

## Product Support Guide

### D146 / D147 / D148 / D149 / D150/ D176 / D177

<b>Model Type</b>	B/C MFP	
<b>Launch Date</b>	July 17, 2013	January 17, 2014
<b>Serial Number</b>	E15 / E16/ E17 / E18/ E19	E20/ E21
<b>Product Code</b>	D146 / D147 / D148/ D149 / D150	D176/ D177

#### Brand/Model Name

Product Code	Lanier	Ricoh	Savin
D146	MP C3003	MP C3003	MP C3003
D147	MP C3503	MP C3503	MP C3503
D148	MP C4503	MP C4503	MP C4503
D149	MP C5503	MP C5503	MP C5503
D150	MP C6003	MP C6003	MP C6003
D176	MP C2003	MP C2003	MP C2003
D177	MP C2503	MP C2503	MP C2503

The D146 series will provide the following advanced features:

- GW+” controller is available as well as superior mid/high segment.
- 20 /25 /30 / 35 / 45 / 55 / 60 CPM
- Enhanced Paper Support like SRA3/12.6”,
- Duplex thick paper up to 256gsm, Tray 2 supports
- Envelope feeding as a standard feature.
- Real-time process control (Calibration) improves productivity.
- New carries improves deep images at leading edge and minimizes “Halo effect”.
- Real time user instruction for clearing paper jams:
- LCD animation, LED lighting.
- New peripherals like Inner Finisher
- Java VM on board as standard feature
- Smart-based operation panel optional



# Product Support Guide

## D146 / D147 / D148 / D149 / D150/ D176 / D177

### Table of Contents

Product Support Guide.....	1
Model Type .....	1
Launch Date.....	1
Serial Number .....	1
Product Code.....	1
Brand/Model Name .....	1
Table of Contents.....	2
Order Numbers Main Frame .....	5
Order Numbers Options .....	6
Supplies / Yields For D146 / D147 .....	12
Supplies / Yields For D148 / D149 / D150.....	13
Supplies / Yields For D176/ D177 .....	13
Option Compatibility .....	14
MFP Option Compatibility D146/ D147.....	15
MFP Option Compatibility D148/ D149/D150 .....	15
MFP Option Compatibility D176/ D177.....	16
Branding Information.....	17
Main Frame Configuration For D146 / D147 .....	17
Main Frame Configuration For D148 / D149 / D150.....	18
MFP Option Board Slot / SD Card.....	20
Feature Comparison To Previous Version .....	21
Installation Requirements.....	22
Power Requirements.....	23
Space.....	23
Foot Print.....	23
Power Consumption / Noise Emission .....	23
Power Consumption.....	23
Noise Emission .....	24
Installation Times .....	25
Mainframe:.....	25
Peripherals.....	25
Storage/Transportation .....	26
Parts / Special Tools / Maintenance .....	26
PM Parts / Yields.....	26
Mainframe.....	26
Auto Reverse Document Feeder: DF3090 (D779).....	27
Single Pass Document Feeder: DF3080 (D683) .....	28
Special Tools & Lubricants.....	28
Target Reliability .....	28
Specifications / Documentation .....	28

# Product Support Guide

## D146 / D147 / D148 / D149 / D150/ D176 / D177

Mainframe .....	28
Copier General Features.....	29
Copier Enhanced Features .....	29
Document Feeders.....	30
ARDF DF3090 .....	30
SPDF DF 3080 .....	30
Finisher .....	31
SR3140.....	31
SR3150.....	31
SR3160.....	31
SR3170.....	31
Paper Bank .....	31
PB3160.....	31
PB3150.....	31
Printer .....	31
General Features of Printer Controller .....	31
Scanner.....	32
Scan to E-mail .....	34
Scan to Folder .....	35
Network TWAIN Driver.....	35
Fax.....	36
FaxTransmission Features.....	37
Fax Reception Features.....	38
Remarks .....	38
LAN-Fax Specification .....	38
IP-Fax Specifications .....	38
Document Server Specifications .....	39
Security Specifications.....	39
MFP Supported Environments .....	40
Terminal Service & Citrix MetaFrame.....	43
Mac OS.....	43
UNIX Filter .....	44
Novell Network .....	44
SAP/R3 Environment (Device Type / Barcode & OCR Package) .....	44
Utility Software .....	44
Print Driver Information .....	45
Other MFP Support Information .....	47
Counters.....	47
Page Counter Mode .....	47
Development Counter Mode .....	47
Paper.....	48
Recommended Throughput Material.....	48
Non Recommended Throughput Material .....	48
Special Paper.....	48
Firmware Information .....	48
Firmware .....	48
SD Card Arrangement.....	49

# Product Support Guide

## D146 / D147 / D148 / D149 / D150/ D176 / D177

Contact Information .....49

Training Information.....50

Revisions .....51

# Product Support Guide

## D146 / D147 / D148 / D149 / D150/ D176 / D177

### Order Numbers Main Frame

Item	Model Name	EDP Code	Notes
Lanier Ricoh Savin	MP C3003SP / MP C3003SPG	416502 / 416675	Product is pre-configured with standard ARDF, Scan/Print Capabilities, 2 x 550 Sheet Paper Trays, 100 Sheet Bypass, Duplex, 1.5 GB RAM, 175GB HDD, non-common criteria DOSS & HDD Encryption.
Lanier Ricoh Savin	MP C3503SP / MP C3503SPG	416509 / 416677	Product is pre-configured with standard ARDF, Scan/Print Capabilities, 2 x 550 Sheet Paper Trays, 100 Sheet Bypass, Duplex, 1.5 GB RAM, 175GB HDD, non-common criteria DOSS & HDD Encryption.
Lanier Ricoh Savin	MP C4503SP / MP C4503SPG	416518 / 416678	Product is pre-configured with standard SPDF, Scan/Print Capabilities, 2 x 550 Sheet Paper Trays, 100 Sheet Bypass, Duplex, 2 GB RAM, 175GB HDD, non-common criteria DOSS & HDD Encryption
Lanier Ricoh Savin	MP C5503SP /MP C5503SPG	416525 / 416680	Product is pre-configured with standard SPDF, Scan/Print Capabilities, 2 x 550 Sheet Paper Trays, 100 Sheet Bypass, Duplex, 2 GB RAM, 175GB HDD, non-common criteria DOSS & HDD Encryption.
Lanier Ricoh Savin	MP C6003SP / MP C6003SPG	416534 / 416681	Product is pre-configured with standard SPDF, Scan/Print Capabilities, 2 x 550 Sheet Paper Trays, 100 Sheet Bypass, Duplex, 2 GB RAM, 175GB HDD, non-common criteria DOSS & HDD Encryption.
Lanier Ricoh Savin	MP C2003	416920	Standard 100 Sheet ARDF, 100 Sheet Bypass Tray, Duplex, Print & Scan Capabilities, 250GB HDD, 1.5GB RAM, 2 x 550 Sheet Paper Tray.
Lanier Ricoh Savin	MP C2503	416926	Standard 100 Sheet ARDF, 100 Sheet Bypass Tray, Duplex, Print & Scan Capabilities, 250GB HDD, 1.5GB RAM, 2 x 550 Sheet Paper Tray.

**NOTE:** Order Numbers are provided for reference purposes only. Please use your Pricing Guide for proper order numbers to insure you receive the correct branding emblem.

# Product Support Guide

## D146 / D147 / D148 / D149 / D150/ D176 / D177

### Order Numbers Options

Item	Description	EDP Code	Product Code	Common / Unique	Notes
Cabinet Type F	Cabinet	100478FNG	N/A	U	
SR3140	1000 Sheet Finisher	416539	D687	U	MP C3003, MP C3503, MP C4503, MP C5503 MP C6003 only
SR3150	1000 Sheet Booklet Finisher	416540	D686	U	MP C3003, MP C3503, MP C4503, MP C5503 MP C6003 only
PU3050	Punch Unit	416609	D717	U	MP C3003, MP C3503, MP C4503, MP C5503 MP C6003 only
SR3130	500 sheet Internal Finisher	416543	D690	U	MP C3003, MP C3503, MP C4503, MP C5503 MP C2003 MP C2503 only
PU3040	Punch Unit	416615	D716	U	MP C3003, MP C3503, MP C4503, MP C5503 MP C2003 MP C2503 only
SR3160	3000 Sheet Finisher	416541	D689	U	MP C4503, MP C5503, MP C6003 only
SR3170	2000 Sheet Booklet Finisher	416542	D688	U	MP C4503, MP C5503, MP C6003 only
SR3180	Internal Finisher w. Stapleless Stapler	416950	D766	U	MP C2003 & MP C2503 only
PB3210	Paper Feed Unit (550 x 2)	416952	D787	U	MP C2003 & MP C2503

# Product Support Guide

## D146 / D147 / D148 / D149 / D150/ D176 / D177

Item	Description	EDP Code	Product Code	Common / Unique	Notes
					only
PB3160	Paper Feed Unit 550x2	416544	D693	U	MP C3003 MP C3503 MP C4503 MP C5503 MP C6003 only
PB3150	Paper Feed Unit 550x1	416545	D694	U	
Caster Table Type M3	Caster Table	416737	D178	U	
PB3170	Tandem LCT	416546	D695	U	MP C3003 MP C3503 MP C4503 MP C5503 MP C6003 only
RT3030	Side LCT	416548	D696	U	MP C3003 MP C3503 MP C4503 MP C5503 MP C6003 only
SH3070	Internal Shift Tray	416550	D691	U	
BU3070	Bridge Unit	416551	D685	U	MP C3003 MP C3503 MP C4503 MP C5503 MP C6003 only
BN3110	1 Bin Tray	416552	D692	U	
Side Tray Type M3	Side Tray	416553	D725	U	
Imageable Area Extension Unit Type M3	SRA3/12.6" Option	416730	D739	U	
Handset HS3020	Handset	416683	D167-01	U	
Fax Option Type M3	Fax Option	416556	D163-01	U	MP C3003, MP C3503 MP C2003 MP C2505 only

# Product Support Guide

## D146 / D147 / D148 / D149 / D150/ D176 / D177

Item	Description	EDP Code	Product Code	Common / Unique	Notes
Fax Option Type M4	Fax Option	416564	D167-01	U	MP C4503, MP C5503, MP C6003 only
G3 Interface Unit Type M3	Fax G3 Option	416561	D163-07	U	MP C3003, MP C3503 MP C2003 MP C2503 only
G3 Interface Unit Type M4	Fax G3 Option	416569	D167-07	U	MP C4503, MP C5503, MP C6003 only
Memory Unit Type M3 2GB	Memory Unit for mainframe	007208MIU	D164-03	U	MP C3003, MP C3503 MP C2003 MP C2503 only
Fax Connection Unit Type M3	Fax Connection	416574	D165-01	U	MP C3003, MP C3503 MP C2003 MP C2503 only
Fax Connection Unit Type M4	Fax Connection	416588	D166-01	U	MP C4503, MP C5503, MP C6003 only
Postscript 3 Unit Type M3	Postscript 3	416577	D165-05	U	MP C3003, MP C3503 MP C2003 MP C2503 only
Postscript 3 Unit Type M4	Postscript 3	416591	D166-05	U	MP C4503, MP C5503, MP C6003 only
Camera Direct Print Card Type M3	PictBridge Option	416580	D165-13	U	MP C3003, MP C3503 MP C2003 MP C2503 only
Camera Direct Print Card Type M4	PictBridge Option	416594	D166-13	U	MP C4503, MP C5503, MP C6003 only
Browser Unit Type M3	MFP Browser	416581	D165-15	U	MP C3003, MP C3503 only
Browser Unit Type M4	MFP Browser	416595	D166-15	U	MP C4503, MP C5503, MP C6003



# Product Support Guide

## D146 / D147 / D148 / D149 / D150/ D176 / D177

Item	Description	EDP Code	Product Code	Common / Unique	Notes
					only
Browser Unit Type M9	Browser Unit	416963	D165-25	U	MP C2003 & MP C2503 only
Removable Hard Drive	Type MPC6003 RHD	MXRHDC6003	N/A	U	MP C4503, MP C5503, MP C6003
Additional Removable Hard Drive	Type MPC6003 ARHD	MXARHDC6003	N/A	U	MP C4503, MP C5503, MP C6003
Removable Hard Drive	Type MPC3503 RHD	MXRHDC3503	N/A	U	MP C3003, MP C3503
Additional Removable Hard Drive	Type MPC3503 ARHD	MXARHDC3503	N/A	U	MP C3003, MP C3503
NetWare SD Card Type M3	NetWare	416584	D165-19	U	MP C3003, MP C3503 MP C2003 MP C2503 only
NetWare SD Card Type M4	NetWare	416598	D166-19	U	MP C4503, MP C5503, MP C6003 only
IPDS Unit Type M3	IPDS	416585	D165-20	U	MP C3003, MP C3503 MP C2003 MP C2503 only
IPDS Unit Type M4	IPDS	416599	D166-20	U	MP C4503, MP C5503, MP C6003 only
Color Controller E22C	Fiery Controller	416731	D730-01	U	MP C3003 MP C3503 MP C4503 MP C5503 MP C6003 only
Color Controller Connection Board Type M3	Fiery Connection Board	416891	D730-06	U	MP C3003, MP C3503 only
Color Controller Connection Board Type M4	Fiery Connection Board	416733	D730-04	U	MP C4503, MP C5503, MP C6003 only
Key Counter Bracket Type M3	Key Counter Bracket	416869	D739-09	U	

# Product Support Guide

## D146 / D147 / D148 / D149 / D150/ D176 / D177

Item	Description	EDP Code	Product Code	Common / Unique	Notes
External Keyboard Bracket Type M3	Keyboard Bracket	416909	D739-10	U	
Smart Operation Panel	Smart Operation Panel Type M3	416910	D148-81	U	
Smart Card Reader Built-in Unit Type M2	Smart Card Reader	416729	D739-06	C	
IEEE 802.11a/g/n Interface Unit Type M2	Wireless LAN	416572	D164-01	C	
OCR Unit Type M2	OCR Unit	416605	D166-25	C	
IEEE 1284 Interface Board Type A	Interface Board Type A	411699	D679-19	C	
ADF Handle Type C	ADF Handle	416213	D593-81	C	
Card Reader Bracket Type 3352	Card Reader Bracket	415814	D593-81	C	
Optional Counter Interface Unit Type A	Key Counter 20 Pin	413012	B870-11	C	
Copy Data Security Unit Type G	Copy Data Security Unit	416391	D640-41	C	
Bluetooth Interface Unit Type D	Bluetooth (USB)	415818	D566-01	C	
File Format Converter Type E	File Format Converter	414007	D377-04		
Unicode Font Package for SAP® 1 License	Unicode Font Package	413009	B869-01	C	
Unicode Font Package For SAP® 10 License	Unicode Font Package	413010	B869-02	C	
Unicode Font Package For SAP® 100 License	Unicode Font Package	413011	B869-03	C	
Fax Memory Unit Type B 32MB	Fax SAF Memory	001342MIU	G578-17	C	
Brand Plaque For Savin TypeM2	Brand Plaque	416672	D135-33	C	
Brand Plaque For Lanier Type M2	Brand Plaque	416670	D135-31	C	

# Product Support Guide

## D146 / D147 / D148 / D149 / D150/ D176 / D177

Item	Description	EDP Code	Product Code	Common / Unique	Notes
DOSS Type I	Data Overwrite Security	416372	D362-12	C	MP C3003, MP C3503 only This is for CC only DOSS is installed on controller.
DOSS Type H	Data Overwrite Security	416373	D377-22	C	MP C4503, MP C5503, MP C6003 only This is for CC only DOSS is installed on controller.
Fiery Impose	Fiery Impose	404336	N/A	C	MP C3003 MP C3503 MP C4503 MP C5503 MP C6003 only
Fiery Compose FS-100	Fiery Compose	404582	N/A	C	MP C3003 MP C3503 MP C4503 MP C5503 MP C6003 only
Fiery Auto Trap	Fiery Auto Trap	413316	N/A	C	MP C3003 MP C3503 MP C4503 MP C5503 MP C6003 only
EFI Spot On	EFI Spot On	413317	N/A	C	MP C3003 MP C3503 MP C4503 MP C5503 MP C6003 only
Fiery Hot Folders	Fiery Hot Folders	413315	N/A	C	MP C3003 MP C3503 MP C4503 MP C5503 MP C6003 only
Fiery Color Profiler Suite V4.0	Fiery Color Profiler	007091MIU	N/A	C	MP C3003 MP C3503 MP C4503 MP C5503 MP C6003 only

# Product Support Guide

## D146 / D147 / D148 / D149 / D150/ D176 / D177

Item	Description	EDP Code	Product Code	Common / Unique	Notes
Fiery ES-2000 Spectrophotometer	Fiery Spectrophotometer	007095MIU	N/A	C	MP C3003 MP C3503 MP C4503 MP C5503 MP C6003 only
Fiery CPS V4.0 Software	Fiery Software	007096MIU	N/A	C	MP C3003 MP C3503 MP C4503 MP C5503 MP C6003 only
EFI Productivity Pack	EFI Productivity Pack	007183MIU	N/A	C	MP C3003 MP C3503 MP C4503 MP C5503 MP C6003 only
Power Filter ESP XG-PCS-15D	Power Filter	006428MIU	N/A	C	
HotSpot MFP Option Type S	HotSpot MFP Option Type S	415620	N/A	C	

### Supplies / Yields For D146 / D147

Item	Name	Order Code	Target Yield
<b>Ricoh / Lanier / Savin</b>			
Toner Black	Print Cartridge Black MP C3503	841813	29,500 prints/bottle
Toner Yellow	Print Cartridge Yellow MP C3503	841814	18,000 prints/bottle
Toner Magenta	Print Cartridge Magenta MP C3503	841815	18,000 prints/bottle
Toner Cyan	Print Cartridge Cyan MP C3503	841816	18,000 prints/bottle
Marker 30	Marker Type 30	334049	4- Makers / Box, 12k/Marker
Staple Set Cartridge	SR3140 / SR3130 Staple Type T	415009	5000 Staples
Staple Refill Cartridge	SR3140 / SR3130 Staple Type T	415010	5000 Staples x 2
Waste Toner Bottle	Waste Toner Bottle MP C6003	416890	100,000
<b>Ricoh</b>			
Staple Set Cartridge	SR3150 (Normal & Saddle Stitch) Staple Type S	412874	5000 Staples
Staple Refill Cartridge	SR3150 (Normal & Saddle Stitch) Staple Type S	410802	5000 Staples x 3
<b>Lanier</b>			
Staple Set Cartridge	SR3150 (Normal & Saddle Stitch) Staple Type S	412878 4800391	5000 Staples
Staple Refill	SR3150 (Normal & Saddle Stitch)	410802	5000 Staples x 3

# Product Support Guide

## D146 / D147 / D148 / D149 / D150/ D176 / D177

Item	Name	Order Code	Target Yield
Cartridge	Staple Type S		
<b>Savin</b>			
Staple Set Cartridge	SR3150 (Normal & Saddle Stitch) Staple Type S	412877	5000 Staples
Staple Refill Cartridge	SR3150 (Normal & Saddle Stitch) Staple Type S	410804 9859	5000 Staples x 3

### Supplies / Yields For D148 / D149 / D150

Item	Name	Order Code	Target Yield
<b>Ricoh / Lanier / Savin</b>			
Toner Black	Print Cartridge Black MP C6003	841849	33,000 prints/bottle
Toner Yellow	Print Cartridge Yellow MP C6003	841850	22,500 prints/bottle
Toner Magenta	Print Cartridge Magenta MP C6003	841851	22,500 prints/bottle
Toner Cyan	Print Cartridge Cyan MP C6003	841852	22,500 prints/bottle
Marker 30	Marker Type 30	334049	12,000
Waste Toner Bottle	Waste Toner Bottle MP6003	416890	100,000
Staple Set Cartridge	SR3170 / SR3160 / SR3140 Staple Type T	415009	5000 Staples
Staple Refill Cartridge	SR3170 / SR3160 / SR3140 Staple Type T	415010	5000 Staples x 2
Staple Set Cartridge	SR3170 ( Saddle Stitch ) Staple Type W	416710	2000 Staples
Staple Refill Cartridge	SR3170 ( Saddle Stitch ) Staple Type W	416712	2000 Staples x 4
<b>Ricoh</b>			
Staple Set Cartridge	SR3150 (Normal & Saddle Stitch) Staple Type S	412874	5000 Staples
Staple Refill Cartridge	SR3150 (Normal & Saddle Stitch) Staple Type K	410802	5000 Staples x 3
<b>Savin</b>			
Staple Set Cartridge	SR3150 ( Normal & Saddle Stitch ) Staple Type S	412878	5000 Staples
Staple Refill Cartridge	SR3150 ( Normal & Saddle Stitch ) Staple Type k	410802	5000 Staples x 3
<b>Lanier</b>			
Staple Set Cartridge	SR3150 ( Normal & Saddle Stitch ) Staple Type S	412877	5000 Staples
Staple Refill Cartridge	SR3150 ( Normal & Saddle Stitch ) Staple Type K	410804	5000 Staples x 3

### Supplies / Yields For D176/ D177

Item	Name	Order Code	Target Yield
------	------	------------	--------------

# Product Support Guide

## D146 / D147 / D148 / D149 / D150/ D176 / D177

Item	Name	Order Code	Target Yield
<b>Ricoh / Lanier / Savin</b>			
Toner Black	Print Cartridge Black MP C2503	841918	15,000 prints/bottle
Toner Yellow	Print Cartridge Yellow MP C2503H	841919	9,500 prints/bottle
Toner Magenta	Print Cartridge Magenta MP C2503H	841920	9,500 prints/bottle
Toner Cyan	Print Cartridge Cyan MP C2503H	841921	9,500 prints/bottle
Toner Yellow	Print Cartridge Yellow MP C2503	841922	5,500 prints/bottle
Toner Magenta	Print Cartridge Magenta MP C2503	841923	5,500 prints/bottle
Toner Cyan	Print Cartridge Cyan MP C2503	841924	5,500 prints/bottle
Marker 30	Marker Type 30	334049	4- Makers / Box, 12k/Marker
Staple Set Cartridge	Staple Type T for Internal Finisher SR3130	415009	1 x 5,000/Ctn.
Staple Refill Cartridge	Staple Refill Type T for Internal Finisher SR3130	415010	2 x 5,000/Ctn.
Waste Toner Bottle	Waste Toner Bottle MP C6003	416890	100,000

Supply Yield Condition:

The yield figures in the above table are based on the following conditions:

A4 (LT) long-edge feed

5% image coverage ratio

Color ratio: 30%

3 print/job (MP C3003/MP C3503), 4 print/job (MP C4503/MP C5503/MP C6003)

Option Compatibility

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1.SPDF		X																
2.ARDF	X																	
3. Paper Bank 500x2 - PB3160				X						X								X
4. Paper Bank 500x1 - PB3150			X							X								X
5. Finisher - SR3130*						X	X	X	X			X	X					
6. Finisher - SR3140					X		X	X	X	X		M	X					
7. Finisher - SR3150					X	X		X	X			M	X					
8.Finisher - SR3160**					X	X			X			M	X					
9. Finisher - SR3170**					X	X	X	X				M	X					
10.Tandem LCT - PB3170			X	X														X
11. Side LCT-RT3030																		X
12. Bridge Unit - BU3070													X					
13. Internal Shift Tray-SH3070					X	X	X	X	X			X			X	X		
14.1 Bin Tray - BN3110																		
15.Punch Unit - PU3050																X		X
16.Punch Unit - PU3040*															X			X
17. Cabinet Type F			X	X						X	X							
18. Punch Unit - PU3060**															X	X		

X: Cannot be installed together

M: Must be installed together in RAC Market

\*For MP C3003, C3503, C4503, C5503

# Product Support Guide

## D146 / D147 / D148 / D149 / D150/ D176 / D177

\*For MP C4503, C5503, C6003

### MFP Option Compatibility D146/ D147

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. Fax Option Type M3															
2. G3 Interface unit Type M3	<b>M</b>														
3. .Postscript3 Unit Type M3															
4. Camera Direct Print Type M3															
5. Browser Unit Type M3															
6 Netware SD card Type M3															
7. IPDS Unit Type M3															
8. Fiery Controller E22C															
9. Smart Card Reader M2															
10. IEEE 802.11 wireless Lan															
11. OCR Unit Type M2															
12. Copy Data Security Type G															
13. DOSS Type I															
14. Smart Operation Panel M3															
15. Card Reader Type 3352															

X: Cannot be installed together

M: Must be installed together in RAC Market

### MFP Option Compatibility D148/ D149/D150

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1.Fax Option Type M4															
2. G3 Interface unit Type M4	<b>M</b>														
3. Postscript3 Unit Type M4															
4. Camera Direct Print Type M4															
5. Browser Unit Type M4															
6. Netware SD card Type M4															
7. IPDS Unit Type M4															
8. Fiery Controller E22C															
9. Smart Card Reader M2															

# Product Support Guide

## D146 / D147 / D148 / D149 / D150/ D176 / D177

10. IEEE 802.11 wireless Lan												X				
11. OCR Unit Type M2											X					
12. Copy Data Security Type G												X				
13 DOSS Type H													X			
14. Smart Operation Panel M3														X		
15. Card Reader Type 3352															X	

X: Cannot be installed together  
 M: Must be installed together in RAC Market

### MFP Option Compatibility D176/ D177

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	
1. Fax Option Type M3															
2. G3 Interface unit Type M3	M														
3. .Postscript3 Unit Type M3			X												
4. Camera Direct Print Type M3				X											
5. Browser Unit Type M3					X										
6 Netware SD card Type M3						X									
7. IPDS Unit Type M3							X								
8. Smart Card Reader M2								X							
9. IEEE 802.11 wireless Lan									X						
10. OCR Unit Type M2										X					
11. Copy Data Security Type G											X				
12. DOSS Type I												X			
13. Smart Operation Panel M3													X		
14. Card Reader Type 3352														X	

X: Cannot be installed together  
 M: Must be installed together in RAC Market



# Product Support Guide

## D146 / D147 / D148 / D149 / D150/ D176 / D177

### Branding Information

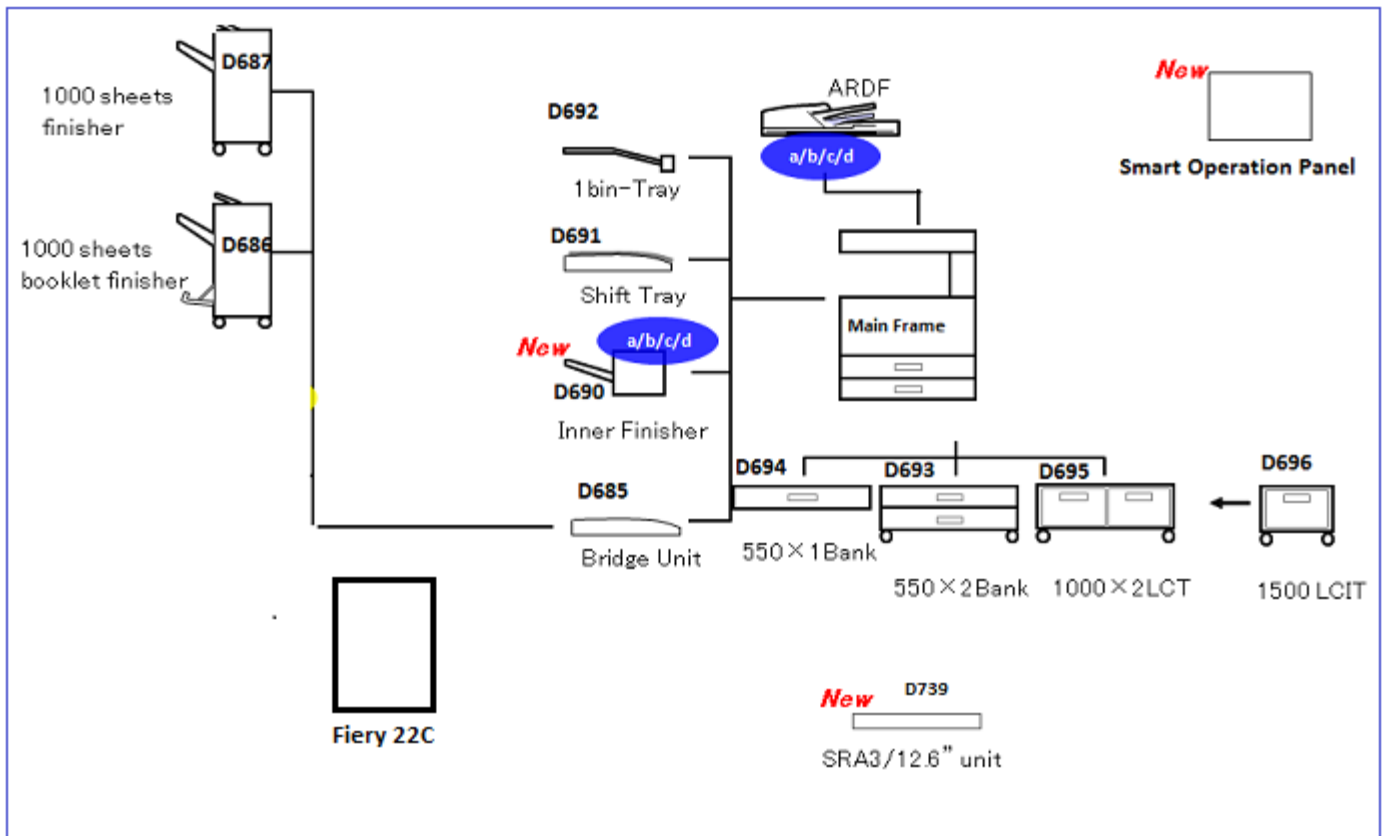
Branding is required as the machines are shipped as a generic version.

**Ricoh version machines:** You must attach the model label (provided) to the front cover.

**Savin/Lanier:** You must attach the model label (provided) to the front cover and set the Plug and Play name with SP 5-907.

### Main Frame Configuration For D146 / D147

A=D146 B =147 C=148 D=149 E=150

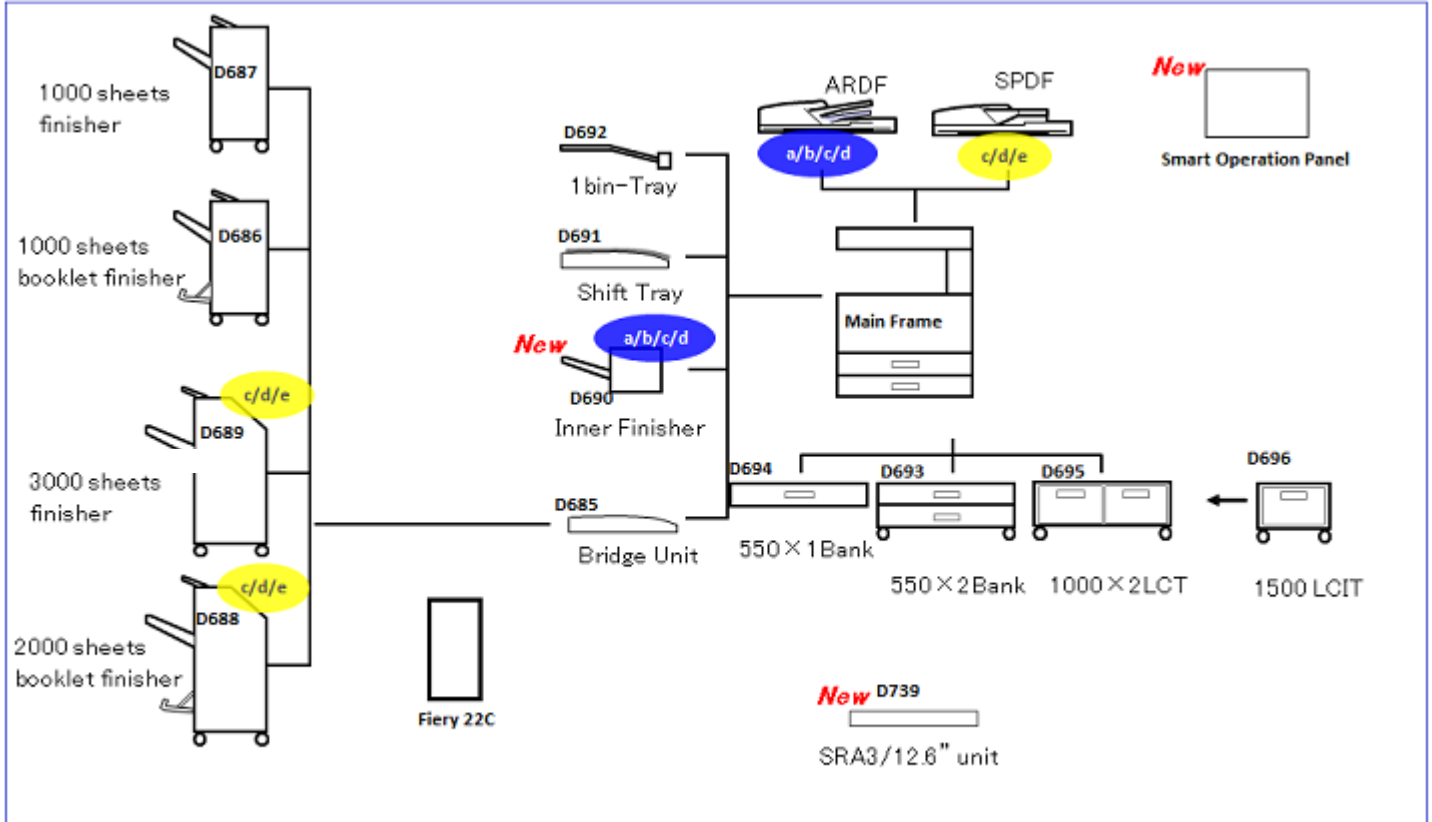


# Product Support Guide

## D146 / D147 / D148 / D149 / D150/ D176 / D177

### Main Frame Configuration For D148 / D149 / D150

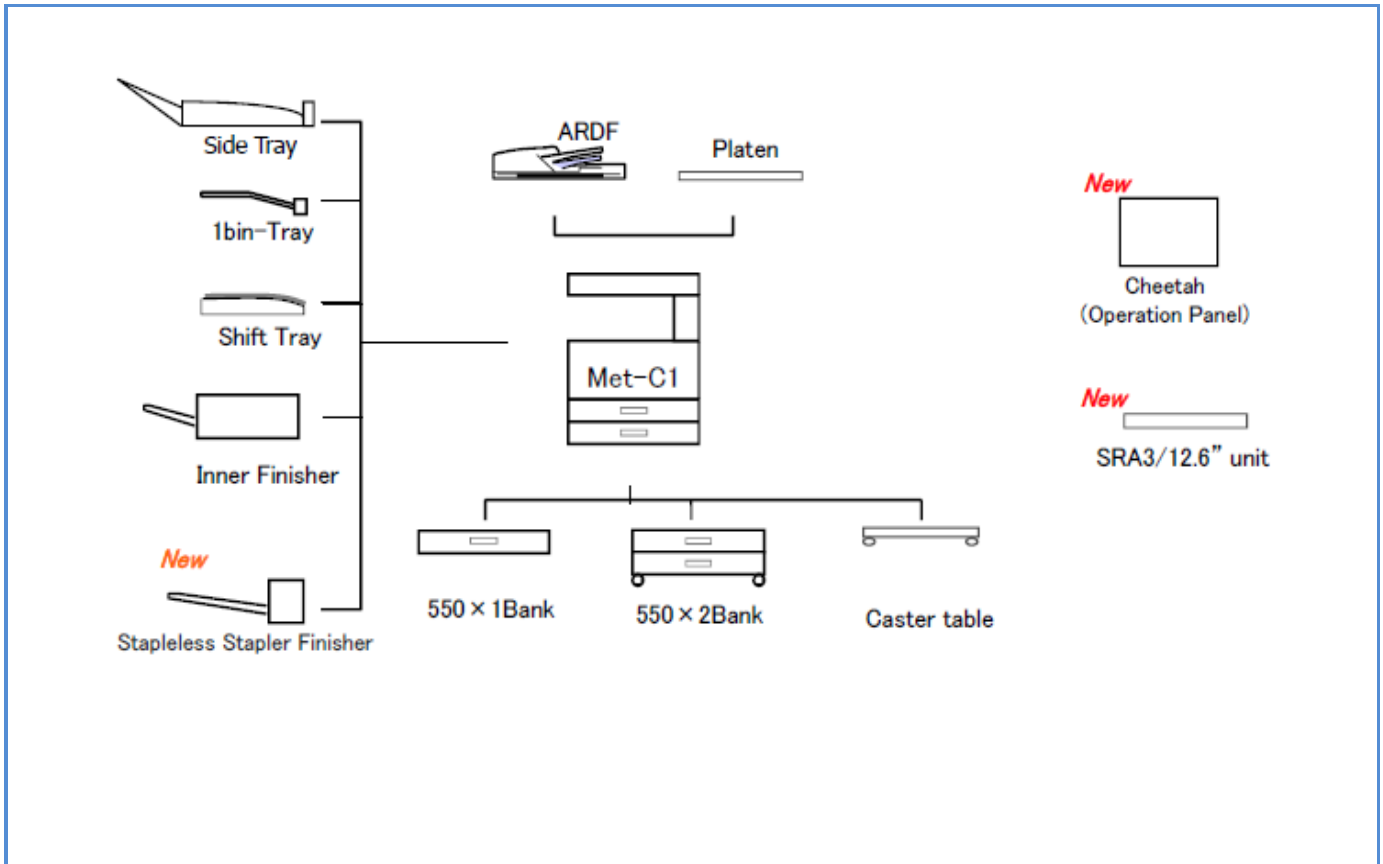
A=D146 B=147 C=148 D=149 D=150



# Product Support Guide

## D146 / D147 / D148 / D149 / D150/ D176 / D177

### Main Frame Configuration For D176 / D177

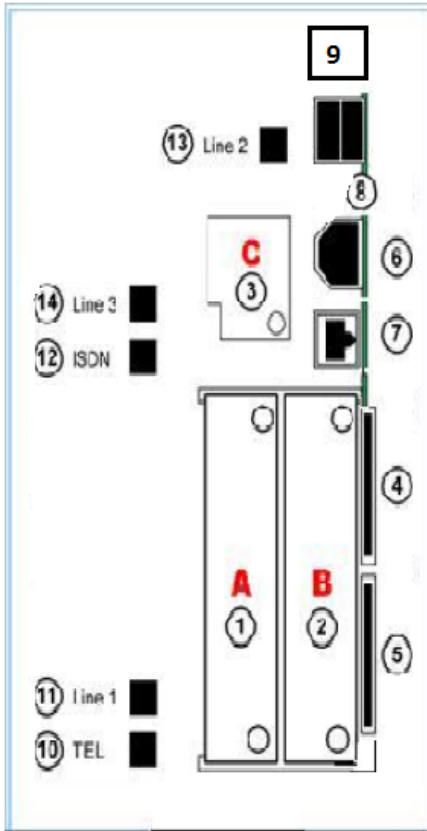


# Product Support Guide

## D146 / D147 / D148 / D149 / D150/ D176 / D177

MFP Option Board Slot / SD Card D146 / D147 / D148 / D149 / D150

Assignments



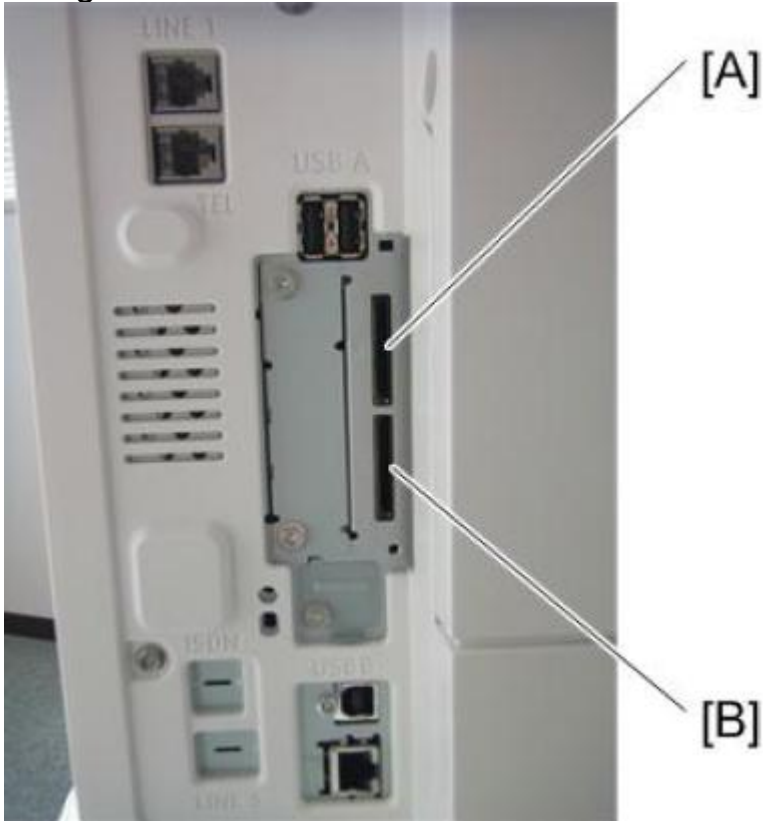
No.	Name	Description
①	Slot A	IEEE1284 / IEEE802.11 / Remote communication gate
②	Slot B	.File Format Converter .RC-Gate/LB
③	Slot C	<ul style="list-style-type: none"> <li>Gigabit Ethernet</li> </ul>
④	Upper Slot (Slot 1)	<ul style="list-style-type: none"> <li>Remote</li> <li>DOSS</li> <li>Netware</li> <li>Postscript</li> <li>IPDS</li> <li>Browser Unit</li> <li>OCR</li> </ul>
⑤	Lower Slot (Slot 2)	<ul style="list-style-type: none"> <li>Service Slot</li> </ul>
⑥	USB 2.0	<ul style="list-style-type: none"> <li>Built-in for connection of USB devices.</li> </ul>
⑦	100BaseT LAN	<ul style="list-style-type: none"> <li>Standard LAN connection point.</li> </ul>
⑧	USB	2 USB Ports
⑨	Fiery	Fiery Connector
⑩	TEL	Jack for telephone connection
⑪	Line 1	Jack for main telephone line from the outside for connection to Fax Option
⑫	ISDN	Jack for ISDN connection <b>Japan Only</b>
⑬	Line 2	Jack for a 2nd line connection to G3 Interface Unit Type when this option is installed.
⑭	Line 3	Jack for a 3rd line connection to G3 Interface Unit Type when this option is installed.

# Product Support Guide

## D146 / D147 / D148 / D149 / D150/ D176 / D177

MFP Option Board Slot / SD Card D176 / D177

### Assignments



[A]: SD card slot 1 (option slot)

[B]: SD card slot 2 (service slot)

Optional SD cards can be set in either slot 1 or slot 2. But slot 2 is the service slot, so we recommend that you use slot 1 to install the SD card options.

### Feature Comparison To Previous Version

Item	Previous Model D143 / D144	D146 / D147	D148 / D149 / D150
<b>Max Paper Capacity</b>	4,400 Sheets	4,700 Sheets	4,700 Sheets
<b>Operation Panel</b>	8.5" Control Panel	9" Control Panel	9" Control Panel
<b>Paper Weight</b>	52-169 (Duplex) 52-256 (Std Trays) 52-216 (Side LCT)	52-256 (Duplex) 52-300 (Std Trays & Side LCT)	52-256 (Duplex) 52- 300 (Std Trays & Side LCT)
<b>Internal finisher</b>	Not Available	Available	Available
<b>Envelope Printing</b>	Optional	Standard ( Tray 2-4 & Bypass)	Standard ( Tray 2- 4 & Bypass)

# Product Support Guide

## D146 / D147 / D148 / D149 / D150/ D176 / D177

Item	Previous Model D143 / D144	D146 / D147	D148 / D149 / D150
<b>Gigabit Ethernet</b>	Optional	Standard	Standard
<b>Poster Print</b>	Not Available	Available	Available
<b>Scanning Speed</b>	85 Pages B/W & Color 300DPI	70 Pages B/W &Color 300DPI	100 Pages B/W &Color 300DPI
<b>Scan To Searchable PDF</b>	Not Available	Option	Option
<b>Distributed Scan Management</b>	Not Available	Option	Option
<b>Remote Operation Panel</b>	Not Available	Available	Available
<b>ID Card Copy</b>	Not Available	Available	Available
<b>Real Time Process Control</b>	Not Available	Available	Available
<b>PM Cycle</b>	150K	300K	300K
<b>Folder Management In Document Server</b>	Not Available	Available	Available
<b>Booklet Stapling of Mixed Color Documents</b>	Not Available	Available	Available
<b>Improved Address Book Management</b>	Not Available	Available	Available
<b>Speeds Available</b>	45 & 55 PPM	30 & 35 PPM	45,55 & 60 PPM

### Installation Requirements

Temperature Range: 10° C to 32° C (50° F to 89.6° F)  
 Humidity Range: 15% to 80% RH  
 Ambient Illumination: Less than 1,500 lux (do not expose to direct sunlight)  
 Ventilation: 3 times/hr/person  
 Ambient Dust: Less than 0.075 mg/m<sup>3</sup> (2.0 x 10-6oz/yd<sup>3</sup>)  
 Avoid areas exposed to sudden temperature changes:  
     Areas directly exposed to cool air from an air conditioner.  
     Areas directly exposed to heat from a heater.

Do not place machine where it will be exposed to corrosive gas or vapor.  
 Do not install the machine at any location over 2,000m (6,500 ft.) above sea level.  
 Place the machine on a strong and level base. Inclination on any side should be no more than 5mm (0.2")  
 Do not place the machine where it may be subject to strong vibrations.  
 Machine level

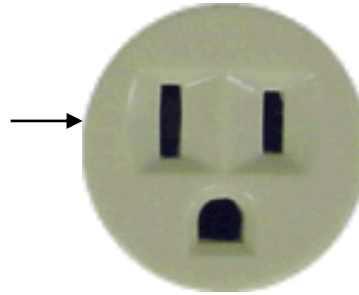
- Front to back: within 5mm (0.2") of level
- Right to left: within 5mm (0.2") of level

# Product Support Guide

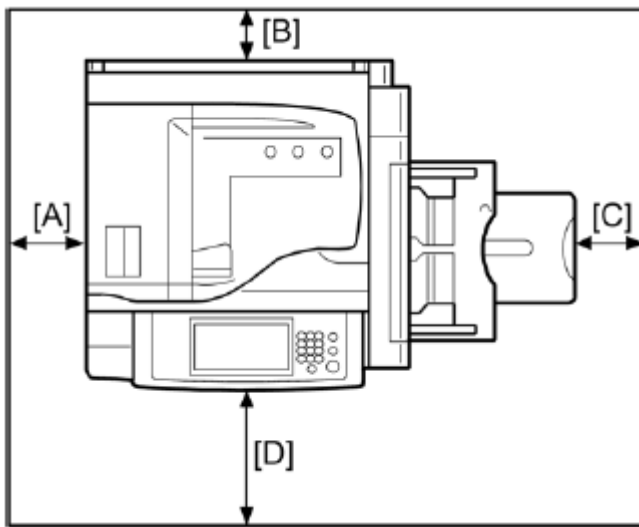
## D146 / D147 / D148 / D149 / D150/ D176 / D177

### Power Requirements

Input voltage level: 110 - 120 V, 60Hz: 12A  
 Do not place anything on power cord.  
 The required wall outlet is a NEMA 5-15R (receptacle)



### Space



- A (Left) Over 100mm (3.9")
- B (Rear) Over 100mm (3.9")
- C (Right) Over 550mm (21.7")
- D (Front) Over 750mm (29.5")

The recommended 750 mm (30") front space is sufficient to allow the paper tray to be pulled out. Additional the front space is required to allow operators to stand at the front of the machine.

### Foot Print

Dimensions (W x D x H): 1250 mm x 604mm x 1210mm (49" x 23.77" x 47.5") With 2-tray paper bank fall-Prevention material

NOTE: Measurement Conditions: With Bypass tray closed.

### Power Consumption / Noise Emission

#### Power Consumption

Mode	Model	Wattage	Remarks
Full Option Max Power	D146	1584	
	D147		
	D148		
	D149		
	D150		
Operating Power	D146	515(BW) 595(FC)	

# Product Support Guide

## D146 / D147 / D148 / D149 / D150/ D176 / D177

Mode	Model	Wattage	Remarks
	D147	515(BW) 595(FC)	
	D148	667(BW) 758(FC)	
	D149	823(BW) 959(FC)	
	D150	823(BW) 959(FC)	
Ready Mode	D146	78	
	D147	78	
	D148	107	
	D149	107	
	D150	107	
Low Power	D146	-	
	D147	-	
	D148	66.9	
	D149	66.9	
	D150	66.9	
Sleep Mode	D146	0.49	
	D147	0.48	
	D148	0.55	
	D149	0.55	
	D150	0.56	

### Noise Emission

Mainframe			
Sound Power Level	Db	Sound Power Level	Db
Stand-by D146	32.1	Copying D146	60.8(BW) 62.1(FC)
Stand-by D147	32.2	Copying D147	61.3(BW) 62.6(FC)
Stand-by D148	31.4	Copying D148	63.1(BW) 64.1(FC)
Stand-by D149	31.5	Copying D149	64.6(BW) 66.3(FC)
Stand-by D150	32.2	Copying D150	65.4(BW) 66.3(FC)
Full System			
Stand-by D146	35	Copying D146	71
Stand-by D147	35	Copying D147	71.1
Stand-by D148	35	Copying D148	71.9
Stand-by D149	35	Copying D149	72.4
Stand-by D150	35	Copying D150	73.2
Mainframe			
Sound Pressure Level	Db	Sound Pressure Level	Db
Stand-by D146	19	Copying D146	49.9(BW) 50.1(FC)
Stand-by D147	19.3	Copying D147	50.0(BW) 50.9(FC)
Stand-by D148	19.2	Copying D148	51.2(BW) 51.9(FC)
Stand-by D149	19.3	Copying D149	52.7(BW) 54.9(FC)
Stand-by D150	19.2	Copying D150	52.3(BW) 53.7(FC)
Full System			
Stand-by D146	29	Copying D146	60.8
Stand-by D147	29	Copying D147	60.1
Stand-by D148	29	Copying D148	61.5
Stand-by D149	29	Copying D149	62.5
Stand-by D150	29	Copying D150	62.5

NOTE: The above measurements were made in accordance with ISO 7779. The measurements were taken from the normal position of the operator.



# Product Support Guide

## D146 / D147 / D148 / D149 / D150/ D176 / D177

### Installation Times

#### Mainframe:

30 Minutes

Abbreviations used: A=D146 B=147 C=148 D=149 C=150

### Peripherals

Unit	Installation Time (Minutes)	Unit	Installation Time (Minutes)
ARDF DF3090	15	Fax Option Type M3/M4 (for a,b / c,d,e)	15
SPDF DF3080	15	G3 Interface Unit Type M3/M4 (for a,b / c,d,e)	15
Paper Feed Unit PB3150 (1 Tray Paper Bank)	10	Fax Connection Unit Type M3/M4 (for ab /cde)	10
Paper Feed Unit PB3160 (2 Tray Paper Bank)	10	Memory Unit Type M3 2GB	5
LCIT PB3170 (2000-Sheet Tandem LCT)	10	Camera Direct Print Card Type M3/M4 (for ab /cde)	5
LCIT RT3030 (1200-Sheet Side LCT)	10	Browser Unit Type M3/M4 (for a,b / c,d,e)	5
1 Bin Tray BN3110	10	SD card for NetWare printing Type M3/M4 (for ab /cde)	5
Internal Shift Tray SH3070	10	IPDS Unit Type M3/M4 (for a,b /c,d,e)	5
Bridge Unit BU3070	10	Postscript3 Unit Type M3/M4 (for a,b /c,d,e)	5
Punch Unit (for 2000/3000-Sheet Finisher)	15	External Keyboard Bracket Type M3	5
Finisher SR3140 (1000-Sheet Finisher)	15	Smart Operation Panel Type M3	15
Punch Unit (for 1000-Sheet Finisher)	15	Color Controller E-22C	60
Booklet Finisher SR3170 (2000-Sheet Booklet Finisher)	15	Color Controller Connection Board Type M3/M4	5
Finisher SR3160 (3000-Sheet Finisher)	15	Imageable Area Extension Unit Type M3	5
Internal Finisher SR3130 (500-Sheet Inner Finisher)	20	Punch Unit (for Inner Finisher)	20

# Product Support Guide

## D146 / D147 / D148 / D149 / D150/ D176 / D177

### Storage/Transportation

Storage Condition	Temperature	-30 to 45 / 86 to 113	C/F
	Humidity	Less Than 85% RH	% RH
	Storage Period	Max 12 Months	
	Max Stack	4 Cartons	
Transportation Condition	Temperature	-30 to 45 / 86 to 113	C/F
	Humidity	15% to 95% RH	% RH
	Max Stack	2 Cartons	
Installation Environment	Temperature	10 to 32 / 50 to 89.6	C/F
	Humidity	15% to 80% RH	%RH
	Luminance	Less than 1500	Lux
	Ventilation	More than 3 times/hr/people	Times/hr/ people

#### Remarks

- \* Store in a dry, dark place where temperature does not exceed 45C / 113 F on continuance storage/transportation conditions
- \* Do not store more than 12 hours under the temperature between 40 to 45C / 105 to113 F. (for Developer Y/M/C, between 41 to 50C / 105.8 to 122 F)
- \* Do not store more than a month under the temperature between 35 to 40C / 96.8 to 104 F.
- \* Do not store more than 14 days under the temperature 40C / 104 F and the humidity 70%. (except Developer Y/M/C)
- \* Ideal temperature of toner use is between 10C / 50 F to 32C / 89.6

## Parts / Special Tools / Maintenance

### PM Parts / Yields

#### Mainframe

#### Unique/Common

U: Unique for this model  
C: Common with listed model

Part Number	Description	Q'ty/ Unit	PM Interval	Unique or Common
PCDU				
D1862208	Photo Conductor Unit - K	1	400k	U
D1862209	Photo Conductor Unit - CMY	1	270K	
D1863050	Development Unit - K	1	600K	
D1863070	Development Unit - M	1	270K	
D1863060	Development Unit – C	1	270K	
D1863080	Development Unit - Y	1	270K	
Transfer				
D1496001	ITB Unit	1	600K	U
D1496140	ITB Cleaning Unit	1	300K	

# Product Support Guide

## D146 / D147 / D148 / D149 / D150/ D176 / D177

Part Number	Description	Q'ty/ Unit	PM Interval	Unique or Common
D1496211	PTR Unit	1	400K	
Fusing				
AE020223	Pressure Roller	1	400K	U
D1474036	Fusing Sleeve Unit (D146 / D147)	1	400K	
D1494036	Fusing Sleeve Unit (D148 / D149 D150)	1	400K	
AE030074	Ball Bearing	2	400K	C (D104 / D106)
Other				
D1496400	Waste Toner Bottle	1	100K	U
D1497937	Exhaust Filter	2	300K	

**Note 1:** The yield figures in the above table are based on the following conditions:

- 1) A4 (LT) long-edge feed
- 2) 5% image coverage ratio
- 3) Color ratio: 30%
- 4) print/job

**Note 2:** For most PM parts, the yield will depend on P/J (pages per job) or image coverage ratio.

**Note 3:** When fusing belt unit is used past its target yield, the fusing belt may break, causing a

Service call. Therefore, it is designed that the machine starts displaying a stop warning on the warning on the operation panel at 415k pages and stops at 430k pages. Please make sure to replace the fusing belt unit before the units PM counter reaches 430k pages.

**Note 4:** A customer replaces waste toner bottle. By changing sp 5-073-001, service replace mode for waste toner bottle enabled. Never try to empty toner out the waste toner bottle to use the same bottle again. Always replace the bottle with a new one. This is because the transfer coil inside the bottle may break.

**Note 5:** Additional procedure required when replacing the PCDU / PCU (D149 / D150 only). Changing a spring pressure is necessary whenever you install a new PCDU/PCU on the D149/D150, because it a different spring pressure than do the D146/D147/D148. If you do not do this procedure, the yield of the PCDU/PCU will be reduced to about 1/10 of its target value.

This procedure is NOT NECESSARY for the D146/ D147/ D148 Model	Pressure adjustment
D146	NOT necessary
D146	
D148	
D149	Necessary
D150	

### Auto Reverse Document Feeder: DF3090 (D779)

**Unique/Common**

**U:** Unique for this model

**C:** Common with listed model

Part Number	Description	Q'ty/ Unit	PM Interval	Unique or Common
D5412121	Paper Feed Belt	1	120K	C
B3872161	Pick Up Roller	1	120K	C
D5412241	Reverse Roller	1	120K	C

# Product Support Guide

## D146 / D147 / D148 / D149 / D150/ D176 / D177

Single Pass Document Feeder: DF3080 (D683)

**Unique/Common**  
**U:** Unique for this model  
**C:** Common with listed model

Part Number	Description	Q'ty /Unit	PM Interval	Unique or Common
D5412121	Paper Feed Belt	1	120K	C
D6832228	Pick Up Roller	1	120K	C
D5412241	Reverse Roller	1	120K	C

### Special Tools & Lubricants

Item	Part Number	Description	Q'ty	Unique or Common
1	A1849501	Scanner Positioning Pin (2pcs/set)	1	C
2	B6455020	SD Card (1GB)	1	C
3	52039502	Silicon Grease G-501	1	C
4	A2579300	Grease Barrierta – S552R	1	C
5	C4019503	20X Magnification Scope	1	C
6	VSSG9002	FLUOTRIBO MG GREASE: 100G	1	C
7	A0929503	C4 Color Test Chart (3 pcs/set)	1	C

Note: A personal computer is required for creating the encryption key file to an SD card when replacing the controller board for a model in which hard drive encryption has been enabled.

### Target Reliability

Items	D146	D147	D148	D149	D150	D176	D177
Average Monthly Volume	5 k/Month	7 k/Month	10 k/Month	12 k/Month	15 k/Month	TBA	TBA
PM Interval	300/400k						
Color ratio	30%						

### Specifications / Documentation

Mainframe		Remarks
Configuration	Desktop	
Scanning Element	One dimensional solid scanning through CCD. CIS sensor is also used for scanning back side on SPDF	
Printing Process	Dry Electrostatic Transfer System with Dual Component Development 4 – Drum Method	
Fusing	QSU-DH Fusing System	
Max Imageable Area	305mmx432mm 12x17 inch	
First Copy Time (LT/A4 LEF 1 <sup>st</sup> Tray)	Guaranteed Value	D146: FC 7.3 / BW 4.6 sec
		D147: FC 7.3 / BW 4.6 sec
		D148: FC 5.7 / BW 4.0 sec
		D149: FC 4.6 / BW 3.1 sec
		D150: FC 4.6 / BW 3.1 sec
		Max 316X432mm with Option

# Product Support Guide

## D146 / D147 / D148 / D149 / D150/ D176 / D177

Mainframe		Remarks	
Nominal Value	D146: FC 7.1 / BW 4.6 sec		
	D147: FC 7.1 / BW 4.6 sec		
	D148: FC 5.7 / BW 4.0 sec		
	D149: FC 4.5 / BW 3.1 sec		
	D150: FC 4.5 / BW 3.1 sec		
Warm Up Time	US Guaranteed Value	D146: 19 sec	
		D147: 19 sec	
		D148: 20 sec	
		D149: 16 sec	
		D150: 16 sec	
	US Nominal Value	D146: 19 sec	
		D147: 19 sec	
		D148: 20 sec	
		D149: 16 sec	
		D150: 16 sec	
CPU	D146 / D147 PMC-Sierra RM7035-600MHZ D148 / D149 / D150 Intel Celeron Processor U3405 1.07GHZ		
Ram	D146 / D147 – 1.5GB(std) 2GB Option D148 / D149 D150 – 2GB(std)		
HDD	250GBX1		

Copier General Features		Remarks
Configuration	Desk Top	
Scanning Element	One-dimensional solid scanning through CCD CIS sensor is also used for scanning back side on SPDF model	
Printing Process	Dry Electrostatic Transfer System with Dual Component Development; 4-Drum Method	
Development	Dry two-component magnetic brush development system	
Fusing	QSU-DH Fusing System	
Max Image able Area	305x432 mm	Max 316x432 mm with option
Max Image able Area	12"x17" inch	

Copier Enhanced Features		Remarks
Simplified Display	Yes	
Login/Logout Button	Yes	
SMC Report Print out (Logging Data)	Yes	
NRS Option	Yes	
MFP browser MFP browser	Opt	
Java VM	Standard (11.x)	
Document Server	Yes	
Auto Off Timer	Yes (Default: 1min)	SP mode: max 240min or OFF, UP mode: 1-60min

# Product Support Guide

## D146 / D147 / D148 / D149 / D150/ D176 / D177

Copier Enhanced Features		Remarks
Energy Saver Timer	Yes (Default: 30sec) Yes (Default: 30sec)	10sec - 240min 10sec - 240min
Panel Off Timer	No	Panel Off mode is not available for Met-C1
System Reset Timer	Yes	<Copy/Document box/Printer/ Scanner> 10 - 999sec, Default: 60sec <Fax> 30-999sec, Default: 30sec

ADF	Continuous		DF 1 to 1	
	1s -> 1s	1s -> 2s 2s -> 2s 2s -> 1s	1s -> 1s	1s -> 2s 2s -> 2s 2s -> 1s
A4/8 1/2*11"	Y	Y	Y	Y
B4/8 1/2*14"	Y	Y	Y	Y
A3/11*14"	Y	Y	Y	Y

- 1s means 1side, 2s means 2sides.

Platen	Continuous		DF 1 to 1	
	1s -> 1s	1s -> 2s 2s -> 2s 2s -> 1s	1s -> 1s	1s -> 2s 2s -> 2s 2s -> 1s
A4/8 1/2*11"	Y	Y	Y	Y
B4/8 1/2*14"	Y	Y	Y	Y
A3/11*14"	Y	Y	Y	Y

### Document Feeders

ARDF DF3090		
Original Size	Simplex	A3, A4, A5, B4, B5, B6 / DLT, LG, LT, HLT(11"*17" - 5.5"*8.5") Custom Paper: Vertical: 5.1"-11.7" / 128-297mm Horizontal: 5.1"-49.6" / 128-1,260mm) *Image quality of custom paper is not guaranteed
	Duplex	A3, A4, A5, B4, B5 / LG, LT, HLT, DLT(8.5"x14" - 5.5"*8.5")
Original Weight	Simplex	40~128, 10.7 - 34.1
	Duplex	52.3~128, 13.9 - 28 34.1
Stack Capacity	100sheets	
Power Consumption	42 or less	
Dimension(WxDxH)	565*500*125, 22.24*19.69*4.92	
Weight	8.2 or less, 18.08 or less	
SPDF DF 3080		
Original Size	Simplex	A3, A4, A5, B4, B5, B6, DLT, LG, LT, HLT
	Duplex	A3, A4, A5, B4, B5, DLT, LG, LT, HLT
Original Weight	Simplex	40 - 128

# Product Support Guide

## D146 / D147 / D148 / D149 / D150/ D176 / D177

ARDF DF3090		
	Duplex	52.3 - 128
Stack Capacity		220 Sheets
Power Consumption		72.2 or less
Dimension(WxDxH)		587 x 520 x 175, 23.11 x 20.47 x 6.89
Weight		13.9 or less, 30.64 or less

Finisher	
SR3140	Finisher
SR3150	Booklet Finisher
SR3160	Finisher
SR3170	Booklet Finisher
Paper Bank	
PB3160	Paper Feed Unit
PB3150	Paper Feed Unit

### Printer

General Features of Printer Controller					
PDL	Std.	PCL5c, PCL6(XL), PDF Direct, Media Print: JPEG, Media Print: TIFF, XPS			
	Option	Adobe PS3, IPDS, Pict Bridge			
Print Resolution	Max	1200X1200 DPI / 2Bit			
	Printing Modes in Each Driver	PCL5c	300DPI (1bit, Only B/W mode) 600 DPI(1, 2, 4bit) <Gradation *> Fast (1bit) / Standard (2bit) / Fine (4bit)	*With the combination of 'Resolution' and 'Gradation' or 'Printing Mode' settings in printer drivers, the variation of print resolutions are as listed	
		PCL6	600DPI (1,2,4 Bit) 1200DPI(1,2 Bit)		The Resolution is Selectable from Driver
		XPS	600 DPI (1,2,4 Bit) 1200DPI (1 Bit )		Apply Service Pack 1 Before Using XPS Driver
		IPDS	300DPI ( 1 Bit ) 600DPI ( 1Bit )		Only for B&W Printing
Fonts	Std.	PCL- Scalable 45 Fonts + International 13 Fonts PS3 – 136 Roman Fonts	Cyrillic, Greek, Hebrew and Arabic Included in International Fonts		

# Product Support Guide

## D146 / D147 / D148 / D149 / D150/ D176 / D177

General Features of Printer Controller			
Connectivity	Option	IPDS – 108 Roman Fonts	
	Std.	Ethernet ( 1000Base-T/100Base-T/10Base-T) USB2.0 Type A, USB2.0 Type B, SD card Slot ON Operation Panel	Ethernet 1000Base-T is on board needs to selected by user
	Host Interface Option	IEEE1284 / ECP, Bluetooth & Wireless Lan IEEE802.11a,b,g & n	Bluetooth Cannot be Used on USB port on Operation Panel. Wireless & Bluetooth Cannot be Used at the same time
	Network Protocol	TCP / IP (IPV4,IPV6), IPX/SPX* TCP / IP (IPV4,IPV6), IPX/SPX*	*Optional
MIB support	Standard MIB (SMNP Printer MIB)		
	Private MIB Ricoh Original		
Network/Operating System	Windows XP/Vista/7/Server 2003/Server 2008/Server 2008R2/8/Server Unix; Sun Solaris, HP-UX, SCO Open Server, Red Hat Linux, IBM AIX2012 Netware 6.5*7		

### Remarks:

\*1 Shared with other features (Copy, Fax, Scanner).

\*2 Replaced with standard 256MB slot. Max is 1G.

\*3 With the combination of 'Resolution' and 'Gradation' or 'Printing Mode' settings in printer drivers, the variation of print resolution are listed in below table.

\*4 We highly recommend to apply ServicePack1 to Windows Vista before using XPS driver.

\*5 Cyrillic (Russian), Greek, Hebrew and Arabic are included in International Fonts.

\*6 IEEE802.11g is compatible with IEEE802.b.

\*7Netware Option is required.

Scanner			
Color Scan	Standard		
Scanning Speed (normal DF)	B&W	80 pages/minute (A4 LEF / 200dpi/300dpi ) Push Scan 79 pages/minute (LET LEF / 200dpi/300dpi ) Push Scan	
	Color	80 pages/minute (A4 LEF/ 200dpi/300dpi ) Push Scan 79 pages/minute (LET LEF / 200dpi/300dpi ) Push Scan	
Scanning Speed (single pass duplex DF)	B&W	110(simplesx)/180(duplex)pages/minute (A4/LET LEF / 200dpi/300dpi ) Push Scan	
	Color	110(simplesx)/180(duplex)pages/minute (A4/LET LEF / 200dpi/300dpi ) Push Scan	
Scanning Resolution	100 / 200 / 300 / 400 / 600/ 1200* DPI	*1200dpi scanning is available via TWAIN scanning only and the original size must be A5 or smaller.	
Gradation	24bit Color Scan (RGB 8bit)		
Auto Size Detection	Contact Glass	11"x17"(DLT) SEF, 8 ½"x14"(LG) SEF, 8 ½"x11"(LT) LEF/SEF, 8 1/2"x5 1/2"(HLT) LEF, *SP mode adjustment is required : 8 1/2"x5 1/2"(HLT)SEF	
	ARDF *9	11"x17" (DLT)SEF, 8 ½"x14" (LG)SEF, 8 ½"x11"(LT) LEF/SEF, 5 ½"x8 ½"(HLT) LEF/SEF, 8 1/2"x13"(Foolscap) SEF 10"x14"SEF,11"x15"SEF (detected the same as DLT SEF, Default = DLT SEF), 8"x10"SEF (detected the same as LT SEF, Default = LT SEF) 7 1/4"x10½" LEF/SEF(detected the same as LEF/SEF, Default=SEF)	
		*Some of the supported paper sizes can be activated by SP mode.	
Scan Area	Main Scan	297mm	



# Product Support Guide

## D146 / D147 / D148 / D149 / D150/ D176 / D177

Scanner		
	Sub Scan	432mm
<b>sRGB Support</b>	Std	
<b>Network Interface</b>	Ethernet 10BASE-T / 100BASE-TX / 1000BASE-T*, Wireless LAN (IEEE802.11a,b,g,n), SD card slot*	*Ethernet 1000Base-T is on boarded but needs to be selected by user. *Scan to USB and SD Card is available.
<b>Protocol</b>	Network: TCP/IP Sending E-mail: SMTP, POP, IMAP4 Scan to Folder: SMB, FTP, NCP* (*optional)	
<b>Compression Method</b>	B&W	1bit(MH, MR, MMR, JBIG2*), Grayscale(JPEG)
	Color	JPEG
<b>Scan Mode</b>	BW Text/Line Art, BW Text, BW Text/Photo, BW Photo, BW Grayscale, FC Text/Photo, FC Glossy Photo, ACS(Auto Color Selection)	
<b>Image Density</b>	Auto Density Selection(Effective in BW/Grayscale and FC scan mode) Manual: 7 levels (Effective in BW/Grayscale and FC scan mode)	
<b>Image Rotation</b>	Yes	
<b>SADF/Batch Mode</b>	Yes	
<b>Mixed Size Mode</b>	Yes	
<b>Reduce and Enlarge</b>	Yes	
<b>Split scan from Booklet type original</b>	Yes	Booklet into 2 simplex
<b>Digital Signature for PDF</b>	Yes	
<b>File Format</b>	Compression On / Off	
<b>Single Page TIFF</b>	On	BW 1bit / (MH, MR or MMR)
	OFF	BW 1bit, BW Grayscale or Full Color
<b>Multi Page TIFF</b>	On	BW 1bit / (MH, MR or MMR)
	OFF	BW 1bit, BW Grayscale or Full Color
<b>Single Page JPEG</b>	ON	BW Grayscale or Full Color / (JPEG)
	OFF	-
<b>Multi PagePDF</b>	ON	BW 1bit / (MH, MR, MMR or JBIG2), BW Grayscale / (JPEG), Full Color / (JPEG)
	OFF	BW 1bit, BW Grayscale or Full Color
<b>Single Page High Compression PDF</b>	ON	BW Grayscale / (JPEG or JPEG2000), FullColor / (JPEG or JPEG2000)
	OFF	-
<b>Multi Page High Compression PDF</b>	ON	BW Grayscale / (JPEG or JPEG2000), FullColor / (JPEG or JPEG2000)
	OFF	-
<b>Single Page PDF-A</b>	ON	BW 1bit / (MH, MR, MMR or JBIG2),

# Product Support Guide

## D146 / D147 / D148 / D149 / D150/ D176 / D177

Scanner		
		BW Grayscale / (JPEG), Full Color / (JPEG)
	OFF	BW 1bit, BW Grayscale or Full Color
Multi Page PDF-A	ON	BW 1bit / (MH, MR, MMR or JBIG2), BW Grayscale / (JPEG), Full Color / (JPEG)
	OFF	BW 1bit, BW Grayscale or Full Color

Scan to E-mail		
Requirement (Mail Protocol, Transmission Protocol, Protocol)	SMTP (Mail Server) Gateway, POP、IMAP4	
Authorization Function	SMTP authentication POP before SMTP authentication	
Resolution	Std	100, 200, 300, 400, 600 dpi
	Default	200 dpi
Max Email Address in HDD	2000	
Register Group Address in HDD	Max. 100 Group (Max. 500 addresses in one group address)	
Maintain Email Address in HDD	Direct input on operation panel, Web Image Monitor, Smart Device Monitor for Admin	
Input of Destination E-mail Address via Soft Key	Possible, Max. 100 destinations per job	
Search method of Email Address in HDD	By name, comment and E-mail address	
LDAP Search	Yes	
Max Address Numbers Per Send	Max. 500 addresses per send *	*Address from HDD address book + Address input via soft key + Address looked up via LDAP = Max.500.
Address Numbers Per Send	from HDD Max 500 *	*Address from HDD address book + Address input via soft key + Address looked up via LDAP = Max.500.
	direct input Max 100 *	*Users can specify 100 destinations by direct entry, including LDAP search.
	via LDAP Max 100 *	*Users can specify 100 destinations by direct entry, including LDAP search.
Simultaneous Transmission	Max.550	
Attention	To, cc, bcc	
Email Size	with Restriction	128 - 102,400KB
	w/o Restriction	725MB
Input Subject	Manual	Max. 128 Characters via soft key
	User Pre-register	Max. 400 Characters via soft key (80 characters x 5 lines)
	Preset	Message: "This e-mail included attached file sent from xxxx(machine model name)."
Input File Name	Yes	
File Type	Single Page TIFF/JPEG/PDF/PDF-A/High Compression PDF / encryption PDF / OCR* (option required) Multi Page	

# Product Support Guide

## D146 / D147 / D148 / D149 / D150/ D176 / D177

Scan to E-mail		
<b>Program User Settings</b>	Up to 25 programs	
<b>Divide and send Email</b> (If the file size exceeds the max size.)	Yes (By page or size) / No, Default = Yes(By size) *	*If the sent file size exceeded the maximum E-mail size, it would be divided to multiple sending. In addition, the sent files might not be accepted by the receiving side due to the limitation in the receiving capacity at the receiver SMTP server or E-mail
<b>Resend</b>	Yes / No, Default = Yes	

Scan to Folder		
<b>Protocol Support</b>	SMB, FTP, NCP* (* optional)	
<b>Security</b>	Client folder log-in (log-in name and password), Encryption of log-in name and password during transmission	
<b>Resolution</b>	Std	100dpi, 200dpi, 300dpi, 400dpi, 600dpi
	Default	200dpi
<b>Register client folder address in HDD</b>	Max. 2,000 folders	
<b>Maintain client folder address in HDD</b>	Direct input on operation panel, Web Image Monitor, Smart Device Monitor	
<b>Direct addressing of destination client folder via soft key</b>	Yes	
<b>Search client folder</b>	SMB: Browsing directly to the designated folders FTP: By client folder name NCP: Browsing* (*optional)	
<b>Home folder over LDAP</b>	Yes	
<b>Max. client folder numbers per send</b>	Max. 50 client folders / PCs per send	
<b>Simultaneous Transmission</b>	Max.550	
<b>Group address</b>	Max. 500 destinations (Folder destination must be less than 50) e.g. 500 destinations (50 folders included) >OK 500 destinations (51 folders included) >Failure	
<b>Input File Name</b>	Yes	
<b>Scan to File size</b>	2,000	
<b>File Size when combined Scan to Folder &amp; Scan to E-mail</b>	128 - 102,400kB, Default = 2,048KB (With restriction) 725MB (Without restriction) (Scan to E-mail file size applied).	
<b>File Type</b>	Single Page TIFF/JPEG/PDF/PDF-A/High Compression PDF / encryption PDF / OCR*	(*optional)
	Multi Page TIFF/PDF/PDF-A/High Compression PDF / encryption PDF / OCR*	
<b>Program User Settings</b>	Up to 25 programs	
<b>Resend</b>	Yes / No, Default = Yes	

Network TWAIN Driver		
<b>OS</b>	32bit/64bit: Windows XP, Vista, 7, Server2003/2008 64bit: Windows Server 2008R2 (Operates in 32-bit compatibility mode on 64-bit operating systems)	
<b>Scanning Speed (Normal DF)</b>	B/W	D146/ D147: 68 ipm (A4, Simplex)

# Product Support Guide

## D146 / D147 / D148 / D149 / D150/ D176 / D177

Network TWAIN Driver		
		200dpi)/ 37 ipm (A4, Duplex 200dpi) 67 ipm (LT, Simplex 200dpi)/ 36 ipm (LT, Duplex 200dpi)* This is actual measured value for your reference. This value would be changed depend on PC environments
	Color	D146/ D147: 69 ipm(A4, Simplex 200dpi)/ 38 ipm(A4, Duplex 200dpi) 66 ipm (LT, Simplex 200dpi)/ 36 ipm (LT, Duplex 200dpi)* This is actual measured value for your reference. This value would be changed depend on PC environments
<b>Scanning Speed (Single Pass DF)</b>	B/W	105 ipm (A4, Simplex 200dpi)/ 173 ipm (A4, Duplex 200dpi) 106 ipm (LT, Simplex 200dpi)/ 171 ipm (LT, Duplex 200dpi) This is actual measured value for your reference. This value would be changed depend on PC environments
	Color	106 ipm (A4, Simplex 200dpi)/ 173 ipm (A4, Duplex 200dpi) 108 ipm (LT, Simplex 200dpi)/ 171 ipm (LT, Duplex 200dpi) This is actual measured value for your reference. This value would be changed depend on PC environments
<b>Resolution</b>	B/W	100 – 1200dpi (Black and White / Grayscale) *Selectable maximum scan resolution depends on the original size.
	Color	100 – 1200dpi (Full Color) *Selectable maximum scan resolution depends on the original size.
<b>Scan Mode</b>	Standard / Photo / OCR / Filing	
<b>Image Adjustment</b>	Brightness / Contrast / Threshold /Gamma Adjustment / Halftone Pattern	
<b>Endorser</b>	Supported	
<b>Stamp</b>	Date / Page Number / Text	

Fax		Remarks
<b>Circuit</b>	PSTN, PBX	
<b>Compatibility</b>	ITU-T (CCITT) G3	
<b>Resolution</b>	Standard mode: 8 x 3.85 line/mm, 200 x 100dpi, Detail mode: 8 x 7.7 line/mm, 200 x 200dpi, Super Fine mode*: 8 x 15.4 line/mm, 16 x 15.4 line/mm, 400 x 400dpi	*Super Fine mode is available when optional SAF memory is installed.
<b>Compression Method</b>	MH, MR, MMR, JBIG	
<b>Scan Page per Minute(normal DF used)</b>	A4/LT SEF	Standard mode: 58 spm Detail mode: 58 spm Super Fine mode: 48 spm
	A4/LT LEF Image Rotation	Standard mode: 68 spm Detail mode: 63 spm Super Fine mode: 34 spm

# Product Support Guide

## D146 / D147 / D148 / D149 / D150/ D176 / D177

Fax		Remarks
Scan Page per Minute(SPDF used)	A4/LT SEF	Standard mode: 72 spm Detail mode: 72 spm Super Fine mode: 62 spm
	A4/LT LEF Image Rotation	Standard mode: 82 spm Detail mode: 71 spm Super Fine mode: 36 spm
Modem Speed	33.6K – 2,400bps (G3, Standard with Automatic Shift Down) (33600, 31200, 28800, 26400, 24000, 21600, 19200, 16800, 14400, 12000, 9600, 7200, 4800, 2400 bps)	
Transmission Speed	33.6K – 2,400bps (G3, Standard with Automatic Shift Down) (33600, 31200, 28800, 26400, 24000, 21600, 19200, 16800, 14400, 12000, 9600, 7200, 4800, 2400 bps)	
SAF Memory Size	Std	4MB (Approx.320 pages)
	with Optional Memory	28MB (Approx. 2,240 pages)
Memory Backup	One hour	
Smoothing	Yes (1bit)	
TTI/RTI	Yes	
CSI	Yes	
Quick dial/ Speed dial	Yes: 2,000 numbers	
Group Dial	Yes: 100 groups	
Program	Yes: 100 numbers	
Redial	Yes	
Direct Fax Number Entry	Yes	
Dual access	Yes	
User Code	Yes (1,000 codes)	
Wild Cards for Special Senders	Yes	
Summer Time	Yes	
Memory Lock ID Code	Yes	
User Function Key	Yes (3 keys)	
Energy Saver	Yes	
Remaining Memory Indication	Yes	
Clock Adjustment	Yes	
User Parameter Settings	Yes	
Remote FAX	Optional	

FaxTransmission Features		Remarks
Immediate Transmission	Yes	
Parallel Memory Transmission	Yes	
Memory Transmission	Yes	
Pause	Yes	
Serial Broadcasting	Yes (Max. 500)	
Preview before Transmission	Yes	
Displaying the destination prior to transmission	Yes	
Send Later	Yes	
Error Correction Mode	Yes	
Page Retransmission	Yes	
Forwarding	Yes	

# Product Support Guide

## D146 / D147 / D148 / D149 / D150/ D176 / D177

FaxTransmission Features		Remarks
Image Rotation	Yes	
Book Fax	Yes	
Double Sided Transmission	Yes	
Handset/Telephone	Optional	
Automatic Voice Message	No	
On Hook Dial	Yes	
Tone Transmission	Yes	
Chain Dialing	No	
Automatic Fax/Phone change	No	
Answering Machine interface	No	
Auto Answer Delay Time	Yes	
Busy Tone Detection	Yes	
Silent Ringing Detection	No	

Fax Reception Features		Remarks
Automatic Reception	Yes	
Manual Reception	Yes	
Substitute Reception	Yes	
Authorized Reception	Yes	
Multi Copy	Yes	
Closed Network	Yes	
Reception Time Printing	Yes	
Center Mark	Yes	
Checked Mark	Yes	
Night Timer (Weekly timer)	Yes	
Printing by Specified Color	No	
Toner Saving Mode	No	
2 in 1 Reception	Yes	
Duplex Reception	Yes	

LAN-Fax Specification	
Paper Size	A3, DLT, B4, A4, LT, B5, A5
Resolution	Super Fine (400 x 400 dpi) Detail (200 x 200 dpi) *default Standard (200 x 100 dpi) Reduce 400dpi image data to 200dpi
The Number of Selectable Address at one time	2000
OS	Windows XP, Windows Vista,7,8 WindowsServer2003, WindowsServer2008, WindowsServer2008R2,WindowsServer2012

IP-Fax Specifications	
Network	Ethernet (1000Base-T*/100Base-TX/10Base-T), Wireless LAN (IEEE802.11a/b/g/n) *Ethernet 1000Base-T is standard but default is OFF. It needs to be turned on by the UP mode.
Scan Line Density	Standard mode: 8 x 3.85 line/mm, 200 x 100dpi,

# Product Support Guide

## D146 / D147 / D148 / D149 / D150/ D176 / D177

IP-Fax Specifications	
	Detail mode: 8 x 7.7 line/mm, 200 x 200dpi, Super Fine mode*: 8 x 15.4 line/mm, 16 x 15.4 line/mm, 400 x 400dpi *Super Fine mode is available when optional SAF memory is installed.
<b>Original Size</b>	Maximum A3 or 11" x 17" (DLT)
<b>Max Scanning Size</b>	Standard Size: A3, 297mm x 432mm, Customer: 297mm x 1200mm
<b>Transmission Protocol</b>	Recommended: T.38, TCP, UDP/IP communication, SIP(RFC 3261 compliant), H.323 v2
<b>IPv6 support</b>	Yes
<b>Compatible Machines</b>	IP-Fax compatible machines
<b>IP-Fax Transmission Function</b>	Specify an IP address and send faxes to an IP-Fax compatible fax through a network. Also capable of sending faxes from a G3 fax connected to a telephone line via a VoIP gateway.
<b>IP-Fax Reception Function</b>	Receive faxes sent from an IP-Fax compatible fax through a network. Also capable of receiving faxes from a G3 fax connected to a telephone line via a VoIP gateway

Document Server Specifications	
<b>HDD Capacity</b>	73gb
<b>Max Stored Documents</b>	3,000
<b>Max Pages Per Documents</b>	2,000
<b>Max Pages of All Stored Documents</b>	9,000
<b>Storage Period</b>	1-180 days, or "no limit"
<b>Maximum Number of Folders</b>	200

### Common Criteria ISO/IEC 15408

MP C3003/C3503 Link to ricoh-usa security

[http://www.ipa.go.jp/security/jisec/jisec\\_e/certified\\_products/c0404/c0404\\_eimg.pdf](http://www.ipa.go.jp/security/jisec/jisec_e/certified_products/c0404/c0404_eimg.pdf)

MP C4503/C5503/C6003 Link to ricoh-usa security

[http://www.ipa.go.jp/security/jisec/jisec\\_e/certified\\_products/c0406/c0406\\_eimg.pdf](http://www.ipa.go.jp/security/jisec/jisec_e/certified_products/c0406/c0406_eimg.pdf)

Security Specifications	
<b>Network User Authentication</b>	Yes
<b>IP Address Filtering</b>	Yes
<b>MAC Address Filtering</b>	No
<b>HDD Overwrite</b>	Yes (Std)
<b>HDD Encryption</b>	Yes (std)
<b>Copy Guard Security</b>	Yes
<b>Secure Print</b>	Yes
<b>Encrypted Secure Print</b>	Yes
<b>Encrypted PDF Mode</b>	Yes
<b>Digitally signed PDF</b>	Yes
<b>IP Sec</b>	Yes
<b>Secure Sockets Layer(SSL)</b>	Yes
<b>SNMPv3</b>	Yes
<b>SMTP over SSL</b>	Yes
<b>IPv6</b>	Yes
<b>Transport Layer Security</b>	Yes

# Product Support Guide

## D146 / D147 / D148 / D149 / D150/ D176 / D177

Security Specifications	
Security for IEEE 802.11i,w	Yes
Removable HDD	Yes

### MFP Supported Environments

OS	Type	PCL5c	PCL6	PostScript3	XPS
<b>Windows 2000</b>	Professional	N	N	N	N
	Server	N	N	N	N
	Advanced Server	N	N	N	N
	Detacener Server	N	N	N	N
<b>Windows XP</b>	Professional	Y	Y*2	Y*2	N
	Home Edition	Y	Y*2	Y*2	N
	Starter	N	N	N	N
	Home Basic	Y	Y*1	Y*1	Y*1
<b>Windows Vista</b>	Home Premium	Y	Y*1	Y*1	Y*1
	Business	Y	Y*1	Y*1	Y*1
	Ultimate	Y	Y*1	Y*1	Y*1
	Enterprise	Y	Y*1	Y*1	Y*1
<b>Windows 7</b>	Starter	N	N	N	N
	Home Basic	N	N	N	N
	Home Premium	Y	Y	Y	Y
	Professional	Y	Y	Y	Y
<b>Windows 8</b>	Ultimate	Y	Y	Y	Y
	Enterprise	Y	Y	Y	Y
	Windows 8	Y	Y	Y	Y
	Windows 8 Pro	Y	Y	Y	Y
<b>Windows Server 2003</b>	Windows 8 Enterprise	Y	Y	Y	Y
	Windows 8 RT	N	N	N	N
	Standard Edition	Y	Y*3	Y*3	N
	Enterprise Edition	Y	Y*3	Y*3	N
<b>Windows Server 2003 R2</b>	Datacenter Edition	N	N	N	N
	Web Edition	N	N	N	N
	Standard Edition	Y	Y*3	Y*3	N
	Enterprise Edition	Y	Y*3	Y*3	N
<b>Windows Server 2008</b>	Datacenter Edition	N	N	N	N
	Standard	Y	Y	Y	Y



# Product Support Guide

## D146 / D147 / D148 / D149 / D150/ D176 / D177

OS	Type	PCL5c	PCL6	PostScript3	XPS
	Edition				
	Enterprise Edition	Y	Y	Y	Y
<b>Windows Server 2008R2</b>	Datacenter Edition	N	N	N	N
	Web Edition	N	N	N	N
	Standard Edition	Y	Y	Y	Y
	Enterprise Edition	Y	Y	Y	Y
<b>Windows Server 2012</b>	Datacenter Edition	N	N	N	N
	Web Edition	N	N	N	N
	Foundation	Y	Y	Y	Y
	Essentials	Y	Y	Y	Y
	Standard	Y	Y	Y	Y

\*RPCS driver has been discontinued

\*1:SP1 or later is recommended

\*2:SP3 or later (Windows XP Professional x64 Edition recommended to \*3)

\*3:SP2 or later is Recommended

Point & Print					
Windows OS			Drivers		
Server	Client(Push to)	PCL5c	PCL6	PS	XPS
<b>Windows Server 2003 /2003 R2</b>	8	Y	Y	Y	N
	7	Y	Y	Y	N
	Vista	Y	Y	Y	N
	XP	Y	Y	Y	N
	W2K Pro	N	N	N	N
<b>Windows Server 2008</b>	8	Y	Y	Y	Y
	7	Y	Y	Y	Y
	Vista	Y	Y	Y	Y
	XP	Y	Y	Y	N
	W2K Pro	N	N	N	N
<b>Windows</b>	8	Y	Y	Y	Y

# Product Support Guide

## D146 / D147 / D148 / D149 / D150/ D176 / D177

Point & Print					
<b>Server 2008R2</b>	7	Y	Y	Y	Y
	Vista	Y	Y	Y	Y
	XP	Y	Y	Y	N
	W2K Pro	N	N	N	N
<b>Windows Server 2012</b>	8	Y	Y	Y	Y
	7	Y	Y	Y	Y
	Vista	Y	Y	Y	Y
	XP	Y	Y	Y	N
	W2K Pro	N	N	N	N
<b>Windows 2000 Professional Server &amp; Advanced Server</b>	8	N	N	N	N
	7	N	N	N	N
	Vista	N	N	N	N
	XP	N	N	N	N
	W2K Pro	N	N	N	N
	8	Y	Y	Y	N
<b>Windows XP Professional</b>	7	Y	Y	Y	N
	Vista	Y	Y	Y	N
	XP	Y	Y	Y	N
	W2K Pro	N	N	N	N
	8	Y	Y	Y	Y
<b>Windows Vista</b>	7	Y	Y	Y	Y
	Vista	Y	Y	Y	Y
	XP	Y	Y	Y	N
	W2K Pro	N	N	N	N
	8	Y	Y	Y	Y
<b>Windows 7</b>	7	Y	Y	Y	Y
	Vista	Y	Y	Y	Y
	XP	Y	Y	Y	N
	W2K Pro	N	N	N	N
	8	Y	Y	Y	Y
<b>Windows 8</b>	7	Y	Y	Y	Y

# Product Support Guide

## D146 / D147 / D148 / D149 / D150/ D176 / D177

Point & Print					
	Vista	Y	Y	Y	Y
	XP	Y	Y	Y	N
	W2K Pro	N	N	N	N
	8	Y	Y	Y	N

Terminal Service & Citrix MetaFrame				
Server	Driver			
	PCL5c	PCL6	PS	
Win Server 2012	Y	Y	Y	
Win Server 2008R2	Y	Y	Y	
Win Server 2008	Y	Y	Y	
Win Server 2003	Y	Y	Y	
Win Server 2003 R2	Y	Y	Y	
Win 2000 Server	N	N	N	
Win Server 2003 + Meta Frame	N	N	N	
Win 2000 Server + Meta Frame	N	N	N	
Win Server 2003 + Citrix PresentationServer4.0	N	N	N	
Win 2000 Server + Citrix PresentationServer4.0	N	N	N	
Win Server 2003 + Citrix PresentationServer4.5	Y	Y	Y	
Win Server 2008 + XenApp5.0	Y	Y	Y	
Win Server 2008R2 + XenApp6.0	Y	Y	Y	
Win Server 2008R2 + XenApp6.5	Y	Y	Y	

\*RPCS driver has been discontinued.

\*XPS driver is not supported in the environment of terminal service and Citrix Meta Frame

\*Even "Yes" is put in the cell, there is a case driver is not supported under the combination of FR and Service Pack of Meta Frame

\*Following combinations of operating system and Citrix Meta Frame are supported.

Windows 2003 Server

1. Windows Terminal Service (RDP protocol)
2. Citrix PresentationServer4.5

Windows 2008 Server

1. Windows Terminal Service (RDP protocol)
2. Citrix XenApp5.0

Windows 2008R2 Server

1. Windows Terminal Service (RDP protocol)
2. Citrix XenApp6.0

### Mac OS

	PostScript3	Printer Utility for MAC
Mac OS 8.6 or later, Mac OS X classic	No	No
Mac OS X Native : v. 10.5 or later	Yes	No

# Product Support Guide

## D146 / D147 / D148 / D149 / D150/ D176 / D177

### UNIX Filter

Unix Platforms	Version
UNIX Platforms	Version
Sun Solaris	2.6/7/8/9/10
HP-UX	10.x/11.x/11i v2/11i v3
Red Hat Linux	Enterprise 4, 5, 6
SCO OpenServer	5.0.6/5.0.7/6.0
IBM AIX	5L Version 5.3, 6.1, 7.1

### Novell Netware

Netware Server	Supported Version	Netware 6.5 and later
	Supported OS	Windows XP professional/Vista/2003/2008/7/8/2012

### SAP/R3 Environment (Device Type / Barcode & OCR Package)

Device Type will be provided from SAP itself in SAP Printer Vendor Program.

For the detailed specification, please refer to another marketing announcement to be issued in the future.

Supported Barcode & OCR Fonts	Barcode Fonts	Code 128, Code 39, Code 93, Codabar, 2 of 5 interleaved/Industrial/Matrix, MSI, USPS, UPC/EAN
	OCR Fonts	OCR A, OCR B

### Utility Software

Software	Description
Device Manager NX Lite	This is a PC Client based application program that monitors and manages up to 250 networked print devices.
Printer Driver Packager NX	Printer Driver Packager NX is a tool for IT managers to customize and package printer drivers. Customizing allows them to control employees' printer driver settings. Packaging allows IT managers to preset all the mandatory parameters for the printer driver installation. Also multiple number of printer drivers can be gathered into one package so they can be installed by end users at single execution
Smart Device Monitor for Client	Smart Device Monitor for Client is a Windows utility that enables users to print directly to printers and to monitor the status of network devices from the Windows taskbar

# Product Support Guide

## D146 / D147 / D148 / D149 / D150/ D176 / D177

Software	Description
Web Smart Device Monitor	Web Smart Device Monitor software gives IT Managers and Helpdesk personnel a central monitoring and control point for networked Multifunctional products, printers, scanners and other devices. Now with a completely redesigned user-friendly interface, it's even easier to configure, organize, diagnose and update network peripherals via a standard web browser. Users must obtain a free product key in order to use Web Smart Device Monitor after the provided 45-day trial period.
PCL 6 Driver	Printer driver for B/W printing and Color printing in Windows. It supports HP PCL XL commands and is optimized for the Windows GDI. High performance printing can be expected.
PCL 5c Driver	Printer driver for color printing in Windows. It supports HP PCL 5c commands. Basically, this is the same driver as PCL5e with color printing functionality added.
PCL6 Driver for Universal Print	PCL 6 driver to offer full functions for Universal Printing. This driver enables users to use various printing devices. The availability of functions will vary by connected printer model.
PostScript3 Driver	By interacting with the Adobe PostScript 3 controller in the device, this driver is able to produce an accurate representation of the screen image.
PS Driver for Universal Print	This PS universal print driver provides significant compatibility with various printing devices; users can enjoy the simple management and easy operation with a single driver. The availability of functions varies by connected printer model.
Driver for XPS	This driver enables to print XPS format file. The XML Paper Specification (XPS) is Microsoft's portable document architecture and forms an integral part of the Windows Vista operating system.
Network WIA Driver	WIA (Windows Image Acquisition) scanner driver for network connections.
LAN Fax Driver	LAN Fax Driver provides the ability to send a FAX via network.

### Print Driver Information

Features	PCL5c	PCL6	PostScript3		XPS
			Windows	Mac OS	
			XP/Vista/7	X10.5/Later	
Send to job Binding	N	N	N	N	N
Send to Document Server	Y	Y	Y	Y	Y
Sample Print	Y	Y	Y	Y	Y
Locked Print	Y	Y	Y	Y	Y
Hold Print	Y	Y	Y	Y	Y

# Product Support Guide

## D146 / D147 / D148 / D149 / D150/ D176 / D177

Features	PCL5c	PCL6	PostScript3		XPS
Scheduled Print	N	Y	Y	Y	N
Stored Print	Y	Y	Y	Y	Y
Stored Print(Shared)	Y	Y	N	N	N
Store and Print	Y	Y	Y	Y	Y
Store and Print(Shared)	Y	Y	N	N	N
Reduce/Enlarge(Zoom/Scaling)	Y*2	Y	Y	Y	Y
Reduce/Enlarge Centering	N	Y*2	N	N	N
Fit to Paper Size	Y	Y	Y	Y	N
Unauthorized Copy Control	N	Y	Y	Y	N
Layout(N-up, Page per sheet)	Y	Y	Y	Y	Y
Poster	N	Y	N	N	N
Duplex	Y	Y	Y	Y	Y
Booklet1	N	N	N	N	N
Booklet2(Magazine)	Y	Y	Y	Y	Y
Non-Reduction Booklet	Y	N	N	N	N
Layout + Booklet	N	Y	Y	Y	N
Watermark	Y	Y	Y	Y	N
Overlay	N	N	N	N	N
Header/Footer	N	N	N	N	N
Adjust Image Position	N	N	N	N	N
Binding Margins	N	N	N	N	N
Collate	Y	Y	Y	Y	Y
Punch	Y	Y	Y	Y	Y
Staple	Y	Y	Y	Y	Y
Cover Sheet(Front Cover)	Y	Y	N	N	N
Front and Back Cover	Y	Y	N	N	N
Slip Sheet	Y	Y	N	N	Y
Banner Page Print	Y	Y	Y	Y	N
Chaptering	Y	Y	N	N	N
Rotate by 180 degrees	Y	Y	Y	Y	Y
Reverse Order Print	N	Y	Y	Y	Y
Do not print Blank Pages	Y*3	N	N	N	N
Dithering	Y	Y	Y	Y	N
Toner Saving	N	N	Y	Y	Y*4
Black Over Print	Y	Y	Y	Y	N
Gray Reproduction	Y	Y	Y	Y	Y
CLP Color Simulation	Y	Y	Y	Y	N
POP Display	N	Y	Y	Y	N
Print Priority Setting :Quality	N	Y	N	N	N
Print Priority Setting :Speed	N	Y	N	N	N
Print Priority Setting :High Speed	N	N	N	N	N
User ID	Y	Y	Y	Y	Y
User Code	Y	Y	Y	Y	Y
User Authentication	Y	Y	N	N	N
Encryption/Encoding	Y	Y	N	N	N
Mirror Image Print	N	N	Y	N	N
Negative Image Print	N	N	N	N	N
Edge to Edge Print	Y	Y	Y	Y	N
Limitation Setting	Y	N	N	N	N
Classification Code	Y	Y	N	N	N

\*RPCS driver has been discontinued.

# Product Support Guide

## D146 / D147 / D148 / D149 / D150/ D176 / D177

\*2: "Centering" feature cannot be selected from PCL driver. However PCL has this feature as the original function. When printing with Reduce/Enlarge (Zoom) feature of PCL driver, the output will be automatically centered by the PCL's original centering function.

\*3: This feature cannot be set from printer driver but is set "On" at "PCL setting" of MFP.

\*4: This function is available only when "Black and White" is selected.

### Other MFP Support Information

Not Applicable

## Counters

Item	Content	Note
Counter Modes	Page Counter	Default: Page Counter Can be changed by using SP mode.
	Development Counter	
	Coverage Counter (BK/Y/M/C)	
	Coverage Counter (Y/M/C)	
Total Counter Digits	8	
A3/DLT Counts	A3/DLT is counted as 2 counts	Can be changed by using SP mode.
Banner Printing	Any paper size whose length is longer than 420mm is counted as A3/DLT.	

\*Separate A3/DLT counter is available in Administrator Tools only; it can't be displayed in billing counter list on this model.

### Page Counter Mode

Number of Counts in Each Job							
	COPY		PRINT			FAX	
Category on Display	Full Color	Black	Full Color	Black	1C	Black	1C
Color Copy	1						
Black Copy		1					
Color Print			1		1		
Black Print				1			
Color Total	1		1		1		1
Black Total		1		1		1	

### Development Counter Mode

Number of Counts in Each Job							
	COPY		PRINT			FAX	
Category on Display	Full Color	Black	Full Color	Black	1C	Black	1C
YMC Developments	3		3		1		1
BK Developments	1	1	1	1		1	

Basic of Development Counter

Counts based on number of toner used for printing/copying.

Coverage Counter Mode

Threshold of each level

Level 1: 0 - 5% (0%≤X<5%)

# Product Support Guide

## D146 / D147 / D148 / D149 / D150/ D176 / D177

Level 2: 5 - 20% (5%≤X<20%)

Level 3: 20% - (20%≤X)

How to calculate coverage% and the "Level"

Sum up the coverage/pixel of each color and round off to the closest whole number.

For example when copying a original of BK=1.3%, Y=1.3%, M=1.3%, C=1.3%:

1.3+1.3+1.3+1.3 = 5.2 --> round off --> 5

This original will be counted as "Level 2".

## Paper

### Recommended Throughput Material

Not Applicable

### Non Recommended Throughput Material

Refer to pages in the Operators Instructions Hardware Guide.

Do not use any of the following kinds of paper or a fault might occur:

- Aluminum Foil, Carbon paper,
- Conductive paper
- Paper meant for an inkjet printer
- Bent, folded, or creased paper
- Torn paper
- Thermal fax paper
- Art paper
- Paper with perforated lines
- Hemmed-edge paper
- Tab stock
- Slippery paper
- Perforated paper
- Rough paper
- Thin paper with little stiffness
- Paper with a dusty surface

### Special Paper

Not Applicable

## Firmware Information

### Firmware

Firmware SD Card	Firmware Type
browser	Browser option Type E
Data Erase Std	Data Erase Std
Engine	Engine
Language Install	Language
MediaPrint	MediaPrint
Network DocBox	Network DocBox
Network Support	Network Support

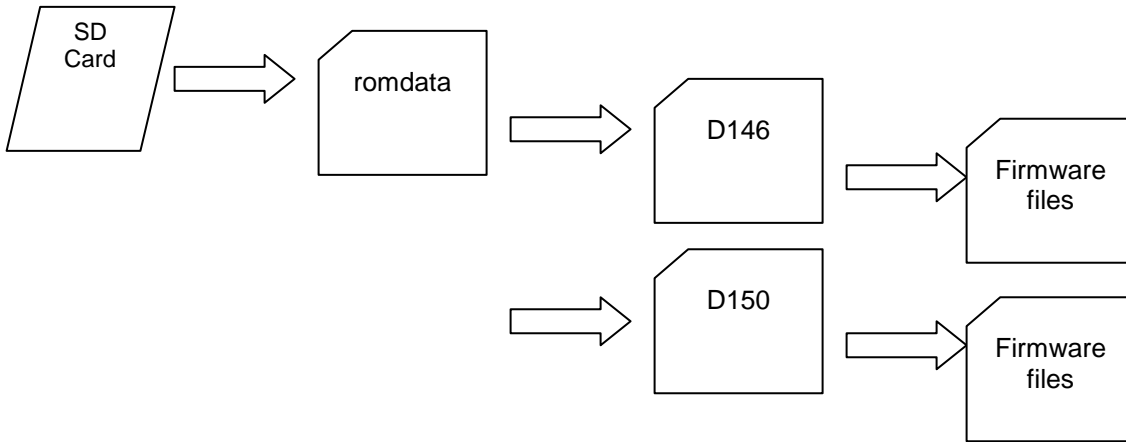


# Product Support Guide

## D146 / D147 / D148 / D149 / D150/ D176 / D177

OpePanel.EXP	LCDC
PCL	PCL
Printer	Printer
RPCS	RPCS
PowerSaver	Power Saving Subsystem
Scanner	Scanner
System/Copy	System/Copy
Web Support	Web Support
Web Uapl	Web Uapl

### SD Card Arrangement



### Contact Information

Name	Contact
<b>Technical Services Call Center (Hotline)</b>	Ricoh: (800) 537-4264 Savin: (800) 291-6044 Lanier: (800) 333-3147
<b>Application Help Desk (Software Issues)</b>	Ricoh Phone Card: 2 Call - 000781MIU, 5 Call - 000900MIU Savin Phone Card: 2 Call - 12992, 5 Call - 12993
<b>Hytec Parts and Logistics Control</b>	(800) 883-1001 <a href="http://www.hytecrepair.com">www.hytecrepair.com</a>
<b>Technology Solutions Resource Center</b>	<a href="http://www.tscweb.net">http://www.tscweb.net</a>
<b>Headquarter Web Sites</b>	Ricoh Corporation: <a href="http://www.ricoh-usa.com">http://www.ricoh-usa.com</a> Savin Corporation: <a href="http://www.savin.com">http://www.savin.com</a> Gestetner Corporation: <a href="http://www.gestetnerusa.com/">http://www.gestetnerusa.com/</a> Lanier Corporation: <a href="http://www.lanier.com">http://www.lanier.com</a>
<b>Material Safety Data Sheets</b>	(800) 336-MSDS (6737)
<b>Ricoh University</b>	973.882.2200. email address: <a href="mailto:Ricohlearninginstitute@ricoh-">Ricohlearninginstitute@ricoh-</a>

# Product Support Guide

## D146 / D147 / D148 / D149 / D150/ D176 / D177

Name	Contact
	<a href="http://usa.com">usa.com</a>
	<a href="https://ricohusa.csod.com/client/ricohusa/default.aspx">https://ricohusa.csod.com/client/ricohusa/default.aspx</a>

## Training Information

Description	RFG E-Source Number
Series Self-Paced Training Package	Visit RLI
Service Manual	rfg057794
Detailed Description	Rfg059267
Parts Catalog 3D	rfg059293
Parts Catalog PDF	rfg057795
Point-to-Point	rfg05796

Service Training will be available in 2 different formats:

Format 1: For Service Professionals who have completed D111/D143 Series Training, there will be a self Pace Update Course.

Format 2: All other Service Professionals will be required to take a D146 Series Tier 1 (Self Pace) & Tier 2 ILT course.

If you have any questions regarding this or any other training, please visit the Ricoh Learning Institute web site at <https://ricohusa.csod.com> or contact Ricoh University at (973) 882-2200.

Please be aware that once a model or series is out of production, the Field Service Manual, Technical Service Bulletins and Ricoh University should be referenced for the most current information. Check the TSC website and e-source.

# Product Support Guide

## D146 / D147 / D148 / D149 / D150/ D176 / D177

### Revisions

- 1.0 Original
- 2.0 Reformatting
  - 2.1.1 Reformatting