

# **PIXMA MP180 / MP460 SERVICE REFERENCE MANUAL**

(Differences from the base models, PIXMA MP170 / MP450, only)

## Part 1: MAINTENANCE

1. Maintenance
2. Error Display
3. Repair

## Part 3: APPENDIX

2. Connector Location and Pin Layout
3. Specifications

## Attachment 1: PARTS LIST (for Asia)

**QY8-13AX-010**

**First Edition: June 16, 2006**

**Second Edition: June 23, 2006**

**Canon Inc.**

## Part 1: MAINTENANCE

### 1. Maintenance

#### 1-3. Product Life

(1) Machine

Same as the MP170 and MP450.

(2) Ink cartridge

Units: pages

	Standard		High capacity	
	BK	CL	BK	CL
	PG-40	CL-40	PG-50	CL-51
Black document (ISO/IEC 19752) <sup>*1</sup>	348	(3,350)	510	(5,590)
Color document (ISO/IEC FCD24712) <sup>*1</sup>	355	308	547	560
Photo (4" x 6") <sup>*2</sup>	(2,165)	120	(3,275)	198

Note: ( ): Estimated supplemental yield

\*1: Black/Color document: Declared yield value in accordance with ISO/IEC FCD24711. Values obtained by continuous printing.

\*2: Photo (4" x 6"): When printing Canon standard patterns on 4" x 6" Photo Paper Plus Glossy continuously with the default settings of Photo Paper Plus Glossy using Windows XP printer driver in borderless printing mode and Windows XP Photo Printing Wizard.

Declared yield value determined based on Canon standard method referring to ISO/IEC FCD24712.

## 2. Error Display

### 2-1. Operator Call Errors

- The error, "WASTE INK NEAR FULL" (MP170) or "The waste ink absorber is almost full" (MP450), deleted.
- The error U161, "CHECK INK" (MP170) or "The following ink may have run out" (MP450), deleted.
- Add the following error.

MP460 LCD	MP180 LCD	Error [Error code]	Solution	Remarks
The ink absorber is almost full. Press [OK] to continue printing. Contact the service center.	REQ. SERVICE SOON	Warning: The ink absorber becomes almost full. [1700 for the main ink absorber, 1710 for the platen ink absorber]	Pressing the OK button will clear the error, and enable printing. <b>At repair:</b> For main ink absorber replacement, replace - the bottom case unit (MP180: QM3-1362 MP460: QM3-1364), or - the ink absorber kit (MP180: QY5-0149 MP460: QY5-0151) For platen ink absorber replacement, replace - the platen ink absorber (QC1-6014), and - the ink absorber kit (MP180: QY5-0149 MP460: QY5-0151)	The service call error, indicating the ink absorber is full, is likely to occur soon.

## 2-1. Operator Call Errors

Error [Error code]	Solution (Replacement of listed parts, which are likely to be faulty)
Main ink absorber full [5B00] Platen ink absorber full [5B10]	<b>Main ink absorber:</b> - Bottom case unit MP180: QM3-1362 MP460: QM3-1364 - Ink absorber kit MP180: QY5-0149 MP460: QY5-0151 <b>Platen ink absorber:</b> - Platen ink absorber (QC1-6014) - Ink absorber kit MP180: QY5-0149 MP460: QY5-0151

## 3. Repair

### 3-3. Adjustment / Settings

#### (7) Service mode

Function	Procedures	Remarks
Ink absorber counter reset	See "Service mode operation procedures" below.	The main ink absorber counter and the platen ink absorber counter can be reset separately. If the value of the main ink absorber counter is 7% or more, replace the bottom case unit or ink absorber (inside the bottom case unit).
Ink absorber counter value setting	See "Service mode operation procedures" below.	The value can be set for the main ink absorber counter and the platen ink absorber counter separately.

#### <Service mode operation procedures>

Time(s)	LED indication	Function	Remarks
4 times	Green (ON/OFF)	Ink absorber counter reset	
12 times	Green (ON/OFF)	Button and LCD test	
13 times	Orange (Alarm)	Ink absorber counter value setting	See "Ink absorber counter value setting procedures" below.
14 times or more		Return to the menu selection.	

<Ink absorber counter resetting procedures>

- 1) In the ink absorber counter resetting mode, press the Stop/Reset button the specified number of time(s) according to the ink absorber whose counter should be reset to 0%.

Time(s)	LED indication	Ink absorber
0 times	Green (ON/OFF)	Main ink absorber
1 time	Orange (Alarm)	Platen ink absorber
2 times	Green (ON/OFF)	Both the main and platen ink absorbers

<Ink absorber counter value setting procedures>

- 1) In the ink absorber counter value setting mode, press the Stop/Reset button the specified number of time(s) according to the ink absorber whose value should be transferred to the EEPROM.

Time(s)	LED indication	Ink absorber
0 times	Green (ON/OFF)	Main ink absorber
1 time	Orange (Alarm)	Platen ink absorber
2 times	Green (ON/OFF)	Both the main and platen ink absorbers
3 times or more	Orange (Alarm)	Return to the ink absorber counter value setting mode

- 2) Press the ON/OFF button to proceed to the next step.
- 3) The ink absorber counter value can be set in 10% increments by pressing the Stop/Reset button. Press the Stop/Reset button the appropriate number of time(s) to select the value which is closest to the actual ink amount in the ink absorber.

Time(s)	Ink absorber counter value to be set (%)
0 times	0%
1 time	10%
2 times	20%
3 times	30%
4 times	40%
5 times	50%
6 times	60%
7 times	70%
8 times	80%
9 times	90%
10 times or more	Not valid. Press the ON/OFF button to return to the ink absorber counter value setting mode.

- 4) Press the ON/OFF button to set the selected value to the EEPROM

### 3-4. Verification Items

- (1) Service test print

<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.)

```

MPxxx M=Vxxx D=xxx.x USB(xxxxxx)

JPN JPN JPN JPN JPN JPN JPN
JPN JPN JPN JPN JPN JPN JPN
    
```

MPxxx: Model name  
M=Vxxx: ROM version  
D=xxx.x: Ink amount in the main ink absorber (%)

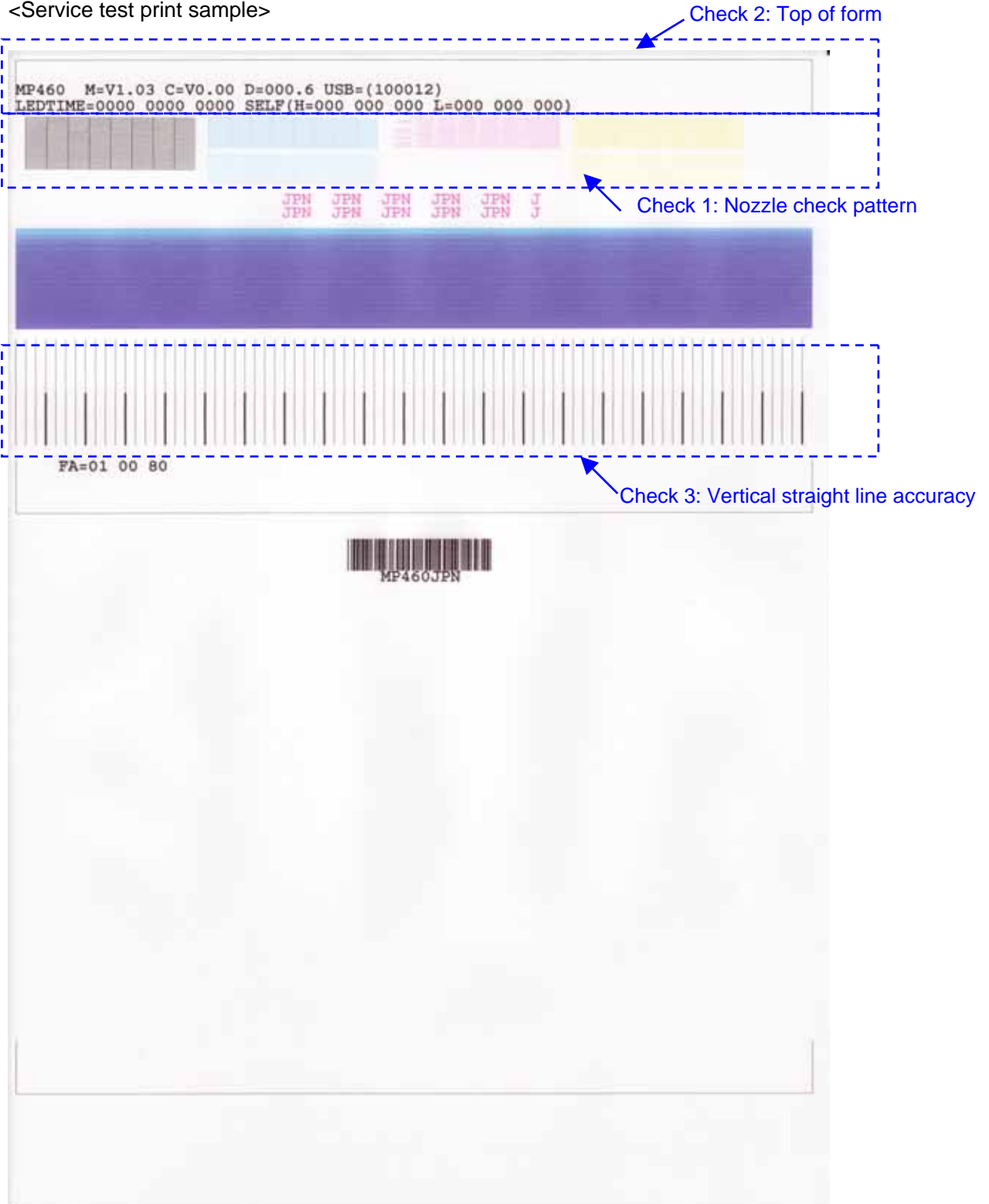
USB(xxxxxx): USB serial number  
JPN: Destination

<Print check items>

On the service test print (sample below), confirm the following items:

- Check 1, nozzle check pattern: Ink shall be ejected from all nozzles.
- Check 2, top of form accuracy: The lines shall not extend off the paper.
- Check 3, vertical straight line accuracy: The lines shall not be broken.

<Service test print sample>



(2) EEPROM information print

<How to read EEPROM information print>

Print sample:

```
MP460 JPN V1.00 ST=2006/05/30-16:41 LPT=2006/07/04-10:25
ER(ER0=1000 ER1=5100) P_ON(S=00001) MSD(000)
IF(USB1=1) PC(M=000 R=000 T=011 D=000 C=000)
D=008.0 Ps 000.0
TPAGE(TTL=00022 COPY=00005)
CLT(2006/06/02-11:34)
CT(BK_ST=002 BK_HC=002 CL_ST=000 CL_HC=000)
IS(BK=0 M=0 C=0 Y=0)
IC(BK=02150 M=02435 C=02001 Y=02081)
A_REG=0 M_REG=1
CDIN(PB=000 OPB=000) BTIN=0
PAGE(All=00145 PP=00112 HR+MP=00000 PR+SP+SG=00033 GP=00000 PC=00000 EV=00000)
CDPAGE(All=00000)
EDGE=00000 L=00031 BTPAGE=00000
```

<Direct>

```
LG=01 Japanese CDI=000 CDP=000
CDD-PR (L=00020 2L=00000 PC=00000 A4=00000)
CDD-SP (L=00020 2L=00000 PC=00000 A4=00000)
CDD-MP (L=00020 2L=00000 PC=00000 A4=00000)
DCD-PP (L=00020 2L=00000 PC=00000 A4=00000)
DCD-FPP (L=00020 2L=00000 PC=00000 A4=00000)
DCD-MPP (L=00020 2L=00000 PC=00000 A4=00000)
PrnB=00000 SC=00000 Seal=00000
```

<Scanner>

```
SC=00000 SCAN_ER(ER0=0000 ER1=0000)
SC-dpi(75=00000 150=00000 300=00000 600=00000 1200=00000 2400=00000)
SG(GY=00000 CL=00000)
```

<Copy>

```
MCASF(PP=00000 SP+PR+GP=00000 OTH=00000)
CCASF(PP=00000 HR+MP=00000 PR+SP+SG=00000 GP=00000 PC=00000)
```

- EEPROM Information <Hex.> -

Printed items:

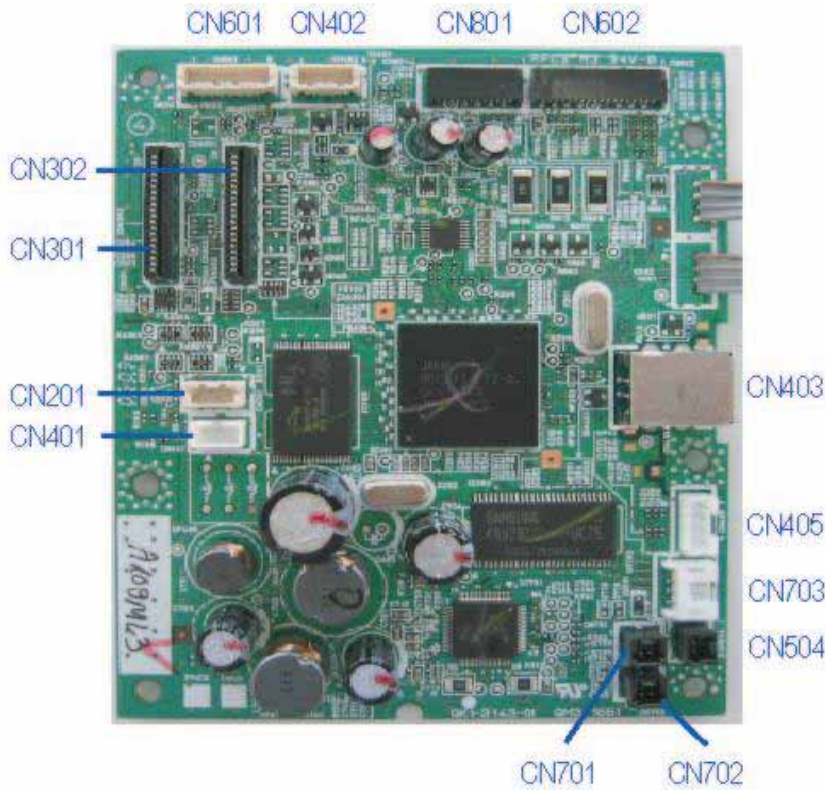
- 1: Model name (Destination)
- 2: ROM version
- 3: Installation date
- 4: Last printing time
- 5: Operator call / service call error record
- 6: Power-on count (soft-power-on)
- 7: Longest period of non-printing
- 8: I/F connection (USB1)
- 9: Purging count (M = manual cleaning, R = deep cleaning, T = timer cleaning, D = cleaning by dot count, C = cleaning at ink cartridge replacement)
- 10: Ink amount in the ink absorber (D = main, Ps = platen)
- 11: Total print pages (TTL = total, COPY = number of copying sheets)
- 12: Last cleaning time
- 13: Ink cartridge replacement count (Black standard, black high capacity, color standard, color high capacity)
- 14: Ink status (BK/M/C/Y)

- 15: Total ink consumption amount (BK/M/C/Y)
  - 16: Half-automatic print head alignment on the machine
  - 17: Manual print head alignment via the MP driver
  - 18: Camera Direct print-supported device connection record (Canon PictBridge, other PictBridge)
  - 19: Bluetooth-supported device connection record
  - 20: 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)
  - 21: Camera Direct print pages in total
  - 22: Borderless print pages
  - 23: L & 4x6 print pages
  - 24: Print pages via Bluetooth connection
  - <Direct>
  - 25: Language setting
  - 26: Number of times a memory card is inserted
  - 27: Total Card Direct print pages
  - 28: Memory Card Direct print pages: Photo Paper Pro (4x6, 5x7, postcard, A4/LTR)
  - 29: Memory Card Direct print pages: Photo Paper Plus Glossy (4x6, 5x7, postcard, A4/LTR)
  - 30: Memory Card Direct print pages: Matte Photo Paper (4x6, 5x7, postcard, A4/LTR)
  - 31: Camera Direct print pages: Photo Paper (4x6, 5x7, postcard, A4/LTR)
  - 32: Camera Direct print pages: Fast Photo Paper (4x6, 5x7, postcard, A4/LTR)
  - 33: Camera Direct print pages: Matte Paper (4x6, 5x7, postcard, A4/LTR)
  - 34: Print Beam pages fed
  - 35: Business Card / Credit Card size paper pages fed
  - 36: Sticker pages fed
  - <Scanner>
  - 37: Total number of scanning
  - 38: Scanning error status history
  - 39: Number of scanning by the scanning resolution (75/150/300/600/1200/2400 dpi)
  - 40: Number of scanning by the scanning tone (grayscale/color)
  - <Copy>
  - 41: Number of monochrome copy pages fed from ASF (plain paper, Photo Paper Plus Glossy & Photo Paper Pro & Photo Paper Plus Semi-gloss & Glossy Photo Paper, other paper)
  - 42: Number of color copy pages fed from ASF (plain paper, High Resolution Paper & Matte Photo Paper, Photo Paper Pro & Photo Paper Plus Glossy & Photo Paper Plus Semi-gloss, Glossy Photo Paper, postcard)
- Printer EEPROM information dump in hex (Address 00h to FFh) –

**Part 3: APPENDIX**

**2. Connector Location and Pin Layout**

**2-1. Main Board**



CN201 (IrDA) (MP460 only)

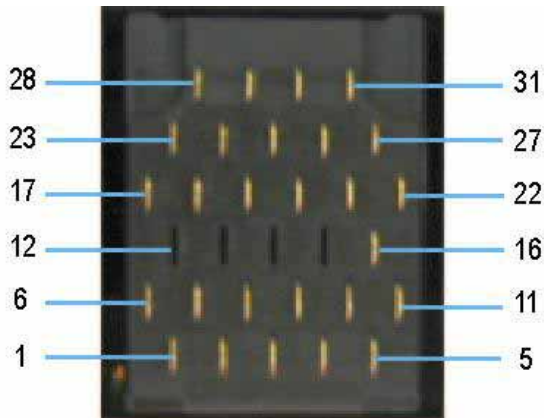
No.	Signal name	Function
1	S-GN	Ground
2	IR RXD	Receiving data signal
3	IR TXD	Sending data signal
4 to 8	+3.3V	Power supply

CN405 (Remote debugger)

No.	Signal name	Function
1	TXD	Sending data signal
2	RXD	Receiving data signal
3	GND	Ground
4	+3.3V	Power supply



## 2-6. Carriage Board (Print Head Connector)



[Color print head]

No.	Signal name	Function
1	HENB2	Heat enable
2	HCLK	Print head clock
3	B_HLAT	Latch signal
4	B_DATA_C	C serial data
5	B_DIA	Diode sensor anode
6 to 11	GND	Ground
12 to 15	---	Not used
16	ID4	Print head ID
17 to 22	VH	Print head drive 24V
23	---	Not used
24	SGND	Ground
25	DATA_M	M serial data
26	VHT	Power supply for power transistor inside the print head
27	VID	Power supply for ID reading
28	B_HVDD	Print head logic power supply
29	DATA_Y	Y serial data
30	B_CNO	Print head contact detection signal
31	B_HE1	Heat enable

[Black print head]

No.	Signal name	Function
1	SGND	Ground
2	A_HCLK	Print head clock
3	A_HLAT	Latch signal
4	A_DATA_EVEN	Even nozzle data
5	A_DIA	Diode sensor anode
6 to 11	GND	Ground
12 to 15	---	Not used
16	ID2	Print head ID
17 to 22	VH	Print head drive 24V
23	---	Not used
24	SGND	Ground
25	SGND	Ground
26	A_VHT	Power supply for power transistor inside the print head
27	A_VID	Power supply for ID reading
28	A_HVDD	Print head logic power supply
29	A_DATA_ODD	Odd nozzle data
30	A_CNO	Print head contact detection signal
31	A_HENB0	Heat enable

### 3. Specifications

#### <Machine >

Throughput	Approx. 52 sec. (PP-101 4x6, borderless printing, default settings)	
	For reference:	
	Custom 5	Standard
	Black	22 ppm
	Color	17 ppm
Print media specifications	Transparency CF-102 deleted.	
Acoustic noise level (highest print quality)	- Printing from a computer:	Approx. 44.5 dB
	- Copying:	Approx. 48.0 dB

#### <Copy>

Copy speed *1	Approx. 53 sec.
---------------	-----------------

#### <Card Direct Printing>

Memory card drive	Supported memory card	Compact Flash TYPE I/II, Microdrive, SmartMedia Card, Memory Stick, Memory Stick PRO, SD card, MultiMedia Card (ver. 3.31), xD-Picture Card*, miniSD card*, Memory Stick Duo*, Memory Stick PRO Duo* * Adapter
Throughput *2	Approx. 67 sec. (MP460) Approx. 66 sec. (MP180)	

#### <Camera Direct Printing>

Supported digital cameras	Digital cameras and digital video cameras supporting PictBridge
Throughput *3	Approx. 66 sec.

\*1: Document copy speed is based on copying the manuscript "ISO/IEC FCD24712: Newsletter" (digital data printed by offset) using default settings on plain paper.

Copy speed may vary depending on document complexity, copy mode, page coverage, type of paper used, etc. and does not take into account warming up time.

\*2: When printing a 6 megapixel image taken by certain Canon digital camera from a memory card on default settings using Photo Paper Plus Glossy without border.

Actual print speed may vary depending on image data, print mode, type of paper and type of memory card used.

\*3: When printing a 6 megapixel image taken by certain Canon digital camera from PictBridge on default settings using Photo Paper Plus Glossy without border.

Actual print speed may vary depending on image data, print mode, type of paper used and device that the printer is connected to.

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