iP6210D
SIMPLIFIED SERVICE MANUAL

QY8-13AC-000
Rev. 00

July 30, 2005
Canon Inc.

1. PRODUCT LIST

1-1. Main Units

Product name	Product code	Sales territories	Remarks
Canon Ink Jet Printer iP6210D	0012B001AA	US	
	0012B002AA	CA	
	0012B003AA	LAM LVT	
	0012B004AA	LAM HVT	
	0012B006AA	EUM	
	0012B007AA	EMB	
	0012B008AA	ASA HVT	
	0012B009AA	AU	
	0012B011AA	GB	
	0012B014AA	HK	

1-2. Options

Product name	Product code	Sales territories	Remarks
Blue Tooth Unit（BU-20）	0689B001AA – 0689B006AA	001: JPN 002: USA/CAN/HK/MY/SPL 004: CN 005: EUR/AU 006: KR	

1-3. Consumables

Product name	Product code	Sales territories	Remarks
Canon FINE Cartridge		001: EUR	
CL-51 (Color)	0618B001AA~0618B005AA	002: AMR	
CL-52 (Photo)	0619B001AA~0619B005AA	003: ASIA	
CL-41 (Color)	0617B001AA~0617B005AA	005: AMR S	

2. PRODUCT SPECIFICATIONS

2-1. Printer Main Unit Specifications

Paper feeding method	ASF
Resolution	4,800 x 1,200 dpi (max.)
Printing speed	Approx. 60 sec. (PP-101, 4 x 6, borderless printing, default print quality settings) For reference: Draft Standard Black (J/E) 11 ppm 3 ppm Color (J/E) 9 ppm 2.6 ppm
Printing direction	Bi-directional / Uni-directional (automatically switched according to print data and print mod
Fast mode print duty	50% duty
Print width	203.2 mm (216 mm in borderless printing)
Interface	- USB 2.0 Hi-Speed - Direct print port (PictBridge, Bubble Jet Direct) - Bluetooth 1.2 (optional, JPEG files only)
Supported ink cartridge	Consumable
ASF stacking capacity	Max. 10 mm (Approx. 100 pages of 75 g/m^2)
Paper weight	64 to 105 g/m^2
Plain paper	10 mm or less
High Resolution Paper	10 mm (Approx. 80 sheets) or less
Glossy Photo Paper	A4, LTR, 5x7: 10 sheets or less 4x6: 20 sheets or less

Photo Paper Pro,
    Photo Paper Plus Glossy,
    Matte Photo Paper
	A4, LTR, 5x7: 10 sheets or less
	4x6, 4x8: 20 sheets or less

Photo Paper Plus Double Sided	1 sheet
Photo Paper Plus Semi-gloss	A4, LTR: 10 sheets or less 4x6: 20 sheets or less
Transparency	30 sheets or less
Envelope	10 sheets or less
T-shirt Transfer	1 sheet
Photo Stickers	1 sheet
Borderless printing	Up to A4, LTR
Detection function	
Cover open	Available
Presence of ink cartridge	Available
Wrong installation of ink cartridge	Available
Presence of memory card	Available
Supported camera direct printing device	Available
Carriage position	Available
Presence of paper	Available
Head-to-paper distance	Available
Waste ink absorber full	Available
Internal temperature	Available
Remaining ink amount	Available (Detected by dot counting)
Print head alignment	Available (16 types) (Automatic alignment at default, possible to do manual alignment from computer)
Acoustic noise level	
Fine (Photo Paper Pro / Fine mode)	Approx. 43 dB (Sound pressure level ISO9296)
HQ	Approx. 44 dB
HS	Approx. 53 dB
Environmental requirements	
During operation	Temperature: 5C to 35C (41F to 95F) Humidity: 10% to 90%RH (no condensation)
Non-operation	Temperature: 0C to 40C (32F to 104F) Humidity: 5% to 95%RH (no condensation)

(2-1, Printer Main Unit Specifications cont'd)

Power supply			
Input voltage / Frequency		AC 100 to 240 V, 50/60Hz	
Power consumption:	During printing	Approx. 11 W	
	Stand-by status	Approx. 1 W	
External dimensions		- With the paper support extended:	Approx. 435 (W) x 280 (D) x 259 (H) mm
		- With the paper support retracted:	Approx. 435 (W) x 253 (D) x 165 (H) mm
Weight		Approx. 3.7 kg (excluding the ink cartridges)	
Related standards			
Electromagnetic radiance, Electrical safety		FCC, IC, CE Mark, Taiwan EMC, C-Tick, CCC (EMC), Korea MIC, Gost-R, *DENAN*, UL, C-UL, CB Report, GS, FT, SASO, SPRING, Korea EK, IRAM (Argentine)	

Note: Not Blue Angel compliant.

2-2. Direct Printing Specifications

Memory card drive	
Supported memory card	Compact Flash TYPE I/II, Microdrive, SmartMedia Card, Memory Stick, MagicGate Memory Stick, SD Card, MultiMedia Card, xD-Picture Card*, miniSD memory card*, Memory Stick Duo*, MagicGate Memory Stick Duo* *: An adapter is necessary.
Storage function	
Supported OS	Windows ME / 98 / 2000 / XP, Mac OS X 10.2.1 or later
Settings	Changeable via the operation panel
Function	Read / Write
Card Direct Printing	
Operation panel	2-line LCD, 11 buttons, 2 LEDs
File format	JPEG (DCF, CIFF, Exif 2.21 or prior, JFIF), DPOF compliant
Print quality	High, Fast
Image correction function	Photo Optimizer PRO, VIVID, noise reduction, face brightener
Image adjustment function	Brightness, contrast, hue
Image processing function	Sepia, illustrated touch
Image retrieval function	Available (date)
DPOF version	Ver. 1.00 compliant

Print layout	- Single-photo/multi-photo/all-photo printing:
	    1 photo per page (borderless/with borders, only with borders for plain paper)
	 - DPOF printing:
	    1 photo per page (borderless/with borders)
	    6, 15, 24, 35, 80 photos per page
	 - Index printing:
	    6, 15, 24, 35, 80 photos per page
	 - Layout printing
	    2, 4, 8 photos per page (borderless/with borders)
	 - Sticker printing:
	    16 stickers

Resolution	1,200 x 1,200 dpi (max.)
Throughput	Approx. 1 minutes 30 seconds, with the following conditions and settings: - A photo from a 4 mega-pixel digital camera - Process from pressing the printing start button to ejecting paper
Throughput	Approx. 1 minutes 30 seconds, with the following conditions and settings: - A photo from a 4 mega-pixel digital camera - Process from pressing the printing start button to ejecting paper
Camera Direct Printing Supporte	
Supported print paper	See 2-3, Print Media Specifications.
Print layout	- 1 photo per page (borderless/with borders) - Index printing
Resolution	1,200 x 1,200 dpi (max.)
Throughput	Approx. 69 seconds, with the following conditions and settings: - A photo from a 5 mega-pixel digital camera - PP-101 4" x 6" - ExifPrint/Standard - Process from pressing the printing start button to ejecting paper

Throughput	Approx. 69 seconds, with the following conditions and settings: - A photo from a 5 mega-pixel digital camera - PP-101 4" x 6" - ExifPrint/Standard - Process from pressing the printing start button to ejecting paper	
Print Beam printing (Direct Printing from a camera-equipped mobile phone via wireless communication)		Supporte
Printable data	Image (JPEG only, text printing not possible)	
Supported print paper	See 2-3, Print Media Specifications.	
Supported layout	1, 2, 4, 8 images per page (borderless) 1, 2, 4, 5, 6, 7, 8, 9, 16 images per page (with borders)	

(2-2, Direct Printing Specifications cont'd)

Printing via Bluetooth communication (optional)		
Standard	Bluetooth version 1.2	
Output	Bluetooth Power Class 2	
Communication range	Good for approx. 10 m in radius (depending on interference between the communication devices, or radio wave conditions)	
Frequency band	2.4 GHz	
Communication speed	Approx. 720 kbps	
Supported profile	BIP, OPP, SPP, HCRP	
Supported OS for HCRP	- Windows XP Service Pack 2 or later - Windows XP Service Pack 1 or later: Microsoft "Support for Bluetooth Wireless Devices" or Toshiba Bluetooth Stack for Windows Ver. 3.00.10 or later has to be installed - Mac OS X 10.3.3 or later	
BU-20 specifications		
External dimensions	18.5 (W) x 47.5 (D) x 8.7 (H) mm with a cap	
Weight	Approx. 7 g	
Power supply voltage	4.4 to 5.25 V	
Power consumption	500 mW (max.)	
Operating temperature	5C to 35C (41F to 95F)	
Operating humidity	10%RH to 90%RH (no condensation)	

2-3. Product Life

Specified print volume or the years of use, whichever comes first.
- 3 years of use
- Print volume: 4,000 pages
    - Black: 800 pages (A4, standard mode, 1,500 character pattern)
    - Color: 600 pages (A4, 7.5% duty per color pattern)
             600 pages (A4, photo, borderless printing)
          1,800 pages (4 x 6, photo, borderless printing)
          200 pages (Postcard, photo, borderless printing)
    Note: The above print volume breakdown is estimated using average user consumption patterns of printing 4,000 pages.

2-4. Ink Cartridge Specifications

	Ink cartridge
Type	Ink-tank-integrated print head

Print head	Color: 192 nozzles in 3 vertical lines Photo: 192 nozzles in 2 vertical lines Ink droplet: Col 5 pl / 2 pl, Photo 5 pl / 2 pl,
Ink color	Col: Y/M/C (super dye-based), Photo: PBK/PM/PC (super dye-based)
Weight	CL-51(Col) approx. 56 g, CL-52(Photo) approx. 56 g CL-41(Col) approx. 51 g
Supply method	As a consumable

<Supported ink cartridges by models>

	Ink cartridge		
	High capacity		Standard
Model	CL-51 (Color)	CL-52 (Photo)	CL-41 (Color)
IP6210 D	Standard package	Standard package	Usable as an option

<Ink cartridge (ink tank with the nozzles) yield>

Units: pages

	CL-52	CL-51
1,500 character pattern plain paper / standard mode	450	
ISO JIS-SCID No. 5 plain paper / standard mode	710	330
Digital camera 24 images PP-101 4x6	110	180

3. ERROR DISPLAY

Errors are displayed by the LEDs, and ink low warnings are displayed by the Status Monitor.
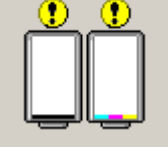
3-1. Operator Call Error (Alarm LED Blinking in Orange)

LED display	Alarm LED blinking (Service mode)	Error (Error code)	Corrective action	Remarks
There is no paper.	2 times	No paper (ASF)[1000]	Set paper in ASF, and press the OK button.	
The paper is jammed.	3 times	Paper jam[1300]	Remove the jammed paper, and press the OK button.	
Ink has run out. Replace the ink cartridge and close the cover. U041	-	No ink[1600]	Replace the ink cartridge(s), or press the OK button.	When selecting to press the OK button, ink may run out during printing.
The following ink cartridge cannot be recognized. U051 / U059	5 times	The ink cartridges are not installed[1401], or a non-supported ink cartridge is installed[1485].	Check if supported ink tank(s) is installed, and re-install them properly, and then close the front cover.	
Some ink cartridges are not installed in place. U075 / U076	7 times	Ink cartridge's position is wrong. [1487 / 1486]	Install the ink cartridge(s) in the correct position.	
The following ink cartridge cannot be recognized. U052	15 times	Ink cartridge is not installed.[1682]	Re-install the ink cartridge(s) properly and close the front cover. Or, turn off/on the printer with the ink cartridges installed.	
The following ink cartridge cannot be recognized. U053	4 times	Ink cartridge is not installed properly.	Re-install the ink cartridge(s) properly and close the front cover.	
The waste ink absorber is almost full.	-	Waste ink absorber full[1700], or platen waste ink absorber full[1710].	Pressing the OK button will clean the error, and enable to print. <Replace Ink absorber kit (QY5-0148-000)> <Replace Platen waste ink absorber QC1-6014-000>	Waste ink absorber full warning (service call error) may appear.
Incompatible device detected.	-	The connected digital camera / video camera is not supported for Camera Direct Printing.	Disconnect the cable from a the digital camera/video camera, and press the Reset button, and then re-connect the cable.	
The following ink may have run out. U161 An ink cartridge that was once empty is installed. U162	-	Ink remaining is unknown. [1685/1686]	Install an new ink cartridge, or press the OK button. * When an cartridge that was once used (excluding the cartridge used just before) is installed, this error occurs. (See 8-2. Major Functions (4) Remaining ink level detection function.)	When the error is resolved by pressing the OK button, the function for detecting the remaining ink level will be released.

3-2. Service Call Error (Cyclic Blinking in Orange (Alarm LED) and Green (Power LED))

Cycles of blinking in orange and green	Error	Corrective Action
2 times	Carriage error [5100]	Replace the printer as it has failed.
3 times	Paper feed error [6000]	Replace the printer as it has failed.
4 times	Purge unit error [5C00]	Replace the printer as it has failed.
5 times	ASF(cam) sensor error [5700]	Replace the printer as it has failed.
6 times	Internal temperature rise error [5400]	Replace the printer as it has failed.
7 times	Waste ink absorber full or platen waste ink absorber full [5B00]	Replace the printer as it has failed.
8 times	Ink cartridge temperature rise error [5200]	Replace the printer as it has failed.
9 times	EEPROM error [6800]	Replace the printer as it has failed.
13 times	Paper feed position error [6B00]	Replace the printer as it has failed.
15 times	USB Host VBUD overcurrent error [9000]	Replace the printer as it has failed.
17 times	Abnormal motor driver error [6D00]	Replace the printer as it has failed.
20 times	Other hardware error [6500]	Replace the printer as it has failed.
Continuous alternate blinking	ROM error	Replace the printer as it has failed.
Alarm LED (orange) lit	ROM error	Replace the printer as it has failed.

3-3. Ink Low Warning (Ink low warnings are displayed by the Status Monitor only when the remaining ink level detection is enabled, and no Status Monitor display when disabled.)

Note: The Status Monitor display in the table below is for Windows.

Warning	Display by Status Monitor
Ink low warning 1 (approx. 70% of ink remaining)	
Ink low warning 2 (approx. 40% of ink remaining)	
Ink low warning 3 (low remaining ink)	
Ink low warning 4 (no ink remaining)	

4. REPAIR

4.1 Notes on Service Part Replacement (and Disassembling/Reassembling) in Asia

Service part	Notes on replacement	Adjustment/settings	Operation check
Logic board ass'y (QM2-2841)	- Detach the logic board ass'y about one minute after removing the power cord to prevent the logic board ass'y from being damaged. (to discharge the accumulated electricity in the capacitor) - If a waste ink amount is more than 7%, replacement of the ink absorber is necessary.	After replacement: 1. Initialize the EEPROM. 2. Reset the waste ink counter. 3. Set the destination in the EEPROM. See 4.2 SERVICE MODE. 4. Perform the print head alignment in the user mode.	- EEPROM print - Service test print - Printing via an USB connection - Camera Direct print
Operation panel unit (QM2-3327)		After replacement: 1. Check the buttons / the LCD See 4.2 SERVICE MODE.	
Absorber kit (QY5-0418) Platen ink absorber (QC1-6014)		After replacement: 1. Reset the waste ink counter. See 4.2 SERVICE MODE.	- Service test print

4.2 SERVICE MODE

Item	Timing	Objective	Remarks
Service test print - Model name - Rom version - USB serial number - Waste ink amount	At printer operation checking or parts replacement	Operation checking	See Service mode operation procedures. Load A4, LTR, or more large sized paper. Print sample: See APPENDIX 1: SHIPMENT INSPECTION PATTERN 1.
EEPROM reset	At Logic board replacement	Reset except for the followings. - USB serial number - Destination setting - Waste ink counter	See Service mode operation procedures.
Waste ink counter reset	At waste ink absorber replacement	Waste ink counter reset	See the waste ink counter reset procedures. (For Asia only)
Destination setting	At Logic board replacement	Destination setting	See Service mode operation procedures & Destination setting procedures. (For Asia only)
Button / LCD checking	At Operation panel operation checking (such as Operation panel unit replacement)	Button / LCD operation checking	See Button / LCD checking operation procedures. (For Asia only)

＜Service mode operation procedures＞

1) With the printer powered off but connected to a power source, press the Power button while pressing and holding the Stop/ Reset button.

2) When the Power LED is lit, press the Stop/Reset button two times while pressing and holding the Power button.

3) When releasing the Power button and the Stop / Reset button (regardless of order), the printer will move into a service mode. (Waiting for menu selection)

4) When the LED lights in green, press the Stop/Reset button the specified number of time(s) according to the function listed in the table below.(Each time the Stop/Reset button is pressed, the LED lights alternately in orange and green, starting with orange.)

The number of the Reset button pressing	LED	Function	Remarks
0 time	Green	Power off	
1 time	Orange	Service pattern print	See APPENDIX 1: SHIPMENT INSPECTION PATTERN 1: PRINT SAMPLE
2 times	Green	EEPROM print	See APPENDIX 2: EEPROM INFORMATION PRINT
3 times	Orange	EEPROM reset	
4 times	Green	Waste ink counter reset	See waste ink counter reset procedures below.
5 times	Orange	Destination setting	See Destination setting procedures below.
6 times	Green	Print head deep cleaning	
11 times	Orange	Button / LCD checking	
12 or more times		Returns to a menu selection	

<Destination setting procedures>

At Logic board replacement, make settings for each destination.

The number of the Reset button pressing	LED	Destination	Paper for defaulte setting
0 time	Green	No change	
1 time	Orange	Japan	A4
2 times	Green	Korea	A4
3 times	Orange	US	Letter
4 times	Green	Europe	A4
5 times	Orange	Australia	A4
6 times	Green	Asia	A4
7 times	Orange	China	A4
8 times	Green	Taiwan	A4
9 or more times		Returns to a menu selection	A4

<Waste ink counter reset procedures>

At the waste ink absorber replacement, reset the waste ink counter for the replaced waste ink absorber.

Setting operation for the waste ink counter (The counter setting value is selected by pressing the Reset button.)

The number of the Reset button pressing	LED	
0 time	Green	Reset the main waste ink counter to 0%.
1 time	Orange	Reset the platen waste ink counter to 0%.
2 times	Green	Reset the Main & platen waste ink counter to 0%. (Reset collectively.)

<Button / LCD checking operation procedures>

At Operation panel unit replacement, check the button / LCD.

1. When the Stop Reset button is pressed, FEMS<>BP will be displayed on the monitor.

F E M S < > B P

2. Each button (excluding the Power / OK / Stop/Reset button) will be off by pressing each button.

Easy-PhotoPrint   Settings   >   Print
        File   Menu   <   Back

F E M S < > B P
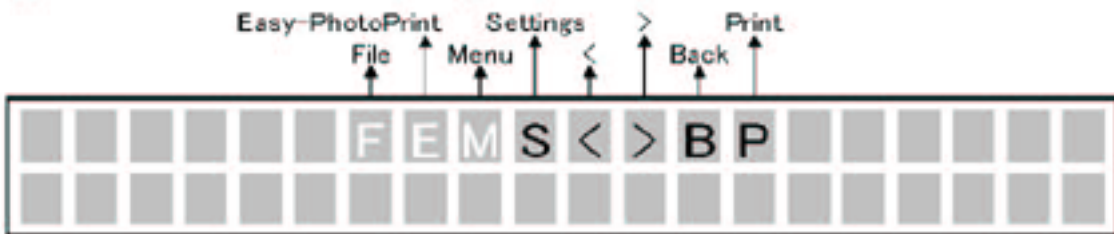
3. When all buttons excluding the Power / OK / Stop/Reset button are pressed, PASS will be displayed.

P A S S

4. When the Power button is pressed, the printer returns to a service mode menu selection.

6. TROUBLESHOOTING FLOWCHART

6-1. Printer Main Unit Troubleshooting Flowchart (how to confirm printer operation at refurbishment)

```
        ┌─────────────────┐
        │    Power ON     │
        └────────┬────────┘
                 │
            ◇ Service Call ◇──── Yes ──────────────────────────────────┐
            ◇   Error?    ◇                                             │
                 │ No                                                   │
        ┌────────┴────────┐                                            │
        │ Open access     │                                            │
        │ cover, and      │                                            │
        │ install print   │                                            │
        │ head            │                                            │
        └────────┬────────┘                                            │
                 │                                                      │
            ◇ Service Call ◇──── Yes ──────────────────────────────────┤
            ◇   Error?    ◇                                             │
                 │ No                                                   │
        ┌────────┴────────┐                                            │
        │ Connect to      │                                            │
        │ computer        │                                            │
        └────────┬────────┘                                            │
                 │                                                      │
        ┌────────┴────────┐                                            │
        │ Shipment        │  See 4. SERVICE MODE for printing method.  │
        │ inspection      │                                            │
        │ pattern printing│                                            │
        └────────┬────────┘                                            │
                 │                                                      │
            ◇ Correct? ◇──── No ──┐                                     │
                 │ Yes            │                                     │
                 │        ┌───────┴────────┐                           │
                 │        │ Replace print  │                           │
                 │        │ head and print │                           │
                 │        │ shipment       │                           │
                 │        │ inspection     │                           │
                 │        │ pattern        │                           │
                 │        └───────┬────────┘                           │
                 │                │                                     │
                 │           ◇ Correct? ◇──── No ─────────────────────┤
                 │                │ Yes                                │
                 ├────────────────┘                                    │
                 │                                                      │
        ◇ Main waste ink ◇──── No ───────────────────────────────────┤
        ◇ counter less   ◇   Visually check the platen waste ink       │
        ◇ than 7%?       ◇   absorber, and replace it if it is soiled. │
                 │ Yes                                                 │
        ┌────────┴────────┐                              ┌─────────────┴───┐
        │    Normal       │                              │   Defective     │
        └─────────────────┘                              └─────────────────┘
```
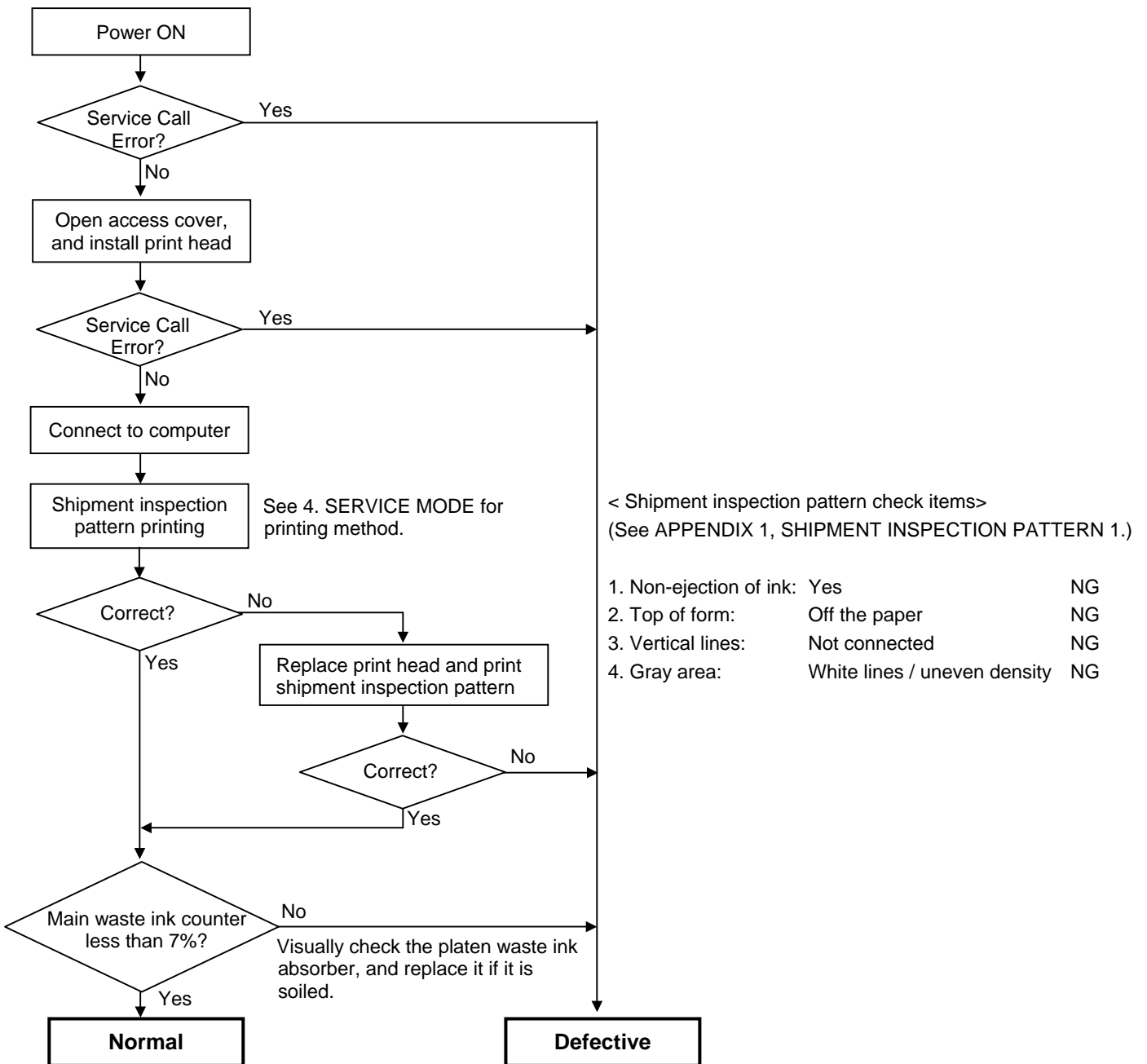
< Shipment inspection pattern check items>
(See APPENDIX 1, SHIPMENT INSPECTION PATTERN 1.)

1. Non-ejection of ink:	Yes	NG
2. Top of form:	Off the paper	NG
3. Vertical lines:	Not connected	NG
4. Gray area:	White lines / uneven density	NG

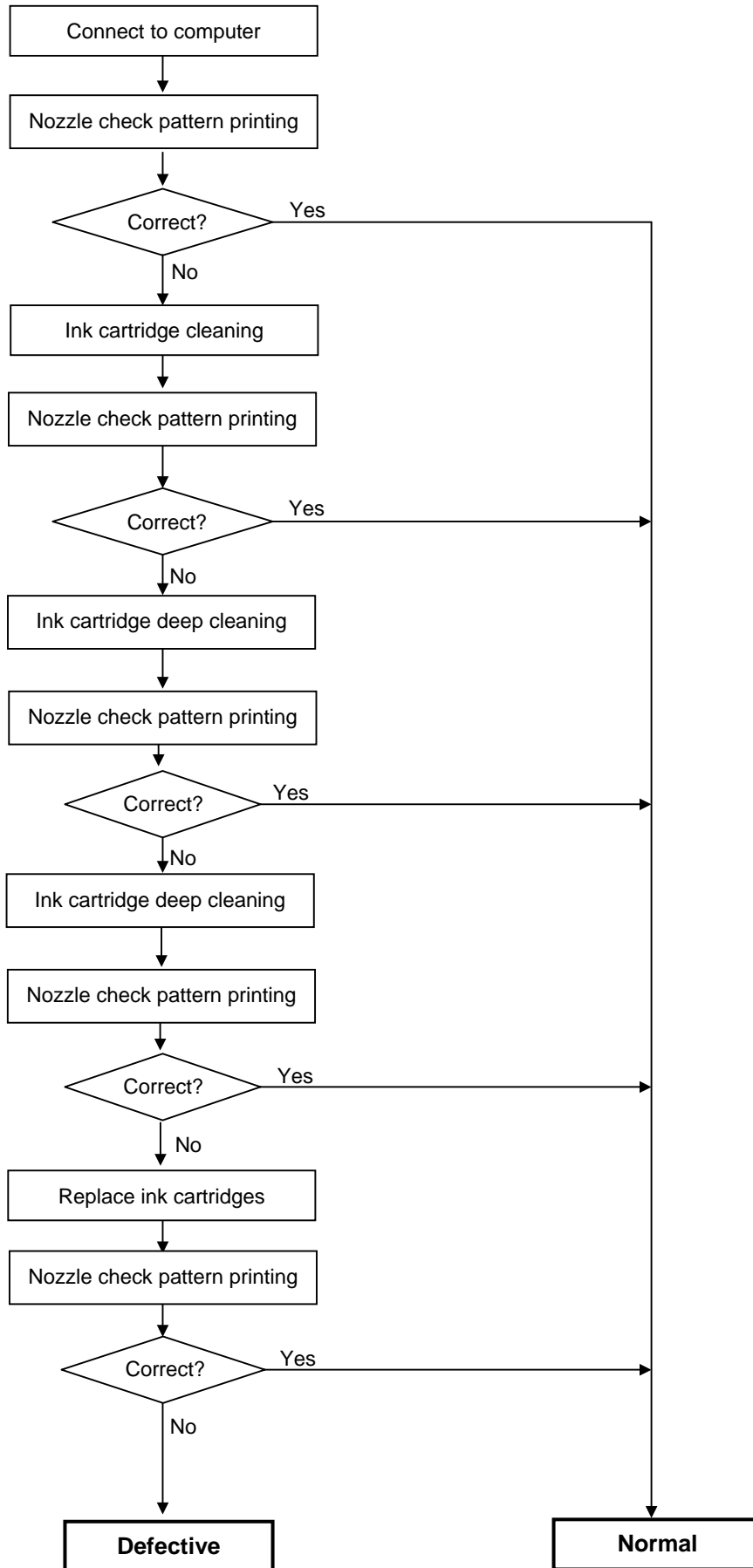<Note for normal printer refurbishment>

At end of refurbishment, set the printer to the default shipment conditions (with the paper lifting plate in the raised position, and the carriage locked in the home position), following the steps below.

1. Install the ink cartridges, and while pressing and holding the Power button, connect the AC plug. After the Power LED lights in green, with the Power button still pressed, press the Resume/Cancel button 2 times, and release both the Power and Resume/Cancel buttons. (Each time the Resume/Cancel button is pressed, the Alarm and Power LEDs light alternately, Alarm in orange and Power in green, starting with Alarm LED.)

2. Print the shipment inspection pattern, and reset the EEPROM, following the procedures in 4. SERVICE MODE.

3. Press the Power button to turn off the printer. (The paper lifting plate is raised, and the carriage moves to the print head replacement position.) Remove the ink cartridges. (DO NOT print after this point.)

6-2. Ink Cartridge Troubleshooting Flowchart (ink cartridge operation confirmation)

```
                    ┌─────────────────────────┐
                    │   Connect to computer   │
                    └─────────────────────────┘
                                 │
                    ┌─────────────────────────┐
                    │ Nozzle check pattern printing │
                    └─────────────────────────┘
                                 │
                           ◇ Correct? ◇──── Yes ──────────────────────┐
                                 │ No                                  │
                    ┌─────────────────────────┐                       │
                    │  Ink cartridge cleaning  │                       │
                    └─────────────────────────┘                       │
                                 │                                     │
                    ┌─────────────────────────┐                       │
                    │ Nozzle check pattern printing │                 │
                    └─────────────────────────┘                       │
                                 │                                     │
                           ◇ Correct? ◇──── Yes ──────────────────────┤
                                 │ No                                  │
                    ┌─────────────────────────┐                       │
                    │ Ink cartridge deep cleaning │                    │
                    └─────────────────────────┘                       │
                                 │                                     │
                    ┌─────────────────────────┐                       │
                    │ Nozzle check pattern printing │                 │
                    └─────────────────────────┘                       │
                                 │                                     │
                           ◇ Correct? ◇──── Yes ──────────────────────┤
                                 │ No                                  │
                    ┌─────────────────────────┐                       │
                    │ Ink cartridge deep cleaning │                    │
                    └─────────────────────────┘                       │
                                 │                                     │
                    ┌─────────────────────────┐                       │
                    │ Nozzle check pattern printing │                 │
                    └─────────────────────────┘                       │
                                 │                                     │
                           ◇ Correct? ◇──── Yes ──────────────────────┤
                                 │ No                                  │
                    ┌─────────────────────────┐                       │
                    │ Replace ink cartridges   │                       │
                    └─────────────────────────┘                       │
                                 │                                     │
                    ┌─────────────────────────┐                       │
                    │ Nozzle check pattern printing │                 │
                    └─────────────────────────┘                       │
                                 │                                     │
                           ◇ Correct? ◇──── Yes ──────────────────────┤
                                 │ No                                  │
                    ┌─────────────────────────┐          ┌─────────────────────────┐
                    │      **Defective**       │          │        **Normal**        │
                    └─────────────────────────┘          └─────────────────────────┘
```

7. SPECIAL NOTES ON SERVICING

7-1. Notes on the Waste Ink Absorber (for absorbing waste ink when doing borderless printing) Replacement.

After the waste ink absorber shown below was replaced, check if head-to-paper distance between the chassis and platen is correct.
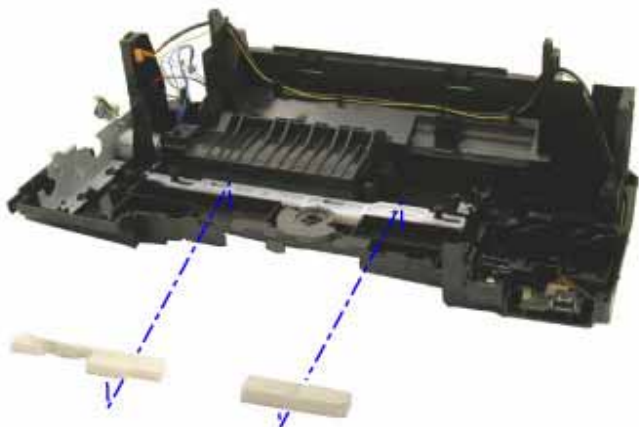
Because the chassis and platen (or other parts) have to be removed to replace the ink absorber, head-to-paper distance may be misaligned.

Check the print result with the following procedures to confirm that there is no problem.

<Check procedure>

1) Print images on Photo Paper Pro to confirm that the print result has no problem and that the print head does not contact paper.

   When doing printing, set the paper thickness lever to the left (normal position).

When print quality deterioration and print head contact are found, adjust head-to-paper distance with the following procedures.

1) Make marks under red screws located at both sides of the chassis.

2) Loosen red screws to adjust head-to-paper distance.

When the print head contacts paper: Move the chassis rail towards the marks.
When print quality deteriorates: Move the chassis rail towards the marks.

8. PRODUCT TECHNICAL INFORMATION

8-1. FAQ (Problems specific to the iP6210, and their corrective actions)

No.	*	Function	Phenomenon	Possible Call / Claim	Corrective action	Cause
1	A	Installation	Carriage error (Alarm and Power LEDs blink alternately 2 times).	- The LEDs blink alternately in orange and green, 2 times (carriage error).	Remove the packing material fixing the carriage.	The user may not have removed the packing material at unpacking and installation. Note: Even if the packing material remains, no parts are damaged.
2	A		Ink cartridge installation error	- LED display in the LCD (As this occurs at printer installation, the user cannot recognize the error.)	Open the access cover, and install the ink cartridge(s) properly.	The user did not install the ink cartridges completely at unpacking, installation, or ink cartridge replacement.
3	B		Memory card access / removal error	- Cannot print - Memory card cannot be recognized.	If the memory card can be removed, re-install it after attaching the dedicated adapter. If the memory card cannot be removed, do servicing.	When using Mini card, it was installed in the card slot without the dedicated adapter.
4	B	Paper feeding	No paper feeding	- Paper out error - Paper cannot be fed - Cannot print	1. Perform roller cleaning from the printer driver. 2. Clean the paper feed roller with pre-moistened wipe or moistened cloth.	The paper feed roller slips on the paper at paper feeding.
5	C		Multi-feeding	- Multiple sheets of paper are fed simultaneously. -Blank paper is ejected.	1. Fan the paper and set them in the ASF. 2. In case of PR-101, set the paper sheet by sheet in the ASF.	In the high temperature and high humidity environment, the frictional force between the front and back sides of paper becomes high, and sheets stick to each other, contributing to multi-feeding.
6	B		Envelope not feeding	- Paper out error - Paper cannot be fed - Cannot print	1. Perform roller cleaning from the printer driver. 2. Clean the paper feed roller with pre-moistened wipe or moistened cloth. 3. Reduce the number of envelopes loaded in the ASF. 4. Flatten the envelope (with a pen).	The paper feed roller slips on the paper at paper feeding. Note: Depending on the paper lots.
7	C		Paper jam	- Paper jam error - Paper cannot be fed - Cannot print	1. Remove the jammed paper from the paper pick-up side.	As the LF roller slips on the paper, the paper is not fed, causing the jam error at paper ejecting.
8	B		Paper jam and paper feeding failure in printing on Credit card sized paper	- Paper jam error - Feeding failure - Cannot print	1. Open the front cover and remove the jammed paper. 2. Load the same type of paper as jammed paper in the portrait orientation and press the Reset button.	If paper is loaded in the landscape orientation, paper cannot be fed because the paper does not reach the LF roller at paper feeding.

No.	*	Function	Phenomenon	Possible Call / Claim	Corrective action	Cause
9	B	Image quality	Smearing on printed side.	- Smear on the printed side of paper - Cannot print properly - Paper edge crease	1. Correct the paper curl. 2. Set the paper thickness lever to the right. 3. Recommend the user to conduct printing in the print quality assurance area.	The edge of paper rises due when paper is curled, causing the ink cartridge to rub against the printed surface of paper, resulting in smearing.
10	B		Smearing on the backside, or address side of postcards	<Photo Paper Plus Double Sided> - Smears on the already printed side when printing the other side <When printing the address side of postcards> - Smears on the address side <When printing the message side of postcards> - Smears on the backside	1. Perform bottom plate cleaning from the printer driver. 2. Clean the ribs on the platen with cotton swabs/buds.	When borderless printing is conducted continuously, ink mist attaches to the ribs on the platen, and is transferred to the backside of the following paper.
11	C		Horizontal lines or uneven print density at the trailing edge of paper	- Cannot print to the bottom edge of paper - Lines or uneven print density appear in the trailing edge of paper - Cannot print properly	1. Recommend printing in the print quality assurance area. 2. Change the print quality from Standard to High mode. 3. Try other paper (PP-101)	When the paper end comes off the pinch roller, printing is performed without the paper being held, preventing the ink drops from being ejected in the correct positions, resulting in unevenness. Note: The problem is less noticeable than that of the iP1500.
12	C		When printing using one ink cartridge only, horizontal lines or uneven print density occurs due to LF roller feeding at small pitch	- Lines or uneven print density (on skin tones and background) - Cannot print properly	1. Perform print head alignment. 2. Change the print quality from Standard to High mode.	As the print media slightly slips while being fed by the LF roller, printed areas overlap, causing the problem.

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

8-2. Major Functions

(1) New Direct Print function

- Red eye correction: The red eyes area is selected from an image, and the red eyes are detected automatically. Correction is made at the detected area.
- Memory card writing function: From the Menu, Setting of Read only (writing is not possible) and Read_Write (writing is possible.) is possible.

<Possible problems with this function>

1) Print results is red-tinged. -> Change the correction value. (Shift to Y side.)
1) Direct Print is not possible. -> Release Write setting.

(2) Bluetooth printing support (option)

This printer has the Bluetooth printing function.
Install the optional Blurtooth unit (BU-20) in the printer.

<Possible problems with this function>

Printing is not possible. -> Shorten the communication distance or get rid of obstacles.

(3) Quiet mode

The printer has a quiet mode function.
Compared with the normal mode,

Acoustic noise level: HS normal approx. 52.7 dB, Quiet approx. 47.5 dB
Audible overtone level: Sound quality changes, and sound becomes quieter.
Print speed: Slows.

<Possible problems with this function>

- The operation sound does not become quieter.
    -> The audible sound becomes only slightly quieter.
- Printing is slow.
    -> Disable the Quiet mode.

(4) Remaining ink level detection function

The printer has a function to detect the remaining ink level.

Detection method: Dot counting (Counted for each Photo/CL ink cartridge)

Photo / CL cartridge: The remaining ink level is detected by total counted dot values of Photo /CL three colors.

Display method: Displayed on the Status Monitor (at 4 levels listed below for each Photo/CL ink cartridge)

Level 1:   Approx. 70% of ink remaining
Level 2:   Approx. 40% of ink remaining
Level 3:   Indication of "!" mark (Remaining ink level is low)
Level 4:   Indication of "X" mark (No ink remaining)
Note: Remaining ink detection function displays the status only, and does not cause errors.

Accuracy: The margin of error of detection accuracy is +/-10% in normal printing.
The margin of error is likely to be large in the following specific print patterns:

When printing continuously using any one of the Photo /CL three colors of ink

-> As the remaining ink level is calculated by the counted dot value of the least remaining ink of the Photo /CL three colors, if any of the C/M/Y inks is heavily consumed, the margin of error for remaining ink increases.

<Possible problems with this function>
- When a once-used ink cartridge is installed, the actual remaining ink level is not detected, and an error indicating the remaining ink amount is unknown occurs.

Pressing the OK button will clear the error, and printing can be done. However, the function to detect the remaining ink amount is disabled (ink status is not displayed).

e.g.: An ink cartridge was once used in another printer.
A current ink cartridge is removed from the printer. -> A new ink cartridge is installed. -> The removed ink cartridge is installed again after removing the new ink cartridge.

- Due to the specific print pattern, the actual remaining ink level does not match the indicated remaining ink level.

This is because a detection error can be large in specific print patterns (such as continuous printing using any one of the Photo /CL three colors of ink or continuous solid printing, etc.).

(5) Deep cleaning

The printer has a deep cleaning (refreshing) function.

Deep cleaning (refreshing):

This is a deep cleaning function in order to resolve print failure due to ink clogging the nozzles.

<Possible problems with this function>
- Excessive ink consumption when conducting deep cleaning repeatedly. (The amount of ink used is approx. 4 times the normal manual cleaning amount.)

<Reference> Cleaning types, amount of ink used, and time required

Cleaning type	Amount of ink used	Time required
Manual cleaning Dot count cleaning Timer cleaning (24 hours to 2 months) Ink cartridge replacement (8 months or less)	BK: Approx. 0.10 g CL: Approx. 0.10 g	Approx. 40 sec.
Cleaning on arrival at user Timer cleaning (2 to 3 months) Cleaning when the print head is not capped at printer power on	BK: Approx. 0.15 g CL: Approx. 0.15 g	Approx. 40 sec.
Ink cartridge replacement (8 months or more)	BK: Approx. 0.20 g CL: Approx. 0.20 g	Approx. 45 sec.
Timer cleaning (3 months or more)	BK: Approx. 0.30 g CL: Approx. 0.30 g	Approx. 55 sec.
Deep cleaning	BK: Approx. 0.45 g CL: Approx. 0.45 g	Approx. 50 sec.

(6) Print head alignment

The printer has a print head alignment function (print head position adjustment function).

Print head alignment: This is a function to correct displacements between the nozzle lines of the print head, and incorrect print position at bi-directional printing.
The adjustment is conducted using the printed head position adjustment pattern.
A: Alignment of photo black nozzles in bi-directional printing
B: Alignment of cyan nozzles in bi-directional printing
C: Alignment of magenta nozzles in bi-directional printing
D: Alignment yellow nozzles in bi-directional printing

E: Alignment of photo black small nozzles in bi-directional printing
F: Alignment of cyan small nozzles in bi-directional printing
G: Alignment of magenta small nozzles in bi-directional printing
H: Alignment of yellow small nozzles in bi-directional printing
I: Alignment of photo cyan nozzles in bi-directional printing
J: Alignment of photo magenta nozzles in bi-directional printing
K: Alignment of photo cyan small nozzles in bi-directional printing
L: Alignment of photo magenta small nozzles in bi-directional printing
O: Horizontal alignment between chips
P: Vertical alignment between chips
W: Alignment of color nozzles small inclination
X: Alignment of black nozzles inclination

<Possible problems with this function>
- Print head alignment error
-> Perform print head deep cleaning (refreshing) because non-ejection of ink may occur.

APPENDIX 1:   SHIPMENT INSPECTION PATTERN 1

<EEPROM information contents>
On the service test print (sample below), confirm the EEPROM information as shown below. (The information is given in the upper portion of the printout.)

Destination (model name)

Rom version

USB serial number

Ink absorber waste ink amount (%)

Reserved for factory use

Pxxxxx   xxx   Vx.xx   USB(xxxxxx)   Dd=xxx.x   FA=xx xx xx
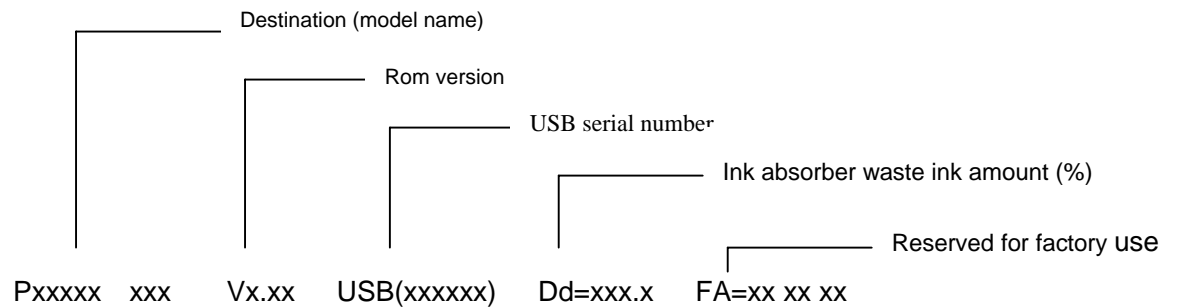
<Print check items>
On the service test   print(sample below),confirm the following items.
-Check 1,nozzle check patten: Ink shall be ejected from all nozzles.
-Check 2,top of form accuracy: The line shall not extend off the paper.
-Check 3,vertical straight lines: The line shall not be broken.

<Service Test print sample>

Check 2, top of form accuracy

Check 1, nozzle check pattern

Check 3, vertical straight lines
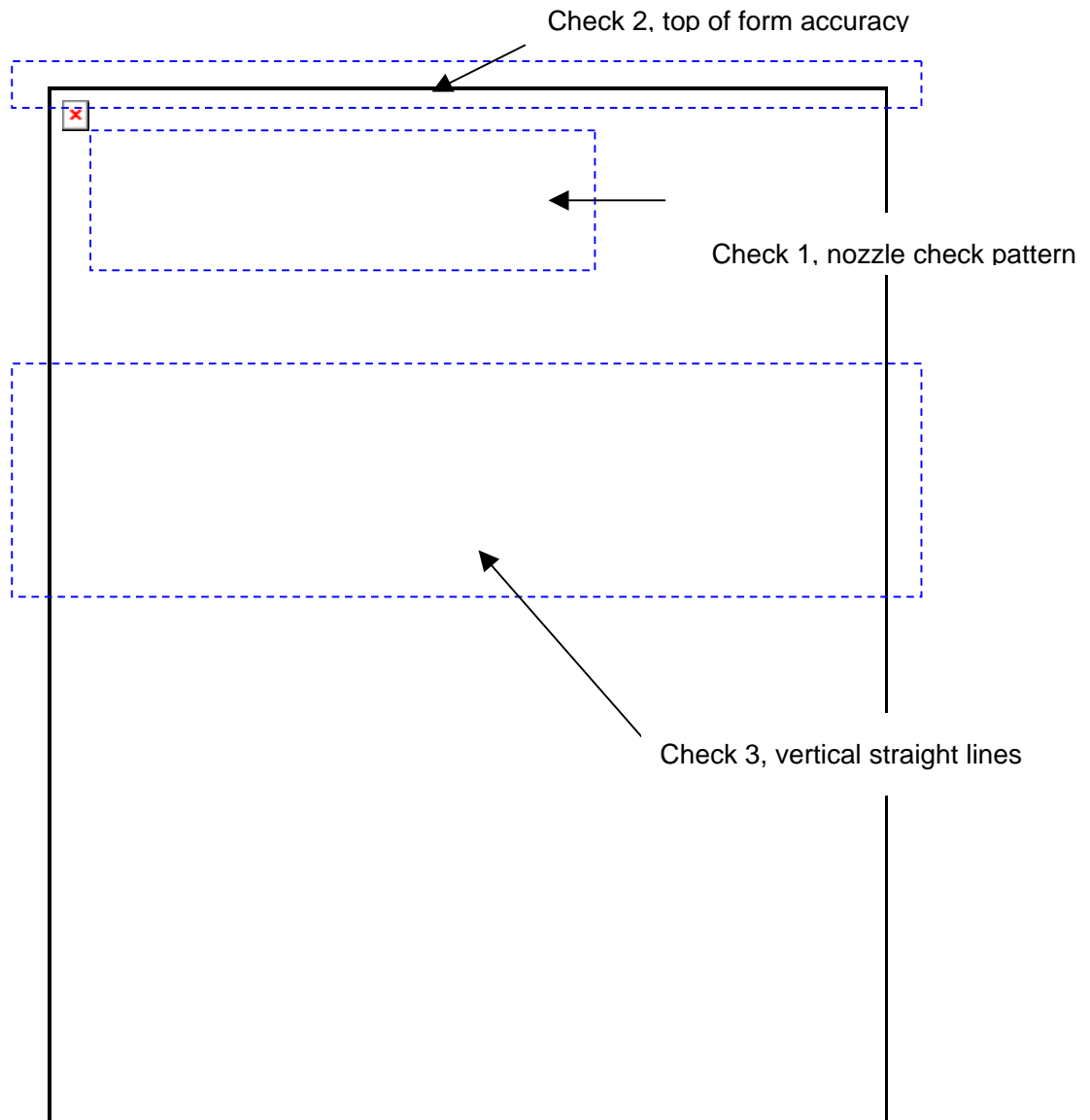
APPENDIX 2:   EEPROM INFORMATION PRINT

<How to read EEPROM information print>

Print sample:

iP6210D KOR   V1.00   IF(USB2=1)   D=008.0   Ds 000.0   ST=2005/06/25-16:41
ER(ER0=1000 ER1=5100)   LPT=2006/07/04-10:25
PC(M=000 R=000 T=011 D=000 C=000)
CLT(2005/06/30-11:34)
CT(Photo=002 CL_HC=002 CL_ST=000)   IS(PBK=0 C=0 PC=0 PM=0 M=0 Y=0)
P_ON(S=00115)   A_REG=0   M_REG=0
UR(A(Bksi)=000   B(CLsi)=000   C(PBkbi)=000   D(SPBkbi)=000
E(Cbi)=000   F(SCbi)=000   G(BkCly)=000   H(Mbi)=000   I(SMbi)=000
J(PCbi)=000   K(SPCbi)=000 L(PMbi)=000   M(SPMbi)=000   N(BkClx)=000)

LG=01   Japanese   WP=0319   CDIN(LG=034 PB=000 OPB=000)   BTIN=0   MSD(255)
TPAGE=00145
PAGE(All=00145 PP=00112 HR+MP=00000 PR+SP+SG=00033 GP=00000 PC=00000 EV=00000)
CDPAGE(All=00010)   EDGE=00000   L=00031
Head Temp=36.0
Env Temp=28.0   FF(FF FF FF)   OPP=00000   BTPAGE=00000   PrnB=00000   Seal=00000
CardPaper=00000   CardIns(0027)   CardPrn(0023)
CDD-PR(L=020   2L=000   PC=000   A4=000)   CDD-SP(L=001   2L=000   PC=000   A4=002)
CDD-MP(L=000   2L=000   PC=000   A4=000)   DCD-PP(L=000   2L=000   PC=000   A4=000)
DCD-FPP(L=000   2L=000   PC=000   A4=000)   DCD=MPP(L=000   2L=000   PC=000   A4=000)

- EEPROM Information <Hex.> -

Printed items:

1:    Model name (same for the all destinations)
2:    ROM version
3:    I/F connection (USB2)
4:    Waste ink amount (main, platen)
5:    Installation date
6:    Operator call / service call error record
7:    Last printing time
8:    Purging count   (manual cleaning, (Refreshing) deep cleaning, timer cleaning, cleaning by dot count, cleaning at ink
                      tank / print head)
9:    Last cleaning time
10:   Print head replacement count (Photo, Color high capacity, Color standard)
11:   Ink status (PBK/C/PC/PM/M/Y)
12:   Power-on count (S = soft-power-on)
13:   Print head alignment by user   13-1:   Manual print head alignment by user
14:   User print head alignment value (Bksi/CLsi/PBkbi/SPBkbi/Cbi/SCbi/BkCly/Mbi/SMbi/Pcbi/SPCbi/Pmbi/SPMbi/BkClx)
15:   Language setting
16:   Wiping count
17:   Camera Direct Print-supported device connection record
      (LG, Canon PictBridge, Other PictBridge)

18: Bluetooth-supported device connection record
19: Longest period of non-printing
20: Number of all pages fed
21: Number of pages fed from ASF (total, plain paper, High Resolution Paper, Matte Photo Paper, Photo Paper Pro, Photo Paper Plus Glossy & Photo Paper Plus Semi-gloss, Glossy Photo Paper, postcard, envelope)
22: Camera Direct print pages in total
23: Borderless print pages
24: L & 4x6 print pages
25: Print head temperature
26: Inside temperature
27: Line inspection information
28: Other Photo Paper pages fed
29: Bluetooth printing pages fed
30: Print Beam printing pages fed
31: Photo Sticker pages fed
32: Name card- / Credit Card-sized paper pages fed
33: Number of times a memory card is used in total
34: Memory Card Direct print pages in total
35: Memory Card Direct print pages: Photo Paper Pro (4x6, 5x7, card, A4/LTR)
36: Memory Card Direct print pages: Photo Paper Plus Glossy (4x6, 5x7,card, A4/LTR)
37: Memory Card Direct print pages: Matte Photo Paper (4x6, 5x7, card, A4/LTR)
38: Camera Direct print pages: Photo Paper (4x6, 5x7, card, A4/LTR)
39: Camera Direct print pages: Fast Photo Paper (4x6, 5x7, card, A4/LTR)
40: Camera Direct print pages: Matte Paper (4x6, 5x7, card, A4/LTR)

- Printer EEPROM information Dump-
(Displayed DUMP List in the printer EEPROM in HEX)