

i900D
i905D
PIXUS 900PD
SERVICE MANUAL
Revision 0

QY8-1394-000

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Scope

This manual has been issued by Canon Inc., to provide the service technicians of this product with the information necessary for qualified persons to learn technical theory, installation, maintenance, and repair of products. The manual covers information applicable in all regions where the product is sold. For this reason, it may contain information that is not applicable to your region.

Revision

This manual could include technical inaccuracies or typographical errors due to improvements or changes made to the product. When changes are made to the contents of the manual, Canon will release technical information when necessary. When substantial changes are made to the contents of the manual, Canon will issue a revised edition.

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I. MANUAL OUTLINE

This manual consists of the following three parts to provide information necessary to service the i900D/i905D:

Part 1: Maintenance

Information on maintenance and troubleshooting of the i900D/i905D

Part 2: Technical Reference

New technology and technical information such as FAQ's (Frequently Asked Questions) of the i900D/i905D

Part 3: Appendix

Block diagrams and pin layouts of the i900D/i905D

Reference:

This manual does not provide sufficient information of disassembly and reassembly procedures. Refer to the graphics in the separate Parts Catalog.

II. TABLE OF CONTENTS

Page	Part 1: MAINTENANCE
1-1	1. MAINTENANCE
	1.1 Adjustment, Periodic Maintenance, Periodic Replacement Parts, and Replacement Consumables by Service Engineer
1-2	1.2 Customer Maintenance
1-3	1.3 Product Life
	1.4 Special Tools
	1.5 Serial Number Location
1-4	2. LIST OF ERROR DISPLAY / INDICATION
	2.1 Operator Call Errors (by LED Blinking in Orange)
1-5	2.2 Service Call Errors
1-6	2.3 Warnings
1-7	2.4 Troubleshooting by Symptom
1-8	3. REPAIR
	3.1 Notes on Service Part Replacement (and Disassembling / Reassembling)
1-10	3.2 Special Notes on Repair Servicing
1-12	3.3 Adjustment / Settings
	(1) Paper feed motor adjustment
	(2) Gear phase adjustment
	(3) Grease application
	(4) Waste ink counter setting
	(5) User mode
	(6) Service mode
	(7) Flash ROM upgrade
1-20	3.4 Verification Items
	(1) Service test print
	(2) EEPROM information print
1-22	4. PRINTER TRANSPORTATION METHOD
	Part 2: TECHNICAL REFERENCE
2-1	1. NEW TECHNOLOGIES
2-4	2. CLEANING MODE AND AMOUNT OF INK PURGED
2-5	3. PRINT MODE
2-7	4. PHOTO DIRECT PRINT FUNCTION
	4.1 Host PC Memory Card Access Function with the Memory Card Startup Utility
2-8	4.2 Memory Card Direct Printing Function
2-10	4.3 File Search
2-11	4.4 File Sort
	4.5 Date Print
2-12	4.6 Bubble Jet Direct Function
2-14	4.7 PictBridge Function
2-15	4.8 Exclusive Processes
2-16	4.9 LCD Viewer
2-17	4.10 Card Slot-related Operations and Display
2-18	4.11 DPOF Settings in the Memory Card Direct Printing Function
2-19	4.12 Print Layout (Details)
2-21	4.13 Date Print Specifications
2-22	4.14 Photo Number Printing Specifications
2-23	5. FAQ (Specific Problems and Solutions)
	Part 3: APPENDIX
3-1	1. BLOCK DIAGRAM
3-2	2. CONNECTOR LOCATION AND PIN LAYOUT
	2.1 Logic Board Ass'y
3-6	2.2 USB I/F Board (DCC Cover Unit) for Camera Direct Printing
3-7	2.3 Operation Panel Board
3-8	2.4 Memory Card Board
3-12	2.5 Carriage Board (Print Head Connector)

Part 1

MAINTENANCE

1. MAINTENANCE

1.1 Adjustment, Periodic Maintenance, Periodic Replacement Parts, and Replacement Consumables by Service Engineer

(1) Adjustment

Adjustment	Timing	Purpose	Tool	Approx. time
EEPROM initialization (EEPROM settings)	At logic board ass'y replacement	To initialize settings other than the following: - USB serial number - Destination setting (The language to be displayed on the LCD viewer is set to the default setting for each destination.) - Waste ink counter - Media sensor correction value - CD-R correction value	None.	1 min.
Destination settings (EEPROM settings)	At logic board ass'y replacement	To set the destination.	None.	1 min.
LCD viewer language settings	At logic board ass'y replacement	To set the language to be displayed on the LCD viewer.	None.	1 min.
Waste ink counter resetting	- At bottom case unit replacement - At ink absorber (QC1-2232 / 2233 / 2234 / 2235 / 2236) replacement	To reset the waste ink counter.	None.	1 min.
Media sensor correction*1 (EEPROM settings)	- At logic board ass'y replacement - At sheet feeder unit replacement	To correct the media sensor.	Calibration media kit (QY9-0064)	2 min.
CD-R sensor / automatic print head alignment sensor correction (EEPROM settings)	- At logic board ass'y replacement - At carriage unit replacement	To correct the CD-R and automatic print head alignment sensor.	None. (Correction performed through service test print)	1 min.
Print head alignment	- At print head replacement - At logic board ass'y replacement	To ensure accurate dot placement.	- None. (printer buttons) - Computer (settings via the printer driver)	2 min.
Paper feed motor position adjustment*2	At paper feed motor unit replacement	To adjust the belt tension. (Position the paper feed motor so that the belt is stretched tight.)	None.	2 min.
Grease application	- At carriage unit replacement - At paper guide flapper ass'y (QL2-0341) replacement - At lift cam base's (QL2-0340) gear replacement - At lift cam shaft unit (QM2-0593) replacement	- To maintain sliding properties of the carriage, carriage shaft, paper guide flapper, and lift cam shaft. - To protect the lift cam base gear.	- FLOIL KG-107A (QY9-0057) - MOLYKOTE PG641 (CK-0562)	2 min.

Note: DO NOT loosen the red screws on both sides of the main chassis, securing the carriage shaft positioning.

*1: Media sensor correction

This operation adjusts the correction value of the media sensor, installed in the sheet feeder unit, to the EEPROM of the logic board ass'y. The adjustment is required when the sheet feeder unit or the logic board ass'y is replaced, and values are automatically determined via use of calibration media kit (QY9-0064: 10 sheet of reference plain paper and one sheet of reference white PET paper).

*2: Red screws of paper feed motor

The red screws securing the paper feed motor may be loosened only at replacement of the paper feed motor unit.

(2) Periodic maintenance

No periodic maintenance is necessary.

(3) Periodic replacement parts

There are no parts in this printer that require periodic replacement by a service engineer.

(4) Replacement consumables

There are no consumables that require replacement by a service engineer.

1.2 Customer Maintenance

Adjustment	Timing	Purpose	Tool	Approx. time
Print head alignment	At print head replacement.	To ensure accurate dot placement.	- Printer buttons - Computer (settings via the printer driver)	3 min.
Print head cleaning	When print quality is not satisfying.	To improve nozzle conditions.	- Printer buttons - Computer (settings via the printer driver)	30 sec. to 1 min.
Print head deep cleaning	When print quality is not satisfying, and not improved by print head cleaning.	To improve nozzle conditions.	- Printer buttons - Computer (settings via the printer driver)	1 to 1.5 min.
Ink tank replacement	When an ink tank becomes empty. (No ink error)	-----	-----	2 min.
Paper feed roller cleaning	When paper does not feed properly.	To clean the paper feed rollers.	Printer buttons	2 min.
CD-R print position adjustment	At CD-R printing, when necessary	To correct CD-R print position	Computer (application software)	5 min.
LCD viewer contrast adjustment	When adjusting the contrast	To adjust the contrast	Printer buttons	1 min.

1.3 Product Life

(1) Printer

The value (i) or (ii), whichever comes first.

(i) 5,000 pages of printing

- Black: 1,500 pages (A4, 1,500 character pattern)
- Color: 3,500 pages (A4, 7.5% duty per color pattern: 1,300 pages
A4, 30% duty per color pattern: 400 pages
Postcard, 30% duty per color pattern: 800 pages
L-size, 30% duty per color pattern: 1,000 pages)

(ii) 5 years of use

(2) Print head

5,000 pages (in the above print modes)

(3) Ink tank

BCI-6BK:	540 pages (JEIDA standard pattern J1, plain paper, standard mode) 520 pages (1,500 character pattern in black printing, plain paper, standard mode) 540 pages (ISO JIS-SCID No. 5 pattern, plain paper, standard mode)
BCI-6C:	780 pages (ISO JIS-SCID No. 5 pattern, plain paper, standard mode)
BCI-6M:	580 pages (ISO JIS-SCID No. 5 pattern, plain paper, standard mode)
BCI-6Y:	360 pages (ISO JIS-SCID No. 5 pattern, plain paper, standard mode)
BCI-6PC:	410 pages (ISO JIS-SCID No. 5 pattern, plain paper, standard mode)
BCI-6PM:	260 pages (ISO JIS-SCID No. 5 pattern, plain paper, standard mode)

1.4 Special Tools

Name	Tool No.	Purpose	Remarks
MOLYKOTE PG641	CK-0562-000	To be applied to the lift cam base's upper gear and the sliding portion of the lift cam shaft	In common with conventional models
FLOIL KG-107A	QY9-0057-000	To be applied to the sliding portions of the carriage, carriage shaft, and the paper guide flapper	In common with conventional models
GREASE EU1	QY9-0037-000	To be applied to the carriage shaft bearing	In common with conventional models
Calibration media kit	QY9-0064-000	To correct the media sensor	In common with conventional models

1.5 Serial Number Location

Visible when the access cover is open.



2. LIST OF ERROR DISPLAY / INDICATION

Errors are indicated by the LED, and warnings are displayed on the monitor of the computer connected to the printer.

- (1) Errors are indicated by the number of times the LED blinks.
- (2) Errors are indicated in the LCD viewer on the operation panel.
- (3) Warnings are displayed in the Status Monitor of the printer driver.

2.1 Operator Call Errors (by LED Blinking in Orange)

LED blinking in orange	Error	Solution	Remarks
2 times	No paper. (ASF) [1000]	Set the paper in the ASF, and press the Resume button.	
	No CD-R tray. [1001] ^{*1}	Set the CD-R tray, and press the Resume button.	
	No paper in the photo paper tray. [1004]	Set the paper in the photo paper tray, and press the Resume button.	
3 times	Paper jam. [1300]	Remove the jammed paper, and press the Resume button.	
4 times	No ink. [1601/1602/1611/1612/1613/1634/1635]	Replace the empty ink tank(s), or press the Resume button.	Pressing the Resume button will exit the error without ink tank replacement, however, ink may run out during printing.
5 times	The print head is not installed [1401], or it is not properly installed (EEPROM data of the print head is faulty) [1403/1405].	Install the print head properly, and close the front cover. Or, with the print head installed, turn the printer off and on.	
6 times ^{*1}	No CD-R tray feeder (during CD-R printing). [1850/1855]	Set the CD-R tray and tray feeder properly, and press the Resume button.	
	Presence of the CD-R tray feeder (during paper printing). [1851/1856]	Remove the CD-R tray feeder, and press the Resume button.	
7 times ^{*1}	No CD-R or DVD-R. [1002]	After setting a CD-R or DVD-R in the tray, set the tray in the tray feeder, and press the Resume button.	
8 times	Warning: The waste ink absorber becomes almost full (approx. 95% of the maximum capacity). [1700]	Pressing the Resume button will exit the error, and enable printing. In repair servicing, replace the bottom case unit (QM2-0663), or 5-item set of the ink absorbers (QC1-2232/2233/2234/2235/2236).	The service call error, indicating the waste ink absorber is full, is likely to occur soon.
9 times	The connected digital camera or digital video camera does not support Camera Direct Printing. [2001]	After removing the cable between the camera and the printer, press the Resume button, and re-connect the cable.	When connected to a Direct Print supported camera, the green LED blinks 2 times.
11 times	Automatic print head alignment failure. [2500]	Press the Resume button, and after confirming the following, perform print head alignment again: - Set an appropriate type and size of paper (plain paper, A4 or letter). - Check that the nozzle check pattern is properly printed (all ink ejected, no faint printing) - Check that the paper output slot is not exposed to light.	

^{*1}: Only for the model supporting CD-R printing (i905D only)

2.2 Service Call Errors

- LED Blinking in Orange and Green Alternately, or Lit in Orange
- LCD viewer displaying error codes

LED alternate blinking in orange and green	Error	Solution (Replacement of listed parts, which are likely to be faulty)
2 times	Carriage error [5100]	<ul style="list-style-type: none"> - Carriage unit (QM2-0662) - Timing slit strip film (QA4-1053) - Logic board ass'y (QM2-0813/QM2-0814)^{*1} - Carriage motor (QK1-0175)
3 times	Paper feed error [6000]	<ul style="list-style-type: none"> - Timing sensor unit (QM2-0596) - Timing slit disk film (QC1-2511) - Feed roller ass'y (QF4-0155) - Platen unit (QM2-0670/QM2-0675) - Logic board ass'y (QM2-0813/QM2-0814)^{*1} - Paper feed motor (QK1-0224)
4 times	Purge unit error [5C00]	<ul style="list-style-type: none"> - Purge unit (QM2-0656) - Logic board ass'y (QM2-0813/QM2-0814)^{*1}
6 times	Internal temperature error [5400]	<ul style="list-style-type: none"> - Logic board ass'y (QM2-0813/QM2-0814)^{*1}
7 times	Waste ink absorber full [5B00]	<ul style="list-style-type: none"> - Ink absorbers (QC1-2232/2233/2234/2235/2236) - Bottom case unit (QM2-0663)^{*3}
8 times	Print head temperature rise error [5200]	<ul style="list-style-type: none"> - Print head (QY6-0050) - Logic board ass'y (QM2-0813/QM2-0814)^{*1}
9 times	EEPROM error [6800]	<ul style="list-style-type: none"> - Logic board ass'y (QM2-0766/QM2-0767)^{*1}
10 times ^{*2}	Carriage lift mechanism error [5110]	<ul style="list-style-type: none"> - Lift cam shaft unit (QM2-0593) - Photo interrupter (WG8-5571) - Sheet feeder unit (QM2-0589) - Logic board ass'y (QM2-0813/QM2-0814)^{*1}
12 times	Media sensor error [8000]	<ul style="list-style-type: none"> - Sheet feeder unit (QM2-0589)
13 times	USB Host VBUS overcurrent [9000]	<ul style="list-style-type: none"> - Logic board ass'y (QM2-0813/QM2-0814)^{*1}
15 times	Other hardware error [6500]	<ul style="list-style-type: none"> - Logic board ass'y (QM2-0813/QM2-0814)^{*1}
Continuous alternate blinking	Flash ROM error	<ul style="list-style-type: none"> - Logic board ass'y (QM2-0813/QM2-0814)^{*1}
Lights in orange	RAM error	<ul style="list-style-type: none"> - Logic board ass'y (QM2-0813/QM2-0814)^{*1}

*1: Before replacement of the logic board ass'y, check the waste ink amount (by service test print or EEPROM information print). If the waste ink amount is 7% or more, also replace the bottom case unit (QM2-0586) or the 5-item set of the ink absorbers (QC1-2232/2233/2234/2235/2236) when replacing the logic board ass'y. [See Section 3.3. Adjustment / Settings, \(6\) Service mode, for details.](#)

*2: Only for models supporting CD-R printing (i905D only).

*3: Reset the waste ink counter when replacing the bottom case unit (QM2-0586). [See Section 3.3. Adjustment / Settings, \(6\) Service mode, for details.](#)

2.3 Warnings

Printer (LCD viewer displaying)

Displayed warning	Remarks
Low ink of 6BK, 6C, 6M, 6Y, 6PC or 6PM (at detection of no liquid ink remaining)	
Print head temperature rise warning	If the print head temperature is high when the front cover is opened, the warning is displayed ^{*1} . When the print head temperature falls, the warning is released.
Protection of excess rise of the print head temperature	If the print head temperature exceeds the specified limit, a Wait is inserted during printing.
Presence of the CD-R tray feeder ^{*2}	If the CD-R tray feeder is attached when the front cover is opened, the warning is displayed. ^{*1} When the CD-R tray feeder is removed, and the front cover is closed, the warning is released.

*1: If the warning is displayed, the carriage does not move to the ink tank replacement position when the front cover is opened.

*2: Only for models supporting CD-R printing (i905D only).

2.4 Troubleshooting by Symptom

	Symptom	Solution	Remarks
Faulty operation	The power does not turn on. The power turns off immediately after power-on.	Replace the - AC adapter, or - logic board ass'y ^{*1} .	
	The print head is not recognized. The print head does not move to the home position.	Remove and re-install the print head, or replace the - print head, or - logic board ass'y ^{*1} .	
	A strange noise occurs.	Remove foreign material, or attach a displaced part if any.	
	Printing stops mid-way.	Replace the logic board ass'y ^{*1} .	
Paper feed problems	Multiple sheets feed.	Replace the - sheet feeder unit, or - photo paper tray.	
	Paper does not feed.	Remove foreign material, or replace the - sheet feeder unit, or - photo paper tray.	
	Paper feeds at an angle.	Remove foreign material, adjust the paper guide, or replace the - sheet feeder unit, or - photo paper tray.	
Unsatisfactory print quality	No printing, or no color ejected.	Replace the - ink tank, - print head ^{*2} , - logic board ass'y ^{*1} , or - purge unit.	
	Printing is faint, or white lines appear on printouts even after print head cleaning. Line(s) not included in the print data appears on printouts.	Remove and re-install the print head, or replace the - ink tank, - print head ^{*2} , - purge unit, or - logic board ass'y ^{*1} .	
	Paper gets smeared.	Feed several sheets of paper, or clean the paper path with cotton swab or cloth.	
	A part of a line is missing on printouts.	Replace the - ink tank, or - print head ^{*2} .	
	Color hue is incorrect.	Replace the - ink tank, or - print head ^{*2} , or correct the media sensor.	
	Printing is incorrect.	Replace the logic board ass'y ^{*1} .	
	No ejection of black ink.	Replace the - ink tank, or - print head ^{*2} .	
	Graphic or text is enlarged on printouts.	When enlarged in the carriage movement direction, clean grease or oil off the timing slit strip film, or replace the - timing slit strip film, - carriage unit, or - logic board ass'y ^{*1} . When enlarged in the paper feed direction, clean grease or oil off the timing slit strip film, or replace the - timing slit disk film, - timing sensor unit, or - logic board ass'y ^{*1} .	

*1: Before replacement of the logic board ass'y, check the waste ink amount (by service test print or EEPROM information print). If the waste ink amount is 7% or more, also replace the bottom case unit (QM2-0663) or the 5-item set of the ink absorbers (QC1-2232/2233/2234/2235/2236) when replacing the logic board ass'y.
[See Section 3.3. Adjustment / Settings, \(6\) Service mode, for details.](#)

*2: Replace the print head only after the print head deep cleaning is performed 2 times, and the problem persists.

3. REPAIR

3.1 Notes on Service Part Replacement (and Disassembling / Reassembling)

Service part	Notes on replacement ^{*1}	Adjustment / settings	Operation check
Logic board ass'y (QM2-0813/0814)	<ul style="list-style-type: none"> - Before removal of the logic board ass'y, remove the power cord, and allow for approx. 1 minute (for discharge of capacitor's accumulated charges), to prevent damages to the logic board ass'y. - Before replacement, check the waste ink amount (by service test print or EEPROM information print). If the waste ink amount is 7% or more, also replace the bottom case unit or the ink absorbers when replacing the logic board ass'y. See 3.3. Adjustment / Settings, (6) Service mode, for details. 	After replacement: <ol style="list-style-type: none"> 1. Initialize the EEPROM. 2. Reset the waste ink counter. 3. Set the destination in the EEPROM. 4. Set the LCD viewer's language. 5. Correct the media sensor. 6. Correct the CD-R and automatic print head alignment sensor. For details of 1 to 5, see 3.3. Adjustment / Settings, (6) Service mode. <ol style="list-style-type: none"> 7. Perform the print head alignment in the user mode. 	<ul style="list-style-type: none"> - EEPROM information print - Service test print - Printing via USB connection - Direct printing from a digital camera
Bottom case unit (QM2-0663)		After replacement:	- Service test print
Ink absorber (QC1-2232/2233/ 2234/2235/2236)		<ol style="list-style-type: none"> 1. Reset the waste ink counter. See 3.3. Adjustment / Settings, (6) Service mode. 	
Sheet feeder unit (QM2-0589)		After replacement: <ol style="list-style-type: none"> 1. Correct the media sensor. See 3.3. Adjustment / Settings, (6) Service mode. 	<ul style="list-style-type: none"> - Service test print (Confirm media sensor correction.)
Carriage unit (QM2-0662)		At replacement: <ol style="list-style-type: none"> 1. Apply grease to the sliding portions. See 3.3. Adjustment / Settings, (3) Grease application. After replacement: <ol style="list-style-type: none"> 1. Correct the CD-R and automatic print head alignment sensor. See 3.3. Adjustment / Settings, (6) Service mode. 2. Perform the print head alignment in the user mode. 	<ul style="list-style-type: none"> - Service test print (Confirm CD-R and automatic print head alignment sensor correction.)
Paper feed motor (QK1-0224)	<ul style="list-style-type: none"> - The red screws securing the paper feed motor are allowed to be loosened. (DO NOT loosen any other red screws.) 	At replacement: <ol style="list-style-type: none"> 1. Adjust the paper feed motor. See 3.3. Adjustment / Settings, (1) Paper feed motor adjustment. 	

(Notes on Service Part Replacement and Disassembling / Reassembling - cont'd-)

Service part	Notes on replacement ^{*1}	Adjustment / settings	Operation check
Lift cam shaft unit (QM2-0593)		At replacement: 1. Apply grease to the sliding portions. See 3.3. Adjustment / Settings, (3) Grease application. 2. Adjust the phase of the lift shaft gear (QC1-2297). See 3.3. Adjustment / Settings, (3) Grease application.	- Service test print
Timing slit strip film (QA4-1053)	<ul style="list-style-type: none"> - Upon contact with the film, wipe the film with ethanol. - Confirm no grease is on the film. (Wipe off any grease thoroughly with ethanol.) - Do not bend the film. 	After replacement: 1. Perform the print head alignment in the user mode.	- Service test print
Timing slit disk film (QC1-2511)			
Print head (QY6-0050)		After replacement: 1. Perform the print head alignment in the user mode.	- Service test print

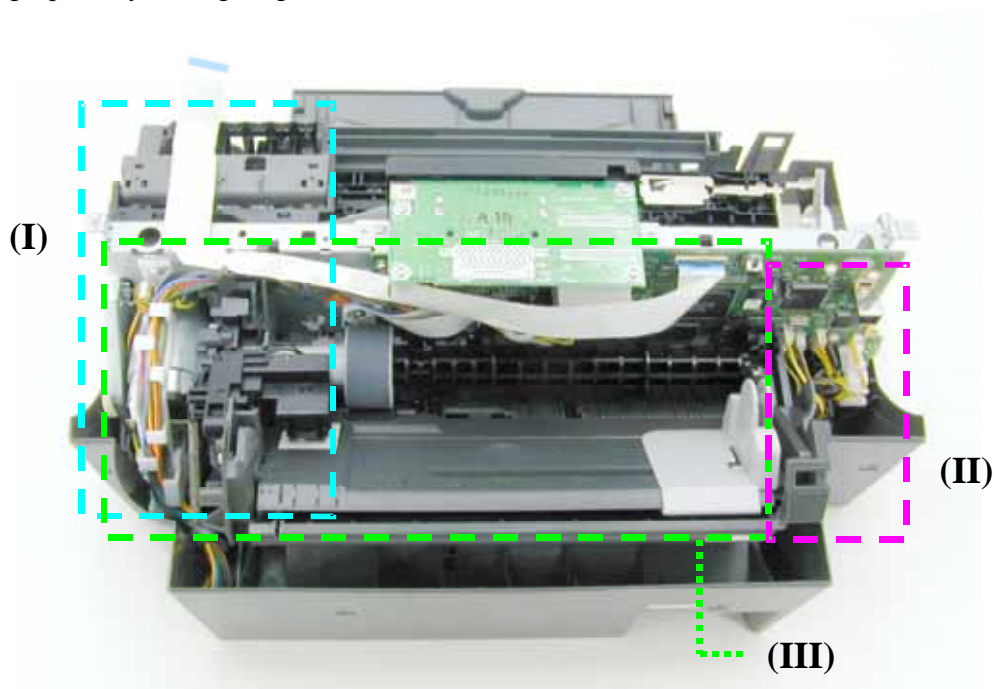
*1: General notes:

- Make sure that the flexible cables and wires in the harness are in the proper position and connected correctly. [See 3.2. Special Notes on Repair Servicing, \(1\) Flexible cable and harness wiring, connection, for details.](#)
- Do not drop the ferrite core, which may cause damage.
- Protect electrical parts from damage due to static electricity.
- Before removing a unit, after removing the power cord, allow the printer to sit for approx. 1 minute (for capacitor discharging to protect the logic board ass'y from damages).
- Do not touch the timing slit strip film and timing slit disk film. No grease or abrasion is allowed.
- Protect the units from soiled with ink.
- Protect the housing from scratches.
- Exercise caution with the red screws, as follows:
 - The red screws of paper feed motor may be loosened only at replacement of the paper feed motor unit (DO NOT loosen them in other cases).
 - DO NOT loosen the red screws on both sides of the main chassis, securing the carriage shaft positioning (they are not adjustable in servicing).

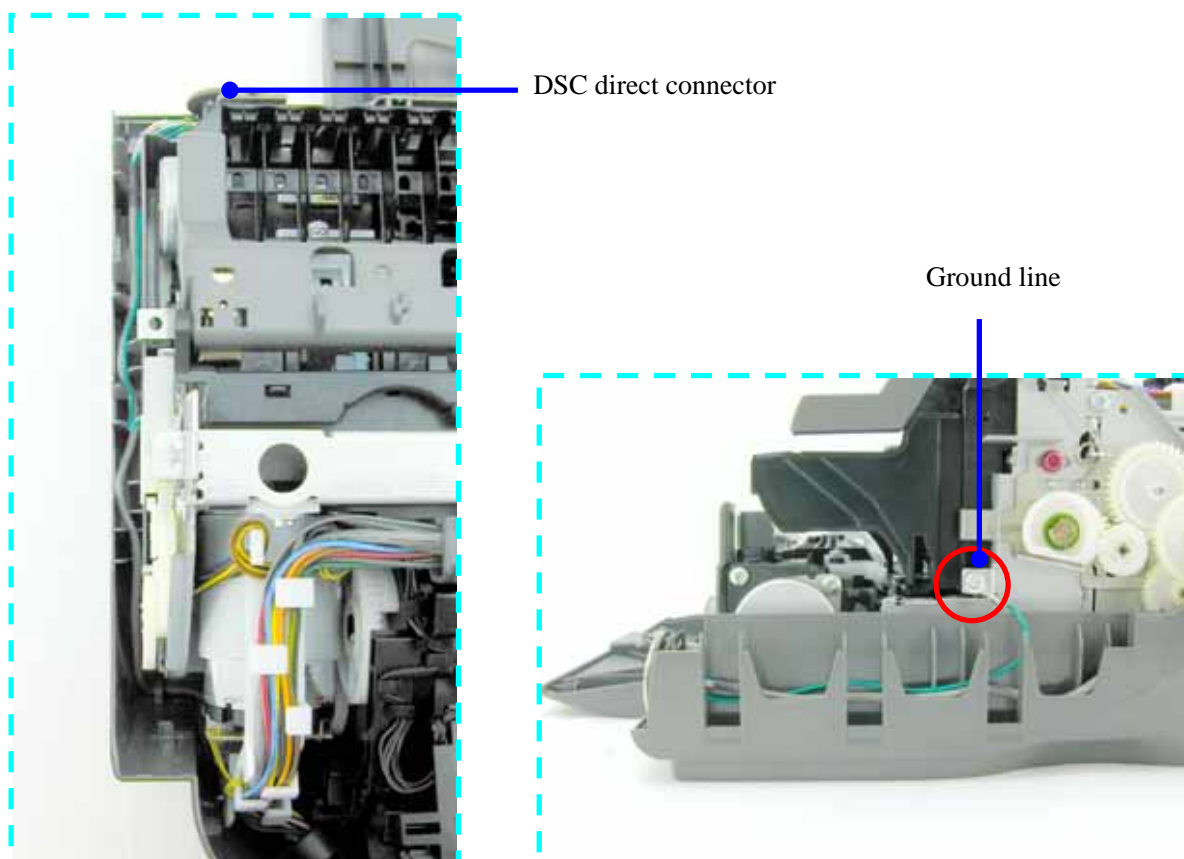
3.2 Special Notes on Repair Servicing

(1) Flexible cable and harness wiring, connection

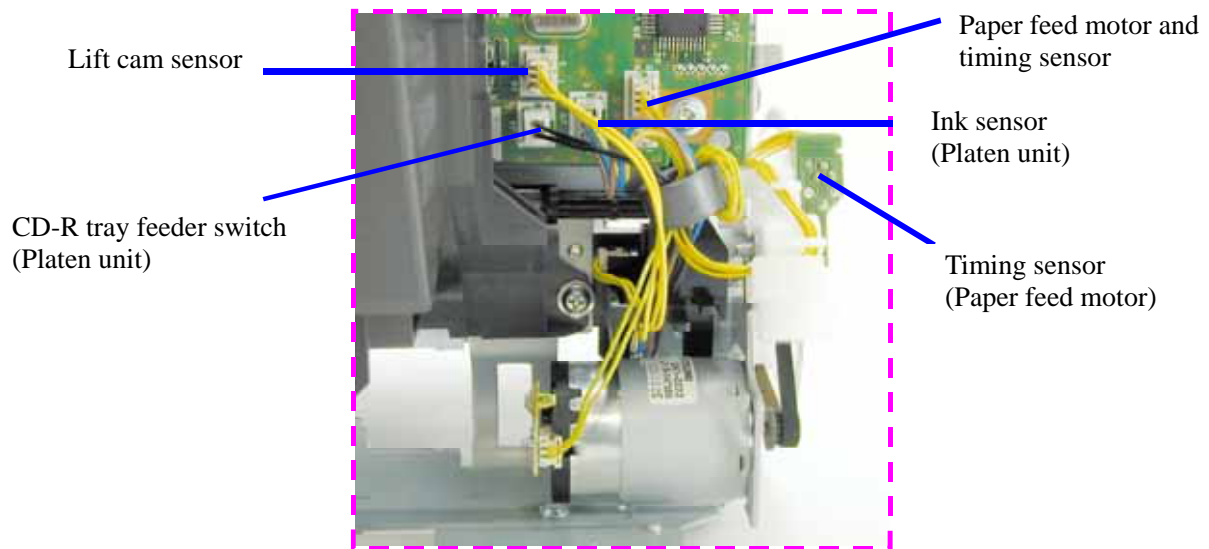
Use caution with the flexible cable and harness wiring. Improper wiring or connection may cause line breakage, possibly leading to ignition or emission of smoke.



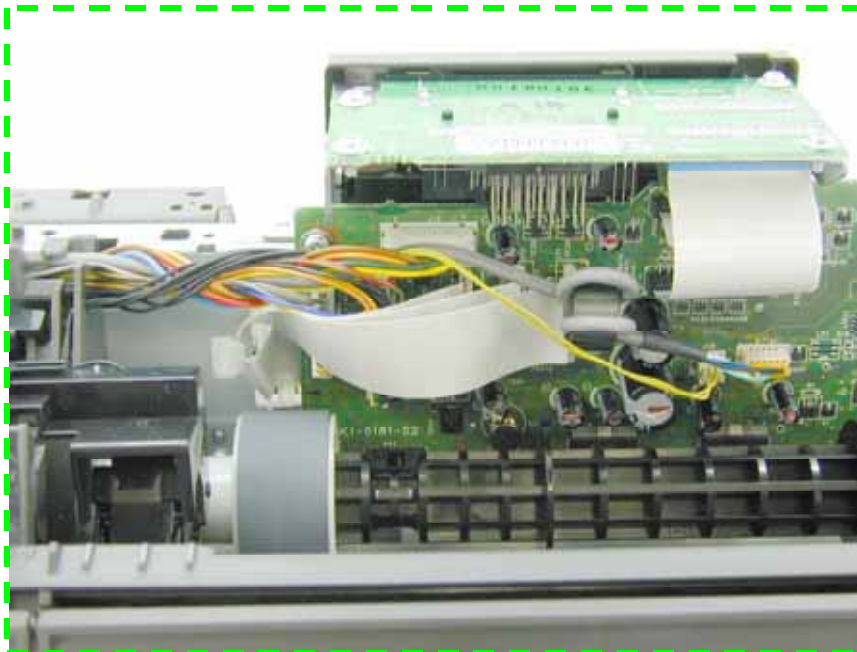
(I) DSC direct connector harness wiring



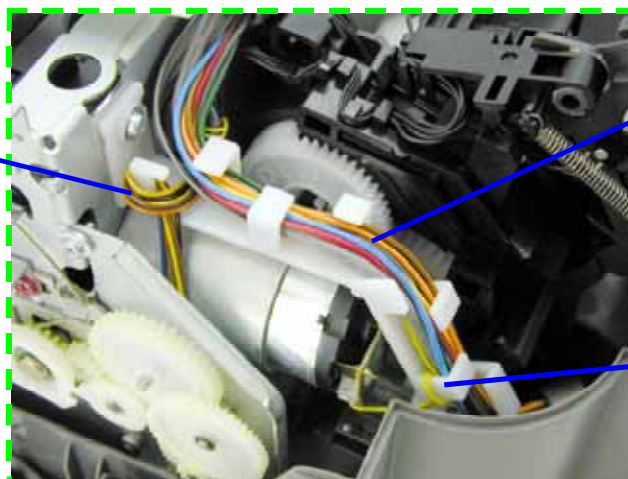
(II) Logic board ass'y (paper feed motor side) wiring



(III) Logic board ass'y (carriage motor side) wiring



Purge motor harness
Purge sensor harness
(Purge unit)



Power harness
DSC direct harness

Carriage motor harness

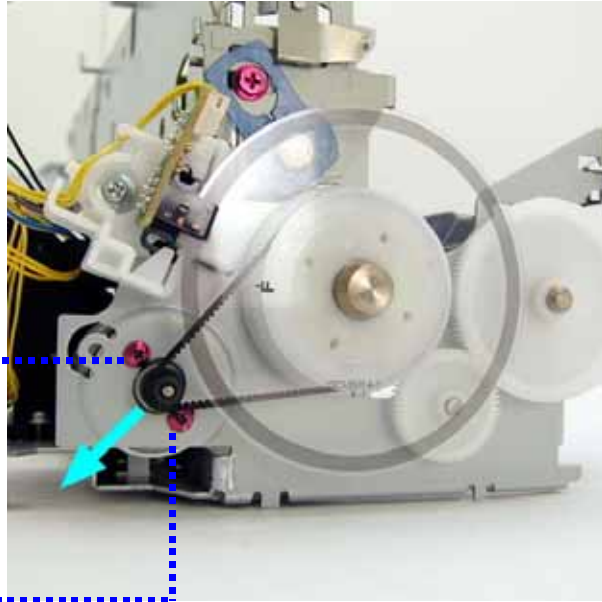
3.3 Adjustment / Settings

(1) Paper feed motor adjustment

Perform the following adjustments when the paper feed motor is replaced:

- 1) When attaching the motor, fasten the screws so that the belt is properly stretched (in the direction indicated by the blue arrow in the figure below).
- 2) After replacement, be sure to perform the service test print, and confirm that no strange noise or faulty print operation (due to dislocation of the belt or gear, or out-of-phase motor, etc.) occurs.

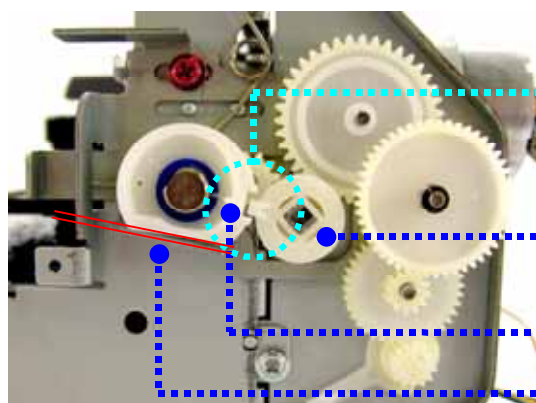
Red screws securing
the paper feed motor



Note: The red screws securing the paper feed motor may be loosened only at replacement of the paper feed motor. DO NOT loosen them in other cases.

(2) Gear phase adjustment

In attaching the PR lift cam gear (QC1-2297), adjust the phase so that, with the even surface of the carriage shaft cam R (QC1-2299) in parallel with the adjust plate R, the protrusion of the lift shaft gear fits into the recess of the carriage shaft cam R, as shown in the figure below.



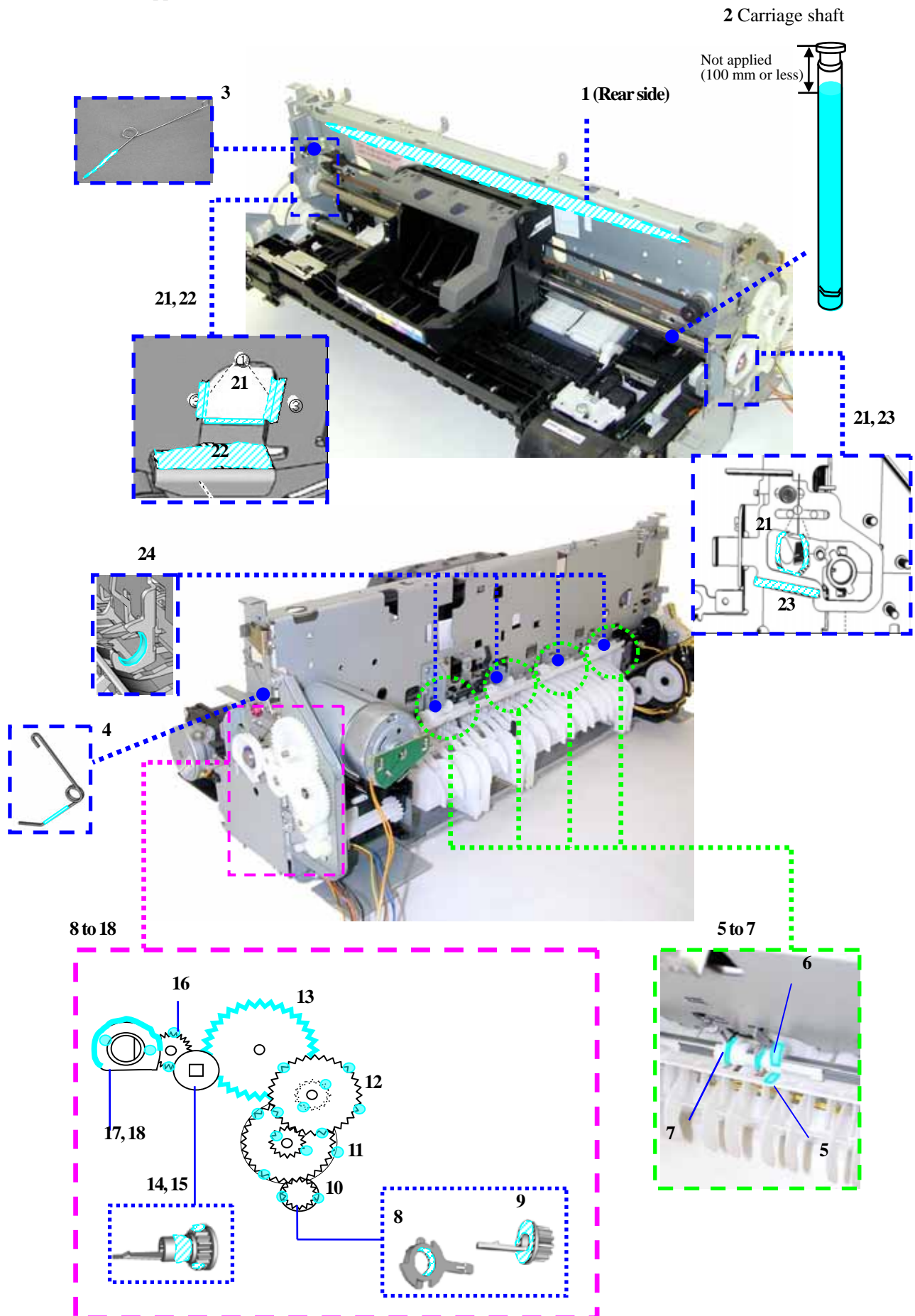
Adjust the phase.

PR lift cam gear

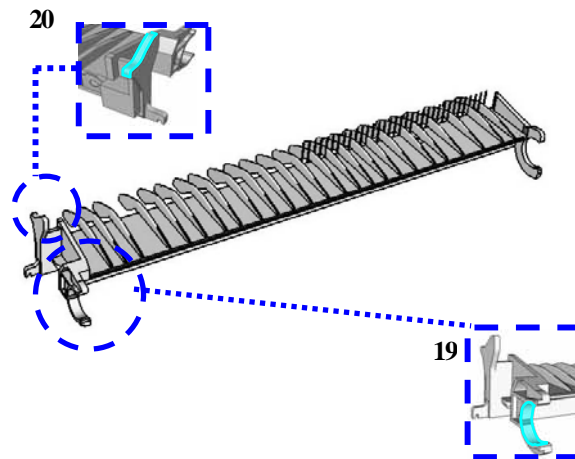
Carriage shaft cam R

Adjust plate R

(3) Grease application



Paper guide flapper ass'y



Part name		Where to apply grease / oil	Grease / oil name	Grease / oil amount
Carriage slide plate	1	Carriage unit sliding portion	FLOIL KG107A	3 drops
Carriage shaft	2	Carriage unit sliding portion	GREASE EU1	50 to 110mg
Shaft clip L	3	Carriage shaft sliding portion	FLOIL KG107A	1 drop
Shaft clip R	4	Carriage shaft sliding portion	FLOIL KG107A	1 drop
Pressure roller ass'y	5	Lift cam shaft unit sliding portion	MOLYKOTE PG641	1 drop
Lift cam shaft unit	6	Pressure roller ass'y sliding portion (4 locations of the cam)	MOLYKOTE PG641	1 drop x 4 locations
	7	Torsion spring (4 locations)	MOLYKOTE PG641	Thin film of oil x 4 locations
Bushing (on the lift input gear side)	8	Bushing inner surface	MOLYKOTE PG641	1 drop
Lift input gear	9	Bushing sliding portion	MOLYKOTE PG641	1 drop
	10	Gear tooth (2 locations)	MOLYKOTE PG641	1 drop x 2 locations
Lift transmission gear (QC1-2294)	11	Larger gear tooth (3 locations), smaller gear tooth (2 locations)	MOLYKOTE PG641	1 drop x 5 locations
Lift transmission gear (QC1-2295)	12	Larger gear tooth (5 locations), smaller gear tooth (2 locations)	MOLYKOTE PG641	1 drop x 7 locations
Lift transmission gear (QC1-2296)	13	Gear tooth (all teeth)	MOLYKOTE PG641	2 drops
Lift shaft gear	14	Bushing sliding portion	MOLYKOTE PG641	1 drop
	15	Gear tooth (2 locations)	MOLYKOTE PG641	1 drop x 2 locations
Carriage input gear	16	Gear tooth (2 locations)	MOLYKOTE PG641	1 drop x 2 locations
Carriage shaft cam R	17	Cam sliding portion	FLOIL KG107A	1 drop
	18	Gear tooth (2 locations)	MOLYKOTE PG641	1 drop x 2 locations
Paper guide flapper ass'y	19	Feed roller ass'y sliding portion (2 locations, each on the left and right side)	FLOIL KG107A	2 drops
	20	Lift cam shaft unit sliding portion	MOLYKOTE PG641	1 drop
Chassis	21	Carriage shaft sliding portion (5 locations on the left side and 3 on the right)	FLOIL KG107A	1 drop x 8 locations
	22	Carriage shaft cam L sliding portion	FLOIL KG107A	2 drops
	23	Carriage shaft cam R sliding portion	FLOIL KG107A	2 drops
	24	Lift cam shaft unit bushing (4 locations)	FLOIL KG107A	1 drop x 4 locations

Note: 1 drop = 9 to 18 mg

(4) Waste ink counter setting

When the logic board ass'y is replaced, reset the waste ink counter. In addition, according to the waste ink amount, replace the waste ink absorber (the bottom case unit or the 5-item set of the ink absorbers). The standard amount for waste ink absorber replacement is given in the table below.

Waste ink amount ^{*1}	Bottom case unit or 5-item set of ink absorbers replacement
Less than 7%	Not required.
7% or more	Required.

*1: Check the waste ink amount by service test print or EEPROM information print. ([See 3.3. Adjustment / Settings, \(6\) Service mode, for details.](#))

(5) User mode

Function	Procedures	Remarks
Nozzle check pattern printing	On standalone printers, press the Menu button to move to Maintenance, and perform the selection. (Nozzle check)	Also available from “Standalone printer operation 2” below or printer driver utility.
Print head manual cleaning	Cleaning both black and color: On standalone printers, press the Menu button to move to Maintenance, and perform the selection. (Head cleaning)	Also available from “Standalone printer operation 2” below or printer driver utility.
Print head deep cleaning	Cleaning both black and color: On standalone printers, press the Menu button to move to Maintenance, and perform the selection. (Deep cleaning)	Also available from “Standalone printer operation 2” below or printer driver utility.
Automatic print head alignment	On standalone printers, press the Menu button to move to Maintenance, and perform the selection. (Auto head align)	Also available from “Standalone printer operation 2” below or printer driver utility.
Manual print head alignment	On standalone printers, press the Menu button to move to Maintenance, and perform the selection. (Manual head align)	In Custom Settings of the printer driver utility, manual print head alignment can be performed.
Head-to-paper distance setting	The head-to-paper distance setting can be set to Auto or Thick paper. On standalone printers, press the Menu button to move to Maintenance, and perform the selection. (Thick paper)	
Contrast adjustment	The contrast of the LCD viewer on the printer can be adjusted. On standalone printers, press the Menu button to move to Maintenance, and perform the selection. (Contrast)	
Quiet mode setting	The quiet mode can be set to On or Off. On standalone printers, press the Menu button to move to Maintenance, and perform the selection. (Quiet mode)	Also available from printer driver utility.
Language selection	Languages to be displayed on the LCD viewer of the printer can be set. On standalone printers, press the Menu button to move to Maintenance, and perform the selection. (Languages)	
Paper feed roller cleaning	See “Standalone printer operation 2” below.	
Print head replacement	The print head is replaceable at the same position as for ink tank replacement. (Open the access cover. When the carriage stops at the center, the print head can be replaced.)	

<Standalone printer operation>

- 1) Turn on the printer.
- 2) Press and hold the Resume button until the LED blinks the specified number of times listed in the table below, and release it. The operation starts.

LED blinking	Operation	Remarks
1 time	Print head manual cleaning	Set a sheet of plain paper (A4 or letter) in the ASF.
2 times	Nozzle check pattern printing	
3 times	Paper feed roller cleaning	
4 times	Automatic print head alignment	Set a sheet of plain paper (A4 or letter) in the ASF.
5 times or more	Unspecified	

(6) Service mode

Function	Procedures	Remarks
Service test print	See “Service mode operation procedures” below.	Set a sheet of A4-, letter-, or larger-sized paper. For print sample, see 3.4. Verification Items, (1) Service test print.
EEPROM information print	See “Service mode operation procedures” below.	Set a sheet of A4-, letter-, or larger-sized paper. For print sample, see 3.4. Verification Items, (2) EEPROM information print.
EEPROM initialization	See “Service mode operation procedures” below.	The following items are NOT initialized: - USB serial number - Destination settings (The language to be displayed on the LCD viewer is set to the default setting for each destination.) - Waste ink counter - Media sensor correction value - CD-R correction value
Waste ink counter reset	See “Service mode operation procedures” below.	If the waste ink amount is 7% or more, replace the bottom case unit, or the ink absorbers.
Destination settings	See “Service mode operation procedures” below.	The language to be displayed on the LCD viewer is set to the default setting for each destination.
Print head deep cleaning		Cleans both black and color.
Button and LCD viewer test	See “Service mode operation procedures” below.	Check the operations of buttons, and the LCD viewer display, when the operation panel is replaced.

Note: At the end of the service mode, press the Power button. To protect the media sensor from being dislocated during transportation, the paper lifting plate of the sheet feeder unit will be raised.

<Service mode operation procedures>

- 1) With the printer power turned off, while pressing the Resume button, press and hold the Power button. (Do not release the buttons. The LED lights in green to indicate that a function is selectable.)
- 2) While holding the Power button, release the Resume button. (Do not release the Power button.)
- 3) While holding the Power button, press the Resume button 2 times, and then release the Power and Resume buttons. (Each time the Resume button is pressed, the LED lights alternately in orange and green, starting with orange.)
- 4) When the LED lights in green, press the Resume button the specified number of time(s) according to the function listed in the table below. (Each time the Resume button is pressed, the LED lights alternately in either orange or green, starting with orange.)

Time(s)	LED	Function	Remarks
0 times	Green	Power off	When the print head is not installed, the carriage returns and locks in the home position.
1 time	Orange	Service test print	See 3.4. Verification Items, (1) Service test print.
2 times	Green	EEPROM information print	See 3.4. Verification Items, (2) EEPROM information print.
3 times	Orange	EEPROM initialization	
4 times	Green	Waste ink counter resetting	
5 times	Orange	Destination settings	Proceed to the following step 5), to set the destination.
6 times	Green	Print head deep cleaning	
7 times	Orange	Media sensor correction	Proceed to the following steps 5), to correct the media sensor.
8 times	Green	Button and LCD viewer test	Proceed to the following steps 5), to perform the test.
9 times or more	Orange	Return to the menu selection	

- 5) After the function (menu) is selected, press the Power button. The LED lights in green, and the selected function is performed. (When the operation completes, the printer returns to the menu selection mode automatically.)

<Destination setting procedures>

Press the Resume button the specified number of time(s) according to the destination listed in the table below, and press the Power button.

Time(s)	LED	Destination
1 time	Orange	Japan: PIXUS 900PD
2 times	Green	Overseas, non-support of CD-R printing (A4): i900D
3 times	Orange	Overseas, non-support of CD-R printing (LTR): i900D (LTR)
4 times	Green	Overseas, support of CD-R printing (A4): i905D
5 times	Orange	Overseas, support of CD-R printing (LTR): i905D (LTR)
6 times or more		Return to the menu selection

Note: After setting the destination, confirm the model name in service test print or EEPROM information print. (See 3.4. Verification Items, (1) Service test print, or (2) EEPROM information print.)

<Media sensor correcting procedures>

After moving to the media sensor correction mode, using the reference plain paper and reference white PET paper of the calibration media kit (QY9-0064), press the Resume button the specified number of time(s) according to the table below, and press the Power button. The media sensor correction operation must be performed once each with the reference white PET paper and the reference plain paper.

Time(s) of Resume button	LED	Correction
1 time	Orange	Not used in servicing (In this mode, the set reference paper will be fed, and may be damaged. Please be careful not to select this mode.)
2 times	Green	Reference white PET paper correction value input ^{*1}
3 times	Orange	Reference plain paper correction value input ^{*2}
4 times or more		Return to the menu selection

Note: - After each correction value operation, the mode returns to the service mode menu selection. After finishing either of the correction value operations, re-select the media sensor correction mode to perform the other correction value operation.
- After performing the media sensor correction, confirm the values of the media sensor in service test print or EEPROM information print. (See 3.4. Verification Items, (1) Service test print, or (2) EEPROM information print.)

^{*1}: Reference white PET paper correction value operation

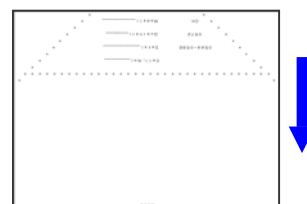
Set a sheet of the A5-sized reference white PET paper (packed in the calibration media kit) in the sheet feeder in the landscape orientation. Then, press the Resume button 2 times, and the Power button.

Note: There is no printing on the reference white PET paper. It can be placed with either side facing up, and with either edge at top.

^{*2}: Reference plain paper correction value operation

Set a sheet of the A5-sized reference plain paper (packed in the calibration media kit) in the sheet feeder, press the Resume button 3 times, and the Power button.

The reference plain paper should be placed in the sheet feeder with the print side facing up, with the + marks printed area at top, so that it will feed in the direction indicated by the blue arrow in the figure.



<Button and LCD viewer test>

After moving to the button and LCD viewer test mode, perform the following to check the operation of buttons and the LCD viewer display.

- 1) The LCD viewer displaying color will change to “yellow” in full-screen display.
- 2) Press each button on the operation panel (other than the Power and Resume buttons). Every time each button is pressed, a part of the display will change to “red”. (The applicable area is as shown in the figure below. The figure shows the example at the time when the Menu and Cancel buttons are pressed.)

===LCD viewer display===

Menu button	Setting button	Trimming button	Zoom in button
Left button	Up button	Down button	Right button
Photo Viewer button	Print button	Cancel button	Zoom out button

- 3) Confirm that the display has become to entirely “red”.^{*1}
- 4) Press any two buttons, and confirm that the LED changes from green to orange. (After this, only the Power button is accepted.)
- 5) Press the Power button to change the LED to green, and press the Power button once again to exit the service mode and turn the printer off.

^{*1} Each operation panel button, except the Power and Resume buttons, will change the LCD display, however, if any two buttons or more are pressed simultaneously before the display becomes “red”, an error occurs with the orange LED. In this case, only the Power button input can be accepted, perform 5), and enter the service mode again to perform the test.

(7) Flash ROM upgrade

Upgrade the flash ROM by inserting the Compact Flash Card containing the ROM program file into the card slot of the printer, and perform button operations.

<Flash ROM upgrade file>

The upgrade file will be uploaded to the SSIS system each time an upgrade occurs.

<Procedures for upgrading the flash ROM>

The flash ROM upgrade procedures will be given in the Service Information bulletin at each upgrade.

Note: The flash ROM can be upgraded without using a host computer.

3.4 Verification Items

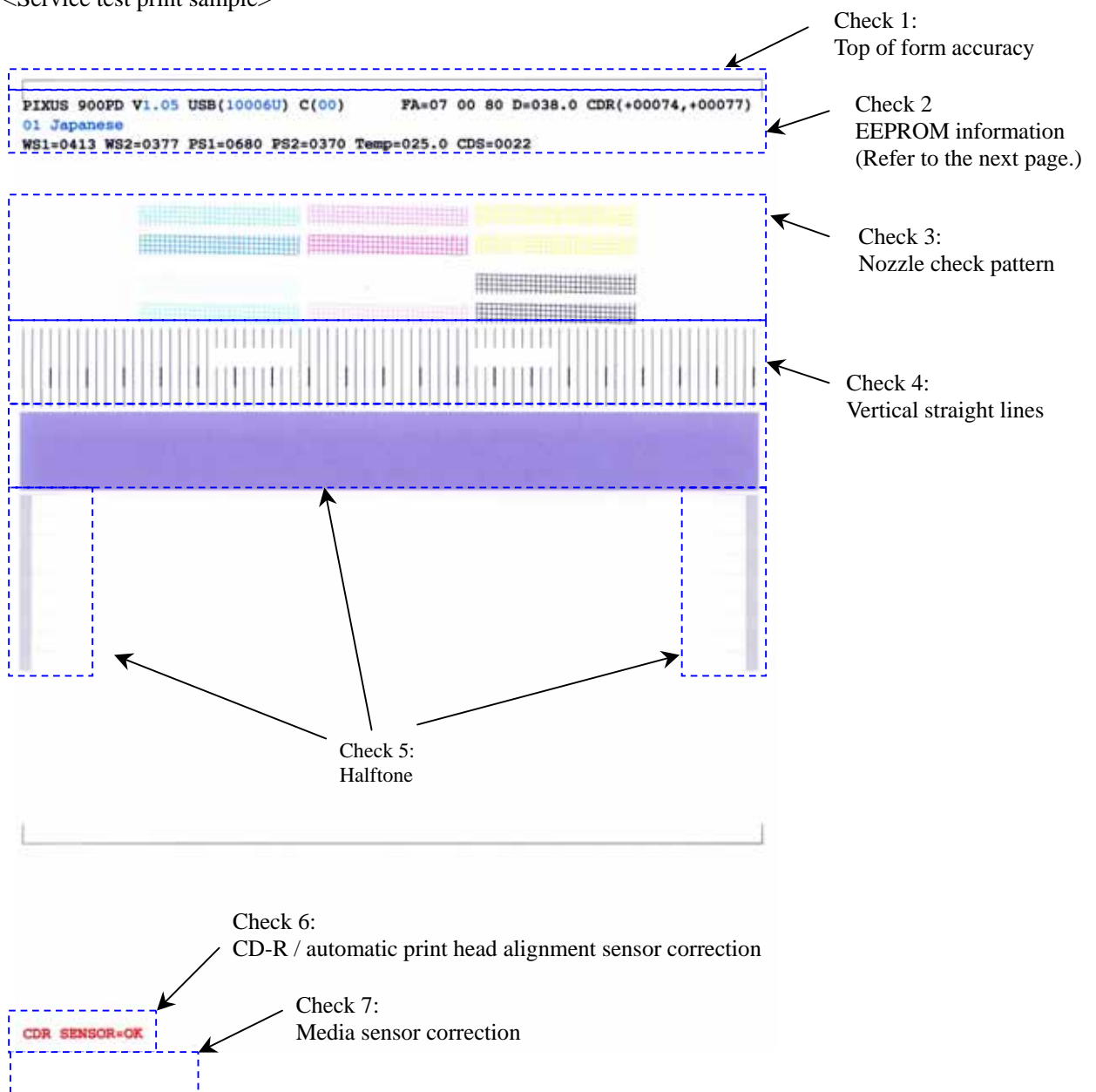
(1) Service test print

After repair, perform the service test print, and check the following:

<Print check items>

- Check 1, top of form accuracy: The line shall be within the paper.
- Check 2, EEPROM information: The destination shall be correct.
- Check 3, nozzle check pattern: Ink shall be ejected from all nozzles.
- Check 4, vertical straight lines: The lines shall not be broken.
- Check 5, halftone: There shall be no remarkable streaks or unevenness.
- Check 6, CD-R / automatic print head alignment sensor correction: The results shall be OK.
- Check 7, media sensor correction: Nothing printed indicates that the correction has been implemented.
(If not implemented, "MEDIA SENSOR = NO CALIBRATE" is printed.)

<Service test print sample>



(2) EEPROM information print
<How to read EEPROM information print>

Print sample (The header numbers are not shown in the actual print out.)

```

1:PIXUS 900PD 2:V1.00 3:USB(1000AQ) 4:C(+1) 5:FA=FF FF FF 6:D=001.1 7:CDR(+00560,+00462)
8:01 Japanese
9:WS1=0000 WS2=0000 PS1=0000 PS2=0000 Temp=024.0 10:CDS=0000
11:ER(ER0=5100 ER1=5C00) 12:HPW=003 13:SPW(ON=00009 OFF=00005)
14:Page(All=00562 PP=0025 HR=0056 PR=0031 JPC=0020 MP=0012 SP=0005 L/4x6=0006 CDR=0011)
15:Borderless=0000 16:CH=0002 17:CT(Bk=015 C=010 M=009 Y=005 PC=004 PM=003)
18:PC(M=0028 R=0015 T=0009 D=0020 C=0005)
19:ST=2003/03/11-20:15 20:PTime=2003/05/12-20:05 21:CLTime=2003/05/11-15:36 22:NPTIME=008
23:Card(CF=0004 MS=00000 SM=00000 SD=00000)
24:CardDBL-PR( L/4x6=0000 2L/5x7=0000 JPC=0000 A4/LTR=0000)
25:CardDBL-SP( L/4x6=0000 2L/5x7=0000 JPC=0000 A4/LTR=0000)
26:CardDBL-MP( L/4x6=0000 2L/5x7=0000 JPC=0000 A4/LTR=0000)
27:CardDNB-PR( L/4x6=0000 2L/5x7=0000 JPC=0000 A4/LTR=0000)
28:CardDNB-SP( L/4x6=0000 2L/5x7=0000 JPC=0000 A4/LTR=0000)
29:CardDNB-MP( L/4x6=0000 2L/5x7=0000 JPC=0000 A4/LTR=0000)
30:CameraDBL-Photo Paper( L/4x6=0000 2L/5x7=0000 JPC=0000 A4/LTR=0000)
31:CameraDBL-Fast Photo Paper( L/4x6=0000 2L/5x7=0000 JPC=0000 A4/LTR=0000)
32:CameraDNB-Photo Paper( L/4x6=0000 2L/5x7=0000 JPC=0000 A4/LTR=0000)
33:CameraDNB-Fast Photo Paper( L/4x6=0000 2L/5x7=0000 JPC=0000 A4/LTR=0000)
34:Camera Connection Count(Canon=0000 CanonPictBridge=0000 OtherPictBridge=0000)

HDEEPROM
35:V0000
36:SN=0318-A43D
37:LN(00 05 01 06 00 00 03)
38:DI(Col=+001 LCol=+001)
39:IL=(Bk=-08 C=-08 M=-08 Y=-08 PC=-08 PM=-08 LC=-08 LM=-08)
40:ID=1
41:FA=34

```

*1: Also printed in the service test print.

Printed items:

1. Model name 2. ROM version 3. USB S/No. 4. Bi-directional registration at factory 5. Factory inspection information
 6. Waste ink amount 7. CD-R sensor position adjustment
 8. Language setting
 9. Media sensor calibration value 10. CD-R sensor calibration value
 11. Error history (0/1) 12. No. of times of hard power-on 13. No. of times of soft power-on
 14. No. of print pages (total/plain paper/high resolution paper/Photo Paper Pro/postcard/Matte Photo Paper/Photo Paper Plus Glossy/L-size/4x6/CD-R)
 15. No. of borderless print pages 16. No. of times of print head installation 17. No. of times of ink tank replacement (Bk/C/M/Y/PC/PM)
 18. No. of times of purging (manual/deep cleaning/timer/dot count/ink tank and print head replacement)
 19. Installation date 20. Last print start time 21. Last cleaning time 22. No. of the largest printing intermission days
 23. No. of times a memory card used (CompactFlash Card, Memory Stick, SmartMedia Card, SD Card)
 24. No. of Card Direct Print pages with border: Photo Paper Pro (L/4x6, 2L/5x7, Japanese postcard, A4/LTR)
 25. No. of Card Direct Print pages with border: Photo Paper Plus Glossy (L/4x6, 2L/5x7, Japanese postcard, A4/LTR)
 26. No. of Card Direct Print pages with border: Matte Photo Paper (L/4x6, 2L/5x7, Japanese postcard, A4/LTR)
 27. No. of Card Direct Print pages with borderless: Photo Paper Pro (L/4x6, 2L/5x7, Japanese postcard, A4/LTR)
 28. No. of Card Direct Print pages with borderless: Photo Paper Plus Glossy (L/4x6, 2L/5x7, Japanese postcard, A4/LTR)
 29. No. of Card Direct Print pages with borderless: Matte Photo Paper (L/4x6, 2L/5x7, Japanese postcard, A4/LTR)
 30. No. of Camera Direct Print pages with borderless: Photo Paper* (L/4x6, 2L/5x7, Japanese postcard, A4/LTR)
 31. No. of Camera Direct Print pages with borderless: Fast Photo Paper* (L/4x6, 2L/5x7, Japanese postcard, A4/LTR)
 32. No. of Camera Direct Print pages with border: Photo Paper* (L/4x6, 2L/5x7, Japanese postcard, A4/LTR)
 33. No. of Camera Direct Print pages with border: Fast Photo Paper* (L/4x6, 2L/5x7, Japanese postcard, A4/LTR)
 34. No. of times of digital camera connections (Bubble Jet Direct, Canon PictBridge, Other company PictBridge)
- HEAD EEPROM
35. Version
 36. Serial number
 37. Lot number
 38. DI sensor correction value
 39. Ink ejection level
 40. Head ID (fixed value: 1)
 41. Factory control number (fixed value: 34)

*Setting on the digital camera side (Display in the Canon digital cameras)

4. PRINTER TRANSPORTATION METHOD

This section describes the procedures for transporting the printer (for returning after repair, etc.).

1. In the service mode, press the Power button to finish the mode, and confirm that the paper lifting plate of the sheet feeder unit is raised. (See Caution 1 below.)
2. Keep the print head and ink tanks installed in the carriage. (See Caution 2 below.)
3. Press the Power button to turn off the printer, and secure the carriage locks in the home position.

Caution:

1. If the paper lifting plate of the sheet feeder unit is not raised and in the normal usage position (such as when the power is turned off in the user mode) during transportation, the media sensor may be dislocated.
2. If the print head is removed from the printer and left alone by itself, ink is likely to dry. For this reason, keep the print head installed in the printer even during transportation.
3. If the carriage is not locked in the home position, the carriage may move and apply stress to the carriage flexible cable, or cause ink leakage, during transportation.

Note:

If the print head must be removed from the printer and transported alone, perform the following:

1. Install ink tanks and fix them with tape, etc. (to prevent the nozzles from drying).
2. Attach the protective cap (used when the packing was opened) to the print head (to protect the print head face from damage due to shocks).

Part 2

TECHNICAL REFERENCE

1. NEW TECHNOLOGIES

(1) Direct digital camera printing (PictBridge support)

Printing can be performed directly from a digital camera. In addition to Bubble Jet Direct, the Camera Direct Printing standard, PictBridge, is supported.

(2) Color LCD viewer

The color LCD viewer of 2.0-inch (176x128 pixel, 65,000 colors) is installed as standard equipment, realizing two functions in the printer; image display and operation display with the operation panel.

(3) Media sensor

An optical reflective type media sensor is equipped in the sheet feeder unit, and it can classify Canon-recommended paper set in the sheet feeder into 4 groups (transparency, glossy photo paper, plain paper, and coated paper).

The media sensor function is disabled in the following conditions:

<Conditions in which the media sensor does not operate>

- i. In the printer driver settings, Media Type and Print Quality settings are other than Plain Paper / Standard or Plain Paper / High.
- ii. In Custom Settings of the printer driver's Maintenance tab, the Identify paper type option is disabled. (Enabled at default.)

<Anticipated troubles and their solutions>

If media sensor detection is incorrect, the following troubles are likely to occur:

- i. In printing on specialty paper, streaks or lines appear, or color hue is improper. (The print quality is not good.)
Solution: Match the Media Type setting in the printer driver with the paper type actually set.
- ii. In printing on plain paper, printing is smeared, color hue is improper, or black is faint. (The print quality is not good.)
Solution: In Custom Settings of the Maintenance tab, disable Identify paper type.

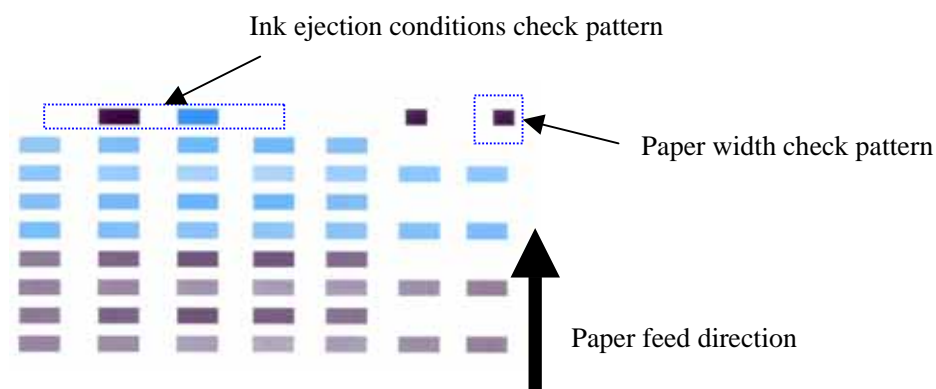
(4) Automatic print head alignment

The automatic print head alignment is available via button operation, or via the printer driver utility. Through scanning the print pattern as shown below and detecting the pattern's reflection density with the automatic print head alignment sensor (same as the CD-R sensor), the print head is automatically aligned properly.

In the automatic print head alignment, the following items are checked, and, if an error is detected, the automatic print head alignment failure error is indicated by the LED blinking in orange 11 times:

- i. Paper size
 - Paper width: An error is detected when the paper width is smaller than the specified value.
 - Paper length: An error is detected when the paper length is shorter than that of A4 / LTR.
- ii. Faulty printing due to non-ejection of ink
 - Ink ejection conditions: An error is detected when non-ejection of ink occurs.

<Print pattern for the automatic print head alignment>
A4- / Letter-sized plain paper:



<Anticipated trouble and its solution>

- i. Even when the paper size is correct (A4 / LTR), and the print pattern is properly printed, the automatic print head alignment failure error occurs.

Solution: Press the Menu button on the printer to move to Maintenance, and select Manual head align, or in Custom Settings of the printer driver's Maintenance tab, enable Align heads manually, and perform the manual print head alignment.

(5) CD-R printing (i905D only)

By attaching the CD-R tray and tray feeder, printing on a 12 or 8 cm printable CD-R / DVD-R can be performed, through front loading of the media.

<Reference>

For CD-R printing, the following detection functions are provided:

- Presence of the CD-R tray feeder (by the switch sensor inside the platen unit)
- CD-R tray position and presence of CD-R (by the CD-R sensor inside the carriage unit)

For errors and their solutions relating to CD-R printing, see 2.1. Operator Call Errors.

Note: When the CD-R tray feeder is attached, the carriage does not move to the center when the access cover is opened. Before replacing an ink tank or the print head, remove the CD-R tray feeder.

(6) Automatic adjustment of the distance between the paper and the print head

According to paper type settings in the printer driver, the distance between the paper and the print head will be automatically adjusted. To change the distance between the paper and the print head, the mechanism to lift the carriage up and down using the ASF motor has been provided. (According to rotation direction of the ASF motor, driving is switched between paper feeding and carriage lifting.)

<Anticipated trouble and its solution>

- i. Paper's print side is soiled.

Solution: Press the Menu button on the printer to move to Maintenance, and set the Thick paper setting to Thick paper, or in Custom Settings of the printer driver's Maintenance tab, enable Prevent paper abrasion (if contact to the print head occurs with paper other than thick paper, such as envelopes and T-shirt transfers).

(7) Photo paper tray

When the photo paper tray is attached, 2 types of paper can be set at the same time, photo specialty paper (4" x 6") in the photo paper tray and other paper in the sheet feeder. Paper types and the maximum number of sheets which can be set in the sheet feeder are limited when the photo paper tray is attached. (5" x 7" or larger sizes of paper are supported by the sheet feeder.)

<Paper types and limits in the photo paper tray.

Type	Name	Size	Stacking capacity
Matte Photo Paper	MP-101 4 x 6	101.6 x 152.4mm	20 sheets
Photo Paper Pro	PR-101 4 x 6	101.6 x 152.4mm	20 sheets
Photo Paper Plus Glossy	PP-101 4 x 6	101.6 x 152.4mm	20 sheets
Photo Paper Plus Semi-gloss	SG-101 4 x 6	101.6 x 152.4mm	10 sheets

<Paper types and limits in the sheet feeder when the photo paper tray is attached>

Type	Name	Size	Stacking capacity
Plain paper	64 to 105g/m ²	A4, B5, A5, LTR, LGL	5mm
High resolution paper	HR-101	A4, LTR	20 sheets
Glossy Photo Paper	GP-401	A4, LTR	5 sheets
Photo Paper Pro	PR-101	A4, LTR	5 sheets
Photo Paper Plus Glossy	PR-101	A4, LTR	5 sheets
	PR-101 5 x 7	127 x 178mm	5 sheets
Matte Photo Paper	MP-101	A4, LTR	5 sheets
Photo Paper Plus Semi-gloss	SG-101	A4, LTR	5 sheets
Transparency	CF-102	A4, LTR	10 sheets
T-shirt transfer	TR-301	A4	1 sheet

2. CLEANING MODE AND AMOUNT OF INK PURGED

To prevent printing problems due to bubbles, dust, or ink clogging, print head cleaning is performed for all colors before the start of printing, except in the following cases:

- Cleaning on arrival: Performed when the access cover is closed.
- Cleaning by dot count: Performed after ejection of paper.
- Manual cleaning / deep cleaning: Performed manually.

<Cleaning mode list>

Black: Pigment-based black

Color: Dye-based black, cyan, magenta, yellow

Condition	Details	Amount of ink used (g)	Est. required time (sec.)
On arrival of the printer	First and second cleaning after shipped from the plant.	1.94	70
Dot count cleaning	When the specified number of dots are printed from the previous black/color cleaning. (Cyan and magenta dots are counted by large and small nozzles separately.)	0.76	40
Timer cleaning - 1	If 120 to 336 hours have elapsed since the previous cleaning till the start of the next printing.		
Timer cleaning - 2	If 336 hours or more have elapsed since the previous cleaning till the start of the next printing.	1.35	55
If the print head was not been capped at power-on		1.35	55
At ink tank replacement			
At print head replacement	When the print head is removed and installed.	1.94	70
Manual cleaning	- Via the operation panel - Via the printer driver	0.76	40
Deep cleaning	- Via the operation panel - Via the printer driver	1.35	55

3. PRINT MODE

3.1 Resolution by Print Mode during Printing via Computer

Paper type		Quality level 5	Quality level 4	Quality level 3	Quality level 2	Quality level 1
Plain paper	No. of passes Resolution (dpi)	1 pass Bk: 300x300 Y, M, C: 300x300	1 pass Bk: 300x300 Y, M, C: 300x300	2 passes Bk, Y: 600x1200 M, C: 600x600	6 passes Bk, Y: 600x1200 M, C, PM, PC: 600x600	
High Resolution Paper (HR-101)	No. of passes Resolution (dpi)			6 passes Bk, Y: 600x1200 M, C, PM, PC: 600x600	8 passes Bk, Y: 600x1200 M, C, PM, PC: 600x600	
Photo Paper Pro (PR-101)	No. of passes Resolution (dpi)			6 passes Bk, Y: 600x1200 M, C, PM, PC: 600x600	8 passes Bk, Y, M, C, PM, PC: 4800x1200	16 passes Bk, Y, M, C, PM, PC: 4800x1200
Glossy Photo Paper (GP-401)	No. of passes Resolution (dpi)			6 passes Bk, Y: 600x1200 M, C, M, PC: 600x600	8 passes Bk, Y, M, C, PM, PC: 4800x1200	
Photo Paper Plus Glossy (PP-101)	No. of passes Resolution (dpi)			6 passes Bk, Y: 600x1200 M, C, PM, PC: 600x600	8 passes Bk, Y, M, C, PM, PC: 4800x1200	
Matte Photo Paper (MP-101)	No. of passes Resolution (dpi)			6 passes Bk, Y: 600x1200 M, C, PM, PC: 600x600	8 passes Bk, Y: 600x1200 M, C, PM, PC: 600x600	
T-Shirt Transfers (TR-301)	No. of passes Resolution (dpi)			6 passes Bk, Y: 600x1200 M, C: 600x600		
Transparencies (CF-102)	No. of passes Resolution (dpi)			6 passes Bk, Y: 600x1200 M, C: 600x600	8 passes Bk, Y: 600x1200 M, C: 600x600	
CD-R (suggested media)				6 passes Bk, Y: 600x1200 M, C, PM, PC: 600x600	8 passes Bk, Y, M, C, PM, PC: 4800x1200	

White background: Printed with 5 pl only
 Yellow background: Printed with 5 pl and 2 pl (Bk/Y is printed with 5 pl only.)
 Green texts: Draft
 Blue texts: Standard
 Red texts: High

3.2 Resolution in Borderless Printing

Paper type		Quality level 5	Quality level 4	Quality level 3	Quality level 2	Quality level 1
Plain paper	No. of passes Resolution (dpi)			2 passes Bk, Y: 600x1200 M, C: 600x600		
Photo Paper Pro (PR-101)	No. of passes Resolution (dpi)			6 passes Bk, Y: 600x1200 M, C, PM, PC: 600x600	8 passes Bk, Y, M, C, PM, PC: 4800x1200	16 passes Bk, Y, M, C, PM, PC: 4800x1200
Glossy Paper (GP-401)	No. of passes Resolution (dpi)			6 passes Bk, Y: 600x1200 M, C, PM, PC: 600x600	8 passes Bk, Y, M, C, PM, PC: 4800x1200	
Photo Paper Plus Glossy (PP-101)	No. of passes Resolution (dpi)			6 passes Bk, Y: 600x1200 M, C, PM, PC: 600x600	8 passes Bk, Y, M, C, PM, PC: 4800x1200	
Matte Photo Paper (MP-101)	No. of passes Resolution (dpi)			6 passes Bk, Y: 600x1200 M, C, PM, PC: 600x600	8 passes Bk, Y: 600x1200 M, C, PM, PC: 600x600	

3.3 Resolution in Duplex Printing

Paper type		Quality level 5	Quality level 4	Quality level 3	Quality level 2	Quality level 1
Plain paper	No. of passes Resolution (dpi)	1 pass Bk: 300x300 Y, M, C: 300x300	1 pass Bk: 300x300 Y, M, C: 300x300	2 passes Bk, Y: 600x1200 M, C: 600x600	6 passes Bk, Y: 600x1200 M, C, PM, PC: 600x600	

3.4 Resolution in Direct Printing

Paper type		Standard	High
Plain paper	No. of passes Resolution (dpi)	6 passes Bk, Y: 600x1200 M, C, PM, PC: 600x600	8 passes Bk, Y: 600x1200 M, C, PM, PC: 600x600
Photo Paper Pro (PR-101)	No. of passes Resolution (dpi)	8 passes Bk, Y: 600x1200 M, C, PM, PC: 600x600	8 passes *1 Bk, Y, M, C, PM, PC: 4800x1200
Photo Paper Plus Glossy (PP-101)	No. of passes Resolution (dpi)	8 passes Bk, Y: 600x1200 M, C, PM, PC: 600x600	8 passes Bk, Y, M, C, PM, PC: 4800x1200
Matte Photo Paper (MP-101)	No. of passes Resolution (dpi)	6 passes Bk, Y: 600x1200 M, C, PM, PC: 600x600	8 passes Bk, Y: 600x1200 M, C, PM, PC: 600x600

*1: Print mode at Bubble Jet Direct.

4. PHOTO DIRECT PRINT FUNCTION

4.1 Host PC Memory Card Access Function with the Memory Card Startup Utility

4.1.1 Supported memory cards

Media types compatible with the host computer memory card access function and Memory Card Direct Printing function are as follows:

- Compact Flash Card (CF1, CF2 [micro drive])
- Smart Media Card (5V, 1M and 2M are not supported.)*¹
- Memory Stick (Memory Stick PRO and Memory Stick PRO Duo are not supported.)*¹
- SD Card*¹ (For the miniSD memory card, an exclusive adapter is necessary.)
- Multimedia Card
- xD-Picture Card (An exclusive adapter is necessary.)

*¹ In the Memory Card Startup Utility, if Read/Write enabled mode is selected in “Change the drive’s read/write attribute”, the use of memory cards where the write protection is set to read-only mode is prohibited, and the operations are not assured.

4.1.2 Mounting the drive

Windows:

When the i900D/i905D is connected by USB cable to a host computer with the Memory Card Startup Utility installed, and the printer is powered on via the Power button, the card slot on the i900D/i905D is mounted in My Computer as a removable drive.

Macintosh:

When the i900D/i905D is connected by USB cable to a host computer with the Memory Card Startup Utility installed, and the printer is powered on via the Power button, and then a supported memory card is inserted, the card slot on the i900D/i905D is mounted on the desktop as a removable drive.

4.1.3 Arrangement of image files

Photo numbers are assigned in the order in which each photo was taken by a normal digital camera.

In a folder, a higher priority is placed on a file when the file name, not counting the file extension, consists of 8 characters with the latter 4 being numeric, in compliance with the DCF (Design rule for Camera File system). Files are sorted in ascending order of those 4 numeric figures.

4.1.4 Data access

For mounted cards in the i900D/i905D, data access to the memory card is possible by performing the usual file operations through the OS’s standard file control software (such as Explorer and Finder) and general software applications. (The same operations as with standard removable drives are possible: file reading, writing, deletion, media formatting, properties, etc.)

Note: In the Memory Card Startup Utility, when “Read Only” is selected in “Change the drive’s read/write attribute”, it is not possible to write, delete, and format the data. When Read/Write enabled mode is selected in “Change the drive’s read/write attribute”, the use of memory cards where the write protection is set to the Read Only mode is prohibited.

- Memory card-supported file format: FAT16 only
(It may be possible to read/write with memory cards formatted using FAT32, NTFS, Macintosh, etc., however they are out of specifications.)
- Change of the number of files in the operation panel
When files have been added or deleted via the computer to the memory card, or the card has been formatted, the number of files in the operation panel is not updated until the memory card is removed and re-inserted.
- Update of the image displayed in the LCD viewer
With the LCD viewer installed, when files have been added, deleted or updated from the computer to the memory card, or the card has been formatted, the image displayed in the LCD viewer is not updated until the memory card is removed and re-inserted.

4.1.5 Card slot attribute

The card slot attributes can be changed by operating the Memory Card Startup Utility on the host computer.

Card Slot Attribute	State
Read only	To protect the data on the memory card, writing to the memory card inserted in the card slot is prohibited. (Default setting)
Read/Write	Writing data to the memory card inserted in the card slot is allowed. (Use of memory cards where the write protection is set to the Read Only mode is prohibited.) In this attribute, printing from the memory card cannot be performed.

Note: When the memory card is inserted to the printer, this attribute cannot be changed.

The card slot attribute becomes Read only by soft power-on.

4.2 Memory Card Direct Printing Function

4.2.1 Print mode

Print all: Prints all images on the memory card.

Specify images: Specifies the number of copies to be printed per image. It is not possible to specify the layout such that multiple images are included in one page.

Print index: Prints a single select image. (Multiple copies can be specified.)

When printing to plain paper in Standard mode, a thumbnail image of the image file is enlarged. If the image file contains no thumbnail images, a full resolution image is enlarged to print.

Select layout: Selects a layout (containing multiple images in one page), and specify the image to be printed in the layout.

DPOF: Performs printing according to the DPOF setting in the memory card.

4.2.2 Print quality

In the Memory Card Direct Printing, two types of High or Standard print quality can be selected. For the resolution for each print quality, refer to 3. PRINT MODE.

4.2.3 Supported image formats

Images in the following formats can be selected when using direct printing:

DCF, CIFF, EXIF (JPEG, Tiff), EXIF-R98, JFIF

JPEG image compatibility with i900D/i905D:

Format: Baseline DCT

Pixel sampling: 4:4:4, 4:2:2, 4:2:0

Samples per pixel: 1 or 3

Maximum pixel size: Approx. 4,800(H) x 3,600(V)

TIFF image compatibility with i900D/i905D:

Format: RGB uncompressed or YCC uncompressed

Pixel composition: 8 bits each (for RGB and YCC)

Note: Non-supported images will not be printed, and the image skipped (not printed).

- When non-supported images are detected, "No images" is displayed on the LCD viewer.

- Examples of non-supported files (note, some files may be printed even out of the specifications):

TIFF (CMYK)

JPEG (CMYK)

TIFF (LZW compressed)

TIFF (JPEG compressed)

TIFF (ZIP compressed)

TIFF (over 5,000 pixels)

JPEG (over 5,000 pixels)

JPEG (Progressive)

JPEG (sampling ratio: 4:4:4)

TIFF (16 bit channel)

- Certain images cannot be printed although they are within image format specifications.

For an unknown reason, when a memory card containing partially-damaged data (detected by software such as ScanDisk as a “Bad Block”) is inserted, and printing is attempted, there is a possibility that printing as well as some key operations may not be possible. Rectifying the Bad Block in the applicable image files through file recovery software such as ScanDisk may correct the problem.

- Data in digital camera is processed on PhotoShop6.

When the original image file taken by the digital camera is processed on PhotoShop6, as PhotoShop6 leaves the thumbnail image in the original image file without deleting it, the following phenomena occur:

- > Pre-processed data is displayed on the LCD for a moment. (In the LCD specifications, if the thumbnail image exists in the image file, the thumbnail image is displayed, and then full resolution image is displayed.)
- > In Plain paper / Standard mode in Index printing, as printing is conducted using the thumbnail image, processed images are not printed. (In High quality mode, full resolution images are printed even the thumbnail images exist, therefore processed images are printed.) In PhotoShop5.5, as the thumbnail image is deleted after processing, the above phenomenon does not appear.

4.2.4 Supported file names

DOS Ver.6.2 compliance

Up to four hierarchies of files; ex. ¥aaa¥bbb¥ccc¥img.jpg, ¥aaa¥bbb¥ccc¥img.tif

- Length limitation: Up to 60 characters of name and directory name
- Extension: 3 characters (4 character extensions (JPEG/TIFF) are not supported.)

4.3 File Search

In the following explanation, “O” indicates files and directories to be searched, and “X” indicates files and directories excluded from searching.

Images to be searched are .jpg and .tif files within the 4th or less layer directories, including roots.

- O /xyz.jpg
- O /DCIM/110CANON/xxx.jpg
- O /ABCD/EFGH/IJKL/ xyz.jpg
- X /ABCD/EFGH/IJKL/MNOP/ xyz.jpg

However, the following files are excluded from searching.

- (1) Hidden files, and files under hidden directories
- (2) Files and sub-directories with top three characters of THM, under PWRSHOT, DCIM, or DC97 directories

- X /PWRSHOT/THM00001.jpg
- X /DCIM/THM00002.tif
- X /DC97/THM00003.jpg
- X /DCIM/ABCD/THM00004.tif
- X /ABCD/DCIM/THM00005.jpg
- X /ABCD/DCIM/EFGH/THM00006.jpg
- X /ABCD/DCIM/THMA/IMG00006.jpg

- (3) RECYCLED directory (Windows)

- X /RECYCLED
- X /ABCD/RECYCLED

- (4) TRASH directory (Mac OS)

- X /TRASH
- X /ABCD/TRASH

- (5) RESOURCE.FRK directory (Mac OS)

- X /RESOURCE.FRK
- X /ABCD/RESOURCE.FRK

- (6) Other directories (including sub-directories)

- X MOVE&RENAME
- X THEVOLUMESETTINGSFOLDER

4.4 File Sort

Full pathnames ("/DCIM/100CANON") are sorted in alphabetical order.

If there are six directories;

"/";"/CUSTOM";"/FREE";"/DCIM/100CANON";"/DCIM/101CANON";"/DC97/CTG_0020", they are sorted in the following order:

"/" -> "/CUSTOM" -> "/DC97/CTG_0020" -> "/DCIM/100CANON" -> "/DCIM/101CANON" -> "/FREE"

<File name sorting specifications>

Files specified in the DCF (Design rule for Camera File system) standards ("the file name with 8 characters excluding the extensions, and with the latter 4-digit figures") are sorted to the top of the list by priority.

Also, DCF files are sorted using the last 4-digits, which are recognized as a number, and sorted in ascending order. For non- DCF files, if the file name includes numbers, they are recognized as numbers, and are sorted in ascending order also.

Sorting is preformed for each directory.

As the i900D/i905D can work with up to 999 files, the 1,000th file and later are not sorted.

Detailed sorting specifications are as follows:

File order is determined using the rules in the following order to sort from Low to High in ascending order:

A. When one is a DCF file, and the other is a non-DCF file, the DCF file is low.

eg. IMG_0001.JPG < IMG_FILE.JPG

B. When both files are DCF files,

B-1. The last 4-digits (numbers) of each file name are recognized as a number, with the smaller number Low.

eg. IMG_0001.JPG < IMG_0002.JPG

IMG_0005.JPG < 07240010.JPG (The latter figures are 0005 and 0010.)

B-2. When the result of the comparison in B-1 above is the same, the files are then sorted in alphabetical order.

eg. ABC_0001.JPG < ABD_0001.JPG

IMG_0001.JPG < IMG_0001.TIF (J is "lower" T.)

C. When both files are non-DCF files,

C-1. From the beginning of the file name, the position of first number is deleted, sorting by distance in ascending order..

eg. IMG001.JPG < IMG_001.JPG

C-2. When the result of the comparison in C-1 above is the same, numbers are sorted in ascending order.

eg. IMG001.JPG < ABC002.JPG

C-3. When the result of the comparison in C-2 above is the same, the length of the numerical string is sorted in ascending order.

eg. IMG001.JPG < ABC0001.JPG (The length of the former is 3, and the latter is 4.)

C-4. When the result of the comparison in C-3 above is the same, the next character is recognized as the top of the file name, and the process returns to C-1.

eg. A_1_3_.JPG < A_1_3_1.JPG (as the results of the comparison in the first (1) and second (3) loops are the same, in the third loop, the distance to the next number is 0.)

C-5. When the result of repetition from C1 to C4 is the same, the files are sorted in alphabetical order, as in B-2.

eg. A_1_2.JPG < A_1_2.TIF

4.5 Date Print

It is possible to print the date in the following three patterns, or to not print the date.

MM/DD/YYYY

DD/MM/YYYY

YYYY/MM/DD

However, in DPOF mode, the DPOF setting is used.

For the date layout and size, refer to the print layout.

The date data to be used in date print are as follows:

Print Mode	Exif file or non-Exif file	Date data to be printed
DPOF mode	-	Date in the DPOF file
Non-DPOF mode	Exif file: Creation date of the image data exists.	Date when the Exif file was created
	Non-Exif file	Updated date of the file system

4.6 Bubble Jet Direct Function

The following applies when the printer is connected to a Bubble Jet Direct-supported digital cameras.
For PictBridge functionality, refer to 4.7 PictBridge Function.

4.6.1 Print mode

In Digital Camera Direct Printing, the following print modes are selectable.

- Easy print: Printing of images during reproduction of single frame or index.
 Standard printing only.
- DPOF print: Printing with DPOF printing settings.
 Standard and index printing can be set.

4.6.2 Media type

Media types that can be printed in the Digital Camera Direct Printing are as follows:

When the language setting on the digital camera is not set to Japanese. (Default)

(Media types for overseas destinations are identical, however the panel display differs depending on the languages. The following is the display of US English.)

Paper setting in digital camera operation panel	i900D / i905D
Card#1	Photo Paper Pro 4"x6" (PR-101 4"x6")
Card#2	Glossy Photo Plus 4"x6" (SP-101 4"x6")
Card#3	Photo Paper Plus 5"x7" (PC-101 C with perforation)
LTR	Photo Paper Pro Letter (PR-101 LTR)
A4	Photo Paper Pro A4 (PR-101 A4)

When the language setting on the digital camera is set to Japanese

When the language setting on the digital camera is not set to Japanese, media types that can be printed change.

Paper setting in digital camera operation panel	i900D / i905D
L	Professional Photo L (PR-101 L)
2L	Professional Photo 2L (PR-101 2L)
Postcard	Professional Photo postcard (PH-101)
A4	Professional Photo A4 (PR-101)
Card	Professional Photo card (PC-101 C with perforation)

4.6.3 Print layout

Print layout can be set to Border or Borderless in the digital camera operation panel.

Easy print:

- Borderless: 1 photo (2 photos in case of Card size)
- Border: 1 photo (2 photos in case of Card size)

DPOF print:

Standard:

- Borderless: 1 photo (2 photos in case of Card size)
- Border: 1 photo (2 photos in case of Card size)

Index Print:

- Same as Index mode of Memory Card Direct Printing.

4.6.4 Print quality

No. of passes:	8 passes
Resolution:	Bk, Y, M, C, PM, PC: 4,800 dpi x 1,200 dpi
Bk/Y:	5 pl
M/C/PM/PC:	5 pl /2 pl (mixed)

4.6.5 Image correction function

Exif2.2 files are processed with Photo Optimizer PRO, and for other files, image correction is not implemented.

Not selectable by users.

4.6.6 Maintenance

Maintenance operation of the i900D/i905D via the digital camera's operation panel is not possible.

Maintenance operations are possible through the operation panel of the i900D/i905D printer even when connected to a digital camera.

4.6.7 Print date

Dates can be printed by switching the date setting on the digital camera's operation panel to "ON".

Dates cannot be printed in index printing of DPOF print mode.

4.6.8 Copies

The number of prints can be specified in both Easy Print and DPOF Print modes via the digital camera's operation panel.

4.7 PictBridge Function

The following applies when the printer is connected to a PictBridge-supported digital camera.
For Bubble Jet Direct functionality, refer to 4.6 Bubble Jet Direct Function.
For other companies' digital cameras, refer to the camera's manual.

4.7.1 Print mode

In Digital Camera Direct Printing, only the single frame reproduction print mode is selectable.

4.7.2 Media type

Media types that can be printed in the Digital Camera Direct Printing are as follows:

Paper setting in digital camera operation panel	i900D / i905D
Standard	Depending on the printer setting
Photo	Photo Paper Plus Glossy
High-quality photo	Photo Paper Pro

4.7.3 Print layout

Print layout can be set to Border or Borderless in the digital camera operation panel.

However, bordered printing with L size / 8.9 x 25.4 cm, and borderless printing with plain paper cannot be performed.

4.7.4 Print quality

Print quality can be set to Standard or High.

For resolution by each print mode, refer to 3. PRINT MODE.

4.7.5 Image correction function

The following four correction functions may not be selectable by users, in some cases.

- ViVid
- ViVid + noise reduction
- Noise reduction
- APP ON/OFF

4.7.6 Maintenance

Maintenance operation of the i900D/i905D via the digital camera's operation panel is not possible.

Maintenance operations are possible through the operation panel of the i900D/i905D printer even when connected to the digital camera.

4.7.7 Print date

Dates can be printed by switching the date setting on the digital camera's operation panel to "ON".

4.7.8 Copies

The number of prints can be specified via the digital camera's operation panel.

4.7.9 Digital camera's standard setting

For the PictBridge-supported digital cameras, the Standard Setting is selectable in the following settings:

Possible Standard Setting	Dependency on the printer	Setting at Printer Shipment
Paper size	Depending on the printer setting	L size
Paper type	Depending on the printer setting	Photo Paper Plus Glossy
Layout	Depending on the printer setting	Borderless
Image correction	Depending on the printer setting	ExifPrint
Print date	Depending on the digital camera	Date not printed

4.8 Exclusive Processes

4.8.1 Exclusive processes in Memory Card Direct Printing and Digital Camera Direct Printing

As it is impossible to simultaneously process Memory Card Direct Printing and Digital Camera Direct Printing, the following actions are taken:

When the digital camera is connected via the digital camera connection cable:

Memory Card Direct Printing settings and operation are not possible. Setting items are not displayed in the operation panel, and the print start key is invalid.

“Digital camera connected.” is displayed on the LCD viewer.

When direct printing from the memory card:

Digital Camera Direct Printing is impossible. (Setting in the digital camera is possible.) If Digital Camera Direct Printing print operations are attempted, an error is displayed in the digital camera.

4.8.2 Exclusive process control between direct printing and printing from the host computer

As it is impossible to simultaneously process direct printing from memory cards or digital cameras and printing from the host computer, the following actions are taken:

When printing from the host computer:

Memory Card Direct Printing and Digital Camera Direct Printing are impossible. (Setting is possible.)

At the start of direct printing operations, an error is displayed in the operation panel of the digital camera.

In Memory Card Direct Printing and Digital Camera Direct Printing:

Printing from the host computer is impossible. (Print setting on the host computer is possible.) At the start of print operations from the host computer, an error is displayed in the host computer.

4.8.3 Exclusive processes in host computer memory card access and Memory Card Direct Printing

Writing of data from the host computer to the memory card, while reading image data from the memory card for direct printing is conducted as follows in order to avoid overwriting the image being printed in Memory Card Direct Printing, via the host computer.

When direct printing from the memory card:

Writing data from the host computer to the memory card is not possible. (Reading of data is possible.)

An error is displayed in the host computer at the start of data writing operations.

When writing data from the host computer to the memory card*:

Direct printing from the memory card is not possible. Even if the print start key is pressed, printing will not start.

*To write data from the host computer to the memory card, the mode needs to be changed to the Read/write mode, using the Memory Card Utility.

4.9 LCD Viewer

The i900D/i905D LCD viewer is a 2.0 inch (176 x 128 pixel, 65,000 colors) color LCD, and realizes two functions: image display and operation display with the operation panel.

Operations are carried out by the user selecting the desired menu item from within a nested menu displayed on the LCD viewer, and by pressing the OK button, proceeding with the next step.

During the process, if an image needs to be selected, it can be displayed on the LCD viewer, and the selected image can be changed by using the left and right cursor buttons.

To protect the LCD viewer and preserve the backlight life, when no key operation has occurred for five minutes, the LCD viewer is powered off. When any key other than the Power and Resume buttons is pressed with the LCD backlight off, the LCD viewer turns on, however the original function of the key is invalid.

The content displayed on the LCD viewer changes depending on the user's operation.

Eg. When printing is being performed from the PC, the LCD viewer displays "Printing from the computer", when a digital camera is connected, the LCD shows the printer status by displaying "Digital camera connected", and when an error occurs during printing, such as the paper out error, the LCD shows the error by displaying "No paper. Load paper and press Resume".

When Card Direct Printing is performed, the LCD viewer becomes the operation display of the operation panel.

4.10 Card Slot-related Operations and Display

4.10.1 Timing and precautions when removing the memory card

The following timing and precautions are suggested to protect the memory card data.

- Remove the memory card while the Access lamp is not lit. (If the memory card is removed while the Access lamp is blinking or on, the data on the card is not assured.)
- When the printer is not connected to a host computer, power off the printer with the Power button and after the Access lamp is not lit, remove the memory card.
- Remove the memory card together with the adapter, not the memory card only.
- When the printer is connected to the host computer, from the host computer, select "Eject disk" to turn the Access lamp off, and then remove the memory card. (Turning off the printer also turns off the Access lamp, however, the incorrect disk removal warning message may be displayed in the connected host computer.)

When using Windows, and the memory card drive is displayed in Explorer, close the window prior to removing the memory card. (If the window is not closed prior to removing the memory card, the following phenomenon will appear in the host computer.)

WindowsMe/98: A blue background screen appears. This can be recovered by following the instructions in the display.

Windows2000/XP: A warning is displayed, and the "Eject disk" operation cannot be executed.

4.10.2 Power supply/cut to the memory card

1) Power supply to the memory card

When any of the following events occurs, the memory card detection process starts, and if an accessible memory card is recognized, power supply to the memory card starts. (The Access lamp lights.)

- a. When a memory card is inserted into the card slot while the printer is on.
- b. When the printer is powered on while a memory card is in the card slot.
- c. When the USB bus is reset while the printer is on with a memory card in the card slot. (When the host computer is already on, and is connected to the printer via USB, or when the host computer is restarted.)

2) Power cut to the memory card

When any of the following events occur, power supply to the memory card is cut. (The Access lamp turns off.)

- a. When the printer is turned off by pressing the Power button.

However, power is supplied in the following instances even if the printer is not on:

- From the time that a memory card not-removable command is received from the host computer until a removal permission command is received, or the USB cable is disconnected.
- From the time that a writing command is received from the host computer to the memory card until writing is completed.
- b. When the memory card is removed from the card slot by pressing the Eject Button.
- c. When the following "Memory card removal command" is implemented on the connected host computer.

4.10.3 Memory card removal command from the host computer

When the following operation is performed on the host computer, it is detected that the memory card removal command has been implemented, and power supply to the memory card is cut.

Windows: Click the drive icon and right-click the mouse button to select "Remove", or select "Eject the memory card" from the Memory Card Startup Utility.

Macintosh: Drag the drive icon to the trash, select "Removal" from the "Special" menu, or select "Eject the memory card" from the Memory Card Startup Utility.

4.10.4 Writing to the memory card from the host computer

When writing to (addition, deleting or refreshing) the memory card from the host computer, the print mode settings are returned to default.

4.11 DPOF Settings in the Memory Card Direct Printing Function

4.11.1 Supported DPOF functions

DPOF Ver. 1.0 is supported.

The following essential functions as a DPOF printer are supported.

- Standard printing
- No. of copies to be printed (1 page)
- Image format (CIFF, EXIF (JPEG), JFIF)
- Designation of images to be printed (relative path name)

The following optional functions as a DPOF printer are supported.

- Index printing
- No. of copies to be printed (2 pages or more)
- Image format (EXIF (TIFF))
- Printing of designated characters (dates, photo numbers)

If both dates and photo numbers are selected, one of the two will be printed.

Note: The CMT value indicating the comment and image title is not supported.

The following optional functions as a DPOF printer are not supported.

- Image format (FlashPix)
- Designation of paper types
- Trimming
- Rotation of images

4.11.2 Print specifications in DPOF print mode

Photo number designation: Only photos designated in the DPOF file can be printed, and designation via the operation panel is impossible.

Paper type: The paper type can be selected from the operation panel.

Layout: Images designated for Standard printing in the DPOF file are printed in the designated order in the layout designated through the operation panel.
Images designated for index printing will be printed using the printer's index layout, regardless of the specified layout.

No. of copies to be printed: The number of copies cannot be designated from the operation panel. Only the number of copies designated in the DPOF file is printed.

Image correction: Automatic image correction can be designated from the operation panel.

Quality: The print quality can be designated from the operation panel.

Date print: Date print cannot be designated from the operation panel in DPOF mode, and printing is implemented using the file's DPOF settings. Date formats are dependent on the digital camera.

4.12 Print Layout (Details)

4.12.1 Selectable layout in Memory Card Direct Printing

- Index printing

Selectable in combination with all i900D/i905D-supported paper sizes and types.

- Layout printing (multiple layouts)

Selectable in combination with all i900D/i905D-supported paper sizes and types.

However, plain paper with borderless (2 photos with borderless, 4 photos with borderless, 8 photos with borderless, postcard with borderless) is not selectable.

- Other single frame printing (= single image / page)

Selectable in combination with all i900D/i905D-supported paper sizes and types.

However, plain paper with borderless is not selectable.

4.12.2 Selectable layout in Digital Camera Direct Printing

When the language setting on the digital camera is not set to Japanese.

(Media types for overseas are all the same, however the panel display differs depending on the languages. The following is the display of US English.)

Media Type	Standard		Index
	Borderless	Border	-
Card#1 (Photo Paper Pro 4"X6")	O (1 photo)	O (1 photo)	O (24 photos)
Card#2 (Photo Paper Plus Glossy 4"x6")	O (1 photo)	O (1 photo)	O (24 photos)
Card#3 (Photo Paper Plus Glossy 5"x7")	O (1 photo)	O (1 photo)	O (35 photos)
LTR (Photo Paper Pro Letter)	O (1 photo)	O (1 photo)	O (80 photos)
A4 (Photo Paper Pro A4)	O (1 photo)	O (1 photo)	O (80 photos)

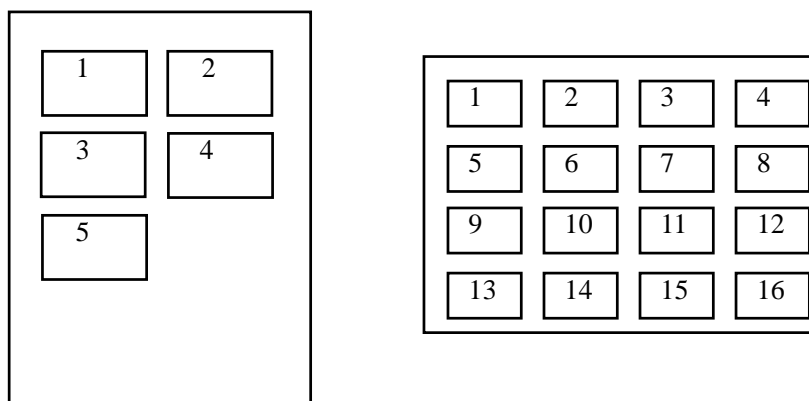
When the language setting on the digital camera is set to Japanese

Media Type	Standard		Index
	Borderless	Border	-
L (Professional Photo L)	O (1 photo)	O (1 photo)	O (15 photos)
2L (Professional Photo 2L)	O (1 photo)	O (1 photo)	O (35 photos)
Postcard (Professional Photo postcard)	O (1 photo)	O (1 photo)	O (24 photos)
Card (Professional Photo card)	O (2 photos)	O (2 photos)	O (6x2 photos)
A4 (Professional Photo A4)	O (1 photo)	O (1 photo)	O (80 photos)

4.12.3 Layout in Memory Card Direct Printing

Layout of multiple images is arranged as shown below.

- Images are arranged horizontally, from left to right, top to bottom.

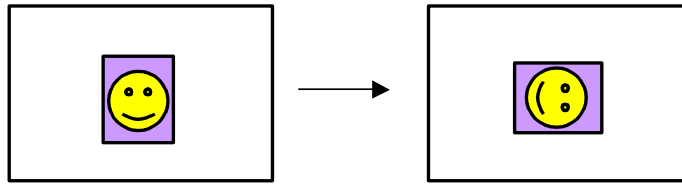


- When the number of photos designated requires less space than the layout provides, nothing is printed in the remaining spaces.

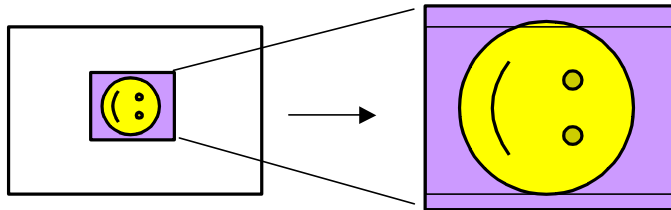
4.12.4 Layout and image size

Processing in borderless printing (including 2 photos / 4 photos / 8 photos / postcard with borderless)

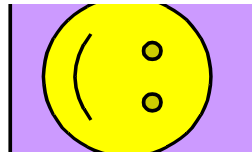
- 1) Rotate the image data by 90 degrees (if necessary) to align the long edges of the image with those of the paper (or perforated lines).



- 2) Enlarge (or reduce) the image data in the same magnification of portrait and landscape so as to align either the long or short edges of the image with those of the paper (or perforated lines), so that blank space in the paper (inside the perforated line) is completely eliminated.



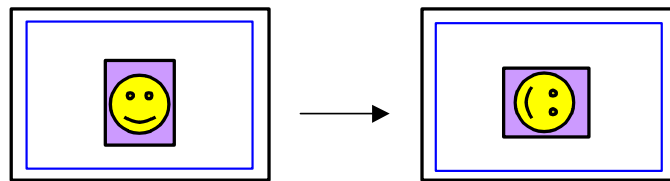
- 3) Any image data extending beyond the printing area will be cut off and not printed. (The discarded image data will be equally divided between top and bottom, or left and right.)



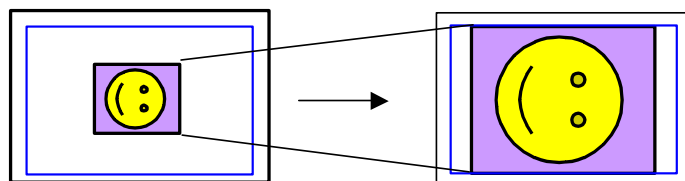
Note: As printing of the image is performed to an area 5 mm larger than that of the paper size, the perimeter of the image is further trimmed by a few millimeters.

Processing in printing in print area without image trimming

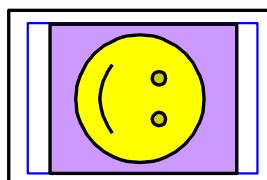
- 1) Rotate the image data by 90 degrees (if necessary) to align the long edge of the image data with that of the paper (or perforated lines).



- 2) Enlarge (or reduce) the image data in the same magnification proportions so as to align either the long or short edges of the image with those of the print area (blue line), so that no image data is discarded.



- 3) The area without any image data will be blank. (Empty areas will be equally divided between left and right, or top and bottom.)



4.13 Date Print Specifications

4.13.1 Date print in Memory Card Direct Printing

1) Settings and data format

Printing in DPOF (Index and Standard) mode:

When date print is set to ON in the DPOF settings, the date is printed using the character strings in the DPOF settings, regardless of the date setting in the printer's operation panel.

Printing in other modes:

When the date setting is selected from the Date tab in Settings on the operation panel, the date information in the file is printed in the following order:

Year (four digits). Month (two digits). and Date (two digits) (with date elements separated by slashes)

Ex. 2002/10/25

10/25/2002

2) Print location, color and size

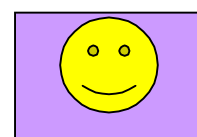
Printing in Index mode:

Location: Below the image (under the photo number)

Color: Black

Size: Fixed size

Index mode



001

2002/10/25

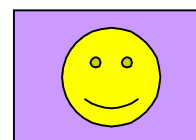
Printing in DPOF (Index) mode:

Location: Below the image

Color: Black

Size: Fixed size

DPOF



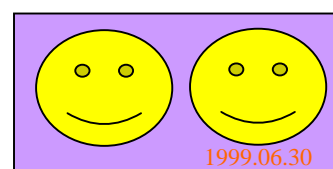
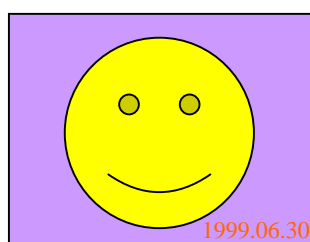
2002/10/25

Printing in DPOF (Standard) and other modes:

Location: Lower right, in the image (In images with an aspect ratio other than 4:3, the date is moved such that the relative distance from the lower right to the image date is the same as when a 4:3 ratio is used.)

Color: Orange

Size: According to the layout.



4.13.2 Date print in Digital Camera Direct Printing

1) Settings and data format

When date print is set in the digital camera, the date is printed using the character strings sent by the digital camera. However, in the DPOF mode index printing using the digital camera, the date will not be printed, regardless of the settings.

2) Print location, color and size

Printing in easy print and DPOF (Standard) modes:

Location: Lower right, in the image (In images with an aspect ratio other than 4:3, the date is moved such that the relative distance from the lower right to the image date is the same as when a 4:3 ratio is used.)

Color: Orange

Size: According to the layout.

Printing in DPOF (Index) mode:

Date is not printed, even when set in the digital camera's DPOF settings.



4.14 Photo Number Printing Specifications

4.14.1 Photo number printing in Memory Card Direct Printing

1) Data format

Printing in Index mode:

Photo number (4-digit number displayed on the operation panel) is printed. (Printed without exception)

Printing in DPOF (Index and Standard) mode:

When the file number print is set to ON in the DPOF settings, the file number character string set in the DPOF settings is printed, as is. (However, when date print is selected, the file number will not be printed.)

Printing in other modes:

The photo number will not be printed.

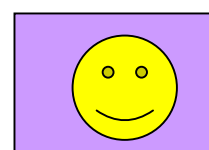
Printing in Index mode:

Location: Below the image (Above the date)

Color: Black

Size: Fixed size

Index mode
Index printing



0001

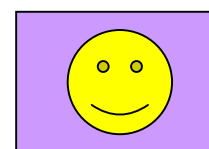
Printing in DPOF (Index) mode:

Location: Below the image

Color: Black

Size: Fixed size

DPOF mode
Index printing



102-0229

Printing in DPOF (Standard) mode:

Location: Lower right, in the image (outside depending on the shape of the image)

Color: Orange

Size: According to the image size.

DPOF mode
Standard printing



102-0229

Printing in other modes:

The photo number will not be printed.

4.14.2 Photo number printing in Digital Camera Direct Printing

1) Data format

The photo number will not be printed, even when set in the DPOF settings.

2) Print location, color and size

The photo number will not be printed.

5. FAQ (Specific Problems and Solutions)

No.	Occurrence level*	Function	Symptom	Condition	Cause	Solution	Possible call or complaint
1.	B	Paper feeding	No paper feeding	- Plain paper (A4-/LTR-/LGL-sized heavy paper, such as Brilliant White Paper) - When many sheets are set.		- Reduce the number of sheets set in the sheet feeder, to below half the reference mark.	- Paper does not feed. - No paper error (operator call error) - The printer does not respond.
2.	B	Print results	Contact of the paper's trailing edge to the print head	- Plain paper - Paper conditions (curled)	If paper is curled (with the edges upward), the trailing edge will contact the print head.	- Straighten the paper. - Increase the space between the paper and the print head (Prevent paper abrasion).	- Printout is smeared. - Lines or streaks appear on printouts.
3	Specifications	Print results	Different paper size, paper type and layout at printing from a PictBridge-supported digital camera	The following settings are set to Standard in the digital camera, at Direct Printing from the PictBridge-supported camera - Paper size - Paper type - Layout	For items set to Standard, the printer settings become valid.	Change the settings in the camera or the printer to meet the purpose.	- Print size is large/small. - Print quality is poor. - Layout cannot be set as intended.

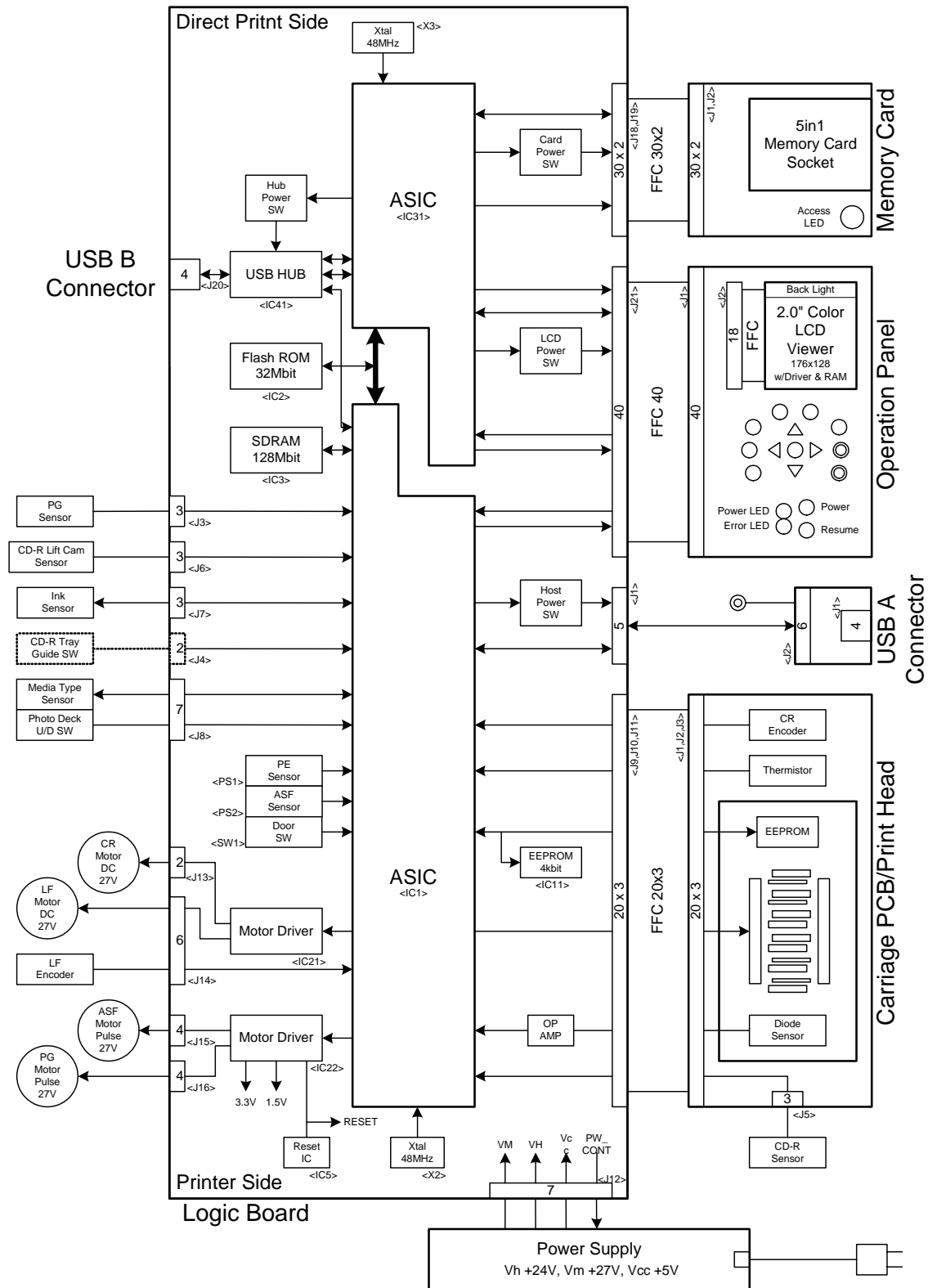
* Occurrence level:

- A: The symptom is likely to occur frequently. (Caution required)
- B: The symptom may occur under certain conditions, but likeliness is assumed very low in practical usage.
- C: The symptom is unlikely to be recognized by the user, and no practical issues are assumed.

Part 3

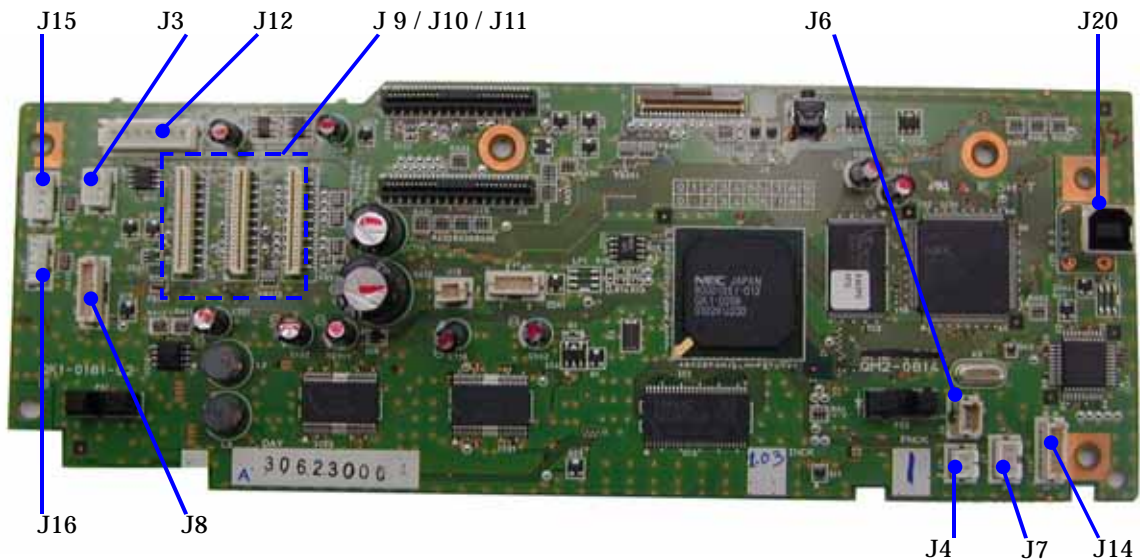
APPENDIX

1. BLOCK DIAGRAM



2. CONNECTOR LOCATION AND PIN LAYOUT

2.1 Logic Board Ass'y



J1 (Camera Direct I/F)

No.	Signal name	Function
1	PWR	VBUS power supply
2	D-	D- signal
3	D+	D+ signal
4	GND	GND
5	F-GND	Frame GND

J3 (Purge Sensor [Purge Unit])

No.	Signal name	Function
1	VSEN_3.3V	Sensor power supply
2	GND	GND
3	SNS_PG	Purge sensor

J4 (CD-R Tray Feeder SW [Platen Unit])*¹

No.	Signal name	Function
1	GND	GND
2	SNS_CDR_G	CD-R tray feeder sensor

*¹: CD-R printing-supported model (i905D only)

J6 (Lift Cam Sensor [Photo Interrupter])

No.	Signal name	Function
1	VSEN_3.3V	Sensor power supply
2	GND	GND
3	SNS_LIFT_UP	CD-R lift-up sensor

J7 (Ink Sensor [Platen Unit])

No.	Signal name	Function
1	+5_PD	Sensor power supply
2	GND	GND
3	INKS	Ink sensor

J8 (Media Sensor [Sheet Feeder Unit])

No.	Signal name	Function
1	NC	Unused
2	MS_PWM	Sensor power supply
3, 6	GND	GND
4	SNS_MEDIA1	Media sensor
5	SNS_MEDIA2	Media sensor
7	SNS_PD_U/D	Photo paper tray sensor

J9 (Print Head 1/3 [Carriage Unit])

No.	Signal name	Function
1 to 10	HVH	Head drive 24V power supply
11, 12	HVDD	Head logic power supply
13	H_ENB3(COL_S)	Heat enable (COL)
14	H_ENB0(BK)	Unused
15	H_ENB1(COL)	Heat enable (COL)
16	H_ENB2(COL)	Heat enable (COL)
17	VSEN_CDRS	CD-R printing sensor power supply
18	VSEN_3.3V	Sensor power supply
19, 20	LOGIC_GND	Logic GND

J10 (Print Head 2/3 [Carriage Unit])

No.	Signal name	Function
1	DIA0	Unused
2, 3, 11	LOGIC_GND	Logic GND
4	H_EEPROM_CS	Head EEPROM chip select
5	H_EEPROM_SK	Head EEPROM serial clock
6	H_EEPROM_DIO	Head EEPROM serial data
7	THERMO	Thermistor signal
8	SNS_CDR_P	CD-R printing sensor
9	CR_ENCB	Carriage encoder signal phase B
10	CR_ENCA	Carriage encoder signal phase A
12 to 20	HEAD_GND	Head GND

J11 (Print Head 3/3 [Carriage Unit])

No.	Signal name	Function
1	BK_1	BK1 serial data
2	BK_2	BK2 serial data
3	C_1	C1 serial data
4	SC_1	SC1 serial data
5	SM_1	SM1 serial data
6	M_1	M1 serial data
7	PBK_1	PBK1 serial data
8	PBK_2	PBK2 data latch
9	Y1	Y1 serial data
10	Y2	Y2 serial data
11, 12, 19	LOGIC_GND	Logic GND
13	SM_2	SM2 serial data
14	M_2	M2 serial data
15	SC_2	SC2 serial data
16	C_2	C2 serial data
17	H_LATCH	Data latch enable
18	H_CLK	BK1 serial data
20	DIA1	Head temperature sensor anode

J12 (AC Adapter)

No.	Signal name	Function
1	VH	Head power 24V supply output
2	H-GND	Head output GND
3	VM	Motor power 27V supply output
4	M-GND	Motor output GND
5	VCC	Logic power supply output 5.0V
6	S-GND	Logic power supply GND
7	LOE_PW_CONT	Power consumption control signal

J13 (Carriage Motor)

No.	Signal name	Function
1	CRA	CR motor phase A
2	CRB	CR motor phase B

J14 (Paper Feed Motor & Timing Sensor Unit)

No.	Signal name	Function
1	LFA	LF motor phase A
2	LFB	LF motor phase B
3	GND	GND
4	LF_ENCA	LF encoder phase A
5	VSEN_3.3V	Sensor power supply
6	LF_ENCB	LF encoder phase B

J15 (ASF Motor [Sheet Feeder Unit])

No.	Signal name	Function
1	ASFA	ASF motor phase A
2	ASFB	ASF motor phase <u>B</u>
3	ASFAN	ASF motor phase <u>A</u>
4	ASFBN	ASF motor phase B

J16 (Purge Motor [Purge Unit])

No.	Signal name	Function
1	PGA	PG motor phase A
2	PGB	PG motor phase <u>B</u>
3	PGAN	PG motor phase <u>A</u>
4	PGBN	PG motor phase B

J18 (Memory Card Connector 1/2 [Card Slot Unit])

No.	Signal name	Function
1	SD-SWX	SD card detection
2	INSX	Memory Stick detection
3	SM-SWX	SmartMedia Card detection
4	BVD1	Voltage detection
5	BVD2	Voltage detection
6	REGX	Resistor select
7	INPACX	Card response
8	WAITX	Wait
9, 11, 27, 28, 29, 30	GND	GND
10	RESET	Reset signal
12	RDY/BSY/IRQX	Ready/Busy/Interruption request
13	WEX	Write enable
14	IOWRX	I/O write enable
15	IORDX	I/O read enable
16	VS1X	Power supply sensor
17	CE2X	Chip enable
18	CD1X	Card detection
19	CD2X	Card detection
20	WP/IOIS16X	Write protect
21	OEX	Output enable
22	OE1X	Output enable
23	LED0-A	LED anode input
24	LED0-K	LED cathode output
25,26	VCC	Logic power supply

J19 (Memory Card Connector 2/2 [Card Slot Unit])

No.	Signal name	Function
1, 13, 30	GND	GND
2 to 12	CFA0 to 10	24 bit data bus
14 to 29	CFA0 to 15	16 bit data bus

J20 (USB I/F)

No.	Signal name	Function
1	VCC	VBUS power supply
2	D-	D- signal
3	D+	D+ signal
4	GND	GND
5 to 9	F-GND	Frame GND

J21 (Operation Panel Unit)

No.	Signal name	Function
1	LED-SHDNX	LCD_LED enable
2	LED-V	LED output for LCD
3	VDD	LCD power supply
4, 5	VSS	LCD GND
6 to 13	DB7 to 0	LCD data bus
14	RDB	Select data read/write
15	WRB	Active data read/write
16	RS	Resistor select
17	RSTB	Reset
18	CS1B	Chip select
19, 32	PSW_GND	Panel switch GND
20 to 31	PSW00 to 11	Panel switch input
33	LED_SW_BL	Print LED
34	PSW_RSM	Resume switch
35	LED_RSM	Resume LED output
36	LED_POW	Power LED output
37	PSW_POW	Panel power switch
38	+3V_LED	LED power supply
39	LED_TURBO	Turbo viewer LED output
40	PSW_TURBO	Turbo viewer switch

2.2 USB I/F Board (DCC Cover Unit) for Camera Direct Printing**J1 (USB-A Connector [Camera Direct I/F])**

No.	Signal name	Function
1	VCC	Cable power supply
2	D-	Differential data signal
3	D+	Differential data signal
4	GND	Cable power supply GND

J2 (Logic Board I/F Connector [Logic Board])

No.	Signal name	Function
1	PWR	Cable power supply
2	D-	Differential data signal
3	D+	Differential data signal
4	GND	Cable power supply GND
5, 6	F-GND	GND (unused)

2.3 Operation Panel Board

J1 (Logic Board I/F Connector [Logic Board])

No.	Signal name	Function
1	TURBO_SW	Turbo viewer switch
2	TURBO_LED	Turbo viewer LED output
3	LCD_VDD	LCD logic power supply
4	POWER_SW	Panel power switch
5	POWER_LED	Power LED output
6	RESUME_LED	Resume LED output
7	RESUME_SW	Resume switch
8	PRINT_LED	Print LED output
9, 22	PANEL_GND	Panel GND
10	PANEL_SW11	Panel switch input
11	PANEL_SW10	Panel switch input
12	PANEL_SW9	Panel switch input
13	PANEL_SW8	Panel switch input
14	PANEL_SW7	Panel switch input
15	PANEL_SW6	Panel switch input
16	PANEL_SW5	Panel switch input
17	PANEL_SW4	Panel switch input
18	PANEL_SW3	Panel switch input
19	PANEL_SW2	Panel switch input
20	PANEL_SW1	Panel switch input
21	PANEL_SW0	Panel switch input
23	LCD_ECSB1	Chip select
24	LCD_ERSTB	Reset
25	LCD_ERS	Resistor select
26	LCD_EWRB	Active data read/write
27	LCD_ERDB	Select data read/write
28	LCD_DB7	LCD data bus
29	LCD_DB6	LCD data bus
30	LCD_DB5	LCD data bus
31	LCD_DB4	LCD data bus
32	LCD_DB3	LCD data bus
33	LCD_DB2	LCD data bus
34	LCD_DB1	LCD data bus
35	LCD_DB0	LCD data bus
36, 37	LCD_VSS	LCD GND
38	LCD_VDD	LCD logic power supply
39	LCD_LED_V	LCD_LED power supply
40	LCD_VDD_SHDNX	LCD_LED enable

J2 (LCD Connector [LCD Viewer Unit])

No.	Signal name	Function
1	LED_SHDNX	LCD_LED enable
2	LED_V	LCD_LED power supply
3	VDD	LCD logic power supply
4, 5	VSS	GND
6	DB7	LCD data bus
7	DB6	LCD data bus
8	DB5	LCD data bus
9	DB4	LCD data bus
10	DB3	LCD data bus
11	DB2	LCD data bus
12	DB1	LCD data bus
13	DB0	LCD data bus
14	RDB	Select data read/write
15	WRD	Active data read/write
16	RS	Resistor select
17	RSTB	Reset
18	CS1B	Chip select

2.4 Memory Card Board**J1 (Logic Board I/F Connector 1/2 [Logic Board])**

No.	Signal name	Function
1, 18, 30	GND	GND
2	CFD15	16 bit data bus
3	CFD14	16 bit data bus
4	CFD13	16 bit data bus
5	CFD12	16 bit data bus
6	CFD11	16 bit data bus
7	CFD10	16 bit data bus
8	CFD9	16 bit data bus
9	CFD8	16 bit data bus
10	CFD7	16 bit data bus
11	CFD6	16 bit data bus
12	CFD5	16 bit data bus
13	CFD4	16 bit data bus
14	CFD3	16 bit data bus
15	CFD2	16 bit data bus
16	CFD1	16 bit data bus
17	CFD0	16 bit data bus
19	CFA10	24 bit address bus
20	CFA9	24 bit address bus
21	CFA8	24 bit address bus
22	CFA7	24 bit address bus
23	CFA6	24 bit address bus
24	CFA5	24 bit address bus
25	CFA4	24 bit address bus
26	CFA3	24 bit address bus
27	CFA2	24 bit address bus
28	CFA1	24 bit address bus
29	CFA0	24 bit address bus

J2 (Logic Board I/F Connector 2/2 [Logic Board])

No.	Signal name	Function
1, 2, 3, 4, 20, 22	GND	GND
5,6	VCC	Logic power supply
7	ACCESS_LED_K	Card access LED cathode
8	ACCESS_LED_A	Card access LED anode
9	CE1X	Chip enable
10	OEX	Output enable
11	WP/IOIS16X	Write protect / 16 bit input/output
12	CD2X	Card detection
13	CD1X	Card detection
14	DE2X	Card enable
15	VS1X	Voltage sensor
16	IORDX	Read strobe input/output
17	IOWRX	Write enable input/output
18	WEX	Write enable
19	RDY/BSYX	Ready/Busy
21	RESET	Reset
23	WAITX	Wait
24	INPACKX	Card response
25	REGX	Resistor select
26	BVD2	Battery voltage detection
27	BVD1	Battery voltage detection
28	SM_SWX	SM card detection
29	INSX	MS card detection
30	SD_SWX	SD card detection

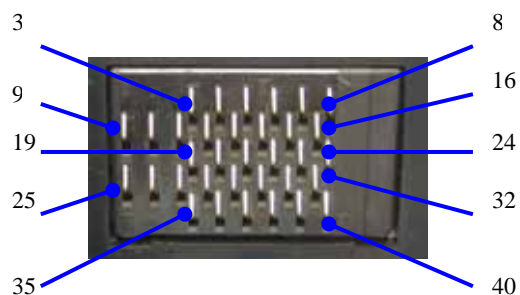
JMUL1 (Memory Card Connector [CompactFlash Card])

No.	Signal name	Function
1	GND	CF GND
2	CF_D3	CF 16 bit data bus
3	CF_D4	CF 16 bit data bus
4	CF_D5	CF 16 bit data bus
5	CF_D6	CF 16 bit data bus
6	CF_D7	CF 16 bit data bus
7	CF_CE1X	CF chip enable
8	CF_A10	CF 24 bit address bus
9	CF_OEX	CF output enable
10	CF_A9	CF 24 bit address bus
11	CF_A8	CF 24 bit address bus
12	CF_A7	CF 24 bit address bus
13	VCC	CF logic power supply
14	CF_A6	CF 24 bit address bus
15	CF_A5	CF 24 bit address bus
16	CF_A4	CF 24 bit address bus
17	CF_A3	CF 24 bit address bus
18	CF_A2	CF 24 bit address bus
19	CF_A1	CF 24 bit address bus
20	CF_A0	CF 24 bit address bus
21	CF_D0	CF 16 bit data bus
22	CF_D1	CF 16 bit data bus
23	CF_D2	CF 16 bit data bus
24	CF_WP/IOIS16X	CF write protect / 16 bit input/output
25	CF_CD2X	CF card detection
26	CF_CD1X	CF card detection
27	CF_D11	CF 16 bit data bus
28	CF_D12	CF 16 bit data bus
29	CF_D13	CF 16 bit data bus
30	CF_D14	CF 16 bit data bus
31	CF_D15	CF 16 bit data bus
32	CF_CE2X	CF chip enable
33	CF_VS1X	CF voltage sensor
34	CF_IORDX	CF read strobe input/output
35	CF_IOWRX	CF write enable input/output
36	CF_WEX	CF write enable
37	CF_RDY/BSYX	CF ready/busy
38	VCC	CF logic GND
39	CSELX	CF chip select signal
40	VS2X	CF voltage sensor
41	CF_RESET	CF reset
42	CF_WAITX	CF wait
43	CF_INPACKX	CF card response
44	CF_REGX	CF resistor select
45	CF_BVD2	CF battery voltage detection
46	CF_BVD1	CF battery voltage detection
47	CF_D8	CF 16 bit data bus
48	CF_D9	CF 16 bit data bus
49	CF_D10	CF 16 bit data bus
50	GND	CF logic GND

JMUL1 (Memory Card Connector [SmartMedia Card, Memory Stick, SD (MMC) Card])

No.	Signal name	Function
51	VCC(22)	SM logic power supply
52	GND(1)	SM GND
53	SM_CEX(21)	SM chip enable
54	SM_CLE(2)	SM command latch enable
55	SM_REX(20)	SM output enable
56	SM_ALE(3)	SM address latch enable
57	SM_RDY/BSYX(19)	SM ready/busy
58	SM_WEX(4)	SM write enable
59	GND(18)	SM logic GND
60	SM_WPX(5)	SM write protect
61	SM_LVD(17)	SM low voltage detection
62	SM_D0(6)	SM 16 bit data bus
63	SM_D7(16)	SM 16 bit data bus
64	SM_D1(7)	SM 16 bit data bus
65	SM_D6(15)	SM 16 bit data bus
66	SM_D2(8)	SM 16 bit data bus
67	SM_D5(14)	SM 16 bit data bus
68	SM_D3(9)	SM 16 bit data bus
69	SM_D4(13)	SM 16 bit data bus
70	GND(10)	SM logic GND
71	VCC(10)	SM logic power supply
72	SM_CDX(11)	SM card detection
73	SM_CDSW	SM card detection
74	SM_CDSW	SM card detection
75	SM_WPSW	SM write protect
76	SM_WPSW	SM write protect
77	GND	MS logic GND
78	VCC	MS logic power supply
79	MS_SCLK	MS serial clock
80	Reserve	Disabled
81	MS_INS	MS card detection
82	Reserve	Disabled
83	MS_DIO	MS 16 bit data bus
84	VCC	MS logic power supply
85	MS_BS	MS bus state
86	GND	MS logic GND
87	SD_DAT2	SD 16 bit data bus
88	SD_CD/DAT3	SD 16 bit data bus
89	SD_CMD	SD 16 bit data bus
90	GND	SD logic GND
91	VCC	SD logic power supply
92	SD_CLK	SD clock data
93	GND	SD logic GND
94	SD_DAT0	SD 16 bit data bus
95	SD_DAT1	SD 16 bit data bus
96	SD_CDSW	SD detection
97	SD_WP/CDSW	SD write protect/card detection
98	SD_WPSW	SD write protect

2.5 Carriage Board (Print Head Connector)



No.	Signal name	Function
1, 2, 17, 18, 33, 34	NC	Unused (missing number)
3	DATA_C1	Serial data input for C1 heater
4,	DATA_Y1	Serial data input for Y1 heater
5, 14	VSS	GND
6	DATA_PBK1	Serial data input for PBK1 heater
7, 8	B_GNDH	Heater GND
9	DATA_SC1	Serial data input for SC1 heater
10	DATA_SM1	Serial data input for SM1 heater
11	DATA_M1	Serial data input for M1 heater
12	B_HE1	Heat enable signal
13	DATA_SM2	Serial data input for SM2 heater
15	DATA_M2	Serial data input for M2 heater
16	B_DiK	Head temperature sensor cathode
19	B_HE2	Heat enable signal
20	HLAT	Data latch enable
21	DATA_SC2	Serial data input for SC2 heater
22	DATA_PBK2	Serial data input for PBK2 heater
23	DATA_Y2	Serial data input for Y2 heater
24	B_HE2	Heat enable signal
25, 26	NC	Unused
27, 35	HVDD	Head logic power supply
28	EEPROM_CS	Head EEPROM chip select input signal
29	H_CLK	Clock signal
30	EEPROM_DO	Head EEPROM serial data output signal
31	DATA_C2	Serial data input for C2 heater
32, 40	B_VH	Heater power supply
36	EEPROM_SK	Head EEPROM serial data clock input signal
37	EEPROM_DI	Head EEPROM serial data input signal
38	B_DiA	Head temperature sensor anode
39	VHT	Head power transistor drive power supply

i900D / i905D Specifications

<Printer>

Type	Desktop serial color bubble jet printer			
Paper feeding method	Auto sheet feed (ASF, photo paper tray, paper feed cassette) Front loading (CD-R printing only)*1			
Resolution	4,800 x 1,200 dpi (Max.)			
Throughput		Draft	Standard	
	Black (New Black)	7.7 ppm	3.7 ppm	
	Color (New Color)	7.0 ppm	2.6 ppm	
Printing direction	Bidirectional/uni-directional			
Print width	Max. 203.2 mm (in borderless printing, 220.9 mm)			
Interface	USB 2.0 full speed			
ASF stacking capacity	Max. 13 mm (Approx. 150 sheets of 65 g/m ² paper)			
Paper weight	64 to 105 g/m ²			
Detection functions	<div><div><div>- Access cover open</div><div>- Remaining ink amount (optical / dot count)</div><div>- Paper out</div><div>- Waste ink amount</div><div>- Pick-up roller</div><div>- Carriage position</div><div>- Paper type</div><div>- Presence of CD-R tray feeder</div><div>- Presence of auto duplex printing unit</div></div><div><div>- Presence of print head</div><div>- Printing position</div><div>- Paper end sensor</div><div>- Internal temperature</div><div>- Paper feed roller position</div><div>- Head-to-paper distance</div><div>- Supported camera direct printing device</div><div>- Presence of CD-R</div><div>- Supported paper size for duplex printing</div></div></div>			
Noise during printing (Highest print quality)	Approx. 37 dB (without optional devices, Photo Paper Pro / fine mode)			
Environmental requirements	During operation	Temperature	5 to 35C (41 to 95F)	
		Humidity	10 to 90%RH (no condensation)	
	Non operation	Temperature	0 to 40C (32 to 104F)	
		Humidity	5 to 95%RH (no condensation)	
Power supply	Input voltage	Frequency	Power consumption	Standby
	AC 100 to 127V	50/60 Hz	Approx. 30W (max.)	Approx. 3W
	AC 220 to 240V	50/60 Hz	Approx. 30W (max.)	Approx. 3W
				Power-off
				Approx. 1W
External dimensions	Printer alone: With the paper rest and output tray retracted: Approx. 433 (W) x 300 (D) x 194 (H) mm With the paper rest and output tray pulled out: Approx. 433 (W) x 555 (D) x 306 (H) mm			
Weight	Approx. 5.6 kg, not including print head and optional units			
Related standards (Printer, Adapter)	Electromagnetic radiance: VCCI, FCC, IC, C-tick, Taiwan EMC, Korea EMC, CCIB, CCEE Electrical safety: Electrical Appliance and Material Control Law (DENTORI), UL, C-UL, CB Report, GS, CE Mark, FIMKO, CCIB (EMC), AS, CCEE, PSB, Electrical Safety Regulations of Korea, SASO Environmental regulations: Energy Star, Blue Angel, Environment label			
Serial number location	On the left of the printer chassis (visible when the access cover is open).			
Remaining ink amount detection	Available (automatic detection by optical method and dot count, enabled at default)			
Paper type detection	Available (automatic detection of paper type, only with default driver settings (plain paper / standard print quality), enabled at default)			
Print head alignment	Available (automatic alignment via driver utilities, or the operation panel in Camera Direct Printing)			

*1: Only for CD-R printing supported models (i905D only)

<Photo Direct Printing>

Memory card drive	Supported memory card	CompactFlash Card, SmartMedia Card, Memory Stick, SD Card, MultiMedia Card To use the xD-Picture Card, Memory Stick Duo, and miniSD memory card, adapters are necessary. The Memory Stick PRO is not supported.
Storage function	Supported OS Utility Function	Windows Me/98/2000/XP, Mac OS 8.6 or later Prepackaged storage utility Read/write
Card Direct Printing function	Operation panel File format Supported print paper Print quality Image correction function DPOF Print mode Print layout Resolution Date printing Throughput	Color LCD, 13 keys JPEG (DCF, CIFF, Exif 2.2 or prior, JFIF), TIFF (Exif compliant), DPOF compliant PR-101, PP-101, plain paper Standard / High (default) Exif Print, VIVID, APP (Auto Photo Perfect), VIVID+APP Ver. 1.00 compliant Print index, Print all, Specify images, Layout, DPOF 1 image bordered/borderless, 2 images bordered/borderless, 4 images bordered/borderless, 8 images bordered/borderless, Bordered/Borderless postcard, Bordered/Borderless (half), Album left/right 600 x 1,200 dpi Available Approx. 2 minutes (Image data from a 3 million pixel digital camera is printed to the L-size paper in borderless printing with date printing.)
Camera Direct Printing function	Supported digital cameras Supported print paper Print mode Print layout Resolution Date printing Throughput	Bubble Jet Direct- or PictBridge-supported digital cameras or digital video cameras PR-101, PP-101 Print index, Specify images, DPOF Borderless, bordered 600 x 1,200 dpi Available Approx. 2 minutes (Image data from a 3 million pixel digital camera is printed to the L-size paper in borderless printing with date printing.)

<Print head>

Type	Single head with 6 removable ink tanks (each color)
Print head	BK/Y: 256 nozzles (128 nozzles in 2 vertical lines, 5 pl), 1,200 dpi C/M/PC/PM: 128 nozzles (6 pl) + 128 nozzles (2 pl), 600 dpi 5pl (BK/C/M/Y/PC/PM) / 2pl (C/M/PC/PM)
Ink color	Photo black, cyan, magenta, yellow, photo cyan, photo magenta
Ink tank	BCI-6 BK/C/M/Y/PC/PM (dye-based)
Weight (Net)	Print head: Approx. 62 g; Ink tank (6 colors): Approx. 168 g
Supply method	As a service part (not including ink tanks)
Part number	QY6-0050-000

