0x12	0x10	0x10	XB	62
	mode	5	PING detection mode	(0,1)					
		1	01: No. of times	Utility					
		-	10: Time	Special					
		3	Pulse format	Setting					
		2	01: SW 10: NO	(4,5)					
		1	Dialing method						
		0	00: PB 01: 10pps 10: 20pps 11: 16pps						
0e00f3	1st/2nd DT	7		-	0x00	0x00	0x00	XB	63
	detection	6							
	parameter	5							
		4							
		3	At 2nd DT detection DP dialing only						
		2							
		1							
		0	1st DT2 type						

		Dit				Default		CS	RC
Address	Items	No	Contents	Setting	Japan	North America	Europe	Command	Parameter
0e00f4	Tone detection	7		Utility	0x11	0x01	0x01	XB	64
		6		Special					
		5	1300Hz	Setting					
			1: Yes	(4,5)					
		4	Busy Tone						
			0: No						
		3							
		5	0: No						
			1: Yes						
		2	3rd DT						
			1: Yes						
		1	2nd DT						
			0: No						
		0	1: Yes						
		0	0: No						
			1: Yes						
0e00f5	No. of busy	7	Busy tone detection frequency (HEX)	Utility	0x02	0x02	0x03	XB	65
	tone detection	6	-	Special					
		5	-	Setting					
		4	-						
		3	-						
		2	-						
		0	-						
0e00f6	No. of RING	7	Ring detection frequency (times,	Utility	0x02	0x02	0x02	XB	66
	detection	6	HEX)	Mode					
		5	-						
		4							
		3							
		2							
		1	-						
		0							
0e00f7	RING detection	1	Ring detection time (sec, HEX)	Utility Mode	0x06	0x06	0x06	ХВ	67
		6	-	Special					
		- 5 - 4	-	Setting					
		3	-						
		2	-						
		1	-						
		0	1						
0e00f8	Time to wait for	7	Time waiting response from remote	Utility	0x37	0x37	0x37	XB	68
	a response	6	station after calling (unit: sec, HEX)	Mode Special					
	station	5	_	Setting					
		4	-						
		3	-						
		2	4						
		0	-						
0e00f9	Answering	7	Answering machine CNG detection	Utilit∨	0x64	0x64	0x64	ХВ	69
	machine	6	time	Mode					
	function	5	(unit: 10sec, HEX) (1 - 7)	Special Setting					
		4	Answer mode	(4)					
			0: OFF						
			1. UN]					

		Dit				Default		CS	RC
Address	Items	No	Contents	Setting	Japan	North America	Europe	Command	Parameter
		3	Answering machine DCLOOP						
		2	detection time (unit: 5sec, HEX) (1 -						
		1							
		0							
0e00fa -	Remote	7	ASCII [2]	Utility	0x2a	0x2a	0x2a	XB	6A - 6B
0e00fb	reception	6		Mode	0x20	0x20	0x20		
	passworu	5							
		4							
		3							
		2							
		1							
		0							
0e00fc	RBT	7	Ring Back Tone signal transmission	-	0x14	0x14	0x14	XB	6C
	transmission	6	time (unit: 1000 ms, HEX)						
	une	5							
		4							
		3							
		2							
		1							
		0							
0e00fd	CAR signal ON	7	CAR ON time max. value (unit: 20	-	0x28	0x28	0x28	XB	6D
	time max.	6	ms, HEX)						
	value	5	_						
		4							
		3							
		2	-						
		1	_						
		0							
0e00fe	CAR signal ON	7	CAR ON time min. value (unit: 20	-	0x0a	0x0a	0x0a	XB	6E
	time min. value	6	ms, HEX)						
		5	-						
		4	-						
		3							
		2	-						
		1	-						
		0							
0e00ff	CAR signal	7	CAR OFF time max. value (unit: 20	-	0x28	0x28	0x28	XB	6F
	value	6							
		5	-						
		4	-						
		3	-						
		2	-						
		1	-						
		0							

4.13.15 0e010#

		Dit				Default		CS	RC
Address	Items	No	Contents	Setting	Japan	North America	Europe	Command	Parameter
0e0100	CAR signal	7	CAR OFF time min. value (unit: 20	-	0x0a	0x00	0x00	XB	70
	OFF time min.	6	ms, HEX)						
	value	5							
		4							
		3							
		2							
		1]						

		Dit				Default		CS	RC
Address	Items	No	Contents	Setting	Japan	North America	Europe	Command	Parameter
		0							
0e0101	CAR signal	7	CAR (information receiving terminal	-	0x01	0x00	0x00	XB	71
	detection	6	start signal) detection frequency						
	frequency	5	(times, HEX)						
		4	-						
		3	-						
		2							
		1	-						
		0	-						
0-0100	Caller ID sizes	- 0			0.05	000	000	VD	70
0e0102	valier ID signal	1	ID waiting time after Caller ID/DIAL	-	0x05	0000	0000	XB	12
	waiting time	6	HEX)						
		5	,						
		4							
		3							
		2							
		1							
		0							
0e0103	Remote	7	Password signal (DTMF) detection	-	0x14	0x14	0x14	ХВ	73
	reception	6	waiting time (unit: 100 ms, HEX)						
	password entry	5	-						
	waiting time	4							
		2	-						
		2	-						
		2	-						
		1	-						
		0							
0e0104	Normal/number display	7	Automatic judgment function 0: OFF	-	0x83	0x00	0x00	XB	74
	determination	6							
	function	0	-						
		5	-						
		4							
		3	V23 signal detection waiting time						
		2	when judged (XT Sec, HEX)						
		1							
		0							
0e0105	Monitor speaker	7	PB tone monitoring at the time of off- hook	Utility Mode	0x03	0x03	0x03	ХВ	75
	(Transmission	6	Monitor speaker in communication	(0-6)					
	signal sound)	5	00: OFF 11: ON						
		4	Speaker volume (HEX)(0-1F)						
		3							
		2							
		1							
		0	1						
0e0106 -	Numeric ID	7	ASCII [20] When ID is less than 20	Utilitv	ALL 0x20	ALL 0x20	ALL 0x20	ХВ	76 – 7F
0e010f	[20]	6	digits, justify to the left and insert	Mode					
		5	space at the top (no NULL						
		4	terminator).						
		2	4						
		3	4						
		2	-						
		1	4						
		0							

4.13.16 0e011#

		Dit				Default		CS	RC
Address	Items	No	Contents	Setting	Japan	North America	Europe	Command	Parameter
0e0110 -	Numeric ID	7	ASCII [20] When ID is less than 20	Utility	ALL 0x20	ALL 0x20	ALL 0x20	ХВ	80 - 89
0e0119	[20]	6	digits, justify to the left and insert	Mode					
		5	terminator).						
		4	,						
		3							
		2	-						
		1							
		0							
0e011a	PBX	7		Utility	0x0f	0x0f	0x0f	XB	8A
	mode	6	_	(0-3)					
		5	-	(0.0)					
		4							
		3	PBX call						
		2	1100: Reserved 1101: Reserved						
		1	1110: Reserved 1111: PBX						
		0	unconnected						
0e011b	Reserved	7	-	Utility	0x00	0x00	0x00	XB	8B
		6	-	Mode (5)					
		5	4						
		4	-						
		3	-						
		2	-						
		1	-						
0.011	D ()	0			0.01	0.01	0.01		
0e011c	function		-	Mode	0x3f	0x3f	0x3f	XB	80
	(disable)	6	News display	(0-4)					
		5	0: Not inhibit 1: Inhibit						
		4	Compulsory Memory RX 0: Not inhibit 1: Inhibit						
		3	No. of caller / name display (number display / (display of subscribers for trace-back system)) 0: Not inhibit 1: Inhibit						
		2	Closed-area communication 0: Not inhibit 1: Inhibit						
		1	Remote RX 0: Not inhibit 1: Inhibit						
		0	Dial In 0: Not inhibit 1: Inhibit						
0e011d	PBX outside	7	1st digit	Utility	0xff	0xff	0xff	XB	8D
	line access	6	1	Mode					
	code 1 (BCD)	5	1						
		4	1						
		3	2nd digit	1					
		2	1						
		1	1						
		0	1						
0e011e	PBX outside	7	3rd digit	Utility	0xff	0xff	0xff	ХВ	8E
	line access	6	1	Mode					
	code 2 (BCD)	5	1						
		4							

Address Items	Dit	Bit Contents S		Default CSRC				RC	
Address	Items	No	Contents	Setting	Japan	North America	Europe	Command	Parameter
		3	4th digit						
		2							
		1							
		0							
0e011f	Limit of long	7		-	0x00	0x00	0x00	XB	8F
	size reception	6							
		5							
		4							
		3							
		2							
		1							
		0	Limit of long size reception 0: Limit 1: Unlimited						

4.13.17 0e012#

		D:4			Default			CSRC	
Address	Items	No	Contents	Setting	Japan	North America	Europe	Command	Parameter
0e0120	Max. size of	7	When the resolution for reception is 400 dpi or less, the size of a long	-	0x64	0x64	0x64	ХВ	90
	long original	6							
	(In the case of	5	an error						
	400 dpi or less)	4	(The maximum size is a decimal						
		3	value x 10 mm. 0 is regarded as						
		2							
		1	_						
		0							
0e0121	Max. size of	7	When the resolution for reception is 600 dpi, the size of a long original received that is regarded as an error (The maximum length is a decimal value x 10 mm. 0 is regarded as 1000 mm.)	-	0x64	0x64	0x64	XB	91
	received	6							
	(In the case of	5							
	600 dpi or less)	4							
		3							
		2	-						
		1	-						
		0							
0e0122	Voice response output level adjustment	7	Voice response volume (HEX) 0: min F: max	-	0x0e	0x0e	0x0e	ХВ	92
		6							
		5							
		4							
		3							
		2							
		1							
0-0122	Monitor	7		L Itility	0x14	0v14	0v14	VP	02
000123	speaker (Received signal sound)	6	_	Mode (0-4)	0x14	0.0.14	0x14	AB	93
		5							
		1	Speaker volume (HEX) (0-1F)						
		- - 							
		2	4						
		1	-						
		0	-						
0e0124 -	Reserved area	7		-	ALL 0x00	ALL 0x00	ALL 0x00	ХВ	94 - 9F
0e012f		6	1						
		5	-						
		4	4						
		3	1						
		2	-						
1	1			I	1	I	1	I	1

Address	Items	Bit No	Contents	Setting	Default			CSRC	
					Japan	North America	Europe	Command	Parameter
		1							
		0							

4.13.18 0f000#

		Bit			Default CS				RC
Address	Items	No	Contents	Setting	Japan	North America	Europe	Command	Parameter
0f0000	0000 Reception	7	400dpi	-	0xaa	0xaa	0xaa	X2	00
	main scan line	6	300dpi						
	ability [0]	5	200dpi						
	comy [0]	4		-					
		3	16pels/mm	-					
		2		-					
		1	8pels/mm	-					
		0							
0f0001	Reception	7		_	0x01	0x01	0x01	X2	01
	main scan line	6	-		ente i		ene i	7.2	
	resolution	5	-						
	ability [0]	1	-						
		7	-						
		2	(1200dpi)	-					
		2	(12000pi) (800dpi)						
				-					
	5	0							
010002	Reception sub	1		-	0xbb	0xbb	Oxbb	X2	02
	resolution	6	300dpi						
	ability [0]	5	200dpi						
		4	100dpi						
		3	15.4 l/mm						
		2							
		1	7.7 l/mm	-					
		0	3.85 l/mm						
0f0003	Reception sub	7		-	0x01	0x01	0x01	X2	03
	scanning	6							
	ability [1]	5							
		4							
		3							
		2	(1200dpi)						
		1	(800dpi)						
		0	600dpi	-					
0f0004	Reception	7		-	0x1f	0x1f	0x1f	X2	04
	coding method ability	6	1	_					
		5	(JPEG)						
		4	JBIG	1					
		3	MMR	-					
		2	MR	-					
		1	MH	-					
		0	THRU						
0f0005	Received	7		-	0x02	0x02	0x02	X2	05
	document	6	1	_	5	0,02	0,02	~~	00
	width ability	5	(Legal)	-					
			(Letter)	-					
		3	A3	4					
		2	R4	-					
		1	Δ4	-					
				-					
		0	(CA)						

		Bit			Default		CSRC		
Address	Items	No	Contents	Setting	Japan	North America	Europe	Command	Parameter
0f0006	Received	7		-	0x42	0x42	0x42	X2	06
	document	6	Unlimited						
	length ability	5	(Legal)						
		4	(Letter)						
		3							
		2	B4						
		1	A4						
		0	(A5)						
0f0007	Reception	7		-	0x1b	0x1b	0x1b	X2	07
	[0]	6							
		5							
		4	V.29-96						
		3	V.29-72						
		2		-					
		1	V.27-48						
		0	V.27-24						
0f0008	Reception	7	V.17-144	-	0xfc	0xfc	0xfc	X2	08
	speed ability	6	V.17-120						
	[']	5	V.17-96						
		4	V.17-72						
		3	V.33-144	-					
		2	V.33-120						
		1	(TCM-96)						
		0	(TCM-72)						
0f0009	Reception speed ability	7	V.34-192	-	0xff	Oxff	Oxff	X2	09
		6	V.34-168						
	[2]	5	V.34-144						
		4	V.34-120						
		3	V.34-96						
		2	V.34-72						
		1	V.34-48						
		0	V.34-24						
0f000a	Reception	7		-	0x3f	0x3f	0x3f	X2	0A
	speed ability	6		-					
	[0]	5	V.34-336						
		4	V.34-312						
		3	V.34-288						
		2	V.34-264						
		1	V.34-240						
		0	V.34-216						
0f000b	Reception MSLT ability	7	T3.85 or 200 x 100dpi (0-40) ms unit	-	0x05	0x05	0x05	X2	0B
		6							
		5							
		4							
		3							
		2							
		1							
		0							
0f000c	Reception	7	T7.7 or 200 x 200dpi (0-40) ms unit	-	0x05	0x05	0x05	X2	0C
	IVISE I ability	6							
		5							
		4							
		3							
		2							
		1							
		0							
		Dit				Default		CS	RC
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Address	Items	No	Contents	Setting	Japan	North America	Europe	Command	Parameter
0f000d	Reception	7	T11.55 or 300 x 300dpi (0-40) ms	-	0x05	0x05	0x05	X2	0D
	MSLT ability	6	unit						
		5							
		4							
		3							
		2							
		1							
		0							
0f000e	Reception	7	T15.4 or 400 x 400dpi or 600 x	-	0x05	0x05	0x05	X2	0E
	MSLI ability	6	600dpi (0-40) ms unit						
		5	_						
		4	-						
		3	-						
		2	-						
		1	-						
	5 "	0			0.04	0.04			05
010001	Reception ECM ability	1	-	-	0x01	0x01	0x01	X2	0F
	Low ability	6	-						
		5	-						
		4	-						
		3	-						
		2	-						
		0	ECM reception capability 0: OFF 1: ON						

4.13.19 0f001#

		Dit				Default		CS	RC
Address	Items	No	Contents	Setting	Japan	North America	Europe	Command	Parameter
0f0010	Reception	7		-	0x39	0x39	0x39	X2	10
	protocol ability	6							
		5	FAX-CSRC						
		4	V8/V34						
		3	DIAG						
		2							
		1							
		0	G3S						
0f0011	Reception	7		-	0x07	0x07	0x07	X2	11
	option frame ability	6							
		5							
		4	(BFT)						
		3	(BTM)						
		2	PWD						
		1	(SEP)						
		0	SUB						
0f0012 -	Reserved area	7		-	ALL 0x00	ALL 0x00	ALL 0x00	X2	12 - 1F
0f001f		6							
		5							
		4							
		3							
		2							
		1							
		0							

		Bit				Default		CS	RC
Address	Items	No	Contents	Setting	Japan	North America	Europe	Command	Paramete
00000	Transmission	7	400dpi	-	0x22	0x22	0x22	X2	40
	main scan line	6	300dpi						
	instruction [0]	5	200dpi						
		4							
		3	16pels/mm						
		2							
		1	8pels/mm						
		0							
00001	Transmission	7		-	0x01	0x01	0x01	X2	41
	main scan line	6							
	instruction [1]	5							
		4							
		3							
		2	(1200dpi)						
		1	(800dpi)						
		0	600dpi						
00002	Transmission	7	400dpi	-	0x11	0x11	0x11	X2	42
	sub scanning	6	300dpi						
	instruction [0]	5	200dpi						
		4	100dpi						
		3	15.4 l/mm						
		2							
		1	7.7 l/mm						
		0	3.85 l/mm						
00003	0003 Transmission	7		-	0x01	0x01	0x01	X2	43
	sub scanning	6							
	resolution	5							
		4	-						
		3	-						
		2	(1200dpi)						
		1	(800dpi)						
		0	600dpi						
00004	Transmission	7		-	0x1f	0x1f	0x1f	X2	44
	coding method	6							
	instruction	5	(JPEG)						
		4	JBIG						
		3	MMR						
		2	MR						
		1	МН						
		0	THRU						
00005	Transmission	7		-	0x02	0x02	0x02	X2	45
	document	6	_		0.00	0.00	0.00		
	width	5	(Legal)						
	Instruction	4	(Letter)						
		3	A3						
		2	B4						
		1	A4						
		0	(A5)						
00006	Transmission	7			0x42	0x42	0x42	X2	46
00000	document	6	Unlimited		0,42	0742	0,42	12	
	length	5							
	instruction	1	(Leyai)						
		4 2							
		ى د							

		Bit				Default		CS	RC
Address	Items	No	Contents	Setting	Japan	North America	Europe	Command	Parameter
		0	(A5)						
100007	Transmission	7		-	0x1b	0x1b	0x1b	X2	47
	speed	6							
		5							
		4	V.29-96						
		3	V.29-72						
		2							
		1	V.27-48						
		0	V.27-24						
100008	Transmission	7	V.17-144	-	0xf0	0xf0	0xf0	X2	48
	speed	6	V.17-120						
	Instruction [1]	5	V.17-96						
		4	V.17-72						
		3	V.33-144	-					
		2	V.33-120	-					
		1	(TCM-96)	-					
		0	(TCM-72)	-					
100009	Transmission	7	V 34-192	-	0xff	0xff	0xff	X2	49
100000	speed	6	V 34-168	-	U.M.	U.M.	U.M.		
	instruction [2]	5	V 34-144	-					
		1	V 24 120						
		4	V.34-120	_					
		3	V.34-96	-					
		2	V.34-72	-					
		1	V.34-48	-					
		0	V.34-24						
10000a	Transmission	7	-	-	0x3f	0x3f	0x3f	X2	4A
	speed instruction [3]	6		_					
		5	V.34-336						
		4	V.34-312						
		3	V.34-288						
		2	V.34-264						
		1	V.34-240						
		0	V.34-216						
10000b	Transmission	7	T3.85 or 200 x 100dpi (0-40) ms unit	-	0x05	0x05	0x05	X2	4B
	MSLT	6							
	Instruction	5							
		4							
		3							
		2	-						
		1	-						
		0							
10000c	Transmission	7	T7.7 or 200 x 200dpi (0-40) ms unit	-	0x05	0x05	0x05	X2	4C
	MSLT	6	-						-
	instruction	5	-						
		4	-						
		3	-						
		2	-						
		1	-						
			-						
10000-	Transmission	7	T11 55 or 200 x 200dri (0.40)		0.00	0.05	0.005		40
IUUUUd	MSI T		unit	-	0x05	0x05	0x05	×2	40
	instruction	6							
		5	4						
		4	4						
		3	1						
		2	1						
		1							

Address		Dit	t Contents S			Default		CSRC	
Address	Items	No	Contents	Setting	Japan	North America	Europe	Command	Parameter
		0							
10000e	Transmission	7	T15.4 or 400 x 400dpi or 600 x	-	0x05	0x05	0x05	X2	4E
	MSLI instruction	6	600dpi (0-40) ms unit						
	monuolion	5							
		4	_						
		3	-						
		2	-						
		1	-						
		0							
10000f	Transmission	7	-	-	0x01	0x01	0x01	X2	4F
	instruction	6	-						
		5	-						
		4	-						
		3	-						
		2							
		1	CM transmission frame size 0: 256 1: 64						
		0	ECM transmission instruction 0: OFF 1: ON						

4.13.21 10001#

Address		Dit	Bit		Default		CSRC		
Address	Items	No	Contents	Setting	Japan	North America	Europe	Command	Parameter
100010	Transmission	7		-	0x11	0x11	0x11	X2	50
	protocol	6							
	Instruction	5	FAX-CSRC						
		4	V8/V34						
		3	DIAG						
		2							
		1							
		0	G3S						
100011	Transmission	7		-	0x00	0x00	0x00	X2	51
	option frame	6							
	instruction _	5		-					
		4	(BFT)						
		3	(BTM)						
		2	PWD						
		1	(SEP)						
		0	SUB						
100012 -	Reserved area	7		-	ALL 0x00	ALL 0x00	ALL 0x00	X2	52 - 5F
10001f		6							
		5							
		4							
		3							
		2							
		1							
		0	1						

4.13.22 13000#, 13001#, 13002#, 13003#, 13004#, 13005#, 13006#

	Itoms	Dit			Default			CSRC	
Address	Items	No	Contents	Setting	Japan	North America	Europe	Command	Parameter
130000 -	Reserved area	7		-	-	-	-	XE	00 - 68
130068		6							

		Bit				Default		CS	RC
Address	Items	No	Contents	Setting	Japan	North America	Europe	Command	Parameter
		5							
		4							
		3							
		2							
		1							
		0							
130069	Upper limit for	7	(-dBm) Switched according to	-	0x0a	0x0a	0x08	XE	69
	signal	6	destination of FAX						
	level setting	5							
		4							
		3							
		2							
		1							
		0							
13006a	Lower limit for	7	(No. of times) Switched according to	-	0x00	0x00	0x00	XE	6A
	call termination	6	destination of FAX						
	setting range	5							
		4							
		3							
		2							
		1							
		0							
13006b	Upper limit for	7	(No. of times) Switched according to	-	0x0f	0x0f	0x0f	XE	6B
	frequency	6	destination of FAX						
	setting range	5							
		4	-						
		3	-						
		2							
		1	_						
		0							
13006c	Dial method	7	-	-	0x00	0x02	0x01	XE	6C
	setting	6	-						
		5	-						
		4	-						
		3	-						
		2							
		1	Dial method setting (main line)						
		0	01: PB						
			10: PB, 10pps						
40000 :	Lines II. II.t.	-	11: PB, 10pps, 16pps		0.07	0.01	0.0-	VE	
13006d	Upper limit for redial		(No. of times) Switched according to	-	0x07	0x01	Ux07	XE	6D
	frequency	6							
	setting range	5	4						
		4	-						
		3	-						
		1	-						
		0	-						
130060	Linner limit for	7	(Minutes) Switched according to	_	0×01	0×01	0~01	YE	65
100000	redial interval	6	destination of FAX	-	0.01	0.01	0.01		UL
	setting range	5	-						
			-						
		7	-						
		2	-						
		1	-						
			-						
		0							

Address Items	Bit				Default		CSRC			
Address	Items	No	Contents	Setting	Japan	North America	Europe	Command	Parameter	
13006f	Lower limit for	7	(Minutes) Switched according to	-	0x0f	0x0f	0x0f	XE	6F	
	redial interval	6	destination of FAX							
	setting range	setting range 5	5							
		4								
		3								
		2								
		1								
		0								

4.13.23 13007#, 13008#, 13009#, 1300a#, 1300b#

		Dit				Default		CS	RC
Address	Items	No	Contents	Setting	Japan	North America	Europe	Command	Parameter
130070 -	Reserved area	7		-	0x7f	0x00	0x00	XE	70 - 71
130071		6							
		5							
		4							
		3							
		2							
		1							
		0							
130072	Setting of lower	7	(-dBm) Switched according to	-	0x0e	0x0f	0x09	XE	72
	transmission	6	destination of FAX						
	level setting	5	_						
	range	4							
		3	_						
		2	-						
		1	-						
		0							
130073	Setting of	7	(-dBm) Switched according to	-	0x0a	0x0a	0x05	XE	73
	DTMF	6							
	transmission	5	-						
	level setting	4	-						
	lange	3	-						
		2	-						
		0	-						
130074	Setting of lower	7	(dB) Switched according to	_	0x01	0x01	0x01	XE	74
	limit for DTMF	6	destination of FAX		UNU I	oxo i			
	H-L level	5	-						
	setting range	4	-						
	J	3	-						
		2	1						
		1	1						
		0	-						
130075	Setting of	7	(dB) Switched according to	-	0x04	0x04	0x04	XE	75
	Upper limit for	6	destination of FAX						
	level difference	5							
	setting range	4	_						
		3							
		2	1						
		1	1						
		0							
130076	Reserved area	7	-	-	0x00	0x00	0x00	XE	76
		6	-						
		5							

		Bit				Default		CS	RC
Address	Items	No	Contents	Setting	Japan	North America	Europe	Command	Parameter
		4							
		3							
		2							
		1							
		0							
130077	Lower limit	7	(-dBm) Switched according to	-	0x0f	0x0f	0x0f	XE	77
	setting of the	6	destination of FAX						
	signal send-out	5	-						
	range	4							
	lange	3							
		2							
		1							
		0	-						
400070	December	0						VE	70 00
130078 -	Reserved area/	1	-	-	-	-	-	XE	78 - 86
100000	Boundary area	6	-						
		5	-						
		4	-						
		3							
		2							
		1							
		0							
130087	DRPD ring	7		-	0x00	0x00	0x00	XE	87
	pattern	6							
		5							
		4	-						
		3	-						
		2	-						
		1							
		0	DRPD ring pattern display						
			0:OFF 1:ON						
130088	Single/Double/	7	(No. of times)	-	0x00	0x00	0x00	XE	88
	Triple	6	, ,						
	Setting of lower	5							
	limit for call	4							
	frequency	3	-						
	setting range	2							
		4	-						
		1							
400000	Olivert (D. 111)	0			0.00	0.00	0.00		
130089	Single/Double/	1	(NO. OT TIMES)	-	0x00	0x00	0x00	XE	89
	Setting of	6	-						
	upper limit for	5							
	call termination	4							
	rrequency	3							
	seuing range	2							
		1							
		0							
13008a	NZ_DA4	7	(No. of times)	-	0x00	0x00	0x00	XE	8A
	Setting of lower	6							
	limit for call	5	-						
	frequency	4	-						
	setting range	े २	-						
		2	-						
		4	_						
			-						
10000		0							
13008b	NZ_DA4	7	(No. of times)	-	0x00	0x00	0x00	XE	8B
		6]						

		Dit				Default		CS	RC
Address	Items	No	Contents	Setting	Japan	North America	Europe	Command	Parameter
	Setting of	5							
	call termination	4							
	frequency	3							
	setting range	2							
		1							
		0							
13008c -	Reserved area	7		-	0x00	0x00	0x00	XE	8C - B8
130068		6							
		5	-						
		4	-						
		3	_						
		2	_						
		1	-						
		0							
1300b9 –	Boundary area	7	-	-	-	-	-	XE	B9 - BB
130000		6	-						
		5	-						
		4	-						
		3	-						
		2	-						
		1	-						
10001		0			0.00	0.00	0.00		
1300bc	Setting of	1	(second)	-	0x00	0x00	0x00	XE	BC
	call time	6	-						
	frequency	5	-						
	setting range	4	-						
		3	-						
		2	-						
		0	-						
1300bd	Setting of lower	7	(second)		0x2d	0x2d	0x2d	YE	BD
100000	limit for call	6		_	0,20	UNZU	0,20		
	time frequency	5	-						
	setting range	4	-						
		3	-						
		2	-						
		1	-						
		0	-						
L									

4.14 2nd NIC settings

4.14.1 Use

• To be configured when the optional network interface card NC-P03 has been installed.

4.14.2 Default setting

Not Installed

4.14.3 Setting item

- Installed
- "Not Installed"

4.15 BK CLEAR

Not used

4.16 FIRMWARE UPDATE

4.16.1 Use

To display the firmware information stored in the USB memory device.

4.16.2 Procedure

- 1. Set the USB memory device.
- 2. Call the Service Mode to the screen.
- 3. Select [FIRMWARE UPDATE] and press the Select key.
- 4. Select the specific type of firmware data to be upgraded and press the Select key.
- For details, see [J.2. Firmware upgrading procedure by USB memory device]

4.17 LoadableDriverInfo

4.17.1 Use

- · To display information relating to loadable drivers downloaded in the machine.
- To delete a loadable driver downloaded in the machine.
 Condition: Loadable driver condition

Yet to be installed	The loadable driver is yet to be installed in the machine.
Installed	The loadable driver has been installed in the machine with the corresponding IC card reader ready for operation.

- · Serial number: Serial number of the IC card reader
- · Version: Version of firmware of the IC card reader

4.17.2 Procedure

- 1. Call the Service Mode to the screen.
- 2. Select [LoadableDriverInfo] and press the Select key.
- 3. The loadable driver information appears.
- 4. To delete the loadable driver, select [DELETE] and press the Select key.
- 5. On the screen that confirms deletion of the loadable driver, select [YES] and press the Select key.
- 6. Turn OFF and ON the power switch to restart the machine.

4.18 LOADABLE DOWNLOAD

4.18.1 Use

- · Download the loadable driver data in the machine.
- Use a USB memory for the downloading.

4.18.2 Required systems

- · PC having a USB port
- USB memory device

4.18.3 Writing data to USB memory device

- 1. Save the loadable driver data in an appropriate location of the PC.
- 2. Connect the USB memory device to the PC.
- 3. Create a [firmware] folder in an area immediately under the drive of the USB memory device.
- 4. Copy the loadable driver data (***.tar) in the firmware folder created in step 3.
- NOTE
 - Make sure that the loadable driver data is saved in drive:/firmware/***.tar.

4.18.4 Procedure

- 1. Turn ON the main power switch and connect the USB memory device to the USB port of the machine.
- 2. Call the Service Mode to the screen.
- 3. Select [LOADABLE DOWNLOAD] and press the Select key.
- 4. The loadable driver data in the USB memory device is displayed in a list.
- 5. Select the loadable driver data to be downloaded and press the Select key.
- 6. Select the [YES] and press the Select key.
- 7. The loadable driver starts to be downloaded.
- NOTE

NEVER disconnect the USB memory device from the machine while the loadable driver is being downloaded.

8. Following the messages shown on the control panel, restart the machine.

4.19 HDD Format

4.19.1 Use

- · To format the hard disk.
- · To be used at replacement of the MFP board.
- To be used at occurrence of troubles related to the hard disk.
 NOTE
 - Pick out the required data from the hard disk in advance.

4.19.2 Procedure

- 1. Call the Service Mode to the screen.
- 2. Select [HDD format], and press the Select key.
- 3. Select [ARE YOU SURE?], and press the Select key.

4.20 ENGINE DIPSW

It will be displayed when the following setting shows that switch No.59 is set to [1]. [Service Mode] -> [System 2] -> [SOFT SWITCH]

4.20.1 Use

• To make printer engine settings.

• The following table shows DIP switches that can be set in this machine.

Switch No.	Function	Ref. page
1	Not used	-
2	-	-
3	-	-
4		-
5	-	-
6	-	-
7	-	-
8		-
9	-	-
10	-	-
11	-	-
12	Change of developing unit cleaning frequency	I.4.20.3.(1) Change of developing unit cleaning frequency
13	Not used	-
14	Choice of not executing image stabilization	I.4.20.3.(2) Choice of not executing image stabilization
15	Not used	-
16	-	-
17		-
18		-
19		-
20		-
21	Choice of prohibiting environment measurement on sleep mode	I.4.20.3.(3) Choice of prohibiting environment measurement on sleep mode
22	Choice 2 of not executing image stabilization	I.4.20.3.(4) Choice 2 of not executing image stabilization
23	Not used	-
24	-	-
25	Choice of 1200dpi line width	I.4.20.3.(5) Choice of 1200 dpi line width
26	Not used	-
27		-
28	Choice of toner empty recovery mode	1.4.20.3.(6) Choice of toner empty recovery mode

4.20.2 Procedure

- 1. Call the Service Mode to the screen.
- 2. Select [ENGINE DIPSW] and press the Select key.
- 3. Select the Change switch by using the up key/down key, and press the Select key.
- 4. Change the setting by using the up key/down key, and press the Select key.

4.20.3 Details of Each Function

- (1) Change of developing unit cleaning frequency
- · Increase the cleaning frequency of the developing unit.
- To be performed when remarkable stain is found due to insufficient cleaning.
 - 0: OFF (default)
- 1: ON

•

(2) Choice of not executing image stabilization

- · Decrease the frequency of image stabilization.
 - 0: Normal frequency of image stabilization (default)
 - 1: Decrease frequency of image stabilization

(3) Choice of prohibiting environment measurement on sleep mode

- Noise control
- To set whether or not to check the environment in the sleep mode.
- When 0 (Execute) is selected, once start the machine to check the environment when one hour elapsed.
- 0: Execute environment measurement (default)

• 1: Not to execute environment measurement

(4) Choice 2 of not executing image stabilization

- Decrease frequency of image stabilization.
- A limitation stricter than SW No.14 has been set in the image stabilization execution condition.
 - 0: Normal frequency of image stabilization (default)
 - 1: Decrease frequency of image stabilization (Decrease frequency of image stabilization furthermore to make the limitation looser than switch No.14.)

(5) Choice of 1200 dpi line width

- To make line width of 1200 dpi broader.
 - 0: Priority on density (default)
 - 1: Priority on making characters thinner

(6) Choice of toner empty recovery mode

- By executing this function, the New release of a toner cartridge can be executed forcibly when a new toner cartridge is not detected for some reason.
 - 0: Not to execute (default)
 - 1: Execute
- NOTE
- Be sure to set back to "0" after release an empty status.

5. SecuritySer. Mode

5.1 List of SecuritySer. Mode

NOTE

• After exiting Service Mode, you must turn OFF the main power switch. Turning ON the main power switch again makes the changes to the Service Mode setting take effect.

	SECURITY SEI	RVICE	Ref. page
Billing Setting Counter Setting L Si		L Size Counter Md	I.5.3.1 Counter Setting
		Total Counter Mode	
	License Management	Get Request Code	I.5.3.2 License Management - Get Request Code
		Initialize	I.5.3.3 License Management - Initialize
		Activation	I.5.3.4 License Management - Activation
		Deactivation	I.5.3.5 License Management - Deactivation
		Deac. Compl. Code	I.5.3.7 License Management - List EnabledFunc
		List EnabledFunc	I.5.3.6 License Management - Deac. Compl. Code
Admin. Password			I.5.4 Admin. Password
CE Password			I.5.5 CE Password

5.2 STARTING/EXITING

Starting procedure

- 1. Call the Service Mode to the screen.
- 2. Press the following keys in this order.
- Back -> 2 -> 2 -> 2 -> 0 -> 0
- 3. The Billing Setting screen appears.

Exiting procedure

1. Press the Stop/Reset key.

5.3 Billing Setting

5.3.1 Counter Setting

(1) L Size Counter Md

- (a) Use
- · To set the counting method for the size counter.
- To set the size regarded as the large size (2 counts.)

(b) Default setting

- US: Not counted
- Other: Legal
- JP: Not counted

(c) Setting item

No counted	No Count
Legal	When it exceeds 215.9 mm in the main scan direction and 355.6 mm in the sub scan direction, it is regarded as the large size.
Legal/Foolscap	When it exceeds 203 mm in the main scan direction and 330 mm in the sub scan direction, it is regarded as the large size

NOTE

When the Large Size Count MODE is set to Not counted, the machine operate with following conditions regardless of the each control panel settings.

Total Counter: Mode 1

(2) Total Counter Mode

(a) Use

· To set the counting method for the total counter.

(b) Default setting

- JP: Mode 1
- Other: Mode 2

(c) Setting item

• Mode 1: 1 count per 1 copy cycle

• Mode 2: Large size is double counts

(d) Count-up table

Print mode	1-Sided			2-Sided				
Size	Sizes other than those specified		Specified sizes Size those		Sizes other than those specified		Specified sizes	
Mode	Mc	ode	Мс	ode	Мс	ode	Mo	ode
Туре	1	2	1	2	1	2	1	2
Total	1	1	1	2	2	2	2	4
Size	0	0	1	1	0	0	2	2
2-sided Total	0	0	0	0	1	1	1	1

• 0: No count

• 1: 1 count

2: 2 counts

- 3: 3 counts
- 4: 4 counts

5.3.2 License Management - Get Request Code

· When the license management error is occurred, it will not be displayed until the repair code is input.

(1) Functions

• To display or print request code and serial number.

(2) Use

• To check the request code and serial number.

5.3.3 License Management - Initialize

(1) Functions

• To initialize license management information.

(2) Use

- To be used when license management information cannot be repaired.
- License management information should be initialized when the machine fails to generate request code or repair request code due to any trouble and the information cannot be repaired.

(3) Procedure

NOTE

- · You need to access License Management System (LMS) to implement each function setting.
- When license management information cannot be repaired, initialize the information with the following procedure.
- 1. Contact the license management section of sales company to report the information necessary to issue the initialize code.
- 2. The license management section of sales company supplies the initialize code.
- 3. Call the Billing Setting to the screen.
- 4. Select [License Management] -> [Initialize] and press the Select key.
- 5. Select [Initialize code] and press the Select key.
- 6. Enter the initialize code issued by call center using 10-key pad, and touch [Apply].
- 7. Select [Apply] and press the Select key.
- 8. Select [Yes] and press the Select key.
- 9. Initialization of license management information is started.
- 10. Turn OFF/ON the main power switch after the end of initialization.

5.3.4 License Management - Activation

(1) Functions

· To activate i-Option functions.

(2) Use

- To activate i-Option functions with CE.
- The functions can be activated by selecting the desired function and enter the appropriate license code and function code.
- Administrators also can carry out the procedure No.14 or later step to activate i-Option functions through Administrator Settings.

(3) Procedure

NOTE

- · You need to access License Management System (LMS) to implement each function setting.
- Before accessing the LMS, CE are required to register the E-mail address and the password in the LMS. To register, click [CE Initial Registration] that is located in the upper right of CE Login screen.
- 1. Prepare "token certification."
- 2. Access the following URL using the PC connected to the Internet.
- https://lms.konicaminolta.com/license/KM/support.aspx
- 3. Click [CE Login].



4. Enter [E-Mail Address] and [Password], and click [Login].

	Language	English 🛛
Login		
E-Mail Address *		
Paswor((0-15) *		
Password Nuthfication) Password Change)		
KONICA MINOLTA BUSINESS TECHNOLOGIES, INC. ALL Rights Reserved.		

5. Click [Generate License Code].



- 6. Enter the serial number of the target MFP, and click [Next].
 - NOTE
 - Make sure to enter alphabet letters of the serial number in all capital letters.



7. Click [Next].



- 8. Enter the token number written in the token certification, and select the product description.
- 9. Click [Add].



10. Confirm the registered items, and click [Next].

_			Language English
	Generate License Code	eactivate License Code	ivate License Code in LMS
	Renair License Code		
	Hepan Electrice code		
KONICA MINOLTA	Input Token Numb	er	
Logout	Token Number (20)		Activate Information
	Product Description + i-Option LK-101	×	
			Dev.L
	Add Add	Next J	Back
MFP			
	Token Number	Product Description	Del
	NUMBER OF STREET, STREE	i-Option LK-101 v2	DEL
Notification			
	KONTO A MENOLITA DUCHUSES TEOLING CONTO NO		
	KONICA MINULTA BUSINESS TECHNOLOGIES, INC.	ALL Rights Reserved.	

11. Click [Generate license Code].

	Language Erelish 🛩 Generale License Code Deactivate License Code Deactivate License Code in LMS Repair License Code
KONICA MINOLTA	Confirm Information
Logout	MFP Senal Number
	Request Code
MFP	
	Token Number Product Description
Notification	
	KONDA MINOLTA BUSINESS TECHNOLOGIES, INC. ALL Rights Reserved.

- 12. LMS issues license code and function code.
- *13.* Write down the serial number, license code and function code.
 - NOTE

 Do not use [Download]. In this machine, you cannot enable the advanced functions using a USB memory device.

				Lang	uage English
	Generate Licens	e Code	Deactivate License Code	Deactivate License Code in	LMS
	Repair License	Code	Product attestation		
KONICA MINOLTA		<u> </u>	10 111		
	License	Code a	nd Serial N	umber	
Logout	You have successfully	r generated a Licer	nse Code.		
	Please save all inform	nation for future us	8.		
	MEP Serial Number				
	I Licanca Code:	1000	and the state of the		
MFP	1		stration is second on		
	1			i	
	I Eunction Code	044		1	
Notification	- anenon source	and t	Product Descriptio	n	
	`		i-Option LK-108	/	
	(2	Download	Print	Go to Main Menu	
	KOMICA MINOLTA DURIN	FES TECHNOLOOPER	NC ALL Dishts Descured		
	KONDON MINOCIN BUSIN	E33 TECHNOLOGIES,	INC. HEL RIghts Peserveu.		

- 14. Select [Service Mode] -> [Billing Setting] -> [License Management] -> [Activation].
- 15. Select [Function Code] and [License Code] and press the Select key.
- 16. Enter the function code and the license code using 10-key pad confirmed at Step13. **NOTE**

• Do not use [Download]. In this machine, you cannot enable the advanced functions using a USB memory device.

17. Select [EXCUTE] and press the Select key.

5.3.5 License Management - Deactivation

- (1) Functions
- To deactivate i-Option functions.
- (2) Use
- To deactivate i-Option functions due to registration error, expiration of lease term, change to other MFP or etc.

• The functions can be deactivated by selecting the desired function and enter the appropriate deactivation code.

(3) Procedure

NOTE

- You need to access License Management System (LMS) to implement each function setting.
- Before accessing the LMS, CE are required to register the E-mail address and the password in the LMS. To register, click [CE Initial Registration] that is located in the upper right of CE Login screen.
- 1. Check the serial number of the target MFP.
- 2. Access the following URL using the PC connected to the Internet.
- https://lms.konicaminolta.com/license/KM/support.aspx
- 3. Click [CE Login].



4. Enter [E-Mail Address] and [Password], and click [Login].

	Language English	*
Login		
E-Mail Address •		
Password (8 - 15)		
(>		
Password Notification Password Change Back Back		
VOURA MINUTA DIGNESS TECHNOLOGIES INC. ALL Disks. Descent		
KONDH MINOLTH BUGINESS TEOTINOLOGIES, INC. HEL NIETRA INSERVED.		

5. Click [Deactivate License Code].



- 6. Enter the serial number of the target MFP, and click [Retrieve].
 - NOTE
 - Make sure to enter alphabet letters of the serial number in all capital letters.

	Language Erelish e Generate License Code Deactivate License Code Deactivate License Code in LMS Repair License Code Deactivate License Code Deactivate License Code in LMS Deactivation Demand
Logout	MFP Sanal Number
Notification	KONICA MINULTA BUSINESS TECHNOLOGIES, INC. ALL Rights Reserved.

7. Select the token to be deactivated, and click [Registration].

		Language	English 💌
	Generate License Code Deactiva	ate License Code Deactivate License Code in LMS	1
	Repair License Code		
KONICA MINOLTA	Desetivation Demon		
	Deactivation Deman	a	
Logout	MFP Serial Number	Rotrieve	
ſ	Select the Token Number(s) you wish to deactivate		
	Token Number	Product Description	
MEP	14	Option LK-101 v2	
1	Multiple token numbers can be selected.		
Notification			
	KONICA MINOLTA BUSINESS TECHNOLOGIES, INC. ALL Riv	ints Reserved.	

- 8. LMS issues deactivation code and function code.
- 9. Write down the serial number, deactivation code and function code.
 - NOTE

 Do not use [Download]. In this machine, you cannot enable the advanced functions using a USB memory device.

					Language English
	Generate Licens	e Code	Deactivate License Code	Deactivate License	Code in LMS
	Repair License	Code	Product attestation	1	
ΚΟΝΙζΑ ΜΙΝΟΙΤΑ	Deactiva	tion De	emand Com	plete	
[Logout]	The Deactivation Dem:	and Process is co	omalete.	,	
	MFP Serial Number				
MFP	Deactivation Code:				
Notification	Function Code	QAA	Product Descripti I-Option LK-108	on	
	(2	Download	Print)	Go to Main Men	
	Konica minolta Busine	ESS TECHNOLOGIES,	INC. ALL Rights Reserved.		

- 10. Select [Service Mode] -> [Billing Setting] -> [License Management] -> [Deactivation].
- 11. Select [Function Code] and [Deactivation Code], and press the Select key.
- 12. Enter the function code and the deactivation code using 10-key pad confirmed at Step9. NOTE

• Do not use [Download]. In this machine, you cannot enable the advanced functions using a USB memory device.

- 13. Select [EXCUTE] and press the Select key.
- 14. Write down or print out the serial number and deactivation complete code.
- 15. Follow the message appearing on the screen and turn OFF and ON the main power switch.
- 16. Access to the LMS and login again.
- For detail of the login method, refer to step 2 to step4.
- 17. Click [Deactivate License Code in LMS].
- 18. Enter the serial number and the deactivation complete code confirmed at step13.

NOTE

Make sure to enter alphabet letters of the serial number in all capital letters.

	Language English
	Generale License Code Deactivate License Code Deactivate License Code in LMS
	Repair License Code
KONICA MINOLIA	Deactivation Completion
Logout	MFP Serial Number
	Deactivation Complete
	Code (35)
MFP	
	Registration
Notification	
	KONICA MINOLTA BUSINESS TECHNOLOGIES, INC. ALL Rights Reserved.

- 19. "Deactivation Complete" message will be displayed.
 - The license become invalid at both MFP and LMS, and deactivated token number can be used for another MFP.

	Language English
	Generale License Code Deactivate License Code Deactivate License Code in LMS
	Repair License Code
KONICA MINOLTA	Deactivation Complete
Logout	You have successfully completed the deactivation process.
MFP	
	Go to Main Menu
Notification	
	KONICA MINOLTA BUSINESS TECHNOLOGIES, INC. ALL Rights Reserved.

5.3.6 License Management - Deac. Compl. Code

(1) Functions

- To display the deactivation finish code and the serial number.
- To print the deactivation finish code and the serial number.

(2) Use

• To check the deactivation finish code and the serial number.

5.3.7 License Management - List EnabledFunc

(1) Functions

• To display activated functions.

(2) Use

• To check the activated functions.

5.4 Admin. Password

5.4.1 Use

- To set and change the administrator password.
- Use this function when the administrator forget the administrator password because a new password can be set without entering the current administrator password with this.
- The administrator password needs to be 8 one-byte alphameric characters and symbols.

5.4.2 Default setting

12345678

5.4.3 Procedure

- Enter the password.
 - 1. New Password: Enter the new administrator password.
 - 2. Re-Input Password: Enter the new administrator password again.

5.5 CE Password

5.5.1 Use

- To set and change the CE password.
- The CE password needs to be 8 one-byte alphameric characters and symbols.

5.5.2 Default setting

• 92729272

5.5.3 Procedure

- · Enter the password.
 - 1. PASSWORD: Enter the new CE password.
- 2. PW CONFIRMATION: Enter the new CE password again.

NOTE

- Exiting the service mode after the change of the passwords validates the new password.
 NEVER forget the CE password. When forgetting the CE password, call responsible person of KM.

J REWRITING OF FIRMWARE

- 1. Checking the current firmware version
- Display [SERVICE MODE].
 Display [FIRMWARE VERSION].



3. Select the firmware to be updated and check the current version. **I.4.3 FIRMWARE VERSION**

2. Firmware upgrading procedure by USB memory device

2.1 Preparations for firmware rewriting

2.1.1 System requirements

- · PC equipped with a USB port
- USB memory device

2.1.2 Saving the firmware data into the USB memory device

- 1. Save the firmware data in appropriate space in the PC.
- 2. Connect the USB memory device to the PC.
- 3. Create a "firmware" folder immediately under the drive of the USB memory device.
- 4. Copy the firmware data (***.prn) in the firmware folder created in step 3.



NOTE

- Be sure to save the firmware data in "drive:/firmware/***.prn."
- The printer can display up to 20 files of firmware data during upgrading.

2.2 How to write firmware data

- 1. Turn the power switch ON.
- 2. Connect the USB memory device to the printer.
- 3. Call the SERVICE MODE to the display.
- 4. Select [FIRMWARE UPDATE] and press the Menu/Select key.
- 5. A list of firmware data in the USB memory device is displayed.



NOTE

• Before upgrading firmware, use [VIEW INFORMATION] to check that the firmware data is correct.



6. Press the back key.

- 7. Select the specific firmware data to be upgraded and press the Menu/Select key.
- 8. Select [EXECUTE] and press the Menu/Select key.



9. Select [EXECUTE] and press the Menu/Select key.



10. The firmware upgrading procedure starts. NOTE

- Do not turn off the printer while its firmware is being updated.
 NEVER disconnect the USB memory device from the printer during the firmware upgrading procedure.

11. The printer is automatically restarted as soon as the firmware is upgraded correctly.

3. Checking the version after the firmware update

- Display [SERVICE MODE].
 Display [FIRMWARE VERSION].



3. Select the firmware that has been updated and check the current version. **I.4.3 FIRMWARE VERSION**

4. How to install the i-Option data

4.1 Available function for i-Option

i-Option	Function	Data location	How to recover when replacing or formatting HDD.
LK-106	Barcode font	In the Standard firmware	n/a
LK-107	Unicode font	In the Standard HDD	LK-107/LK-108 font data installation procedure
LK-108	OCR font	In the Standard HDD	
LK-111	Enhancing external linkage (supported by ThinPrint)	In the Standard firmware	n/a

4.2 LK-107/LK-108 font data installation procedure

Installing procedure of the font data

4.2.1 When the font data is ***.pdf format file

1. Prepare an USB memory.

- 2. Copy the font data to the root directory of the USB memory.
 - OCR font: download_OCRA-0.pdf
 - Unicode font: download_Andale_J-0.pdf, download_Andale_K-0.pdf, download_Andale_S-0.pdf, download_Andale_T-0.pdf
- 3. Turn ON the main power switch, and connect the USB memory to the USB port.
- Touch [MEMORY DIRECT] -> [LIST OF FILES].
 Select a font file to install from the file list, touch the [Print].
- 6. When the data indicator stops blinking, the installation is completed.
- 7. Touch [PRINT REPORTS] -> [HDD DDIRECTORY] to print out a HDD Directory List, and confirm that the font data are registered as following names.
 - LK-107: Andale Mono WT J, Andale Mono WT K, Andale Mono WT S, Andale Mono WT T
 - LK-108: OCR-A

K TROUBLESHOOTING

1. JAM DISPLAY

1.1 JAM display

When the paper jam occurred, the message is displayed on the control panel.



1.2 List of JAM display

Display					
LCD 1	LCD 2	Factory code (Management List) *2	Jam location	Jam processing location	Action
Misfeed detected	FUSER/ EXIT	8	Fusing/exit section	Right side coverFusing unit	K.1.4.2 Jam at fusing/exit section
	SECOND TRANS	7	Transfer section	Right side cover	K.1.4.3 Jam at transfer section
	VERTICAL TRANS	6	Vertical transport	 Right side cover Tray2 right side cover	K.1.4.7 Jam at tray2 vertical conveyance section
	DUPLEX1	4	Duplex paper feed section	Duplex door	K.1.4.9 Jam at duplex paper feed section
	DUPLEX2	5	Duplex transport section		K.1.4.8 Jam at duplex paper transport section
	MANUAL	0	Manual tray paper feed	Manual feed trayRight side cover	K.1.4.4 Jam at manual tray paper feed section
	TRAY1	1	Tray1 paper feed	Tray1Right side cover	K.1.4.5 Jam at tray1 paper feed section
	TRAY2 *1	2 *1 2 • Tray2 paper feed • Vertical transport		 Tray2 Tray2 right side cover 	K.1.4.6 Jam at tray2 paper feed section K.1.4.7 Jam at tray2 vertical conveyance section
Misfeed DF		001	DF section	DF cover	K.1.4.10 Jam at DF section
Service Call:	F001	19	Paperjam in control logic	-	K.1.4.11 Paper jam in control logic

• *1: Only when the optional paper feed unit is mounted.

*2: Indicates the factory codes for "JAM History at ADF" and "JAM History at Print" that are described on the third page of [Service Mode] -> [PRINT MENU] -> [Management List].

1.2.1 JAM display resetting procedure

- Open the corresponding door, clear the sheet of paper misfed, and close the door.
- Turn OFF the power switch and then ON.

1.3 Sensor layout

• When the optional paper feed unit is installed.

[1]	Exit sensor (PS8)	[2]	Duplex conveyance sensor (PS9)
[3]	Loop detection sensor (PS6)	[4]	Registration sensor (PS5)
[5]	Tray2 paper feed sensor (PS3) *	[6]	Document read sensor (PS102)
[7]	Document loop sensor (PS103)	-	-

• *: Only when the optional paper feed unit is installed.

1.4 Solution

1.4.1 Initial check items

• When a paper misfeed occurs, first perform the following initial check items.

Check item	Action
Does paper meet product specifications?	Replace paper.
Is the paper curled, wavy, or damp?	Replace paper. Instruct user on proper paper storage.
Is a foreign object present along the paper path, or is the paper path deformed or worn?	Clean the paper path or replace the part on the paper path if necessary.
Are rolls/rollers dirty, deformed, or worn?	Clean the defective roll/roller. Replace the defective roll/roller.
Are the paper size and the detected paper size by the edge guide are matching?	Adjust the edge guide to match the paper size.
Are the actuators operating correctly?	Correct the defective actuator. Replace the defective actuator.

1.4.2 Jam at fusing/exit section

(1) Detection timing

JAM type	Detection timing
Detection of jam at fusing/exit section	• The exit sensor (PS8) is not blocked even after the lapse of a given period of time after the paper has unblocked the exit sensor (PS8).
	• The exit sensor (PS8) is blocked even before the lapse of a given period of time after the paper has unblocked the exit sensor (PS8).
Detection of paper left in fusing/ exit section	• The exit sensor (PS8) is unblocked when the power switch is turned ON, a door or cover is opened and closed, or a jam or malfunction is reset.

(2) Action

Relevant electrical parts			
• Exit sensor (PS8)	Printer control board (PRCB)		
Duplex conveyance roller clutch (CL13)	Transport motor (M2)		

Step	Action	WIRING DIAGRAM		
	Action	Control signal	Location (electrical component)	
1	Initial check items	-	-	
2	Check the connector between M2-PRCB CN11 for proper connection and correct as necessary.	-	-	
3	Check the M2 connector for proper drive coupling and correct as necessary.	-	-	
4	Check the connector between PS8-PRCB CN15 for proper connection and correct as necessary.	-	-	
5	Check the connector between CL13-relay CN20-PRCB CN14 for proper connection and correct as necessary.	-	-	
6	PS8 sensor check	PRCB CN15-9 (ON)	15-1	
7	CL13 operation check	PRCB CN14-5 (REM)	7-C	
8	M2 operation check	PRCB CN11-10 to 13	15-C	
9	Replace PRCB.	-	-	

• Link to the wiring diagram (N.1. bizhub C3110)

1.4.3 Jam at transfer section

(1) Detection timing

JAM type	Detection timing
Detection of jam at transfer section	• The registration sensor (PS5) is not blocked even after the lapse of a given period of time after the registration roller driving is started.
	• The paper does not unblock the exit sensor (PS8) even after the lapse of a given period of time after the registration roller driving is started.
Detection of paper left in transfer section	• The registration sensor (PS5) is unblocked when the power switch is turned ON, a door or cover is opened and closed, or a jam or malfunction is reset.
	• The loop detection sensor (PS6) is unblocked when the power switch is turned ON, a door or cover is opened and closed, or a jam or malfunction is reset.

(2) Action

Relevant electrical parts					
Regis	tration sensor (PS5)	Printer control board (PRCB)			
• Exit se	ensor (PS8)	Transport motor (M2)			
• Loop	detection sensor (PS6)	Loop detection clutch (CL8)			
Stop	Action	WIRING	WIRING DIAGRAM		
Step	ACIUM	Control signal	Location (electrical component)		
1	Initial check items	-	-		
2	Check the connector between M2-PRCB CN11 for proper connection and correct as necessary.	-	-		
3	Check the M2 connector for proper drive coupling and correct as necessary.	-	-		
4	Check the connector between PS5-PRCB CN23 for proper connection and correct as necessary.	-	-		
5	Check the connector between PS6-PRCB CN24 for proper connection and correct as necessary.	-	-		
6	Check the connector between PS8-PRCB CN15 for proper connection and correct as necessary.	-	-		
7	Check the connector between CL8-relay CN2-PRCB CN7 for proper connection and correct as necessary.	-	-		
8	PS5 sensor check	PRCB CN23-3 (ON)	15-L		
9	PS8 sensor check	PRCB CN15-9 (ON)	15-1		
10	PS6 sensor check	PRCB CN24-3 (ON)	7-C		
11	CL8 operation check	PRCB CN7-2 (REM)	15-C		
12	M2 operation check	PRCB CN11-10 to 13	15-C		
13	Replace PRCB.	-	-		

• Link to the wiring diagram (N.1. bizhub C3110)

1.4.4 Jam at manual tray paper feed section

(1) Detection timing

JAM type	Detection timing
Detection of jam at manual traypaper feed section	• The paper does not unblock the registration sensor (PS5) even after the lapse of a given period of time after the manual tray paper feed clutch (CL2) is turned ON.

(2) Action

Relevant electrical parts			
Registration sensor (PS5)		Printer control board (PRCB))
• Manu	al tray paper feed clutch (CL2)	Transport motor (M2)	
Ctor	Action	WIRING	DIAGRAM
Siep	Action	Control signal	Location (electrical component)
1	Initial check items	-	-
2	Check the connector between M2-PRCB CN11 for proper connection and correct as necessary.	-	-
3	Check the M2 connector for proper drive coupling and correct as necessary.	-	-
4	Check the connector between PS5-PRCB CN23 for proper connection and correct as necessary.	-	-
5	Check the connector between CL2 -relay CN18-PRCB CN16 for proper connection and correct as necessary.	-	-
6	PS5 sensor check	PRCB CN23-3 (ON)	15-L
7	CL2 operation check	PRCB CN16-7 (REM)	7-B
8	M2 operation check	PRCB CN11-10 to 13	15-C
9	Replace PRCB.	-	-

• Link to the wiring diagram (N.1. bizhub C3110)

1.4.5 Jam at tray1 paper feed section

(1) Detection timing

JAM type	Detection timing
Detection of jam at tray1 paper feed section	• The paper does not unblock the registration sensor (PS5) even after the lapse of a given period of time after the tray1 paper feed clutch (CL1) is turned ON.

(2) Action

Relevant electrical parts			
Registration sensor (PS5)		Printer control board (PRCI	3)
• Tray1	paper feed clutch (CL1)	Transport motor (M2)	
Stop	Action	WIRING	G DIAGRAM
Siep		Control signal	Location (electrical component)
1	Initial check items	-	-
2	Check the connector between M2-PRCB CN11 for proper connection and correct as necessary.	-	-
3	Check the M2 connector for proper drive coupling and correct as necessary.	-	-
4	Check the connector between PS5-PRCB CN23 for proper connection and correct as necessary.	-	-
5	Check the connector between CL1-relay CN16-PRCB CN16 for proper connection and correct as necessary.	-	-
6	PS5 sensor check	PRCB CN23-3 (ON)	15-L
7	CL1 operation check	PRCB CN16-2 (REM)	7-A
8	M2 operation check	PRCB CN11-10 to 13	15-C
9	Change PRCB.	-	-

• Link to the wiring diagram (N.1. bizhub C3110)

1.4.6 Jam at tray2 paper feed section

(1) Detection timing

JAM type	Detection timing
Detection of jam at tray2 paper feed section	• The paper does not unblock the tray2 paper feed sensor (PS3) even after the lapse of a given period of time after the tray2 paper feed clutch (CL1) is turned ON.

JAM type	Detection timing
Detection of paper left in tray2 paper feed section	• The tray2 paper feed sensor (PS3) is unblocked when the power switch is turned ON, a door or cover is opened and closed, or a jam or malfunction is reset.

(2) Action

Relevant electrical parts		
Tray2 paper feed sensor (PS3)	PC control board (PCCB)	
Tray2 paper feed clutch (CL1)	Tray2 paper feed motor (M1)	
Printer control board (PRCB)		

Step	Action	WIRING DIAGRAM	
	Action	Control signal	Location (electrical component)
1	Initial check items	-	-
2	Check the connector between M1-PCCB PJ3 for proper connection and correct as necessary.	-	-
3	Check the M1 connector for proper drive coupling and correct as necessary.	-	-
4	Check the connector between PS3-PCCB PJ5 for proper connection and correct as necessary.	-	-
5	Check the connector between CL1-relay CN57-PCCB PJ15 for proper connection and correct as necessary.	-	-
6	PS3 sensor check	PCCB PJ5-3 (ON)	2-I
7	CL1 operation check	PCCB PJ5-8 (REM)	2-1
8	M1 operation check	PCCB PJ3-4 to 8	2-K to L
9	Check the connector between PCCB PJ1-relay CN53- PRCB CN25 for proper connection and correct as necessary.	-	-
10	Replace PCCB.	_	_
11	Replace PRCB.	-	-

• Link to the wiring diagram (N.1. bizhub C3110)

1.4.7 Jam at tray2 vertical conveyance section

(1) Detection timing

JAM type	Detection timing	
Detection of jam at tray2 vertical section	• The paper does not unblock the registration sensor (PS5) even after the lapse of a given period time after the paper has unblocked the tray2 paper feed sensor (PS3).	
	 The paper does not block the tray2 paper feed sensor (PS3) even after the lapse of a given period of time after the paper has unblocked the tray2 paper feed sensor (PS3). 	

(2) Action

Relevant electrical parts				
Tray2 paper feed sensor (PS3)		Printer control board (PRCB))	
• Tray2	paper feed clutch (CL1)	 PC control board (PCCB) 	PC control board (PCCB)	
Regist	tration sensor (PS5)	Tray2 paper feed motor (M1)	
Cton	A = 6' =	WIRING	DIAGRAM	
Step	Action	Control signal	Location (electrical component)	
1	Initial check items	-	-	
2	Check the connector between M1-PCCB PJ3 for proper connection and correct as necessary.	-	-	
3	Check the M1 connector for proper drive coupling and correct as necessary.	-	-	
4	Check the connector between PS5-PRCB CN23 for proper connection and correct as necessary.	-	-	
5	Check the connector between PS3-PCCB PJ5 for proper connection and correct as necessary.	-	-	
6	Check the connector between CL1-relay CN57-PCCB PJ15 for proper connection and correct as necessary.	-	-	
7	Check the connector between PCCB PJ1-relay CN53- PRCB CN25 for proper connection and correct as necessary.	-	-	
8	PS3 sensor check	PCCB PJ5-3 (ON)	2-H to I	
9	PS5 sensor check	PRCB CN23-3 (ON)	15-L	
10	CL1 operation check	PCCB PJ5-8 (REM)	2-1	

Step	Action	WIRING DIAGRAM	
	Action	Control signal	Location (electrical component)
11	M1 operation check	PCCB PJ3-4 to 8	2-K to L
12	Replace PCCB.	-	-
13	Replace PRCB.	-	-

• Link to the wiring diagram (N.1. bizhub C3110)

1.4.8 Jam at duplex paper transport section

(1) Detection timing

(.,	
JAM type	Detection timing
Detection of jam at duplex paper transport section	 The duplex conveyance sensor (PS9) is not blocked even after the lapse of a given period of time after the paper has unblocked PS9.
	 The duplex conveyance sensor (PS9) is not unblocked even after the lapse of a given period of time after the paper has blocked the exit sensor (PS8).
Detection of paper left at duplex paper transport section	 The duplex conveyance sensor (PS9) is unblocked when the power switch is turned ON, a door or cover is opened and closed, or a jam or malfunction is reset.

(2) Action

	Relevan	t electrical parts	
Exit sensor (PS8)		Printer control board (PRCB)	
Duple	x conveyance sensor (PS9)	Transport motor (M2)	
Duple	x conveyance roller clutch (CL13)		
Char	A = 41 = 11	WIRING	DIAGRAM
Step	Action	Control signal	Location (electrical component)
1	Initial check items	-	-
2	Check the connector between M2-PRCB CN11 for proper connection and correct as necessary.	-	-
3	Check the M2 connector for proper drive coupling and correct as necessary.	-	-
4	Check the connector between PS8-PRCB CN15 for proper connection and correct as necessary.	-	-
5	Check the connector between PS9-PRCB CN14 for proper connection and correct as necessary.	-	-
6	Check the connector between CL13-relay CN20-PRCB CN14 for proper connection and correct as necessary.	-	-
7	PS8 sensor check	PRCB CN15-9 (ON)	15-I
8	PS9 sensor check	PRCB CN14-3 (ON)	7-B
9	CL13 operation check	PRCB CN14-5 (REM)	7-C
10	M2 operation check	PRCB CN11-10 to 13	15-C
11	Replace PRCB.	-	-

• Link to the wiring diagram (N.1. bizhub C3110)

1.4.9 Jam at duplex paper feed section

(1) Detection timing

JAM type Detection timing	
Detection of jam at duplex paper	• The paper does not unblock the registration sensor (PS5) even after the lapse of a given period of time after the paper feed sequence has been started at the duplex
leeu seciion	time alter the paper reed sequence has been started at the duplex.

(2) Action

	Relevan	t electrical parts	
 Regist 	ration sensor (PS5)	Printer control board (PRCB)	
Duple	x conveyance roller clutch (CL13)	Transport motor (M2)	
Sten	Action	WIRING DIAGRAM	
Step	Action	Control signal	Location (electrical component)
1	Initial check items	-	-
2	Check the connector between M2-PRCB CN11 for proper connection and correct as necessary.	-	-
3	Check the M2 connector for proper drive coupling and correct as necessary.	-	-
4	Check the connector between PS5-PRCB CN23 for proper connection and correct as necessary.	-	-

Char	Action	WIRING DIAGRAM	
Step		Control signal	Location (electrical component)
5	Check the connector between CL13-relay CN20-PRCB CN14 for proper connection and correct as necessary.	-	-
6	PS5 sensor check	PRCB CN23-3 (ON)	15-L
7	CL13 operation check	PRCB CN14-5 (REM)	7-C
8	M2 operation check	PRCB CN11-10 to 13	15-C
9	Replace PRCB.	-	-

• Link to the wiring diagram (N.1. bizhub C3110)

1.4.10 Jam at DF section

(1) Detection timing

JAM type	Detection timing
Detection of jam at DF section	• The original does not block the document read sensor (PS102) even after the lapse of a given period of time after the original feed is started.
	• The original does not block the document read sensor (PS102) even after the lapse of a given period of time after the original blocks the document loop sensor (PS103).
	 When the preceding page of the original blocks and then unblocks the document read sensor (PS102), the subsequent page of the original does not block the document loop sensor (PS103).
	• The original does not block the document read sensor (PS102) even after the lapse of a given period of time after the original is fed again.
	The original blocks the document read sensor (PS102) longer than a given period of time.
	• When the power switch is turned ON, the document read sensor (PS102) or document loop sensor (PS103) is blocked.

(2) Action

	Relevar	nt electrical parts	
Docur	Document read sensor (PS102) DF transport motor (M100)		
Docur	nent loop sensor (PS103)	Scanner unit	
• MFP I	board (MFPB)		
Ston	Action	WIRING	DIAGRAM
Step	Action	Control signal	Location (electrical component)
1	Initial check items	-	-
2	Check the connector between M100-MFPB CN104 for proper connection and correct as necessary.	-	-
3	Check the M100 connector for proper drive coupling and correct as necessary.	-	-
4	Check the connector between PS103-MFPB CN105 for proper connection and correct as necessary.	-	-
5	Check the connector between PS102-MFPB CN105 for proper connection and correct as necessary.	-	-
6	PS103 sensor check	MFPB CN105-9 (ON)	9-1
7	PS102 sensor check	MFPB CN105-6 (ON)	9-1
8	M100 operation check	MFPB CN104-1 to 4	9-H
9	Replace MFPB.	-	-
10	Replace DF.	-	-

• Link to the wiring diagram (N.1. bizhub C3110)

1.4.11 Paper jam in control logic

(1) Detection timing

JAM type	Detection timing
Detection of controller JAM	• A duplex print job is sent with the number of pages that goes beyond the maximum number of pages allowed to be in the printer for the selected paper type.
	When trying to feed duplex paper though there is no paper to be fed to the duplex print unit.
	• When printing is directed with the duplex print unit selected as a paper source and an exit paper set to be fed to the duplex unit.
	• While two sheets of paper are in the printer, printing is directed with normal paper feed settings other than a duplex paper feed setting.
	In duplex printing, a size error occurs.

(2) Action

	Relevant electrical parts		
Print of	control board (PRCB)	MFP board (MFPB)	
Ston	Action	WIRING DIAGRAM	
Step		Control signal	Location (electrical component)
1	Check printer driver settings.	-	-
2	Replace PRCB.	-	-
3	Replace MFPB.	-	-

2. PROCESS CAUTION INFROMATION

2.1 Display procedure

- The machine's CPU performs a self-diagnostics function that, on detecting a malfunction, gives the process caution information in the report that is output by [Service Mode] -> [PRINT MENU] -> [Management List].
- When receiving the process caution information, user can continue printing. However, as the information indicates that some error has occurred in the image stabilization process, the error must be addressed rapidly.

2.2 List

· If an image stabilization fault occurs, the process caution information is provided.

	Item	
LD Error	The DETOUT signal of the LD drive detected malfunction consecutively for the predetermined frequency.	
IDC Sensor Error	IDC sensor output values are out of the specified range.	
C IU Error	The amount of toner of each test pattern is lower than the lower limit value of the effective range.	
M IU Error		
Y IU Error		
K IU Error		
Color Registration Adj. (Test Pattern Error)	 The number of points detected in the main scan direction is more or less than the specified value during main scan direction registration correction. The number of points detected in the sub scan direction is more or less than the specified value during sub scan direction registration correction. 	
Color Registration Adj. (Adj. Value Error)	 The color shift amount is greater than the specified range during main scan direction registration correction. The color shift amount is greater than the specified range during sub scan direction registration correction. 	
Lamp lights on and AFE gain adjustment failure	A warning message is displayed when it is detected that the lamp lights on and AFE gain adjustment value is faulty.	

2.3 Solution

2.3.1 LD Error

(1) Contents

Relevant parts
Laser diode/Y
Laser diode/M
Laser diode/C
Laser diode/K
PH unit
MFP board (MFPB)
Printer control board (PRCB)

(2) Procedure

Step	Action
1	Replace the PH unit.
2	Replace MFPB.
3	Replace PRCB.

2.3.2 IDC Sensor Error

(1) Contents

Relevant parts
IDC sensor (IDC) Transfer belt unit
Printer control board (PRCB)
High voltage unit (HV1)

(2) Procedure

Step	Action
1	Wipe clean the surface of the transfer belt with a soft cloth, if it is dirty.
2	Change the image transfer belt unit if the transfer belt is damaged.
3	Reinstall or reconnect IDC or connector, if it is installed or connected improperly.
4	Clean IDC if it is dirty.
5	Check the HV1 connector for proper connection and correct as necessary.
6	Replace IDC.

Step	
7	Replace PRCB.

2.3.3 C IU Error, M IU Error, Y IU Error, K IU Error

(1) Contents

Relevant parts
Imaging unit/Y,M,C,K
IDC sensor (IDC)
Printer control board (PRCB)
High voltage unit (HV1)
I ranster beit unit

Action

(2) Procedure

Step	Action
1	Select [Imaging ProcessAdj] -> [IMG ADJ THICK] and, if the setting value is negative, readjust.
2	Check the drive transmission portion of the imaging unit and correct as necessary.
3	Clean IDC window if dirty.
4	Clean the contact of the imaging unit connector if dirty.
5	Check the HV1 connector for proper connection and correct as necessary.
6	Replace the imaging unit.
7	Replace the transfer belt unit.
8	Replace HV1.
9	Replace PRCB.

2.3.4 Color Registration Adj. (Test Pattern Error)

(1) Contents

Relevant parts
Transfer belt unit
• PH unit
Printer control board (PRCB)
MFP board (MFPB)

(2) Procedure

Step	Action
1	Wipe clean the surface of the transfer belt with a soft cloth, if it is dirty.
2	Change the image transfer belt unit if the transfer belt is damaged.
3	Replace PH unit.
4	Replace MFPB.
5	Replace PRCB.

2.3.5 Color Registration Adj. (Adj. Value Error)

(1) Contents

Relevant parts
IDC sensor (IDC)
Printer control board (PRCB)

(2) Procedure

Step	Action
1	Slide out the imaging unit and reinstall it in position.
2	Reinstall or reconnect IDC if it is installed or connected improperly.
3	Change IDC.
4	Change PRCB.

2.3.6 Lamp lights on and AFE gain adjustment failure

(1) Contents

	Relevant parts	
Scanner unit		
 MFP board (MFPB) 		

(2)	?) Procedure	
	Step	Action
	1	Correct the harness connection between the scanner unit and MFPB CN102 if faulty.
	2	Check for possible extraneous light and correct as necessary.
	3	Clean the lens, mirrors, AFE surface, and shading sheet if dirty.
	4	Correct reflective mirror of the scanner if faulty, or change scanner mirror.
	5	Replace the scanner unit.
	6	Replace MFPB.
3. TROUBLE CODE

3.1 Trouble code (Service Call)

• The machine's CPU performs a self-diagnostics function that, on detecting a malfunction, gives the corresponding malfunction code on the control panel.





3.2 Trouble resetting procedure

• To reset a malfunction, turn the power switch OFF and then ON again.

3.3 List of the trouble code

Code	Item	Rank
0010	Color PC drum motor malfunction	С
0017	Transport motor malfunction	С
0018	Developing motor malfunction	С
004A	Cooling fan motor malfunction	С
004E	DC power supply fan motor malfunction	С
0062	Tray2 paper feed motor malfunction	С
0094	2nd transfer pressure / retraction failure	С
0096	1st transfer pressure/retraction failure	С
0101	Power malfunction	С
0300	Polygon motor malfunction	С
0310	Laser malfunction	С
0315	PH board communication error	С
0500	Heating roller warm-up failure	С
0502	Thermistor open-circuit failure	С
0503	Thermistor resistance failure	С
0510	Abnormally low heating roller temperature	С
0520	Abnormally high heating roller temperature	С
0F52	Toner level sensor/Y malfunction	С
0F53	Toner level sensor/M malfunction	С
0F54	Toner level sensor/C malfunction	С
0F55	Toner level sensor/K malfunction	С
13C4	Imaging unit/C new article release	С
13C5	Imaging unit/M new article release	С
13C6	Imaging unit/Y new article release	С
13C7	Imaging unit/K new article release	С
13CB	Toner cartridge/C new release failure	С
13CC	Toner cartridge/M new release failure	С
13CD	Toner cartridge/Y new release failure	С
13CE	Toner cartridge/K new release failure	С
13DD	Backup data error	С
13E2	Engine flash ROM device fault	С
13E3	Engine flash ROM download communication error	С
13F0	Engine control failure	С
3C00	EEPROM fault 1 (main body)	С
3C10	EEPROM fault 2 (main body)	С
4091	Engine communication error	С
4092	Interface communication error	С
4901	FW/OS integrity verification error	С
6751	Lamp lights on and AFE gain adjustment failure	С
6790	AFE offset adjustment error	С
6791	AFE register setting error	С

Code	ltem	Rank
6792	White reference plate search error	C
6702		0
0795		C
9401	Exposure lamp lighting failure detected	С
8001	FAX board error 1	C
B002	FAX board error 2	С
B003	FAX board error 3	С
B051	FAX board installation error (Line 1)	С
B110	Instance generation error or observer registration error	С
B111	Configuration space initialization NG	С
B112	Semaphore acquisition, release error	С
B113	Sequence error among main body tasks	С
B114	Message queue control error	С
B115	Main body - sequence error among FAX boards	С
B116	Communication fault between controller and EAX board	C
B117		C C
B118	Receiving undefined frame	C
D110		0
BII9		C
B120	Soft error	C
B122	Device error (GA LOCAL SRAM)	С
B123	Device error (DRAM)	С
B125	Device error (GA)	С
B126	Timeout error due to non-response from codec control during suspension process	С
B127	Timeout error due to non-response from communication control during suspension	С
	process	
B128	Timeout error due to non-response from LINE control during suspension process	С
B129	Timeout error due to non-response from file system/file driver during suspension	С
	process	
B130	Driver soft error	С
B131	Reception frame length error from main	С
B132	Reception frame header error from main	С
B133	232C I/F sequence error	С
B134	DPRAM I/F sequence error	С
B135	DPRAM CTL/STS register error	С
B136	ACK waiting timeout	С
B137	DPRAM RESET reception	С
B140	MSG I/F error with job control	С
B141	I/E error with driver	C
B142		C C
B142	Command frame length error	0 C
B143	Command narameter longth error	0 C
D144		<u> </u>
D 140		
B 140		
B150	External class instance acquisition error	C
B151	Job start error (starting job parameter error/child job generation error)	С
B152	Doc access error (report buf access error)	С
B153	Response wait timeout from external task	С
B154	Internal que table control error (create/enque/deque)	С
B160	Instance generation error	С
B161	Timeout error	С
B162	Interface error	С
B163	Message que control error	С
B164	Semaphore acquisition release error	С
B165	Observer registration error	С
B166	Reception resource check error	С
B167	Deployment error of sending image information	С.
B169	Serialization error of receiving image	
D100		0
D 109		
B170	internal que table control error (create/enque/deque)	C

Code	Item	Rank
B171	Instance generation error	С
B172	Timeout error	С
B173	Interface error	С
B174	Semaphore acquisition release error	С
B175	Observer registration error	С
B176	Unable to secure TTI domain	С
B177	Error return from TTI rasterizer	С
B178	Receiving job generation error	С
B179	Sequence control error (line specification fault, status mismatch, event mismatch)	C
B180	Access error to quick sending memory data	C
B181	BlockBuff acquisition error	C
B182	Sending block image error (Reg. restore)	C
B183	Receiving block image error (Reg. store)	C
B184	Storage error of receiving image information	C
B185	Receiving data size logic error (Receiving data are not multiples of dotline)	С С
B186	ImageBuf acquisition (alloc) error	С С
B187		С С
B188	BandBuf control error (newInstance/get/free)	0
B100	USB IF error (OS notifies an error during configuration setting after recovery from the	0
6130	sleep or attach.)	U
B191	USB IF error (EndPoint1: Bulk Out (command, transmitted image data)) (error retry 1 min. timeout)	С
B192	USB IF error (EndPoint2: Bulk In (response, received image data)) (error retry 5 sec. timeout)	С
B193	USB IF error (EndPoint3: Interrupt In (fax board status)) (error retry 1 min. timeout)	С
B194	USB IF error (EndPoint4: Bulk Out (main body status)) (error retry 3 sec. timeout)	С
B195	USB IF error (Attach not detected for 1 min, after recovery from sleep)	C
B196	USB IF error (Detach not detected for 1 min. after recovery from sleep)	C
C151	ROM contents error upon startup (MSC)	C
C161	Eirmware update error	C
C164	ROM contents error (MSC)	C
D004	Hard disk access error (connection failure)	C
D091	Hard disk full error	с С
D092	No hard disk (found during a disk check)	с С
D093	Wrong hard disk (found during a disk check)	С С
D094	Hard disk check disk error	С.
D095	Hard disk recovered (requiring reboot)	С.
D096	Hard disk access fault	С.
D0A2	No SSD board (found during a disk check)	С С
D0A3	Wrong SSD board (found during a disk check)	С.
D0A4	SSD board check disk error	с С
D0A5	SSD board recovered (requiring reboot)	C
D0A6	SSD board access fault	с С
D110	Wireless LAN destination initialization error	C
D262	Extension network adapter installation error	C C
D281	Controller ROM data error	С С
D3A2		С.
D3F1	Successful completion of counter backup	С.
D3F2	Write error of the counter area (NVRAM)	<u>с</u>
D3F3	Write error of the counter area (SSD)	с С
D3F4	Copy write error of the counter area	с С
D501	FLASH error	C
E301	Error signal reception (Referring incorrect memory)	
F302	Error signal reception (Incorrect command)	с С
E302	Error signal reception (Finished due to error inside Ot library)	C:
F304	Error signal reception (Finished due to error outside Qt library)	<u> </u>
E305	Error signal reception (Program forced to stop)	

Code	Item	Rank
F###	Trouble code (F###) is referred to as abort code. For details of abort code, refer to "K.4. ABORT CODE".	С

3.4 Solution

3.4.1 0010

(1) Contents

Trouble type	Color PC drum motor malfunction
Trouble code	0010
Rank	C
Detection timing	 The color PC drum motor does not rotate evenly even after the lapse of a given period of time while it is being started. The motor lock signal remains HIGH for a given period of consecutive time while the color PC drum motor is being rotated.
Trouble isolation	-
Relevant electrical parts	Color PC drum motor (M4) Printer control board (PRCB)

(2) Procedure

Step	Action	Control signal	Location of electrical components
1	Check the connector between M4-PRCB CN12 for proper connection and correct as necessary.	-	-
2	Check the M4 connector for proper drive coupling and correct as necessary.	-	-
3	M4 operation check	PRCB CN12-3 to 6	13-E
4	Replace M4.	-	-
5	Replace PRCB.	-	-

• Link to the wiring diagram (N.1. bizhub C3110)

• Link to the layout drawings for related parts by each trouble code (S.1. 0010)

3.4.2 0017

(1) Contents

Trouble type	Transport motor malfunction
Trouble code	0017
Rank	C
Detection timing	 The transport motor does not rotate evenly even after the lapse of a given period of time while it is being started. The motor lock signal remains HIGH for a given period of consecutive time while the transport motor is being rotated.
Trouble isolation	-
Relevant electrical parts	Transport motor (M2) Printer control board (PRCB)

(2) Procedure

Step	Action	Control signal	Location of electrical components
1	Check the connector between M2-PRCB CN11 for proper connection and correct as necessary.	-	-
2	Check the M2 connector for proper drive coupling and correct as necessary.	-	-
3	M2 operation check	PRCB CN11-10 to 13	13-B to C
4	Replace M2.	-	-
5	Replace PRCB.	_	_

• Link to the wiring diagram (N.1. bizhub C3110)

• Link to the layout drawings for related parts by each trouble code (S.2. 0017)

3.4.3 0018

Trouble type	Developing motor malfunction
Trouble code	0018
Rank	C
Detection timing	• The developing motor does not rotate evenly even after the lapse of a given period of time while it is being started.

	The motor lock signal remains HIGH for a given period of consecutive time while the developing motor is being rotated.
Trouble isolation	-
Relevant electrical parts	Developing motor (M1) Printer control board (PRCB)

Step	Action	Control signal	Location of electrical components
1	Check the connector between M1-PRCB CN11 for proper connection and correct as necessary.	-	-
2	Check the M1 connector for proper drive coupling and correct as necessary.	-	-
3	M1 operation check	PRCB CN11-3 to 6	13-B
4	Replace M1.	-	-
5	Replace PRCB.	-	-

Link to the wiring diagram (N.1. bizhub C3110)
Link to the layout drawings for related parts by each trouble code (S.3. 0018)

3.4.4 004A

(1) Contents

Trouble type	Cooling fan motor malfunction
Trouble code	004A
Rank	С
Detection timing	 The cooling fan motor does not rotate evenly even after the lapse of a given period of time while it is being started. The motor lock signal remains HIGH for a given period of consecutive time while the cooling fan motor is being rotated.
Trouble isolation	-
Relevant electrical parts	Cooling fan motor (FM11) Printer control board (PRCB)

(2) Procedure

Step	Action	Control signal	Location of electrical components
1	Check the connector between FM11-relay CN29- PRCB CN10 for proper connection and correct as necessary.	-	-
2	Check the fan for possible overload and correct as necessary.	-	-
3	FM11 operation check	PRCB CN10-5 (REM) PRCB CN10-7 (LOCK)	5-E
4	Replace FM11.	-	-
5	Replace PRCB.	_	-

• Link to the wiring diagram (N.1. bizhub C3110)

• Link to the layout drawings for related parts by each trouble code (S.4. 004A)

3.4.5 004E

(1) Contents

Trouble type	DC power supply fan motor malfunction
Trouble code	004E
Rank	C
Detection timing	 The DC power supply fan motor does not rotate evenly even after the lapse of a given period of time while it is being started. The motor lock signal remains HIGH for a given period of consecutive time while the DC power supply fan motor is being rotated.
Trouble isolation	-
Relevant electrical parts	DC power supply fan motor (FM10) Printer control board (PRCB)

Step	Action	Control signal	Location of electrical components
1	Check the connector between FM10-relay CN43- PRCB CN2 for proper connection and correct as necessary.	-	-

Step	Action	Control signal	Location of electrical components
2	Check the fan for possible overload and correct as necessary.	-	-
3	FM10 operation check	PRCB CN2-1 (REM) PRCB CN2-3 (LOCK)	13-J
4	Replace FM10.		
5	Replace PRCB.	-	-

Link to the wiring diagram (N.1. bizhub C3110)
Link to the layout drawings for related parts by each trouble code (S.5. 004E)

3.4.6 0062

(1) Contents

Trouble type	Tray2 paper feed motor malfunction	
Trouble code	0062	
Rank	C	
Detection timing	The motor lock signal remains HIGH for a given period of consecutive time while the tray2 paper feed motor is being rotated.	
Trouble isolation	-	
Relevant electrical parts	<when installed="" is="" pf-p14=""></when>	Tray2 paper feed motor (M1) Printer control board (PRCB) PC control board (PCCB)

(2) Procedure

When PF-P14 is installed

Step	Action	Control signal	Location of electrical components
1	Check the connector between M1-PCCB PJ3 for proper connection and correct as necessary.	-	-
2	Check the connector between PCCB PJ1-relay CN53- PRCB CN25 for proper connection and correct as necessary.	-	-
3	Check the M1 connector for proper drive coupling and correct as necessary.	-	-
4	M1 operation check	PCCB PJ3-4 to 8	2-K to L
5	Replace M1.	-	-
6	Replace PCCB.	-	-
7	Replace PRCB.	-	-

Link to the wiring diagram (N.1. bizhub C3110)
Link to the layout drawings for related parts by each trouble code (S.6. 0062)

3.4.7 0094

(1) Contents

()	
Trouble type	2nd transfer pressure / retraction failure
Trouble code	0094
Rank	С
Detection timing	 The IDC sensor does not come into the condition where the level detection is available within a given period of time after the 2nd transfer pressure solenoid has turned ON. The IDC sensor does not come into the condition where the level detection is not available within a given period of time after the 2nd transfer pressure solenoid has turned ON.
Trouble isolation	-
Relevant electrical parts	 IDC sensor (IDC) Transport motor (M2) 2nd transfer pressure solenoid (SD2) Printer control board (PRCB)

Step	Action	Control signal	Location of electrical components
1	Check the connector between M2-PRCB CN11 for proper connection and correct as necessary.	-	-
2	Check the M2 connector for proper drive coupling and correct as necessary.	-	-
3	Check the connector between IDC-PRCB CN19 for proper connection and correct as necessary.	-	-
4	Check the connector between SD2-relay CN23-PRCB CN24 for proper connection and correct as necessary.	-	-

Step	Action	Control signal	Location of electrical components
5	IDC sensor check	PRCB CN19-1 (IDC_D_LEFT) PRCB CN19-4 (IDC_CTL_LEFT)	13-K
6	SD2 operation check	PRCB CN24-6 (REM)	5-C
7	M2 operation check	PRCB CN11-10 to 13	13-B to C
8	Replace SD2.	-	-
9	Replace M2.	-	-
10	Replace IDC.	-	-
11	Replace PRCB.	-	-

Link to the wiring diagram (N.1. bizhub C3110)
Link to the layout drawings for related parts by each trouble code (S.7. 0094)

3.4.8 0096

(1) Contents

Trouble type	1st transfer pressure/retraction failure
Trouble code	0096
Rank	C
Detection timing	 The 1st transfer pressure sensor is not activated (retracted position) within a given period of time after the 1st transfer pressure solenoid has turned ON. The 1st transfer pressure sensor is not deactivated (pressed position) within a given period of time after the 1st transfer pressure solenoid has turned ON.
Trouble isolation	-
Relevant electrical parts	 1st transfer pressure sensor (PS17) Transport motor (M2) 1st transfer pressure solenoid (SD1) Printer control board (PRCB)

(2) Procedure

Step	Action	Control signal	Location of electrical components
1	Check the connector between M2-PRCB CN11 for proper connection and correct as necessary.	-	-
2	Check the M2 connector for proper drive coupling and correct as necessary.	-	-
3	Check the connector between PS17-PRCB CN9 for proper connection and correct as necessary.	-	-
4	Check the connector between SD1-relay CN25-PRCB CN7 for proper connection and correct as necessary.	-	-
5	PS17 sensor check	PRCB CN9-6 (ON)	12 to 13-L
6	SD1 operation check	PRCB CN7-4 (REM)	13-D
7	M2 operation check	PRCB CN11-10 to 13	13-B to C
8	Replace SD1.	-	-
9	Replace M2.	-	-
10	Replace PRCB.	-	-

Link to the wiring diagram (N.1. bizhub C3110)
Link to the layout drawings for related parts by each trouble code (S.8. 0096)

3.4.9 0101

Trouble type	Power malfunction
Trouble code	0101
Rank	C
Detection timing	When opening or closing the door and cover, a paper jam occurs, or the power is not supplied to the printer control board even after a specified period of time passed.
Trouble isolation	-
Relevant electrical parts	 Front door sensor (PS10) Right door sensor (PS11) Front door switch (SW2) Right door switch (SW3) DC power supply (DCPU) Printer control board (PRCB) MFP board (MFPB) PH unit

(2) Procedure Step Action Control signal Location of electrical components Check the connector between PS10-PRCB CN15 for 1 proper connection and correct as necessary. Check the connector between PS11-PRCB CN15 for 2 proper connection and correct as necessary. Check the connector between PRCB CN5-MFPB 3 CN16 for proper connection and correct as necessary. Check the connector between DCPU CN4-relay CN90-SW2-SW3-relay CN90-PRCB CN1 for proper 4 connection and correct as necessary. Check the connector between DCPU CN3-PRCB CN3 5 _ _ for proper connection and correct as necessary. Check the connector between PRCB CN18-relay 6 CN63-PH unit for proper connection and correct as necessary. 7 PRCB CN15-3 (ON) PS10 sensor check 15-H PRCB CN15-6 (ON) 8 PS11 sensor check 15-H 9 Replace PRCB. _ -10 Replace DCPU. _ _ 11 Replace the PH unit. _ _ 12 Replace MFPB. _ -

• Link to the wiring diagram (N.1. bizhub C3110)

• Link to the layout drawings for related parts by each trouble code (S.9. 0101)

3.4.10 0300

(1) Contents

Trouble type	Polygon motor malfunction
Trouble code	0300
Rank	C
Detection timing	 The polygon motor does not rotate evenly even after the lapse of a given period of time after it has been started. The motor lock signal remains HIGH for a given period of consecutive time while the polygon motor is being rotated.
Trouble isolation	-
Relevant electrical parts	PH unit Printer control board (PRCB)

(2) Procedure

Step	Action	Control signal	Location of electrical components
1	Check the connector between PH unit-relay CN63- PRCB CN18 for proper connection and correct as necessary.	-	-
2	Replace PH unit.	-	-
3	Replace PRCB.	-	-

• Link to the layout drawings for related parts by each trouble code (S.10. 0300, 0315)

3.4.11 0310

(1) Contents

Trouble type	Laser malfunction
Trouble code	0310
Rank	C
Detection timing	The SOS signal is not detected within a given period of time after the output of the laser has been started.
Trouble isolation	-
Relevant electrical parts	 PH unit Printer control board (PRCB) MFP board (MFPB)

Step	Action	Control signal	Location of electrical components
1	Check the connector between PH unit-relay CN63- PRCB CN18 for proper connection and correct as necessary.	-	-

Step	Action	Control signal	Location of electrical components
2	Check the connector between PH unit-MFPB CN15 for proper connection and correct as necessary.	-	-
3	Replace the PH unit.	-	-
4	Replace PRCB.	-	-

• Link to the layout drawings for related parts by each trouble code (S.11. 0310)

3.4.12 0315

(1) Contents

Trouble type	PH board communication error
Trouble code	0315
Rank	С
Detection timing	 Mismatching of data being written and read occurs continuously for certain times during communication with the PH board. The EEPROM of the PH board is not yet initialized.
Trouble isolation	-
Relevant electrical parts	Printer control board (PRCB) PH unit

(2) Procedure

Step	Action	Control signal	Location of electrical components
1	Check the connector between PRCB CN18-relay CN63-PH unit for proper connection and correct as necessary.	-	-
2	Replace the PH unit.	-	-
3	Replace PRCB.	-	-

• Link to the layout drawings for related parts by each trouble code (S.10. 0300, 0315)

3.4.13 0500, 0502, 0503, 0510, 0520

Trouble type	Heating roller warm-up failure
Trouble code	0500
Rank	С
Detection timing	The thermistor/1 does not detect the specified temperature and the warm-up cycle is not completed even after the lapse of a given period of time after the cycle has been started.
Trouble isolation	-
Relevant electrical parts	Fusing unit Printer control board (PRCB) DC power supply (DCPU)
Trouble type	Thermistor open-circuit failure
Trouble code	0502
Rank	С
Detection timing	The temperature detected by the thermistor/1 or thermistor/2 does not reach a predetermined level even after the lapse of a given period time after the warm-up cycle has been started.
Trouble isolation	-
Relevant electrical parts	 Fusing unit Printer control board (PRCB) DC power supply (DCPU)
Trouble type	Thermistor resistance failure
Trouble code	0503
Rank	C
Detection timing	The difference between the temperature detected by thermistor/1 and that detected by thermistor/2 exceeds a predetermined value.
Trouble isolation	-
Relevant electrical parts	Fusing unit Printer control board (PRCB) DC power supply (DCPU)
Trouble type	Abnormally low heating roller temperature
Trouble code	0510
Rank	С
Detection timing	The temperature detected by the thermistor/1 or thermistor/2 remains lower than the specified value.
Trouble isolation	-

Relevant electrical parts	 Fusing unit Printer control board (PRCB) DC power supply (DCPU)
Trouble type	Abnormally high heating roller temperature
Trouble code	0520
Rank	C
Detection timing	The temperature detected by the thermistor/1 or thermistor/2 remains higher than the specified value.
Trouble isolation	-
Relevant electrical parts	 Fusing unit Printer control board (PRCB) DC power supply (DCPU)

Step	Action	Control signal	Location of electrical components
1	Check the fusing unit for correct installation (whether it is secured in position).	-	-
2	Check the connector between fusing unit-PRCB CN9 for proper connection and correct as necessary.	-	-
3	Check the connector between fusing unit-DCPU CN2 for proper connection and correct as necessary.	-	-
4	Replace the fusing unit.	-	-
5	Replace PRCB.	-	-
6	Replace DCPU.	-	-

• Link to the layout drawings for related parts by each trouble code (S.12. 0500, 0502, 0503, 0510, 0520)

3.4.14 0F52, 0F53, 0F54, 0F55

(1) Contents

Trouble type	Toner level sensor/Y malfunction
Trouble code	0F52
Rank	С
Detection timing	An error occurs on the toner level sensor/Y.
Trouble isolation	-
Relevant electrical parts	Toner level sensor/Y (PS13) Printer control board (PRCB)
Trouble type	Toner level sensor/M malfunction
Trouble code	0F53
Rank	С
Detection timing	An error occurs on the toner level sensor/M.
Trouble isolation	-
Relevant electrical parts	Toner level sensor/M (PS14) Printer control board (PRCB)
Trouble type	Toner level sensor/C malfunction
Trouble code	0F54
Rank	C
Detection timing	An error occurs on the toner level sensor/C.
Trouble isolation	-
Relevant electrical parts	Toner level sensor/C (PS15) Printer control board (PRCB)
Trouble type	Toner level sensor/K malfunction
Trouble code	0F55
Rank	С
Detection timing	An error occurs on the toner level sensor/K.
Trouble isolation	-
Relevant electrical parts	Toner level sensor/K (PS16) Printer control board (PRCB)

Step	Action	Control signal	Location of electrical components
1	Check the connector between each sensor-PRCB CN21 for proper connection and correct as necessary.	-	-

Step	Action	Control signal	Location of electrical components
2	Replace the toner level sensor of the corresponding color.	-	-
3	Replace PRCB.	-	-

• Link to the layout drawings for related parts by each trouble code (S.13. 0F52, 0F53, 0F54, 0F55)

3.4.15 13C4, 13C5, 13C6, 13C7

(1) Contents

<u> </u>	
Trouble type	Imaging unit/C new article release
Trouble code	13C4
Rank	С
Detection timing	The status with the new unit is not cleared continuously for 3 times after the new imaging unit is set.
Trouble isolation	-
Relevant electrical parts	Imaging unit/C Printer control board (PRCB)
Trouble type	Imaging unit/M new article release
Trouble code	13C5
Rank	С
Detection timing	The status with the new unit is not cleared continuously for 3 times after the new imaging unit is set.
Trouble isolation	-
Relevant electrical parts	Imaging unit/M Printer control board (PRCB)
Trouble type	Imaging unit/Y new article release
Trouble code	13C6
Rank	С
Detection timing	The status with the new unit is not cleared continuously for 3 times after the new imaging unit is set.
Trouble isolation	-
Relevant electrical parts	Imaging unit/Y Printer control board (PRCB)
Trouble type	Imaging unit/K new article release
Trouble code	13C7
Rank	С
Detection timing	The status with the new unit is not cleared continuously for 3 times after the new imaging unit is set.
Trouble isolation	-
Relevant electrical parts	Imaging unit/K Printer control board (PRCB)

(2) Procedure

Step	Action	Control signal	Location of electrical components
1	Reinstall the imaging unit.	-	-
2	Check the connector between imaging unit-PRCB CN221 for proper connection and correct as necessary.	-	-
3	Replace the imaging unit.	-	-
4	Replace PRCB.	-	-

• Link to the layout drawings for related parts by each trouble code (S.14. 13C4, 13C5, 13C6, 13C7)

3.4.16 13CB, 13CC, 13CD, 13CE

Trouble type	Toner cartridge/C new release failure
Trouble code	13CB
Rank	C
Detection timing	The status with the new cartridge is not cleared continuously for 3 times after the new toner cartridge is set.
Trouble isolation	-
Relevant electrical parts	Toner cartridge/C Printer control board (PRCB)
Trouble type	Toner cartridge/M new release failure
Trouble code	13CC
Rank	C
Detection timing	The status with the new cartridge is not cleared continuously for 3 times after the new toner cartridge is set.

Trouble isolation	-
Relevant electrical parts	Toner cartridge/M
	Printer control board (PRCB)
Trouble type	Toner cartridge/Y new release failure
Trouble code	13CD
Rank	C
Detection timing	The status with the new cartridge is not cleared continuously for 3 times after the new toner cartridge is set.
Trouble isolation	-
Relevant electrical parts	Toner cartridge/Y
	Printer control board (PRCB)
Trouble type	Toner cartridge/K new release failure
Trouble code	13CE
Rank	C
Detection timing	The status with the new cartridge is not cleared continuously for 3 times after the new toner cartridge is set.
Trouble isolation	-
Relevant electrical parts	Toner cartridge/K
	Printer control board (PRCB)

Step	Action	Control signal	Location of electrical components
1	Reinstall the toner cartridge.	-	-
2	Check the connector between toner cartridge-PRCB CN82 for proper connection and correct as necessary.	-	-
3	Replace the toner cartridge.	-	-
4	Replace PRCB.	-	-

• Link to the layout drawings for related parts by each trouble code (S.15. 13CB, 13CC, 13CD, 13CE)

3.4.17 13DD

(1) Contents

· /	
Trouble type	Backup data error
Trouble code	13DD
Rank	C
Detection timing	The engine counter data and the controller counter data are inconsistent.
Trouble isolation	-
Relevant electrical parts	Printer control board (PRCB) MFP board (MFPB)

(2) Procedure

Step	Action	Control signal	Location of electrical components
1	Select [SERVICE MODE] -> [BK CLEAR], and execute the BK Clear function.	-	-
2	Check the connector between MFPB CN16-PRCB CN5 for proper connection and correct as necessary.	-	-
3	Replace PRCB.	-	-
4	Replace MFPB.	-	-

• Link to the layout drawings for related parts by each trouble code (S.16. 13DD, 4091, 4092)

3.4.18 13E2, 13E3

· /	
Trouble type	Engine flash ROM device fault
Trouble code	13E2
Rank	С
Detection timing	An erase error occurs during erasing of data in flash ROM.
Trouble isolation	-
Relevant electrical parts	Printer control board (PRCB) MFP board (MFPB)
Trouble type	Engine flash ROM download communication error
Trouble code	13E3
Rank	C
Detection timing	Flash ROM writing is found faulty during a check.

Trouble isolation	-
Relevant electrical parts	Printer control board (PRCB)MFP board (MFPB)

Step	Action	Control signal	Location of electrical components
1 Rewrite the engine firmware.		-	-
2 Replace PRCB.		-	-

• Link to the layout drawings for related parts by each trouble code (S.17. 13E2, 13E3, 13F0, C164)

3.4.19 13F0

(1) Contents

Trouble type	Engine control failure
Trouble code	13F0
Rank	C
Detection timing	An undefined malfunction occurs in the engine section (PRCB, etc.).
Trouble isolation	-
Relevant electrical parts	Printer control board (PRCB)
	MFP board (MFPB)

(2) Procedure

Step	Action	Control signal	Location of electrical components
1	Reboot the main body.	-	-

• Link to the layout drawings for related parts by each trouble code (S.17. 13E2, 13E3, 13F0, C164)

3.4.20 3C00

(1) Contents

EEPROM fault 1 (main body)
3C00
C
An EEPROM communication error of the main body occurs.
-
Printer control board (PRCB)

(2) Procedure

Step	Action	Control signal	Location of electrical components
1	Check the connectors on the PRCB for proper connection and correct any faulty connection as necessary.	-	-
2	Replace PRCB.	-	-

• Link to the layout drawings for related parts by each trouble code (S.18. 3C00, 3C10)

3.4.21 3C10

(1) Contents

Trouble type	EEPROM fault 2 (main body)
Trouble code	3C10
Rank	C
Detection timing	The engine serial number cannot be recovered.
Trouble isolation	-
Relevant electrical parts	Printer control board (PRCB)

(2) Procedure

Step	Action	Control signal	Location of electrical components
1	Check the connectors on the PRCB for proper connection and correct any faulty connection as necessary.	-	-
2	Replace PRCB.	-	-

• Link to the layout drawings for related parts by each trouble code (S.18. 3C00, 3C10)

3.4.22 4091

(1) Contents

Trouble type	Engine communication error
Trouble code	4091
Rank	C
Detection timing	 The engine resends the maximum number of retries (five times) after a retry sequence has occurred. Communication with the CTL is interrupted for one min. or longer during a stabilization sequence.
Trouble isolation	-
Relevant electrical parts	Printer control board (PRCB) MFP board (MFPB)

(2) Procedure

Step	Action	Control signal	Location of electrical components
1	Reboot the main body.	-	-
2	Check the flat cable between MFPB CN16-PRCB CN5 for proper connection and correct as necessary.	-	-
3	Check the connected portion of the flat cable for any curled pattern or any scratches, and replace it if necessary.	-	-
4	Replace PRCB.	-	-
5	Replace MFPB.	-	-

• Link to the layout drawings for related parts by each trouble code (S.16. 13DD, 4091, 4092)

3.4.23 4092

(1) Contents

(1)	
Trouble type	Interface communication error
Trouble code	4092
Rank	C
Detection timing	Correct communication is failed when receiving/sending the command between MFPB and PRCB.
Trouble isolation	-
Relevant electrical parts	Printer control board (PRCB)MFP board (MFPB)

(2) Procedure

Step	Action	Control signal	Location of electrical components
1	Reboot the main body.	-	-
2	Check the flat cable between MFPB CN16-PRCB CN5 for proper connection and correct as necessary.	-	-
3	Check the connected portion of the flat cable for any curled pattern or any scratches, and replace it if necessary.	-	-
4	Replace PRCB.	-	-
5	Replace MFPB.	-	-

• Link to the layout drawings for related parts by each trouble code (S.16. 13DD, 4091, 4092)

3.4.24 4901

(1) Contents

Trouble type	FW/OS integrity verification error
Trouble code	4901
Rank	C
Detection timing	 NG results from verification of the hash value of the controller FW. Faulty, damaged, or illegally written ROM data
Trouble isolation	-
Relevant electrical parts	MFP board (MFPB) SSD board (SSDB)

Step	Action	Control signal	Location of electrical components
1	Reboot the main body.	-	-
2	Update the firmware.	-	-

Step	Action	Control signal	Location of electrical components
3	Check the MFPB for proper connection and correct as necessary.	-	-
4	Check the SSDB for proper connection and correct as necessary.	-	-
5	Replace SSDB.	-	-
6	Replace MFPB.	-	-

• Link to the layout drawings for related parts by each trouble code (S.19. 4901, C151, D2B1, D501)

3.4.25 6751

(1) Contents

Trouble type	Lamp lights on and AFE gain adjustment failure
Trouble code	6751
Rank	C
Detection timing	During the AFE gain adjustment, the error occurs continuously for three times after retrying in a state that the the peek value of the output data is 64 or less.
Trouble isolation	Scanner
Relevant electrical parts	Scanner unit MFP board (MFPB)

(2) Procedure

Step	Action	Control signal	Location of electrical components
1	Check the connector between scanner unit-MFPB CN102 for proper connection and correct as necessary.	-	-
2	Check for possible extraneous light and correct as necessary.	-	-
3	Clean the lens, mirrors, AFE surface, and shading sheet if dirty.	-	-
4	Correct reflective mirror of the scanner if faulty, or change scanner mirror.	-	-
5	Replace the scanner unit.	-	-
6	Replace MFPB.	-	-

• Link to the layout drawings for related parts by each trouble code (S.20. 6751, 6790, 6791, 6792, 6793, 9401)

3.4.26 6790, 6791, 6792, 6793

Trouble type	AFE offset adjustment error
Trouble code	6790
Rank	C
Detection timing	During the offset adjustment, the offset value does not fall within the predetermined range a total of three times including retries.
Trouble isolation	Scanner
Relevant electrical parts	Scanner unit MFP board (MFPB)
Trouble type	AFE register setting error
Trouble code	6791
Rank	C
Detection timing	There is a mismatch between the set default values of the AFE gain/offset and the gain/offset values read thereafter.
Trouble isolation	Scanner
Relevant electrical parts	Scanner unit MFP board (MFPB)
Trouble type	White reference plate search error
Trouble code	6792
Rank	C
Detection timing	The black/white edge on the shading plate cannot be detected during initialization.
Trouble isolation	Scanner
Relevant electrical parts	Scanner unit MFP board (MFPB)
Trouble type	Scanner communication error
Trouble code	6793

Rank	C
Detection timing	A communication error of some sort occurs between the controller and the scanner.
Trouble isolation	Scanner
Relevant electrical parts	Scanner unit MFP board (MFPB)

Step	Action	Control signal	Location of electrical components
1	Check the connector between scanner unit-MFPB CN102 for proper connection and correct as necessary.	-	-
2	Check for possible extraneous light and correct as necessary.	-	-
3	Clean the lens, mirrors, AFE surface, and shading sheet if dirty.	-	-
4	Correct reflective mirror of the scanner if faulty, or change scanner mirror.	-	-
5	Replace the scanner unit.	-	-
6	Replace MFPB.	-	-

• Link to the layout drawings for related parts by each trouble code (S.20. 6751, 6790, 6791, 6792, 6793, 9401)

3.4.27 9401

(1) Contents

Trouble type	Exposure lamp lighting failure detected
Trouble code	9401
Rank	C
Detection timing	The intensity of the lamp is not stabilized within a predetermined period of time during the lamp stabilization check process in a lamp warm-up cycle.
Trouble isolation	Scanner
Relevant electrical parts	Scanner unit MFP board (MFPB)

(2) Procedure

Step	Action	Control signal	Location of electrical components
1	Check the connector between scanner unit-MFPB CN102 for proper connection and correct as necessary.	-	-
2	Check for possible extraneous light and correct as necessary.	-	-
3	Clean the lens, mirrors, AEF surface, and shading sheet if dirty.	-	-
4	Correct reflective mirror of the scanner if faulty, or change scanner mirror.	-	-
5	Replace the scanner unit.	-	-
6	Replace MFPB.	-	-

• Link to the layout drawings for related parts by each trouble code (S.20. 6751, 6790, 6791, 6792, 6793, 9401)

3.4.28 C151

(1) Contents

Trouble type	ROM contents error upon startup (MSC)
Trouble code	C151
Rank	C
Detection timing	A fault is detected in a sequence of ROM contents check of the MFPB during starting.
Trouble isolation	-
Relevant electrical parts	MFP board (MFPB) SSD board (SSDB)

Step	Action	Control signal	Location of electrical components
1	Reboot the main body.	-	-
2	Check the ROM version.	-	-
3	Rewrite the firmware.	-	-

Step	Action	Control signal	Location of electrical components
4	Replace MFPB and SSDB.	-	-

• Link to the layout drawings for related parts by each trouble code (S.19. 4901, C151, D2B1, D501)

3.4.29 C161

(1) Contents

.,		
Trouble type	Firmware update error	
Trouble code	C161	
Rank	С	
Detection timing	A firmware updating sequence is not normally terminated.	
Trouble isolation	-	
Relevant electrical parts	MFP board (MFPB)	

(2) Procedure

Step	Action	Control signal	Location of electrical components
1	Check the cable used for updating the firmware for proper connection and correct any faulty connection as necessary.	-	-
2	Check the firmware updating file; if the file is not correct, update the firmware again.	-	-
3	Check the firmware updating procedure; if the procedure is not correct, update the firmware again.	-	-
4	Update the firmware again.	-	-
5	Check the MFPB connector for proper connection and correct any faulty connection as necessary.	-	-
6	Replace MFPB.	-	-

• Link to the layout drawings for related parts by each trouble code (S.21. C161, D3A2, D3F2, D3F3, D3F4)

3.4.30 C164

(1) Contents

Trouble type	ROM contents error (MSC)
Trouble code	C164
Rank	C
Detection timing	The wrong model of firmware is detected in the MFP board when the main power switch is turned ON.
Trouble isolation	-
Relevant electrical parts	Printer control board (PRCB)MFP board (MFPB)

(2) Procedure

Step	Action	Control signal	Location of electrical components
1	Check the ROM version.	-	-
2	Rewrite the firmware.	-	-
3	Replace the corresponding board.	-	-
4	If the above actions do not solve the problem, contact KM.	-	-

• Link to the layout drawings for related parts by each trouble code (S.17. 13E2, 13E3, 13F0, C164)

3.4.31 D004

(1) Contents

Trouble type	Hard disk access error (connection failure)
Trouble code	D004
Rank	C
Detection timing	Unable to communicate between the hard disk and MFP board (MFPB).
Trouble isolation	-
Relevant electrical parts	MFP board (MFPB) HDD (HDD)

Step	Action	Control signal	Location of electrical components
1	Check the connector between hard disk-MFPB CN5, CN13 for proper connection and correct as necessary.	-	-

Step	Action	Control signal	Location of electrical components
2	Reinstall the hard disk.	-	-
3	Replace the hard disk.	-	-
4	Replace MFPB.	-	-

• Link to the layout drawings for related parts by each trouble code (S.22. D004, D091)

3.4.32 D091

(1) Contents

()	
Trouble type	Hard disk full error
Trouble code	D091
Rank	C
Detection timing	The area made available as a user area is full during access to the hard disk.
Trouble isolation	-
Relevant electrical parts	MFP board (MFPB) HDD (HDD)

(2) Procedure

Step	Action	Control signal	Location of electrical components
1	Set [Admin Settings] -> [Printer Settings] -> [HOLD JOB TIMEOUT] to [Disable].	-	-
2	Check the connector between hard disk-MFPB CN5, CN13 for proper connection and correct as necessary.	-	-
3	Format the hard disk.	-	-
4	Replace the hard disk.	-	-
5	Replace MFPB.	-	-

• Link to the layout drawings for related parts by each trouble code (S.22. D004, D091)

3.4.33 D092

(1) Contents

Trouble type	No hard disk (found during a disk check)
Trouble code	D092
Rank	C
Detection timing	The hard disk is not mounted.
Trouble isolation	-
Relevant electrical parts	HDD (HDD)

(2) Procedure

Step	Action	Control signal	Location of electrical components
1	Install and format the hard disk.	-	-

• Link to the layout drawings for related parts by each trouble code (S.23. D092, D093, D094, D095, D096)

3.4.34 D093

(1) Contents

Trouble type	Wrong hard disk (found during a disk check)
Trouble code	D093
Rank	C
Detection timing	A hard disk intended for another model is mounted.The hard disk capacity is short.
Trouble isolation	-
Relevant electrical parts	HDD (HDD)

(2) Procedure

Step	Action	Control signal	Location of electrical components
1	Replace the hard disk.	-	-
2	Format the hard disk.	-	-

• Link to the layout drawings for related parts by each trouble code (S.23. D092, D093, D094, D095, D096)

3.4.35 D094

(1) Contents

· /	
Trouble type	Hard disk check disk error
Trouble code	D094
Rank	C
Detection timing	When the power switch ON, the hard disk fails to be checked.
Trouble isolation	-
Relevant electrical parts	HDD (HDD)

(2) Procedure

Step	Action	Control signal	Location of electrical components
1	Replace the hard disk.	-	-
2	Format the hard disk.	-	-

• Link to the layout drawings for related parts by each trouble code (S.23. D092, D093, D094, D095, D096)

3.4.36 D095

(1) Contents

Trouble type	Hard disk recovered (requiring reboot)	
Trouble code	D095	
Rank	C	
Detection timing	When the power switch ON, the hard disk fails to be recovered.	
Trouble isolation	-	
Relevant electrical parts	HDD (HDD)	

(2) Procedure

Step	Action	Control signal	Location of electrical components
1	Turn OFF/ON the power switch.	-	-
2	Replace the hard disk.	-	-
3	Format the hard disk.	-	-

• Link to the layout drawings for related parts by each trouble code (S.23. D092, D093, D094, D095, D096)

3.4.37 D096

(1) Contents

Trouble type	Hard disk access fault
Trouble code	D096
Rank	C
Detection timing	When the power switch ON, the hard disk fails to be access.
Trouble isolation	-
Relevant electrical parts	HDD (HDD)

(2) Procedure

Step	Action	Control signal	Location of electrical components
1	Replace the hard disk.	-	-
2	Format the hard disk.	-	-

• Link to the layout drawings for related parts by each trouble code (S.23. D092, D093, D094, D095, D096)

3.4.38 D0A2

(1) Contents

Trouble type	No SSD board (found during a disk check)	
Trouble code	D0A2	
Rank	C	
Detection timing	The SSD board is not mounted.	
Trouble isolation	-	
Relevant electrical parts	SSD board (SSDB)	

Step	Action	Control signal	Location of electrical components
1	Install the SSDB.	-	-

Step	Action	Control signal	Location of electrical components
2	Using [Admin Settings] -> [Security Settings] -> [SSD Settings] -> [SSD Format], format the SSD.	-	-

• Link to the layout drawings for related parts by each trouble code (S.24. D0A2, D0A3, D0A4, D0A5, D0A6)

3.4.39 D0A3

(1) Contents

Trouble type	Wrong SSD board (found during a disk check)	
Trouble code	D0A3	
Rank	C	
Detection timing • A SSD board intended for another model is mounted. • The SSD board capacity is short.		
Trouble isolation	-	
Relevant electrical parts	SSD board (SSDB)	

(2) Procedure

Step	Action	Control signal	Location of electrical components
1	Replace SSDB.	-	-
2	Using [Admin Settings] -> [Security Settings] -> [SSD Settings] -> [SSD Format], format the SSD.	-	-

• Link to the layout drawings for related parts by each trouble code (S.24. D0A2, D0A3, D0A4, D0A5, D0A6)

3.4.40 D0A4

(1) Contents

Trouble type	SSD board check disk error	
Trouble code	D0A4	
Rank	C	
Detection timing	n timing When the power switch ON, the SSD board fails to be checked.	
Trouble isolation	-	
Relevant electrical parts	SSD board (SSDB)	

(2) Procedure

Step	Action	Control signal	Location of electrical components
1	Using [Admin Settings] -> [Security Settings] -> [SSD Settings] -> [SSD Format], format the SSD.	-	-
2	Replace SSDB.	-	-
3	Using [Admin Settings] -> [Security Settings] -> [SSD Settings] -> [SSD Format], format the SSD.	-	-

• Link to the layout drawings for related parts by each trouble code (S.24. D0A2, D0A3, D0A4, D0A5, D0A6)

3.4.41 D0A5

(1) Contents

. ,	
Trouble type	SSD board recovered (requiring reboot)
Trouble code	D0A5
Rank	C
Detection timing	When the power switch ON, the SSD board fails to be recovered.
Trouble isolation	-
Relevant electrical parts	SSD board (SSDB)

(2) Procedure

Step	Action	Control signal	Location of electrical components
1	Turn OFF/ON the power switch.	-	-
2	Replace SSDB.	-	-
3	Using [Admin Settings] -> [Security Settings] -> [SSD Settings] -> [SSD Format], format the SSD.	-	-

Link to the layout drawings for related parts by each trouble code (S.24, D0A2, D0A3, D0A4, D0A5, D0A6)

3.4.42 D0A6

(1) Contents	
Trouble type	SSD board access fault

Trouble code	D0A6
Rank	C
Detection timing	When the power switch ON, the SSD board fails to be access.
Trouble isolation	-
Relevant electrical parts	SSD board (SSDB)

Step	Action	Control signal	Location of electrical components
1	Replace SSDB.	-	-
2	Using [Admin Settings] -> [Security Settings] -> [SSD Settings] -> [SSD Format], format the SSD.	-	-

• Link to the layout drawings for related parts by each trouble code (S.24. D0A2, D0A3, D0A4, D0A5, D0A6)

3.4.43 D110

(1) Contents

Trouble type	Wireless LAN destination initialization error
Trouble code	D110
Rank	C
Detection timing	When an initialization error occurred on the settings of the wireless LAN in the network interface card (NC-P03).
Trouble isolation	-
Relevant electrical parts	-

(2) Procedure

Step	Action	Control signal	Location of electrical components
1	Check the MK-P07 connector for proper connection and correct as necessary.	-	-
2	Rewrite the firmware.	-	-
3	Reinstall the MK-P07 and NC-P03.	-	-

3.4.44 D262

(1) Contents

Trouble type	Extension network adapter installation error
Trouble code	D262
Rank	C
Detection timing	The communication is failed even when the mount kit (MK-P07)/network interface card (NC-P03) has been installed.
Trouble isolation	-
Relevant electrical parts	-

(2) Procedure

Step	Action	Control signal	Location of electrical components
1	Check the settings of the Service Mode is set to "Installed." [Service Mode] -> [2nd NIC settings]	-	-
2	Check the MK-P07 connector for proper connection and correct as necessary.	-	-
3	Rewrite the firmware.	-	-
4	Reinstall the MK-P07 and NC-P03.	-	-

3.4.45 D2B1

Trouble type	Controller ROM data error
Trouble code	D2B1
Rank	C
Detection timing	An access error or data error to the ROM of MFPB occurs.
Trouble isolation	-
Relevant electrical parts	MFP board (MFPB) SSD board (SSDB)

Step	Action	Control signal	Location of electrical components
1	Reboot the main body.	-	-
2	Check the ROM version.	-	-
3	Rewrite the firmware.	-	-
4	Replace MFPB and SSDB.	-	-

• Link to the layout drawings for related parts by each trouble code (S.19. 4901, C151, D2B1, D501)

3.4.46 D3A2

(1) Contents

Trouble type	Counter error
Trouble code	D3A2
Rank	C
Detection timing	A write error occurs in the counter area.
Trouble isolation	-
Relevant electrical parts	MFP board (MFPB)

(2) Procedure

Step	Action	Control signal	Location of electrical components
1	Check the MFPB for its mounting condition and correct any faulty condition.	-	-
2	Replace MFPB	-	-
3	If the same trouble code persists after the abovementioned procedures, the EEPROM is probably damaged.	-	-

• Link to the layout drawings for related parts by each trouble code (S.21. C161, D3A2, D3F2, D3F3, D3F4)

3.4.47 D3F1

(1) Contents

Trouble type	Successful completion of counter backup
Trouble code	D3F1
Rank	C
Detection timing	The counter backup process is completed successfully.
Trouble isolation	-
Relevant electrical parts	-

(2) Procedure

Step	Action	Control signal	Location of electrical components
1	This code is displayed when the counter backup process is completed successfully. When this code is displayed, turn OFF/ON the power switch and then perform the given steps. G.3.10 MFP board (MFPB)	-	-

3.4.48 D3F2

(1) Contents

Trouble type	Write error of the counter area (NVRAM)
Trouble code	D3F2
Rank	C
Detection timing	An error occurs in the counter area when writing to the BootFlash.
Trouble isolation	-
Relevant electrical parts	MFP board (MFPB)

(2) Procedure

Step	Action	Control signal	Location of electrical components
1	Turn OFF/ON the power switch.	-	-
2	Check the MFPB for its mounting condition and correct any faulty condition.	-	-
3	Replace MFPB	-	-

• Link to the layout drawings for related parts by each trouble code (S.21. C161, D3A2, D3F2, D3F3, D3F4)

3.4.49 D3F3

(1) Contents

(1)	
Trouble type	Write error of the counter area (SSD)
Trouble code	D3F3
Rank	C
Detection timing	An error occurs in the counter area when writing to the EEPROM.
Trouble isolation	-
Relevant electrical parts	MFP board (MFPB)

(2) Procedure

Step	Action	Control signal	Location of electrical components
1	Turn OFF/ON the power switch.	-	-
2	Check the MFPB for its mounting condition and correct any faulty condition.	-	-
3	Replace MFPB	-	-
4	If the same trouble code persists after the abovementioned procedures, replace the EEPROM with the one has been installed on the new board.	-	-

• Link to the layout drawings for related parts by each trouble code (S.21. C161, D3A2, D3F2, D3F3, D3F4)

3.4.50 D3F4

(1) Contents

Trouble type	Copy write error of the counter area
Trouble code	D3F4
Rank	C
Detection timing	An error occurs in the counter area when restoring from the EEPROM to the BootFlash.
Trouble isolation	-
Relevant electrical parts	MFP board (MFPB)

(2) Procedure

Step	Action	Control signal	Location of electrical components
1	Turn OFF/ON the power switch.	-	-
2	Check the MFPB for its mounting condition and correct any faulty condition.	-	-
3	Replace MFPB	-	-
4	If the same trouble code persists after the abovementioned procedures, replace the EEPROM with the one has been installed on the new board.	-	-

• Link to the layout drawings for related parts by each trouble code (S.21. C161, D3A2, D3F2, D3F3, D3F4)

3.4.51 D501

(1) Contents

. ,	
Trouble type	FLASH error
Trouble code	D501
Rank	C
Detection timing	The SSD board (SSDB) develops a fault.
Trouble isolation	-
Relevant electrical parts	MFP board (MFPB) SSD board (SSDB)

(2) Procedure

Step	Action	Control signal	Location of electrical components
1	Check the SSD for its mounting condition and correct any faulty condition.	-	-
2	Replace MFPB.	-	-

• Link to the layout drawings for related parts by each trouble code (S.19. 4901, C151, D2B1, D501)

3.4.52 E30#

Trouble type	Error signal reception

Trouble code	E301: Referring incorrect memory
	E302: Incorrect command
	E303: Finished due to error inside Qt library
	E304: Finished due to error outside Qt library
	E305: Program forced to stop
Rank	C
Detection timing	Received an error of irregularity.
Trouble isolation	-
Relevant electrical parts	-

Step	Action	Control signal	Location of electrical components
1	Reboot the main body.	-	-
2	If the above actions do not solve the problem, contact KM.	-	-

4. ABORT CODE

4.1 Troubleshooting of the abort code

- The machine displays an abort code (F###) on the control panel as it becomes unable to process tasks properly through its software control.
 When the system program is aborted, check the electrical component, unit, option, and connection relating to the specific type of the system.
- When the system program is aborted, check the electrical component, unit, option, and connection relating to the specific type of the abort condition.

4.1.1 Contents

-	
I rouble type	Abort code
Trouble code	FB00 to FBA5
Rank	C
Detection timing	-
Trouble isolation	-
Relevant electrical parts	MFP board (MFPB)

4.1.2 Procedure

• When an abort code occurs, take a check and action in the following procedure.

Step	Section	Check Item	Resu It	Action
1	Power switch	Turn OFF and ON the power switch, and check if the Abort code appears again.	NO	When not reappearing, continuous use is carried out, and it is checked whether an abort code occurs.
2	Connector connection	Check the connector for proper connection on MFPB and correct as necessary.	NO	It will correct, if connector connection has abnormalities.
3	Firmware	Update the firmware to the latest version, and check if the Abort code appears again.	NO	After conducting firmware updating, check the firmware version No. and confirm that the firmware has been normally updated.
4	MFP board	Replace MFPB		

4.2 FB0#

Code	Item	Component	Rank
FB00	Asahi ASIC error (IMAGE) Memory error: scanner memory error (SCANNER LSI)	MFP board (MFPB)	С
FB01	Asahi ASIC error (IMAGE) Memory error: ASAHI FIFO1 error	_	
FB02	Asahi ASIC error (IMAGE) Memory error: ASAHI FIFO2 error	_	
FB03	Asahi ASIC error (IMAGE) Memory error: ASAHI FIFO3 error		
FB04	Asahi ASIC error (IMAGE) Memory error: ASAHI FIFO4 error	_	
FB05	Asahi ASIC error (IMAGE) Memory error: ASAHI FIFO5 error	_	
FB06	Asahi ASIC error (IMAGE) Memory error: ASAHI FIFO6 error		
FB07	Asahi ASIC error (IMAGE) Memory error: ASAHI FIFO7 error		
FB08	Asahi ASIC error (IMAGE) Memory error: ASAHI register setting error	_	
FB09	Asahi ASIC error (IMAGE) TUKUBA error: TUKUBA initialization error (C3C70)	_	
FB0A	Asahi ASIC error (IMAGE) TUKUBA error: TUKUBA initialization error (C3C80)		
FB0B	Asahi ASIC error (IMAGE) TUKUBA error: TUKUBA initialization error (C3CA0)	_	
FB0C	Asahi ASIC error (IMAGE) TUKUBA error: TUKUBA initialization error (C3CB0)	_	
FB0D	Asahi ASIC error (IMAGE) TUKUBA error: TUKUBA initialization error (C3CE0)		
FB0E	Asahi ASIC error (IMAGE) TUKUBA error: TUKUBA initialization error (C3CF0)		
FB0F	Asahi ASIC error (IMAGE) TUKUBA error: TUKUBA initialization error (C3C60)		

4.3 FB1#

Code	Item	Component	Rank
FB10	Asahi ASIC error (IMAGE)	MFP board (MFPB)	С
	TUKUBA error: TUKUBA initialization error (C3C50)		

4.4 FB4#

Code	Item	Component	Rank
FB40	Asahi ASIC error (higher layer driver) Rotation circuit: FMIT uncompressing error	MFP board (MFPB)	С
FB41	Asahi ASIC error (higher layer driver) Rotation circuit: timeout	-	
FB42	Asahi ASIC error (higher layer driver) JPEG compressing circuit: FMIT uncompressing error	-	
FB43	Asahi ASIC error (higher layer driver) JPEG compressing circuit: FMIT uncompressing error		
FB44	Asahi ASIC error (higher layer driver) JPEG compressing circuit: sequence fault	-	
FB45	Asahi ASIC error (higher layer driver) JPEG compressing circuit: miscellaneous error	-	
FB46	Asahi ASIC error (higher layer driver) Memory FILL circuit: timeout	-	
FB47	Asahi ASIC error (higher layer driver) FMIT compressing circuit: FMIT compressing error	-	
FB48	Asahi ASIC error (higher layer driver) FMIT compressing circuit: FMIT uncompressing error		
FB49	Asahi ASIC error (higher layer driver) Simplified color conversion: simplified color conversion error		

4.5 FB8#

Code	Item	Component	Rank
FB80	Asahi ASIC error(ENG) Video output section: PC-to-PC delay memory WDMA FIFO full signal K	MFP board (MFPB)	С
FB81	Asahi ASIC error (ENG) Video output section: PC-to-PC delay memory WDMA FIFO full signal C		
FB82	Asahi ASIC error (ENG) Video output section: PC-to-PC delay memory WDMA FIFO full signal M		
FB83	Asahi ASIC error (ENG) Video output section: PC-to-PC delay memory WDMA FIFO full signal Y		
FB84	Asahi ASIC error (ENG) Video output section: mask frame data FIFO full signal		
FB85	Asahi ASIC error (ENG) Video output section: overlay frame data FIFO full signal	-	
FB86	Asahi ASIC error (ENG) Video output section: ground tint frame data FIFO full signal		
FB87	Asahi ASIC error (ENG) Video output section: scanner frame color information FIFO full signal		
FB88	Asahi ASIC error (ENG) Video output section: scanner frame data FIFO full signal		
FB89	Asahi ASIC error (ENG) Video output section: print frame color information FIFO full signal		
FB8A	Asahi ASIC error (ENG) Video output section: print frame data FIFO full signal		
FB8B	Asahi ASIC error (ENG) Video output section: video underrun (K)		
FB8C	Asahi ASIC error (ENG) Video output section: video underrun (C)		
FB8D	Asahi ASIC error (ENG) Video output section: video underrun (M)		
FB8E	Asahi ASIC error (ENG) Video output section: video underrun (Y)		

Code	Item	Component	Rank
FB8F	Asahi ASIC error (ENG) Video output section: FMIT compressing FIFO overflow K (VDP_W section)		

4.6 FB9#

Code	Item	Component	Rank
FB90	Asahi ASIC error (ENG) Video output section: FMIT compressing FIFO overflow C (VDP_W section)	MFP board (MFPB)	С
FB91	Asahi ASIC error (ENG) Video output section: FMIT compressing FIFO overflow M (VDP_W section)	-	
FB92	Asahi ASIC error (ENG) Video output section: FMIT compressing FIFO overflow Y (VDP_W section)		
FB93	Asahi ASIC error (ENG) Video output section: FMIT uncompressing FIFO overflow K (VDP_R section)		
FB94	Asahi ASIC error (ENG) Video output section: FMIT uncompressing FIFO overflow C (VDP_R section)		
FB95	Asahi ASIC error (ENG) Video output section: FMIT uncompressing FIFO overflow M (VDP_R section)	-	
FB96	Asahi ASIC error (ENG) Video output section: FMIT uncompressing FIFO overflow Y (VDP_R section)		
FB97	Asahi ASIC error (ENG) Video output section: FMIT uncompressing decode error K (VDP_R section)		
FB98	Asahi ASIC error (ENG) Video output section: FMIT uncompressing decode error C (VDP_R section)		
FB99	Asahi ASIC error (ENG) Video output section: FMIT uncompressing decode error M (VDP_R section)		
FB9A	Asahi ASIC error (ENG) Video output section: FMIT uncompressing decode error Y (VDP_R section)		
FB9B	Asahi ASIC error (ENG) Video output section: FMIT uncompressing decode error (RDMA3_T)		
FB9C	Asahi ASIC error (ENG) Video output section: FMIT uncompressing decode error (RDMA3_K)		
FB9D	Asahi ASIC error (ENG) Video output section: FMIT uncompressing decode error (RDMA3_C)		
FB9E	Asahi ASIC error (ENG) Video output section: FMIT uncompressing decode error (RDMA3_M)]	
FB9F	Asahi ASIC error (ENG) Video output section: FMIT uncompressing decode error (RDMA3_Y)		

4.7 FBA#

Code	Item	Component	Rank
FBA0	Asahi ASIC error (ENG) Video output section: FMIT uncompressing decode error (RDMA3_PR)	MFP board (MFPB)	C
FBA1	Asahi ASIC error (ENG) Video output section: FMIT uncompressing error (overlay section)		
FBA2	Asahi ASIC error (ENG) Video output section: FMIT uncompressing error (mask section)		
FBA3	Asahi ASIC error (ENG) Video output section: FMIT uncompressing error (ground tint generating section)		
FBA4	Asahi ASIC error (ENG) Video output section: FMIT uncompressing error (scanner frame section)		

Code	Item	Component	Rank
FBA5	Asahi ASIC error (ENG) Video output section: page descriptor Queue overflow		

5. FAX TROUBLE CODE

5.1 The error in the transmission/reception system

• The error in the Txx/Rxx system may be caused under the effect of line noise, etc. even in usual operating condition.

• If the error arises often, output the activity report, fax setting list, protocol trace list, parameter list, address book list, group address list and program list and obtain detailed information on the error status, conditions which may cause the error, etc. from the user and contact KM.

5.2 B0##

••			
Code No.	Category	Contents of error	How to correct
B001	FAX board error	FAX board error 1 (FAX ROM check sum error)	 Pull out and insert the connector of FAX board to check its installation.
B002]	FAX board error 2 (DPRAM check error)	If the trouble is not yet corrected, hardware of the FAX board may
B003		FAX board error 3 (FAX initialization NG)	be delective. Replace the LAX board in such a case.
B051		FAX board installation error (Line 1).	Pull out and insert the connector of FAX board to check its installation.

5.3 B11#

Code No.	Category	Contents of error	How to correct
B110	FAX driver error	Instance generation error or observer registration error	Turn OFF/ON the power switch.
B111		Configuration space initialization NG	
B112		Semaphore acquisition, release error	
B113	-	Sequence error among main body tasks	
B114	-	Message queue control error	
B115		Main body - sequence error among FAX boards	Pull out and insert the connector of FAX board to check its installation.
B116		Communication fault between controller and FAX board	
B117	-	ACK waiting timeout error	
B118	-	Receiving undefined frame	
B119		DMA transfer error	

5.4 B12#

Code No.	Category	Contents of error	How to correct
B120	JC	Soft error (FAX board side)	Turn OFF/ON the power switch.
B122		Device error (GA LOCAL SRAM)	Turn OFF/ON the power switch.
B123	-	Device error (DRAM)	If the trouble is not yet corrected, hardware of the FAX board may be defective. Deploye the FAX board in such a seese.
B125		Device error (GA)	be delective. Replace the FAX board in such a case.
B126	-	Timeout error due to non-response from codec control during suspension process	Turn OFF/ON the power switch.
B127		Timeout error due to non-response from communication control during suspension process	
B128		Timeout error due to non-response from LINE control during suspension process	
B129		Timeout error due to non-response from file system/file driver during suspension process	

5.5 B13#

Code No.	Category	Contents of error	How to correct	
B130	Driver error	Driver soft error	Turn OFF/ON the power switch.	
B131	(FAX board side)	(FAX board side) Reception frame length error Reception frame header error	Reception frame length error from main	
B132			Reception frame header error from main	
B133		232C I/F sequence error		
B134		DPRAM I/F sequence error		
B135		DPRAM CTL/STS register error		
B136		ACK waiting timeout		
B137		DPRAM RESET reception		

5.6 B14#

Code No.	Category	Contents of error	How to correct
B140	Soft error (FAX board side)	MSG I/F error with job control	Turn OFF/ON the power switch.
B141	Soft error	I/F error with driver	
B142	I/F error with	Undefined command reception	
B143	main	Command frame length error	
B144	-	Command parameter length error	
B145	-	Undefined parameter	
B146	-	Command/response sequence error	

5.7 B15#

Code No.	Category	Contents of error	How to correct
B150	Line control	External class instance acquisition error	Turn OFF/ON the power switch.
B151		Job start error (starting job parameter error/child job generation error)	
B152		Doc access error (report buf access error)	
B153		Response wait timeout from external task	
B154		Internal que table control error (create/ enque/deque)	

5.8 B16#

Code No.	Category	Contents of error	How to correct
B160	1 destination	Instance generation error	Turn OFF/ON the power switch.
B161	control	Timeout error	
B162		Interface error	
B163		Message que control error	
B164		Semaphore acquisition release error	
B165		Observer registration error	
B166		Reception resource check error	
B167		Deployment error of sending image information	
B168		Serialization error of receiving image	
B169		Access error to quick memory data	

5.9 B17#

Code No.	Category	Contents of error	How to correct
B170	Page control	Internal que table control error (create/ enque/deque)	Turn OFF/ON the power switch.
B171]	Instance generation error	
B172]	Timeout error	
B173]	Interface error	
B174]	Semaphore acquisition release error	
B175]	Observer registration error	
B176]	Unable to secure TTI domain	
B177]	Error return from TTI rasterizer	
B178]	Receiving job generation error	
B179		Sequence control error (line specification fault, status mismatch, event mismatch)	

5.10 B18#

Code No.	Category	Contents of error	How to correct
B180	Page control	Access error to quick sending memory data	Turn OFF/ON the power switch.
B181		BlockBuff acquisition error	
B182		Sending block image error (Req, restore)	
B183]	Receiving block image error (Req, store)	

Code No.	Category	Contents of error	How to correct
B184		Storage error of receiving image information	
B185		Receiving data size logic error (Receiving data are not multiples of dotline)	
B186		ImageBuf acquisition (alloc) error	
B187		Error return from compressor	
B188		BandBuf control error (newInstance/get/ free)	

5.11 B19#

Code No.	Category	Contents of error	How to correct
B190	USB	USB IF error (OS notifies an error during configuration setting after recovery from the sleep or attach.)	Turn OFF the power switch, then check the connection of USB, turn ON the power switch.
B191		USB IF error (EndPoint1: Bulk Out (command, transmitted image data)) (error retry 1 min. timeout)	
B192		USB IF error (EndPoint2: Bulk In (response, received image data)) (error retry 5 sec. timeout)	
B193		USB IF error (EndPoint3: Interrupt In (fax board status)) (error retry 1 min. timeout)	
B194		USB IF error (EndPoint4: Bulk Out (main body status)) (error retry 3 sec. timeout)	
B195		USB IF error (Attach not detected for 1 min. after recovery from sleep)	
B196		USB IF error (Detach not detected for 1 min. after recovery from sleep)	

5.12 T0#

Code No.	Category	Contents of error	How to correct
Т00	Sending	No response obtained from the machine on the other end of the line. (35 second)	Check that the address number is correct.
T01	-	T1 over after the mode has been changed (35 seconds)	-
T02		DCN reception in DIS waiting	The remote station may not receive the data due to paper shortage, full memory, etc.
T03	-	Unexpected command reception in DIS waiting	-
T04	Not used		
T05	Sending	FIF not matching with the remote station (remote station without the function).	-
T06		DCN reception in CFR/FTT waiting	-
T07	Not used		
T08	Sending	Training failure at 2400 bps	The line may be in trouble. Check the line noise.
T09		No response to DCS	The line may be disabled because the user on the remote station disconnected it.

5.13 T1#

Code No.	Category	Contents of error	How to correct
T10	Not used		
T11	Sending	DCN reception while waiting for post message responses	The remote station may not receive the data due to paper shortage, full memory, etc.
T12		Unexpected command reception while waiting for post message responses	-
T13]	No response while waiting for post message responses	The remote station may not receive the data due to paper shortage, full memory, etc.
T14	Not used		
T15	Not used		
T16	Not used		
T17	Not used		
T18	Sending	No reception ability in a remote station	The remote station may not receive the data due to paper shortage, full memory, etc.

Code No.	Category	Contents of error	How to correct
T19	Not used		

5.14 T2#

Code No.	Category	Contents of error	How to correct		
T20	Not used				
T21	Not used	Not used			
T22	Not used				
T23	Not used				
T24	Not used				
T25	Not used				
T26	Not used				
T27	Not used				
T28	ECM sending	Timeout by RR/RNR (60 seconds)	-		
T29	Not used				

5.15 T3#

Code No.	Category	Contents of error	How to correct	
Т30	Not used			
T31	Not used			
T32	ECM sending	Fall back over by CTC	The line may be in trouble. Check the line noise.	
T33	Not used	Not used		
T34	Not used			
T35	ECM	No responses to RR	-	
T36	transmission	DCN reception to RR	-	
T37	Not used	Not used		
T38	F code polling TX	SID is received when SEP is received	-	
T39	Not used			

5.16 T4#

Code No.	Category	Contents of error	How to correct	
T40	Calling	Software error at calling	-	
T41	Not used			
T42	Sending	RTN/PIN reception	-	
T43]	Three continuous CRP signal reception	-	
T44		Time error between frames at transmission	-	
T45	Not used			
T46	Not used			
T47	Not used			
T48	Check Destination	Line disconnected due to no match as a result of CSI check.	Telephone number may not be set on the remote station. Check the CSI signal of the remote station in the protocol trace list.	
T49	Not used		·	

5.17 T5#

Code No.	Category	Contents of error	How to correct
T50	FAX-CSRC	Host terminal ID inconsistency	-
T51	Sending	The FAX board does not respond during transmission	The line may be in trouble. Check the line noise.
T52	Not used		
T53	Not used		
T54	Not used		
T55	Not used		
T56	Not used		
T57	Not used		
T58	Polling reception	Calling by polling reception, but a remote station does not have polling transmission documents	Polling original may not be set on the remote station.

Code No.	Category	Contents of error	How to correct
T59	Not used		

5.18 T6#

Code No.	Category	Contents of error	How to correct	
T60	Polling transmission	Received the polling transmission request (DTC), but there are no polling transmission documents	Polling original may not be set on your machine. Polling TX is enabled only when the polling transmission original is registered.	
T61	F-code polling transmission	Unsatisfactory conditions for receive polling TX request.	Bulletin board original may not be set. Bulletin board TX is enabled only when the bulletin board transmission original is registered.	
T62	F-code polling transmission	Box number specified by SEP is not valid.	Bulletin board box number from the remote station may be incorrect.	
T63	Not used			
T64	Not used			
T65	Not used			
T66	Not used	Not used		
T67	Not used			
T68	Not used			
T69	Not used			

5.19 T7#

Code No.	Category	Contents of error	How to correct			
T70	Not used	Not used				
T71	Not used	Not used				
T72	Not used					
T73	Transmission	Modem response waiting T.0 (60 seconds)	-			
T74	V34	No changes in the V34 modem status	-			
T75		V34 signal sending error	-			
T76]	CS2 is not turned to ON	-			
T77	Not used					
T78	Transmission	Codec control soft ware error	-			
T79		Job control soft error at transmission	-			

5.20 T8#

Code No.	Category	Contents of error	How to correct
T80	Call control	LOOP current detection NG when CML is turned ON at calling	The line may not be connected.Check the line connection status.
T81		Dial Tone detection NG when CML is turned ON at calling	
T82		Answer tone (CED/DIS) waiting timeout after dialing at calling	-
T83		Busy tone detection at calling	-
T84		Line control dial error	-
T85		Short disconnection was detected after LOOP current detection at calling	-
T86	-	Dial tone continues after dialing	-
T87	Not used		
T88	Not used		
Т89	Control unit	When the control unit is connected, a communication error is caused due to capacity shortage and communication is finished.	-

5.21 T9#

Code No.	Category	Contents of error	How to correct
Т90	Not used		
T91	Not used		
T92	Not used		
Т93	Not used		
T94	Not used		

Code No.	Category	Contents of error	How to correct
T95	Call control	When called, short disconnection of LOOP current was detected during a call	-
T96	Not used		
T97	Transfer	Transmission request was received with no FAX board installed. *	-
T98		Transmission request of images that cannot be transmitted were received. (Color images) *	-
Т99	Call control	Remote stations number is deleted while waiting for abbreviated or one-touch re- dialing (redial / transmission / polling reception) *	-

• *: The corresponding error code is not displayed on the control panel even if the error occurs.

5.22 R0#

Code No.	Category	Contents of error	How to correct
R00	Reception	DCS was not received within 35 seconds (T1 over)	The dialed telephone number may be incorrect.
R01		T1 timeout after EOM sending	-
R02		DCN reception in DCS waiting	The line may be disabled because the user on the remote station disconnected it.
R03		Unexpected command reception in DCS waiting	-
R04		FIF error of DCS	-
R05	Not used		
R06	Not used		
R07	Reception	Image information does not come in image information waiting	The line may be disabled because the user on the remote station disconnected it.
R08		CD OFF while receiving image information	
R09]	DCN reception in post message waiting	

5.23 R1#

Code No.	Category	Contents of error	How to correct	
R10	Reception	Unexpected command reception in post message waiting	-	
R11		Command was not received which waiting for post message	The line may be disabled because the user on the remote station disconnected it.	
R12		Timeout during EOL-EOL	-	
R13	Not used			
R14	Not used			
R15	Not used			
R16	Not used			
R17	Not used			
R18	Reception	Resource check error (line disconnected due to ongoing communication)	Space in the hard disk may become short. Unnecessary data should be deleted to secure the space in the hard disk.	
R19	Not used			

5.24 R2#

Code No.	Category	Contents of error	How to correct
R20	Reception	Line disconnection by receive reject function	Call was received from a user who is in the register of addresses to be rejected.
R21	CUG reception	No match of password in the closed network RX setting	Check the password.
R22		No password received in the closed network RX setting	Check the setting of closed network RX.
R23	Not used		
R24	ECM	RR-RNR repeats for 2 minutes	-
R25	reception	Command was not received while waiting for responses to RNR	-
R26		Unexpected command was received while waiting for responses to RNR	-

Code No.	Category	Contents of error	How to correct
R27		DCN reception while waiting for responses to RNR	-
R28		The counter is abnormal of the post messages received (PC/BC).	-
R29		Timeout (35 seconds) between frames occurred	-

5.25 R3#

Code No.	Category	Contents of error	How to correct		
R30	Not used	Not used			
R31	Not used	Not used			
R32	Reception	Line disconnected because there is no appropriate confidential user box while automatic user box generation is inhibited.	Confidential box No. received from the remote station may be incorrect.		
R33		DIS reception to DTC (German specifications only)	-		
R34	F code confidential reception	PWD was received when SUB was received.	-		
R35	Not used		•		
R36	Not used				
R37	V34	CS2 is not turned to ON.	-		
R38		No change in V34 modem and status	-		
R39	Not used				

5.26 R4#

Code No.	Category	Contents of error	How to correct
R40	When called	Soft error when called	-
R41	Not used		
R42	Not used		
R43	Not used		
R44	Not used		
R45	Reception	Phase C timeout (NonECM reception only)	-
R46	Not used		
R47	Not used		
R48	Not used		
R49	Reception	DCN reception while waiting for image information	The line may be disabled because the user on the remote station disconnected it.

5.27 R5#

Code No.	Category	Contents of error	How to correct	
R50	Reception	No. of error lines exceeds.	 The line may be in trouble. Check the line noise.	
R51		The FAX board does not respond during reception	 The line may be in trouble. Check the line noise.	
R52	Not used			
R53	Not used	Not used		
R54	Not used			
R55	Not used	Not used		
R56	Not used	Not used		
R57	Not used			
R58	Not used			
R59	Not used			

5.28 R6#

Code No.	Category	Contents of error	How to correct
R60	Reception	Reception image error (RTN/PIN sending)	The line may be in trouble.Check the line noise.

Code No.	Category	Contents of error	How to correct
R61	Not used		
R62	Not used		
R63	Reception	Three continuous CRP signal reception	-
R64	Not used		
R65	Not used		
R66	SEP polling	SEP polling transmission request was received without SEP polling transmission ability	-
R67	SUB reception	SUB was directed without SUB reception ability	-
R68	Not used		
R69	ECM reception	Communications are cut when EOR is received.	 The line may be in trouble. Check the line noise.

5.29 R7#

Code No.	Category	Contents of error	How to correct
R70	ECM reception	Decode error occurred in ECM	-
R71	Reception	RTC detection error (No. of EOL is smaller than FP.)	-
R72		Long original larger than the allowable value is received.	Longer original than specified is received from the remote station.
R73		Modem response waiting T.0 (60 seconds)	-
R74	-	Reception byte size error	-
R75	V34	V34 signal sending error	-
R76		Unexpected command was received in V34 mode phase C reception	-
R77	Reception	Codec control middle ware error	-
R78		Codec control software error	-
R79		Job control soft error during reception	-

5.30 R8#

Code No.	Category	Contents of error	How to correct	
R80	FAX-CSRC	Serial number received from the host not correct.	Check the status of the Machine registration on host side.	
R81		Disconnection of writing instruction from host during machine is running.	Wait for a while and try transmitting again.	
R82		Disconnection of FAX-CSRC instruction when FAX-CSRC is not allowed.	Check the status of the Machine registration on host side.	
R83]	Host command error.	-	
R84]	NVRAM writing error.	-	
R85	-	R-ISW request received when a machine is running in case of either reserved job exists, image exists in memory, or jam happened.	-	
R86	Not used			
R87	Not used			
R88	Not used			
R89	Not used			

5.31 R9#

Code No.	Category	Contents of error	How to correct
R90	Not used	·	
R91	Not used		
R92	Turnaround	When the turnaround function is not provided, the line is disconnected if a turnaround order (DTC) is received.	-
R93	F-code reception	Unsatisfactory conditions for confidential RX request	Check the Confidential password.
R94		Unsatisfactory conditions for relay request	Check the Relay password.
Code No.	Category	Contents of error	How to correct
----------	----------	--	---
R95		Unsatisfactory conditions for forwarding request	-
R96		Confidential box number specified by SUB is not valid.	Confidential box No. received from the remote station may be incorrect.
R97		Unsatisfactory conditions for PC-FAX RX request (Function, PW unmatching)	-
R98	Not used		
R99	Others	Reception command was received from the whole control side before reception signals were detected.	-

6. POWER SUPPLY TROUBLE

6.1 Machine is not energized at all (DCPU operation check)

	Relevant parts					
• Pov • Prir • DC	 Power switch (SW1) Printer control board (PRCB) DC power supply (DCPU) 					
Step	Check item	Wiring diagram (Location)	Result	Action		
1	Is a power voltage supplied across CN1 on DCPU?	15-I	NO	Check the wiring from the wall outlet to inlet to SW1 to DCPU CN1.		
2	Are DC5.1 V being output from CN11 on MFPB?	10-I to J	NO	 Check the wiring from the DCPU CN5 to MFPB CN11. Replace DCPU. 		
3	Is DC24 V being output from CN1 on PRCB?	12-K	NO	Check the wiring from the DCPU CN4 to PRCB CN1.		
4	Is DC24 V being output from CN502 on MFPB?	10-J	YES	Replace MFPB.		
5	Check the wiring from the MFPB CN16C to PRCB CN5.	-	YES	Reconnect. Replace the flat cable.		
6	Check the wiring from the PRCB CN1 to DCPU	_	YES	Reconnect.		
6	CN4.	-	NO	Replace PRCB.		

• Link to the wiring diagram (N.1. bizhub C3110)

6.2 Control panel indicators do not light

	Relevant parts						
• MFF • Con • DC	MFP board (MFPB) Control panel DC power supply (DCPU)						
Step	Check item	Wiring diagram (Location)	Result	Action			
1	Is a power voltage supplied across CN1 on DCPU?	15-I	NO	Check the wiring from the wall outlet to inlet to SW1 to DCPU CN1.			
2	Are the fuses on DCPU conducting?	-	NO	Replace DCPU.			
3	Is CN200 on MFPB properly connected?	10-F to G	NO	Reconnect.			
	Is CN11, CN502 on MFPB properly connected?		NO	Reconnect.			
4		10-I to J	YES	Replace MFPB.Replace the scanner unit.Replace the control panel.			

• Link to the wiring diagram (N.1. bizhub C3110)

6.3 Fusing heaters do not operate

	Relevant parts						
 Front door switch (SW2) Right door switch (SW3) Fusing unit DC power supply (DCPU) Printer control board (PRCB) 							
Step	Check item	Wiring diagram (Location)	Result	Action			
1	Is the power source voltage applied across CN1 on DCPU?	15-I	NO	Check the wiring from the wall outlet to inlet to SW1 to DCPU CN1.			
	Is the power source voltage applied across CN2		YES	Replace the fusing unit.			
2	on DCPU?	11-K	NO	 Check the wiring from the DCPU CN3 to PRCB CN3. Replace DCPU. Replace PRCB. 			

• Link to the wiring diagram (N.1. bizhub C3110)

7. IMAGE QUALITY PROBLEM

7.1 Troubleshooting procedure overview

7.1.1 Test pattern printing

Following give an overview of a procedure to isolate a faulty spot of an image trouble using a test pattern.
A faulty spot that is responsible for the image trouble is isolated by printing a test pattern to determine whether an image trouble is evident and determining which color of toner, Y, M, C, or K, has the trouble.

(1) Scanner system image trouble

- If an image trouble occurs during a copy cycle, use the image trouble that may be evident on the test pattern printed to determine whether the trouble is attributable to the scanner system or the printer system.
- If no image trouble occurs on a test pattern produced following a print cycle, the image trouble is determined to be attributable to the scanner system.

(2) Printer system image trouble

- If the image trouble is attributable to the printer system, determine whether the image trouble occurs with one to three colors, or with four colors of Y, M, C, and K.
- If the same image trouble occurs with four colors, the image trouble is determined to be that of the four-color system.



7.2 Solution

7.2.1 Image trouble sample illustrations

NOTE

- Sample illustrations schematically show exemplary image troubles that occur when the images are printed on A4-size paper.
- The arrow in the exemplary image troubles indicates the paper feeding direction.



Blank copy	Black copy	Uneven pitch	Poor fusing performance
\Diamond	\Diamond	$\Diamond \boxed{\begin{array}{c} \cdot \cdot \cdot \cdot \\ \cdot & \cdot \end{array}}$	↓ L
Offset	Brush effect	Image bleeding	Moire
C C		ABCDE ABCDE ABCDE ABCDE	\Diamond
Skewed image	Distorted image		
A AA			

7.2.2 White line 1, White band 1, Color line 1, Color band 1

(1) Typical faulty images

The arrow in the exemplary image troubles indicates the paper feeding direction.



[1]	White line	[2]	White band
[3]	Color line	[4]	Color band

(2) Initial troubleshooting procedure

Step	Section	Check item	Result	Action
1	Paper Setting	The paper to be used for printing does not match the paper type and size of paper setting selected on the machine.	YES	Make the paper setting again on the machine.
2	Image Stabilization	Select [Service Mode] -> [Imaging ProcessAdj] -> [Image Stabilization] and the image trouble is eliminated.	NO	Go to the next step.
3	Image check • Select [Service Mode] -> [PRINT MENU] -> [HALFTONE 64]. Load tray with A4 paper. This runs a		1 to 3 colors	Go to the 1-color troubleshooting procedure.
		 print cycle for C, M, Y, and K in that order. Check the image after printing to determine which color causes the abnormal image. 	4 colors	Go to the 4-color troubleshooting procedure.
			None	Go to the scanner troubleshooting procedure.

(3) 1-color troubleshooting procedure

Step	Section	Check item for the faulty color	Result	Action
1	Image check	A white line or black line in sub scan direction is sharp.	YES	Clean the electrostatic charger wire.
2	Imaging unit	The surface of the PC drum is scratched.	YES	Replace the imaging unit.
3		Dirty on the outside.	YES	Clean.
4		Contact terminals make good connection between each imaging unit and machine.	NO	Clean contact terminals.
5		Developing bias contact terminal makes good connection.	NO	Clean contact terminal and check terminal position.
6	PH unit	The surface of the PH window is dirty.	YES	Clean with cleaning jig.
7		The problem has been eliminated through the checks of steps up to 6.	NO	 Replace the transfer belt unit. Replace the PH unit.

Step	Section	Check item	Result	Action
1	Transfer belt unit	Fingerprints, oil, or other foreign matter is evident on the transfer belt.	YES	Clean with specified solvent. (See Maintenance.)
2		Transfer belt is dirty or scratched.	YES	 Clean dirty belt with a soft cloth. Replace the transfer belt unit if belt is damaged.
3		Cleaning blade is not effective in removing toner completely.	YES	Replace the transfer belt unit.
4	Transfer roller	Transfer roller is dirty or scratched.	YES	Replace the transfer roller.
5	Paper path	There is foreign matter on paper path.	YES	Remove foreign matter.
6		Image transfer paper separator fingers are damaged or dirty.	YES	Clean or change.
7	Fusing unit	Fusing entrance guide plate is dirty or damaged.	YES	Clean.Replace the fusing unit.
8		Fusing paper separator fingers are dirty.	YES	Clean.
9		The problem has been eliminated through the checks of steps up to 8.	NO	Replace the printer control board.

(4) 4-color troubleshooting procedure

(5) Scanner troubleshooting procedure

Step	Section	Check item	Result	Action
1	Original	Original is damaged or dirty.	YES	Change original.
2	DF	Original pad is dirty.	YES	Clean.
3	Original glass	Original glass is dirty.	YES	Wipe the surface clean with a soft cloth.
4	FB Side Edge	The adjustment value for [Service Mode] -> [Machine] -> [Scanner Area] -> [FB Side Edge] falls within the specified range.	NO	Readjust.
5		The problem has been eliminated through the checks of steps up to 4.	NO	Replace the scanner unit.

7.2.3 White line 2, White band 2, Color line 2, Color band 2

(1) Typical faulty images

The arrow in the exemplary image troubles indicates the paper feeding direction.



[1]	White line	[2]	White band
[3]	Color line	[4]	Color band

(2) Initial troubleshooting procedure

Step	Section	Check item	Result	Action
1	Paper Setting	The paper to be used for printing does not match the paper type and size of paper setting selected on the machine.	YES	Make the paper setting again on the machine.
2	Image Stabilization	Select [Service Mode] -> [Imaging ProcessAdj] -> [Image Stabilization] and the image trouble is eliminated.	NO	Go to the next step.
4	Image check	Select [Service Mode] -> [PRINT MENU] -> [HALFTONE 64]. Load the tray with A4 paper. This	1 to 3 colors	Go to 1-color troubleshooting procedure.
		 runs a print cycle for C, M, Y, and K in that order. Check the image after printing to determine which color 	4 colors	Go to 4-color troubleshooting procedure.
		causes the appointial intage.		Go to scanner troubleshooting procedure.

(3) 1-color troubleshooting procedure

Step	Section	Check item for the faulty color	Result	Action
1	Image check	A white line or black line in main scan direction is sharp.	NO	Clean the electrostatic charger wire.
2	Imaging unit	The surface of the PC drum is scratched.	YES	Replace the imaging unit.

3		Dirty on the outside.	YES	Clean.
4		Contact terminals make good connection between each imaging unit and machine.	NO	Clean contact terminals.
5		Developing bias contact terminal makes good connection.	NO	Clean contact terminal and check terminal position.
6	PH unit	The surface of the PH window is dirty.	YES	Clean with cleaning jig.
7		The problem has been eliminated through the checks of steps up to 6.	NO	 Replace the transfer belt unit. Replace the PH unit.

(4) 4-color troubleshooting procedure

Step	Section	Check item	Result	Action
1	Transfer belt unit	Fingerprints, oil, or other foreign matter is evident on the transfer belt.	YES	Clean with specified solvent. (See Maintenance.)
2		Transfer belt is dirty or scratched.	YES	 Clean dirty belt with a soft cloth. Replace the transfer belt unit if belt is damaged.
3	Transfer roller	Transfer roller is dirty or scratched.	YES	Replace the transfer roller.
4	Paper path	There is foreign matter on paper path.	YES	Remove foreign matter.
5		Image transfer paper separator fingers are damaged or dirty.	YES	Clean or change.
6	Fusing unit	Fusing entrance guide plate is dirty or damaged.	YES	Clean.Replace the fusing unit.
7		Fusing paper separator fingers are dirty.	YES	Clean.
8	Neutralizing brush	The resistance values between the neutralizing brush and the ground terminal is not ∞ .	NO	Check the contact.Replace the neutralizing brush.
9		The problem has been eliminated through the checks of steps up to 8.	NO	Replace the printer control board.

(5) Scanner troubleshooting procedure

Step	Section	Check item	Result	Action
1	Original	Original is damaged or dirty.	YES	Change original.
2	DF	Original pad is dirty.	YES	Clean.
3	Original glass	Original glass is dirty.	YES	Wipe the surface clean with a soft cloth.
4	Offset	The adjustment value for [Service Mode] -> [Machine] -> [Scanner Area] -> [Offset] falls within the specified range.	NO	Readjust.
5		The problem has been eliminated through the checks of steps up to 4.	NO	Replace the scanner unit.

7.2.4 Uneven density 1

(1) Typical faulty images

The arrow in the exemplary image troubles indicates the paper feeding direction.



(2) Initial troubleshooting procedure

Step	Section	Check item	Result	Action
1	Paper Setting	The paper to be used for printing does not match the paper type and size of paper setting selected on the machine.	YES	Make the paper setting again on the machine.
2	IDC sensor	IDC sensor is dirty.IDC sensor cover does not operate properly.	YES	 Clean. Clean or correct the IDC sensor cover.
3	Image Stabilization	Select [Service Mode] -> [Imaging ProcessAdj] -> [Image Stabilization] and the image trouble is eliminated.	NO	Go to the next step.
4	Image check	• Select [Service Mode] -> [PRINT MENU] -> [HALFTONE 64]. Load tray with A4 paper. This runs a print cycle for C, M, Y, and K in that order.	YES	Go to 1-color troubleshooting procedure.

Step	Section	Check item	Result	Action
		 Check the image after printing and the abnormal image occurs only with one color. 	NO	Go to 4-color troubleshooting procedure.

Step	Section	Check item for the faulty color	Result	Action
1	Imaging unit	The surface of the PC drum is scratched.	YES	Replace the imaging unit.
2		Dirty on the outside.	YES	Clean.
3	PH unit	The surface of the PH window is dirty.	YES	Clean with cleaning jig.
4	Transfer roller	Image transfer roller is installed properly.	NO	Reinstall.
5		Image transfer roller is dirty or scratched.	YES	Replace the transfer roller.
6	Transfer belt unit	Is abnormality found in the cam gear?	YES	Replace the transfer belt unit.
7		The problem has been eliminated through the checks of steps up to 6.	NO	 Replace the PH unit. Replace the printer control board. Replace the high voltage unit.

(3) 1-color troubleshooting procedure

(4) 4-color troubleshooting procedure

Step	Section	Check	Result	Action
1	Transfer belt unit	Fingerprints, oil, or other foreign matter is evident on the transfer belt.	YES	Clean it with the tender cloth or paper which is dusted with the toner.
2		Transfer belt is dirty or scratched.	YES	 Clean dirty belt with a soft cloth. Replace the transfer belt unit if belt is damaged.
3		Terminal is dirty.	YES	Clean.
4	Transfer roller	Image transfer roller is installed properly.	NO	Reinstall.
5		Image transfer roller is dirty or scratched.	YES	Replace the transfer roller.
6		The problem has been eliminated through the checks of steps up to 5.	NO	Replace the transfer belt unit.

7.2.5 Uneven density 2

(1) Typical faulty images

The arrow in the exemplary image troubles indicates the paper feeding direction.



(2) Initial troubleshooting procedure

Step	Section	Check item	Result	Action
1	Paper Setting	The paper to be used for printing does not match the paper type and size of paper setting selected on the machine.	YES	Make the paper setting again on the machine.
2	IDC sensor	 IDC sensor is dirty. IDC sensor cover does not operate properly. 	YES	 Clean. Clean or correct the IDC sensor cover.
3	Image Stabilization	Select [Service Mode] -> [Imaging ProcessAdj] -> [Image Stabilization] and the image trouble is eliminated.	NO	Go to the next step.
4	Image check	• Select [Service Mode] -> [PRINT MENU] -> [HALFTONE 64]. Load tray with A4 paper. This runs a	YES	Go to 1-color troubleshooting procedure.
		print cycle for C, M, Y, and K in that order.Check the image after printing and the abnormal image occurs only with one color.	NO	Go to 4-color troubleshooting procedure.

(3) 1-color troubleshooting procedure

Step	Section	Check item for the faulty color	Result	Action
1	Imaging unit	The surface of the PC drum is scratched.	YES	Replace the imaging unit.
2		Dirty on the outside.	YES	Clean.
3	PH unit	The surface of the PH window is dirty.	YES	Clean with cleaning jig.
4	Transfer roller	Check that the spring does not come off during the pressure operation of the transfer roller.	NO	Correct.Replace the transfer roller.

Step	Section	Check item for the faulty color	Result	Action
5	Transfer belt unit	Transfer belt unit makes positive contact with plates on rails.	NO	Check and correct contacts.
6		Is abnormality found in the cam gear?	YES	Replace the transfer belt unit.
7		The problem has been eliminated through the checks of steps up to 6.	NO	 Replace the PH unit. Replace the high voltage unit.

(4) 4-color troubleshooting procedure

Step	Section	Check item	Result	Action
1	Transfer belt unit	Fingerprints, oil, or other foreign matter is evident on the transfer belt.	YES	Clean it with the tender cloth or paper which is dusted with the toner.
2		Transfer belt is dirty or scratched.	YES	 Clean dirty belt with a soft cloth. Replace the transfer belt unit if belt is damaged.
3		Terminal is dirty.	YES	Clean.
4	Transfer roller	Image transfer roller is installed properly.	NO	Reinstall.
5		Image transfer roller is dirty or scratched.	YES	Replace the transfer roller.
6		The problem has been eliminated through the checks of steps up to 5.	NO	 Replace the transfer belt unit. Replace the high voltage unit.

7.2.6 Faint image, low image density (ID lowering)

(1) Typical faulty images

The arrow in the exemplary image troubles indicates the paper feeding direction.



(2) Initial troubleshooting procedure

Step	Section	Check item	Result	Action		
1	Paper Setting	The paper to be used for printing does not match the paper type and size of paper setting selected on the machine.	YES	Make the paper setting again on the machine.		
2	Damp paper	Paper is damp.	YES	Change paper to one just unwrapped from its package.		
3	IDC sensor	 IDC sensor is dirty. IDC sensor cover does not operate properly. 	YES	 Clean. Clean or correct the IDC sensor cover. 		
4	Image Stabilization	Select [Service Mode] -> [Imaging ProcessAdj] -> [Image Stabilization] and the image trouble is eliminated.	NO	Go to the next step.		
5	Image check	Select [Service Mode] -> [PRINT MENU] -> [Gradation]. Load tray with A4 paper. This runs a print	1 to 3 colors	Go to 1-color troubleshooting procedure.		
	 cycle of 4 colors or Check the image a causes the abnorm 	cycle of 4 colors on one sheet of paper.Check the image after printing to determine which color	4 colors	Go to 4-color troubleshooting procedure.		
		causes the abhomian image.	None	Go to scanner troubleshooting procedure.		

(3) 1-color troubleshooting procedure

Step	Section	Check item for the faulty color	Result	Action
1	PH unit	The surface of the PH window is dirty.	YES	Clean with cleaning jig.
2	Transfer belt unit	Transfer belt unit makes positive contact with plates on rails.	NO	Check and correct contacts.
3		Is abnormality found in the cam gear?	YES	Replace the transfer belt unit.
4		The problem has been eliminated through the checks of steps up to 3.	NO	 Replace the imaging unit. Replace the printer control board. Replace the PH unit. Replace the high voltage unit.

(4) 4-color troubleshooting procedure

Step	Section	Check item	Result	Action
1	Transfer belt unit	Terminal is dirty.	YES	Clean.
2	Transfer roller	Transfer roller is installed properly.	NO	Reinstall.
3		Charge neutralizing needle is not separated and ground terminal is connected properly.	NO	Correct or change.
4	Fusing unit	The problem has been eliminated through the checks of steps up to 3.	NO	 Replace the transfer belt unit. Replace the printer control board. Replace the high voltage unit.

(5) Scanner troubleshooting procedure

Step	Section	Check item	Result	Action
1	Original glass	Original Glass is dirty.	YES	Wipe the surface clean with a soft cloth.
2		The problem has been eliminated through the checks of steps up to 1.	NO	 Replace the scanner unit. Replace MFPB.

7.2.7 Gradation reproduction failure

(1) Typical faulty images

The arrow in the exemplary image troubles indicates the paper feeding direction.



(2) Troubleshooting procedure

Step	Section	Check item	Result	Action
1	Paper Setting	The paper to be used for printing does not match the paper type and size of paper setting selected on the machine.	YES	Make the paper setting again on the machine.
2	Photo/density	Original type and screen pattern are selected properly.	NO	Change screen pattern.
3	Image check	 Select [Service Mode] -> [PRINT MENU] -> [Gradation]. Load tray with A4 paper. This runs a print cycle of 4 colors on one sheet of paper. Check the image after printing to determine which color causes the abnormal image. 	-	Go to the next step.
4	PH unit	The surface of the PH window is dirty.	YES	Clean with cleaning jig.
5	IDC sensor	IDC sensor is dirty.IDC sensor cover does not operate properly.	YES	 Clean. Clean or correct the IDC sensor cover.
6	Image Stabilization	Select [Service Mode] -> [Imaging ProcessAdj] -> [Image Stabilization] and the image trouble is eliminated.	NO	Go to the next step.
7		The problem has been eliminated through the checks of steps up to 6.	NO	 Replace the imaging unit that is responsible for the abnormal image. Replace the PH unit. Replace the high voltage unit. Replace the printer control board. Replace the MFP board.

7.2.8 Color reproducibility error

(1) Typical faulty images



(2) Troubleshooting procedure

Step	Section	Check item	Result	Action
1	Damp paper	Paper is damp.	YES	Change paper to one just unwrapped from its package.
2	Paper Setting	The paper to be used for printing does not match the paper type and size of paper setting selected on the machine.	YES	Make the paper setting again on the machine.
3	Write section	Terminal is dirty.	YES	Clean.
4	Transfer roller	Transfer roller is installed properly.	NO	Reinstall.
5		Charge neutralizing needle is not separated and ground terminal is connected properly.	NO	Correct or change.
6	IDC sensor	IDC sensor is dirty.IDC sensor cover does not operate properly.	YES	 Clean. Clean or correct the IDC sensor cover.
7	Image Stabilization	Select [Service Mode] -> [Imaging ProcessAdj] -> [Image Stabilization] and the image trouble is eliminated.	NO	Go to the next step.
8		The problem has been eliminated through the checks of steps up to 7.	NO	 Replace the transfer belt unit. Replace the printer control board. Replace the high voltage unit. Replace the MFP board.

7.2.9 Incorrect color image registration

(1) Typical faulty images

The arrow in the exemplary image troubles indicates the paper feeding direction.



(2) Initial troubleshooting procedure

Step	Section	Check item	Result	Action
1	Paper Setting	The paper to be used for printing does not match the paper type and size of paper setting selected on the machine.	YES	Make the paper setting again on the machine.
2	Image Stabilization	Select [Service Mode] -> [Imaging ProcessAdj] -> [Image Stabilization] and the image trouble is eliminated.	NO	Go to the next step.
3	 Image check Select [Service Mode] -> [PRINT MENU] -> [Gradation]. Load tray with A4 paper. This runs a print cycle of 4 colors on one sheet of paper. Check the image after printing and determine if the abnormal image is evident. 	YES	Go to engine troubleshooting procedure.	
		cycle of 4 colors on one sheet of paper.Check the image after printing and determine if the abnormal image is evident.	NO	Go to scanner troubleshooting procedure.

(3) Engine troubleshooting procedure

Step	Section	Check item	Result	Action
1	Machine condition	Vibration is given to the machine after power switch has been turned ON.	YES	Turn off the power switch and turn it on again more than 10 seconds after.
2	Transfer belt unit	Fingerprints, oil, or other foreign matter is evident on the transfer belt.	YES	Clean it with the tender cloth or paper which is dusted with the toner.
3		Transfer belt is dirty or scratched.	YES	 Clean dirty belt with a soft cloth. Replace the transfer belt unit if belt is damaged.
4		Drive coupling to the machine is dirty.	YES	Clean.
5	Imaging unit	The surface of the PC drum is scratched.	YES	Replace the imaging unit.
6	Transfer roller	Transfer roller is installed properly.	NO	Reinstall.
7		Transfer roller is dirty or scratched.	YES	Replace the transfer roller.
8		The problem has been eliminated through the checks of steps up to 7.	NO	 Replace the transfer belt unit. Replace the printer control board. Replace the MFP board.

(4) Scanner troubleshooting procedure

Step	Section	Check item	Result	Action
1	Original	Original does not lie flat.	YES	Change original.
2	DF	DF does not lie flat.	YES	Replace DF if it is deformed or hinges are broken.
3		The problem has been eliminated through the checks of steps up to 2.	NO	Replace the scanner unit.

7.2.10 Foggy background

(1) Typical faulty images

The arrow in the exemplary image troubles indicates the paper feeding direction.



(2) Initial troubleshooting procedure

• •	•.			
Step	Section	Check item	Result	Action
1	Paper Setting	The paper to be used for printing does not match the paper type and size of paper setting selected on the machine.	YES	Make the paper setting again on the machine.
2	Damp paper	Paper is damp.	YES	Change paper to one just unwrapped from its package.
3	IDC sensor	IDC sensor is dirty.IDC sensor cover does not operate properly.	YES	 Clean. Clean or correct the IDC sensor cover.
4	Image Stabilization	Select [Service Mode] -> [Imaging ProcessAdj] -> [Image Stabilization] and the image trouble is eliminated.	NO	Go to the next step.
5	Image check	 Select [Service Mode] -> [PRINT MENU] -> [HALFTONE 256]. Load tray with A4 paper. This runs a print cycle for C, M, Y, and K in that order. Check the image after printing to determine which color causes the abnormal image. 	YES	Go to engine troubleshooting procedure.
			NO	Go to scanner troubleshooting procedure.

(3) Engine troubleshooting procedure

Step	Section	Check item	Result	Action
1	Imaging unit	Dirty on the outside.	YES	Clean.
2	PH unit	The surface of the PH window is dirty.	YES	Clean with cleaning jig.
3	Printer control board (PRCB)	Check the connection of connectors, harness, and flat cables between PRCB and PH unit, and correct if necessary.	NO	Replace the printer control board.
4		The problem has been eliminated through the checks of steps up to 3.	NO	 Replace the imaging unit. Replace the PH unit. Replace the high voltage unit.

(4) Scanner troubleshooting procedure

Step	Section	Check item	Result	Action
1	Original	Original is damaged or dirty.	YES	Change original.
2	DF	Original pad is dirty.	YES	Clean.
3		DF does not lie flat.	YES	Replace DF if it is deformed or hinges are broken.
4	Original glass	Original glass is dirty.	YES	Wipe the surface clean with a soft cloth.
5	Basic screen Density	The problem is eliminated when the image is produced in the manual exposure setting.	NO	Try another exposure level in manual.
6		The problem has been eliminated through the checks of steps up to 5.	NO	 Replace the scanner unit. Replace MFPB.

7.2.11 Void areas, White spots

(1) Typical faulty images



[1] Void areas	[2] White spots
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(2) Initial troubleshooting procedure

Step	Section	Check item	Result	Action
1	Paper Setting	The paper to be used for printing does not match the paper type and size of paper setting selected on the machine.	YES	Make the paper setting again on the machine.
2	IDC sensor	IDC sensor is dirty.IDC sensor cover does not operate properly.	YES	 Clean. Clean or correct the IDC sensor cover.
3	Image Stabilization	Select [Service Mode] -> [Imaging ProcessAdj] -> [Image Stabilization] and the image trouble is eliminated.	NO	Go to the next step.
4	4 Image check • Select [Service Mode] -> [PRINT MENU] -> [HALFTONE 64]. Load tray with A4 paper. This runs a	YES	Go to 1-color troubleshooting procedure.	
		 print cycle for C, M, Y, and K in that order. If the abnormal image does not recur, perform [Service Mode] -> [PRINT MENU] -> [HALFTONE 256] and make a print check. Check the image after printing and the abnormal image occurs only with one color. 	NO	Go to 4-color troubleshooting procedure.

(3) 1-color troubleshooting procedure

Step	Section	Check item for the faulty color	Result	Action
1	Image Check	There are void areas at the front side or high density section.	YES	K.7.2.6 Faint image, low image density (ID lowering)
2		There is void area at the rear side section.	YES	Make the following adjustment: [Service Mode] -> [Imaging ProcessAdj] -> [Transfer VoltageFi] -> [Secondarytransfer].
3	Imaging unit	The surface of the PC drum is scratched.	YES	Replace the imaging unit.
4	Toner cartridge	Foreign matter or caked toner in the toner cartridge.	YES	Remove foreign matter.
5	Installation environment	Is the atmospheric pressure at the installation site low?	YES	Make the following adjustment: [Service Mode] -> [Machine] -> [ALIGNMENT] -> [IMAGE ADJ PARAM].

(4) 4-color troubleshooting procedure

Step	Section	Check	Result	Action
1	Image Check	There are void areas at the front side or high density section.	YES	K.7.2.6 Faint image, low image density (ID lowering)
2		There is void area at the rear side section.	YES	Make the following adjustment: [Service Mode] -> [Imaging ProcessAdj] -> [Transfer VoltageFi] -> [Secondarytransfer].
3	Transfer belt unit	Fingerprints, oil, or other foreign matter is evident on the transfer belt.	YES	Clean it with the tender cloth or paper which is dusted with the toner.
4		Transfer belt is dirty or scratched.	YES	Clean dirty belt with a soft cloth. Replace the transfer belt unit if belt is damaged.
5	Transfer roller	Transfer roller is dirty or scratched.	YES	Replace the transfer roller.
6		Charge neutralizing needle is not separated and ground terminal is connected properly.	NO	Correct or change.
7	Paper path	There is foreign matter on paper path.	YES	Remove foreign matter.
8		Pre-image transfer guide plate is damaged or dirty.	YES	Clean or change.
9		The problem has been eliminated through the checks of steps up to 8.	NO	Replace the transfer belt unit.

7.2.12 Color spots

(1) Typical faulty images

The arrow in the exemplary image troubles indicates the paper feeding direction.



(2) Initial troubleshooting procedure

Step	Section	Check item	Result	Action
1	Paper Setting	The paper to be used for printing does not match the paper type and size of paper setting selected on the machine.	YES	Make the paper setting again on the machine.
2	IDC sensor	 IDC sensor is dirty. IDC sensor cover does not operate properly. 	YES	 Clean. Clean or correct the IDC sensor cover.
3	Image Stabilization	Select [Service Mode] -> [Imaging ProcessAdj] -> [Image Stabilization] and the image trouble is eliminated.	NO	Go to the next step.
4	Secondarytransfer	Select [Service Mode] -> [Imaging ProcessAdj] -> [Transfer VoltageFi] -> [Secondarytransfer] and the image trouble is eliminated. * Decrease the setting value for color spots.	NO	Return the setting value to the original one and go to the next step.
5	 5 Image check Select [Service Mode] -> [PRINT MENU] -> [HALFTONE 64]. Load tray with A4 paper. This runs a print cycle for C, M, Y, and K in that order. Check the image after printing to determine which color causes the abnormal image. 	1 to 3 colors	Go to the 1-color troubleshooting procedure.	
		 print cycle for C, M, Y, and K in that order. Check the image after printing to determine which color causes the abnormal image. 	4 colors	Go to the 4-color troubleshooting procedure.
			None	Go to the scanner troubleshooting procedure.

(3) 1-color troubleshooting procedure

Step	Section	Check item for the faulty color	Result	Action
1	Imaging unit	Developing bias contact terminal makes good connection.	NO	Clean contact terminal and check terminal position.
2		The surface of the PC drum is scratched.	YES	Replace the imaging unit.
3		Dirty on the outside.	YES	Clean.

(4) 4-color troubleshooting procedure

Step	Section	Check item	Result	Action
1	Transfer belt unit	Fingerprints, oil, or other foreign matter is evident on the image transfer belt.	YES	Clean it with the tender cloth or paper which is dusted with the toner.
2		Transfer belt is dirty or scratched.	YES	 Clean dirty belt with a soft cloth. Replace the transfer belt unit if belt is damaged.
3	Transfer roller	Transfer roller is dirty or scratched.	YES	Replace the transfer roller.
4	Paper path	There is foreign matter on paper path.	YES	Remove foreign matter.
5	Fusing unit	Fusing belt is dirty or scratched.	YES	Replace the fusing unit.
6		The problem has been eliminated through the checks of steps up to 5.	NO	Replace the transfer belt unit.

(5) Scanner troubleshooting procedure

Step	Section	Check item	Result	Action
1	Original	Original is damaged or dirty.	YES	Change original.
2	DF	Original pad is dirty.	YES	Clean.
3	Original glass	Original glass is dirty.	YES	Wipe the surface clean with a soft cloth.
4		The problem has been eliminated through the checks of steps up to 3.	NO	 Replace the scanner unit. Replace MFPB.

7.2.13 Blurred image

(1) Typical faulty images

The arrow in the exemplary image troubles indicates the paper feeding direction.

(2) Initial troubleshooting procedure

Step	Section	Check item	Result	Action
1	Damp paper	Paper is damp.	YES	Change paper to one just unwrapped from its package.
2	Paper Setting	The paper to be used for printing does not match the paper type and size of paper setting selected on the machine.	YES	Make the paper setting again on the machine.
3	Image Stabilization	Select [Service Mode] -> [Imaging ProcessAdj] -> [Image Stabilization] and the image trouble is eliminated.	NO	Go to the next step.
4	Image check	Select [Service Mode] -> [PRINT MENU] -> [Gradation]. Load tray with A4 paper. This runs a print	YES	Go to engine troubleshooting procedure.
	cycle of 4 colors on one sheet of paper.Check the image after printing and the abnormal image is evident.	NO	Go to scanner troubleshooting procedure.	

(3) Engine troubleshooting procedure

Step	Section	Check item	Result	Action
1	PH unit	The surface of the PH window is dirty.	YES	Clean with cleaning jig.
2	Imaging unit	Dirty on the outside.	YES	Clean.
3		The problem has been eliminated through the checks of steps up to 2.	NO	 Replace the imaging unit. Replace the PH unit.

(4) Scanner troubleshooting procedure

Step	Section	Check item	Result	Action
1	Original	Original does not lie flat.	YES	Change original.
2	DF	DF does not lie flat.	YES	Replace DF if it is deformed or hinges are broken.
3	Original glass	Original glass tilts.	YES	Position original glass correctly. Check original loading position.
4		The problem has been eliminated through the checks of steps up to 3.	NO	Replace the scanner unit.

7.2.14 Back marking

(1) Typical faulty images

The arrow in the exemplary image troubles indicates the paper feeding direction.



(2) Troubleshooting procedure

Step	Section	Check item	Result	Action
1	Transfer roller	Transfer roller is scratched or dirty.	YES	Replace the transfer roller.
2	Paper path	There is foreign matter on paper path.	YES	Remove foreign matter.
3	Fusing unit	Fusing entrance guide plate is scratched or dirty.	YES	Clean or change.
4		Fusing roller is scratched or dirty.	YES	Replace the fusing unit.
5	Transfer belt unit	Fingerprints, oil, or other foreign matter is evident on the transfer belt.	YES	Clean it with the tender cloth or paper which is dusted with the toner.

Ste	o Section	Check item	Result	Action
6		The problem has been eliminated through the checks of steps up to 5.	NO	 Replace the transfer belt unit. Replace the high voltage unit.

7.2.15 Blank copy, Black copy

(1) Typical faulty images

The arrow in the exemplary image troubles indicates the paper feeding direction.



(2) Initial troubleshooting procedure

Step	Section	Check item	Result	Action
1	Image Stabilization	Select [Service Mode] -> [Imaging ProcessAdj] -> [Image Stabilization] and the image trouble is eliminated.	NO	Go to the next step.
2	Image check	 Select [Service Mode] -> [PRINT MENU] -> [HALFTONE 128]. Load tray with A4 paper. This runs a print cycle for C, M, Y, and K in that order. Check the image after printing and the abnormal image is evident. 	YES	Go to engine troubleshooting procedure.
			NO	Go to scanner troubleshooting procedure.

[2]

Black copy

(3) Engine troubleshooting procedure

Step	Section	Check item	Result	Action
1	PH unit	A blank copy occurs.	YES	Check PH unit connector for proper connection.
2	Imaging unit	Coupling of PC drum drive mechanism is installed properly.	NO	Check and correct drive transmitting coupling.Replace the imaging unit.
3		The PC drum charge corona voltage contact or PC drum ground contact of the imaging unit is connected properly.	NO	Check, clean, or correct the contact.
4	High voltage unit	Connector is connected properly.	NO	Reconnect.
5		The problem has been eliminated through the check of step 4.	NO	 Replace the high voltage unit. Replace the printer control board. Replace the PH unit. Replace the MFP board.

(4) Scanner troubleshooting procedure

Step	Section	Check item	Result	Action
1	Cable connecting scanner and printer	Connector CN102 on MFPB are connected properly with no pins bent.	NO	Reconnect.
2	MFP board (MFPB)	The problem is eliminated after the I/F connection cable has been changed.	NO	 Replace MFPB. Replace the scanner unit.

7.2.16 Uneven pitch

(1) Typical faulty images



(2) Initial troubleshooting procedure

Step	Section	Check item	Result	Action
1	Paper Setting	The paper to be used for printing does not match the paper type and size of paper setting selected on the machine.	YES	Make the paper setting again on the machine.
2	Image Stabilization	Select [Service Mode] -> [Imaging ProcessAdj] -> [Image Stabilization] and the image trouble is eliminated.	NO	Go to the next step.
3	Image check	Select [Service Mode] -> [PRINT MENU] -> [HALFTONE 64]. Load tray with A4 paper. This runs a	YES	Go to 1-color troubleshooting procedure.
		 print cycle for C, M, Y, and K in that order. Check the image after printing and the abnormal image occurs only with one color. 	NO	Go to 4-color troubleshooting procedure.

(3) 1-color troubleshooting procedure

Step	Section	Check item for the faulty color	Result	Action
1	Toner cartridge	The toner cartridge of every color is surely installed.	NO	Re-install it.
2	PH unit	The PH unit is surely installed.	NO	Re-install it.
3	Toner cartridge	There is any stain or breakage on the drive section of the toner cartridge.	YES	Clean/replace the toner cartridge.
4	Imaging unit	There is any stain, damage or abrasion on the PC drum.	YES	Replace the imaging unit.
5	Transfer roller	There is any stain, damage, deformation or abrasion on the transfer roller.	YES	Replace the transfer roller.
6		The problem has been eliminated through the check of step 5.	NO	Replace the transfer belt unit.

(4) 4-color troubleshooting procedure

Step	Section	Check item	Result	Action
1	PH unit	The PH unit is surely installed.	NO	Re-install it.
2	Transfer roller	There is any stain, damage, deformation or abrasion on the transfer roller.	YES	Replace the transfer roller.
3	Fusing unit	There is any stain, damage, deformation or abrasion on the roller and drive section of the fusing unit.	YES	Replace the fusing unit.
4		The problem has been eliminated through the check of step 3.	NO	Replace the transfer belt unit.

7.2.17 Poor fusing performance, Offset

(1) Typical faulty images

The arrow in the exemplary image troubles indicates the paper feeding direction.



[1] Poor fusing performance [2] Offset

(2) Troubleshooting procedure

Step	Section	Check item	Result	Action
1	Paper	Paper type does not match.	YES	Change the setting.
2	Fusing Temperature	Select [Service Mode] -> [Machine] -> [FusingTemperature] and change the setting, and the image trouble is eliminated.	YES	Go to the next step.
3		The problem has been eliminated through the checks of steps up to 2.	NO	Replace the fusing unit.

7.2.18 Brush effect, Image bleeding

(1) Typical faulty images



(2) Troubleshooting procedure

Step	Section	Check item	Result	Action
1	Paper	Paper is damp.	YES	Change paper to one just unwrapped from its package.
2		Paper type does not match.	YES	Change the setting.
3	Fusing unit	Fusing unit is installed properly.	NO	Reinstall.
4		Fusing entrance guide plate is dirty.	YES	Clean.
5		Fusing belt is dirty or scratched.	YES	Replace the fusing unit.

7.2.19 Moire

(1) Typical faulty images

The arrow in the exemplary image troubles indicates the paper feeding direction.



(2) Troubleshooting procedure

Step	Section	Check item	Result	Action
1	Original	Moire distortions recur even after the orientation of original has been changed.	NO	Change the original orientation.
2	Basic screen Original Type	Moire distortions recur even after the original mode has been changed.	YES	Select Text mode or Photo mode.
3	Basic screen Zoom	The problem has been eliminated through the checks of steps up to 2.	NO	Change the zoom ratio.

7.2.20 Skewed image

(1) Typical faulty images

The arrow in the exemplary image troubles indicates the paper feeding direction.



(2) Troubleshooting procedure

Perform the scanner troubleshooting procedure after having made sure that the same image trouble does not occur in the printer system.

Step	Section	Check item	Result	Action
1	Original	Original is skew.	YES	Reposition original.
2	Original glass	Original glass is in positive contact with the flat spring without being tilt.	NO	 Reinstall the glass. Check the original loading position.
3		The problem has been eliminated through the checks of steps up to 2.	NO	Replace the scanner unit.

7.2.21 Distorted image

(1) Typical faulty images



(2) Troubleshooting procedure

Step	Section	Check item	Result	Action
1	Installation	Machine is installed on a level surface.	NO	Reinstall.
2		The problem has been eliminated through the checks of steps up to 1.	NO	Replace the scanner unit.

8. IC PROTECTOR

8.1 IC protector outline

To increase product safety, this MFP has an IC protector (ICP) installed in each board. ICP is a component that protects IC. If the amount of
the current supplied to the electrical parts such as motor exceeds the set level, ICP trips to protect IC from over current.
The following list contains ICP installed in each board, related devices, and symptoms that occur when ICP trips.

8.2 IC protector list

8.2.1 bizhub C3110

(1) Printer control board

			When ICP trips			
ICP No.	Symbol	Target part name	Symptom in each load	Trouble code and others		
F1	CL1	Tray 1 paper feed clutch	Freeze control panel (Printer control board			
	CL2	Manual tray paper feed clutch	communication error)			
	CL3	Registration clutch				
	CL4	Toner supply clutch/Y				
	CL5	Toner supply clutch/M				
	CL6	Toner supply clutch/C				
	CL7	Toner supply clutch/K	_			
	CL8	Loop detection clutch		-		
	CL11	Switchback roller feed clutch				
	CL12	Switchback roller reverse clutch				
	CL13	Duplex conveyance roller clutch				
	SD1	1st transfer pressure solenoid				
	SD2	2nd transfer pressure solenoid				
	-	3.3V DC/DC converter				
F2	HV1	High voltage unit	Faulty image			
F3	FM10	DC power supply fan motor	DC power supply fan motor malfunction	004E		
	FM11	Cooling fan motor	Cooling fan motor malfunction	004A		
F4	M5	Polygon motor	Polygon motor malfunction	0300		
F6	-	Paper feed unit	Misfeed at tray2 paper feed section	-		
F7	M1	Developing motor	Developing motor malfunction	0018		
F8	M4	Color PC drum motor	Color PC drum motor malfunction	0010		
F9	M2	Transport motor	Transport motor malfunction	0017		
F10	-	3.3V DC/DC converter	Freeze control panel (Printer control board communication error)	-		
F11	PS1	Tray1 set sensor	Jam			
	PS2	Tray1 paper empty sensor				
	PS3	Manual tray paper empty sensor				
	PS5	Registration sensor				
	PS6	Loop detection sensor				
	PS7	Paper full sensor				
	PS8	Exit sensor				
	PS9	Duplex conveyance sensor				
	PS12	Waste toner near full sensor		-		
	PS13	Toner level sensor/Y				
	PS14	Toner level sensor/M				
	PS15	Toner level sensor/C				
	PS16	Toner level sensor/K				
	PS17	1st transfer pressure sensor				
	IDC	IDC sensor				
	TEM/HUMS	Temperature/ humidity sensor				
	-	Paper feed unit				
PSW2	-	Toner Y	Power malfunction			
	-	Toner M				
	-	Toner C		0101		
	-	Toner K				
	-	Imaging unit Y				
	-	Imaging unit M				

			When ICP trips	
ICP No.	Symbol	Target part name	Symptom in each load	Trouble code and others
	-	Imaging unit C		
	-	Imaging unit K		
	-	PH unit		

(2) MFP board

		ymbol Target part name	When ICP trips			
ICP No.	Symbol		Symptom in each load	Trouble code and others		
F1	-	USB	Unable to detect host USB	-		
F3	M101	Scanner motor	White reference plate search error	6792		
F4	HDD	Hard disk	Unable to detect HDD	-		
F5	M100	DF transport motor	ADF paper not conveyed	-		
F10	-	Control panel	The control panel back light and the LED do not light on.	-		
F11	-	Control panel	Abnormal display on the control panel	-		
F12	PRCB	Printer control board	Power malfunction	0101 *		
F13	-	IR	Unable to detect home position	-		
F14	-	IR	Unable to detect home position	-		
F15	PS101	Document detection sensor	DF paper not detected	-		
F16	PS102	Document read sensor	Misfeed at ADF section (when scanning)			
	PS103	Document loop sensor		-		
F17	SD101	Pressure solenoid	Misfeed at ADF section (when duplex scanning)	-		
F18	DCPU	DC power supply	White reference plate search error	6792		
F19	DCPU	DC power supply	Not start	-		
F401	FAXB	FAX board	Unable to detect FAX board	-		
F500	-	Authentication unit (AU-201)	Unable to detect authentication unit	-		

NOTICE

• *: A trouble code appears at cover OPEN.

(3) DC power supply

			When ICP trips		
ICP No. Symbol		Target part name	Symptom in each load	Trouble code and others	
F101	-	DC power supply circuit	DC power supply does not supply power.	-	

(4) High voltage unit

	Symbol	Target part name	When ICP trips		
ICP No.			Symptom in each load	Trouble code and others	
IP301	-	Charging, developing DC circuit	Faulty image	-	
IP801	-	Developing AC circuit	Faulty image	-	
IP901	-	Transfer circuit	Faulty image	-	

8.2.2 PF-P14

(1) PC control board

		Target part name	When ICP trips		
ICP No.	Symbol		Symptom in each load	Trouble code and others	
ICP1	CL1	Tray2 paper feed clutch	Misfeed at tray2 paper feed section	-	
ICP2	CL2	Tray2 conveyance clutch	Misfeed at tray2 vertical conveyance section	-	

L PARTS/CONNECTOR LAYOUT DRAWING

- 1. PARTS LAYOUT DRAWING
- 1.1 Main Body



[1]	MFP board (MFPB)	[2]	FAX board (FAXB) *
[3]	Memory board (MEMB) *	[4]	SSD board (SSDB)
[5]	Hard disk (HDD) *	[5]	Printer control board (PRCB)
[7]	Network card*	-	-

```
NOTE
• *: Option
```



[1]	DC power supply (DCPU)	[2]	PH unit
[3]	High voltage unit (HV1)	-	-



[1]	Loop detection clutch (CL8)	[2]	Registration clutch (CL3)
[3]	2nd transfer pressure solenoid (SD2)	[4]	Duplex conveyance roller clutch (CL13)
[5]	Toner supply clutch/K (CL7)	[6]	Toner supply clutch/C (CL6)
[7]	Toner supply clutch/M (CL5)	[8]	Toner supply clutch/Y (CL4)
[9]	Manual paper feed clutch (CL2)	[10]	Tray1 paper feed clutch (CL1)
[11]	Transport motor (M2)	[12]	Developing motor (M1)
[13]	Color PC drum motor (M4)	[14]	1st transfer pressure solenoid (SD1)
[15]	DC power supply fan motor (FM10)	[16]	Scanner motor (M101)
[17]	Cooling fan motor (FM11)	[18]	Switchback roller reverse clutch (CL12)
[19]	Switchback roller feed clutch (CL11)	-	-



[1]	IDC sensor (IDC)	[2]	Loop detection sensor (PS6)
[3]	Duplex conveyance sensor (PS9)	[4]	Manual tray paper empty sensor (PS3)
[5]	Paper full sensor (PS7)	[6]	Exit sensor (PS8)
[7]	Front door switch (SW2)	[8]	Right door switch (SW3)
[9]	Right door sensor (PS11)	[10]	Front door sensor (PS10)
[11]	Toner level sensor/K (PS16)	[12]	Toner level sensor/C (PS15)

L PARTS/CONNECTOR LAYOUT DRAWING > 1. PARTS LAYOUT DRAWING

[13]	Tray1 paper empty sensor (PS2)	[14]	Toner level sensor/M (PS14)
[15]	Waste toner near full sensor (PS12)	[16]	Toner level sensor/Y (PS13)
[17]	Registration sensor (PS5)	[18]	Tray1 set sensor (PS1)
[19]	Power switch (SW1)	[20]	Temperature/humidity sensor (TEM/HUMS)
[21]	1st transfer pressure sensor (PS17)	-	-



[1]	Pressure solenoid (SD101)	[2]	Document loop sensor (PS103)
[3]	Document read sensor (PS102)	[4]	DF transport motor (M100)
[5]	Document detection sensor (PS101)	-	-

1.2 Paper feeder unit (option)



[1]	Tray2 conveyance clutch (CL2)	[2]	Tray2 right door sensor (PS5)
[3]	Tray2 paper feed sensor (PS3)	[4]	Tray2 paper empty sensor (PS1)
[5]	PC control board (PCCB)	[6]	Tray2 paper size switch (SW1)
[7]	Tray2 paper feed motor (M1)	[8]	Tray2 paper feed clutch (CL1)

2. BOARD CONNECTOR LAYOUT DRAWING

2.1 Printer control board (PRCB)



2.2 MFP board (MFPB)



2.3 DC power supply (DCPU)



2.4 High voltage unit (HV1)



2.5 SSD board (SSDB)



2.6 FAX board (FAXB)



2.7 PC control board (PCCB)



3. RELAY CONNECTOR LAYOUT DRAWING [1] [2] [17] [16] [3] [15] [14] [13] ~ 1 [12] [11]-[10] -S C [9] [4] P [5] [8] [6] [7]

No.	CN No.	Location	No.	CN No.	Location
[1]	CN23	D-7	[2]	CN22	D-7
[3]	CN20	C-7	[4]	CN35	H-7
[5]	CN34	H-7	[6]	CN33	H-7
[7]	CN32	G-7	[8]	CN63	C-11
[9]	CN16	A-7	[10]	CN18	B-7
[11]	CN90	G-12	[12]	CN28	E-7
[13]	CN27	E-7	[14]	CN29	F-7
[15]	CN25	C-15	[16]	CN43	K-11
[17]	CN2	C-15	-	-	-

M TIMING CHART

1. Timing chart

1.1 Main body

• Operating conditions: Color, A4S or 8 ¹/₂ x 11S

Powers	switch ON	Print st	art
Polygon motor (M5)			
Transport motor (M2)			►
Color PC drum motor (M4)			
Developing motor (M1)			
Registration clutch (CL3)			
Registration roller			
1st transfer pressure solenoid (SD1)		I	
1st transfer pressure sensor (PS17)			
2nd transfer pressure solenoid (SD2)	11		
2nd transfer pressure operation	4		
2nd transfer roller			
Registration sensor (PS5)			
Loop detection sensor (PS6)			
Exit sensor (PS8)			

N WIRING DIAGRAM

1. bizhub C3110

1.1 Main body (1/2)



• bizhub C3110 Wiring diagram = m0nc812da.pdf 998 KB)

1.2 Main body (2/2)



O THEORY OF OPERATION bizhub C3110

1. INTERFACE SECTION



No.	Туре	Use
[1]	LINE (telephone line) jack	For line connection
[2]	USB port (Authentication Unit)	For connection between Authentication Unit and main body
[3]	Ethernet(LAN) port (1000Base-T/100Base-TX/10Base-T)	For network
[4]	USB port (Type B)	For connection between PC and main body
[5]	TEL (telephone) jack	For telephone connection

2. SCANNER SECTION

2.1 Composition





[1]	Scanner motor (M101)	[2]	CIS

2.2 Drive



[1]	Scanner motor (M101)	[2]	CSI
[3]	Drive belt	-	-

2.3 Operation

2.3.1 When the Start key is pressed

(1) Original reading mode

(a) Original cover mode

- 1. Press the Start key to make the CIS light up.
- 2. The CIS moves from the home position (standby position) while reading the shading sheet to correct the shading.
- 3. The CIS moves to the standby position.
- 4. Original image reading starts from the start position of original reading.
- 5. When the original reading completes, it moves to scanner stop position.
- After reading, the CIS lights out and moves to the standby position.
 The CIS moves again for detecting the home position.
- 8. It moves to the stand-by position and stops there.



[1]	Home position (Stand-by postion)	[2]	Reference position
[3]	Original reading start position	[4]	Original reading finish position
[5]	Scanner stop position	[6]	Original glass
[7]	Shading sheet	[8]	Shading
[9]	Original reading	[10]	Detecting the home position
[11]	Scanner reading motion	-	-

(b) DF mode

- 1. Press the Start key to make the CIS light up.
- 2. The CIS moves from the home position (standby position) while reading the shading sheet to correct the shading.
- 3. The CIS moves to the standby position.
- 4. The CIS moves to the DF reading position to start Original image reading.
- 5. After reading, the CIS lights out and moves to the standby position.
- 6. The CIS moves again for detecting the home position.
- 7. It moves to the stand-by position and stops there.



[1]	DF reading position	[2]	Home position (Stand-by position)
[3]	Reference position	[4]	Shading sheet
[5]	Shading	[6]	Detecting the home position
[7]	Original reading	[8]	DF reading glass

2.3.2 Home position detection

- · Reading parts doesn't have a sensor to detect the home position of the scanner.
- Therefore the green LED lights on while the scanner is moving so that the reference potions to be the border between the white and black of
 the shading sheet is searched and the scanner moves from that position to the home position where locates far to the given distance. Home
 position detection is conducted when power is On and the scan completes its moving.

2.3.3 Shading compensation

- This shading compensation function compensates reading quality dispersion due to sensitivity uniformity of image element of each CIS sensor or LED light distribution irregularity.
- Shading compensation is carried out immediately before the original glass reading and DF original reading.

3. WRITE SECTION

3.1 Configuration



[1]	Index lens	[2]	Return mirror (light source)
[3]	Index board	[4]	Cylindrical lens
[5]	Semiconductor laser	[6]	Synthetic mirror (Y,M,C,K)
[7]	Polygon mirror	[8]	G1 lens
[9]	Index mirror (K)	[10]	Return mirror (K)
[11]	Return mirror (C)	-	-



[1]	G2 lens (Y)	[2]	G2 lens (M)
[3]	Return mirror (M)	[4]	G2 lens (C)
[5]	Return mirror (C)	[6]	G2 lens (K)
[7]	Return mirror (K)	[8]	Polygon mirror
[9]	G1 lens	[10]	Return mirror (K)
[11]	Return mirror (C)	[12]	Return mirror (M)
[13]	Return mirror (Y)	-	-

3.2 Operation

3.2.1 Overview

- Four semiconductor lasers provided, one for each of the four different colors. A single polygon motor is used to make a scan motion.
- · Each photo conductor is irradiated with a laser light so that an electrostatic latent image is formed on it.

3.2.2 Laser exposure process

- 1. The laser light emitted by each of the semiconductor laser/Y, M, C, and K is reflected onto the polygon mirror via the synthetic mirror.
- 2. Since the angle of incidence for each color of laser light varies, the laser light reflected by the polygon mirror is reflected at a different angle for each color.
- 3. The condensing angle of each color of laser light is corrected by the G1 lens before reaching each return mirror.
- 4. The laser light of each color is condensed on the surface of the photo conductor through the return mirror/1st, G2 lens, and return mirror/ 2nd.



[1]	Index board	[2]	Return mirror (light source)
[3]	Semiconductor laser	[4]	Polygon mirror
[5]	Index mirror (K)	-	-



[1]	G2 lens (Y)	[2]	G2 lens (M)
[3]	Return mirror (M)	[4]	G2 lens (C)
[5]	Return mirror (C)	[6]	G2 lens (K)
[7]	Return mirror (K)	[8]	Polygon mirror
[9]	G1 lens	[10]	Return mirror (Y,M,C,K)

3.2.3 Laser emission timing

- When a ready signal is detected after the lapse of a given period of time after the print cycle has been started, a laser ON signal is output from the MFP board.
- The laser ON signal triggers the firing of each laser light, which illuminates the index board via the polygon mirror, G1 lens, index mirror (K), and Index lens. This generates an Index signal.
- This Index (Start of Scan) signal unifies the timing at which the laser lights are irradiated for each main scan line.
- The Index signal is generated only from the K laser light. For the other colors, the emission timing is determined with reference to K.

3.2.4 Color registration control (color shift correction) system

(1) Overview of the registration control

- In a tandem engine, each four different color has an independent image reproduction process. Color shift may occur because of variations in part accuracy. The color registration control system automatically detects color shift and correct color shift in the main and sub scanning directions.
- The color shift detection sequence proceeds as follows. A pattern each is produced at the front and rear on the transfer belt. Each of IDC sensors at the front and rear reads the corresponding pattern. The amount of color shift in each of the sub-scanning and main scanning directions is then calculated and stored in memory.
- The amount of color shift in the sub scanning direction is read from the pattern falling within the sub scanning detection range. That in the main scanning direction is read from the entire pattern.
- From data readings, the machine calculates how much the position of each of the different colors should be corrected. Based on the calculated data, the machine controls each dot during image output, thereby correcting the color shift amount.


[1]	Detection area for sub scanning direction	[2]	Movement direction of the transfer belt
[3]	Detection area for main scanning direction	-	-



(2) Types of color shift

- Color shift is misalignment of the images of three different colors, yellow (Y), magenta (M), and cyan (C), with respect to the image of black (K).
- Four different types of color shift can occur: color shift in the main scan direction, color shift due to overall scaling error in the main scan direction, color shift in the sub scan direction, and image skew.

(3) Correction of color shift in the main scan direction

- If the image of each color (Y, M, C) is misaligned with respect to the image of black (K) in the main scan direction, changing the write start timing in the main scan direction can correct the color shift. Color shift correction needs to be performed separately for the respective colors (Y, M, C).
- Color shift correction control is activated when the image stabilization sequence is started.

* When the image of magenta is misaligned with respect to the image of black (K)



[1]	Rotational direction of the transfer belt	[2]	Transfer belt
[3]	Color shift	[4]	Black (K)
[5]	Magenta (M)	[6]	No color shift
[7]	Before correction	[8]	After correction

(4) Correction of color shift due to overall scaling error in the main scan direction

- If the image of each color (Y, M, C) and the image of black (K) vary in length in the main scan direction, changing the clock frequency of the laser diode can correct the length difference in the main scan direction. Color shift correction needs to be performed separately for the respective colors (Y, M, C).
- · Color shift correction control is activated when the image stabilization sequence is started.

* When the image of magenta is longer than the image of black (K)



[1]	Rotational direction of the transfer belt	[2]	Transfer belt
[3]	Color shift	[4]	Color shift
[5]	Magenta (M)	[6]	Black (K)
[7]	No color shift	[8]	Before correction
[9]	After correction	-	-

(5) Correction of color shift in the sub scan direction

- If the image of each color (Y, M, C) is misaligned with respect to the image of black (K) in the sub scan direction, changing the write start timing in the sub scan direction can correct the color shift. Color shift correction needs to be performed separately for the respective colors (Y, M, C).
- Color shift correction control is activated when the image stabilization sequence is started.
- * When the image of magenta is misaligned with respect to the image of black (K) in the sub scan direction



[1]	Rotational direction of the transfer belt	[2]	Transfer belt
[3]	Black (K)	[4]	Color shift
[5]	Magenta (M)	[6]	No color shift
[7]	Before correction	[8]	After correction

3.2.5 Laser emission area

(1) Main scan direction (FD)

- The print start position in the FD direction is determined by the FD print start signal (HSYNC) that is output from the MFP board and the width of the paper.
- The laser emission area is determined by the paper size. However, there is a 4.2 mm wide void area on both the edges of the paper.

(2) Sub scan direction (CD)

- The print start position in the CD direction is determined by the CD print start signal (TOD) that is output from the MFP board and the length of the paper. However, there is a 4.2 mm inch wide void area on both edges of the paper.
- The laser emission area is determined by the paper size. However, there is a 4.2 mm wide void area on both the leading and trailing edges of the paper.



3.2.6 PH unit temperature detection control

- The temperature inside the PH unit is measured at intervals of 30 sec. by the PH temperature sensor mounted in the PH unit.
- The detected temperature data is recorded to form part of the environmental information data and used for controlling, for example, color registration, 1st transfer output determination, and transfer roller cleaning.

3.2.7 Main scan magnification adjustment

Magnification of the main scan direction is adjusted.

- The main body is mounted with only one IDC sensor and therefore unable to make the main scan magnification adjustment or calculate the skew amount automatically.
 - The main scan magnification adjustment is therefore manually made using the menu on the control panel.
- The adjustment is necessary when the adjustment value is cleared, such as when the PH unit or the EEPROM on the printer control board is replaced with a new one.

3.2.8 Image processing

 The following image stabilization functions are available as they relate to the write section. For more details, see "Image stabilization control".

- · Laser light intensity correction control
- · Color registration correction control (main scan/sub-scan)
- Gamma correction

4. PHOTO CONDUCTOR SECTION

4.1 Configuration



[1]	Photo conductor	[2]	Waste Toner collecting screw
[3]	Charge roller	-	-

4.2 Drive



4.3 Operation

[1]

[3]

4.3.1 Photo conductor drive mechanism

- Motors are used for the drive mechanism independently of the developing system to suppress incorrect color registration and uneven pitch.
 Because the drive for the color imaging unit is stopped in the monochrome mode, different motors are used to drive the color photo conductors and black photo conductor.
- The color PC drum motor drives the photo conductor/Y, M, and C, while the transport motor drives the photo conductor/K.
- In addition to the photo conductor/K, the transport motor also drives the transfer system, paper feed system, and synchronizing drive system.



4.3.2 Charge roller

• Charge rollers are used for charging the photo conductor.

- As compared with the charge wire, the charge roller applies a lower voltage and thus produces a smaller amount of ozone. The main body is not therefore mounted with any ozone filter.
- The charge roller is driven to follow the movement of the photo conductor.



4.3.3 Cleaning roller

- The cleaning roller removes toner stick to the charge roller.
- The cleaning roller rotates by following the movement of the charge roller.



4.3.4 Imaging unit detection

Different imaging unit detection methods apply according to the type of imaging unit: the in-box imaging unit shipped with the main body and the replacement imaging unit.

Control also varies when the life is reached. The following describe details.

(1) In-box imaging unit

- The toner level sensor is used to determine whether the imaging unit is mounted or not.
- The detection is made during the print cycle and image stabilization sequence.
- When a condition of the imaging unit yet to be mounted is detected during the print cycle, a message appears on the control panel showing the condition.

(2) Replacement imaging unit

- After the imaging unit has been detected by accessing the imaging unit detection board, the main body determines whether the imaging unit is new or not.
- The toner level sensor is used to determine whether the imaging unit is mounted or not.

(3) Combination of alternative (used) imaging unit

It is prohibited to use the alternative (used) imaging unit among the same model.

NOTE

Whenever an imaging unit is replaced, it must be replaced with an unused new one. If the imaging unit is replaced with a used
one, the message may not be cleared or the consumption rate of the imaging unit is not correctly reflected.

4.3.5 Imaging unit consumption rate detection

 The consumption rate is calculated based on the period of time through which the transport motor and the color PC drum motor are energized and displayed on the statistics page, control panel and PageScope Web Connection.

4.3.6 Imaging unit life detection

NOTE

- When the "life end display" appears, the machine prohibits all print cycles. The service mode does not allow "life display" to be set to be "disabled" or "life end display" to be set to be "disabled (but printing enabled)". It should, however, be noted that the service mode allows the number of printed pages to be produced between "life display" and "life end display" to be changed.
- Life-related display default settings Near life display: Enabled

Life display: Enabled Life end display: Enabled

(1) Life determination

• The life of the imaging unit is determined based on the transport motor drive time, color PC drum motor drive time, and the number of printed pages produced.

(2) Life determination timing

- The life determination control is performed under any of the following conditions: "The power switch is turned ON (with the front door and right door are closed)"
- "The machine exits the sleep mode"
- "The front door or right door is opened and closed with the power switch in ON position"

(3) Life display (Display and settings for unit to be replaced)

(a) Near life (near full) display

 The default setting for the near life display in this machine is "enabled". The near life display setting can still be set to be disabled. Make this setting for near empty/near full display as necessary. [SERVICE MODE]->[SYSTEM 2]->[Paper Empty Alert]->[Near Empty/ Near Full Display Setting]->[Warning Detection]->[Near Empty / Near Full Display Setting]

(b) Life display

• When any one of the transport motor drive time, color PC drum motor drive time, and the number of printed pages produced reaches a life value, the life message is displayed on the control panel.

(c) Life end diplay

• When the life end display value is reached, the machine gives a message that prompts the user to replace the imaging unit with a new one and prohibits all print cycles. The replacement of the imaging unit with a new one cancels the printing prohibited condition.

(d) Extension of life end display

• The number of printed pages to be produced between "life display" and "life end display (print prohibited)" can be set. For details, see I.4.2.9 IU YIELD SETTINGS and make the setting as necessary.

5. DEVELOPING SECTION

5.1 Configuration





[1]	Toner conveyance screw	[2]	Developing roller
[3]	Toner supply roller	[4]	Agitating screw

5.2 Drive



[1]	Developing motor (M1)	[2]	Toner supply roller
[3]	Developing roller	-	-

5.3 Operation

5.3.1 Toner flow

- 1. Toner stored in the toner cartridge is agitated by the agitating blade and conveyed onto the front side of the toner cartridge by the toner supply screw.
- 2. Toner conveyed onto the front side of the toner cartridge is conveyed through the toner collecting port and then conveyed to the imaging unit collecting port.
- 3. The toner conveyed to the collecting port is conveyed into the toner chamber by the conveyance screw.
- 4. The toner level detection system of the imaging unit (the sensor is mounted on the main body side) detects, at this time, the level of toner still available for use in the toner chamber.
- 5. Toner conveyed onto the rear side of the toner chamber is fed to the toner supply roller via the agitating screw.
- 6. Toner fed to the supply roller is conveyed onto the developing roller.
- At this time, the regulator blade/1st and /2nd regulate the height of toner on the surface of the developing roller.
- 7. Toner on the developing roller is fed to the electrostatic latent image formed on the surface of the photo conductor.
- 8. Toner left on the developing roller is neutralized and returned to the supply roller.
- 9. The toner on the surface of the photo conductor is transferred onto the transfer belt.
- 10. Toner left on the surface of the photo conductor is scraped off by the cleaning blade.
- 11. The toner scraped off by the cleaning blade is conveyed to the waste toner conveyance section by the waste toner collecting screw.

12. The toner conveyed by the toner collecting screw is conveyed and stored as waste toner in the waste toner bottle.



[1]	Toner conveyance screw	[2]	Toner supply screw
[3]	Agitating blade	-	-

5.3.2 Developing system

- Two types of developing systems are used, a non-contact developing system and an alternating current application system.
- 1. A negative charge (supply bias voltage Vr) is applied the supply roller to regulate the amount of toner sticking to the developing roller.
- A negative charge (blade bias voltage Vb1) is applied to the regulator blade/1st to negatively charge the toner and form a thin layer of toner.
 Toner on the surface of the developing roller is evened out by the regulator blade/2nd.
- During development, DC + AC developing bias voltage (Vb) is applied to developing roller. The AC component of the developing bias
- voltage is applied only during development. At any time other than the development, only the DC component of the developing bias voltage is applied.
- The developing roller causes the toner to stick to the photo conductor when the AC component of the developing bias voltage is negative. The voltage and time length of the negative component determine the image density.
- 6. A negative charge (charge neutralizing bias voltage: same potential as the developing bias) is applied to the charge neutralizing sheet to neutralize any toner left on the surface of the developing roller. The neutralized toner is returned to the supply roller.



[1]	Developing roller	[2]	Charge neutralizing sheet
[3]	Photo conductor	[4]	Supply roller
[5]	Regulator blade/1st	[6]	Regulator blade/2nd
[7]	Developing roller bias	[8]	Supply roller bias
[9]	Charge roller bias	[10]	Regulator blade bias

5.3.3 Cleaning mechanism

(1) Cleaning operation

1. The cleaning blade is pressed against the surface of the photo conductor to remove toner left off the surface (fixed blade system).

2. The toner, which has been scraped off by the cleaning blade, is conveyed by the waste toner collecting screw and collected in the waste toner transport section.



5.3.4 Toner collecting port shutter mechanism

- The toner collecting port is equipped with a shutter mechanism that prevents toner from being spilled out when the imaging unit is removed from the main body.
- The shutter of the toner collecting port is operatively connected to the toner cartridge release lever. Operating the toner cartridge release lever to the right or left opens or closes the shutter of the imaging unit.





5.3.5 Image processing

• The following image stabilization functions are available as they relate to the imaging unit section (developing). For more details, see O. 16.2.2 Developing bias correction and O.16.2.3 Control of the maximum amount of toner sticking to the transfer belt.

- · Developing bias correction
- · Control of the maximum amount of toner sticking to the transfer belt

6. TONER SUPPLY SECTION

6.1 Configuration





Toner supply screw	[2]	Agitating blade
Toner collecting port	-	-

6.2 Drive

[3]



6.3 Operation

[1]

[3]

6.3.1 Toner collecting port shutter mechanism

- The toner collecting port is provided with a shutter that prevents toner from being spilled out when the toner cartridge is removed from the main body.
- After installing the toner cartridge into the main body, placing the toner cartridge release lever in its locked position opens the shutter of the toner collecting port. Then toner can be conveyed to the imaging unit.
- Moving the toner cartridge release lever to the right or left accompanies a synchronized movement of the slider to open or close the shutter. The toner collecting port is provided with a shutter that prevents toner from being spilled out when the imaging unit is removed from the main body.



6.3.2 Toner replenishing mechanism

- The developing motor is energized by monitoring the condition of the toner level sensor for each color of toner. Toner is then supplied from the toner cartridge to the imaging unit as necessary.
- Rotation of the developing motor transmits the drive to the drive shaft via each gear.
- Rotation of the drive shaft then transmits the drive to the supply screw of the toner cartridge.
- The drive of the supply screw is controlled by the toner supply clutch of each toner cartridge. The supply screw is operated when the toner supply clutch is energized.



[1]	Toner supply clutch/M	[2]	Toner supply clutch/C
[3]	Drive shaft	[4]	Toner supply clutch/K
[5]	Toner supply screw	[6]	Toner supply clutch/Y

6.3.3 Toner replenishing control

- The toner level sensor is used to detect the amount of toner in the pre-agitation section (imaging unit), so that the main body can determine whether to replenish the toner or not.
- During developing drive, the toner level sensor measures the amount of toner. If the value detected by the toner level sensor is a
 predetermined value in V or less, the main body determines that there is a short supply of toner and replenish the toner as necessary.
- When the value detected by the toner level sensor reaches the predetermined value or more, the toner replenishing sequence is stopped.



6.3.4 Auxiliary toner replenishing

- If a short supply of toner is detected during a multi-print cycle, the print cycle is performed while the ordinary toner replenishing sequence is carried out. If the short supply of toner is not corrected even after a predetermined number of printed pages are produced, the multi-print cycle is temporarily interrupted and the auxiliary toner replenishing sequence is carried out.
- The auxiliary toner replenishing sequence is carried out for a maximum of about 1 min. for each color of toner.

6.3.5 Toner cartridge detection

• Different toner cartridge detection methods apply according to the type of toner cartridge: the in-box toner cartridge shipped with the main body and the replacement toner cartridge.

Control also varies when the life is reached. The following describe details.

(1) In-box toner cartridge

• The in-box toner cartridge is not provided with the toner cartridge detection board and thus does not allow the user to determine whether a toner cartridge is mounted or not.

The main body determines whether the toner cartridge is mounted or not at a toner empty condition. A new print cycle can therefore be started even when each of the toner cartridges is not mounted.

(2) Replacement toner cartridge

- The main body accesses the toner cartridge detection board when the front door is closed or the power switch is turned ON, thereby determining whether or not the toner cartridge is mounted.
- After the toner cartridge has been detected, the main body then determines whether the cartridge is new or not.

(3) Combination of alternative (used) toner cartridge

• It is prohibited to use the alternative (used) toner cartridge among the same model.

NOTE

• Whenever a toner cartridge is replaced, it must be replaced with an unused new one. If the toner cartridge is replaced with a used one, the message may not be cleared or the amount of toner still available for use is not correctly displayed.

6.3.6 Toner consumption rate detection

- The toner consumption rate is calculated based on the toner supply time (the number of times the toner supply clutch is energized).
- The toner level (approximate threshold) can be checked with statistics page, control panel, or PageScope Web Connection.

6.3.7 Toner life detection

- A near life (near-empty) condition of the toner cartridge is detected based on the toner supply time (the number of times the toner supply clutch is energized) of each color of toner.
- When a near life condition is detected, a corresponding message will appear on the control panel.
- A life (empty) condition of the toner cartridge is detected by the toner level sensor.
- If the toner level sensor detects a life (empty) condition and toner is not replenished after the lapse of a predetermined period of time thereafter, the main body determines that there is an empty condition, giving a corresponding message on the control panel and stopping to operate.

6.3.8 Monochrome prints

- The color print is disabled when any of the C, M, and Y toner cartridges is empty. Monochrome print only is, however, enabled if the K toner cartridge is not empty.
- The monochrome print is also controlled by the ordinary near-empty and empty condition detection methods.

7. 1ST TRANSFER SECTION

7.1 Configuration





[1]	Waste toner collecting screw	[2]	Driven roller
[3]	Release lever	[4]	Transfer belt
[5]	Transfer belt drive roller	[6]	Cleaning blade
[7]	1st transfer roller/Y, M, C	[8]	1st transfer roller/K

7.2 Drive



[1]	Driven roller	[2]	Transfer belt
[3]	Transport motor (M2)	[4]	Transfer belt drive roller
[5]	1st transfer roller/Y, /M, /C, /K	-	-

7.3 Operation

7.3.1 1st transfer output control

- To transfer the toner image from the photo conductor to the transfer belt, the transfer voltage is applied to the 1st transfer roller.
- A charge of the same potential is applied to each of the 1st transfer rollers.
- The transfer voltage is applied after the 1st transfer roller/Y, M, C is pressed against the transfer belt for color mode.
- The transfer output is turned OFF after the last image moves past the 2nd transfer section.

(1) Monochrome mode

• The 1st transfer roller/Y, M, C is moved inward the unit (for retraction) and the photo conductor/Y, M, C is stopped.

(2) Color mode

• During the 1st transfer in the color mode, the 1st transfer roller/Y, M, C is moved toward the photo conductor (pressed) so that transfer belt is pressed against the photo conductor.

(3) Others

• The transfer roller is moved (retracted) and the photo conductor is stopped in the ordinary standby state.

7.3.2 1st transfer roller pressure/retraction control

- To extend the service life of the photo conductor/Y, M, C, the pressure position of the 1st transfer roller is changed between the monochrome mode and the color mode.
- The 1st transfer roller/K is not provided with a retraction mechanism; the transfer belt is pressed against the photo conductor/K at all times. • The Transport motor provides the drive for pressure/retraction operation of the 1st transfer roller/Y, M, C.



[1]	Sliding plate	[2]	1st transfer pressure solenoid (SD1)
[3]	Pressure/release clutch	[4]	1st transfer pressure sensor (PS17)
[5]	Pressure cam	-	-

(1) 1st transfer roller pressure operation

- 1. Rotation of the Transport motor is transmitted by a gear train to the pressure/release clutch.
- 2. Drive through the pressure/release clutch rotates the pressure cam a half turn, thus pushing back the sliding plate.
- 3. As the sliding plate is pushed back, the release lever turns.
- 4. As the release lever turns, the 1st transfer roller is pressed against the transfer belt.



(2) 1st transfer roller release operation

- 1. Rotation of the Transport motor is transmitted by a gear train to the pressure/release clutch.
- 2. Drive through the pressure/release clutch rotates the pressure cam a half turn, thus pushing the sliding plate.
- 3. As the sliding plate is pushed, the release lever turns.
- 4. As the release lever turns, the 1st transfer roller is released from the transfer belt.



O THEORY OF OPERATION bizhub C3110 > 7. 1ST TRANSFER SECTION

	[1]	Sliding plate	[2]	Release lever
--	-----	---------------	-----	---------------

7.3.3 Transfer belt cleaning mechanism

[1]

bizhub C3110

- To scrape residual toner off the surface of the transfer belt unit, the transfer belt is provided with a cleaning blade.
- The cleaning blade is in pressed contact with the transfer belt at all times. That is, it cleans the surface of the transfer belt as long as the belt turns.
- The toner scraped off by the cleaning blade is collected to the middle of the transfer belt by the waste toner collecting screw.
- The collected waste toner is conveyed from the waste toner discharge port of the transfer belt unit to the waste toner bottle by way of the waste toner collecting screw.



[1]	Waste toner collecting screw	[2]	Transfer belt
[3]	Cleaning blade	[4]	Waste toner discharge port
[5]	Waste toner collecting screw	-	-

7.3.4 1st transfer belt backward rotation control

• To prevent paper dust, toner, and other foreign matter from being wedged in the cleaning blade while the transfer belt remains stationary, the transfer belt is turned backward so that the foreign matter can be removed.

(1) Operation timing

- At the end of the print cycle
- Main body interior temperature is a predetermined value or less.

7.3.5 Toner collecting port shutter mechanism

- A shutter mechanism is provided to prevent waste toner from being spilled from the waste toner discharge port when the transfer belt unit is removed and reinstalled.
- The shutter is fitted to the transfer belt unit. When the transfer belt unit is removed, the waste toner discharge port is automatically closed.





7.3.6 Transfer belt new article detection

The transfer belt unit is not provided with any new article detection mechanism. Whenever the transfer belt has been replaced with a new
one, the following steps must be performed: in the service mode, select [COUNTER] -> [LIFE] -> [REPLACE] -> [TRANS. BELT] and select
[YES] to reset the counter.

7.3.7 Transfer belt life detection

- Count the sheets of paper, rotating time of the transfer belt, and detect any of them where the value reaches the life limit.
- After life detection, life stop does not work even when a message appears on the control panel.

8. 2ND TRANSFER SECTION

8.1 Configuration





[1]	2nd transfer roller	[2]	Retraction gear
[3]	Pre-transfer guide plate	-	-

8.2 Drive



8.3 Operation

8.3.1 2nd transfer roller pressure mechanism

- The main body is provided with a mechanism that presses the 2nd transfer roller up against, and retracts it from, the transfer belt. This is done to prevent the 2nd transfer roller from being dirtied due to patterns produced for purposes other than an actual printing operation and to prevent creep that would otherwise occur between the transfer belt and the 2nd transfer roller as a result of tight contact between them at all times.
- The IDC sensor serves to determine whether the two parts are in contact with, or separated from, each other.
- When the registration clutch and the 2nd transfer pressure solenoid are energized, drive of the gear train is transmitted to the lever of the IDC sensor, closing the IDC sensor shutter. When the shutter is closed, the IDC sensor outputs a predetermined value, which allows the main body to determine that the 2nd transfer roller is pressed up against the transfer belt.

(1) 2nd transfer roller pressure

• The 2nd transfer roller is pressed against the transfer belt to allow the toner image on the transfer belt to be transferred onto the paper.

• The 2nd transfer roller is pressed against the transfer belt to allow the roller to be cleaned.

(2) 2nd transfer roller retraction

- The 2nd transfer roller is retracted from the transfer belt at timing when a detection pattern is produced on the transfer belt during, for example, an image stabilization control sequence.
- The 2nd transfer roller is also retracted from the transfer belt when the image on the transfer belt cannot be transferred onto paper due to a paper empty condition during a print cycle.
- The 2nd transfer roller is retracted from the transfer belt after the 2nd transfer of the last image is completed during a multi-print cycle.

(3) Pressure/release operation

- 1. When the registration clutch and the 2nd transfer pressure solenoid are energized, the rotation is transmitted to the release cam via a coupling gear.
- 2. When the release cam is rotated a half turn, the release slider moves to the front side of the main body, which results in the 2nd transfer roller being pressed against the transfer belt.
- 3. When the registration clutch and the 2nd transfer pressure solenoid are energized a second time, the release cam is rotated another half turn. This moves the release slider toward the back side of the main body, which results in the 2nd transfer roller being retracted from the transfer belt.



[6]

[3]

[1]	2nd transfer pressure solenoid (SD2)	[2]	Transport motor (M2)
[3]	Release slider	[4]	Release cam
[5]	Registration clutch(CL3)	[6]	2nd transfer roller
[A]	Release	[B]	Pressure

8.3.2 2nd transfer voltage control

- The transfer voltage is applied to the 2nd transfer roller in order to transfer the toner image from the transfer belt to the paper.
- The transfer voltage is applied after the 2nd transfer roller has been pressed against the transfer belt.

8.3.3 2nd transfer voltage setting control (ATVC: auto transfer voltage control)

• The transfer voltage is corrected to reduce effect from the transfer belt and environmental changes of toner.

(1) Operation timing

- · A print request is accepted.
- During a multi-print cycle, the temperature inside the main body changes by a predetermined value or more from the level during
 execution of ATVC, and a predetermined number of printed pages or more have been produced since the execution of the previous
 ATVC.

(2) Control

- 1. The 2nd transfer roller is pressed against the transfer belt.
- 2. A constant current is applied to the 2nd transfer roller.
- 3. The voltage of the 2nd transfer roller surface is detected.
- 4. Using a conversion formula, the output value of the transfer voltage is determined.

5. The current temperature inside the main body is detected and backed up.

8.3.4 2nd transfer roller cleaning control

- DC positive and negative transfer bias voltages are alternately applied to the 2nd transfer roller. This allows toner residue on the surface of the 2nd transfer roller to be transferred back to the transfer belt, thus cleaning the 2nd transfer roller.
- Any voltage for other control purposes is not applied during the cleaning procedure.





(1) Operation timing

- The 2nd transfer roller cleaning sequence is carried out after the transfer belt has been cleaned during recovery from a paperjam or malfunction.
- If a predetermined number of printed pages or more have been produced after the last cleaning sequence when the printer completes a print cycle and is then brought to a stop, a new cleaning sequence is carried out before the printer is brought to a stop.
- · The cleaning sequence is carried out when a paper size error occurs.

8.3.5 Toner density detection control

- A reflective sensor is used for the IDC sensor that detects the amount of toner sticking to the surface of the transfer belt. Image stabilization is performed based on the value detected.
- The detection pattern (toner image) produced on the surface of the transfer belt is irradiated with light emitted by the LED of the sensor.
- The photodiode of the sensor detects the light reflected off the toner pattern on the surface of the transfer belt.





[1]	Transfer belt surface	[2]	IDC sensor
[3]	LED	[4]	Photodiode

A voltage corresponding to the intensity of the light reflected off the toner pattern is output to the MFP board.

Amount of toner sticking	Intensity of light reflected	Output
Large	Small	Low
Small	Great	High

8.3.6 IDC sensor calibration control

- Changes in various types of characteristics due to change with time of the IDC sensor (deteriorated LED, dirty sensor surface), part-to-part variations in the sensors, and change of environment affect the IDC sensor output corresponding to the clear transfer belt surface. To correct fluctuations in the output, the sensor LED intensity is adjusted so as to keep constant the IDC sensor output value.
- This calibration is executed when an image stabilization sequence is performed.

8.3.7 IDC sensor cover open/close mechanism

- Since the IDC sensor is installed below the transfer belt, it can be dirtied with toner or other foreign matter. A shutter mechanism is therefore provided above the IDC sensor to prevent it from being dirtied.
- The cover is opened or closed in synchronism with the pressure or retraction motion of the 2nd transfer roller. When the 2nd transfer roller is released, the cam pushes up the sensor lever, which opens the cover above the IDC sensor.
- When the 2nd transfer roller is pressed, on the other hand, the cover above the IDC sensor is closed by the tension of a spring.



[A]	Cover open	[B]	Cover close
[1]	IDC sensor cover	[2]	Cam
[3]	2nd transfer pressure solenoid	-	-

8.3.8 2nd transfer roller new article detection

The 2nd transfer roller is not provided with any new article detection mechanism. Whenever the 2nd transfer roller has been replaced with a
new one, the following steps must be performed: in the service mode, select [COUNTER] -> [LIFE] -> [REPLACE] -> [TRANS. ROLLER]
and select [YES] to reset the counter.

8.3.9 2nd transfer roller life detection

- The number of printed pages is counted, and will be detected when it reaches the life limit.
- · After life detection, the life stop does not work even when a message appears on the control panel.

8.3.10 Image processing

- The following image stabilization function is available as they relate to the 2nd transfer section. For more details, see 0.16.2.1 IDC sensor output correction.
 - · IDC sensor output correction

9. TONER COLLECTING SECTION

9.1 Configuration





[1]	Waste toner collecting screw (Transfer belt)	[2]	Waste toner collecting screw (Imaging unit)
[3]	Waste toner agitating blade	[4]	Waste toner bottle

9.2 Drive



[1]	Color PC drum motor (M4)	[2]	Transport motor (M2)
[3]	Waste toner agitating blade	-	-

9.3 Operation

9.3.1 Toner flow at the imaging unit section

- 1. Toner scraped off by the cleaning blade in the imaging unit is conveyed to the waste toner discharge port by the waste toner collecting screw.
- 2. The waste toner conveyed is stored in the waste toner bottle.



9.3.2 Waste toner flow at transfer belt unit section/2nd transfer section

- 1. Toner scraped off by the cleaning blade provided in the transfer belt unit is collected onto the waste toner discharge port of the transfer belt unit by the waste toner collecting screw.
- 2. The waste toner collected is conveyed to the waste toner bottle by the waste toner agitating blade from the waste toner collecting port that is provided in the middle of the transfer belt unit.



[1]	Waste toner collecting screw	[2]	Waste toner agitating blade
[3]	Waste toner collecting port	[4]	Waste toner discharge port

9.3.3 Waste toner collecting port shutter mechanism

- A shutter mechanism is provided to prevent waste toner from being spilled from the waste toner collecting port when the waste toner bottle is removed or reinstalled.
- Inserting the waste toner bottle causes the shutter stopper to be caught by the frame of the main body, which automatically opens the shutter.



[1] Shutter stopper	
---------------------	--

9.3.4 Waste toner bottle-in-position detection mechanism

- The waste toner bottle set detection lever is provided to detect a waste toner bottle loaded in position.
- When the waste toner bottle is not loaded, the set detection lever is raised, so that the protrusion provided in the front door interferes with the set detection lever. Then, the front door cannot be closed.



[1] Set detection lever

9.3.5 Waste toner flow in the waste toner bottle

- Waste toner conveyed from the transfer belt and each of the imaging units is evened out in the waste toner bottle by the waste toner agitating blade.
- The waste toner bottle is provided with a detection window. The waste toner near full sensor is unblocked or blocked through the detection window to detect the amount of waste toner in the waste toner bottle.
- The waste toner near full sensor is blocked, which allows the main body to determine a waste toner near-full condition.



9.3.6 Waste toner near-full condition detection control

- · A waste toner near-full condition is detected when the Waste toner near full sensor continuously blocks for a predetermined period of time.
- At this time, a waste toner near-full condition warning is given on the panel.
- Approx. 600 printed pages can be produced for the period of time that begins when the waste toner near-full condition is detected and ends when the lifetime is reached.



[1] Detection window

bizhub C3110

[2]

9.3.7 Waste toner full condition detection control

- A waste toner full condition warning is given on the panel at this time. ٠
- The main body accepts no print job after the waste toner full condition has been detected.
 The waste toner full warning indication disappears when a new waste toner bottle is installed.

10. PAPER FEED SECTION (MANUAL TRAY)

10.1 Configuration





[1]	Paper lift plate	[2]	Feed roller
[3]	Separation roller	[4]	Manual tray paper empty sensor (PS3)

10.2 Drive



10.3 Operation

[1]

[3]

10.3.1 Paper lift plate mechanism

- The paper lift plate will be locked under the paper lift plate lock lever by pressing it down (in which the paper is loaded in position).
 The manual tray paper feed clutch causes the feed roller shaft to rotate, which causes the paper lift plate lock lever to follow the motion to thereby release the paper lift plate.
- The paper lift plate (paper stack) is pressed against the feed roller.

• The paper lift plate (paper stack) is pressed upward by the springs at all times.



[A]	LOCK POSITION	[B]	LOCK RELEASE POSITION
[1]	Feed roller	[2]	Paper lift plate
[3]	Spring	[4]	Locked position
[5]	Paper lift plate lock lever	-	-

10.3.2 Paper separation mechanism

- · Rotation of the transport motor is transmitted through the manual tray paper feed clutch to thereby drive the feed roller.
- The feed roller rotates to take up and feed paper into the main body.
- Double-feeding of paper is prevented by the separation roller provided with a torque limiter.



10.3.3 Paper feed control

[1]

- Rotation of the transport motor is transmitted through the manual tray paper feed clutch to drive the feed roller to take up and feed the paper.
- The paper taken up and fed in is conveyed onto the registration roller.
- The paper is pressed against the stationary registration roller so that a loop is formed in the paper. The feed roller is then stopped. The loop thus formed in the paper corrects any mechanical skew in the paper.

10.3.4 Paper empty condition detection control

- A paper empty condition is detected when the empty sensor actuator blocks the manual tray paper empty sensor.
- No mechanism is provided for detecting a paper near-empty condition. The paper supply level indicator serves this purpose.



11. PAPER FEED SECTION (TRAY 1)

11.1 Configuration





[1]	Trailing edge guide plate	[2]	Tray1 set sensor (PS1)
[3]	Edge guide plate	[4]	Feed roller
[5]	Separation roller	[6]	Tray1 paper empty sensor (PS2)

11.2 Drive



[1]	Transport motor (M2)	[2]	Feed roller
[3]	Tray 1 paper feed clutch (CL1)	-	-

11.3 Operation

11.3.1 Paper lift plate mechanism

- The paper lift plate is pressed down into the locked position (in which the paper is loaded in position). Load a paper stack and then slide the tray into the main body. This causes the lock release lever to unlock the paper lift plate. •
- The paper lift plate (paper stack) is pressed against the feed roller.
- The paper lift plate (paper stack) is pressed upward by the springs at all times.



[1]	Feed roller	[2]	Spring
[3]	Lock release lever	[4]	Paper lift plate

11.3.2 Paper separation mechanism

- Rotation of the transport motor is transmitted through the tray 1 paper feed clutch to thereby drive the feed roller.
- The feed roller rotates to take up and feed paper into the main body.
- Double-feeding of paper is prevented by the separation roller provided with a torque limiter.



 [1]
 Feed roller
 [2]
 Separation roller

11.3.3 Paper feed control

- Rotation of the transport motor is transmitted through the tray 1 paper feed clutch to drive the feed roller to take up and feed the paper.
- The paper taken up and fed in is conveyed onto the registration roller.
- The paper is pressed against the stationary registration roller so that a loop is formed in the paper. The feed roller is then stopped. The loop thus formed in the paper corrects any mechanical skew in the paper.
- · As the trailing edge of the paper reaches a point impapertely before the feed roller, the feed roller is stopped.

11.3.4 Paper empty condition detection control

- The paper empty message "PAPER EMPTY TRAY1" is displayed on the panel when the empty sensor actuator unblocks the tray1 paper empty sensor.
- No mechanism is provided for detecting a paper near-empty condition. The paper supply level indicator replaces this function.



[A]	When paper is loaded	[B]	A paper empty condition
[1]	Tray1 paper empty sensor (PS2)	[2]	Empty sensor actuator

11.3.5 Tray open/close detection control

- The tray1 set sensor detects a tray in the open or closed position.
- The detection plate of tray1 blocks or unblocks the tray1 set sensor, which allows the main body to determine that tray1 is in place or not.



[1]	Tray detection plate	[2]	Trav1 set sensor (PS1)
1.1		<u>[</u> 4]	

11.3.6 Paper jam detection control

- If the registration sensor is not activated within a predetermined period of time after a paper feed sequence has been started, the main body determines that there is a paperjam. It then gives the message "PAPER JAM TRAY 1" on the panel. The paperjam display can be reset by opening and closing any of the doors.
- •

12. REGISTRATION SECTION

12.1 Configuration



[1]	Loop detection sensor (PS6)	[2]	Registration roller
[3]	Registration sensor (PS5)	[4]	2nd transfer roller

12.2 Drive



[1]	Transport motor (M2)	[2]	Registration clutch (CL3)
[3]	Registration roller	[4]	Registration sensor (PS5)

12.3 Operation

12.3.1 Conveyance speed control

- The transport motor provides drive for the conveyance section.
- The conveyance speed is variable in two steps and the appropriate one is selected according to the paper type and print mode as detailed below.

Paper type/print mode	Conveyance speed
Plain paper	185 mm/s
Thick paper, envelopes, postcards, label, 1200 dpi	92.5 mm/s

12.3.2 Registration roller control

- When the paper taken up and fed in by the feed roller reaches the registration roller, a loop is formed in the paper and paper conveyance is temporarily stopped. Conveyance skew is corrected by this loop.
- The registration sensor detects whether or not the paper has reached the registration roller.

• The paper fed in is synchronized with the image before paper conveyance is restarted.

(1) Paper detection control

• When the paper fed from the feed roller pushes up the actuator of the registration sensor, the sensor is unblocked. The main body then determines that the paper has reached the registration roller.



[1]	Registration roller	[2]	Paper (fed from duplex)
[3]	Paper (from tray 1)	[4]	Registration sensor (PS5)
[5]	Actuator	-	-

12.3.3 Control of loop formed before registration roller

- Paper conveyance is stopped after the lapse of a predetermined period of time after the leading edge of the paper fed from the feed roller has reached the registration roller. This forms a loop in the paper.
- The loop in the paper corrects skew in the paper.



[1] Registration roller [2] Paper	
-----------------------------------	--

12.3.4 Paper neutralization

- The charge neutralizing cloth neutralizes any charge left in the paper after the 2nd transfer process.
- The charge residue is grounded through the charge neutralizing cloth to the main body frame.



[1]	Charge neutralizing cloth	[2]	2nd transfer roller
[3]	Paper	-	-

12.3.5 Paper size error detection control

- To prevent incorrect printed pages, the size of the paper being conveyed is detected using the registration sensor and tray2 paper feed sensor (Option).
- The length of the paper is detected based on the value calculated using the period of time that begins when the sensor is activated and ends when it is deactivated for each paper source.
- For the lower feeder unit, even if the tray2 paper feed sensor does not detect a paper size error, the downstream registration sensor makes an error check again.

Paper source	Paper source Paper length detection Starting point sensor		Ending point
Manual tray	Registration sensor (PS5)	Registration roller clutch (CL3): ON	Registration sensor (PS5): OFF
Tray 1	Registration sensor (PS5)	Registration roller clutch (CL3): ON	Registration sensor (PS5): OFF
Tray 2 (PF-P14)	Tray2 paper feed sensor (PS3)	Tray2 paper feed sensor (PS3): ON	Tray2 paper feed sensor (PS3): OFF
	Registration sensor (PS5)	Registration roller clutch (CL3): ON	Tray2 paper feed sensor (PS3): OFF

12.3.6 Temperature/humidity sensor

- The temperature/humidity sensor detects temperature and humidity inside the main body.
- The detected data are used for image stabilization control, ATVC control, and transfer output control.

13. FUSING SECTION

13.1 Configuration





[1]	Fusing heater	[2]	Pressure belt
[3]	Fusing roller	[4]	Thermostat
[5]	Thermistor 1/2	-	-

13.2 Drive



13.3 Operation

13.3.1 Fusing roller drive control

(1) Fusing speed switching control

- The transport motor provides drive for the fusing section.
 To prevent poor fusing performance, the fusing speed is changed in two steps according to the paper type.

	Plain paper (mm/s)	Thick paper, envelopes, gloss paper, 1200 dpi (mm/s)
Fusing speed	185	92.5

(2) Fusing speed control (control of loop before fusing)

- To prevent double transferred images and brush effects from occurring, the difference between the fusing speed and the paper conveyance speed during image transfer is corrected.
- The loop detection sensor detects the length of the loop formed in the paper between the 2nd transfer roller and the fusing roller. The fusing speed is then varied according to the paper type. By varying the fusing speed, paper is prevented from being misfed or contacting the charge neutralizing cloth.
- · No loop control is provided to perform the fusing process when envelopes are used (to prevent wrinkles).



[1]	Pressure belt	[2]	Loop detection sensor (PS6)
[3]	Actuator	[4]	Fusing roller

(3) Fusing roller deformation prevention control

- To prevent the fusing roller from being deformed, the fusing roller is forcibly turned if it is left idle for a predetermined period of time. Operation timing
 - 1. If the main body remains in the standby state for more than a predetermined period of time, the fusing motor is energized for a predetermined period of time.
 - If the main body remains in the power save mode for more than a predetermined number of days, the temperature adjustment is started. After the temperature rises to a predetermined value or more, the transport motor is energized for a predetermined period of time.

13.3.2 Fusing temperature control

- To fuse the toner image on the paper (image yet to be permanently fixed) properly into the paper, the heater lamps are turned ON and OFF
 as necessary to bring the fusing temperature to an appropriate level.
- Thermistors are used to detect the surface temperature of the Fusing roller. The heater lamps are then turned ON and OFF as necessary to achieve the set temperature.



<Temperature control for plain paper, A4, full color print, ordinary start>

(1) Warm-up control

- · Control is provided until the Fusing roller reaches the predetermined level.
- 1. Control start timing
 - The power switch is turned ON.
 - The main body leaves the power save mode.
- A door is closed.
- 2. Control termination timing
 - The Fusing roller reaches a predetermined temperature.

• A door is opened.

(2) Wait control

- Control is provided to ensure that the temperature of the fusing roller becomes a constant value during the standby state.
- 1. Control start timing
 - At the end of the warm-up control
- At the end of a print cycle
- 2. Control termination timingAt the start of a print cycle
 - At the start of a pri
 A door is opened.
 - · A malfunction or paperjam occurs.

(3) Print control

• The fusing speed and fusing temperature are controlled to ensure a sufficient fusing strength.

- 1. Control start timing
- A print request is received.
- 2. Control termination timing
 - A malfunction or paperjam occurs.
 - A door is opened.
- 3. Print control temperatures
 - The fusing roller temperature is set according to the type of paper, main body interior temperature (as measured by the temperature/ humidity sensor), and warm-up start temperature.
 - For types of paper other than plain paper, the fusing speed is controlled at the 1/2 speed.
- 4. Print control temperature adjustments
- The temperature during print control is adjusted using the menu available from the control panel. The temperature can, however, be decreased only.
 - Adjustment steps are 0°C, -5°C, and -10°C.

(4) Temperature control during the power save mode

• The fusing heater is turned OFF during the power save mode.

13.3.3 Protection from abnormal temperatures

- The main body provides protection at three different stages to prevent abnormal temperatures of the fusing unit.
 - 1. Thermistor protection (Soft protection)
 - 2. Thermistor protection (Hard protection)
- 3. Thermostat protection

(1) 1st stage: Thermistor protection (Soft protection)

• If the thermistor detects a temperature exceeding a predetermined value, the malfunction code representing abnormal temperatures is displayed. At this time, the heater lamps are turned OFF forcibly and the initiation of any new print cycle is prohibited.

(2) 2nd stage: Thermistor protection (Hard protection)

- · The following hard protection control is provided if the CPU overruns and becomes unable to detect an abnormal temperature.
- 1. The thermistor/1 or thermistor/2 detect a temperature exceeding a predetermined value.
- 2. The remote signal for the corresponding heater lamp of the DC power supply is forcibly turned OFF through the MFP board.
- 3. The triac circuit on the DC power supply is turned OFF to shut down the power supply to the corresponding heater lamp.
- 4. The heater lamp is forcibly turned OFF.
- 5. The temperature detected by the thermistor/1 or thermistor/2 is decreased to a level below the predetermined value.
- 6. The remote signal forcible OFF of the corresponding heater lamp is reset so that power supply to the heater lamp is resumed.

(3) 3rd stage: Thermostat protection

 If neither the soft protection nor hard protection can detect an abnormal temperature due to a defective thermistor or other reason, the thermostat operates at a specified temperature. This shuts down the power supply to the fusing heater lamp, thus forcibly turning them OFF.

13.3.4 Fusing speed control

- 1. PPM control
 - The PPM control is performed to inhibit the temperature of the fusing roller from decreasing during a multi-print cycle and the temperatures of the edges of the roller from increasing.
 - Running a multi-print cycle causes the temperature of the fusing roller to decrease, thus degrading fusing performance of the printed image.

To prevent this, fusing performance is estimated from the surface temperature of the fusing roller; the distance between sheets of paper is then widened according to the length of the paper and the fusing speed, thereby allowing the fusing roller and pressure belt to recover their temperatures to thereby achieve satisfactory fusing performance of the printed toner image.

- If a multi-print cycle is run using plain paper of a small size (B5, A5) or thick paper of a small size (B5, A5, postcards), a difference is
 produced in temperature between the center portion of the roller/belt (the surface over which the paper moves past) and the edges of
 the roller/belt (where no part of the paper moves past). To inhibit this situation, the distance between sheets of paper is widened and the
 temperature of the fusing roller is thereby made uniform.
- The PPM control is also performed during a two-sided print cycle to produce a predetermined number of printed pages or more continuously.

Only the plain paper (A4, Letter, B5) is subject to this control.
13.3.5 Detecting New Article

 The fusing roller is not provided with any new article detection mechanism. Whenever the fusing roller has been replaced with a new one, the following steps must be performed: in the service mode, select [COUNTER] -> [LIFE] -> [REPLACE] -> [FUSER UNIT] and select [YES] to reset the counter.

13.3.6 Fusing unit life detection

- Count the sheets of paper, driving time of the fusing unit and the time when the fusing heater turning ON, and detect any of them where the value reaches the life limit.
- After life detection, life stop does not work even when a message appears on the control panel.

14. PAPER EXIT/REVERSE SECTION

14.1 Configuration





[1]	Switchback roller reverse clutch (CL12)	[2]	Switchback roller feed clutch (CL11)
[3]	Switchback roller reverse	[4]	Paper exit roller

14.2 Drive



[1]	Switchback roller feed clutch (CL11)	[2]	Transport motor (M2)
[3]	Switchback roller reverse clutch (CL12)	-	-

14.3 Operation

14.3.1 Transport control

(1) Paper exit switching mechanism

- The paper transport path is switched between one in the exit direction and one toward the switchback roller.
- The path is switched through the combination of the two clutches, switchback roller feed clutch and switchback roller reverse clutch. The direction of paper travel is controlled by the position of the switchback guide and normal or reverse rotation of the switchback roller. The two clutches are never energized at the same time.
- 1. Normal/reverse rotation clutch motion

Transportation route	Switchback roller rotating direction	Normal rotation clutch	Reverse rotation clutch	Switchback guide mode
A	Stopping	OFF	OFF	CLOSE
В	Normal rotation	ON	OFF	OPEN
С	Reverse rotation	OFF	ON	CLOSE



[1] Switchback rol	er feed clutch (CL11)	[2]	Switchback roller reverse clutch (CL12)
[3] Switchback rol	er	[4]	Paper exit roller

(2) <Single-side printing>

- Paper exits outside the machine with the switchback gate in CLOSE mode.
- The switchback roller mode is stopping.



(3) <Duplex printing>

- 1. The switchback guide turns to the OPEN mode and the paper is transported to the direction of the switchback roller.
- 2. The switchback roller rotates forward.



3. The switchback guide becomes CLOSE mode after the back end of the paper passes through the switchback roller, and the switchback roller starts rotating backward to send the paper to the duplex unit direction.



15. DUPLEX SECTION

15.1 Configuration



[1]	Switchback roller reverse clutch (CL12)	[2]	Switchback roller feed clutch (CL11)
[3]	Loop detection clutch (CL8)	[4]	Duplex conveyance roller clutch (CL13)
[5]	Duplex conveyance sensor (PS9)	[6]	Transport motor (M2)

15.2 Drive



[1]	Loop detection clutch (CL8)	[2]	Transport motor (M2)
[3]	Duplex conveyance roller clutch (CL13)	[4]	Switchback roller feed clutch (CL11)
[5]	Switchback roller reverse clutch (CL12)	-	-

15.3 Operation

15.3.1 Paper transport control

1. Paper transport

- The transport motor provides drive for paper transport onto the duplex section.
- When the transport motor is energized, the paper exit roller, switchback roller, transport roller 1, and transport roller 2 are driven to transport paper from the duplex section to re-feeding position.
- The duplex conveyance sensor is located at the re-feeding position in the duplex section, serving to control the timing at which paper is moved and detect paperjam or paper left in the duplex section.
- To enable a thick paper two-sided printing, transport roller 2 is located between the transport roller 1 and registration roller to ensure that paper is properly transported onto the main body.



[1]	Paper switchback section	[2]	Drive section
[3]	Transport motor (M2)	[4]	Re-feeding conveyance section
[5]	Switchback roller	[6]	Switchback guide
[7]	Transport roller 1	[8]	Transport roller 2

2. Loop formation

- To correct skew in the paper transported to the duplex section, a loop is formed in the paper at the duplex section before the paper is transported onto the main body.
- The registration roller functions to control formation of the loop. The registration roller is brought to a stop after the lapse of a predetermined period of time after the paper has moved past the duplex conveyance sensor. A loop is thereby formed in the paper at the duplex section.

15.3.2 Duplex print control

(1) 1 sheet operation



1. A sheet of paper is taken up and fed in and the image of the second page of the original is printed.



2. The switchback guide operates so as to transport the paper to the switchback section.

Impapertely before the paper leaves the paper exit roller, the direction of rotation of the switchback roller is reversed and the paper is transported toward and into the duplex section.

3. While passing through the duplex section, the paper stops temporarily at the re-feeding position.

4. The paper is subject to skew correction at the registration roller section before being re-fed.

5. The image of the first page of the original is printed on the paper re-fed from the duplex section.

6. While the first sheet of paper is fed out, the second sheet of paper is taken up and fed in and the image of the fourth page of the original is printed.







• Steps 2 to 5 are repeated hereafter.

(2) 2 sheet operation





1. A sheet of paper is taken up and fed in and the image of the second page of the original is printed.

 The switchback guide operates so as to transport the paper to the switchback section.
 Impapertely before the paper leaves the paper switchback roller,

the direction of rotation of the switchback roller is reversed and the paper is transported toward and into the duplex section.

 While passing through the duplex section, the paper stops temporarily at the re-feeding position. At the same time, the second sheet of paper is taken up and fed in.

 The second sheet of paper is taken up and fed in and the image of the fourth page of the original is printed.
 The first sheet of paper stops temporarily at the re-feeding position.

5. The first sheet of paper is subject to skew correction at the registration roller section before being re-fed. The second sheet of paper is transported into the duplex section by the switchback roller. At the same time, the third sheet of paper is taken up and fed in.







• Steps 4 to 7 are repeated hereafter.

- 6. The image of the first page of the original is printed on the paper re-fed from the duplex section.
- 7. While the first sheet of paper is fed out, the third sheet of paper is taken up and fed in and the image of the six page of the original is printed.

The second sheet of paper being transported through the duplex section is brought to a temporary stop at the re-feeding position.

16. IMAGE STABILIZATION CONTROL

16.1 Outline

• To ensure uniform output image quality at all times, comprehensive control is provided including control of the developing bias voltage, laser light intensity, registration correction, gamma correction, and other parameters.

Purpose	Control	Control means
To stabilize image density	 IDC sensor output control Developing bias control Control of the maximum amount of toner sticking to the transfer belt Laser light intensity control Gamma correction control Color shift correction control 	IDC sensor Temperature/ humidity sensor Thermistor/3
To stabilize image transfer	1st image transfer ATVC2nd image transfer ATVC	Temperature/ humidity sensor

An explanation is given of the control for each section.



[1]	Thermistor/3	[2]	Color shift correction control
[3]	Developing bias	[4]	Transfer voltage
[5]	Gamma correction Developing bias control (control of the maximum amount of toner sticking to the transfer belt) Laser light intensity control	[6]	IDC sensor
[7]	ATVC control	[8]	Temperature/ humidity sensor
[9]	To be set on the control panel AIDC mode Transfer power IMG ADJ THICK IMG ADJ BLACK FINE LINE ADJ	-	-

16.2 Operation sequence

16.2.1 IDC sensor output correction

• Changes in various types of characteristics due to changes with time of the IDC sensor (deteriorated LED, contaminated sensor surface), part-to-part variations in the IDC sensor, and changes in environment affect the transfer belt. To correct fluctuations in the sensor output, the sensor LED light intensity is adjusted so that the IDC sensor output value remains constant.

16.2.2 Developing bias correction

If the developing bias voltage (Vpp) is excessively high relative to the Ds distance in the imaging unit, a leak image (background leak, image part leak) occurs. If Vpp is excessively low, faulty halftone reproduction occurs. The Vpp range within which no faulty images occur is detected to thereby set the proper Vpp.

16.2.3 Control of the maximum amount of toner sticking to the transfer belt

- A simplified detection pattern is produced on the transfer belt and the IDC registration sensor detects the amount of toner sticking to the pattern.
- The detected data and the environmental data obtained from the temperature/humidity sensor are referenced and the developing bias value that achieves the proper maximum density is calculated and stored in memory.

16.2.4 Laser light intensity correction control

- This control corrects variations in fine line reproducibility and void reproducibility occurring due to variations (part-to-part, environmental, durability) in PC drum electrostatic characteristics, developing characteristics, and transfer characteristics to target levels.
- A simplified detection pattern is produced with a predetermined laser light intensity on the transfer belt and the output value from the IDC registration sensor is detected.
- The laser light intensity is calculated from the detected output data of the IDC registration sensor.

16.2.5 Gamma correction control

- The intensity of LD in all gradation levels is adjusted to correct changes in gradation characteristics to a linear one. The changes in
 gradation characteristics are caused by variations in the photo conductor sensitivity and developing characteristics and changes with time
 and in environment.
- It produces gradation patterns on the transfer belt and calculates gradation characteristics output by the current engine with the IDC sensor.
- The gamma correction data is calculated using the density measurements of different gradation levels. The optimum LD intensity is set for each of the different gradation levels.

16.2.6 Color shift correction

- With the tandem engine that has an image forming process for each of different colors, color shift tends to occur due to positional deviations and variations in parts that restrict the drawing position within the printer.
- The color shift is automatically detected and corrected.

16.3 Control descriptions

16.3.1 Image stabilization type (mode)

- · Five different modes of image stabilization are available.
- A specific mode is selected according to the environmental conditions and print requirements, thereby achieving stabilized image at all times.

Stabilization type	Description
Mode 1 (Full correction control)	All stabilization control items are performed.
Mode 2 (simplified correction control)	All stabilization control items are performed in a simplified manner.
Mode 3 (individual registration control)	This mode is only performed for correcting color shift.
Mode 4 (1200 dpi mode control)	This mode is performed upon receipt of a 1200-dpi print command; Performed when "1200 dpi" is performed in image stabilization of the service mode.
Mode 5 (monochrome image stabilization)	All stabilization control items are performed for monochrome.

16.3.2 Control sequence by mode

- A different control sequence applies according to the mode of image stabilization.
- · Control is performed in the specified sequence for each mode.

Sequence	Mode 1	Mode 2	Mode 3	Mode 4	Mode 5
1	IDC sensor output correction	IDC sensor output check	IDC sensor output check	Control of the maximum amount of toner sticking to the transfer belt (simplified)	IDC sensor output correction
2	Developing bias correction	Developing bias check	Color shift correction (sub-scanning)	Laser light intensity control	Developing bias correction
3	Control of the maximum amount of toner sticking to the transfer belt	Control of the maximum amount of toner sticking to the transfer belt (simplified)	Color shift correction (main scanning)	Gamma correction control	Control of the maximum amount of toner sticking to the transfer belt
4	Laser light intensity control	Color shift correction (sub-scanning)	-	-	Laser light intensity control
5	Control of the maximum amount of toner sticking to the transfer belt	Laser light intensity correction (simplified)	-	-	Control of the maximum amount of toner sticking to the transfer belt
6	Laser light intensity control	Color shift correction check (main scanning)	-	-	Laser light intensity control
7	Gamma correction control	Gamma correction control	-	-	Gamma correction control
8	Color shift correction (sub-scanning)	-	-	-	-

Sequence	Mode 1	Mode 2	Mode 3	Mode 4	Mode 5
9	Color shift correction (main scanning)	-	-	-	-

16.4 Operation timing

16.4.1 Predrive operation

• The following describe the stabilization operations executed when, for example, the main power switch is turned ON, the sleep mode is canceled, the front door is closed, or a malfunction is reset.

Mode	Operation condition
Mode 1	 A new imaging unit is detected. A change in environment is detected (there is a change in humidity or temperature of a predetermined value or more from the last image stabilization sequence). There is a change in environment (temperature) inside the PH of a predetermined value or more during a multi-print cycle. A trouble has been reset. Performance of a simplified correction control sequence is not effective.
	• During the sleep mode, a change in environment is detected (there is a change in humidity or temperature of a predetermined value or more from the last image stabilization sequence). *
Mode 2	 When the main power switch is turned ON, a period of time of 24 hours or longer elapses after the last event of turning power OFF. The number of printed pages produced reaches a predetermined value after the last image stabilization sequence. The machine is reset from the sleep state that has extended for a predetermined period of time or longer.
Mode 3	 There is a change in environment (temperature) inside the PH of a predetermined value or more. There is a change in environment (temperature) inside the PH of a predetermined value or more during the sleep mode.
Mode 4	A 1200-dpi print command is received.A panel menu is executed.
Mode 5	Any of the Y/M/C toner bottle is empty and the operation condition of the mode 1 or 2 is satisfied.

• *: An environmental check is made every hour during the sleep mode and the power supply cooling fan is driven for several sec. to take measurement.

16.4.2 During a print cycle

• When the stabilization execution condition is met during printing, a specific image stabilization mode according to the condition is selected and executed.

Operating conditions	Stabilization (mode)
A change in environment is detected (there is a change in humidity or temperature of a predetermined value or more from the last image stabilization sequence).	Full correction control
The number of printed pages produced reaches a predetermined value after the last image stabilization sequence.	Simplified correction control
There is a change in environment (temperature) inside the PH of a predetermined value or more.	Individual registration control

16.4.3 Service Mode

• Types (modes) of image stabilization to be executed with the menu of the SERVICE MODE will be described.

Operating conditions		CARIBRATION (mode)
	600dpi (SERVICE MODE -> Process Adjustment -> CARIBRATION)	Mode 1
Menu of SERVICE MODE	1200dpi (SERVICE MODE -> Process Adjustment -> CARIBRATION)	Mode 4

16.4.4 Expert Adjustment

• Types (modes) of image stabilization to be executed with the menu of the administrator settings will be described.

Operating conditions		CARIBRATION (mode)
Menu of administrator	600dpi (UTILITY -> ADDMIN SETTINGS -> PRINTER SETTINGS -> IMAGE STABILIZATION)	Mode 1
settings	1200dpi (UTILITY -> ADDMIN SETTINGS -> PRINTER SETTINGS -> IMAGE STABILIZATION)	Mode 4

16.4.5 Stabilization time

States	Time
Mode 1	2 minutes
Mode 2	1 minutes

17. POWER SUPPLY SECTION

- 17.1 Power switch/Power key
- 17.1.1 Configuration



[1] Power switch



17.1.2 Operation

(1) Power switch functions

· When the main power switch is turned ON, power is supplied from the DC power supply to the following components.

Voltage	Power supplied to
24V	Printer control board (PRCB)
5.1V	MFP board (MFPB)

(2) Keys functions

- To select the low power mode, sleep mode, or the ErP auto power off mode according to the period of time during which the power key is held down.
- Holding down the Scan/Sleep key for a long time sets the machine into the low power mode.
- Admini Settings-System Settings-Power Supply/Power Save Settings allows the setting to be changed to low power mode or sleep mode.
- Holding down the Copy/Power key for a long time sets the machine into the Erp auto power off mode.

Кеу	Default setting	Settings changed by Administrator Settings
Scan/Sleep key	Low power mode	Sleep mode
Copy/Power key	ErP auto power off mode	-

(3) Status in each mode

Mode	Status	Copy/Power key LED
Standby	All functions are turned ON and ready to accept and to perform jobs.	Lit up blue
Low power mode	The power consumption is lower than that in standby state.To be reset when a job is received or the machine is operated.	Blinking in blue
Sleep mode	 Power is supplied only to a portion of the MFP board required for receiving a job. To be reset when a job is received or the machine is operated. 	Blinking in blue
ErP auto power off mode	Power consumption is decreased to the lowest level.	Blinking up orange

Mode	Status	Copy/Power key LED
	 To be reset only by the power key or the weekly timer setting. No jobs can be received.* 	

• *: In ErP auto power off mode, this machine cannot receive data and perform job.

(4) Power supply

Power is supplied only to the following portions in the sleep mode and the low power mode.

18. FAN CONTROL

18.1 Configuration







18.2 Operation

18.2.1 Function

Motor name	Function (purpose)
DC power supply fan motor	 Discharges heat generated from the interior parts (including the DC power supply, transfer belt section, toner cartridges/C, M, Y, and motor drives) to prevent the interior temperature from rising. Discharges heat generated from the print head out off the machine to prevent the temperature of the print head from rising. Removes ozone produced from the toner cartridges and charging section. Discharges heat generated inside of the MFP board out off the machine.
Cooling fan motor	 Prevents paper in the duplex section from getting adhered due to the fusing heat. Prevents the scanner interior temperature from rising.

18.2.2 Fan control

Motor name	Control	Control conditions (outline)		
	ON (high speed)	During a print cycle, warm-up cycle (including door open/close), image stabilization sequence, or firmware upgrading, high temperature inside the PH		
DC power supply fan motor	ON (medium speed)	No control		
	ON (low speed)	Conditions other than those of ON (high speed)		
	OFF	Not turned OFF		
	ON (high speed)	During a two-sided print cycle, when the door is opened and closed, high temperature inside the PH		
Cooling fan motor	ON (medium speed)	No control		
	ON (low speed)	No control		
	OFF	Conditions other than those of ON (high speed)		

19. INDICATOR FUNCTION

19.1 Configuration



19.2 Control

19.2.1 Error lamp

Machine operation	Lamp state
Toner cartridge not in proper positionToner life (empty)	Blinking in orange
 Trouble code Paper jam Door left open Life stop Toner life empty (stop) 	Lit up orange

19.2.2 Start lamp

Machine operation	Lamp state
Print cycle (cannot receive the next job due to user operation)	Lit up orange
Print cycle (ready to receive the next job)	Lit up blue
Paper jam/Trouble code	Lit up orange
Standby (ready to receive a job)	Lit up blue
Standby (cannot receive a job)	Lit up orange
Low power mode	Unlit
Sleep mode	Blinking in blue
Erp auto power OFF	Blinking in orange

PA AUTOMATIC DOCUMENT FEEDER SECTION

1. Composition



[1]	Feed roller	[2]	Pick-up roller
[3]	DF Transport motor (M100)	[4]	Pressure solenoid (SD101)
[5]	Document guide	-	-

2. Drive



[1]	Registration roller	[2]	DF Transport motor (M100)
[3]	Pressure solenoid (SD101)	[4]	Transport roller

3. Operation

3.1 Document feed mechanism

- The document sensor detects an original loaded in position.
- When the start key is pressed, the DF transport motor is driven and the pick-up roller is pushed down. •
- The pick-up roller and feed roller turn to take up and feed the original properly.
- The pick-up roller transports the original up to the feed roller. The DF transport motor (M100) drives the pick-up roller and feed roller through a gear train. •



3.2 Document separation mechanism

• Double feeding of paper is prevented using coefficient of friction between the feed roller and separator pad.



[1] Feed roller	[2] Separator pad
Single sheet feeding	• The coefficient of friction on the front side of the paper fed between the feed roller and separator pad is equal to that on the backside of the paper. This allows the feed roller to transport the paper.
Multiple sheet feeding	• The coefficient of friction between the paper and separator pad is greater than that between sheets of paper. This allows only the first sheet of paper to be transported by the feed roller.





[A]	Single sheet feeding of original	[B]	Multiple sheet feeding of original
[1]	Feed roller	[2]	Pick-up roller
[3]	Separator pad	[4]	Original

3.3 Document transport mechanism

- The registration roller turns to transport the original that has been taken up onto the document scanning position of the printer.
- The DF transport motor drives the registration roller through a gear train.
- When the original reaches the document scanning position, the document read sensor (PS102) is unblocked, which causes the main body to determine that there is an original.



[1] Registration roll	[2]	Registration roller
[3] DF Transport motor (M100)	[4]	Document read sensor (PS102)

3.4 Document exit mechanism

- The original fed off by the transport roller is fed out into the document exit tray by the exit switch back roller.
- The DF transport motor (M100) turns the exit switch back roller through a gear train.



[1]	Transport roller	[2]	Exit switch back roller
[3]	DF Transport motor (M100)	[4]	Exit roll

3.5 Switching mechanism for turnover/paper exit

- · Rotation of the exit switch back roller turns over the original conveyed from the transport section or feeds it out into the document exit tray.
- The exit switch back roller is driven by the transport motor.
 During the turnover operation, the exit rolls are pressed against, or retracted from, the exit switch back roller to prevent the leading and
- trailing edges of the original from being pinched between the roller and rolls.
- · Pressure and retraction operations are performed by energizing or deenergizing the pressure solenoid (SD101).
- When the pressure solenoid (SD101) is energized, the arm is moved to move the exit rolls away from the exit switch back roller.



[A]	When the pressure solenoid is deenergized	[B]	When the pressure solenoid is energized
[1]	Exit switch back roller	[2]	Pressure solenoid (SD101)
[3]	Arm	[4]	Exit roll

4. Paper Path

4.1 1-sided mode

- When the start key is pressed, take-up and feeding of the original will be started by the DF transport motor.
- The original that has been taken up and fed in is transported to the exit tray by way of the registration roller and exit switch back roller.



4.2 2-sided mode

- 1. The first side of the original will be read.
- 2. The exit switch back roller turns backward to feed the original back into the document feeder.



- 3. The original that has been taken up again from the exit tray is transported up to the document scanning position by way of the registration roller.
- 4. As soon as the original reaches the document scanning position, a read sequence of the second side of the original will be started.
- 5. The original that has been read is fed via the exit switch back roller. At this time, the exit rolls are moved away from the exit roller to prevent the leading and trailing edges of the original from being pinched between the roller and rolls.
- 6. In order to keep the proper order of the original, the original is taken up again and exited through the registration roller and exit switch back roller back into the exit tray.



PB THEORY OF OPERATION PF-P14

1. Configuration





[1]	Tray2 paper empty sensor (PS1)	[2]	Tray2 paper feed sensor (PS3)
[3]	Vertical transport roller	[4]	Feed roller
[5]	Separation roller	-	-

2. Drive



[1]	Tray2 paper feed motor (M1)	[2]	Tray2 paper feed clutch (CL1)
[3]	Tray2 conveyance clutch (CL2)	[4]	Tray2 paper feed sensor (PS3)

3. Operation

3.1 Paper feed control

3.1.1 Paper lift plate mechanism

- The paper lift plate is pressed down into the locked position (in which the paper is loaded in position).
- Load a paper stack and then slide the tray into the main body. This unlocks the paper lift plate.
- The paper lift plate (paper stack) is pressed against the feed roller.
- The paper lift plate (paper stack) is pressed upward by the springs at all times.



[1]	Paper lift plate	[2]	Feed roller
[3]	Spring	[4]	Lock lever

3.1.2 Feed roller/vertical transport roller control

- The feed roller and vertical transport roller are rotated, which feeds paper from the lower feeder unit and conveys it further into the inside of the main body.
- 1. The tray2 paper feed motor is energized to turn the vertical transport roller.
- 2. The tray2 paper feed clutch is energized to turn the feed roller.
- 3. The paper is fed in by the feed roller.
- 4. The paper fed in by the feed roller is conveyed onto the registration roller of the main body by the vertical transport roller.
- 5. When the tray2 paper feed sensor is activated and then the paper is conveyed onto a predetermined point in the paper path, the tray2 paper feed clutch is de-energized, thus bringing the feed roller to a stop. The vertical transport roller thereafter takes charge of conveying paper further.
- 6. When the trailing edge of the last sheet of paper moves past the registration sensor, the tray2 paper feed motor is de-energized to bring the vertical transport roller to a stop.



[1]	Tray2 paper feed clutch (CL1)	[2]	Vertical transport roller
[3]	Separation roller	[4]	Tray2 roller
[5]	Tray2 paper feed motor (M1)	-	-

3.1.3 Paper separation mechanism

• A separation roller provided with a torque limiter is used to prevent double feeding of paper.



[1]	Tray2 roller	[2]	Separation roller
-----	--------------	-----	-------------------

3.1.4 Paper detection mechanism

- The tray2 paper feed sensor detects the paper fed in by the feed roller.
- When the tray2 paper feed sensor actuator unblocks the tray2 paper feed sensor, the main body considers that the paper has reached the sensor position.

3.1.5 Paper empty condition detection control

- The paper empty message is displayed on the panel when the empty sensor actuator unblocks the paper empty sensor.
- No mechanism is provided for detecting a paper near empty condition. The paper supply level indicator serves this purpose.

When media is loaded



A media empty condition



[1]	Actuator	[2]	Tray2 paper empty sensor (PS1)
[3]	Paper	[4]	Paper lift plate

3.1.6 Edge guide plate

• The edge guide plate can be slid to the exact size in the width direction of the paper to be loaded (A4, B5, 8-1/2).



[1] Edge guide plate

3.1.7 Trailing edge guide plate

The trailing edge guide plate can be slid to the exact size in the length direction of the paper to be loaded (14 inch, 13 inch, 12-7/10 inch, A4, 11 inch, 10-1/2 inch, B5).



 [1]
 Trailing edge guide plate

3.1.8 Paper size detection control

- The tray2 paper size switch detects the length size (feed direction) of the paper.
- 1. The size detection board turns as the trailing edge guide plate is moved.
- 2. When the tray is slid into the main body, the size detection board pushes the actuator of the tray2 paper size switch installed to the main body frame, thus turning ON the switch.
- 3. The combination of ON/OFF positions of the sub-switches of the paper size switch determines the specific paper size that can be either one of the seven different sizes.

Tray	Tray2 paper size switch (SW1)		Deperaiza
A	В	С	
OFF	ON	ON	Legal (8.5" x 14")
ON	ON	ON	Government legal letter plus
ON	ON	OFF	A4
ON	OFF	OFF	Letter (8.5" x 11")
ON	OFF	ON	Executive
OFF	ON	OFF	Custom Size
OFF	OFF	ON	B5
OFF	OFF	OFF	Lower feeder unit not installed



[1]	Tray2 paper size switch (SW1)	[2]	Size detection board
[3]	Trailing edge guide plate	[4]	Actuator

3.1.9 Paper reference position adjustment mechanism

- The edge guide plate can be moved to allow the print start reference position for the paper to be adjusted.
- 1. Through a hole in the paper lift plate on top of the tray, loosen two screws that secure the edge guide plate.
- 2. Accessing the tray from its bottom surface, loosen two screws that secure the reference position adjusting plate.
- 3. Slide the reference position adjusting plate as necessary as indicated on the scale.
- 4. From the bottom surface of the tray, tighten the two screws that secure the reference position adjusting plate.
- 5. Through the hole in the paper lift plate on top of the tray, tighten the two screws that secure the edge guide plate.





[1]	Paper lift plate	[2]	Edge guide plate fixing screws
[3]	Adjustment scale	[4]	Reference position adjusting plate fixing screws
[5]	Reference position adjusting plate	-	-

3.1.10 Paper jam detection control

If the tray2 paper feed sensor is not activated within a predetermined period of time after a paper feed sequence has been started, the main body determines that there is a paperjam. It then displays a paperjam message on the panel. The paperjam display can be reset by opening and closing any door. .

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Q PARTS GUIDE MANUAL (1st Edition)

INFORMATION FOR PARTS GUIDE MANUAL

To find correct Parts No., refer to the "HOW TO MAKE THE BEST USE OF THIS MANUAL" in the following page. NOTICE

• This parts guide manual is 1st edition and will not be updated. Please ask your parts administrator about the newest parts information.

HOW TO MAKE THE BEST USE OF THIS MANUAL

- 1. When you order, please check the proper figures beforehand that are on Our Parts Guide Manual, and order with the appropriate figures.
- 2. For screws, Nuts, Washers, retaining rings and Pins which are used in this model, one letter is shown on the Standard parts column of Parts list and exploded diagrams.
- 3. In order to maintain safety of the product, some specific parts composed of this product are set up as "essential safety parts".
- 4. The assigned parts number for the "essential safety parts" is indicated as "SP00-****". When replacing these parts, follow precautions for disassembling and installing which are listed in the Service Manual. Do not use any parts that are not set up as
- 5. The means that there are exclusive parts for each destination. Please check the appropriate destination when you order.
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SYSTEM OUTLINE



No.	Description	Model
1	Printer Color	bizhub C3110
2	Paper Feeder	PF-P14
3	Fax Kit	FK-512
4	Mount Kit	MK-P04
5	HDD	HD-P06

1. Printer Color (bizhub C3110) DIAGRAM OF MAIN PARTS SECTION



[1]	ADF UNIT	[2]	IR UNIT
[3]	OPERATION PANEL SECTION	[4]	EXTERNAL PARTS
[5]	POWER SUPPLY SECTION	[6]	TONER BOTTLE DRIVE SECTION
[7]	TRANSFER BELT UNIT	[8]	TRANSFER GUIDE SECTION
[9]	HIGH VOLTAGE SECTION	[10]	PRINT HEAD SECTION
[11]	CASSETTE SECTION	[12]	VERTICAL CONVEYANCE SECTION
[13]	DUP REVERSE DRIVE SECTION	[14]	FUSING SECTION
[15]	MAIN DRIVE SECTION	[16]	PAPER FEED DRIVE SECTION
[17]	ELECTRICAL COMPONENTS	[18]	WIRING ACCESSORIES AND JIGS
[19]	ACCESSORY PARTS	-	-

1.1 ADF UNIT 1.1.1 P1



Page	Key	Parts No.	Description	Service Manual	Destinations	Class	Quantity
1	1	A6DTPP0B00	ADF UNIT			S	1
1	2	A6DTPP0300	Tray Assy			S	1
1	3	A0HFPP1900	Cable Tie			D	1
1	4	A0HFPP4302	Hinge			С	1
1	5	A6DTPP0100	Cover Assy			D	1
1	6	A0HFPP1700	Sponge			С	6
1	7	A6DTPP0600	Pad Assy			D	1
1	8	A0HFPP4400	Hinge			С	1
1	9	A0FDPP2K00	Shoulder Screw			С	2
1	10	A6DTPP0400	Cover/Rear			С	1
1	а	A6DTPP0E00	Screw M3x10			D	19

1.1.2 P2



Page	Key	Parts No.	Description	Service Manual	Destinations	Class	Quantity
2	1	A6DTPP0200	Cover/Upper Assy			S	1
2	2	A6DTPP0800	Pick-Up Roller			С	1
2	3	A6DTPP0700	Take-Up Roller			С	1
2	4	A6DTPP0000	ADF Guide Assy			С	1
2	5	A6DTPP0500	Separating Pad			С	1
2	6	A6DTPP0C00	Guide Assy			С	1
2	7	A6DTPP0D00	Roller			С	1
2	8	A6DTPP0900	Roller			С	1
2	9	A6DTPP0A00	Roller			С	1

1.2 IR UNIT 1.2.1 P3



Page	Key	Parts No.	Description	Service Manual	Destinations	Class	Quantity
3	1	A6DTPP0W00	OPTICAL UNIT			S	1
3	2	A6DTPP0N00	Flatcable			С	1
3	3	A6DTPP0X00	Guide Film			D	1
3	4	A6DTPP0P00	CIS Assy			1	1
3	5	A6DTPP0J00	Pressure Spring			D	1
3	6	A2YFPP5800	Timing Belt			С	1
3	7	A2YFPP1500	Pulley Assy			D	1
3	8	A6DTPP0R00	Shaft			D	1
3	9	A6DTPP0Q00	Frame			D	1
3	10	A6DTPP0V00	Plate Spring			D	1
3	11	A6DTPP0U00	Таре			D	7
3	12	A6DTPP0S00	Flatcable			D	1
3	13	A6DTPP0T00	Ferritecore			D	1
3	14	A6DTPP0K00	Driving Assy	Scanner motor (M101)		С	1
3	15	A6DTPP0M00	Earth ground			D	1
3	16	A6DTPP0F00	Cover/IR Assy			С	1
3	17	A6DTPP0G00	Label Scale			D	1
3	18	A3EW944600	Label		A1	С	1
3	18	A121944700	Label Prohibit		B,G2,H	С	1
3	а	A6DTPP0E00	Screw M3x10			D	14
3	b	A6DTPP0Y00	Screw			D	4

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1.3 OPERATION PANEL SECTION



4

d

Page	Key	Parts No.	Description	Service Manual	Destinations	Class	Quantity
4	1	A6DT950800	Panel Sheet (Japanese)		A1	С	1
4	1	A6DT950100	Panel Sheet (English)		B,G2,H	С	1
4	2	A2YFPP1700	Panel assembly		A1	I	1
4	2	A2YFPP1600	Panel assembly		B,C,D1,D3,E,F2,G1 ,G2,H,I,K	I	1
4	3	A2YF161701	Mounting Plate			D	1
4	4	A2YF138300	Cover			D	1
4	5	A6DRN12100	Cable			D	1
4	6	A2YF105300	Duct			D	1
4	7	A2YF105400	Seal			D	1
4	а	A6DTPP0E00	Screw M3x10			D	19
4	b	V116030603	Screw			V	
4	С	V153030803	Screw			V	
4	d	V137030603	screw			V	

С
1.4 EXTERNAL PARTS

1.4.1 P5



Page	Key	Parts No.	Description	Service Manual	Destinations	Class	Quantity
5	1	A6DR160903	Cover			С	1
5	2	A6DT163001	Cover			С	1
5	3	A6DT160300	Cover /Right rear			С	1
5	4	A0VD166501	Cover			D	1
5	5	A2YF161800	Tray			D	1
5	6	A2YF160102	Cover			D	1
5	7	A2YF138800	Ground Plate			D	1
5	8	A02E167800	Cover			С	2
5	9	A2YF160501	Cover /Right front			D	1
5	10	A0VD166401	Cover			D	1
5	11	A6DT941800	Label bizhub C3110			С	1
5	12	A00F942000	Label Logo Mark			С	1
5	13	A011946200	Label Emperon			D	1
5	14	A2YF160400	Cover /Front			С	1
5	15	A6DT942000	Sheet		A1	С	1
5	15	A0VD941801	Sheet		B,C,D1,D3,E,F2,G1 ,G2,H,I,K	С	1
5	16	A6DT160200	Cover			С	1
5	а	V137030804	screw			V	
5	b	V137030603	screw			V	
5	С	V151041403	screw			V	
5	d	V218040086	C-Clip			V	
5	е	V137030803	screw			V	
5	f	V116030804	Screw			V	
5	g	V153030803	Screw			V	

1.5 POWER SUPPLY SECTION



Page	Key	Parts No.	Description	Service Manual	Destinations	Class	Quantity
6	1	4139M10000	FAN MOTOR	DC power supply fan motor (FM10)		В	1
6	2	A6DR102200	Cooling Duct			D	1
6	3	A6DRN10200	Toner Detection harness			D	1
6	4	A121104101	Protection Cover			D	1
6	5	A0VD135512	Detecting Part			С	1
6	6	A108M50100	Photointerrupter	Exit sensor (PS8) Right door sensor (PS11)		В	2
6	7	A0VD135317	Hold Holder			D	1
6	8	A0VD135201	Adjusting Spring			D	1
6	9	A0VD135402	Torsion Coil spring			D	1
6	10	9J06M60100	MICRO SWITCH	Front door switch (SW2) Right door switch (SW3)		с	2
6	11	A0VDM50200	Photointerrupter	Toner level sensor/Y (PS13) Toner level sensor/M (PS14) Toner level sensor/C (PS15) Toner level sensor/K (PS16)		1	4
6	12	A6DTN10100	DC Power source harness /A			D	1
6	13	A6DRM40001	DC Power source (100-127V)	DC power supply (DCPU)	A1,B,G2,H	I	1
6	13	A6DRM40101	DC Power source (220-240V)	DC power supply (DCPU)	C,D1,D3,E,F2,G1,I, K	I	1
6	14	A2YF133100	Frame			С	1
6	15	A6DR103001	Mounting Plate			D	1
6	16	A121102600	Seal			D	3
6	17	A0VD139700	Seal			D	1
6	18	A108R90000	PHOTO INTERRUPTER	Front door sensor (PS10)		1	1
6	19	A2YF138501	Wiring Guide /1			D	1
6	20	A2YF139000	Sheet			С	1
6	21	V502010021	spacer			D	2

Page	Key	Parts No.	Description	Service Manual	Destinations	Class	Quantity
6	а	V137030603	screw			V	
6	b	V116030603	Screw			V	
6	С	V118030603	screw			V	

1.6 TONER BOTTLE DRIVE SECTION

1.6.1 P7



Page	Key	Parts No.	Description	Service Manual	Destinations	Class	Quantity
7	1	A0VD236400	Gear 29T			D	1
7	2	A0VD236601	Gear 25T			D	1
7	3	A0VD236902	Drive Holder			D	1
7	4	A108M50100	Photointerrupter	1st transfer pressure sensor (PS17)		В	1
7	5	A0VD236500	Shaft			D	1
7	6	A6DTR70000	Toner bottle Drive Assy			D	1
7	7	A0VDM20000	Clutch	Toner supply clutch/Y (CL4) Toner supply clutch/M (CL5) Toner supply clutch/C (CL6) Toner supply clutch/K (CL7)		с	4
7	8	A0VD237400	Stopper			D	1
7	9	A0VD237800	Gear 20T			D	1
7	10	A0VD491200	Label			С	1
7	11	A0VD117500	Mounting Part			D	4
7	12	A0VD491300	Label			С	1
7	13	A0EDM60001	Relay Connector			D	4
7	14	A0VD491000	Label			С	1
7	15	A0VD491100	Label			С	1
7	а	V137030803	screw			V	
7	b	V137030603	screw			V	

1.7 TRANSFER BELT UNIT





Page	Key	Parts No.	Description	Service Manual	Destinations	Class	Quantity
8	1	A0VD111700	Holder			D	8
8	2	A0VD111600	Compressing Coil spring			D	8
8	3	A0VD114101	Torsion Coil spring			D	2
8	4	A0VD110500	Torsion Coil spring /Rear			D	1
8	5	A1480Y1	Transfer Unit			A	1
8	6	A0VD110104	Rail /Front			D	1
8	7	A0VD136800	Contact			D	1
8	8	A0VD110400	Torsion Coil spring /Front			D	1
8	9	A6DR134100	Hold Holder /ASSY			D	4
8	10	A0VD112000	Rail			D	3
8	11	A0VD111203	Rail			D	1
8	12	A6DRN10A00	Photoconductor Wiring			D	1
8	13	A0VD111402	Holder /Front			D	1
8	14	A0VD362300	Shutter			D	1
8	15	A0VD362201	Seal			D	1
8	16	A0VD362400	Seal			D	1
8	17	A0VD362500	Pulling Coil spring			D	1
8	18	A0VD110205	Rail /Rear			D	1
8	19	A0VD111502	Duct			D	1
8	20	A0VD115100	Seal			D	1
8	21	A0VD115301	Seal			D	4
8	22	A0VD115200	Seal			D	1
8	23	A0VD214700	Mounting Plate			D	1
8	24	A0VD363700	Seal			D	1
8	а	V137030803	screw			V	
8	b	V153030803	Screw			V	
8	С	V116030603	Screw			V	

1.8 TRANSFER GUIDE SECTION 1.8.1 P9

Page	Key	Parts No.	Description	Service Manual	Destinations	Class	Quantity
9	1	A0VD706400	Guide			D	1
9	2	A0VD706300	Contact			D	1
9	3	A0VDM50000	Photo sensing	IDC sensor (IDC)		1	1
9	4	A0VD706500	Holder			D	1
9	5	A6DRN10D00	Sensor Wiring			D	1
9	6	A0VD706203	Torsion Coil spring			D	1
9	7	A0VD706102	Cover			D	1
9	8	A6DRN10C00	Sensor Wiring			D	1
9	9	A0VDM50100	Humidity sensor	Temperature/humidity sensor (TEM/HUMS)		I	1
9	10	A6DT707300	Guide			С	1
9	11	A0VD707201	Torsion Coil spring			D	1
9	12	A6DT707100	Actuator			С	1
9	13	A108M50100	Photointerrupter	Registration sensor (PS5)		В	1
9	14	A0VD707501	Guide			D	1
9	15	A6DTR70200	Timing Roller Guide			1	1
9	а	V153031203	screw			V	
9	b	V144030803	SCREW			V	
9	С	V218030086	C-Clip			V	1

1.9 HIGH VOLTAGE SECTION

1.9.1 P10



Page	Key	Parts No.	Description	Service Manual	Destinations	Class	Quantity
10	1	A0VDM40402	High voltage unit	High voltage unit (HV1)		1	1
10	2	A6DRN11100	HV Flatcable			D	1
10	3	A0VD139401	Duct /2			D	1
10	4	A0VD139500	Seal			D	1
10	5	A0VD134500	Sheet			С	1
10	6	A6DR134401	Insulating Sheet			D	1
10	а	V149031003	screw			V	
10	b	V137030603	screw			V	
10	С	V116030603	Screw			V	

P 11

1.10 PRINT HEAD SECTION 1.10.1 P11



Page	Key	Parts No.	Description	Service Manual	Destinations	Class	Quantity
11	1	A6DRN10P00	LD Relay harness			D	1
11	2	A6DRN10N00	LD Wiring			D	1
11	3	A73JR70011	Print Head Assy	PH unit		I	1
11	4	A0VD111302	Rail			D	1
11	5	996305501	RUBBER FOOT			С	4
11	6	A0VD235700	Gear 16T			С	1
11	7	A0VD235400	Gear 16T			D	1
11	8	A0VD235600	Gear 16/26T			D	1
11	9	A0VD235900	Gear 22/30T			D	1
11	10	A0VD235500	Gear 16/16T			D	1
11	11	A0VD362702	Torsion Coil spring			D	1
11	12	A0VD362602	Lever			D	1
11	13	A0VD235101	Drive Holder			D	1
11	14	A0VD108703	Cover			D	1
11	15	A0VD136701	Hold Holder			D	1
11	16	9335140051	SOLID STATE SWITCH			В	1
11	17	A0VD109400	Scatteringprevention Seal			D	1
11	18	A0VD107401	Stopper			D	1
11	19	A1AU0Y1	Waste Toner Bottle			А	1
11	20	A0VD107500	Torsion Coil spring			D	1
11	21	A0VD109001	Spacer			С	1
11	а	V144030803	SCREW			V	
11	b	V144030803	SCREW			V	
11	С	V217060001	E-ring			V	
11	d	V116031003	Screw			V	

1.11 CASSETTE SECTION 1.11.1 P12



Page	Key	Parts No.	Description	Service Manual	Destinations	Class	Quantity
12	1	4138324401	BUSHING			С	2
12	2	4030303401	CLUTCH			С	1
12	3	4138303202	ROLLER			В	1
12	4	4658015106	Roller Assy			А	1
12	5	A0VD621100	Holder			D	1
12	6	A0VD624800	Compressing Coil spring			С	1
12	7	4131305601	GUIDE PLATE			С	1
12	8	4131305702	GUIDE			С	1
12	9	A0VD623101	Regulating Plate			D	1
12	10	A0VD623200	Mounting Plate			D	1
12	11	A0VDR72511	Cassette Assy			D	1
12	12	4138731601	Label Prohibition inkjet media			D	1
12	13	A0VD108902	Cleaning Part			С	1
12	14	A0VD622102	Lock Lever			D	1
12	15	1164306201	PRESSURE SPRING			С	1
12	16	A121943200	Label 2			С	1
12	17	A2YF945100	Label Paper Direction			D	1
12	а	V217030001	E-ring			V	
12	b	V217040001	E-ring			V	
12	С	V218040086	C-Clip			V	

1.12 VERTICAL CONVEYANCE SECTION 1.12.1 P13



Page	Key	Parts No.	Description	Service Manual	Destinations	Class	Quantity
13	1	A0VDR71600	Manual Feed Tray Unit			С	1
13	2	A0VD561700	Tray			С	1
13	3	4138325501	FRICTION SHEET			С	1
13	4	A0VDR71300	Manual Paper Feed Assy			С	1
13	5	A0VD561301	Gear 20T			D	1
13	6	A0VD561800	Guide			С	1
13	7	4131305601	GUIDE PLATE			С	1
13	8	4138303202	ROLLER			В	1
13	9	4030303401	CLUTCH			С	1
13	10	A0VD624800	Compressing Coil spring			С	1
13	11	A108M50100	Photointerrupter	Manual tray paper empty sensor (PS3)		В	1
13	12	4658015106	Roller Assy			A	1
13	13	A0VD621100	Holder			D	1
13	14	A0VD162300	Open/close Stopper			D	2
13	15	A6DTR70100	Vertical Conveyance Assy			D	1
13	16	4138731601	Label Prohibition inkjet media			D	1
13	17	A0VD560202	Bypass Tray			С	1
13	18	4138325201	TORSION SPRING			С	1
13	19	A0VD168200	Stopper			D	1
13	20	A2YF945200	Label Paper Direction			С	1
13	а	V218040086	C-Clip			V	
13	b	V153030803	Screw			V	
13	С	V217040001	E-ring			V	
13	d	V218030086	C-Clip			V	
13	е	V137030603	screw			V	

1.12.2 P14



Page	Key	Parts No.	Description	Service Manual	Destinations	Class	Quantity
14	1	A108M50100	Photointerrupter	Duplex conveyance sensor (PS9)		В	1
14	2	A0VD162101	Shaft			D	1
14	3	A0VD701701	Compressing Spring			С	2
14	4	A1480Y2	2nd Transfer Roller			А	1
14	5	A0VD163600	Lever /Front			D	1
14	6	A0VD163400	Lever /Rear			D	1
14	7	A0VD161600	Guide			D	1
14	8	A0VD700202	Actuator			С	1
14	9	A0VD700302	Torsion Coil spring			С	1
14	10	A2YF160601	Cover			D	1
14	11	A6DT941100	Label 1			С	1

1.12.3 P15



Page	Key	Parts No.	Description	Service Manual	Destinations	Class	Quantity
15	1	A0VDR71722	DUP Transport Assy			С	1
15	2	A108M50100	Photointerrupter	Loop detection sensor (PS6)		В	1
15	3	A0VD235301	Gear 16T			С	1
15	4	4138352802	ROLL			С	2
15	5	A0VD702300	Bushing			D	1
15	6	4138353202	BUSHING			С	2
15	7	A0VD702501	Pulling Coil spring			D	2
15	8	A3GN702100	Roller			С	1
15	9	A0VD702902	Roller			D	1
15	10	A0VD704700	Lever			D	1
15	11	A0VD704400	Gear 32T			D	1
15	12	A034563800	Compressing Spring			D	1
15	13	A0VD704300	Gear 35/42T			D	1
15	14	A0VD705101	Gear 35T			D	1
15	15	A0VD703001	Gear 15T			D	1
15	16	A0VD703700	Pulling Coil spring			D	1
15	17	A0VD705303	Mounting Plate			D	1
15	18	A011M20000	CLUTCH	Registration clutch (CL3)		С	1
15	19	A0VD703501	Gear 20T			D	1
15	20	A0VD704900	Gear 28T			D	1
15	21	A0VD702400	Bushing			D	1
15	22	A0VD705200	Gear 18T			D	1
15	23	A034220100	Seal			D	1
15	24	A034213400	Compressing Spring			D	1
15	25	A034M20000	Paperfeed Solenoid	2nd transfer pressure solenoid (SD2)		с	1
15	а	V153030803	Screw			V	
15	b	V217040001	E-ring			V	
15	С	V217030001	E-ring			V	

Page	Key	Parts No.	Description	Service Manual	Destinations	Class	Quantity
15	d	V217060001	E-ring			V	
15	е	V153031003	screw			V	

1.13 DUP REVERSE DRIVE SECTION

1.13.1 P16



Page	Key	Parts No.	Description	Service Manual	Destinations	Class	Quantity
16	1	9313130051	FAN MOTOR	Cooling fan motor (FM11)		В	1
16	2	A0VD822800	Gear 23T			D	1
16	3	A0VD822700	Gear 19T			D	1
16	4	A3GN823500	Torque limiter ASSY			С	1
16	5	A6DRN10K00	Cooling Wiring			D	1
16	6	A6DRN10R00	Conveyance Wiring			D	1
16	7	A0VD822400	Gear 18T			D	2
16	8	A0VDM20000	Clutch	Switchback roller feed clutch (CL11) Switchback roller reverse clutch (CL12)		С	2
16	9	A0VD820200	Roll			С	2
16	10	A0VD820103	Reverse/exit Roller			D	1
16	11	A0VD825600	Guide			D	1
16	12	A2YFM70500	Ferritecore			D	1
16	13	4040M40100	LOUDSPEAKER			D	1
16	14	A6DT133502	Duct			D	1
16	15	A0VD894100	Neutralizing Brush			D	2
16	16	A121820800	Torsion Coil spring			С	1
16	17	A2YFR70211	DUP Reverse Drive Assy			D	1
16	18	A0VD821100	Gear 14T			D	1
16	19	A0VD820403	Guide /Upper			D	1
16	20	A6DTN12200	Relay harness			D	1
16	21	A0VD820900	Contact			D	1

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Page	Key	Parts No.	Description	Service Manual	Destinations	Class	Quantity
16	22	A6DR819900	Spacer			D	2
16	а	V116033503	Screw			V	
16	b	V153030803	Screw			V	
16	С	V217040001	E-ring			V	
16	d	V137030803	screw			V	
16	е	V137030803	screw			V	

1.14 FUSING SECTION

1.14.1 P17

P 17



Page	Key	Parts No.	Description	Service Manual	Destinations	Class	Quantity
17	1	A108M50100	Photointerrupter	Paper full sensor (PS7)		В	1
17	2	A121902500	Guide			D	1
17	3	A3GN948300	Label Hi-Temp Caution/ Jam			D	1
17	4	A0VD949100	Label JAM			D	1
17	5	A0VD892400	Torsion Coil spring			D	1
17	6	A0VD908101	Guide			D	1
17	7	A0VD890102	Paper exit Roller			D	1
17	8	A3GN890301	Paper exit Roll			С	2
17	9	A0VD890200	Spring			D	2
17	10	A0VD907300	Actuator			D	1
17	11	A121893002	Lever			С	1
17	12	A148002	Fusing Unit (100V)		A1	А	1
17	12	A148010	Fusing Unit (110-127V)		B,G2,H	А	1
17	12	A148022	Fusing Unit (220-240V)		C,D1,D3,E,F2,G1,I, K	A	1
17	13	A6DTN10H00	Fixing Relay harness /A			D	1
17	14	A2YF891202	Actuator			С	1
17	15	A6DT890300	Paper exit Holder		A1	D	1
17	15	A6DT891100	Paper exit Holder		B,G2,H	D	1

Page	Key	Parts No.	Description	Service Manual	Destinations	Class	Quantity
17	15	A6DT895300	Paper exit Holder		C,D1,D3,E,F2,G1,I, K	D	1
17	16	A0VD890800	Gear 38/40T			D	1
17	а	V153030803	Screw			V	

1.15 MAIN DRIVE SECTION

1.15.1 P18



Page	Key	Parts No.	Description	Service Manual	Destinations	Class	Quantity
18	1	A2YFM10000	Brushless motor	Color PC drum motor (M4)		С	1
18	2	A6DRN10500	Main body Drive harness			D	1
18	3	A0VD220300	Compressing Coil spring			D	1
18	4	A0VD220201	Bushing			D	1
18	5	A0VD219800	Gear 20T			С	1
18	6	A0VD211303	Hold Plate			D	4
18	а	V116030504	Screw			V	
18	b	V137030803	screw			V	

1.15.2 P19



Page	Key	Parts No.	Description	Service Manual	Destinations	Class	Quantity
19	1	A2YFM10200	Brushless motor	Developing motor (M1)		С	1
19	2	A00F213900	Bearing			С	2
19	3	A0VD248501	Mounting Plate /A			D	1
19	4	A011M20000	CLUTCH	Loop detection clutch (CL8)		С	1
19	5	4036301401	PIN			С	1
19	6	A0VD218301	Gear 21T			С	1
19	а	V116030504	Screw			V	
19	b	V217040001	E-ring			V	
19	С	V137030803	screw			V	



Page	Key	Parts No.	Description	Service Manual	Destinations	Class	Quantity
20	1	A2YFM10200	Brushless motor	Transport motor (M2)		С	1
20	а	V116030504	Screw			V	

1.16 PAPER FEED DRIVE SECTION

1.16.1 P21



Page	Key	Parts No.	Description	Service Manual	Destinations	Class	Quantity
21	1	A6DRR70000	Paper Feed Drive Assy			С	1
21	2	A02EM20000	Clutch	Tray1 paper feed clutch (CL1) Manual paper feed clutch (CL2)		В	2
21	3	A0VD231200	Gear 22T			D	1
21	4	A0VD230901	Gear 25T			С	1
21	5	A0VD233301	Gear 20T			С	1
21	6	A108M50100	Photointerrupter	Tray1 set sensor (PS1) Tray1 paper empty sensor (PS2)		В	2
21	7	A0VD624100	Lever			С	1
21	8	4002312303	HOLDER			D	1
21	9	A6DRN10E00	Paperfeed Wiring			D	1
21	10	A3GN217000	Guide Sheet			С	1
21	а	V217040001	E-ring			V	
21	b	V144030803	SCREW			V	
21	С	V153030803	Screw			V	
21	d	V137030603	screw			V	

1.17 ELECTRICAL COMPONENTS 1.17.1 P22



Page	Key	Parts No.	Description	Service Manual	Destinations	Class	Quantity
22	1	A6DR132800	Mounting Plate			D	1
22	2	A6DRN10F00	Paperfeed Relay harness			D	1
22	3	A0VD136100	Hold Holder			D	1
22	4	A6DRN10X00	AC Wiring			D	1
22	5	A6DTR70400	Memory Board (JP)	SSD board (SSDB)	A1	I	1
22	5	A6DTR70300	Memory Board (WW)	SSD board (SSDB)	B,C,D1,D3,E,F2,G1 ,G2,H,I,K	Ι	1
22	6	A6DR133600	Reinforce Plate /Left			D	1
22	7	A034M60200	Rocker switch	Power switch (SW1)		С	1
22	8	A6DRN10000	AC Wiring			D	1
22	9	A6DR132900	Mounting Plate			D	1
22	10	A6DT132500	Mounting Plate			D	1
22	11	A6DTH01004	PWB Assembly	MFP board (MFPB)		I	1
22	12	A6DR133901	Seal			D	1
22	13	A6DRN10S00	LD Flatcable			D	1
22	14	A6DRN10T00	Controller Flatcable			D	1
22	15	A6DR133401	Shield Plate			D	1
22	16	A6DTH00102	PWB Assembly (PRCB)	Printer control board (PRCB)		I	1
22	17	A6DR132400	Cover			D	1
22	а	V137030603	screw			V	
22	b	V116030603	Screw			V	
22	С	V116040803	Screw			V	
22	d	V115260503	Screw			V	
22	е	V115030603	Screw			V	
22	f	V144030803	SCREW			V	
22	g	V116030803	Screw			V	

1.18 WIRING ACCESSORIES AND JIGS

1.18.1 P23



Page	Key	Parts No.	Description	Service Manual	Destinations	Class	Quantity
23	1	V500010081	Locking Wire Saddle			D	
23	2	V500010082	Locking Wire Saddle			D	
23	3	V500010083	Locking Wire Saddle			D	
23	4	V500010084	Locking Wire Saddle			D	
23	5	V500020077	wabe Clamp			D	
23	6	V500020098	Mini Locking wire saddle			D	
23	7	V500020100	Mini Locking wire saddle			D	
23	8	V501010001	band			D	
23	9	V501010018	BAND			D	

1.19 ACCESSORY PARTS 1.19.1 P24



Page	Key	Parts No.	Description	Service Manual	Destinations	Class	Quantity
24	1	A121944700	Label Prohibit		C,D1,D3,E,F2,G1,I, K	С	1
24	2	A6DT950200	Sheet/ French		B,G2,H	С	1
24	2	A6DT950300	Sheet/ Portuguese		B,G2,H	С	1
24	2	A6DT950500	Sheet/ Spanish		B,G2,H	С	1
24	3	A0VDN30000	Power code		С	С	1
24	4	9381420021	POWER CORD		D1,D3,E,F2,G1,I,K	D	1
24	5	A0VDN30100	Power code		B,G2,H	С	1
24	6	A0VDN30200	Power code		A1	С	1

1.20 MAINTENANCE LIST

The items with no Page/Key numbers are not handled as spare parts.

No.	Section	PM Parts Description	Maintenance Cycle (K=1,000)		Parts No.	Destinations	Page/Key	Note
			QTY	Replace				
1	Paper feed	Tray1 feed roller	1	300k	4138303202		P12-3	*2 *4
2	section	Tray1 separation roller	1	300k	4658015106		P12-4	*2 *4
3		Manual tray feed roller	1	300k	4138303202		P13-8	*2 *4
4		Manual tray separation roller	1	300k	4658015106		P13-12	*2 *4
5	Processing	Toner cartridge/Y,M,C,K	1	4.7k	-			*1 *3
6	section	Imaging unit/Y,M,C,K	1	20k	-			*2
7		Waste toner bottle	1	19.7k	A1AU0Y1		P11-19	*3 *5
8	Image transfer	Transfer belt unit	1	100k	A1480Y1		P8-5	*2
9	section	Transfer roller	1	100k	A1480Y2		P14-4	*2
10	Fusing section	Fusing unit	1	100k	A148002	A1	P17-12	*2
11		Fusing unit	1	100k	A148010	B,G2,H	P17-12	*2

·	
C31	10)
001	10)

No.	Section	PM Parts Description	Maintenance Cycle (K=1,000)		Parts No.	Destinations	Page/Key	Note
			QTY	Replace				
12		Fusing unit	1	100k	A148022	C,D1,D3,E,F2,G	P17-12	*2
						1.I.K		

*1: The parts can be replaced either by user or service engineer.
*2: Actual durable cycle (life counter value)
*3: Field standard yield

*4:Replace those parts at the same time.
*5: A waste toner full condition is detected with detecting the actual waste toner emissions.

1.21 DESTINATION

Destina	tion No.		Destinations			Model No.
^	A1	JAPAN		100	50/60	A6DT-001
A	A2	JAPAN				
E	3	USA, CANADA			60	A6DT-011
(C	EUROPEAN	ТҮРЕ	220-240	50/60	A6DT-021
D	D1	S.E ASIA TYPE	THAILAND,SRI LANKA,SINGAPORE,MALAYSIA,HONGKONG, PAKISTAN,INDIA,BANGLADESH,INDONESIA	220-240	50/60	A6DT-041
	D3	OCEAINA TYPE	AUSTRALIA,NEW ZEALAND	220-240	50/60	A6DT-041
E		PHILIPPINE	S	220-240	50/60	A6DT-041
Б	F1	SAUDI ARABIA				
1	F2	SAUDI ARAI	BIA	220-240	50/60	A6DT-041
<u> </u>	G1	C.S AMERIC	CA	220-240	50/60	A6DT-041
G	G2	C.S AMERIC	CA	120	60	A6DT-011
ł	4	TAIWAN		110	60	A6DT-011
I		JORDAN, LEBANON, SYRIA, SOUTH AFRICA, IRAQ, IRAN, N.YEMEN, CAMEROON, UAE, BAHRAIN, OMAN, QATAR, KUWAIT, KENYA, TUNISIA, IVORY COAST, MOROCCO		220-240	50/60	A6DT-041
	J	CHINA				
ł	<	KOREA		220-240	50/60	A6DT-041

2. Paper Feeder (PF-P14)

2.1 EXTERNAL PARTS

2.1.1 P1



Page	Key	Parts No.	Description	Service Manual	Destinations	Class	Quantity
1	1	A0WJ686001	Rear Cover			С	1
1	2	A0WJ685102	Right Rear Cover			С	1
1	3	A0WJ685502	Right Cover			С	1
1	4	A0WJ682200	Guide			С	1
1	5	4537339701	TORSION SPRING			С	1
1	6	A0WJ682103	Conveyance Cover			С	1
1	7	4537338213	GUIDE			1	1
1	8	A0WJ685400	Right Front Cover			С	1
1	9	A0WJ689400	Plate spring			С	1
1	10	A0WJ686203	Left Cover			С	1
1	11	A0WJ685600	Rear Cover			С	1
1	12	A0CR121900	Rubber Foot			D	1
1	а	V144030603	Screw			V	
1	b	V116030603	Screw			V	
1	С	V137030804	screw			V	

2.2 FRAME SECTION

2.2.1 P2



Page	Key	Parts No.	Description	Service Manual	Destinations	Class	Quantity
2	1	A0WJ684701	Frame /Right rear			D	1
2	2	A0WJ683801	Positioning Pin			D	2
2	3	A108M50100	Photointerrupter	Tray2 right door sensor (PS5)		В	1
2	4	A0CR121900	Rubber Foot			D	3
2	5	4139231901	SHOULDER SCREW			С	1
2	6	A0WJ683301	Auxiliary Rail /Right			D	1
2	7	A0WJ683202	Rail /Right			D	1
2	8	A0WJG67000	Axle Plate			D	1
2	9	A0WJ689400	Plate spring			С	3
2	10	A0WJ684200	Holder			С	1
2	11	A0WJ683001	Frame /Front			D	1
2	12	A0WJ684601	Rail			D	1
2	13	A0WJ683401	Rail /Left			D	1
2	14	A0WJ683101	Frame /Rear			D	1
2	15	A4Y6H00100	PWB Assembly (PCCB)	PC control board (PCCB)		I	1
2	16	4537337701	PLATE SPRING			D	1
2	17	9332371011	SWITCH(DETECT)	Tray2 paper size switch (SW1)		С	1
2	18	A0WJ689101	Mounting Plate			D	1
2	19	A0WJ689500	Mounting Plate			D	1
2	20	4537333801	SHOULDER SCREW			D	2
2	21	A0WJN10000	Paperfeed Wiring /1			D	1
2	22	A0WJN10400	Sensor Wiring /2			D	1
2	23	A0WJN10500	Sensor Wiring /3			D	1
2	а	V144030603	Screw			V	
2	b	V153031003	screw			V	
2	С	V116030603	Screw			V	

P 3

2.3 PAPER TAKE-UP SECTION 2.3.1 P3



Page	Key	Parts No.	Description	Service Manual	Destinations	Class	Quantity
3	1	4537337003	ACTUATOR			С	1
3	2	A0WJ682600	Sheet			D	1
3	3	A0WJ682700	Guide			D	1
3	4	A0WJ682800	Slide Part			D	1
3	5	4537338102	SHAFT			D	1
3	6	4537339302	ROLLER			С	2
3	7	1067250301	PIN			D	1
3	8	4537338802	ROLLER			С	2
3	9	4537338001	ROLLER			С	1
3	10	4537339201	TENSION SPRING			С	1
3	11	4517210100	BUSHING			С	2
3	12	4658351701	BUSHING			С	2
3	13	4537338601	GEAR 22T			С	1
3	14	4131253602	PIN			С	1
3	15	4537338701	GEAR 22T			С	1
3	16	A108R90000	PHOTO INTERRUPTER	Tray2 paper feed sensor (PS3) Tray2 paper empty sensor (PS1)		I	2
3	17	4537337104	Guide Plate			D	1
3	18	4537337201	ACTUATOR			С	1
3	19	4537337401	BRACKET			D	1
3	20	4537336903	TORSION SPRING			С	1
3	21	A0WJN10300	Sensor Wiring /1			D	1
3	22	A0WJ682300	Brush /1			С	1
3	23	A73H339200	Pulling Coil spring			С	1
3	а	V144030603	Screw			V	
3	b	V218030086	C-Clip			V	
3	С	V217060050	E-ring			V	
3	d	V217040001	E-ring			V	

Page	Key	Parts No.	Description	Service Manual	Destinations	Class	Quantity
3	е	V233201050	pin			V	

2.4 DRIVE SECTION

2.4.1 P4



Page	Key	Parts No.	Description	Service Manual	Destinations	Class	Quantity
4	1	A011M10000	BRUSHLESS MOTOR	Tray2 paper feed motor (M1)		В	1
4	2	4131300301	BUSHING			С	2
4	3	A011M20000	CLUTCH	Tray2 conveyance clutch (CL2) Tray2 paper feed clutch (CL1)		С	2
4	4	A0WJ687301	Gear 32T			С	1
4	5	A0WJ687500	Drive Shaft			D	1
4	6	A0WJ687900	Drive Shaft			D	1
4	7	A0WJ687401	Drive Pulley			С	1
4	8	4537333701	TORSION SPRING			С	1
4	9	4537336001	GEAR			С	1
4	10	4004533901	BUSHING			С	1
4	11	4131353202	BUSHING			С	1
4	12	1164300502	PRESSURE SPRING			С	1
4	13	1164300403	PAWL			С	1
4	14	A0WJ688102	Holder			D	1
4	15	A0WJ687200	Gear 24/32T			С	1
4	16	A0WJ687100	Gear 32T			С	1
4	17	4537336101	GEAR 24T			С	1
4	18	A0WJ687000	Gear 18/50T			С	1
4	19	A0WJG67100	Motor Mounting Plate Supporting Shaft			D	1
4	20	A4Y6N10000	Drive Wiring			D	1
4	21	4134588202	BUSHING			D	2
4	а	V144030603	Screw			V	
4	b	V153030803	Screw			V	

Page	Key	Parts No.	Description	Service Manual	Destinations	Class	Quantity
4	С	V217040001	E-ring			V	
4	d	V116030603	Screw			V	
4	е	V217060050	E-ring			V	
4	f	V218060086	C-Clip			В	
4	g	V231301450	pin			V	
4	h	V218040086	C-Clip			V	

2.5 PAPER TRAY SECTION

2.5.1 P5



Key	Parts No.	Description	Service Manual	Destinations	Class	Quantity
1	978381101	FRICTION SHEET			С	1
2	4498382501	PRESSURE SPRING			С	1
3	4537331501	MEMBER			С	1
4	4537331401	PLATE SPRING			D	1
5	A00T651300	Regulating plate			С	1
6	A0WJR70100	Cassette Assy			S	1
7	A00T940500	Label			С	1
8	A0WJ682400	Brush /2			С	1
а	V217030001	E-ring			V	
b	V153030803	Screw			V	
	Key 1 2 3 3 4 5 6 6 7 7 8 8 a 2 b	Key Parts No. 1 978381101 2 4498382501 3 4537331501 4 4537331401 5 A00T651300 6 A0WJR70100 7 A00T940500 8 A0WJ682400 a V217030001 b V153030803	Key Parts No. Description 1 978381101 FRICTION SHEET 2 4498382501 PRESSURE SPRING 3 4537331501 MEMBER 4 4537331401 PLATE SPRING 5 A00T651300 Regulating plate 6 A0WJR70100 Cassette Assy 7 A00T940500 Label 8 A0WJ682400 Brush /2 a V217030001 E-ring b V153030803 Screw	KeyParts No.DescriptionService Manual1978381101FRICTION SHEET24498382501PRESSURE SPRING34537331501MEMBER44537331401PLATE SPRING5A00T651300Regulating plate6A0WJR70100Cassette Assy7A00T940500Label8A0WJ682400Brush /2aV217030001E-ringbV153030803Screw	KeyParts No.DescriptionService ManualDestinations1978381101FRICTION SHEET24498382501PRESSURE SPRING34537331501MEMBER44537331401PLATE SPRING5A00T651300Regulating plate6A0WJR70100Cassette Assy7A00T940500Label8A0WJ682400Brush /2aV217030001E-ringbV153030803Screw	KeyParts No.DescriptionService ManualDestinationsClass1978381101FRICTION SHEETCC24498382501PRESSURE SPRINGCC34537331501MEMBERCC44537331401PLATE SPRINGDC5A00T651300Regulating plateCC6A0WJR70100Cassette AssySS7A00T940500LabelCC8A0WJ682400Brush /2CCaV217030001E-ringVVbV153030803ScrewVV

P 6

2.5.2 P6



Page	Key	Parts No.	Description	Service Manual	Destinations	Class	Quantity
6	1	4138326103	Holder			D	1
6	2	4658015106	Roller Assy			A	1
6	3	A0VD624800	Compressing Coil spring			С	1
6	4	4537332501	BRACKET			D	1
6	5	4537332401	CLUTCH			С	1
6	6	4537621400	Roller			A	1
6	7	4138324401	BUSHING			С	2
6	8	4658300501	GUIDE PLATE			С	1
6	9	4537639400	Guide			С	1
6	10	4537339601	GUIDE			I	1
6	11	4537639500	Guide			С	1
6	12	4658304601	STOP RING			С	1
6	13	1033440203	STOPPER RING			С	1
6	14	4138731601	Label Prohibition inkjet media			D	1
6	15	A0WJ942100	Label			С	1
6	а	V153030803	Screw			V	
6	b	V218060086	C-Clip			В	
6	С	V218040086	C-Clip			V	
6	d	V218030086	C-Clip			V	

2.6 WIRING ACCESSORIES AND JIGS

2.6.1 P7



Page	Key	Parts No.	Description	Service Manual	Destinations	Class	Quantity
7	1	1065587202	CORD CLAMP			D	
7	2	V570010021	Saddle			D	
7	3	V500010023	clip			D	
7	4	V501010001	band			D	

2.7 MAINTENANCE LIST

• The items with no Page/Key numbers are not handled as spare parts.

No.	Section	PM Parts Description	M	aintenance Cycle (K=1,000)	Parts No.	Destinations	Page/Key	Note
			QTY	Replace				
1	Paper Tray	Tray2 feed roller	1	300K	4537621400		P6-6	

• *1: Actual durable cycle (life counter value)

2.8 DESTINATION

Destination No.			Destinations			Model No.
^	A1	JAPAN				
A	A2	JAPAN				
I	B	USA, CANADA		120	60	A73H-WY1
(С	EUROPEAN	TYPE	220-240	50/60	A73H-WY1
D	D1	S.E ASIA TYPE	THAILAND,SRI LANKA,SINGAPORE,MALAYSIA,HONGKONG, PAKISTAN,INDIA,BANGLADESH,INDONESIA			
	D3	OCEAINA TYPE	AUSTRALIA,NEW ZEALAND			
I	Ē	PHILIPPINE	5			
F	F1	SAUDI ARAE	BIA			
	F2	SAUDI ARAE	SAUDI ARABIA			
G	G1	C.S AMERIC	A			

Destination No.		Destinations	V	Hz	Model No.
	G2	C.S AMERICA	120	60	A73H-WY1
H		TAIWAN	110	60	A73H-WY1
I		JORDAN, LEBANON, SYRIA, SOUTH AFRICA, IRAQ, IRAN, N.YEMEN, CAMEROON, UAE, BAHRAIN, OMAN, QATAR, KUWAIT, KENYA, TUNISIA, IVORY COAST, MOROCCO			
J		CHINA			
К		KOREA			

Fax Kit (FK-512) FK-512 I P1

P 1



Page	Key	Parts No.	Description	Service Manual	Destinations	Class	Quantity
1	1	A6EDH01A05	FAX Assembly (JP)		A,A1	1	1
1	1	A6EDH01905	FAX Assembly (WW-100V)		В	I	1
1	1	A6EDH01806	FAX Assembly (WW-200V)		C,D1,D3,E,F2,G1,I	I	1
1	2	4628680101	WIRE HARNESS ASSY		A,A1,B,C,D1,E,F2, G1,G2,I	D	1
1	2	4628680201	WIRE HARNESS ASSY		D3	D	1

3.2 DESTINATION

Destination No.			Destinations		Hz	Model No.
^	A1	JAPAN		100	50/60	A6ED-W01
A	A2	JAPAN				
I	3	USA, CANA	DA	120	60	A6ED-W11
С		EUROPEAN	N TYPE	220- 240	50/60	A6ED-W21
D	D1	S.E ASIA TYPE	THAILAND,SRI LANKA,SINGAPORE,MALAYSIA,HONGKONG, PAKISTAN,INDIA,BANGLADESH,INDONESIA	220- 240	50/60	A6ED-W41
	D3	OCEAINA TYPE	AUSTRALIA,NEW ZEALAND	220- 240	50/60	A6ED-W51
1	Ξ	PHILIPPINE	ES	220- 240	50/60	A6ED-W41
	F1	SAUDI ARA	BIA			
F	F2	SAUDI ARA	SAUDI ARABIA		50/60	A6ED-W41
G	G1	C.S AMERI	C.S AMERICA		50/60	A6ED-W41

Destination No.		Destinations	V	Hz	Model No.
	G2	C.S AMERICA	120	60	A6ED-W11
ł	4	TAIWAN			
	I	JORDAN, LEBANON, SYRIA, SOUTH AFRICA, IRAQ, IRAN, N.YEMEN, CAMEROON, UAE, BAHRAIN, OMAN, QATAR, KUWAIT, KENYA, TUNISIA, IVORY COAST, MOROCCO	220- 240	50/60	A6ED-W41
J		CHINA			
К		KOREA			

P 1

4. Mount Kit (MK-P04)

4.1 MK-P04

4.1.1 P1



Page	Key	Parts No.	Description	Service Manual	Destinations	Class	Quantity
1	1	A735135000	Insulating Sheet			D	1
1	2	A6VGN10000	Relay harness			D	1
1	3	A735138000	Mounting Plate			D	1
1	4	A735N10100	Relay harness			D	1

4.2 DESTINATION

Destination			Destinations		Hz	Model No.
NO.						
Δ	A1	JAPAN		100	50/60	A735-WY1
^	A2	JAPAN				
I	3	USA, CANA	DA	120	60	A735-WY1
С		EUROPEAN	N TYPE	220- 240	50/60	A735-WY1
D	D1	S.E ASIA TYPE	THAILAND,SRI LANKA,SINGAPORE,MALAYSIA,HONGKONG, PAKISTAN,INDIA,BANGLADESH,INDONESIA	220- 240	50/60	A735-WY1
	D3	OCEAINA TYPE	AUSTRALIA,NEW ZEALAND	220- 240	50/60	A735-WY1
I	Ξ	PHILIPPINE	ES	220- 240	50/60	A735-WY1
	F1	SAUDI ARA	BIA			
F	F2	SAUDI ARA	SAUDI ARABIA		50/60	A735-WY1
G	G1	C.S AMERI	C.S AMERICA		50/60	A735-WY1
	G2	C.S AMERI	CA	120	60	A735-WY1
H	4	TAIWAN		110	60	A735-WY1

Destination	Destinations	V	Hz	Model No.
No.				
	JORDAN, LEBANON, SYRIA, SOUTH AFRICA, IRAQ, IRAN,	220-	50/60	A735-WY1
I	KENYA, TUNISIA, IVORY COAST, MOROCCO	240		
J	CHINA	220-	50/60	A735-WY1
-		240		
к	KOREA	220-	50/60	A735-WY1
r.		240		

5. HDD (HD-P06) 5.1 HD-P06 5.1.1 P1

P 1



Page	Key	Parts No.	Description	Service Manual	Destinations	Class	Quantity
1	1	A121132200	Shoulder screw			D	4
1	2	13KK73060	Base Plate Support Rubber			с	4
1	3	A734132601	Mounting Plate			D	1
1	4	4139232801	SHOULDER SCREW			С	1
1	5	A3GNM71B00	HDD	Hard disk (HDD)		1	1
1	6	A0VDN12200	Relay harness			D	1
1	7	A0VDN12300	Relay harness			D	1

5.2 DESTINATION

Destination No.			Destinations	V	Hz	Model No.
۸	A1	JAPAN				
~	A2	JAPAN				
	B	USA, CANAI	DA	120	60	A734-WY1
(С	EUROPEAN	TYPE	220-240	50/60	A734-WY1
D	D1	S.E ASIA TYPE	THAILAND,SRI LANKA,SINGAPORE,MALAYSIA,HONGKONG, PAKISTAN,INDIA,BANGLADESH,INDONESIA			
	D3	OCEAINA TYPE	AUSTRALIA,NEW ZEALAND			
I	Ē	PHILIPPINE	S			
E	F1	SAUDI ARAI	BIA			
1	F2	SAUDI ARAI	SAUDI ARABIA			
G	G1	C.S AMERIC	C.S AMERICA			
G	G2	C.S AMERIC	C.S AMERICA			A734-WY1
	Н	TAIWAN		110	60	A734-WY1

Destination No.	Destinations	V	Hz	Model No.
I	JORDAN, LEBANON, SYRIA, SOUTH AFRICA, IRAQ, IRAN, N.YEMEN, CAMEROON, UAE, BAHRAIN, OMAN, QATAR, KUWAIT, KENYA, TUNISIA, IVORY COAST, MOROCCO			
J	CHINA			
К	KOREA			

S LAYOUT DRAWINGS FOR RELATED PARTS BY EACH TROUBLE CODE1. 0010






4. 004A



5. 004E











CN90

CN63

S LAYOUT DRAWINGS FOR RELATED PARTS BY EACH TROUBLE CODE > 9. 0101



10. 0300, 0315





12. 0500, 0502, 0503, 0510, 0520



13. 0F52, 0F53, 0F54, 0F55



14. 13C4, 13C5, 13C6, 13C7



15. 13CB, 13CC, 13CD, 13CE



16. 13DD, 4091, 4092



17. 13E2, 13E3, 13F0, C164



18. 3C00, 3C10



19. 4901, C151, D2B1, D501



20. 6751, 6790, 6791, 6792, 6793, 9401



21. C161, D3A2, D3F2, D3F3, D3F4



22. D004, D091



23. D092, D093, D094, D095, D096



24. D0A2, D0A3, D0A4, D0A5, D0A6





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