

**MP280 / MP287 / MP288
MP495 / MP497 / MP498
SERVICE REFERENCE MANUAL**

In this manual, only the major differences from the base machines, MP240 / MP245, MP260 / MP268, and MP480 / MP486, are given. For other information, refer to the "*MP240 / MP245, MP260 / MP268, MP480 / MP486 Simplified Service Manual*" (QY8-13BV-010).

**QY8-13CW-000
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1. LIST OF ERROR DISPLAY / TROUBLESHOOTING

Errors and warnings are displayed by the following ways:

- Operator call errors are indicated by the Alarm LED lit in orange, and the error and its solution are displayed on the LCD.
- Messages during printing from a computer are displayed on the MP driver Status Monitor.
- Error codes are printed in the "operator call/service call error record" area in EEPROM information print.

Buttons valid when an operator call error occurs:

- ON button: To turn the machine off and on again.
- OK button: To clear and recover from an error. In some operator call errors, the error will automatically be cleared when the cause of the error is eliminated, and pressing the OK button may not be necessary.
- Stop button: To cancel the job at error occurrence, and to clear the error.

1-1. Operator Call Error (Alarm LED Lit In Orange)

Error	Error code	7-segment LCD	Solution
No paper in the rear tray.	[1000]	E02	Set the paper in the rear tray, and press the OK button.
Paper jam.	[1300]	E03	Remove the jammed paper, and press the OK button.
Paper output tray open.	[1251]	E03	There may be an obstacle in front of the machine. Remove it, if any, and press the OK button.
Ink cartridge not installed, or not properly installed.	[1401]	E05	Install the ink cartridge properly. If the error is not cleared, the ink cartridge may be defective. Replace the ink cartridge.
Ink cartridge temperature sensor error.	[1403]	E05	Re-set the ink cartridge. If the error is not cleared, the ink cartridge may be defective. Replace the ink cartridge.
Non-supported ink cartridge is installed.	[1485]	E05	A non-supported ink cartridge is installed. Install the supported ink cartridge. If the error is not cleared, the ink cartridge may be defective. Replace the ink cartridge.
Ink cartridge in a wrong position.	[1486]	E07	Install the ink cartridge in the correct position. If the error is not cleared, the ink cartridge may be defective. Replace the ink cartridge.
Multiple ink cartridges of the same color installed.	[1487]	E07	Confirm that each ink cartridge is installed in the correct position. If the error is not cleared, the ink cartridge may be defective. Replace the ink cartridge.
Ink cartridge hardware error	[1682]	E15	Re-set the ink cartridge. If the error is not cleared, the ink cartridge may be defective. Replace the ink cartridge.
Ink cartridge not recognized.	[1684]	E14	A non-supported ink cartridge is installed. Install the supported ink cartridge.
The remaining ink amount unknown.	[1686]	E13	Replace the ink cartridge. Printing with an empty ink tank can damage the machine. To continue printing without replacing the ink cartridge, press the Stop/Reset button for 5 sec. or longer. (After the operation, it is recorded in the machine EEPROM that the function to detect the remaining ink amount was disabled.)
Ink cartridge not completely installed.	[1687]	E04	Re-set the ink cartridge. If the error is not cleared, the ink cartridge may be defective. Replace the ink cartridge.

Error	Error code	7-segment LCD	Solution
No ink.	[1688]	E16	Replace the ink cartridge. Printing with an empty ink tank can damage the machine. To continue printing without replacing the ink cartridge, press the Stop/Reset button for 5 sec. or longer. (After the operation, it is recorded in the machine EEPROM that the function to detect the remaining ink amount was disabled.)
Warning: The ink absorber becomes almost full.	[1700]	E08	Replace the ink absorber, and reset the ink absorber counter. (See 2-1, "Service Mode.") Pressing the Stop/Reset button will exit the error, and enable printing without replacing the ink absorber. However, when the ink absorber becomes full, no further printing can be performed unless the applicable ink absorber is replaced.

1-2. Service Call Error (Cyclic Blinking in Orange (Alarm LED) and Green (ON LED))

Cycles of blinking in orange and green	Error	Error code	7-seg. LCD	Conditions	Solution (Replacement of listed parts, which are likely to be faulty)
2 times	Carriage error	[5100]	P02	An error occurred in the carriage encoder signal.	<ol style="list-style-type: none"> 1) Confirm that no foreign material is in the area where the carriage moves. 2) Clean the timing slit film. If it cannot be cleaned, replace it. 3) Replace the following items (listed in the order of likeliness to be faulty): <ul style="list-style-type: none"> - Carriage unit - Logic board
3 times	Line feed error	[6000]	P03	An error occurred in the LF encoder signal.	<ol style="list-style-type: none"> 1) Perform the following for the timing slit disk film: <ul style="list-style-type: none"> - Clean it. - Re-attach it, if peeled off. - Replace it, if it cannot be cleaned, or if it is deformed or damaged. 2) Replace the following items (listed in the order of likeliness to be faulty): <ul style="list-style-type: none"> - Logic board - Drive unit
5 times	ASF cam sensor error	[5700]	P05	This error takes place when feeding paper from the rear tray after an error occurred in the rear tray cam sensor.	<ol style="list-style-type: none"> 1) Confirm that no foreign material is around the drive gear on the side of the drive unit. 2) Replace the following items (listed in the order of likeliness to be faulty): <ul style="list-style-type: none"> - Drive unit - Logic board
6 times	Internal temperature error	[5400]	P06	The internal temperature is not normal.	Replace the logic board.

7 times	Ink absorber full	Japan: [5B00] Others: [5B01]	P07	The ink absorber becomes full.	Replace the ink absorber (ink absorber kit), and reset the ink absorber counter.
8 times	Print head temperature rise error	[5200]	P08	The print head temperature exceeded the specified value.	Replace the following items (listed in the order of likeliness to be faulty): - Ink cartridge - Logic board
9 times	EEPROM error	[6800] [6801]	P09	A problem occurred in reading from or writing to the EEPROM.	Replace the logic board.
10 times	VH monitor error	[B200]	P10	The print head voltage is abnormal.	Replace the following items: - Ink cartridge - Logic board
20 times	Other hardware error	[6500]	P20	An unidentified error or a network error occurred.	Replace the following item (listed in the order of likeliness to be faulty): - Logic board - WLAN board
22 times	Scanner error	[5011]	P22	The scanner unit is faulty.	Replace the following items (listed in the order of likeliness to be faulty): - Scanner unit - Logic board
23 time	Scanner motor error	[5012]	P22	The scanner motor is faulty.	Replace the following items (listed in the order of likeliness to be faulty): - Scanner unit - Logic board

1-3. Other Error

7-segment LCD	Cause	Solution
E20	The wireless LAN setting was attempted while other settings were being performed.	Wait until the settings being performed were completed, then try the wireless LAN setting.
E23	In WPS wireless LAN setting, multiple access points were detected.	Wait for a while, and perform the setting again.
E24	In WPS wireless LAN setting, an error occurred.	Confirm the access point, and perform the setting again.
E50	The machine failed in scanning the print head alignment sheet.	Press the Stop/Reset button to clear the error, perform the following, then try the print head alignment again: - Confirm that the sheet is placed in the correct orientation. - Clean the platen glass, if it is smeared. - Confirm that A4 plain paper is used. - Print the nozzle check pattern to confirm that all the ink is ejected properly.

2. ADJUSTMENT / SETTINGS

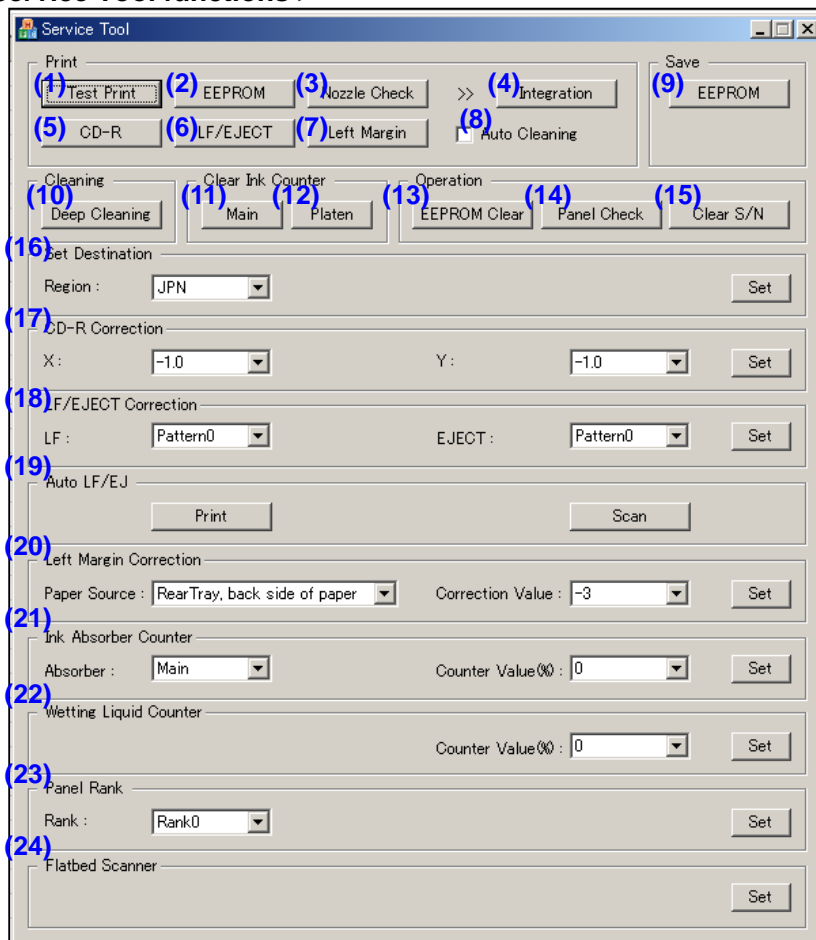
2-1. Service Mode

< Service mode operation procedures >

Use the Service Tool on the connected computer.

- 1) Start the printer in the service mode.
 - i. With the machine power turned off, while pressing the Stop/Reset button, press and hold the ON button. (DO NOT release the buttons).
 - ii. When the Power LED lights in green, while holding the ON button, release the Stop/Reset button. (DO NOT release the ON button.)
 - iii. While holding the ON button, press the Stop/Reset button 5 times, and then release both the ON and Stop/Reset buttons. (Each time the Stop/Reset button is pressed, the Alarm and Power LEDs light alternately, Alarm in orange and Power in green, starting with Alarm LED.)
 - iv. When the Power LED lights in green, the machine is ready for the service mode operation and "0" is displayed on the 7-segment LCD.
- 2) Start the Service Tool on the connected computer.
 - i. When a button is clicked in the Service Tool dialog box, that function is performed. During operation of the selected function, all the Service Tool buttons are dimmed and inactive.
 - ii. When the operation is completed, "A function was finished." is displayed, and another function can be selected.
 - iii. If a non-supported function is selected, "Error!" is displayed. Click **OK** in the error message dialog box to exit the error.

< Service Tool functions >



No.	Name	Function	Remarks
(1)	Print: Test Print	Service test print	Service test print: <ul style="list-style-type: none"> - Model name - ROM version - Ink absorber counter value (ink amount in the ink absorber) - USB serial number - Destination - EEPROM information - Barcode (model name + destination), etc.
(2)	Print: EEPROM	EEPROM information print	The dialog box opens to select the paper source. Select Rear tray , and click OK . EEPROM information print: <ul style="list-style-type: none"> - Model name - Destination - ROM version - Ink absorber counter value (ink amount in the ink absorber) - Print information - Error information, etc.
(3)	Print: Nozzle Check	Nozzle check pattern print	The same nozzle check pattern as the one in the user mode is printed.
(4)	Print: Integration	Unified inspection pattern print	The dialog box opens to select the paper source. Select Rear tray , and click OK . The unified inspection pattern of the service test print, EEPROM information print, and nozzle check pattern print is printed on one sheet of paper.
(5)	Print: CD-R	CD-R check pattern print	Not used.
(6)	Print: LF / EJECT	LF / Eject correction pattern print	Not used.
(7)	Print: Left Margin	Left margin pattern print	Not used.
(8)	Print: Auto Cleaning	Enabling / disabling of automatic print head cleaning	Automatic print head cleaning prior to printing. Select this option to enable the cleaning. The automatic cleaning is performed prior to the following printing when this option is enabled: <ul style="list-style-type: none"> - EEPROM information print - Nozzle check pattern print - Left margin pattern print - Ink absorber counter value printing after the counter is reset
(9)	Save: EEPROM	EEPROM information saving	Display of the EEPROM information on the computer, or saving of the EEPROM information to the computer. In the MP280/MP287/MP288 and MP495/MP497/MP498, this function is not available if an error occurred in the machine.

No.	Name	Function	Remarks
(10)	Cleaning: Deep Cleaning	Print head deep cleaning	Cleaning of both Black and Color at the same time.
(11)	Clear Ink Counter: Main	Main ink absorber counter resetting	Set a sheet of A4 or Letter sized plain paper. After the ink absorber counter is reset, the counter value is printed automatically.
(12)	Clear Ink Counter: Platen	Platen ink absorber counter resetting	Not used.
(13)	Operation: EEPROM Clear	EEPROM initialization	The following items are NOT initialized, and the shipment arrival flag is not on: <ul style="list-style-type: none"> - Destination settings - Ink absorber counter value - USB serial number - Ink cartridge region code - Record of ink absorber counter resetting and setting - Record of repair at the production site, etc.
(14)	Operation: Panel Check	Button and LCD test	See "Button and LCD test" below.
(15)	Operation: Clear S/N	Machine serial number clearing	The machine serial number in the EEPROM is cleared. Not used in regular repair servicing.
(16)	Set Destination	Destination settings	Select the destination, and click Set . ASA, AUS, BRA, CHN, CND, EMB, EUR, JPN, KOR, LTN, TWN, USA
(17)	CD-R Correction	CD / DVD print position correction (X and Y direction)	Not used.
(18)	LF / EJECT Correction	LF / Eject correction value setting	Not used.
(19)	Auto LF / EJ	Automatic LF / Eject correction value setting	Not used.
(20)	Left Margin Correction	Left margin correction value setting	Not used.
(21)	Ink Absorber Counter	Ink absorber counter setting	See " Ink absorber counter setting " below.
(22)	Wetting Liquid Counter	Wetting liquid counter setting	Not used.
(23)	Panel Rank	Capacitive sensor sensitivity setting	Not used.
(24)	Flatbed Scanner	Individual scanner adjustment	Not used.

< Button and LCD test >

Confirm the operation after replacement of the operation panel unit or logic board.

- 1) Click **Panel Check** of the Service Tool on the connected computer.
- 2) Press each button of the operation panel.
Each time a button is pressed, the number displayed on the LCD increments by 1, starting with "1."
When all the buttons are pressed, "E" is displayed.
- 3) Press the ON button. The machine returns to be ready for selection of another function.

< Ink absorber counter setting >

Set the ink absorber counter value to a new EEPROM after the logic board is replaced in servicing.

- 1) Before replacement of the logic board, check the ink absorber counter value in EEPROM information print.
- 2) In the **Ink Absorber Counter** section of the Service Tool, select **Main** from the **Absorber** pull-down menu.
- 3) From the **Counter Value(%)** pull-down menu, select the value (in 10% increments) which is the closest to the actual counter value confirmed before replacement of the logic board.
- 4) Click **Set**.

2-2. User Mode

Only the difference from the base models, MP240 / MP245, MP260 / MP268, and MP480 / MP486 is the automatic print head alignment. The other functions are the same as the ones in the base models.

< Automatic print head alignment >

The machine performs print head alignment just by scanning the printed alignment pattern as-is.

(Models with this type of print head alignment: MP250 / MP258, MP270 / MP276, MP490 / MP496, MP280 / MP287 / MP288, MP495 / MP497 / MP498)

Function	Procedures	Remarks
Automatic print head alignment (by scanning the printed alignment pattern)	Perform via the machine operation panel, or from the MP driver Maintenance tab.	Set a sheet of A4 or Letter sized plain paper.

2-3. Notes on Part Replacement

< Preventive replacement of ink absorber >

Replace the ink absorber in accordance with the guideline below, even when the ink absorber is not full. (For details, refer to Service Information #Q-12E/J-0188.)

< Guideline for preventive replacement of ink absorber >

Replace the ink absorber when it falls in either Criteria 1 or Criteria 2.

Criteria	Purpose	How to know the criteria values
Criteria 1: The ink absorber life* is 2 years or less.	To avoid re-repair for ink absorber replacement in a short period of time after repair for other reasons.	For 2009 2H or earlier products: EEPROM information print and the quick reference table (Service Information #Q-12E/J-0188) For 2010 1H and later products: EEPROM information print
Criteria 2: The ink absorber counter value is 80% or more.	To prevent ink leakage during return of the repaired printer to users.	EEPROM information print

* The estimated number of months until the ink absorber will become full

How to judge:

Print the EEPROM information, and check the "D" (ink absorber counter) and "DF" (ink absorber life) values.

Step 1: Is "D" 80% or more?

- Yes (80% or more) -> Replace the ink absorber.
- No (less than 80%) -> Proceed to Judgment 2.

Step 2: Is "DF" 24 or more?

- No (less than 24 months) -> Replace the ink absorber.
- Yes (24 months or more) -> No need to replace the ink absorber.

How to read the EEPROM information print:

```
MP495 SN= JPN V0.321 ST=2010/04/09-10:26 LPT=2010/04/13-16:50
D=000.7
DF=00141
ER(ER0=1401 ER1=0000 ER2=0000 ER3=0000 ER4=0000
ER5=0000 ER6=0000 ER7=0000 ER8=0000 ER9=0000)
PC(M=002 R=000 T=001 D=000 C=001 I=001)
TPAGE(TTL=00043 COPY=00000)
CH NEW BK=(STD=00001 MINI=00000)
```

DF: ink absorber life

Replace the ink absorber when the value is less than 24.

D: ink absorber counter value

Replace the ink absorber when the value is 80 or more.