

Service Manual

Canon BW
PCL PRINTER KIT-J1

Canon

Application

This manual has been issued by Canon Inc. for qualified persons to learn technical theory, installation, maintenance, and repair of products. This manual covers all localities where the products are sold. For this reason, there may be information in this manual that does not apply to your locality.

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Caution

Use of this manual should be strictly supervised to avoid disclosure of confidential information.



Symbols Used

This documentation uses the following symbols to indicate special information:

Symbol	Description
	Indicates an item of a non-specific nature, possibly classified as Note, Caution, or Warning.
	Indicates an item requiring care to avoid electric shocks.
	Indicates an item requiring care to avoid combustion (fire).
	Indicates an item prohibiting disassembly to avoid electric shocks or problems.
	Indicates an item requiring disconnection of the power plug from the electric outlet.
 Memo	Indicates an item intended to provide notes assisting the understanding of the topic in question.
 REF.	Indicates an item of reference assisting the understanding of the topic in question.
	Provides a description of a service mode.
	Provides a description of the nature of an error indication.

The following rules apply throughout this Service Manual:

1. Each chapter contains sections explaining the purpose of specific functions and the relationship between electrical and mechanical systems with reference to the timing of operation.

In the diagrams,  represents the path of mechanical drive; where a signal name accompanies the symbol, the arrow  indicates the direction of the electric signal.

The expression "turn on the power" means flipping on the power switch, closing the front door, and closing the delivery unit door, which results in supplying the machine with power.

2. In the digital circuits, '1' is used to indicate that the voltage level of a given signal is "High", while '0' is used to indicate "Low". (The voltage value, however, differs from circuit to circuit.) In addition, the asterisk (*) as in "DRMD*" indicates that the DRMD signal goes on when '0'.

In practically all cases, the internal mechanisms of a microprocessor cannot be checked in the field. Therefore, the operations of the microprocessors used in the machines are not discussed: they are explained in terms of from sensors to the input of the DC controller PCB and from the output of the DC controller PCB to the loads.

The descriptions in this Service Manual are subject to change without notice for product improvement or other purposes, and major changes will be communicated in the form of Service Information bulletins.

All service persons are expected to have a good understanding of the contents of this Service Manual and all relevant Service Information bulletins and be able to identify and isolate faults in the machine."

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Chapter 1 Specifications

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1.1 Product composition

1.1.1 Operating conditions of Hardware (LCD)

- A resolution of UFR II LT can be set to either 600 dpi (128MB) or 600/1200dpi (256MB) depending on the memory installed. The 256MB RAM bundled with the PCL_PRINTER_KIT-J1 kit is the same one as a 256MB RAM, which is set as iR 256MB Expansion RAM-D1(0449B001AA).
- License authentication is not necessarily conducted at the time of installation.
- In order to use UFR II LT, the Network board supplied with the kit is necessary.
- PCL Printer Kit-J1 should be installed after installing UFR II LT.

Main body configuration and Accessories

In iR2020/2016, some models that have not been provided with extended capabilities at shipment are either the ones that system accessories can be added or the others that they cannot be done.
The followings are the models that accessories cannot be added.

T-1-1

Non Upgradeable Model							
Merchandise control name	iR2020J 230V	iR2020J CN 220V	iR2016J 120V	iR2016 EUR 230V	iR2016J 230V	iR2016J CN 220V	iR2016J KR 220V
Point of destination	CSPL	CH	CLA	EUR/Saudi FRN GER ITA UK	CSPL CLA	CH	KR
Product number of main body	F18-8945	F18-8965	F18-8939	F18-8999	F18-8949	F18-8969	*TBD
UFR II LT Printer kit-J2 Network Board	Not Available						
PCL Printer kit-J1							
256MB RAM							

*TBD: to be determined

The followings are the models that accessories can be added.

iR2016(Upgradeable Model)

T-1-2

16ppm	Copy			Copy/Print			
Merchandise control name	iR2016 EUR 230V	iR2016 AU 230V	iR2016 KR 220V	iR2016 120V	iR2016 230V	iR2016 CN 220V	iR2016 TW 120V
Point of destination	EUR/Saudi FRAN GER ITA UK	CA	KR	USA Canada CLA	CHK CSPL CLA	CH	TW
Product number of main body	F18-8991	F18-8961	TBD	F18-8932	F18-8941	F18-8960	F18-8901
UFR II LT Printer kit-J2 Network Board	Option			Standard			
PCL Printer kit-J1				Option			
256MB RAM*	Not Available			Not Available	Option		

The 256MB RAM bundled with the PCL_PRINTER_KIT-J1 kit is the same one as a 256MB RAM, which is set as iR 256MB Expansion RAM-D1(0449B001AA).

20ppm Merchandise control name	Copy			Copy/Print			
	iR2020 EUR 230V	iR2020 AU 230V	iR2020 KR 220V	iR2020 120V	iR2020 230V	iR2020 CN 220V	iR2020 TW 120V
Point of destination	EUR/Saudi FRAN GER ITA UK	CA	KR	USA Canada CLA	CHK CSPL CLA	CH	TW
Product number of main body	F18-8993	F18-8963	TBD	F18-8934	F18-8943	F18-8968	F18-8903
UFRII LT Printer kit-J2 Network Board	Option			Standard			
PCL Printer kit-J1				Option			
256MB RAM*	Not Available			Not Available	Option		

The 256MB RAM bundled with the PCL_PRINTER_KIT-J1kit is the same one as a 256MB RAM, which is set as iR 256MB Expansion RAM-D1(0449B001AA).

1.1.2 ROM for starting PCL (LCD)

PCL function becomes enabled when both 32MB ROM and 256 MB RAM, which are supplied with the kit, are installed on the iR main body.

The 32MB ROM (Type A) is used to the LCD display Model.

The 256MB RAM bundled with the PCL_PRINTER_KIT-J1kit is the same one as a 256MB RAM, which is set as iR 256MB Expansion RAM-D1(0449B001AA).

The iR main body has only one slot for mounting RAM. Accordingly, if PCL_PRINTER_KIT-J1kit is introduced, the 128MB RAM which are standard on the product will become unnecessary.

If the 128MB RAM of a standard feature is replaced by the 256MB RAM, either 600 dpi or 1220 dpi can be selected when printing with UFRII LT.

1.2 Specifications

1.2.1 PCL Printer Driver

FONT HANDLING

-PCL5e/5c

HP-GL/2 Mode

Texts are handled in the PCL mode, or in the HP-GL/2 mode if:

1. Characters are clipped.
2. Characters are rotated.

Supported typefaces include:

1. Standard
2. Italic
3. Bold
4. Bold Italic

Raster Mode

Use of a device font is determined by the driver setting.

If a device font is used, the Raster Mode will handle data the same as the HP-GL/2 Mode.

If not, the following restrictions will be imposed.

*GDI Raster Fonts unavailable 1 byte fonts such as Courier, MS Sans Serif, MS Serif, etc.

*GDI Vector Fonts available 1 byte fonts such as Modern, Roman, Script, etc.

*TrueType Fonts available 1 byte fonts such as Arial, Courier New, Symbol, Times New Roman, etc.

-PCL6

PCL6 controls the texts if:

1. Characters are enlarged or reduced.
2. Characters are rotated.
3. Characters are clipped.

NOTE:

GDI Vector Fonts and TrueType Fonts become available only after added to Windows.

Paper Size

Standard-size types of paper to be supported are described below.

Paper Name	Paper Size (mm)	
	Width	length
A3	297.0	420.0
B4	257.0	364.0
A4	210.0	297.0
B5	182.0	257.0
A5	148.5	210.0
11 x 17	279.4	431.8
LEGAL	215.9	355.6
LETTER	215.9	279.4
STATEMENT	139.7	215.9
EXECUTIVE	184.2	266.7
COM 10	104.7	241.3

MONARCH	98.4	190.5
C5 ISO	162.0	229.0
B5 ISO	176.0	250.0
DL	110.0	220.0

Non-default paper

T-1-5

Non-default paper	iR2020/2016
Minimum	95.0 x 148.0 mm
Maximum	297.0 x 431.8 mm

Supported Paper Types

T-1-6

Paper Type	Paper Size
PLAIN COLOR RECYCLED HEAVY	A3, B4, A4/A4R, B5/B5R, A5/A5R, 11x17, LGL, LTR/LTRR, STMT/STMTR, EXEC, Local standard, Custom paper
BOND LABELS	A3, B4, A4/A4R, B5/B5R, A5/A5R, 11x17, LGL, LTR/LTRR, STMT/STMTR, EXEC, Custom paper
OHP	A4, LTR
3-hole Punch	LTR/LTRR
Envelope	COM10, MONARCH, C5ISO, B5ISO, DL

Finishing

T-1-7

Finisher	Shift	Staple
None	N/A	N/A
Inner 2way Tray	N/A	N/A
Finisher-U1	OK	OK

N/A: not available

Resolution
600dpi**1.2.2 Specifications**

The main specifications and features of the kit are as shown below.

<Characteristics>

- printing is virtually immediate
- output is close to screen display

T-1-8

Specifications	PCL
Data processing resolution	600 dpi
Effective print area	main scanning direction: 1/6 inch
	sub scanning direction: 1/6 inch
Supported operating systems	Windows 2000 Professional/Server/Advanced Server
	Windows XP Home Edition/Professional Edition
	Windows Server 2003 Standard Edition/Enterprise Edition
	Windows 98/98SE/ME
	Windows NT4.0 Workstation/Server

Effective print area

T-1-9

	PCL			
	Effective print area		End of Paper	
	Main scanning	Sub scanning	Main scanning	Sub scanning
Minimum	86.53mm	139.53mm	4.23mm	4.23mm
Maximum	288.53mm	423.33mm	4.23mm	4.23mm

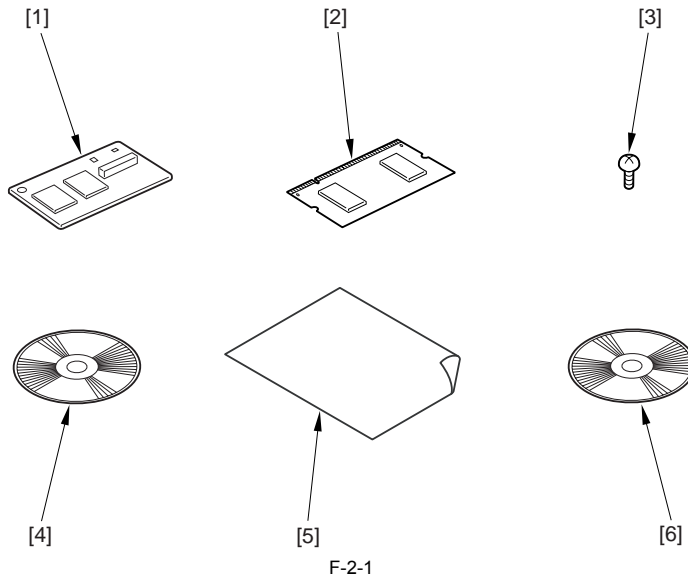
Chapter 2 Installation

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2.1 Checking components

2.1.1 Checking the Contents

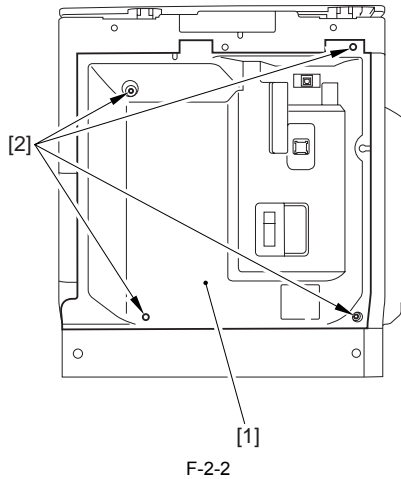


[1]	32MB ROM	1 pc.
[2]	256MB RAM	1 pc.
[3]	Screw (binding; M3X4)	1 pc.
[4]	User software CD-ROM	1 pc.
[5]	Release Note	1 pc.
[6]	User's Manual CD-ROM	1 pc.

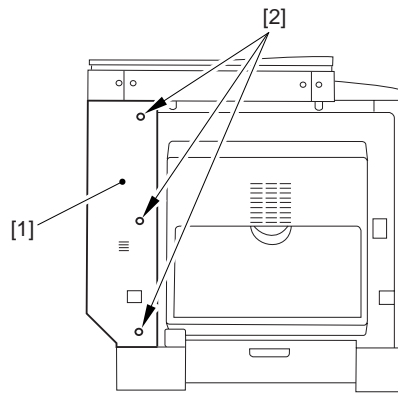
2.2 Installation procedure

2.2.1 Mounting to the Host Machine

- 1) Turn off the main power switch, and disconnect the power plug.
- 2) Remove the rear cover [1].
- 4 screws [2]



- 3) Remove the rear left cover [1].
- 3 screws [2]

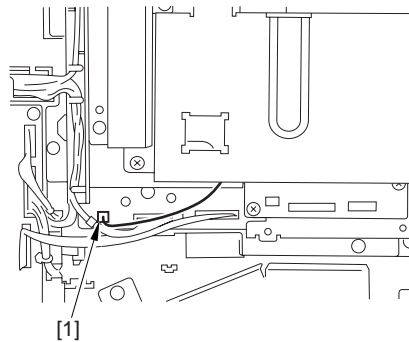


F-2-3

4) If a Super G3 Fax Board-T1 is found, disconnect the connector [1] of the IP-modem cable.

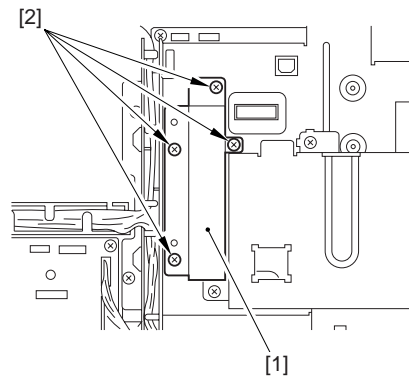


If an optional Super G3 Fax Board-T1 is found, the SDRAM and the super capacitor remain powered to back up the image memory (even after the main power switch has been turned off and the power plug has been disconnected). Be sure to disconnect the IP modem cable before removing the RAM.



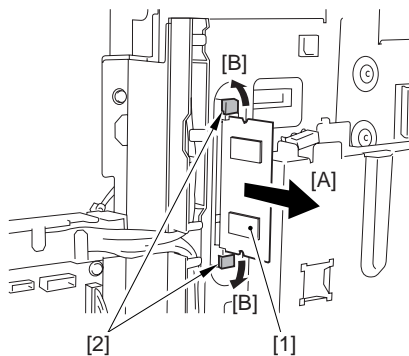
F-2-4

5) Remove the RAM cover [1].
- 4 screws [2]



F-2-5

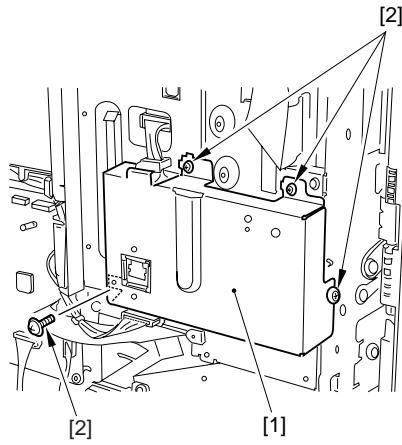
6) Remove the 128MB RAM [1] in the direction of [A].
- 2 locking levers [2] (shift in the direction of [B])



F-2-6

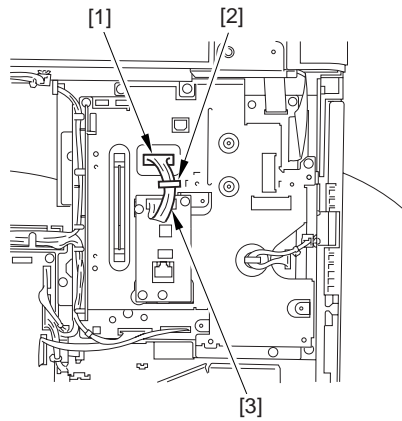
7) If a UFRII LT PRINTER KIT-J2 is installed, perform steps 7-1) and 7-2).

- 7-1) Remove the LAN cover [1].
 - 4 screws [2]



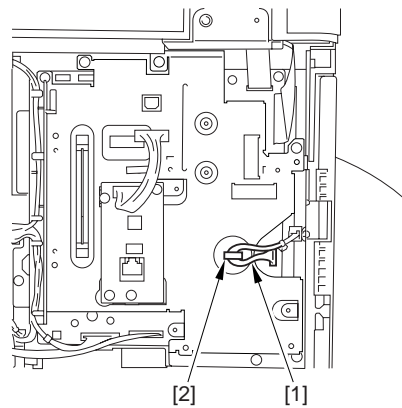
F-2-7

- 7-2) Disconnect the connector [1] of the IP-LAN cable.
 - 1 wire saddle [2]
 - IP-LAN cable [3]



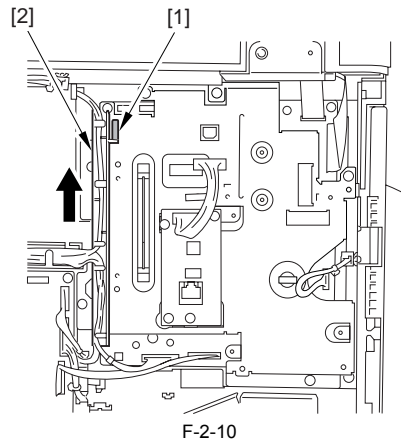
F-2-8

- 8) Disconnect the soft ID cable [1].
 - 1 cable clamp [2]



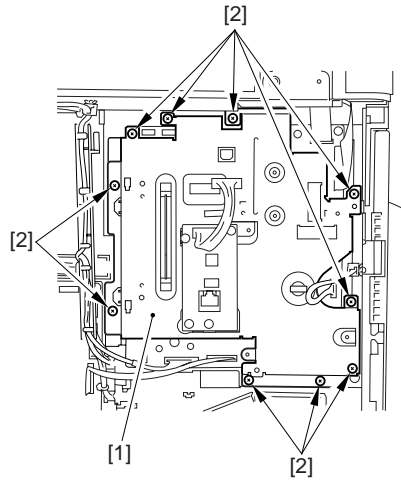
F-2-9

- 9) Release the claw [1] of the cable guide, and free the cable guide [2] in upward direction.



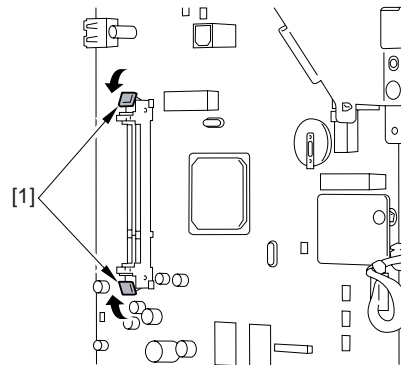
F-2-10

- 10) Remove the IP cover [1].
- 10 screws [2]



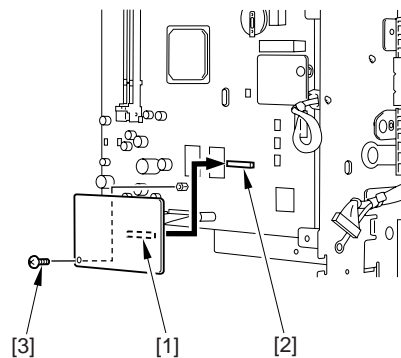
F-2-11

- 11) Shift the 2 locking levers [1] back to their initial position.



F-2-12

- 12) Connect the connector [1] of the 32MB ROM to the connector [2] of the IP PCB.
- 1 screw (binding; M3x4) [3]

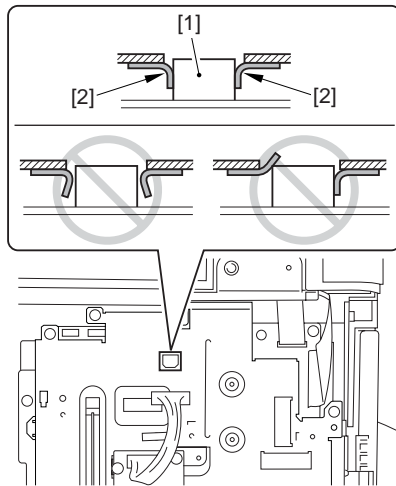


F-2-13

- 13) Attach the IP cover you removed in step 10).



When attaching the IP cover, take care not to damage the grounding plate [2] by the USB port [1]. Also, after attaching the IP cover, check to make sure that the grounding plate is in firm contact with the USB port.



F-2-14

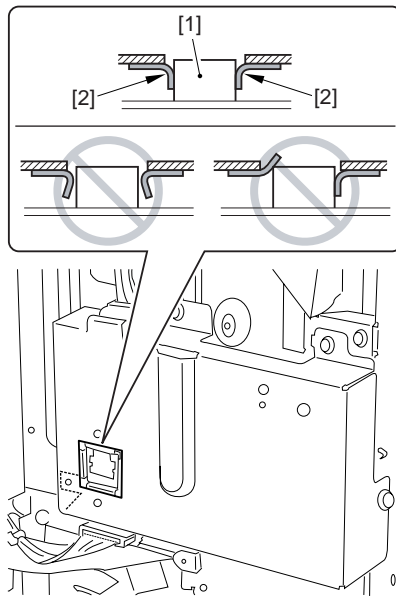
14) Put all the parts that you have removed back in place.

- cable guide
- soft ID cable
- IP-LAN cable (if a UFR11 LT PRINTER KIT-J2 is mounted)

15) Attach the LAN cover removed in step 7-1). (if a UFR11 LT PRINTER KIT-J2 is mounted)

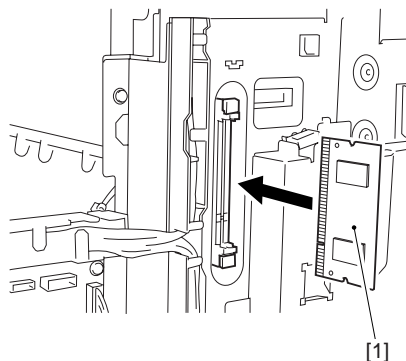


When attaching the LAN cover, take care not to damage the grounding plate [2] by the LAN port [1]. Also, after attaching the LAN cover, check to make sure that the grounding plate is in firm contact with the LAN port.



F-2-15

16) Mount the 256MB RAM [1].



F-2-16

- 17) Put back the parts that have been removed.
 - RAM cover
 - the connector of the IP-modem cable (if a Super G3 Fax Board-T1 is mounted)
 - rear left cover
 - rear cover
- 18) Connect the power plug, and turn on the main power switch.

2.2.2 Checking the Connection

When you have installed the kit, go through the following to make sure that it is properly recognized:

- 1) Start service mode.
 - User Mode key > 2 > 8 > Use Mode key
 - In response, [#SSSW] appears.
- 2) Press [◀ —] 5 times. When [REPORT] has appeared, press [OK].
- 3) Press [▶ +] once. When [REPORT OUTPUT] has appeared, press [OK].
- 4) Press [▶ +] 5 times. When [SPEC LIST] has appeared, press [OK].
- 5) See that a SPEC REPORT is printed out. Check to be sure that 'PCL' is 'ON'.

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