

iP2200 / iP1600 / iP1200 SIMPLIFIED SERVICE MANUAL

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**QY8-13AA-000
Rev. 00**

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Canon Inc.**

1. PRODUCT LIST

1-1. Main Units

iP2200 product code	iP1600 product code	iP1200 product code	Sales territories	Remarks
	9989A001AA		US	
9990A002AA	9989A002AA		CA	
9990A003AA	9989A003AA	0196B003AA	LAM LVT	
9990A004AA	9989A004AA	0196B004AA	LAM HVT	
9990A006AA	9989A006AA	0196B006AA	EUM	
9990A007AA	9989A007AA	0196B007AA	EMB	
9990A008AA	9989A008AA	0196B008AA	ASA HVT	
9990A009AA	9989A009AA	0196B009AA	AU	
9990A010AA	9989A010AA	0196B010AA	KR	
9990A011AA	9989A011AA	0196B011AA	GB	
9990A012AA			JP	
		0196B013AA	TW	
9990A014AA	9989A014AA	0196B014AA	HK	
9990A015AA	9989A015AA	0196B015AA	CN	
		0196B016AA	MY	

1-2. Options

None

1-3. Consumables

Product name	Product code	Sales territories	Remarks
Canon FINE Cartridge			
PG-40	0615B001AA to 0615B005AA	001: EUR	Other than Japan
CL-41	0617B001AA to 0617B005AA	002: AMR	
PG-50	0616B001AA to 0616B005AA	003: ASIA	
CL-51	0618B001AA to 0618B005AA	005: AMR S	
BC-70BK	0390B001AA		Japan only
BC-71CL	0392B001AA		
BC-90BK	0391B001AA		
BC-91CL	0393B001AA		

2. PRODUCT SPECIFICATIONS

2-1. Printer Main Unit Specifications

Paper feeding method	ASF																												
Resolution	4,800 x 1,200 dpi (max.)																												
Printing speed	<p>iP2200: Approx. 55 sec. (PP-101, 4 x 6, borderless printing, default print quality)</p> <p>iP1600, iP1200: Approx. 70 sec. (PP-101, 4 x 6, borderless printing, default print quality)</p> <p>For reference:</p> <table border="1"> <thead> <tr> <th></th> <th></th> <th>Fast</th> <th>Standard</th> </tr> </thead> <tbody> <tr> <td>iP2200:</td> <td>Black</td> <td>22 ppm</td> <td>13.4 ppm</td> </tr> <tr> <td></td> <td>Color</td> <td>17 ppm</td> <td>7.8 ppm</td> </tr> <tr> <td>iP1600:</td> <td>Black</td> <td>19 ppm</td> <td>13.4 ppm</td> </tr> <tr> <td></td> <td>Color</td> <td>16 ppm</td> <td>7.8 ppm</td> </tr> <tr> <td>iP1200:</td> <td>Black</td> <td>11 ppm</td> <td>5.1 ppm</td> </tr> <tr> <td></td> <td>Color</td> <td>11 ppm</td> <td>4.2 ppm</td> </tr> </tbody> </table>			Fast	Standard	iP2200:	Black	22 ppm	13.4 ppm		Color	17 ppm	7.8 ppm	iP1600:	Black	19 ppm	13.4 ppm		Color	16 ppm	7.8 ppm	iP1200:	Black	11 ppm	5.1 ppm		Color	11 ppm	4.2 ppm
		Fast	Standard																										
iP2200:	Black	22 ppm	13.4 ppm																										
	Color	17 ppm	7.8 ppm																										
iP1600:	Black	19 ppm	13.4 ppm																										
	Color	16 ppm	7.8 ppm																										
iP1200:	Black	11 ppm	5.1 ppm																										
	Color	11 ppm	4.2 ppm																										
Printing direction	Bi-directional / Uni-directional (automatically switched according to print data and print mode)																												
Fast mode print duty	50% duty																												
Print width	203.2 mm (216 mm in borderless printing)																												
Interface	USB (2.0) Full Speed only																												
Supported ink cartridge	Consumable																												
No. of pages that can be printed	<p>BK: 2,000 pages (1,500 character pattern)</p> <p>CL: 1,600 pages (7.5% duty per color pattern)</p> <p> 80 pages (A4, photo, borderless printing)</p> <p> 200 pages (4x6, photo, borderless printing)</p> <p> 120 pages (Postcard, photo, borderless printing)</p>																												
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: 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																												
Presence of ink	Available																												
Presence of paper	Available																												
Paper width	Not available																												
Waste ink absorber full	Available																												
Internal temperature	Available																												
Remaining ink amount	Available (Detected by dot counting)																												
Print head alignment	Available (12 types)																												
Acoustic noise level																													
Fine (Photo Paper Pro / Fine mode)	Approx. 44 dB (Sound pressure level ISO9296)																												
HQ	Approx. 46 dB																												

HS	iP2000, iP1600: Approx. 58 dB iP1200: Approx. 56 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)
Power supply	
Input voltage / Frequency	AC 100 to 240 V, 50/60Hz
Power consumption:	
During printing	Approx. 10 W
Stand-by status	Approx. 1 W
External dimensions	iP2200: - 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 iP1600, iP1200: - With the paper support extended: Approx. 435 (W) x 277 (D) x 259 (H) mm - With the paper support retracted: Approx. 435 (W) x 249 (D) x 165 (H) mm
Weight	Approx. 2.9 kg (excluding the ink cartridges)
Related standards	
Electromagnetic radiance, Electrical safety	VCCI, 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 (Argentina)

Note: Not Blue Angel compliant.

<Difference between the iP2200, iP1600, and iP1200>

Model	Housing (main cover configuration)	Ink cartridges		Throughput
		Standard	Optional	
iP2200	2 parts	PG-40, CL-41	PG-50, CL-51	iP2200 > iP1600 > iP1200
iP1600	1 part	PG-40, CL-41	---	
iP1200	1 part	CL-41	PG-40	

2-2. Product Life

Specified print volume or the years of use, whichever comes first.

- 3 years of use
- Print volume: 4,000 pages
 - Black: 2,000 pages (A4, standard mode, 1,500 character pattern)
 - Color: 1,600 pages (A4, 7.5% duty per color pattern)
 - 80 pages (A4, photo, borderless printing)
 - 200 pages (4 x 6, photo, borderless printing)
 - 120 pages (Postcard, photo, borderless printing)

Note: The above print volume breakdown is estimated using average user consumption patterns of printing 4,000 pages.

2-3. Ink Cartridge Specifications

	Ink cartridge
Type	Ink-tank-integrated print head
Print head	Bk: 320 nozzles in 2 vertical lines C/M/Y: 192 nozzles in 2 vertical lines per color Ink droplet: Bk 30 pl, CL 5 pl / 2 pl
Ink color	Bk (pigment-based pearl), C/M/Y (super dye-based)
Weight	PG-40 approx. 43 g, CL-41 approx. 45 g PG-50 approx. 51 g, CL-51 approx. 56 g
Supply method	As a consumable

<Supported ink cartridges by models>

Model	Ink cartridge			
	Standard		High capacity	
	PG-40 (BK)	CL-41 (CL)	PG-50 (BK)	CL-51 (CL)
iP2200	Standard package	Standard package	Usable as an option	Usable as an option
iP1600	Standard package	Standard package	Not usable	Not usable
iP1200	Usable as an option	Standard package	Not usable	Not usable

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

	Units: pages						
	iP2200				iP1600		iP1200
	PG-40	CL-41	PG-50	CL-51	PG-40	CL-41	CL-41
1,500 character pattern plain paper / standard mode (BK)	490		750		490		430
ISO JIS-SCID No. 5 plain paper / standard mode (BK)	760		1,170		760		-----
ISO JIS-SCID No. 5 plain paper / standard mode (CL)		190		320		190	180
Digital camera 24 images PP-101 4x6		100		180		100	100

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)

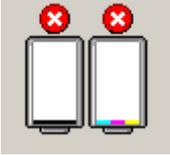
Alarm LED blinking	Error	Corrective action
2 times	No paper	Set paper, and press the Resume/Cancel button to feed the paper.
3 times	Paper jam	Remove the jammed paper, and press the Resume/Cancel button.
4 times	No ink	Replace the ink cartridge(s), or press the Resume/Cancel button to continue printing without replacing the ink cartridge(s).
5 times	The ink cartridges are not properly installed, or a non-supported ink cartridge is installed (the ink cartridge EEPROM data is abnormal).	Install the ink cartridges properly. Or, confirm that the supported ink cartridges are installed.
7 times	Ink cartridge not installed	Install the ink cartridge(s), and close the access cover.
8 times	Waste ink absorber full or platen waste ink absorber full warning (approx. 95% of the maximum capacity)	Pressing the Resume/Cancel button will exit the error, and enable printing.
14 times	Non-supported ink cartridge installed	Replace the non-supported ink cartridge with the supported one.
16 times	Used ink cartridge installed, or no ink	Pressing the Resume/Cancel button will exit the error, and enable printing.

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	Replace the printer as it has failed.
3 times	LF error	Replace the printer as it has failed.
7 times	Waste ink absorber full or platen waste ink absorber full	Replace the printer as it has failed.
8 times	Print head temperature rise error	Replace the printer as it has failed.
9 times	EEPROM error	Replace the printer as it has failed.
10 times	No ink cartridge detected excepting ink cartridge replacement (during printing)	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. SERVICE MODE

To conduct the following functions, a host computer (Windows 98 / ME / 2000 / XP), printer driver and service tool (QY9-0068) for the iP2200, iP1600, and iP1200 are needed (though the stand-alone print function is available).

If an error has occurred in the printer, the service tool cannot be used as it is. To use the service tool, set the printer in the special mode, following the procedures below.

<Special mode setting procedures>

With the ink cartridges installed, 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.)

Function	Procedure	Remarks
Print head manual cleaning	Select "Cleaning" from the printer driver Maintenance.	Cleaning time: Approx. 40 sec.
<For reference> Print head deep cleaning	Select "Deep Cleaning" from the printer driver Maintenance.	Cleaning time: Approx. 60 sec.
Paper feed roller cleaning	1. Remove the paper from the ASF. 2. Select "Roller Cleaning" from the printer driver Maintenance. 3. Following the instruction from the Status Monitor, load 3 sheets of plain paper in the ASF, and feed them.	Cleaning time: Approx. 2 min. Host computer is required.
Test printing 1) Nozzle check pattern printing	Select "Nozzle Check" from the printer driver Maintenance.	Nozzle check pattern printing
<For reference> Print head alignment	1. Select "Print Head Alignment" from the printer driver Maintenance. 2. Select the optimal value using the printed head position adjustment pattern.	Significant misalignment can be adjusted. Host computer is required.
2) Shipment pattern printing - ROM version - Number of pages fed - Waste ink amount	Refer to Shipment inspection pattern* ¹ below.	Refer to Shipment inspection pattern sample* ² below. Host computer and service tool are required.
EEPROM reset (Reset of waste ink counter etc.)	Refer to EEPROM reset / Destination setting* ³ below.	Host computer and service tool are required.
Destination setting	Refer to EEPROM reset / Destination setting* ³ below.	Host computer and service tool are required.
EEPROM information check	Refer to Shipment inspection pattern sample* ² below.	Host computer and service tool are required.
Stand-alone printing	1. Set paper. 2. In the stand-by mode, press the Resume/Cancel button 5 times in 2 seconds. <Conditions> - At "no paper" error, turn the printer off, and turn it on again, before doing the stand-alone printing. - Even in the stand-by mode, if the printer enters the power-saving mode (10 seconds after capping), the stand-alone printing cannot be done.	Host computer and service tool NOT required.

*¹ Shipment inspection pattern printing

- Install the ink cartridge, and press the Power button to turn on the printer. (The Power LED lights in green.)
- Set A4-sized paper.
- Connect the printer to the computer. Using the iP2200 / iP1600 / iP1200 service tool (QY9-0068), select "USB PORT." (See APPENDIX 2, iP2200 / iP1600 / iP1200 SERVICE TOOL.)
- Select "TEST PATTERN 1." The printer starts printing the shipment inspection pattern.

*² Shipment inspection pattern sample

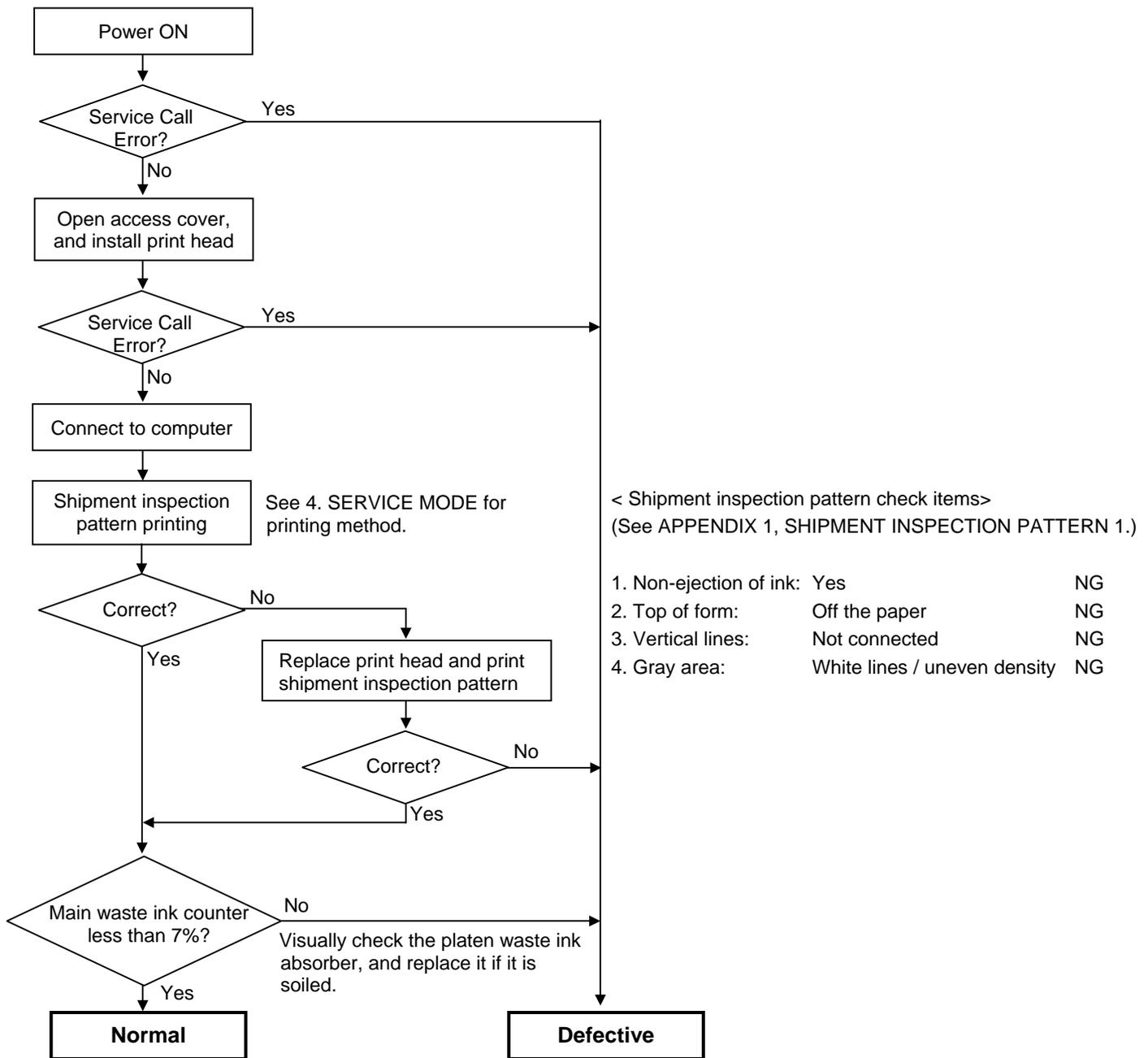
EEPROM contents can be confirmed from the shipment inspection pattern printout (top of the shipment inspection pattern). See APPENDIX 1, SHIPMENT INSPECTION PATTERN 1, for print sample.

*³ EEPROM reset / Destination setting

- a. Install the ink cartridge, and press the Power button to turn on the printer. (The Power LED lights in green.)
 - b. Connect the printer to the computer. Using the iP2200 / iP1600 / iP1200 service tool (QY9-0068), select "USB PORT". (See APPENDIX 2, iP2200 / iP1600 / iP1200 SERVICE TOOL.)
 - c. <Destination setting>
Destination can be set by clicking "LOCK RELEASE," then each model name in "SET DESTINATION."
Confirm the model name by clicking "GET DEVICE ID" after setting change. (If incorrect, it can be changed before turning the unit OFF/ON.)
- <EEPROM reset>
When "EEPROM CLEAR" is checked, the EEPROM is reset after the shipment inspection pattern printing.

6. TROUBLESHOOTING FLOWCHART

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

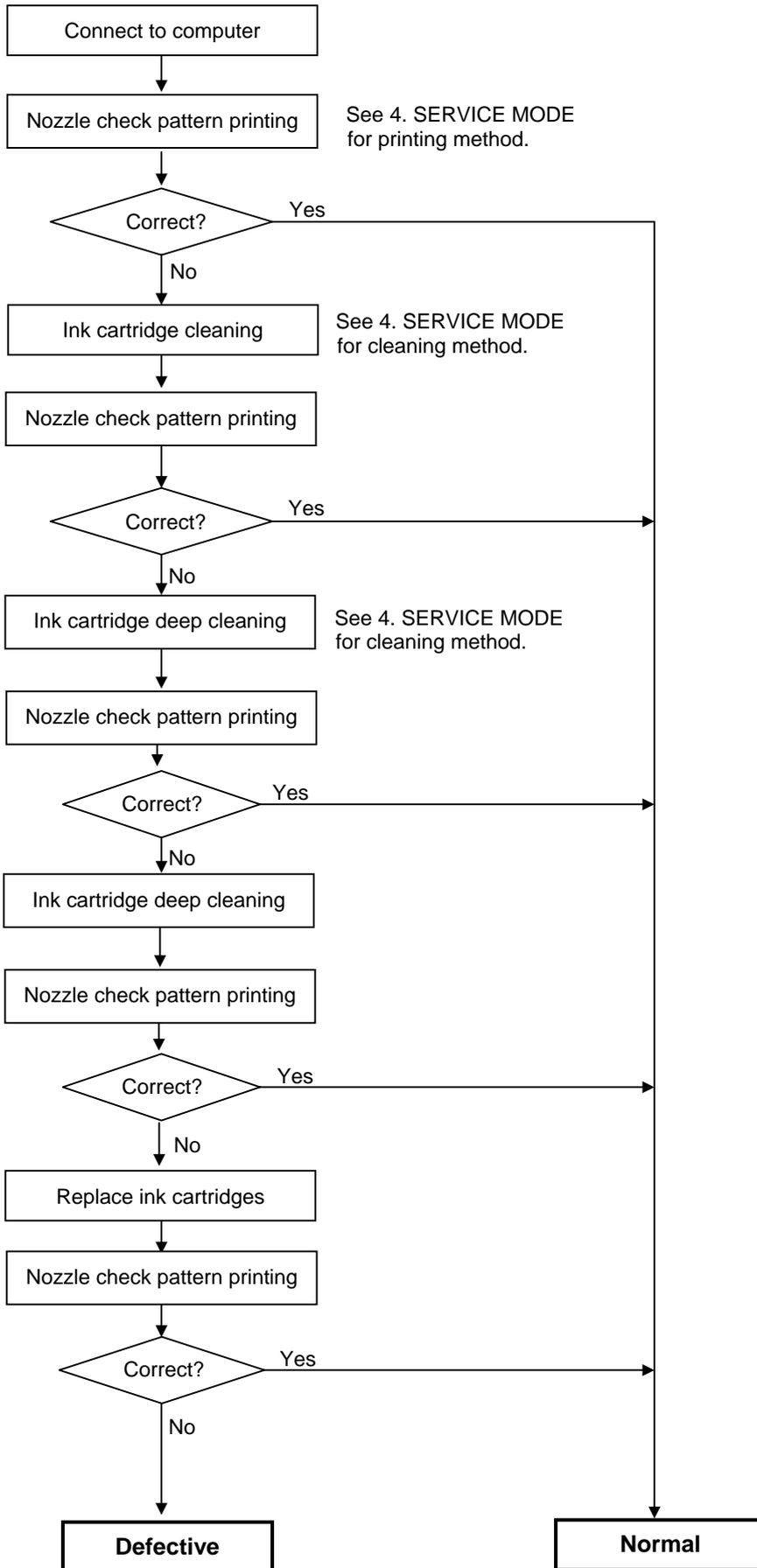


<Note for normal printer refurbishment>

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)



7. SPECIAL NOTES ON SERVICING

7-1. Resetting the Main and Platen Waste Ink Counters

The counters for the main waste ink absorber and the platen waste ink absorber can be reset separately. At waste ink absorber replacement, using the iP2200 / iP1600 / iP1200 service tool, reset the applicable waste ink counter(s). (When both the main and platen waste ink absorbers are replaced, reset both the main and platen waste ink counters.)

If an error has occurred in the printer, the service tool cannot be used as it is. To use the service tool, set the printer in the special mode, following the "special mode setting procedures" in 4. SERVICE MODE.

<Waste ink absorber replacement procedures>

1. Error check

At a waste ink full error (95% or full), identify which waste ink absorber is full, the main or the platen, using the iP2200 / iP1600 / iP1200 service tool's EEPROM INFORMATION, Dd or Ds values, as the error itself does not indicate which waste ink absorber is full. (See APPENDIX 2, iP2200 / iP1600 / iP1200 SERVICE TOOL, for details). Then, replace the applicable waste ink absorber.

- Dd: Main waste ink absorber amount (120,080 mg at 95% full, 126,400 mg at full)

- Ds: Platen waste ink absorber amount (17,955 mg at 95% full, 18,900 mg at full)

2. Resetting the replaced waste ink absorber counter

- At main waste ink absorber replacement:

In the iP2200 / iP1600 / iP1200 service tool CLEAR WASTE INK COUNTER section, click MAIN to reset the main waste ink counter value.

- At platen waste ink absorber replacement:

In the iP2200 / iP1600 / iP1200 service tool CLEAR WASTE INK COUNTER section, click PLATEN to reset the platen waste ink counter value.

8. PRODUCT TECHNICAL INFORMATION

8-1. FAQ (Problems specific to the iP2200, iP1600, and iP1200, 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 (Alarm LED blinks in orange 5 times.)	- LED blinks in orange 5 times (ink cartridge installation error). (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. A non-supported ink cartridge is installed.
3	B	Paper feeding	No paper feeding (Inkjet postcard)	- 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.
4	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.
5	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.
6	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.

(8-1. FAQ (Problems specific to the iP1000 and corrective actions) cont'd)

No.	*	Function	Phenomenon	Possible Call / Claim	Corrective action	Cause
7	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. 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.
8	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.
9	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.
10	C		Horizontal lines or uneven print density 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) Paper thickness lever (at the bottom front of the printer)

The head-to-paper distance can be adjusted using the paper thickness lever.

<Possible problems with this function>

- The ink cartridge rubs against the paper when the amount of paper curl is large.
 - > Flatten curled paper (to less than 3 mm).
 - > In print modes other than borderless printing, conduct printing in the print quality assurance area of the top and bottom edges. (Top margin 38.3 mm, bottom margin 31.2 mm)

(2) Quiet mode

The printer has a quiet mode function.

Compared with the normal mode,

- Acoustic noise level: Slightly lower. (HQ normal approx. 43.7 dB, Quiet approx. 42.8 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.

(3) Remaining ink level detection function

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

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

CL cartridge: The remaining ink level is detected by total counted dot values of 3 colors of ink.

Display method: Displayed on the Status Monitor (at 4 levels listed below for each BK/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 CMY colors of ink

-> As the remaining ink level is calculated by the counted dot value of the least remaining ink of 3 colors, if any of the C/M/Y inks is heavily consumed, the margin of error for remaining ink increases.

When performing continuous BK solid printing

-> With continuous printing, ink flow from the tank to the ink chamber can be interrupted, after which ink remains unused in the tank.

<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 Resume/Cancel 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 CMY colors of ink or continuous solid printing, etc.).

(4) Start of printing before receipt of the complete print data

The printer RAM is not enough to store the complete print data for 1 scanning, so printing starts before the entire print data for 1 scanning is stored in the buffer.

<Possible problems with this function>

- Printing is slow.
 - Lines or streaks appear on printouts.
- > Increase the print quality (from Standard to High).

(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. (The black ink is pigment-based, and clogs easier than other dye-based ink.)

Perform from the printer driver Maintenance.

<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) CL ink cartridge replacement	BK: Approx. 0.10 g CL: Approx. 0.10 g	Approx. 40 sec.
Cleaning on arrival at user BK ink cartridge replacement 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. 45 sec.
Timer cleaning (3 to 6 months)	BK: Approx. 0.30 g CL: Approx. 0.30 g	Approx. 55 sec.
Deep cleaning Timer cleaning (6 months or more)	BK: Approx. 0.45 g CL: Approx. 0.45 g	Approx. 60 sec.

(6) Print head alignment

The printer has a print head alignment function (print head position adjustment function). As it is not necessary to perform print head alignment at setup or installation of the printer, the function is only briefly introduced at installation.

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 cyan nozzle inclination

- B: Alignment of cyan large nozzles in bi-directional printing
- C: Alignment of cyan small nozzles in bi-directional printing
- D: Alignment between cyan large and small nozzles
- E: Alignment of magenta large nozzles in bi-directional printing
- F: Alignment of magenta small nozzles in bi-directional printing
- G: Alignment between magenta large and small nozzles
- H: Alignment between black even and odd nozzles
- I: Alignment of black nozzle inclination
- J: Alignment of black nozzles in bi-directional printing
- K: Horizontal alignment between CL and BK chips
- L: Vertical alignment between CL and BK chips
- M: Alignment of yellow large nozzles in bi-directional printing
- N: Alignment of yellow small nozzles in bi-directional printing
- O: Alignment between yellow large and small nozzles

Perform from the printer driver Maintenance.

(At initial set-up by the user, notice to perform the print head alignment is displayed in the Status Monitor.)

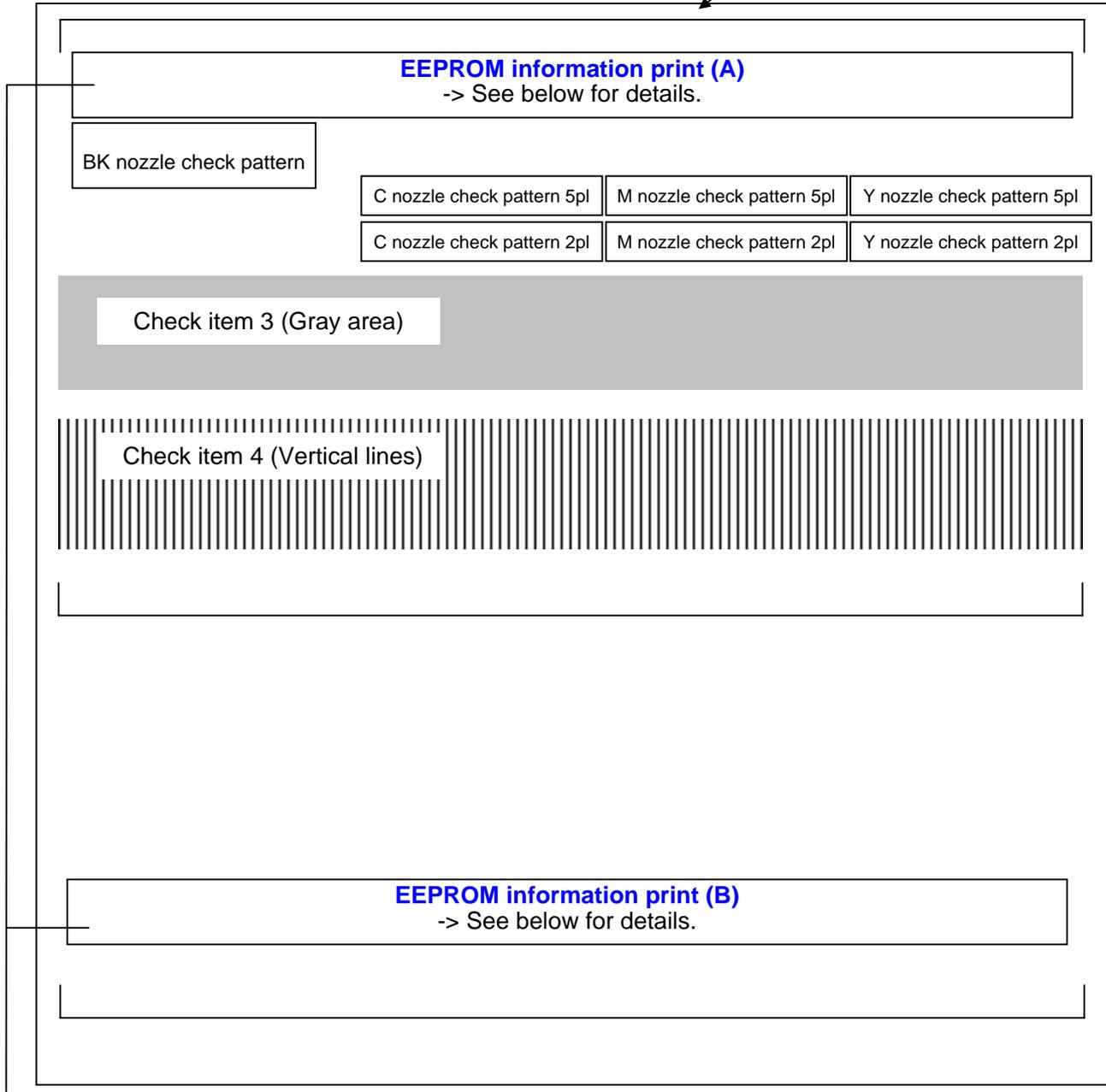
<Possible problems with this function>

- The line is not straight.
 - > Perform print head alignment from the printer driver.
- Printout is granulated.
 - > Perform print head alignment from the printer driver.

APPENDIX 1: SHIPMENT INSPECTION PATTERN 1

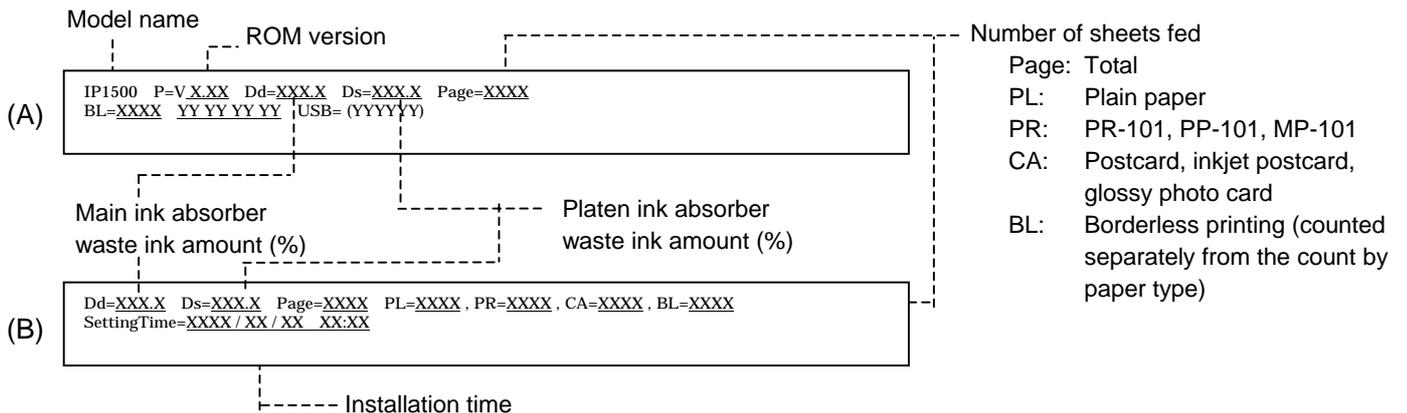
Check item 1 (Non-ejection of ink): Total area of the sample below

Check item 2 (Top of form)



Paper size: A4

<EEPROM information print>



APPENDIX 2: iP2200 / iP1600 / iP1200 SERVICE TOOL

<How to use the iP2200 / iP1600 / iP1200 Service Tool (QY9-0068)>

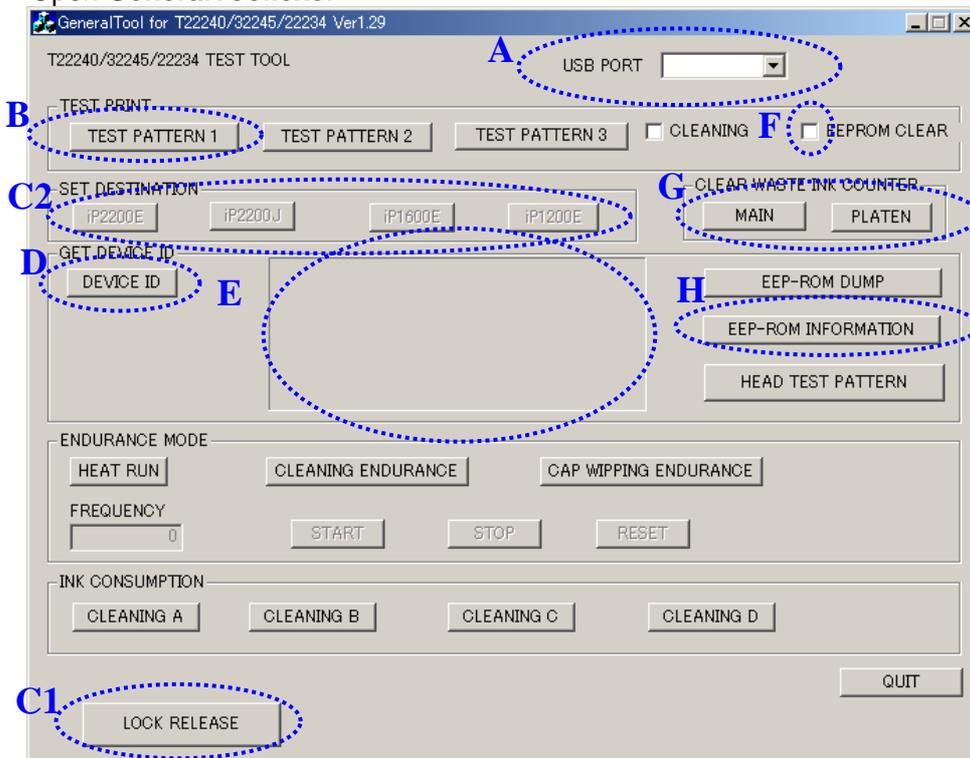
Usage: Shipment inspection pattern printing
Destination setting in EEPROM
EEPROM reset

Supported OS: Windows 98 / ME / 2000 / XP (J/E version) : QY9-0068

Distribution method: Provided by SSIS (Download "iP2200 / iP1600 / iP1200 Service Tool" from software download in SSIS.)

<Usage procedures>

1. Unzip **iP2200_iP1600_iP1200ServiceTool.zip**. (Double-click to unzip the file.)
2. Open the **iP2200_iP1600_iP1200ServiceTool** folder created after unzipping.
3. Open **GeneralTool.exe**.



4. Select the connected USB port number from USB PORT (A).

<How to print the shipment inspection pattern>

1. Select TEST PATTERN 1 (B), and the shipment inspection pattern 1 will be printed. (Refer to APPENDIX 1, SHIPMENT INSPECTION PATTERN 1.)

<How to set the destination>

1. Click LOCK RELEASE (C1), and select the applicable model name in SET DESTINATION (C2).
 - “iP2200J” for iP2200 Japan model
 - “iP2200E” for iP2200 non-Japan models
 - “iP1600E” for iP1600 non-Japan models
 - “iP1200E” for iP1200 non-Japan models
2. Click DEVICE ID (D), and confirm the model name indicated in the (E) area. Or, confirm the model name on the shipment inspection pattern printout.

<How to reset EEPROM>

After marking the EEPROM CLEAR check box (F), perform the shipment inspection pattern printing. The EEPROM will be reset.

<How to reset the waste ink counter>

In CLEAR WASTE INK COUNTER (G), select MAIN or PLATEN. The selected waste ink counter will be reset.

MAIN resets the main waste ink counter.

PLATEN resets the platen waste ink counter.

If both the main and platen waste ink absorbers are replaced, reset both the main and platen waste ink counters.

<How to confirm EEPROM information details>

Click EEP-ROM INFORMATION (H). The EEP-ROM INFORMATION dialog box will open to display EEPROM information details.