



OPERATION MANUAL

MIMAKI ENGINEERING CO., LTD.

TKB Gotenyama Building, 5-9-41, Kitashinagawa, Shinagawa-ku, Tokyo 141-0001, Japan

Phone: +81-3-5420-8671 Fax: +81-3-5420-8687

URL: <http://www.mimaki.co.jp/>

E-mail: traiding@mimaki.co.jp

CAUTION

MIMAKI ENGINEERING CO., LTD. shall have no liability for any damage of any kind (including but not limited to unearned profits, indirect damages, special losses and other debts) caused by the use of malfunction of the product unless otherwise specified in MIMAKI warranty provisions. The same applies to any case where MIMAKI ENGINEERING CO., LTD. has been informed of the possible risk of such damages in prior.

For example, MIMAKI shall not be liable to any damage to medium (works) due to the use of the product or any indirect damage that is caused by a product that is manufactured with damaged medium.

Please be noted that MIMAKI ENGINEERING CO., LTD. shall have no liability for any debts, unearned profits and any claims from any third party resulting from the use of the device.

Requests

- This Operation manual has been carefully prepared for your easy understanding, however, please do not hesitate to contact a distributor in your district or our office if you have any inquiry.
- Description contained in this Operation manual are subject to change without notice for improvement.

- Generally, names and designations referred to in this Operation manual are trade marks or registered trade marks of the manufacturers or suppliers.

Reproduction of this manual is strictly prohibited.

All Rights Reserved. Copyright © 2005 MIMAKI ENGINEERING Co., Ltd.

FCC Statement (USA)

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the Operation manual, may cause harmful interference to radio communications.

Operation of this equipment in a residential area is likely to cause harmful interference in which cause the user will be required to correct the interference at his own expense.



- In the case where MIMAKI-recommended cable is not used for connection of this device, limits provided by FCC rules can be exceeded.
To prevent this, use of MIMAKI-recommended cable is essential for the connection of this device.

Interference to televisions and radios

The product described in this manual generates high frequency when operating.

The product can interfere with radios and televisions if set up or commissioned under improper conditions. The product is not guaranteed against any damage to specific-purpose radio and televisions.

The product's interference with your radio or television will be checked by turning on/off the power switch of the product.

In the event that the product is the cause of interference, try to eliminate it by taking one of the following corrective measures or taking some of them in combination.

- Change the orientation of the antenna of the television set or radio to find a position without reception difficulty.
- Separate the television set or radio from this product.
- Plug the power cord of this product into an outlet which is isolated from power circuits connected to the television set or radio.

Foreword

Thank you for purchasing our ink-jet plotter “GP-604D” for T-shirt printing.

“GP-604D” is capable of discharging color of the printed portion by directly printing our special discharge liquid to the T-shirts.

Further, with the use of special pigment printing ink, it can perform the color printing, too.

Being flat bed type, it can also print on the cloth other than T-shirts.

You are kindly requested to read this manual carefully and use this device safely and effectively.

On This Operation manual

- Please read and fully understand this Operation manual before putting the machine into service. It is also necessary to keep this Operation Manual on hand.
- Make arrangements to deliver this Operation Manual to the person in charge of the operation of this device.
- This Operation Manual has been carefully prepared for your easy understanding, however, please do not hesitate to contact a distributor in your district or our office if you have any inquiry.
- Description contained in this Operation manual are subject to change without notice for improvement.
- In the case where this Operation Manual should be illegible due to destruction or lost by fire or breakage, purchase another copy of the Operation Manual from our office.

Features

The features of the device are described below.

Use of discharge liquid

It is possible to discharge color of the printed portion by printing special discharge liquid directly to T-shirts and making heat-treatment.

*Discharging of color is different depending on the dyestuff used for the ground dyeing.

Printing pigment ink

The device is designed for printing directly on T-shirts and other media using printing pigment ink of high light stability. The ink does not require special preparation of the medium. Heat treatment (simple postprint treatment) ensures a smooth finish.

Easy ink replacement

The ink cartridge can be replaced safely and easily without getting your hands dirty.

Indication of the INK remains

Since the amount of ink that remains can be checked even during operation of the device, you can use the ink and medium without waste.

*For discharge liquid and Cleaner the amount of remaining ink is not indicated.

Use of area plate

By placing the area plate, it is possible to grasp the printing area.

Printing heater mounting

The device detects the ambient temperature to perform temperature control, allowing heating temperature setup which best suits the garment used.

It works on preserving the colors of inks and preventing from setting off of inks.

Simple display

The LCD panel displays the device setting menu in two lines (not one line), making it easier to see.

Since the LCD panel is provided with a backlight, the display can be clearly seen even in a dark place.

The LCD panel can display seven different languages for each, including English and Spanish.

High-speed interface

The "IEEE-1394" interface allows for high-speed data reception from the computer.

For safe operation

Pictorial signs

Pictorial signs are used in this Operation Manual for safe operation of and in prevention of damages to the device. Pictorial signs and their meanings are given below. Read and fully understand before reading the text.



- Indicates the case where it is assumed that misuse of the machine, ignoring this sign, as this may cause fire or poisoning. Be sure to read this manual for proper operation.



- Indicates the case where it is assumed that misuse of the machine, ignoring this sign, can cause damage only to property.



- The symbol "💡" indicates helpful information that will facilitate the use of the device.



- Indicates the reference page for related contents.

Example of pictorial signs



- The symbol "⚠" indicates the case where some phenomenon that requires a CAUTION sign (including "DANGER" and "WARNING" signs) exists. A concrete precaution (precaution against an electric shock in the case of the sketch given on the left) is shown in the illustration.



- The symbol "⊘" indicates a prohibited behavior. A concrete illustration of prohibition (disassembly is prohibited in the sketch given on the left) is shown in or next to the illustration.



- The symbol "●" indicates a thing that is forced to be done and instruction that is forced to be followed. A concrete illustration of instruction (the removal of a plug from the receptacle is instructed in the sketch given on the left) is drawn in the illustration.



WARNING



- If anyone drinks ink in mistake, keep him or her quiet and see a doctor immediately. Do not allow him or her drink vomit. Then, contact the Poison Control Center.
- If you absorb a lot of vapor and feel bad, immediately move to a location where fresh air is present and then keep yourself warm and quiet. Then, consult a doctor as soon as possible.
- The ink contains a trace of substance classified as “harmful”.
If ink settles on the skin or clothes, immediately wash it off with detergent or water. If you get ink in your eyes, immediately wash your eyes with a lot of clean water for at least 15 minutes. In this case, also wash the backside of eyelids to rinse ink away completely. Then, consult a doctor as soon as possible.
- You cannot use any other ink type than the exclusive one.
- Store ink cartridges and waste ink tank in a place that is out of the reach of children.
- Never refill the ink cartridge with ink.
MIMAKI assumes no responsibility for malfunction caused by using the device after replenishment of ink.
- Never disassemble or remodel the ink cartridge. Disassembling will result in electric shocks or breakdown of the device.
- Dispose the waste ink, discharge liquid, washing liquid according to the local regulations.

Never Do the Following

WARNING

Do not disassemble or remodel the device.



- Never disassemble or remodel the main unit of the printer and the ink cartridge. Disassembling/remodeling any of them will result in electric shocks or breakdown of the device.

Do not use the device in damp places.



- Avoid damp environments when putting the device into service. Do not splash water onto the device.
High-humidity or water will give rise to fire, electric shocks or breakdown of the device.

Abnormal event occurs.



- If the device is used under an abnormal condition where the device produces smoke or unpleasant smell, fire or electric shocks can result. Be sure to turn off the power switch immediately and detach the plug from the receptacle. Check first to be sure that the device no longer produces smoke, and contact a distributor in your district for repair. Never repair your device by yourself since it is very dangerous for you to do so.

Heater



- Keep combustibles such as dust or stain clear out of the heater on the table.

Power supply and voltage



- Be sure to use the device with the power supply specifications indicated. Set voltage selectors according to the power voltage to be used.

110V ••• 100-120V

220V ••• 220-240V



- To avoid fires or electrical shocks, the two power cables must be plugged to separate receptacles that are grounded separately.

Handling of the power cable

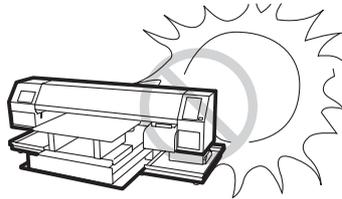


- Use the supplied power cable.
- Take care not to damage, break or work on the power cable.
If a heavy matter is placed on the power cable, heated or drawn, the power cable can break to cause fire or electric shocks.

Precautions in installation

CAUTION

A place exposed to direct sunlight

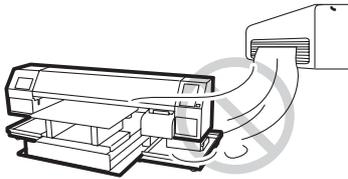


A place in which temperature and humidity vary by a great margin

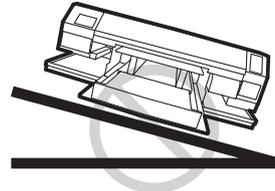


Use the device under the following environment.
Operating environment:
20 to 35°C
35 to 65% (Rh)

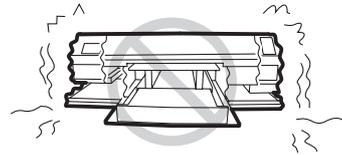
A place exposed to direct air blow from air conditioner, etc.



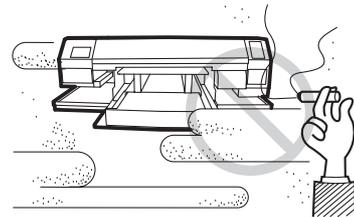
A place that is not horizontal



A place that vibrates



A place where fire is present



Precautions in use

CAUTION

Use the ink specified



- Use the GP-604D genuine ink. The plotter does not operate with other ink than the GP-604 genuine ink.



- Do not use the GP-604D genuine ink for other plotters as doing so may cause damage to other plotters.

Periodic exchange parts



- There are some parts which must be replaced by service men. You have to make a contract with distributors or dealers for after-sale service.

Relocation of the device



- The device may be relocated within the same floor without steps. For safety reasons, it must be carried by at least four persons.

Front cover



- Never open the front cover during printing. Opening the cover will abort printing.

Garment



- If garment that is likely to tightly curl, flatten first the paper before using it for printing. Heavily-curved garment affect the plotted result.

Protection against dust



- It is strongly recommended to use the device in a room that is not dusty. Set the Refresh level 2 or 3 when in bad environment.

( page 4.8)



- Keep the front cover to be closed also when the device is not engaged in printing. If not, dust can accumulate on the head nozzle.



- When leaving the workshop after the working hours, be sure to take off any garment from the table.

If any media is left on the table, dust can put on it.



- Keep the garment (T-shirts) protected from dust.



- Frequently wipe the capping station clean to eliminate dust and lint.

Dust in the head will also cause drops of ink to fall abruptly down on the garment during printing. If this phenomenon takes place, be sure to clean up the head.

( page 2.9, 4.9)

CAUTION

Ink cartridges



- If the ink cartridge is moved from a cold place to a warm place, leave it in the room temperature for three hours or more before using it.



- Open the ink cartridge just before installing it in the plotter. If it is opened and left for an extended period of time, normal printing performance of the plotter may not be ensured.



- Make sure to store ink cartridges in a cold and dark place.
- Be sure to thoroughly consume the ink in the ink cartridge, once it is opened, within three months. If an extended period of time has passed away after opening the cartridge tank, printing quality would be poor.



- You cannot use any other ink type than the exclusive one.
- Never refill the ink cartridge with ink.



- Neither pound the ink cartridge nor shake it violently so as to prevent leakage of ink.



- Do not touch or stain the contacts of the ink cartridge as doing so may cause damage to the print circuit board.

Heater



- Do not spill liquid on the table as this may cause failure of the heater or ignition.
- Do not touch the table heater with bare hand while it is hot as this may cause burn.



- When moving the device, wait until the heater temperature drops.

As a criterion, wait at least 30 minutes since you turn off the power of the heater.

The device can be moved within the same floor without steps. When moving it to a different place, contact representative of your dealer.

Warning labels



- This device is adhered with a warning label at two locations. Be sure understand firmly the warnings given on the labels. In the case where any of the warning label has become so soiled that the warning message is illegible or has come off, purchase a new one from your local distributor or our office. Refer to Appendix for the label adhering locations.

TABLE OF CONTENTS

Foreword	i
On This Operation manual	i
Features	ii
Use of discharge liquid	ii
Printing pigment ink	ii
Use of area plate	ii
For safe operation	iii
Pictorial signs	iii
Example of pictorial signs	iii
Never Do the Following	v
Precautions in installation	vi
Precautions in use	vii
How to read this operation manual	xii
Display on the LCD and Indication of the Keys	xii
Structure of this Operation manual	xiii

CHAPTER 1 Name and Function of each section

The Front	1.2
The Rear	1.3
Operation Panel	1.4
Carriage	1.5
Capping station	1.5
Heater	1.6
Setting the heater voltage	1.7
Ink station	1.8
Initial filling of ink	1.9
MENU mode	1.12

CHAPTER 2 Operation

Operation	2.2
Switching on the power supply	2.3
Turning the power on	2.3
Filling of discharge liquid at the time of starting works	2.4
Front cover	2.6
Opening/closing the front cover	2.6
If opened the front cover during plotting... ..	2.6
Adjusting the suitable temperature of heater	2.7
Checking and solving nozzle clogging	2.8

Print the test pattern	2.8
If printed abnormal pattern	2.9
Setting Garment (T-shirt)	2.10
Set the area plate	2.11
Remove the area plate	2.13
Read the thickness of the garment (T-shirt)	2.14
Plotting an Image from source data	2.15
Perform the printing (Same operations both for color printing and discharging)	2.15
Interrupting the plotting operation	2.16
When the message [ERROR71 WORK TOO HIGH] is displayed	2.16
Heat with a press	2.17
To replenish ink, set a new ink cartridge in the ink station	2.19
Filling of Cleaner at the end of the works	2.21
Turning the power off	2.23

CHAPTER 3 Daily cleaning

Daily Maintenance	3.2
Notes on cleaning	3.2
If the frame components of the device/table/T-shirt plate have stained	3.3
Cleaning the wiper and ink caps	3.4
When the waste ink tank becomes full	3.6

CHAPTER 4 Setting Function

Basic operations of menus	4.2
Register the function on each purpose (Type Registration)	4.4
Registering a type	4.4
Changing the type	4.4
Setup functions	4.5
Effective Plotting Area	4.10
Set the print area	4.11
Set the ORIGIN	4.14
Change the head height (the head-gap)	4.15
Correcting the garment feed rate [FEED COMP.]	4.17
Change the Language on LCD	4.19

CHAPTER 5 Maintenance

Maintenance of the device	5.2
Invoking a maintenance function	5.2
Setup functions	5.3
Cleaning the station interior [STATION]-[CARRIAGEout]	5.4

When the message [REPLACE WIPER] is displayed [STATION]-[WIPER EXCHANGE]	5.5
Adjusting between the two plotting directions [PRINT ADJUST]	5.7
If nozzles are clogged even after the cleaning function is executed	5.9
Cleaning the nozzle [NOZZLE WASH]	5.9
[FILL UP INK]	5.11
Wash the color head with cleaning fluid [HEAD WASH]	5.12
Wash the discharge head with cleaning fluid [HEAD WASH]	5.13
Ink discharge way cleaning [Disway WASH]	5.16
When not in use the plotter over the long term [CUSTODYwash]	5.18
Drawing setup conditions [LIST]	5.21
Plotting HEX CODE [DATA DUMP]	5.22
Wiper Life warning [WIPE LEVEL]	5.23
Setting time [TIME SET]	5.24
Displaying device information [INFORMATION]	5.25

CHAPTER 6 When abnormal conditions are encountered

Before taking a phenomenon as a sign of failure	6.2
The device cannot be energized	6.2
The device cannot perform printing	6.2
The device cannot perform printing after data transmission.	6.3
The [HEAT] or [CONSTANT] indicator does not go on	6.3
If an image failure occurs	6.4
White lines/thin spots obvious or dark stripes occur (In the direction of travel of the head)	6.4
Displacement is observed between outward and inward printing	6.4
Ink does not properly overlap	6.4
Ink drops on the garment during plotting	6.4
Ink beadings occur	6.4
Spotch the outside of the effective plotting area	6.4
Difference in color appearance	6.4
Ink cartridge trouble	6.5
Troubles for which error messages are given on the LCD	6.6
Warning error	6.6
Error messages	6.8

APPENDIX

Basic specifications	A.2
Specification for ink	A.3
Specification for cleaner and discharge liquid	A.3
Moving the device	A.4
Position of the warning level	A.5
Operation Flow	A-7

How to read this operation manual

Display on the LCD and Indication of the Keys

In this Operation manual, the characters displayed on the LCD of the operation panel and the keys used to operate the device are explained, together with the operation procedure.  page 1.4
Operate the device while confirming the display on the LCD.

Display on the LCD

The content of display is shown in characters in a box as shown at right.

Operate the device according to the explanation of the operation procedure and the content of display on the LCD.

In this Operation manual, each setting and messages displayed on the LCD is enclosed in [], like [TYPE.1], [PLEASE WAIT], etc.

FUNCTION
SET UP < ENT >

SET UP
SELECT : TYPE.1

Operation keys

In the text of this Operation manual, the operation keys are shown enclosed in brackets.

[▲] and [▼] indicate JOG keys.

The other operation keys are enclosed in brackets, as [FUNCTION].  page 1.4

Structure of this Operation manual

This manual consists of the following seven chapters to describe the handling of the device.

Chapter 1 Name and Function of each section

This chapter describes the name and function of the device.

Chapter 2 Operations

This chapter describes a series of operations and settings, ranging from power-on to end of plotting.

Chapter 3 Daily Cleaning

This chapter describes the replacing the waste ink tank and the cleaning procedure for each section.

Chapter 4 Setting Function

This chapter describes the setting function.

Chapter 5 Maintenance Functions

This chapter describes the maintenance functions and how to replace a wiper.

Chapter 6 When abnormal conditions are encountered

This chapter describes how to correct troubles after the occurrence of an abnormal condition on the device.

Appendix

The specifications of this device, inquiry sheet and operation flow are included.

CHAPTER 1

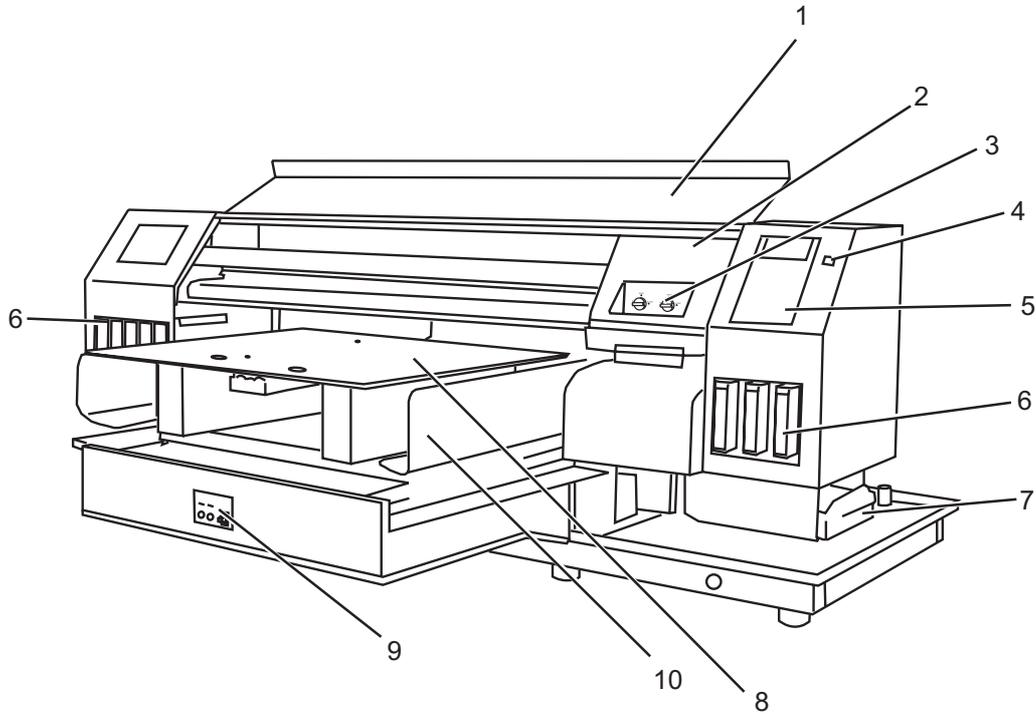
Name and Function of each section

This chapter describes the name and function of each section of the device.

Table of contents

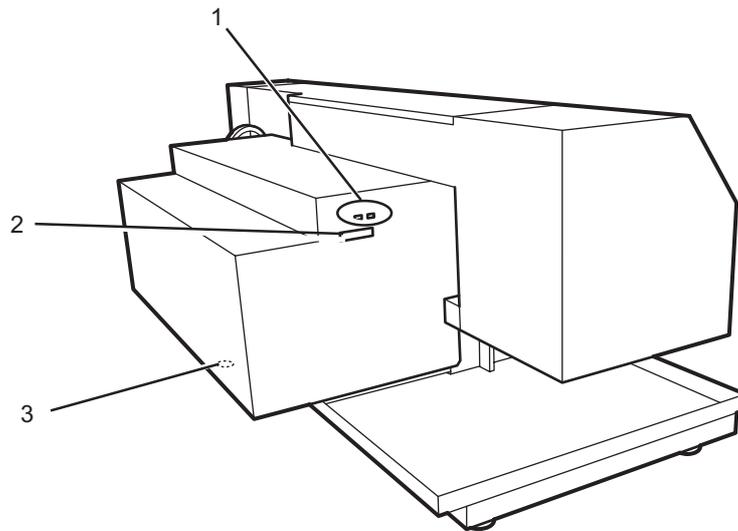
The Front	1.2
The Rear	1.3
Operation Panel	1.4
Carriage	1.5
Heater	1.6
Setting the heater voltage	1.7
Ink station	1.8
Initial filling of ink	1.9
MENU mode	1.12

The Front

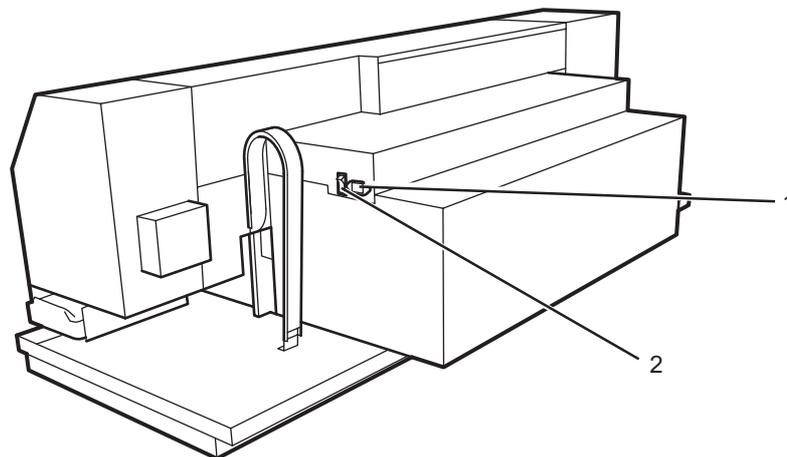


	Name	Function
1	Front cover	Protects the station from dusts. Open the cover when performing maintenance.
2	Carriage	Moves the print head from side to side.
3	Changeover valve of discharge liquid/Cleaner	Changes the supply of discharge liquid/Cleaner to discharge liquid head.  page 1.9
4	Power switch	It turns on/off the power to the device. When the power switch is turned on, the POWER indicator lights in green.
5	Operation panel	Operation keys for operating the device and the LCD for displaying set items are on the panel.  page 1.4
6	Ink station	Set the specified ink cartridges.  page 1.8
7	Waste ink tank	Waste ink using cleaning gathers in this tank.  page 3.6
8	Table	Set the garment and perform printing. It will be subjected to high temperatures for the built-in heater.
9	Heater power switch	Turns on/off the heater power.  page 1.6
10	Sleeve Tray	Hold the portion of the garment (T-shirt) that is running over the table.  page 2.12

The Rear



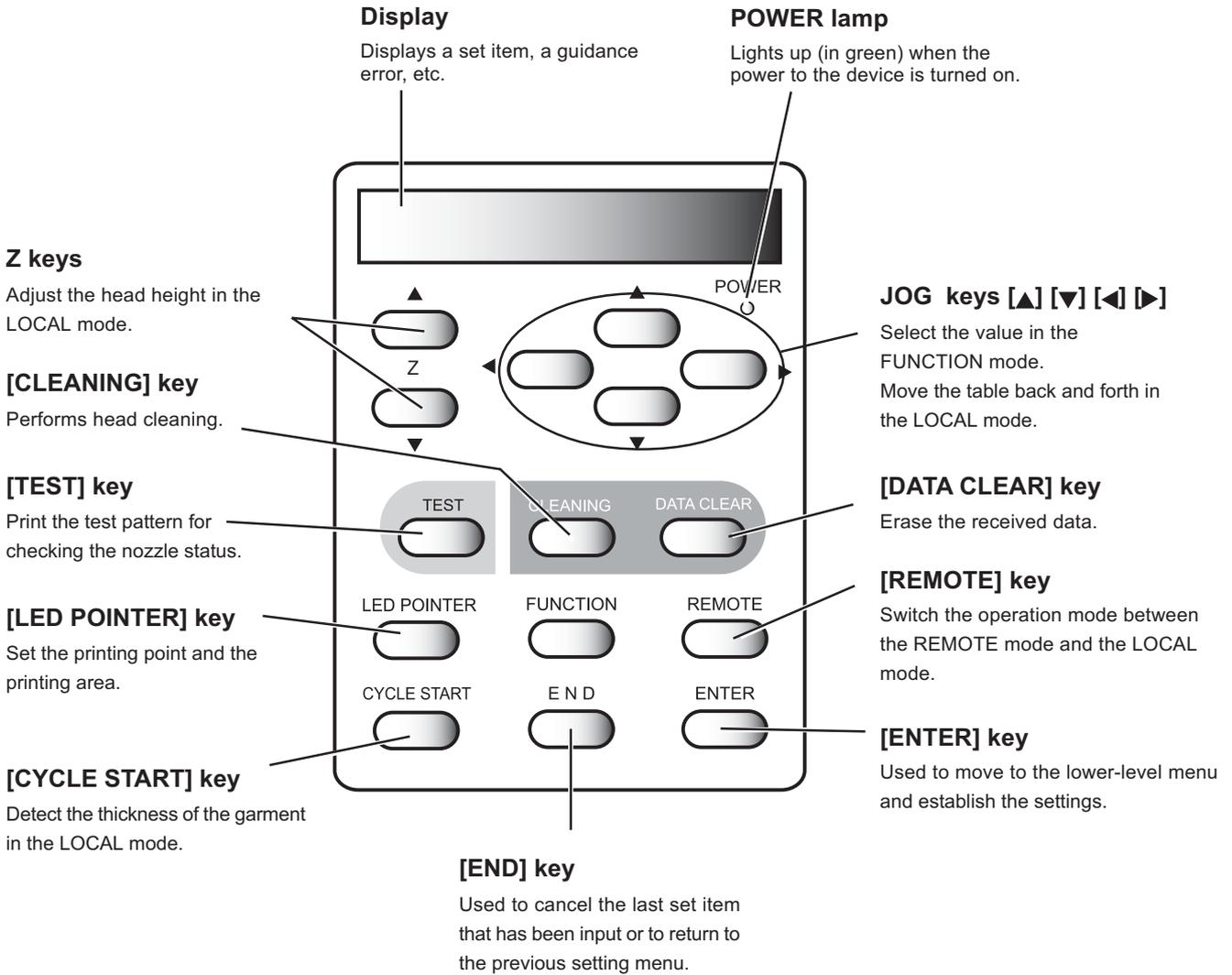
	Name	Function
1	IEEE-1394 connector	Interface connector compatible with IEEE-1394.
2	IEEE-1284 connector	Not used on the device.
3	Voltage selector switch	Switches between 100-120 V and 220-240 V according to the power voltage used.  page 1.7



	Name	Function
1	AC inlet	Connects the power cable.
2	Main power switch	Turn off the power when transferring the device or not in use for a long period. Normally leave it ON.

Operation Panel

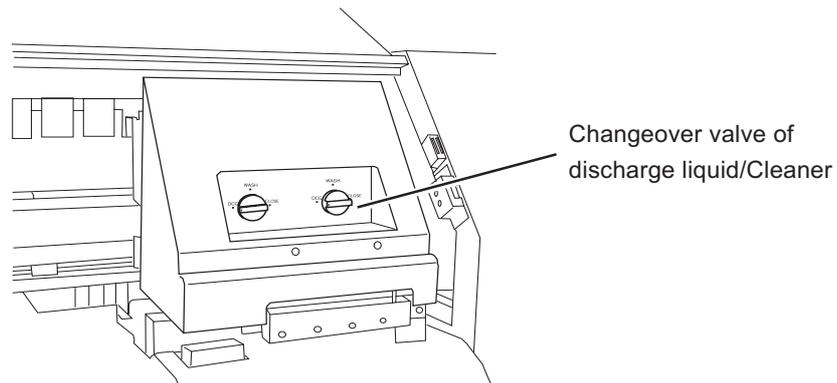
The operation panel that is used to operate the device.



Carriage

The carriage is provided with changeover valves of printing ink head and discharging ink head and discharge liquid and Cleaner to ink head for discharge.

Further, it is provided with a sensor to read the thickness of the media (T-shirt), and LED pointer to determine the starting point of printing.



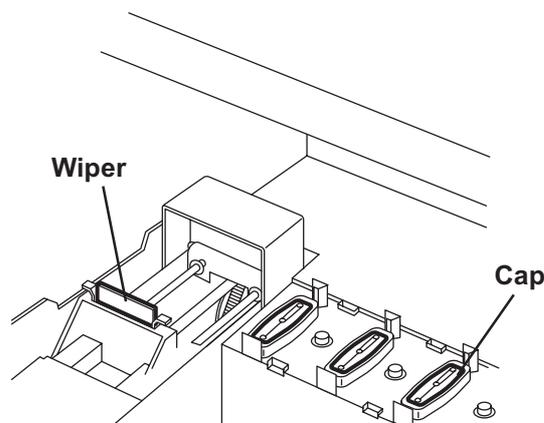
Capping station

The capping station consists of ink caps, wiper for cleaning the heads, etc.

Cap : It covers the nozzle so as to prevent the head nozzle from drying up.

Wiper : It is used to clean the head nozzle.

The wiper is consumable part. If the wiper is deformed or the garment is stained, replace the wiper with a new one.  page 5.5



Heater

The table is heater built-in.

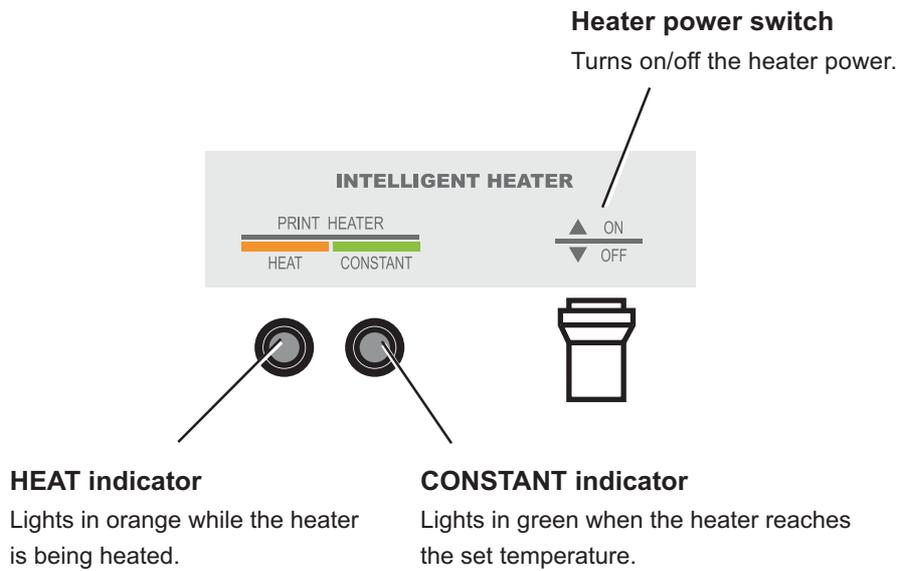
Provide appropriate temperature by the heater to prevent the ink from coming though the wrong side. It also enables to increase the coloring effect.

The heater status indicated with the LED indicator.

When turned off the device power, the heater power is also turned off.

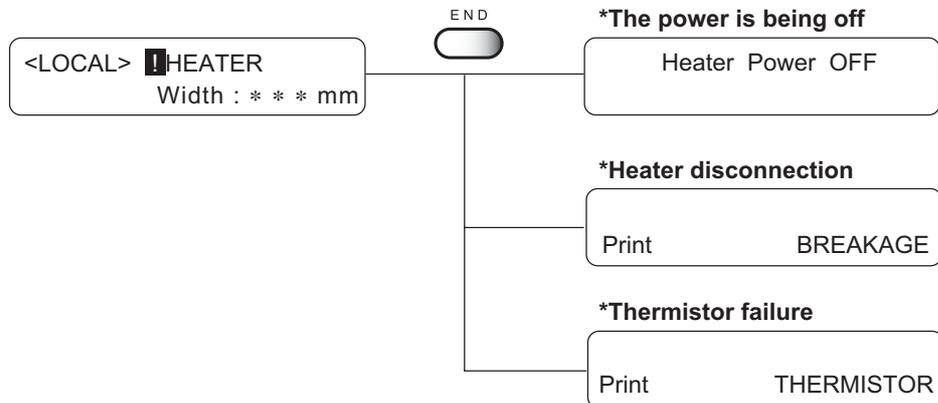


- Don't touch the heater part for the part (on the table) is heating up while the heater is on, or it may cause burns.



- The HEAT indicator may go off while the CONSTANT indicator is lighting. This is not an error but an indication that the temperature of the print heater have reached the set temperature and heating is interrupted.
- If any failure occurs in the heater, it indicates [! HEATER] on the display. Press the [END] key to display the detail information on the error.

page 6.7



Setting the heater voltage

The heater voltage must be set to the source voltage of the plotter using the voltage selectors located on the back of the plotter. For safety reasons, the plotter is set to 220V for shipment.

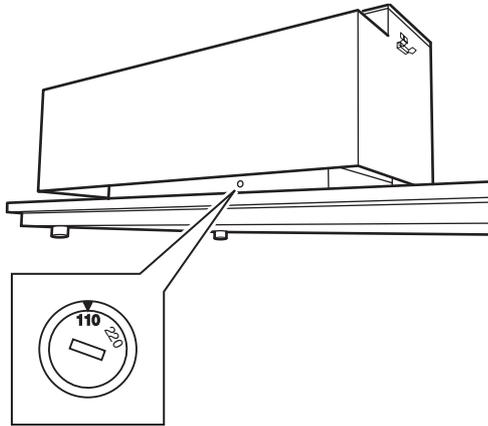


- The plotter may be damaged if it is plugged to a 200-240V source while the voltage selector is set to 110V.
- The heater temperature may not rise to the set temperature if it is plugged to a 100-120V source while the voltage selector is set to 220V.

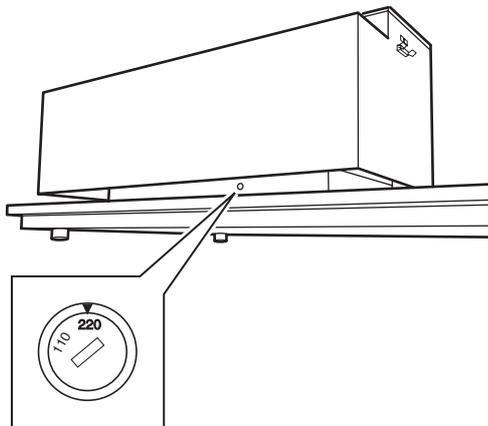


- Use a flathead screwdriver to switch the voltage selector.

Connecting to a 100-120V source



Connecting to a 200-240V source



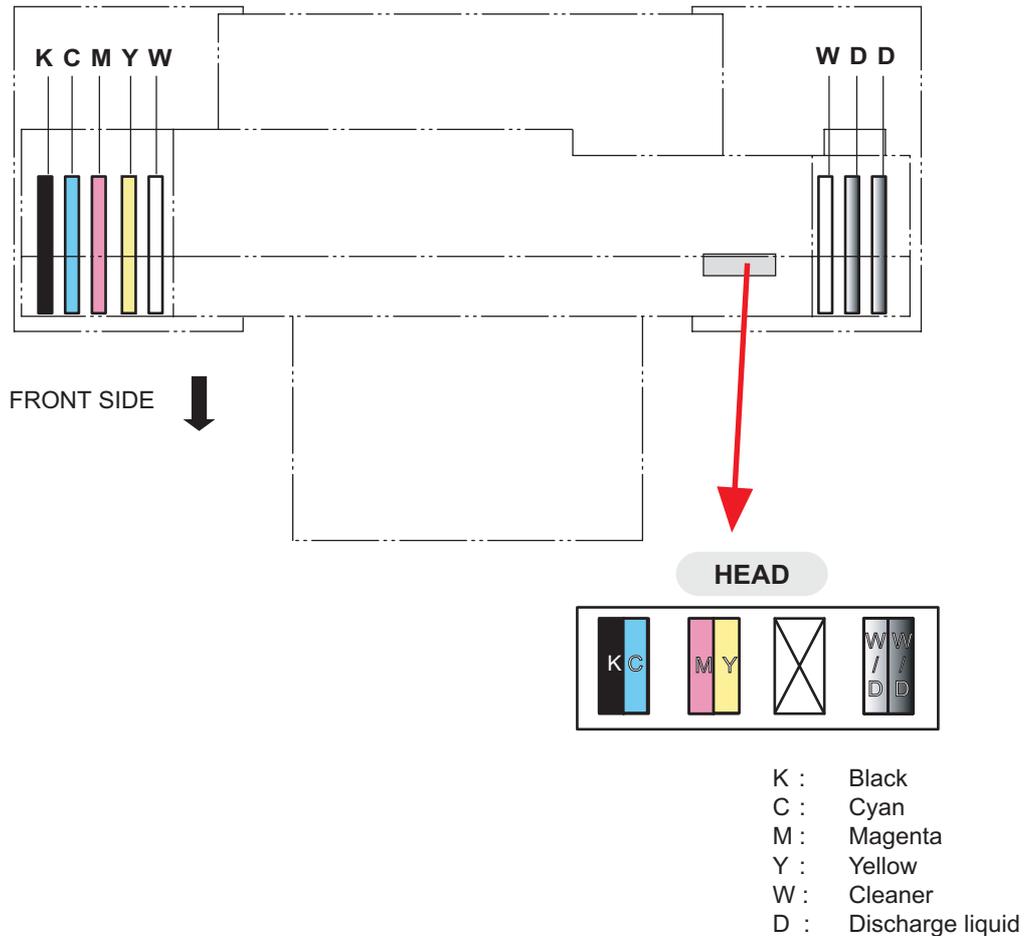
Ink station

The carriage has 2 heads for color and 1 head for discharge, totaling 3 heads.

Each head is provided with 2 lines of nozzles. The head for color has one color-ink corresponding to 1 line of nozzle. The head for discharge has discharge liquid corresponding to 2 lines of nozzles.

To the ink station, each one color of ink cartridge, two Cleaner and 2 discharge liquid totaling 8 cartridges are set.

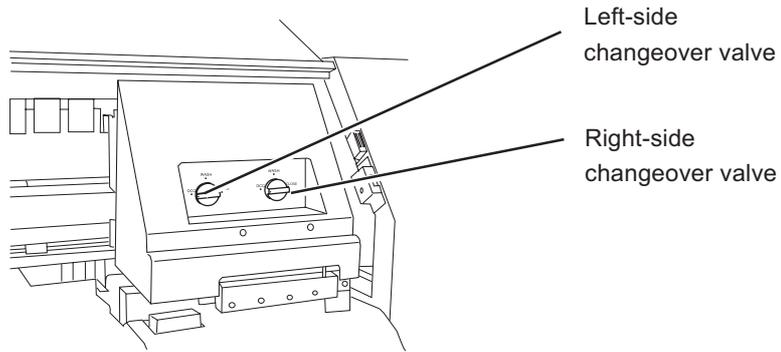
At the time of checking the head nozzle clogging, cleaning the head for discharge, replacing the emptied cartridge or filling the ink, please pay due attention to the corresponding relations.



Initial filling of ink

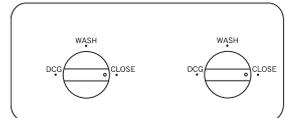
Operations when the device is started for the first time.

When this device is started for the first time, turn the “Discharge liquid/Cleaner changeover valves” on the front of the carriage to supply discharge liquid to the head for discharge liquid.

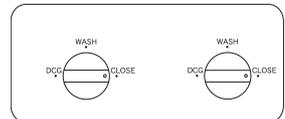


STEPS:

1. Turn the power on and wait until the “Height Detection” is completed.



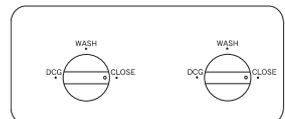
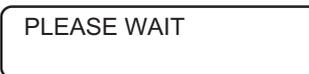
2. Select the ink type with jog key.



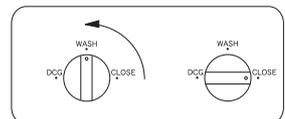
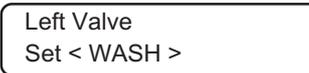
3. Press the [ENTER] key.



4. Ink is filling up.



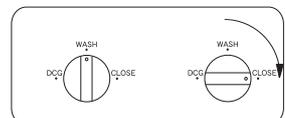
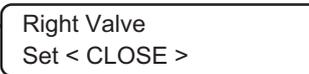
5. Turn the left side valve to “WASH”.



6. Press the [ENTER] key.



7. Turn the right side valve to “CLOSE”.



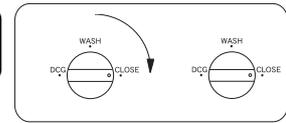
8. Press the [ENTER] key.

9. Cleaning fluid is filling up.

PLEASE WAIT

10. Turn the left side valve to “CLOSE”.

Left Valve
Set < CLOSE >

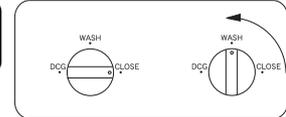


11. Press the [ENTER] key.



12. Turn the right side valve to “WASH”.

Right Valve
Set < WASH >

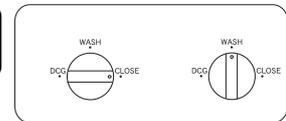


13. Press the [ENTER] key.



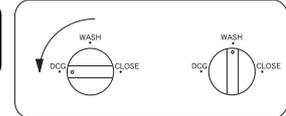
14. Cleaning fluid is filling up.

PLEASE WAIT



15. Turn the left side valve to “DCG”.

Left Valve
Set < DCG >

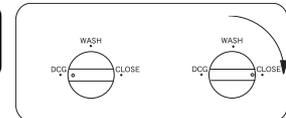


16. Press the [ENTER] key.



17. Turn the right side valve to “CLOSE”.

Right Valve
Set < CLOSE >

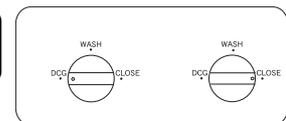


18. Press the [ENTER] key.



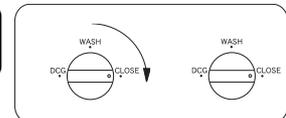
19. Discharge liquid is filling up.

PLEASE WAIT



20. Turn the left side valve to “CLOSE”.

Left Valve
Set < CLOSE >

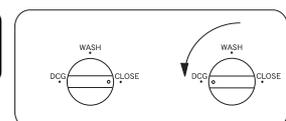


21. Press the [ENTER] key.



22. Turn the right side valve to “DCG”.

Right Valve
Set < DCG >

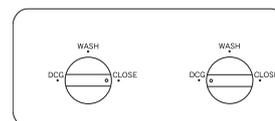


23. Press the [ENTER] key.



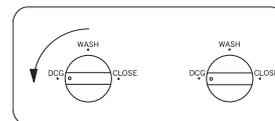
24. 拔染液充填中。

PLEASE WAIT



25. Turn the left side valve to “DCG”.

Left Valve
Set < DCG >

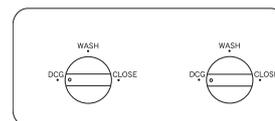


26. Press the [ENTER] key.



27. Initial filling is completed.

< LOCAL >
width : 610mm



- If the discharge head left filled with discharge liquid, the life of the discharge head will be shortened. When this device is not used for a long time such as the ending of works, replace the discharge liquid by filling the Cleaner in the head for discharge liquid.  P.2-22
- When this device is used from the state in which the Cleaner is filled in the head for discharging liquid such as the time for starting works, fill the discharge liquid in the head for discharge liquid in accordance with the discharge changeover menu.  P.2-4

MENU mode

There are the following three mode in this device.

LOCAL mode

This is the mode after the initial performance.

All keys are effective to enable setups.

The device is able to receive data from computer, however, it will not perform plotting.

In this mode, it is possible to perform the following operations.

1. Pressing the [CYCLE START] keys to detect thickness of the garment.
(After detecting, revert to the LOCAL mode.)
2. Pressing the [FUNCTION] key to set plotting conditions. (=> Function mode)
3. Pressing the [TEST] key to start test plotting.
4. Pressing the [CLEANING] key to cleaning the head.
5. Pressing the [DATA CLEAR] key to erase the plotting data the device has received.
6. Pressing the [LED POINTER] key to set the print area.
7. Pressing the JOG key to set origin.
8. Pressing the Z key to adjust the height of the head.

FUNCTION mode

While the device is in the LOCAL mode, press the [FUNCTION] key to put the device into the FUNCTION mode.

Set the each plotting condition in the FUNCTION mode.

REMOTE mode

Plots the received data.

During the plotting operation, press the [REMOTE] key to interrupt the plotting operation.

CHAPTER 2

Operation

This chapter describes basic operations for setting and printing.

Table of contents

Operation	2.2
Switching on the power supply	2.3
Filling of discharge liquid at the time of starting works	2.4
Front cover	2.6
Adjusting the suitable temperature of heater	2.7
Checking and solving nozzle clogging	2.8
Setting Garment (T-shirt)	2.10
Read the thickness of the garment (T-shirt)	2.14
Plotting an Image from source data	2.15
Heat with a press	2.17
To replenish ink, set a new ink cartridge in the ink station	2.19
Filling of Cleaner at the end of the works	2.21
Turning the power off	2.23

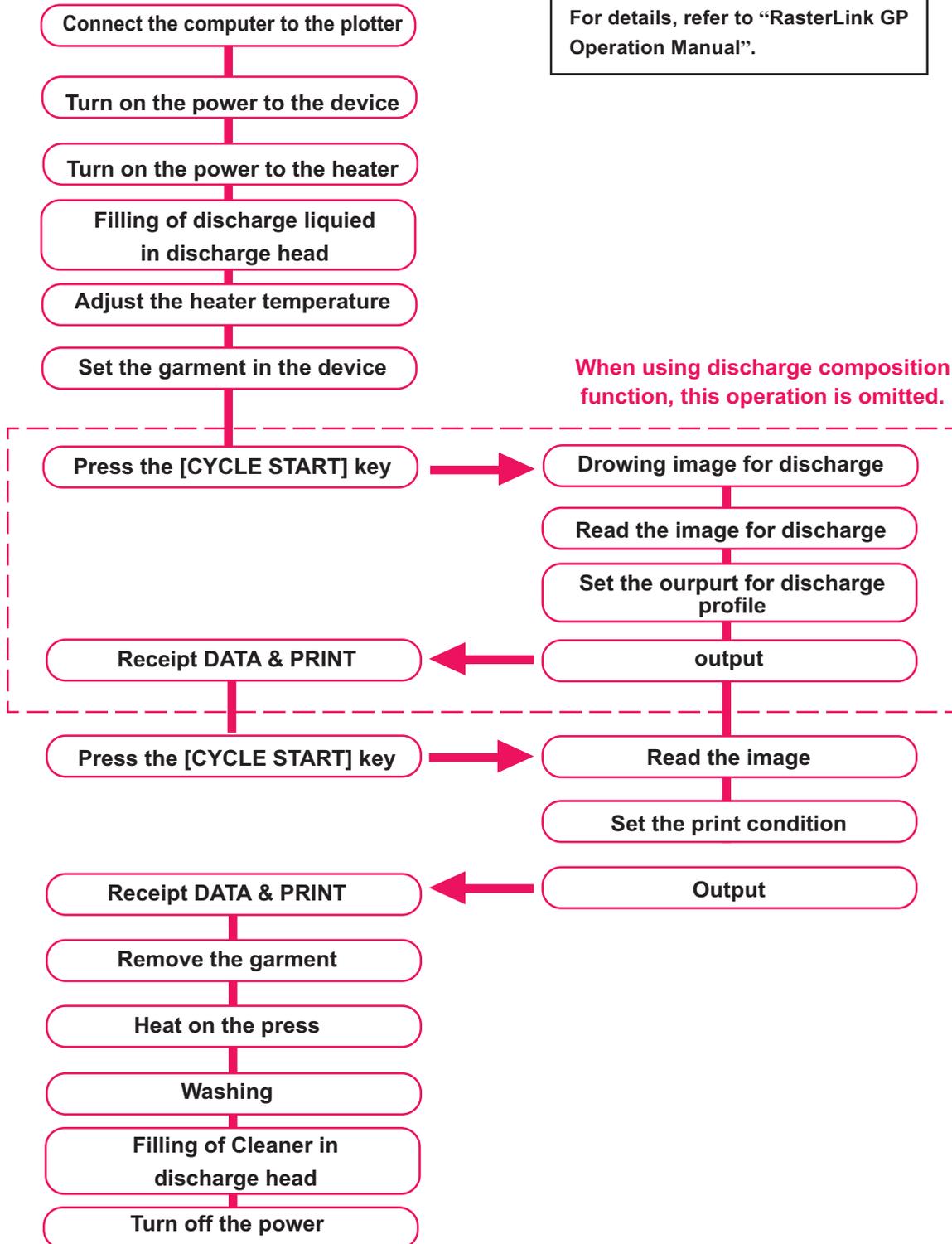
Operation

The following shows a series of operations and settings, ranging from power-on to end of plotting.

GP-604D Operation

RasterLink GP Operation

“RasterLink GP” is an output software attached to the device. For details, refer to “RasterLink GP Operation Manual”.



Switching on the power supply

The device is provided with the following three different power switches.

Main power switch : Located on the rear face of the device. Normally, leave it on.  page 1.3

Turn off the power when transferring the device or not in use it for a long period.

Power switch : Located on the front face of the device. Normally, use this switch.  page 1.2

Heater power switch : Located on the front face of the device under the table.  page 1.2,1.6

Turning the power on

1. Push the main power switch on the back of the main device.

Tilt the power switch toward the “ I ”side.

2. Push the power switch on the front face of the device.

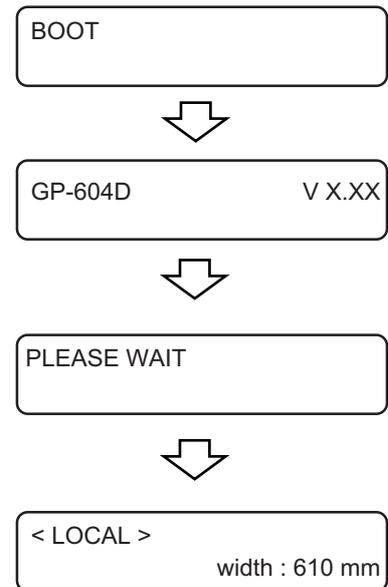


- Make sure that the front cover is closed. In that case, initialization is not performed.
- As turning on the power, a buzzer sounds before performing the initiate operation. Carefully handle with the moving device.

When the power is on, the LCD first displays “BOOT” and then subsequently displays the firmware version number.

Performs the initiate operation to each X, Y, and Z direction. A message “PLEASE WAIT” appears on the LCD.

The device enters the LOCAL mode.



3. Turn on the computer power connected to the device.

Filling of discharge liquid at the time of starting works

In order to prevent the shortening of the life of the head for discharge liquid, the discharge liquid contained is replaced by Cleaner when it is not used for an extended period of time. At the time of starting works, the Cleaner filled in the head for discharge liquid is to be drained and the discharge liquid is filled in.

STEPS:

1. At the LOCAL state, press the [FUNCTION] key 3 times.

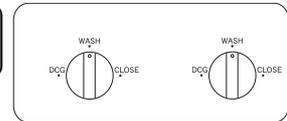
FUNCTION
Fill Up DCG < ENT >

2. Press the [ENTER] key.



3. Perform changeover using up/down keys.

Fill Up DCG
Fill Up : Wash

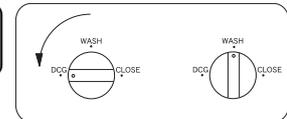


4. Press the [ENTER] key.



5. Turn the left valve to “DCG”.

Left Valve
Set < DCG >

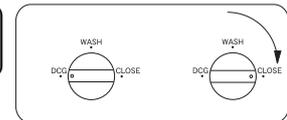


6. Press the [ENTER] key.



7. Turn the right valve to “CLOSE”.

Right Valve
Set < CLOSE >

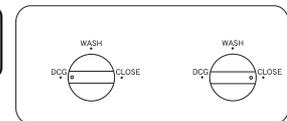


8. Press the [ENTER] key.



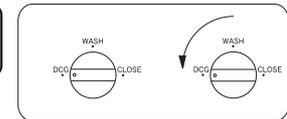
9. The left valve is filling discharge liquid. Wait for about 1 minute .

FILL UP
PLEASE WAIT



10. Turn the right valve to “DCG”.

Right Valve
Set < DCG >

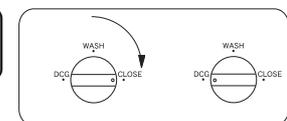


11. Press the [ENTER] key.



12. Turn the left valve to “CLOSE”.

Left Valve
Set < CLOSE >

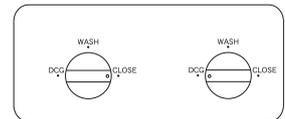


13. Press the [ENTER] key.



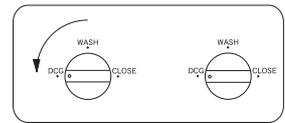
14. The right valve is filling discharge liquid. Wait for about 1 minute.

FILL UP
PLEASE WAIT



15. Turn the left valve to “DCG”.

Left Valve
Set < DCG >

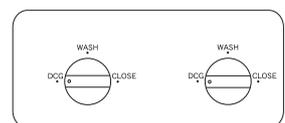


16. Press the [ENTER] key.

ENTER

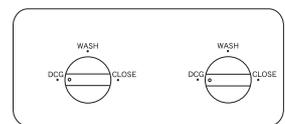
17. The left valve is filling discharge liquid. Wait for about 1 and a half minutes.

FILL UP
PLEASE WAIT



18. The changeover is completed.

FUNCTION
Fill Up DCG < ENT >



- Every day at the time of starting works, the filling of the discharge liquid shall be performed.
- Every day at the time of finishing works, the filling of Cleaner shall be performed for the protection of head for discharge liquid.

Front cover

Opening/closing the front cover



- Keep the front cover closed during plotting operation. In that case, it interrupts image plotting and disables continuous processing.
- Do not directly open/close the front cover by holding the plastic cover, or it may damage the device. Use the handles when opening/closing the front cover.

If you open the front cover during plotting, the carriage will stop for safety, resulting in abortion of plotting. In this case, restart the device and computer as following the procedure described below.

If opened the front cover during plotting...

STEPS:

1. **When opening the cover during plotting, the message shown on the right is displayed.**

Stop plotting.

Close a cover

2. **Stop the data transmission from the computer.**

3. **Close the front cover.**

(C O V E R O P E N)
PRESS < ENT > KEY

4. **Press the [ENTER] key.**

The carriage starts to move.

Carries out a series of performance same as its initial performance.  page 2.3



INITIALIZING
PLEASE WAIT

No need for executing [Data Clear].

The data is automatically deleted.

Adjusting the suitable temperature of heater

Before turning on the heater power, set the appropriate temperature for the garment in use.



- Do not touch the heater part for the part (on the table) is heating up while the heater is on, or it may cause burns.
- Use the device under the condition at 20-35 °C. Depends on the temperature condition, the heater temperature may not rise to the set temperature.
- Depends on garment or the environment, the appropriate temperature may differ. Raise the temperature of a heater until the print is clear and vivid. For a 100% cotton garment, the appropriate temperature is around 50-60 °C. However, if you raise the temperature too much, the effect of discharge becomes difficult to be obtained.

STEPS:

1. Reverts to the LOCAL mode.

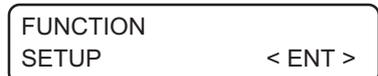
Press the [REMOTE] key to put the device back into the LOCAL mode.

REMOTE



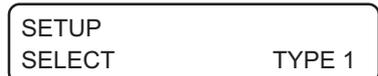
2. Press the [FUNCTION] key.

FUNCTION

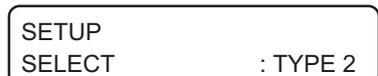


3. Press the [ENTER] key.

ENTER

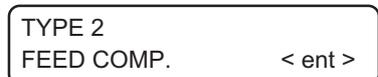


4. Select the type by pressing the JOG keys [▲] and [▼].  page 4.4



5. Press the [ENTER] key.

ENTER



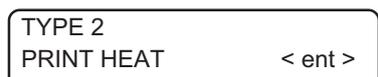
6. Select [HEATER] by pressing the JOG keys [▲] and [▼].

ENTER



7. Press the [ENTER] key.

ENTER



8. Press the [ENTER] key.

9. Set the temperature by pressing the JOG keys [▲] and [▼].



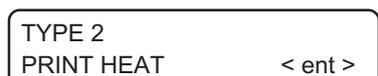
OFF / 20-60°C
OFF / 68-140°F



- Set the lower heater temperature for a thinner garment. For the thicker garment, set the higher temperature.

10. Press the [ENTER] key.

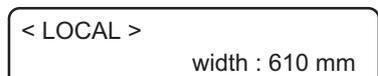
ENTER



11. Press the [END] key three time.

The menu reverts the LOCAL mode.

END



12. Turn on the power of the heater.

CONSTANT indicator lights in green when the heater reaches the set temperature.  page 1.6

Checking and solving nozzle clogging

Before printing on media (T-shirt), print a test pattern on thermal paper.

Perform test plotting to check whether there is nozzle clogging or other plotting failures.

If the test pattern shows any sign of abnormal conditions, carry out the cleaning function.



- If the plotting failure cannot be recovered even after repeatedly performed the cleaning operation, clean the wiper and ink cap.  page 3.4
- Perform test print on a thermal paper.
As discharge liquid is colorless, normal media(paper,T-shirt) can not be recognized.
After turning the heater power of the table on, print using the attached thermal paper.
Other media(paper, T-shirt) except thermal paper can not judge properly.
When thermal paper is used up, purchase thermal paper for FAX on the market.
- The origin needs resetting to print test. Pattern at the time the plate is set.  page 4.14

Print the test pattern

STEPS:

1. Reverts to the LOCAL mode.

Press the [REMOTE] key to put the device back into the LOCAL mode.



2. Check that the heater power is ON.

3. Press the [TEST] key.



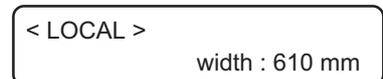
4. Press the [ENTER] key.

The device plots the test pattern.
After plotting, the menu reverts to the LOCAL mode.



5. Check the test patterns.

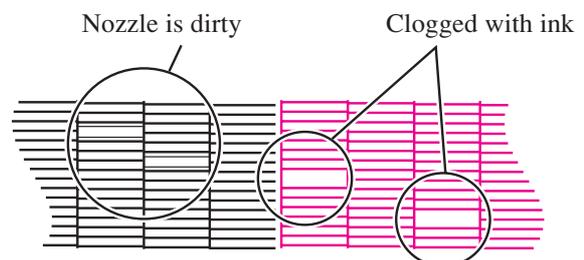
If a failure occurs, proceed with next page.
If the test pattern is normally plotted, complete the operation.



Normal pattern



Abnormal pattern



If printed abnormal pattern

STEPS:

1. Press the [CLEANING] key.



CLEANING
TYPE : normal

2. Select the head to be cleaned pressing the jog keys [▲] and [▼].



CLEANING
HEAD : color

CLEANING
HEAD : dcg

color : Cleans only those heads in which K.C.M.Y ink is filled.

dcg : Cleans only those heads in which discharge liquid or Cleaner is filled.

all : Cleans all heads.

CLEANING
HEAD : all

3. Press the [ENTER] key.



4. Select the method of cleaning by pressing the JOG keys [▲] and [▼].



CLEANING
TYPE : normal

normal : Select this if any line is missing.

soft : Select this if any line is bent.

strong : Select this if inferior plotting cannot be recovered after [normal] or [soft] cleaning.

CLEANING
TYPE : soft

CLEANING
TYPE : strong

5. Press the [ENTER] key.



Starts the cleaning operation.

The operation status is displayed as * marks.

CLEANING ACTIVE
* * * * * - - - - -

After cleaning is completed, the mode reverts to the LOCAL mode.

< LOCAL >
width : 610 mm

6. Repeat printing test pattern, and check the result of test plotting.

Repeat operation above until the test pattern is normally plotted.

Setting Garment (T-shirt)

Set the garment flatly after getting rid of wrinkles.



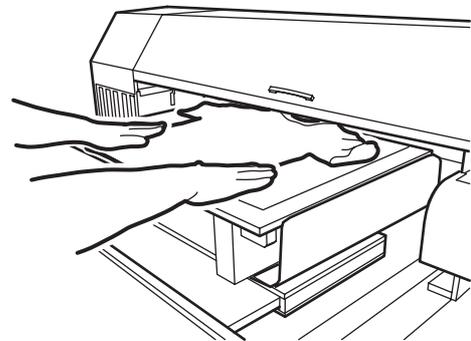
- Do not touch the heater part for the part (on the table) is heating up while the heater is on, or it may cause burns.
- Make sure to use the garment after getting rid of wrinkles and curls, or it may cause the image failure.
- When performs printing continually, wipe off the ink from retaining plates and the table using a detergent cloth.

STEPS:

1. Confirm the table comes out, and then set the garment (T-shirt) on it. 2.12

Make sure to secure enough space before setting the garment. Press the Z keys, [▲] and [▼] to adjust the head height as needed.

In case moving up the head height, press the [END] key to replace the head height after setting a garment. In the case press the [ENTER] key, the head height is altered.



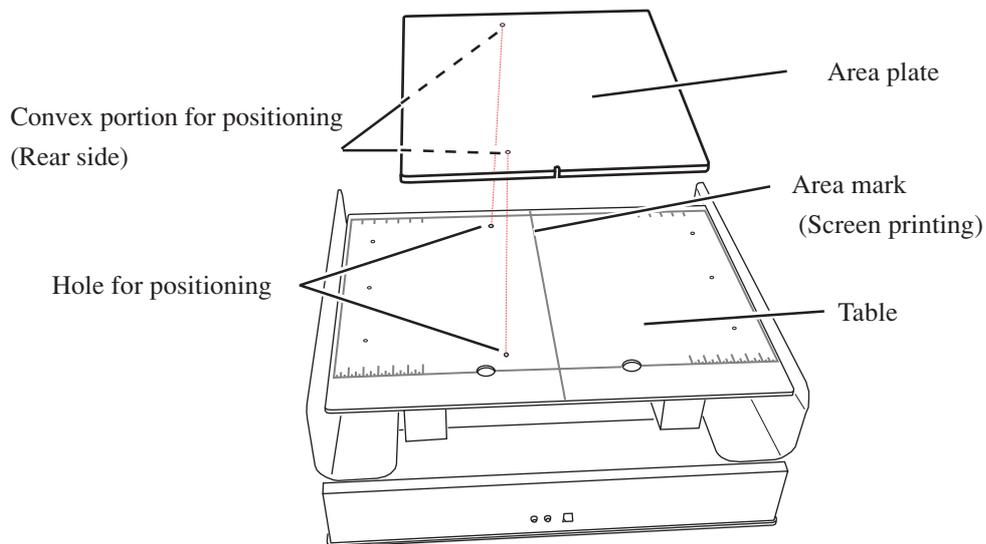
- Enables the [WORK CHANGE] in the function to move up the head automatically after completing the plot operation.

Set the area plate

STEPS:

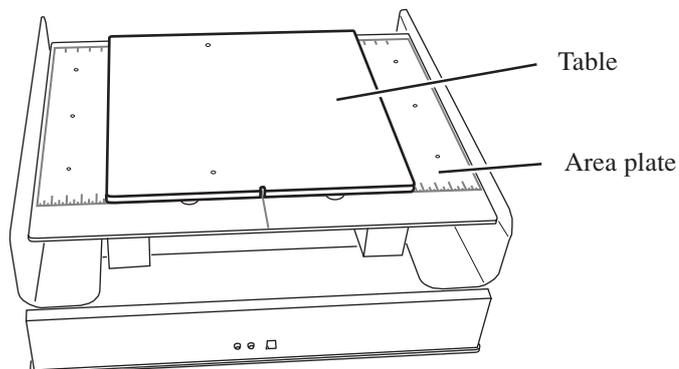
1. Set the area plate on the table.

Adjust two convex portions for positioning on the back left of the area plate to 2 holes for positioning on the table and set it on the table.



2. Select the area plate.

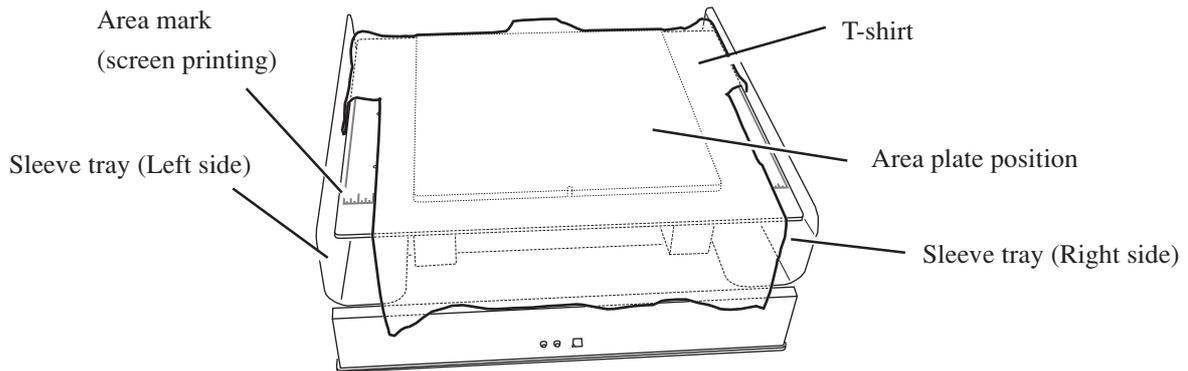
There are two sizes of area plate, L size(420 to 430mm) and S size (320 to 430mm) packed as accessories. According to width of T-shirt, select the area plate of L size or S size.



- Set the area plate, and it will not move.

3. Place the T-shirt on the area plate.

Place T-shirt on the area plate. Put the portion of T-shirt running over the table into the sleeve tray on each side of the table.



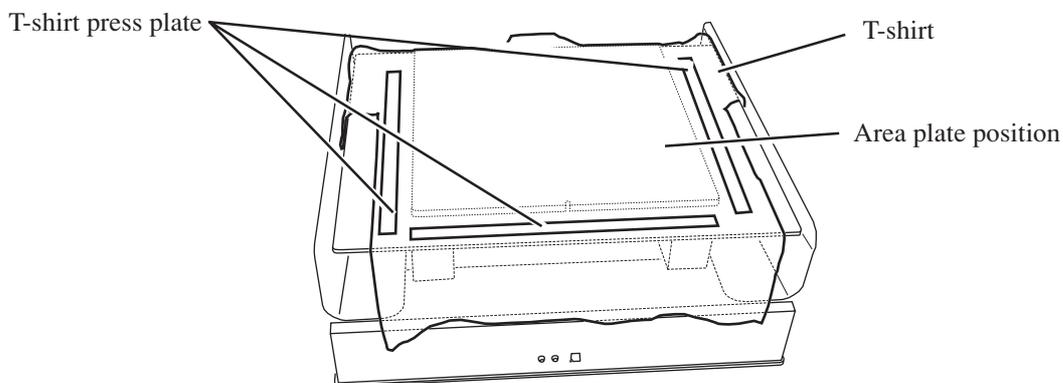
- As the media (T-shirt etc.) running over the table could get stuck on the protruded portion when table is moving. Be sure to put into the tray on each side.
- Keep the portions not to be printed in the manner it does not float above the area plate.



- When the area mark is covered with medium, using the area plate tells the printing range through the position of the area plate.
- Hollows on the area plate tell the center of the printing range.

4. Press T-shirt with T-shirt press plate.

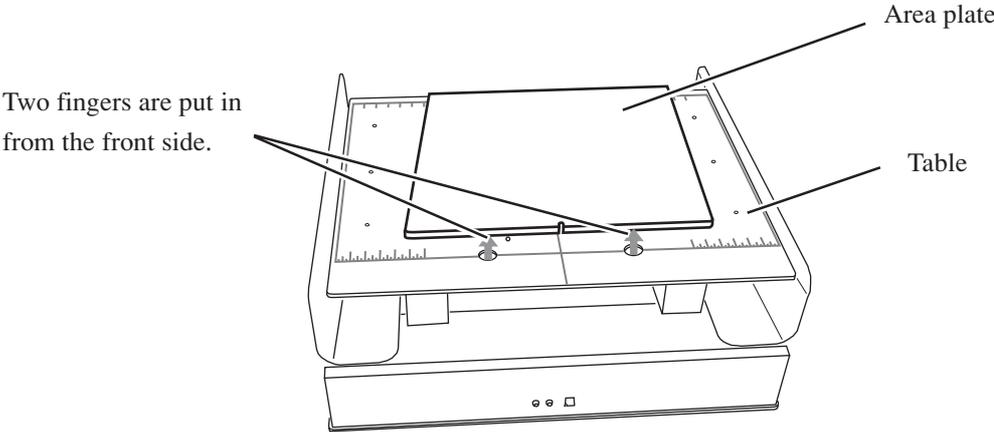
Press the portions out of the printing range removed from the area plate with three T-shirt press plates.



Remove the area plate

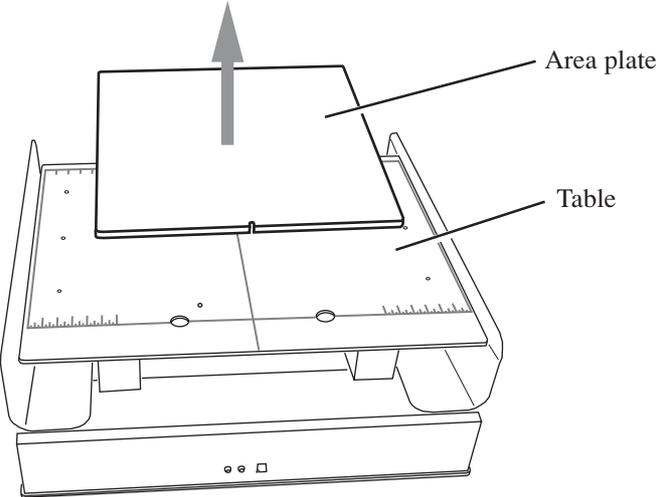
STEPS:

1. Put fingers from the lower side into two holes on the front side of the table and push the area plate up and float it .



- Be careful not to injure the fingers when pushing the area plate up.

2. Remove the floated area plate from the work table.



- Be careful not to stain the printed side when removing T-shirt from the area plate after printing.

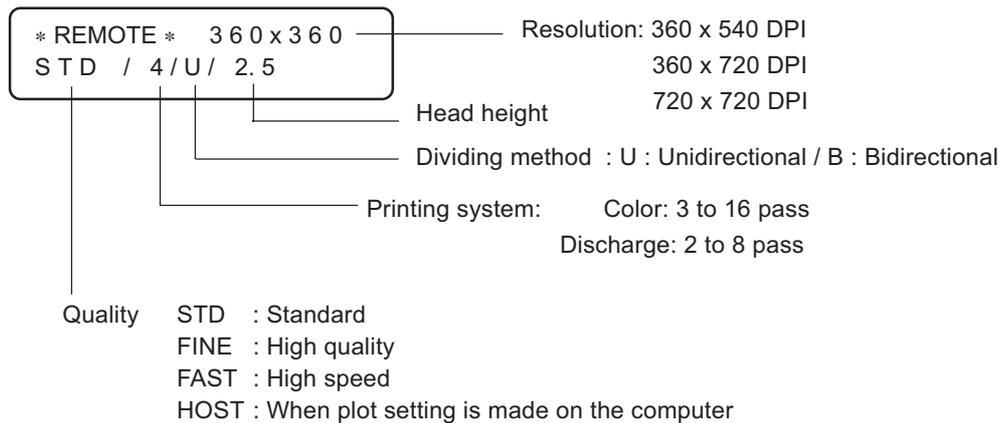
Plotting an Image from source data

Perform the printing (Same operations both for color printing and discharging)

The following describes the mode selection for data reception from the computer and LCD display during plotting.

For various function settings necessary for plotting, refer to “CHP4 Setting Function”.

When plotting is started, the LCD displays the following information.



STEPS:

1. Press the [REMOTE] key.

The menu reverts to the REMOTE mode.

The type of the currently selected plotting condition can be confirmed. page 4.4



• If a heater temperature does not reach to the setting value, it indicates the following display.

TEMP. CONTROL
PLEASE WAIT

← Display alternately →

TEMP
Print 30°C (60)

As soon as reaching to the setting temperature, it returns to the REMOTE mode.

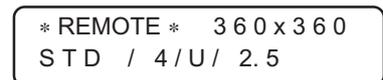
Press the [REMOTE] key to return to the LOCAL mode.

Press the [ENTER] key to enter the REMOTE mode without the temperature control.

2. Transmit data from the computer.

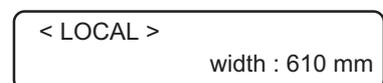
The plotting conditions that have been set for the data are displayed.

For the method of data transmission, refer to the manual for the output software.



Start plotting.

After plotting operation is completed, the table move forward. The menu returns the LOCAL mode.

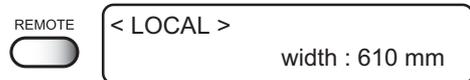


Interrupting the plotting operation

To interrupt the plotting operation, stop the carriage and erase the received data from the device. If not erasing the received data, the plot operation is performing from the interrupt data in the REMOTE mode.

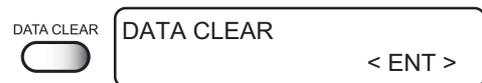
STEPS:

1. Press the [REMOTE] key to stop the plotting operation.

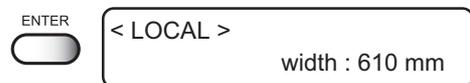


2. If data is being transmitted from the computer to the device, stop the data transmission.

3. Press the [DATA CLEAR] key.
Erase the received data.



4. Press the [ENTER] key.
The menu reverts to the LOCAL mode.



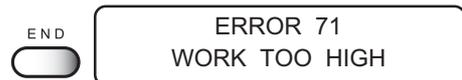
When the message [ERROR71 WORK TOO HIGH] is displayed ...



- A sensor is always monitoring the garment (T-shirt) thickness during plotting to interrupt the operation if detecting a garment. In that case, restart the plot operation according to the procedures below.

STEPS:

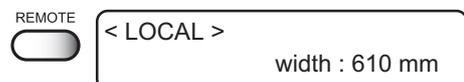
1. Press the [END] key.
Return the LOCAL mode.



2. Confirm the garment condition.
If not properly, reset the garment.



3. Press the [REMOTE] key to restart the plot operation.
Execute data clear to interrupt the print operation. Refer to the "Interrupting the plotting operation" described above.



If still the plot operation interrupted...

- Reread the garment thickness [CYCLE START] key  page 2.14
- Change the head height [Z] key, Function mode  page 4.15

Heat with a press

Place the garment (T-shirt) on the pressing machine to settle the ink.



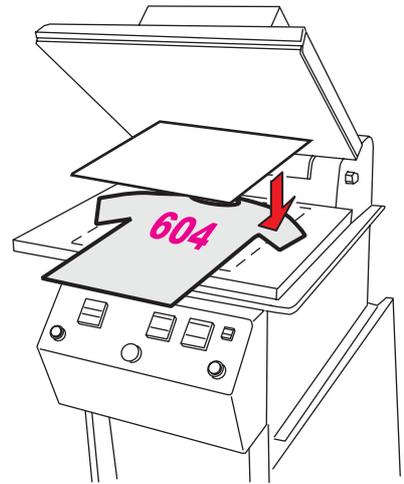
- Avoid contact of printed area with the white area. The wet ink may smear the white area.
- Use a special pressing machine. Extra-high temperature may burn the material. The desired fastness to washing may not be obtained when an iron is used for the optimum setting condition cannot be maintained easily.
- The time interval between after plotted the garment (T-shirt) and before performing the posttreatment should be always at a regular time length. If the time interval differs at each time, it may cause color differences between the plotted garments (T-shirt). Make sure to perform the posttreatment after drying the garment completely, or the inks absorbed by the disposal paper, and it may cause the color differences on the plotted garment.
- When used discharge liquid, be sure to heat by pressing machine within 5 minutes after printing. Otherwise effect of discharge decrease.

STEPS:

1. **Place a sheet of paper over the printed area and heat with a special pressing machine.**



- The heating condition varies by the T-shirt material or the performance of the heater. Determine the optimum condition carefully.
- The fastness to washing varies by the T-shirt material or post-print treatment. Determine the optimum condition carefully, and verify in a color fastness test.
- Color fastness and color development are greatly affected by the work environment (room temperature, heater temperature). Printing under the identical work condition is highly recommended.



Reference

	Pressing machine
Temperature	160 °C
Time	60 seconds
Pressure	0.45 kg/cm ²

2. Wash the media (T-shirt).

The printed and pressed media (T-shirt) is washed by washing machine as you wash the normal T-shirts.



- As the heat-pressed media (T-shirt) contains residual formaldehydes, a harmful substance, make sure to wash the media (T-shirt) to eliminate formaldehyde. Furthermore small amount of residual formaldehydes remains even washed, therefore do not use for baby's cloth.
- When performing heat-press, steam with residual formaldehydesadequate is generated. Enough air ventilation is required

To replenish ink, set a new ink cartridge in the ink station

If ink in the cartridge comes to an empty, the corresponding message appears.

Plotting can be continued, however ink may run out during plotting.

Immediately put a new ink cartridge.



- In case [NEAR END] is indicated on the LCD, replace a ink cartridge in good time.

When carrying out continuous output, start printing after checking the ink level. In case ink finished during printing, the operation stopped.

If replenishing ink during printing, it may result in color change.

- [NEAR END] for washing liquid can not be detected. Only [INK END] is detected

< When the amount of ink becomes small during plotting >

Indicates the ink color which has run out.

Display shows on the right indicates that black ink comes to an end.

< LOCAL >
NEAR END K - - - - -



- If [NEAR END] for discharge liquid is detected, discharge liquid does not fire on next data therefore replace to the new discharge liquid as soon as possible.

< When the amount of ink completely runs out during plotting >

Indicates the ink color which has completely run out.

Display shows on the right indicates that cyan ink runs out.

< LOCAL >
INK END - - M - - - -

STEPS:

1. The messages displayed on the LCD during plotting.

- When [INKnearEND] appears, the LOCAL mode is resumed and the operation stopped each time plotting of a single data is completed. Proceed to Step 2 at the end of the plotting operation.
- When [INKEND] appears, plotting cannot be continued.

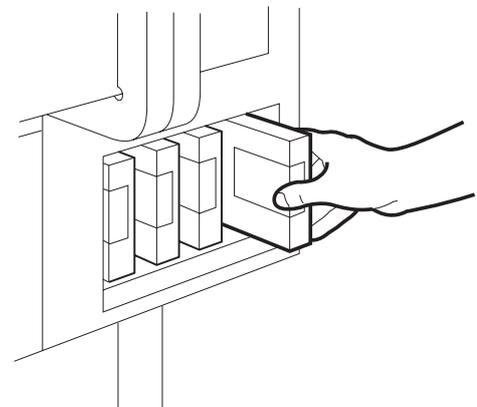
2. Install a new ink cartridge.

Pull out the indicated ink cartridge and then set a new ink cartridge.

3. The menu enters the REMOTE mode.

Continuous plotting is possible.

< LOCAL >
NEAR END K - - - - -



* REMOTE *
TYPE. 1 2. 5

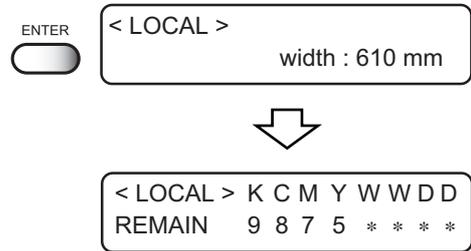
Confirm the remaining ink

This function enables to confirm the remaining amount of ink.

STEPS:

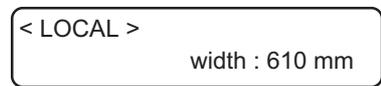
1. Press the [ENTER] key in the LOCAL mode.

The remaining amount of ink is displayed with a number from 1 to 9.



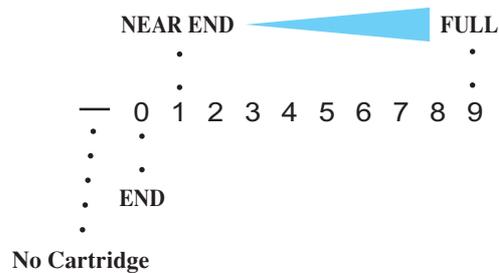
2. Press the [ENTER] key again to revert to the LOCAL mode.

If any error occurs on the ink cartridge, the details are displayed.  page 6.5



Remaining amount of ink

The remaining amount of ink is displayed with a number from 1 to 9. 1 indicates near end, and 9 indicates full.



Filling of Cleaner at the end of the works

If you leave the head for discharge liquid with discharge liquid filled in for a long time, the life of the head for discharge liquid will be shortened because the discharge liquid melts the water-shedding part. To prevent the reduction of its life, when it is not used for an extended period of time, drain the discharge liquid and fill in the Cleaner.

STEPS:

1. At the LOCAL state, press the [FUNCTION] key 3 times.

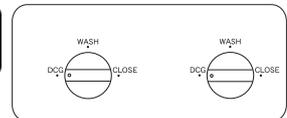
FUNCTION
Fill Up DCG < ENT >

2. Press the [ENTER] key.



3. Changeover using up/down keys.

Fill Up DCG
Fill Up : Wash

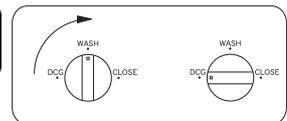


4. Press the [ENTER] key.



5. Turn the left valve to "WASH".

Left Valve
Set < WASH >

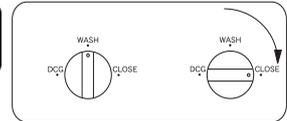


6. Press the [ENTER] key.



7. Turn the right valve to "CLOSE".

Right Valve
Set < CLOSE >

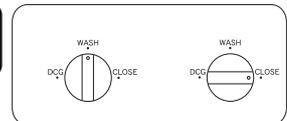


8. Press the [ENTER] key.



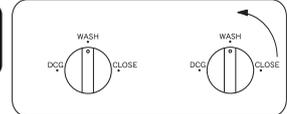
9. The left valve is filling Cleaner.
Wait for about 1 minute.

FILL UP
PLEASE WAIT



10. Turn the right valve to "WASH".

Right Valve
Set < WASH >

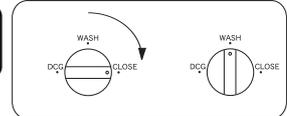


11. Press the [ENTER] key.



12. Turn the left valve to "CLOSE".

Left Valve
Set < CLOSE >

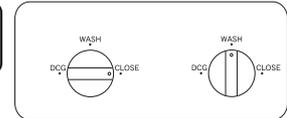


13. Press the [ENTER] key.



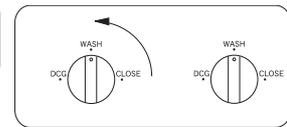
14. The right valve is filling Cleaner.
Wait for about 1 minute.

FILL UP
PLEASE WAIT



15. Turn the left valve to “WASH”.

Left Valve
Set < WASH >

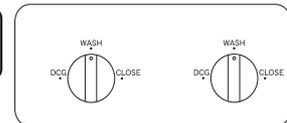


16. Press the [ENTER] key.



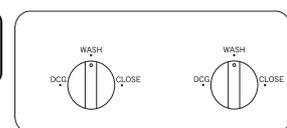
17. Both right and left valves are filling
Cleaner.
Wait for about 1 and a half minutes.

FILL UP
PLEASE WAIT



18. Changeover is completed.

FUNCTION
Fill Up DCG < ENT >



- Every day at the time of finishing works, the filling of Cleaner shall be performed for the protection of head for discharge liquid.
- Every day at the time of starting works, the filling of the discharge liquid shall be performed.  P.2-4

Turning the power off

When plotting is completed, press the power switch on the front face to turn the power off.

To turn the power off, check first whether or not there is data received and there remains data that has not yet been output in the device.

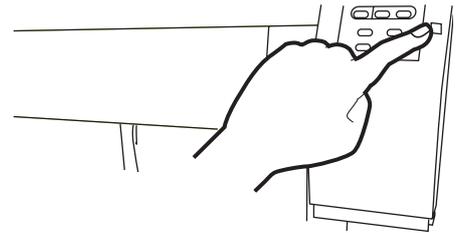
Also, make sure that the head rests at the capping station.



- If the power is turned off while the device is engaged in plotting, the head may fail to be retracted in the capping station. If the head is left without capped for an extended period of time, the nozzle will be clogged with dust. If the power to the device is turned off without the head capped, return on the power to the device.

1. Turn off the power to the device.

The POWER indicator on the operation panel goes off.



- ### 2. If you do not use the device for some time, push the main switch located in back of the device.

CHAPTER 3

Daily cleaning

This chapter describes daily cleaning.

Table of contents

Daily Maintenance	3.2
Cleaning the wiper and ink caps	3.4
When the waste ink tank becomes full	3.6

Daily Maintenance

Make sure to conduct maintenance works for the device when necessary or periodically so as to use the device for a long time while keeping its plotting accuracy.

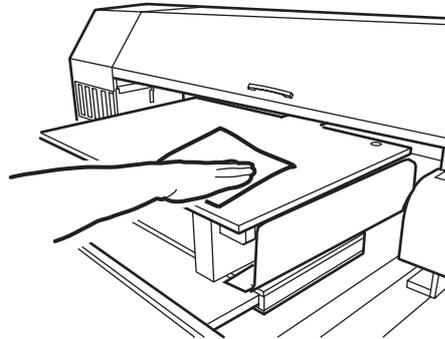
Notes on cleaning



- Never disassemble the device. Disassembling the device may result in electric shock hazards and breakage of the device.
- Prevent moisture from entering inside the device. If the inner part of the device becomes wet, it may result in electric shock hazards and breakage of the device.
- Conduct maintenance works after turning off the power switch and detaching the power cable. If not, unexpected troubles may arise.
- Do not wipe the nozzles, wiper, or cap of the head with water or alcohol, or it may cause nozzle clogging or damage to nozzles.
- Do not use benzine, thinner and chemical agents containing abrasives. Such materials may deteriorate or deform the surface of the cover.

If the frame components of the device/table/T-shirt plate have stained

Dampen a piece of soft cloth with water or neutral detergent diluted with water, squeeze it and wipe the frame components clean.



Cleaning the wiper and ink caps

Ink cap prevents clogging of the head nozzle caused by the dried nozzle.

Wiper wipes out ink adhered to the head nozzle.

As the device is used to plot images, the wipers and ink caps gradually become stained with ink and dust.

Clean the wiper and the ink cap at the end of the days operation so as to keep the plotter in good operation condition.



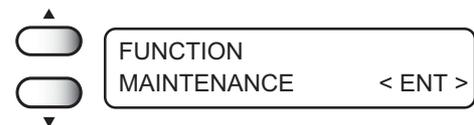
- Do not move the carriage out of the capping station by hand.
Use the appropriate operation key to move the carriage.

STEPS:

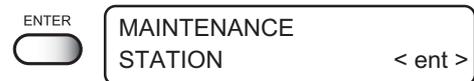
1. Press the [FUNCTION] key.



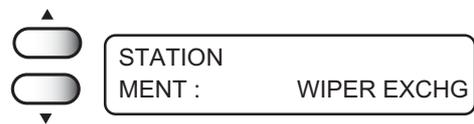
2. Press the [▲] and [▼] key to select the [MAINTENANCE].



3. Press the [ENTER] key.
[STATION] is displayed.



4. Press the [▲] and [▼] key to select the [CARRIAGEout].



5. Press the [ENTER] key.



6. Press the [ENTER] key.
Move the carriage on the platen.

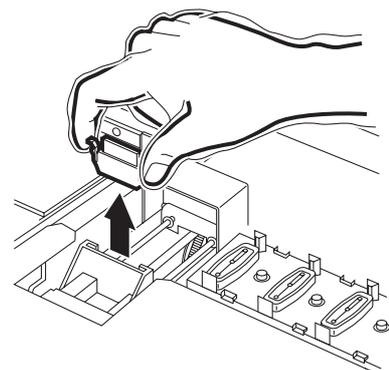


7. Open the front cover.

8. Hold the projections at both ends of the wiper to draw out.



- Wear gloves to keep your hands clean.

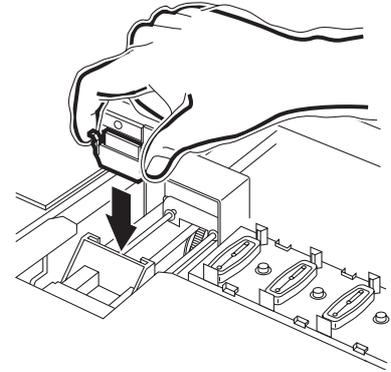


9. Clean the used wiper with water, and dry it.



- If dirt or curl is serious, replace the wiper with a new one. At the time of replacement, make sure to terminate the plotter operation and follow the wiper replacement procedure.  page 5.5

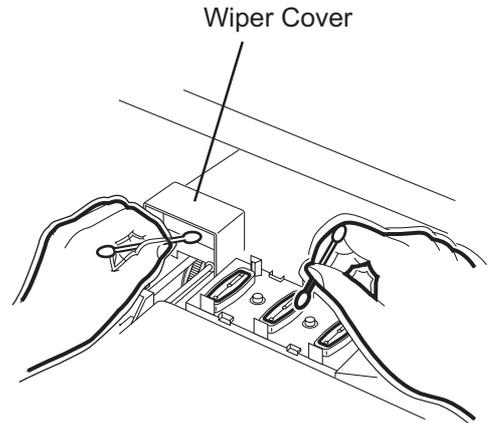
10. Hold the projections at both ends of the cleaned wiper to insert to the place.



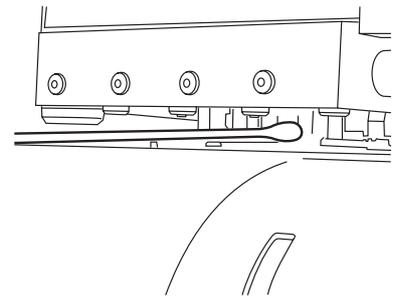
11. Wipe off ink or dirt adhered to the rubber of the cap and the ceiling of the wiper cover using cotton buds.



- Be careful not to leave lint of the cotton bud. Lint may cause plotting failure.



- Wipe the head sides with a cotton bud as ink may be adhering there also.



12. Press the [ENTER] key.

After performing the initial operation, reverts to the LOCAL mode.



INITIALIZING
PLEASE WAIT

< LOCAL >
WIDTH : 610 mm

When the waste ink tank becomes full

Waste ink used for cleaning the heads gathered in the waste ink tank.

When the gathered waste ink exceed the marker line on the tank, immediately replace the tank with a new waste ink tank.



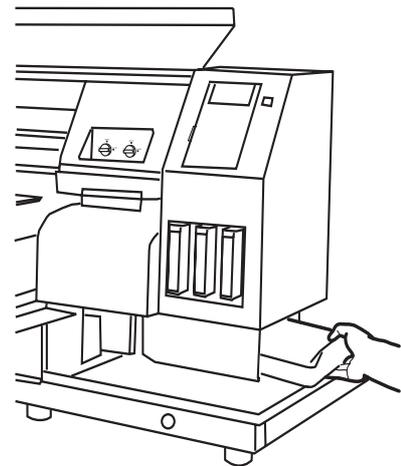
- In case ink is being discharging, replace the tank with a new one after completing discharging.

STEPS:

1. Pull out the tank.



- When pulling out the waste ink tank, hold the opened waste ink tank with paper and then slowly pull it out to prevent waste ink from spattering.
- Before replacing ink, put paper on the floor to prevent it from being stained with ink.



2. Dispose of the waste ink.



- Transfer the waste ink to a commercially available polyethylene tank, etc.
- Dispose the waste ink according to the local regulations.

3. Put a new (empty) waste ink tank in place.

CHAPTER 4

Setting Function

This chapter describes operations and setting necessary for plotting.

Table of contents

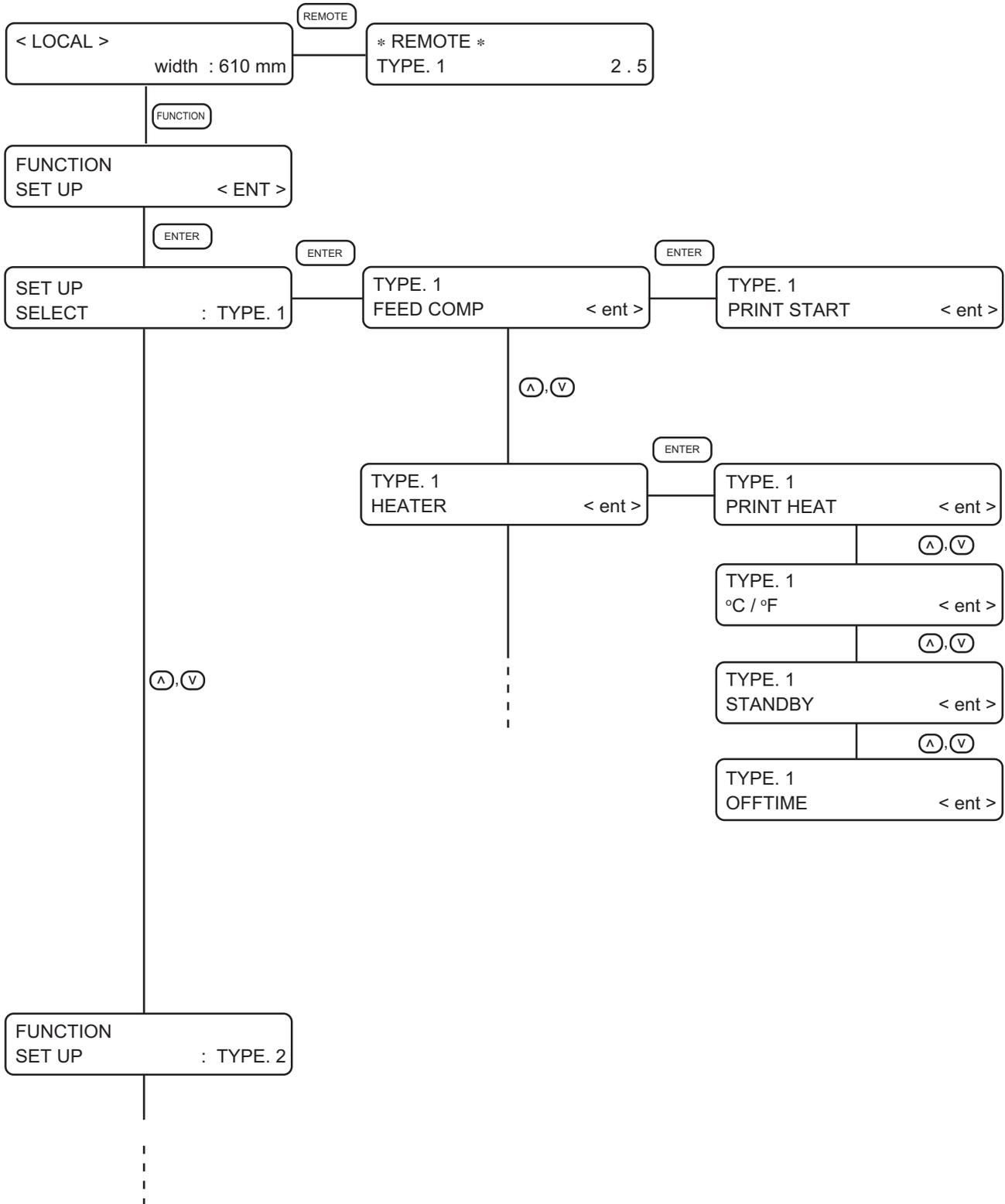
Basic operations of menus	4.2
Register the function on each purpose (Type Registration)	4.4
Setup functions	4.5
Effective Plotting Area	4.10
Set the ORIGIN	4.14
Change the head height (the head-gap)	4.15
Correcting the garment feed rate [FEED COMP.]	4.17
Change the Language on LCD	4.19

Basic operations of menus

This section describes how to change over the operation modes and how to operate the menus.

The following gives the key operation flow to invoke menus.

For details, refer to Appendix.



1. Select the LOCAL mode.

Ascertain first that the device does not perform printing in the REMOTE mode, then press the [REMOTE] key to enter the LOCAL mode.

2. Select the FUNCTION mode.

Press the [FUNCTION] key, and the device enters the FUNCTION mode.

The FUNCTION mode is divided into two categories: the setup function and maintenance function. Select either function.

3. Select a type.

There are four types. The FUNCTION mode can be set for each type depending on the garment type used.

4. Select the Function.

Select the function pressing the JOG keys [▲] and [▼].

5. Enter the selected Function.

Press the [ENTER] key.

6. Select a parameter.

Press the JOG keys [▲] and [▼] to select a parameter.

7. Enter the specified value.

Press the [ENTER] key.

8. Restore the LOCAL mode.

Press the [END] key several time to revert to the LOCAL mode.

Register the function on each purpose (Type Registration)

The FUNCTION mode consists of 13 items.

The 13 items can be registered for the following four types.

It enables to change plotting conditions easily as usage.

Registering a type

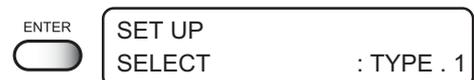
1. Make sure that the mode is LOCAL mode.



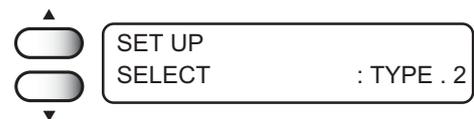
2. Press the [FUNCTION] key.



3. Press the [ENTER] key.



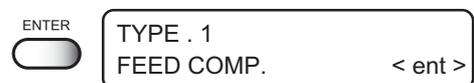
4. Select any of Types 1 through 4 by pressing the JOG keys [▲] and [▼].



5. Press the [ENTER] key.

Setting Plotting Conditions.

 page 4.5



Changing the type

If plotting conditions for types 1 through 4 have already been registered, settings can be selected according to the plotting simply by selecting the type.

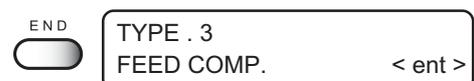
1. Perform steps 1 through 5 above.

Select a type.



2. Press the [END] key.

Performs printing according to the print condition of the selected type.



Setup functions

List of functions

The list below shows the detail information on each function.

Name	Function	 page
FEED COMP	Correct the amount of garment feed in printing.	page 4.6, A-10
HEATER	Set condition of the built-in heater.	page 4.6, A-10
PRINT MODE	Set the plot quality, plot direction, and logical seek.	page 4.7, A-10
INK LAYERS	Set the number of overwriting.	page 4.8, A-11
DRYING TIME	Set the ink drying time.	page 4.8, A-11
PRIORITY	Set the priority settings (device or computer).	page 4.8, A-11
REFRESH	Refresh the head during plotting.	page 4.8, A-11
MM/INCH	Set a displayed unit values (mm or inch).	page 4.8, A-12
STAMP	Print the date of output and the print condition.	page 4.9, A-12
AUTO CLEANING	Perform head cleaning automatically in each printing.	page 4.9, A-12
WORK CHANGE	Automatically up the head after printing.	page 4.9, A-12
LED POINTER	Select the method of print area setting (point/area).	page 4.9, A-12
SETUP RESET	Reset the current print condition.	page 4.9, A-12

FEED COMP. page A.10

When the garment type or heater temperature is changed, be sure to correct the amount of feed.

(-255 -255)  page 4.17

HEATER page A.10

Set the built-in heater.

PRINT HEAT : (Temperature setting  page 2.5)

Sets the heater temperature.

(OFF, 20- 60 °C / 68- 140 °F)

°C / °F : Switches the unit of temperature.

(°C / °F)

STANDBY : Sets the time intervals till the heater temperature begins to drop to the preheat temperature. The preheat temperature is preset and cannot be changed. When starting plotting under the low temperature condition, it automatically raises the temperature up to the set value.

When [NONE] is selected, the temperature does not drop to the preheat temperature.

(NONE, 10- 90 min /10min step)

OFF TIME : The heater is turned off in the following cases.

- If the device does not plot for the setup time or longer in the standby mode.
- With STANDBY-[NONE] selected, when plotting is started with the heater off if the device does not plot for the setup time or longer after the end of plotting, the temperature rises up to the set temperature automatically.

When receiving the data under setting the heater to OFF, it automatically raises the temperature up to the set value before executing plotting.

With [NONE] selected, the heater is not turned off.

(NONE, 30, 60, 90 min.)

PRINT MODE page A.10

Set the plot quality, plot direction, and logical seek.

QUALITY : Select the quality image from three items.
(STANDARD, FINE, FAST)

DIRECTION : Specifies the head movement direction for plotting.
[UNI-D] plots an image while the head is moving to the left.
[BI-D] plots an image while the head is moving to the left and right.
*[BI-D] plotting enables faster plotting speed, however inferior image.
(UNI-D, BI-D)

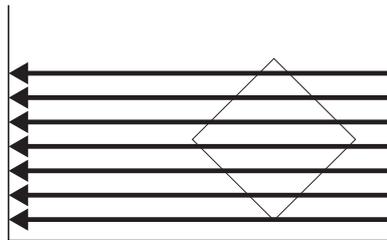
LOGICALseek : Select either the head moves to both ends of the garment, or the head moves along the image width to make plotting.

[ON] : Scans only width of the print image. It enables to save the print time.

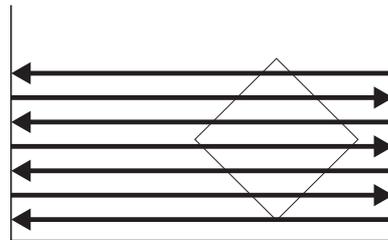
[OFF] : Scans the garment width regardless the size of the print image.

Head movements

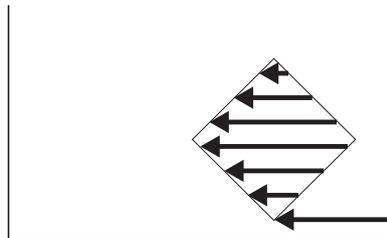
OFF (UNI-DIRECTIONAL)



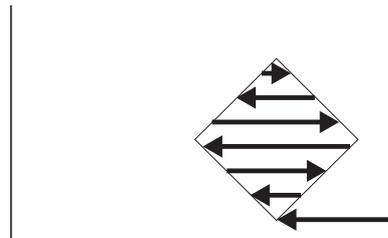
OFF (BI-DIRECTIONAL)



ON (UNI-DIRECTIONAL)



ON (BI-DIRECTIONAL)



- Color difference may be seen in between [ON] and [OFF] of the LOGICAL seek, due to the scanning width difference, it may cause the ink dryness difference. Make sure to confirm [ON/OFF] of the LOGICAL seek before performing plot operation.

INK LAYERS **page A.11**

When the color development is poor in color printing, or when the discharge of color is poor in discharge printing, set the number of overprinting.

(1-9 times)

DRYING TIME **page A.11**

Set the ink drying time.

The drying time is the time interval in every scan.

Set the time interval accordance with the print density and the garment type to use.

SCAN : Sets the time of temporary stop at the capping station during the reciprocating motion of the head.
(0.0-9.9 sec)



- When 3 seconds or longer interval is specified, once the head is capped, for the ink blockage protection function works.

PRIORITY **page A.11**

Specifies whether the values set on the device (panel) are given priority or the values set on the computer (host) are enabled as for the following five functions.

(HOST, PLOT)

- FEED COMP.
- HEATER
- PRINT MODE
- INK LAYERS
- DRYING TIME

REFRESH **page A.11**

Solidification of ink can be prevented by refreshing the head during plotting.

Use the function in a dusty or a dry place.

A larger level performs more number of refreshes.

(LEVEL0-3)

MM / INCH **page A.12**

Set a unit of set values displayed. [MM] is set as the factory preset unit.

(MM, INCH)

STAMP **page A.12**

Print the date of output and plotting condition at end of plotting.

MODE STAMP : Print the plotting condition.
(ON, OFF)

TIME STAMP : Print the date of output.
(ON, OFF)

AUTO CLEANING **page A.12**

Perform head cleaning automatically. Perform cleaning for each plot to prevent plotting failures.

(ON, OFF)

WORK CHANGE **page A.12**

Automatically up the head after printing to change the garment easily.

(ON,OFF)

LED POINTER **page A.12**

Select “POINT (printing point)” or “AREA (printing area)” as the method of print area setting.

(POINT, AREA)

SETUP RESET **page A.12**

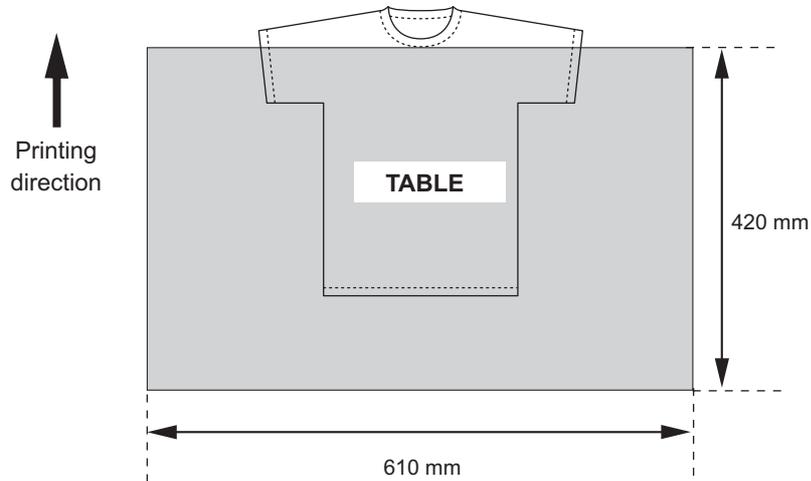
Reset the current plotting conditions to the factory preset plotting conditions.

Execute this function for each type.

(ON, OFF)

Effective Plotting Area

The device enables to print over the black bordered table area.



Maximum print area : 420 x 610 mm

* In case printing at 360x360 dpi, 360x540 or 360x720 dpi in a high speed mode, the maximum print area is to be 420x570 (mm).



- Never alter the origin (print-start position) except for test print purposes. Altering the origin on the device will cause an error from the origin set in RasterLinkGP (output software).
If you must change the origin, change it on the RasterLinkGP.

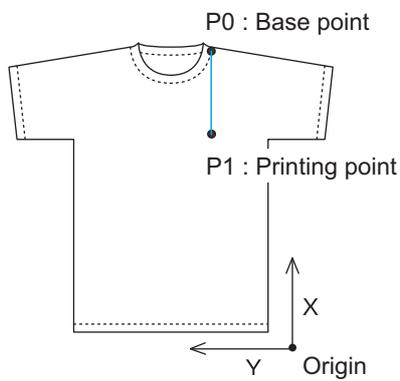
Set the print area

This device enables to specify the print area as following two methods.  page 4.9
Two methods (POINT/AREA) are able to switch with the function [LED POINTER].
The specified print area is read by RasterLinkGP (output software) and output data are created accordingly. Refer to the RasterLinkGP user manual for details.

1. POINT - Specify the printing point -

Specify one point (P1) to determine the printing point.

1. Specify the base point (P0).
2. Specify another point (P1) to determine the printing point. Create an output data according to the point specified.

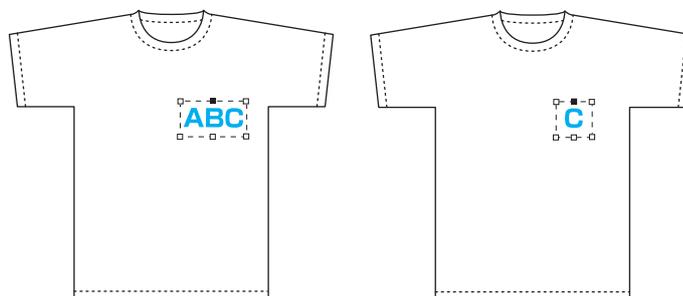


e.g) When printing at 200 mm lower on the left neck side

1. Set the left neck side as the P0 point (X,Y).
2. Determine the P1 point (X-200, Y) based on the P0 point.
3. Read the data into the RasterLinkGP.

If determined the printing base point on the RasterLinkGP,
it enables to print accurately on the specified position even
if printing characters differ in number.

e.g) Print as centering the P1 point

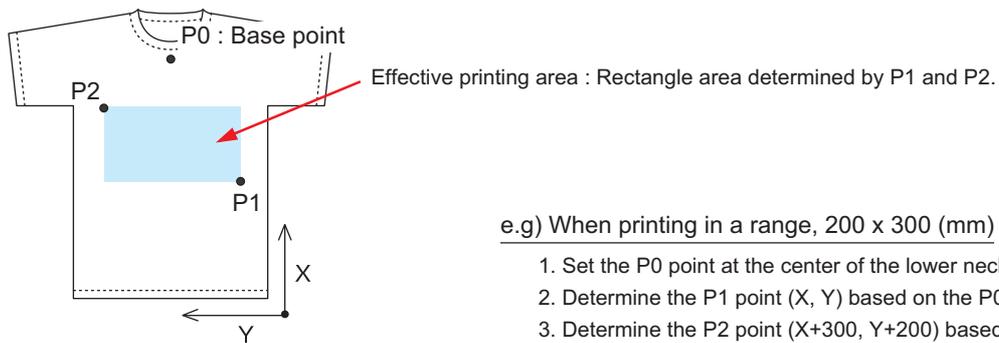


2. AREA - Specify the printing area -

Specify two point (P1, P2) to determine the printing point.

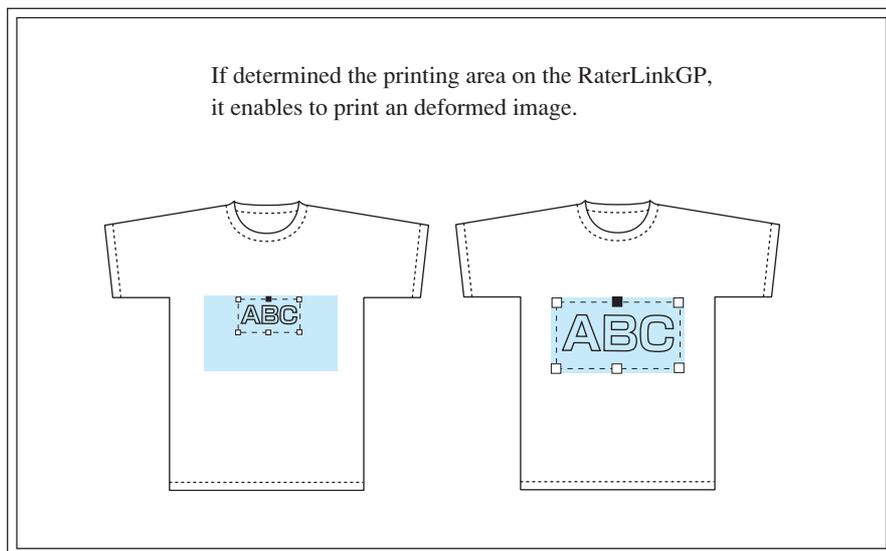
1. Specify the base point (P0).
2. Specify two point (P1, P2) to determine the printing area.

A rectangle formed by the two opposing corners indicates the printing area.



e.g) When printing in a range, 200 x 300 (mm)

1. Set the P0 point at the center of the lower neck.
2. Determine the P1 point (X, Y) based on the P0 point.
3. Determine the P2 point (X+300, Y+200) based on the P1 point.
4. Read the data into the RasterLinkGP.



STEPS:

1. **Make sure that the mode is LOCAL mode.**



2. **Press the [LED POINTER] key.**

The head moves to point P0.

3. **Press the JOG keys [▲], [▼], [◀] and [▶] to move the LED pointer to point P0 (Base Point).**



- Blinking value of the LED POINTER indicates the display coordinate.

4. **Press the [ENTER] key to determine the P0 point.**

The head moves to point P1.



Displays the relative coordinate from the origin points.

5. **Press the JOG keys [▲], [▼] [◀] and [▶] to move the LED pointer to point P1.**

6. **Press the [ENTER] key to determine the P1 point.**

When selecting "POINT (printing point)", it returns to the LOCAL mode.

When selecting "AREA (printing point)", it moves to the predefined P2 point.



Displays the relative coordinate from the P0 points.

7. **Press the JOG keys [▲], [▼] [◀] and [▶] to move the head to point P2.**



Displays the relative coordinate from the P1 points.

8. **Press the [ENTER] key to determine the P2 point.**



Set the ORIGIN

The origin needs resetting to test nozzles and other functions at the time the plate is set in place. For normal printing operation, the origin must be determined on RasterLinkGP (output software),

STEPS:

1. Press the JOG keys[▲],[▼],[◀] and [▶] to move the carriage to the origin position.



- Blinking value of the LED POINTER indicates the display coordinate.

<LOCAL>
Width : 610 mm

ORIGIN SET UP
0.0 0.0
| |
Origin(Length) Origin(Width)

2. After determining the origin, press the [ENTER] key.

The effective plotting area is displayed on the LCD, and the menu returns to the LOCAL mode.



ORIGIN
X = 300 Y = 300

When the device starts plotting the next time, it uses the origin that has been determined unless the origin is changed.

If a sensor detects the garment when the carriage begins to move or moving



- If a sensor detects the garment when the carriage begins to move or moving, moving is stopped and an error message displayed on the panel. In that case, follow the procedure below.

STEPS:

1. Press the Z key [▲].

The head moves up.

ERROR71
WORK TOO HIGH

2. Press the JOG keys[▲],[▼],[◀] and [▶] to move the carriage to the origin position.

ORIGIN
Z Height 8.0

3. After determining the origin, press the [ENTER] key.



<LOCAL>
Width : 610 mm

Change the head height (the head-gap)

When in use of a fuzzy or wrinkled garment, adjust the head height (the head-gap).

[CYCLE START] function only read the thickness of the garment, may result in touching to the head.

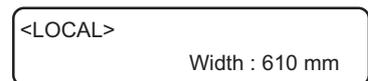
Two methods are available to change the head-gap.

(Initial value : 2.5 mm)

1. Press the Z keys to determine the head-gap

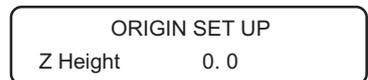
STEP

1. Press the Z keys [▲] and [▼] to move up and down the head height as needed.



2. Press the [ENTER] key after determined the height.

The menu reverts to the LOCAL mode.



2. Determine the head-gap in the FUNCTION mode

STEPS:

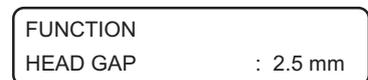
1. Press the [FUNCTION] key in the LOCAL mode.



2. Select the [HEAD GAP] by pressing the JOG keys [▲] and [▼].



3. Press the [ENTER] key.



4. Select the head height by pressing the JOG keys [▲] and [▼].

Changeable from 1.0 to 8.0 (0.1mm unit)



5. Press the [ENTER] key.

Enter the JOG mode.

6. Press the JOG keys[▲],[▼],[◀] and [▶] to move the carriage to the position which set the head gap on the table.



- Note, the carriage moves according to the head base, not the LED pointer base.

HEAD GAP
* * . * * * *

7. Press the [ENTER] key.

Detect the garment, and the head move to establish in step 4.



- The garment thickness read by the [CYCLE START] key is cleared.

HEAD GAP = 2.0 mm

After determining the origin, the device enters the LOCAL mode.

< LOCAL >
width : 610 mm

Correcting the garment feed rate [FEED COMP.]

When the garment type or heater temperature is changed, the amount of garment feed changes.

Make sure to correct dot positions.

If the correction value is not appropriate, stripes may occur in the plotting, disturbing neat plotting.

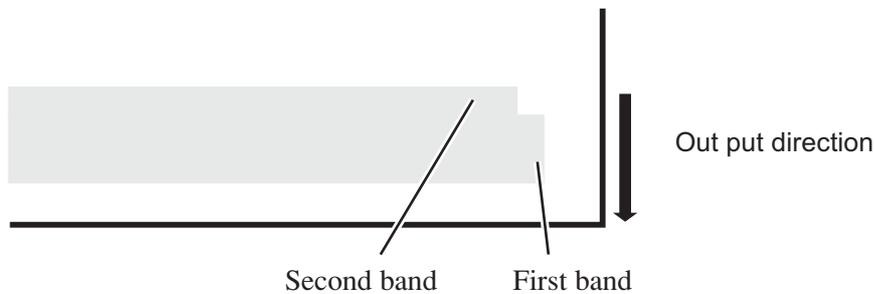


- When the heater temperature is changed, make sure that the CONSTANT indicator is lit and the set temperature is reached before making correction.
- The correcting pattern performs the plot operation across the full width of the effective area. Carefully handle with the parts with no media, or it will be stained with ink.

CORRECTING PATTERN

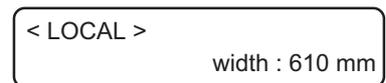
Plot two bands.

Adjust the plot density so that the boundary of the two bands is plotted with an even density.



STEPS:

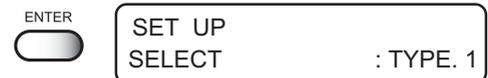
1. Confirm the device is in the LOCAL mode.



2. Press the [FUNCTION] key.

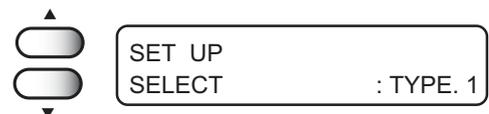


3. Press the [ENTER] key.

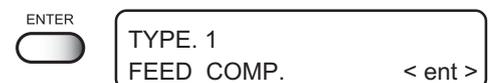


4. Press the [▲] and [▼] key to select a type.

 page 4.4



5. Press the [ENTER] key.



6. Press the [ENTER] key.

Plot the correcting pattern.

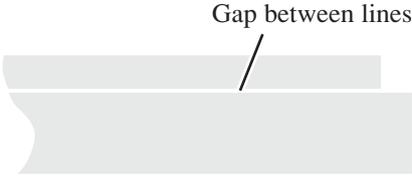


7. Confirm the correcting pattern.

Enter the correction value by pressing the JOG keys [▲] and [▼]. (Setting value : -255 - 255)

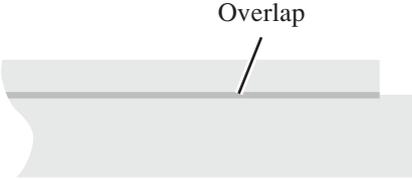


 • The pattern moves by approximately 0.1mm in every 30 changes of the correction value. Determine the correction value referencing this amount of movement.



Gap between lines

Correction value is too large



Overlap

Correction value is too small

8. Press the [ENTER] key.

Register the correction value.

Repeat steps 6 to 8 until normal plotting result is obtained.



9. Press the [END] key three times, and the menu returns to the LOCAL mode.



Change the Language on LCD

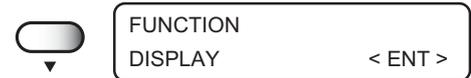
Japanese, English, Portuguese, Italian, French, or German is selectable on the LCD display.
The default language is English. Here is an example switching the language from English to German.

STEPS:

1. **Make sure that the mode is LOCAL mode.**
Press the [FUNCTION] key.



2. **Select the [DISPLAY] by pressing the JOG key [▼].**



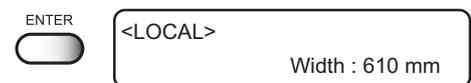
3. **Press the [ENTER] key.**



4. **Select the language to be used by pressing the JOG keys [◀],[▶].**



5. **Press the [ENTER] key.**
The menu reverts to the LOCAL mode.



CHAPTER 5

Maintenance

In order to keep the plotter in good operating condition, it is necessary to carry out maintenance of the device periodically.

This chapter describes the functions that help solve the problem of deterioration in image quality.

The device needs maintenance when it is left out of operation for a long period of time.

Table of contents

Maintenance of the device	5.2
Cleaning the station interior [STATION]-[CARRIAGEout]	5.4
When the message [REPLACE WIPER] is displayed [STATION]-[WIPER EXCHANGE]	5.5
Adjusting between the two plotting directions [PRINT ADJUST]	5.7
If nozzles are clogged even after the cleaning function is executed	5.9
Ink discharge way cleaning [Disway WASH]	5.16
When not in use the plotter over the long term [CUSTODYwash]	5.18
Drawing setup conditions [LIST]	5.21
Plotting HEX CODE [DATA DUMP]	5.22
Wiper Life warning [WIPE LEVEL]	5.23
Setting time [TIME SET]	5.24
Displaying device information [INFORMATION]	5.25

Maintenance of the device

The term “maintenance” as used herein refers to the operation that has to be performed to keep the device in good operating condition.

To carry out maintenance of the device, select [MAINTENANCE] from the function menu and make the necessary settings.

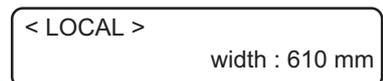
Invoking a maintenance function

In order to execute any of the maintenance functions, it is necessary to perform the following operation on the operation panel.

You have to understand how to invoke the desired maintenance function to carry out maintenance.

STEPS:

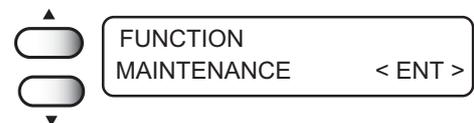
1. Make sure that the mode is LOCAL mode.



2. Press the [FUNCTION] key.



3. Press the [▲] and [▼] key, and select the [MAINTENANCE].



4. Press the [ENTER] key.



5. Select the next operation.

Set up the desired maintenance function to carry out maintenance.  page 5.3

Setup functions

The following describes the overview for each function.

Name	function	
STATION	Cleans the inside of the station and replace the wiper. (WIPER EXCHANG, CARRIAGEout)	page 5.4
PRINT ADJUST	Adjusts the dot position.	page 5.7
FILL UP INK	Execute this function in case the nozzle clogging cannot be solved even after performing head cleaning.	page 5.11
HEAD WASH		
LIST	Plots the set condition of the device.	page 5.21
DATA DUMP	Plots data commands received from the computer, in HEX code.	page 5.22
WIPE LEVEL	Makes setting to move up the wiper replacement warning depending on the operating environment.	page 5.23
TIME SET	Sets the built-in date and time of the device.	page 5.24
INFORMATION	Displays the firmware version, serial number, and dealer number of the device.	page 5.25

Cleaning the station interior [STATION]-[CARRIAGEout]

Move the carriage when cleaning the station interior and replacing the consumable parts.



- Do not move the carriage out of the capping station by hand.
Use the appropriate operation key to move the carriage.

[STATION] function contains the following items.

CARRIAGEout : Moves the carriage for the station interior maintenance.

WIPER EXCHANGE : When the message [REPLACE WIPER] is displayed, replace the wiper.

 page 5.5

STEPS:

1. Select [CARRIAGEout].

Carriage moves out.

STATION MENT : CARRIAGEout

2. Open the front cover, to perform the following maintenance. page 3.4

1. Cleaning the ink caps

Remove ink with a cotton swab from the rubber mounted around the cap.

2. Cleaning the wiper

Wash and dry the used wiper. 3 wipers are supplied with the device. Replace as needed.

3. Cleaning the wiper cover

Wipe off ink to the ceiling of the wiper cover using cotton buds.

When the message [REPLACE WIPER] is displayed [STATION]- [WIPER EXCHANGE]

The wiper is consumable part.

When the following message is displayed, replace the wiper with a new one.

< LOCAL >
REPLACE WIPER

Clean the ink adhered to the bottom of the slider as well.



- The cleaning wiper is sold separately. For details, refer to your dealer.



- Do not select [REPLACE WIPER] except for the wiper replacement., or it resets the counted number of the wiper operation.

STEPS:

1. Select the [WIPER EXCHG] to move the carriage from the capping station.

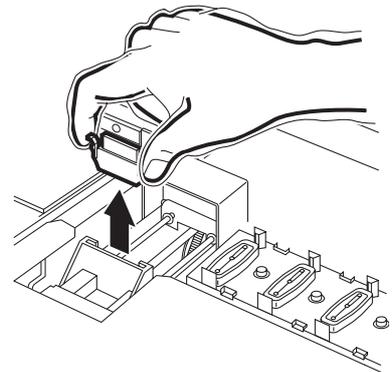
STATION
MENT : WIPER EXCHG

2. Open the front cover to replace the wiper.

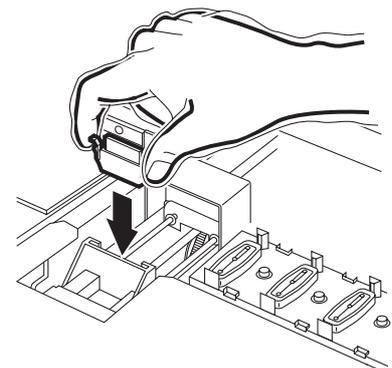
3. Hold the projections at both ends to draw out the wiper.



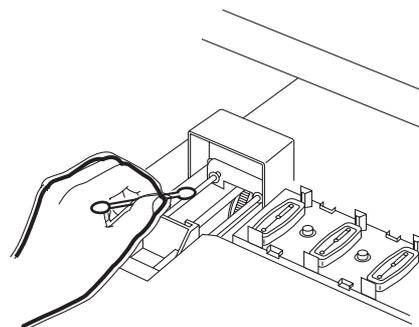
- Wear gloves to keep your hands clean.



4. Hold the projections at both end to insert a new wiper.



5. Clean the wiper guide shaft using a cotton bud or cloth.



6. Close the front cover.

INITIALIZING
PLEASE WAIT

7. Press the [ENTER] key.

The device enters the LOCAL mode.



< LOCAL >
width : 610 mm

Adjusting between the two plotting directions [PRINT ADJUST]

The dot positions are corrected by comparing the ink dropping positions on each of the four test patterns between the two plotting directions.

This function corrects the dot positions to ensure that the accurate plotting result is obtained.

STEPS:

1. Select the [PRINT ADJUST].



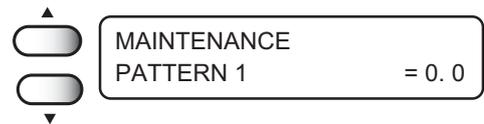
2. Press the [ENTER] key.

Starts plotting the four types of test pattern.



The output four patterns are sequentially named [PATTERN 1] to [PATTERN 4].

3. Press the JOG keys [▲] and [▼] to correct the dot position adjustment value of pattern 1.



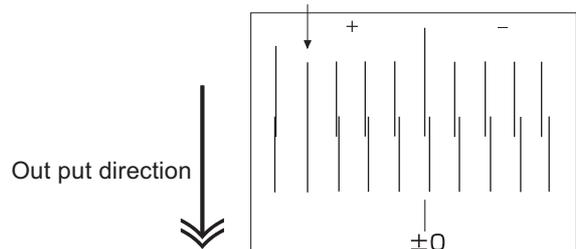
Select the correct dot positions on [PATTERN 1] using the JOG keys [▲] and [▼].

Select the dot positions that make a straight line on the test pattern in the two plotting directions.



- If the pattern correction value for straight lines is not within -40 through +40, adjust the head height and then correct it again with [PRINTADJUST].

Select the dot positions 4.0 that make a straight line on the test pattern in two plotting direction.



The centered long line indicates "0" position.

4. Press the [ENTER] key.



5. Repeat Steps 3 to correct the dot positions on Patterns 2 to 4.

Select the correct dot positions on each of the patterns.
Enter the dot position correction value on Patterns 1 to 4 and then terminate dot position correction.



MAINTENANCE
PATTERN 2 = 0.0

MAINTENANCE
PATTERN 3 = 0.0

MAINTENANCE
PATTERN 4 = 0.0

6. Press the [END] key twice to revert the LOCAL mode.



< LOCAL >
width : 610 mm

If nozzles are clogged even after the cleaning function is executed

Executes the following two functions in case the nozzle clogging cannot be solved even after performing head cleaning. (☞ page 2.8)

- [NOZZLE WASH] : Cleans the nozzle with the dedicated cleaning fluid (option).
- [FILL UP INK] : Fills up ink.
- [HEAD WASH] : Cleans the head, tube, and damper with the dedicated cleaning fluid (option).
- [Disway WASH] : Cleans the ink discharge way with the dedicated cleaning fluid (option).

In the case of nozzle clogging was not recovered by repeating [FILL UP INK] and [WASH] several times, contact your local distributor to call for service.

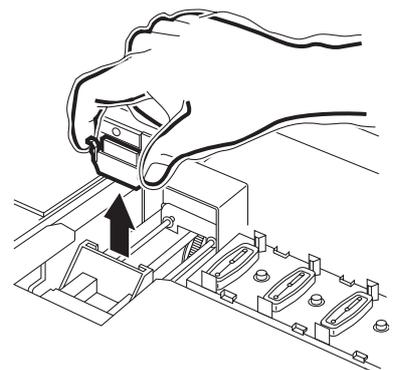
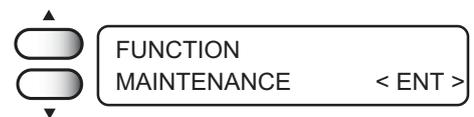
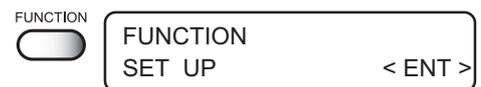
Cleaning the nozzle [NOZZLE WASH]



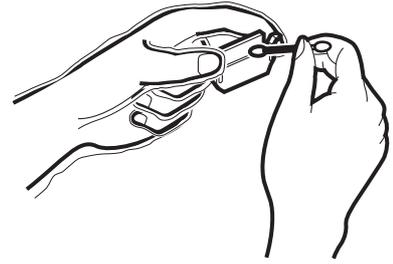
- If nozzle clogging cannot be resolved even after cleaning several times, execute the [FILL UP INK] and [WASH] functions (☞ page 5.11). If this error cannot be resolved with these functions, contact the dealer.

STEPS:

1. Push the [FUNCTION] key.
2. Push the key until the display gives the indication [MAINTENANCE].
3. Push the [ENTER] key.
[STATION] is displayed.
4. Push the [ENTER] key.
[NOZZLE WASH] is displayed.
5. Push the [ENTER] key.
Move the carriage on the platen.
6. Open the front cover.
7. Holding the projections at both ends, draw out the wiper.

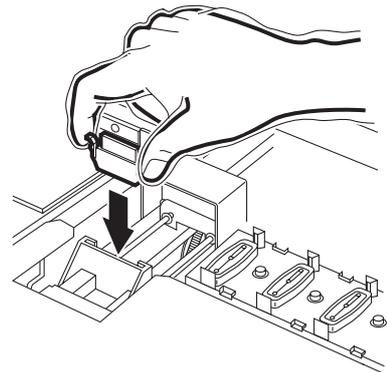


8. Remove the ink at the wiper and the bracket using a cotton bud dampened with cleaning fluid RS.

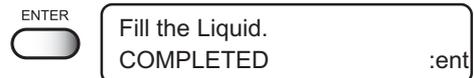


- If dirt of curl is serious, replace the wiper with a new one. At the time of replacement, be sure to terminate the plotter operation and follow the wiper replacement procedure.

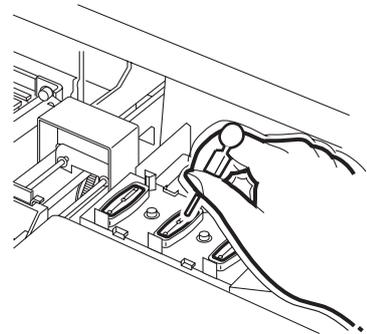
9. Holding the projections at both ends, insert the wiper which has cleaned into place.



10. Push the [ENTER] key.



11. Fill the cap with the cleaning fluid using a dropper.

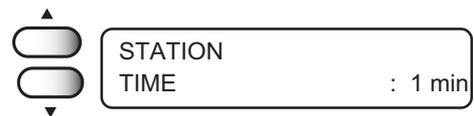


12. Close the front cover, and push the [ENTER] key.



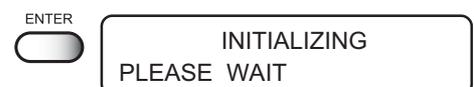
13. Press the [▲] and [▼] key, select the time to leave. (1-99 mins: 1 min unit)

Normally set 1 min.



14. Push the [ENTER] key.

The indication at the right display continues during selected time to leave for sucking the cleaning solution and cleaning.



15. Return to the LOCAL mode.



[FILL UP INK]

STEPS:

1. Select the [FILL UP INK].

MAINTENANCE
FILL UP INK < ent >

2. Pressing jog keys [▲] and [▼], select the head to be filled.



color : Fill only those heads in which K.C.M.Y. inks are filled.

FILL UP INK
HEAD : color

dcg : Fill only those heads in which discharge liquid or Cleaner is filled.

FILL UP INK
HEAD : dcg

all : Fill all heads in inks are filled.

FILL UP INK
HEAD : all

3. Press the [ENTER] key.

Starts ink filling automatically.



FILL UP
*****-----

When ink filling is completed, the menu returns.

MAINTENANCE
FILL UP INK < ent >

4. Press the [END] key twice to revert the LOCAL mode.



< LOCAL >
width : 610 mm

Wash the color head with cleaning fluid [HEAD WASH]



- The washing cartridge (SPC-0422) is separately available from your local distributor.

STEPS:

1. Select the [HEAD WASH].

MAINTENANCE
HEAD WASH < ent >

2. Press the [ENTER] key.



3. Press the jog key to select the color head.



HEAD WASH
WASH : color

4. Press the [ENTER] key.

5. Remove the ink cartridge.

Starts discharging the ink.

WASH
REMOVE TOOL

6. Set the cleaning cartridge.

Aspirates the cleaning fluid.



WASH
SET CLEAN TOOL

7. Remove the cleaning cartridge.

Starts discharging the cleaning fluid.

WASH
REMOVE TOOL

8. Set the cleaning cartridge.

Aspirates the cleaning fluid.

WASH
SET CLEAN TOOL

9. Remove the cleaning cartridge.

Starts discharging the cleaning fluid.

WASH
REMOVE TOOL

When cleaning complete, display shown on the right appears.

10. Press the [END] key twice to return to ink filling mode.



11. Select the ink type with jog key.

Ink Type
TPig-4Color

12. Press the [ENTER] key.



Ink fill up starts.

PLEASE WAIT

When ink fill up complete, display shown on the right appears.

< LOCAL >
width : 610 mm

Wash the discharge head with cleaning fluid [HEAD WASH]



- The washing cartridge (SPC-0422) is separately available from your local distributor.

STEPS:

1. Select the [HEAD WASH].

MAINTENANCE
HEAD WASH < ent >

2. Press the [ENTER] key.



3. Press the jog key to select the discharge head.

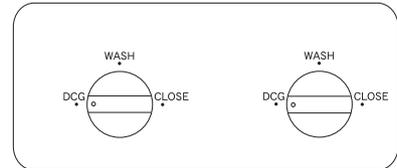


HEAD WASH
WASH : dcg

4. Turn the left valve to “DCG” and press the [ENTER] key.



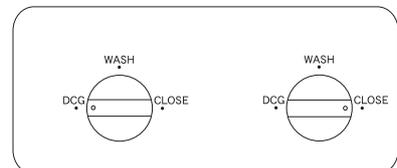
Left Valve
Set < DCG >



5. Turn the right valve to “CLOSE” and press the [ENTER] key.



Right Valve
Set < CLOSE >



6. Remove the ink cartridge.

Starts discharging the ink.

WASH
REMOVE TOOL

7. Set the cleaning cartridge.

Aspirates the cleaning fluid.

WASH
SET CLEAN TOOL

8. Remove the cleaning cartridge.

Starts discharging the cleaning fluid.

WASH
REMOVE TOOL

9. Set the cleaning cartridge.

Aspirates the cleaning fluid.

WASH
SET CLEAN TOOL

10. Remove the cleaning cartridge.

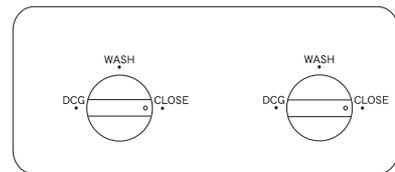
Starts discharging the cleaning fluid.

WASH
REMOVE TOOL

11. Turn the left valve to “CLOSE” and press the [ENTER] key.



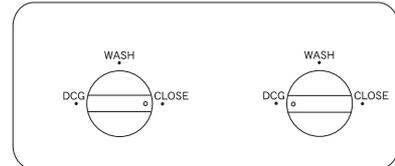
Left Valve
Set < CLOSE >



12. Turn the right valve to “DCG” and press the [ENTER] key.



Right Valve
Set < DCG >



13. Remove the ink cartridge.
Starts discharging the ink.

WASH
REMOVE TOOL

14. Set the cleaning cartridge.
Aspirates the cleaning fluid.

WASH
SET CLEAN TOOL

15. Remove the cleaning cartridge.
Starts discharging the cleaning fluid.

WASH
REMOVE TOOL

16. Set the cleaning cartridge.
Aspirates the cleaning fluid.

WASH
SET CLEAN TOOL

17. Remove the cleaning cartridge.
Starts discharging the cleaning fluid.

WASH
REMOVE TOOL

18. Cleaning complete.

MAINTENANCE
HEAD WASH < ent >

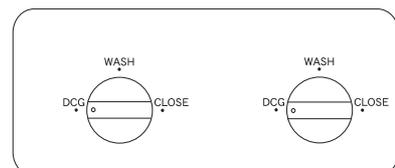
19. Press the [END] key twice to return to ink filling mode.



20. Turn the left valve to “DCG” and press the [ENTER] key.



Left Valve
Set < DCG >

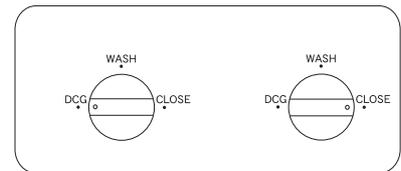


21. Turn the right valve to “CLOSE” and press the [ENTER] key.

Discharge liquid fill up starts.



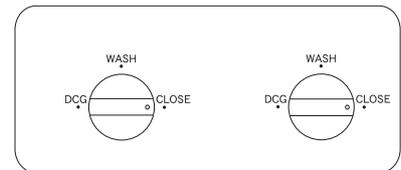
Right Valve
Set < CLOSE >



22. Turn the left valve to “CLOSE” and press the [ENTER] key.



Left Valve
Set < CLOSE >

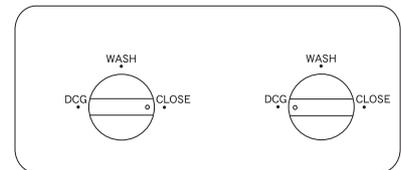


23. Turn the right valve to “DCG” and press the [ENTER] key.

Discharge liquid fill up starts.



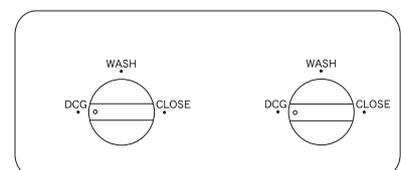
Right Valve
Set < DCG >



24. Turn the left valve to “DCG” and press the [ENTER] key.



Left Valve
Set < DCG >



25. Discharge liquid fill up complete.

Ink discharge way cleaning [Disway WASH]

The ink discharge way may become clogged by coagulated ink. It must be cleaned at regular intervals to avoid clogging.

Ink discharge way: Tubing between the cap and the waste ink tank



- When cleaning the ink station and head, be sure to wear the supplied goggle and gloves since you may get ink in your eyes.



- Do not move the carriage out of the capping station by hand. Use the appropriate operation key to move the carriage.

Cleaning tools

- Cleaning fluid RS for maintenance (SPC-0137)
- Pipette
- Glove

STEPS:

1. Select the [STATION] .

MAINTENANCE
STATION < ent >

2. Push the [ENTER] key.
[CARRIAGE out] is displayed.



STATION
MENT : CARRIAGEout

3. Push the [▲] and [▼] key until the display gives the indication [Disway WASH].



STATION
MENT : Disway WASH

4. Push the [ENTER] key.

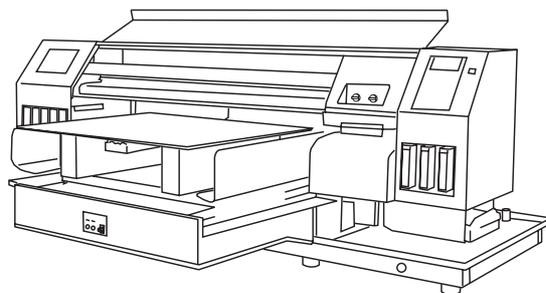


STATION
COMPLETED : ent

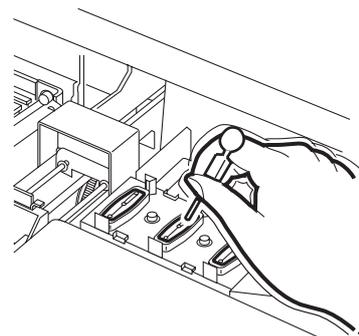
The carriage moves to the platen.

Dry suction starts in cycles consisting of 5 seconds of suction followed by 10 seconds of pause.

5. Open the front cover.



**6. Remove cleaning fluid RS with a dropper.
During the suction pause period, drop cleaning
fluid RS until just before it overflows from the
cap. Repeat at all other caps.**



**7. Close the front cover, and push the [ENTER]
key.**

Dry suction continues for 30 seconds and then the device is
put in LOCAL mode.

When not in use the plotter over the long term [CUSTODYwash]

When not in use the plotter over a week, perform “CUSTODYwash” function to clean the head nozzle and ink discharge way.

After performing the function, store the plotter.

Cleaning tools

- Cleaning Solution RS (SPC-0336), Pipette
- Glove, Goggle

STEP

1. Press the [FUNCTION] key.



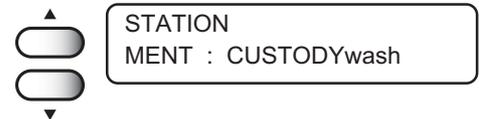
2. Press the [▲] and [▼] key until the display gives the indication [MAINTENANCE].



3. Press the [ENTER] key.
[STATION] is displayed.



4. Press the [▲] and [▼] key until the display gives the indication [CUSTODYwash].

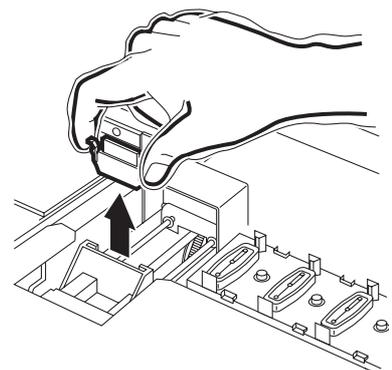


5. Press the [ENTER] key.
The carriage moves to the platen.

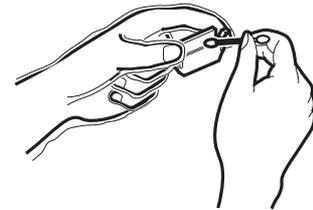


6. Open the front cover.

7. Holding the projections at both ends, draw out the wiper.

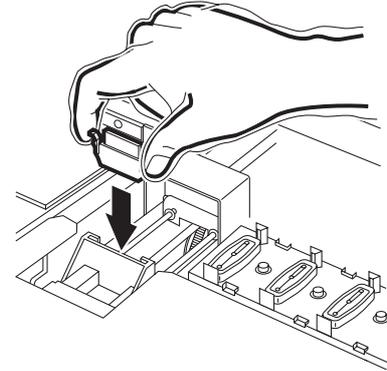


8. Remove the ink at the wiper and the bracket using a cotton bud dampened with cleaning fluid RS.



- If dirt of curl is serious, replace the wiper with a new one. At the time of replacement, be sure to terminate the plotter operation and follow the wiper replacement procedure.

9. Holding the projections at both ends, insert the wiper which has cleaned into place.

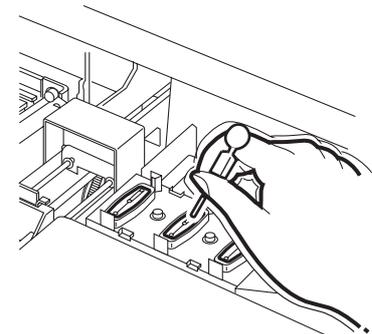


10. Press the [ENTER] key.



Fill the Oiquid.
COMPLETED :ent

11. Fill the cap with the cleaning fluid using a dropper.



12. Close the front cover.

13. Press the [ENTER] key.



14. Press the [▲] and [▼] key to select the time to leave. (1-99 mins: 1 min unit)

Normally set 1 min.



STATION
LEAVING : 2 min

15. Press the [ENTER] key.

Perform the nozzle cleaning.



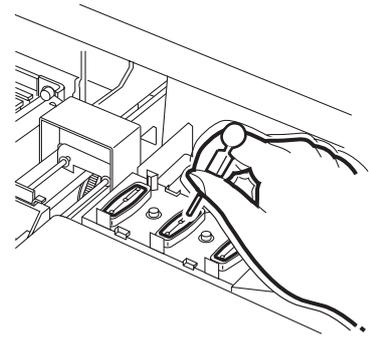
INITIALIZING
PLEASE WAIT

After completing the nozzle cleaning, the head moves on the platen.

16. Open the front cover.

17. Fill the cap with the cleaning fluid using a pipette.

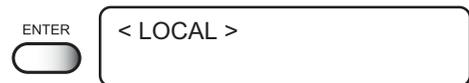
Repeat the performance several times to clean the ink discharge way for the air aspiration is performed fitfully. Perform the operation for the each cap.



18. Close the front cover.

19. Press the [ENTER] key.

Carriage returns the device to LOCAL mode.



Drawing setup conditions [LIST]

This function outputs the current settings of the device.

Use the information for carrying out maintenance.

1. **SET UP** : Indicates a value specified with the FUNCTION.
2. **PRINTadjust** : Indicates a correction value for dot position.
3. **REPLACE COUNTER** : Indicates the number of times the ink cartridges are replaced.
4. **VERSION** : Indicates the version of the firmware.
5. **PARAMETER** : Indicates parameters for maintenance.

```

LIST (System Ver1.00) ([/F Ver1.40) S/N : 00000000
(1) SET UP TYPE1 < TYPE2 > TYPE3 TYPE4
MEDIA COMP. 0 :HOST 100 :HOST 0 :HOST 0 :HOST
HEATER PRE OFF :HOST 200 :HOST OFF :HOST OFF :HOST
PRINT OFF :HOST 20 :HOST OFF :HOST OFF :HOST
 *C/F °C °C °C °C
STANDBY 0min 10min 0min 0min
OFF 0min 30min 0min 0min
PRINT MODE STD :PLOT FAST :PLOT STD :HOST STD :HOST
DIRECTION UNI-D UNI-D UNI-D UNI-D
LDGICALseek ON ON ON ON
INK LAYERS 1 :HOST 1 :HOST 1 :HOST 1 :HOST
DRYING TIME 0.0s 0s :HOST 0.0s 0s :HOST 0.0s 0s :HOST 0.0s 0s :HOST
AUTO CUT OFF :HOST OFF :HOST OFF :HOST OFF :HOST OFF :HOST
MARGIN RIG 0mm 0mm 0mm 0mm
LEFT 0mm 0mm 0mm 0mm
COLOR PTN. OFF ON OFF OFF
REFRESH LEVEL3 :HOST LEVEL3 :HOST LEVEL3 :HOST LEVEL3 :HOST
MEDIA SET SELECT SELECT SELECT SELECT
VACUUM STANDARD STANDARD STANDARD STANDARD
MM/INCH MM MM MM MM
STAMP MODE OFF ON OFF OFF
TIME OFF ON OFF OFF
AUTO CLEAN OFF ON OFF OFF
(2) WIPE LEVEL 1/1
(3) deodorizFAN OFF
(4) DISPLAY English
(5) PRINTadjust PATTERN1 PATTERN2 PATTERN3 PATTERN4
0.0 0.0 0.0 0.0
PATTERN5 PATTERN6 PATTERN7
0.0 0.0 0.0
(6) REPLACE CNT
CARTRIDGE 1: 87 2: 53 3: 42 4: 85 5: 58 6: 29
REMAIN 1: 66% 2: 67% 3: 83% 4: 100% 5: 65% 6: 65%
SHOT COUN 1: 1896 2: 1276 3: 1430
4: 1355 5: 1913 6: 1810
SCAN COUNT 1 (x1000)
DRAW AREA 5m² 53sq.ft.
USE TIME 31h
SLEEP REF. 0 0h9m
Date : 02.10.04 23:43
  
```

STEPS:

1. Select the [LIST].

MAINTENANCE
LIST <ent>

2. Press the [ENTER] key.

Plotting the list automatically.



* REMOTE *
** LIST **

Wiper Life warning [WIPE LEVEL]

Wipers are consumable parts.

If it curled or worn, it cannot clean a head adequately.

Depends of the operating environment, set the number of times of the wiper replacement warning.

1/1 : Displays the wiper replacement warning when the standard number of wiping is reached (initial value).

1/2 : Displays the wiper replacement warning when a half of the standard number of wiping is reached.

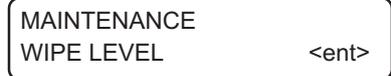
1/3 : Displays the wiper replacement warning when one third of the standard number of wiping is reached.

1/4 : Displays the wiper replacement warning when a quarter of the standard number of wiping is reached.

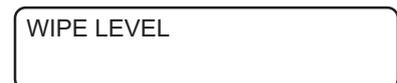
Set the [1/4] for dusty locations.

STEPS:

1. Select the [WIPE LEVEL].



2. Press the [ENTER] key.



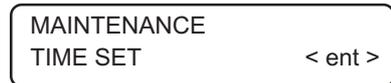
3. Select the warning level to replace the wiper by pressing the JOG keys [▲] and [▼].

Setting time [TIME SET]

The device incorporates a calendar. [TIME STAMP] function of the FUNCTION mode displays the date and time depending on this setting.  page 4.9

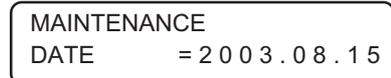
STEPS:

1. Select the [TIME SET].



MAINTENANCE
TIME SET < ent >

2. Press the [ENTER] key.

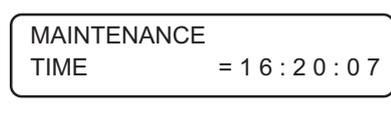


ENTER
MAINTENANCE
DATE = 2003.08.15

3. Set the date.

Press the [◀] and [▶] jog keys to select the digit.
Press the [▲] and [▼] jog keys to change the value.

4. Press the [▲] and [▼] key to select the [TIME].

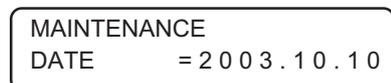


▲
▼
MAINTENANCE
TIME = 16:20:07

5. Set the time.

Press the [◀] and [▶] jog keys to select the digit.
Press the [▲] and [▼] jog keys to change the value.

6. Press the [ENTER] key.

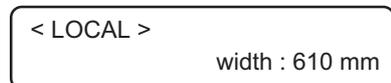


ENTER
MAINTENANCE
DATE = 2003.10.10

7. Displays the set date.

Press the [▲] and [▼] jog keys to display the time setting.

8. Press the [END] key for three times to revert the LOCAL mode.



END
< LOCAL >
width : 610 mm

Displaying device information [INFORMATION]

Displays the firmware version, serial number, and dealer number of the device.

If trouble occurs, please inform the dealer or MIMAKI sales office of the contents of the trouble as well as this information.

STEPS:

1. Select the [INFORMATION].

MAINTENANCE
INFORMATION < ent >

2. Press the [ENTER] key.

ENTER
MAINTENANCE
VERSION < ent >

3. Press the [ENTER] key again.

Display the firmware version.

ENTER
MAIN Ver 1.00
I / F Ver 1.00

4. Press the [END] key.

END

5. Press the [▲] and [▼] key to select the [SERIAL No.].

▲
MAINTENANCE
SERIAL No. < ent >
▼

6. Press the [ENTER] key.

Display the serial number of the device.

ENTER
MAINTENANCE
S / N * * * * * * * *

7. Press the [END] key.

8. Press the [▲] and [▼] key to select the [DEALER No.].

▲
MAINTENANCE
DEALER No. < ent >
▼

9. Press the [ENTER] key to display the dealer number of the device.

ENTER
MAINTENANCE
D / N * * * * * * * *

10. Press the [END] key three times to revert to the LOCAL mode.

END
< LOCAL >
width : 610 mm

CHAPTER 6

When abnormal conditions are encountered

Chapter 6 describes corrective measures to be taken in the case where an abnormal phenomenon arises on the device and where an error message is given on the display.

Table of contents

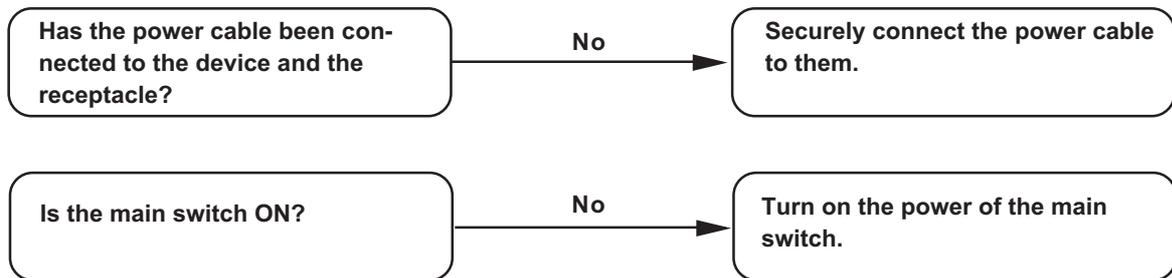
Before taking a phenomenon as a sign of failure	6.2
If an image failure occurs	6.4
Ink cartridge trouble	6.5
Troubles for which error messages are given on the LCD	6.6

Before taking a phenomenon as a sign of failure

Corrective measures against troubles in the case where no error message is given on the LCD are described in this section. Make sure to take the following measures before taking the trouble as a sign of failure. If the measures fail restore the device to the normal state, contact your local MIMAKI distributor or MIMAKI office to call for service.

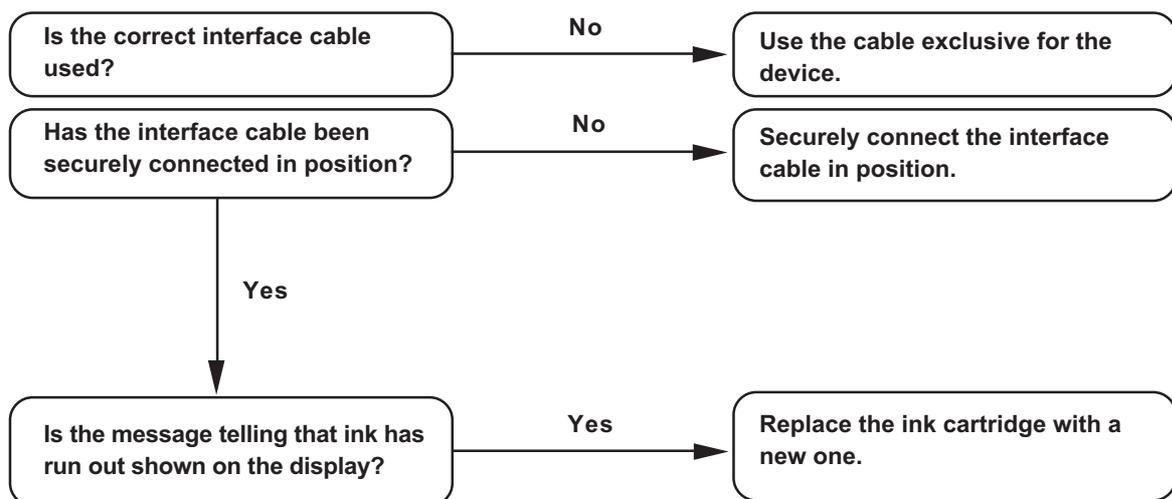
The device cannot be energized

More often than not, this is due to improper connection of the power cable. Check that the power cable has been properly connected to the power outlet and the computer.



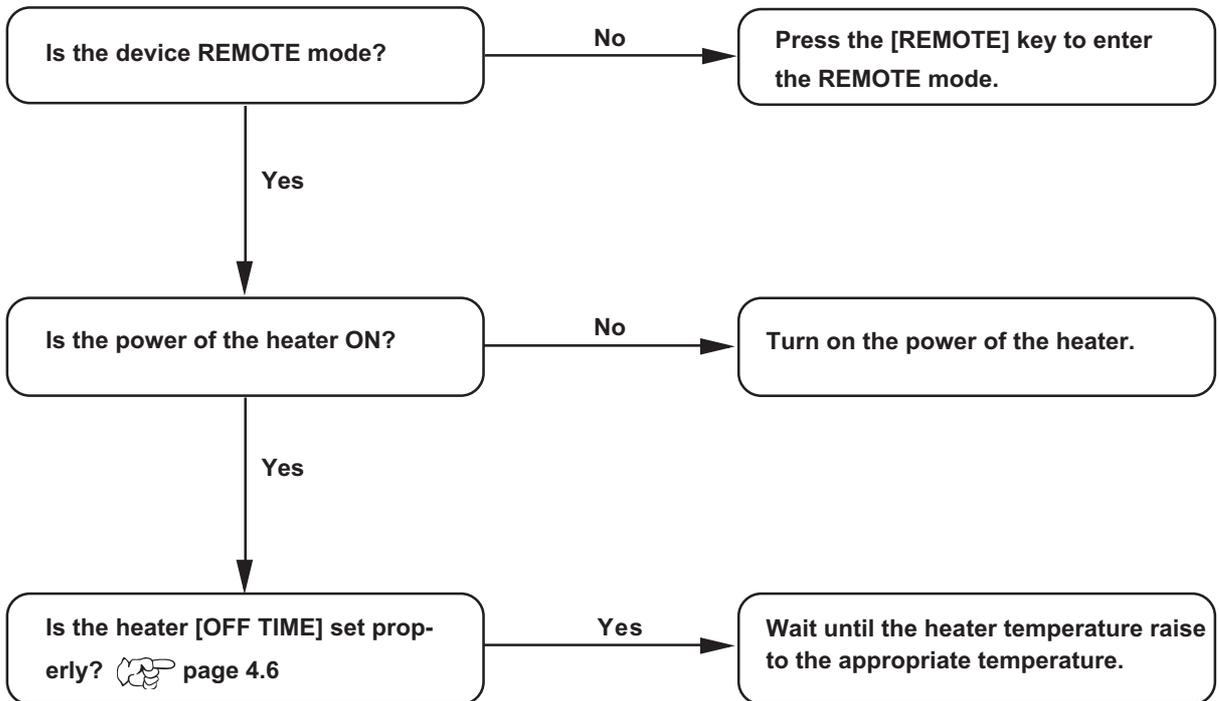
The device cannot perform printing

In case data is not transmitted to the device properly, the device may not perform printing. Confirm the cable in use.



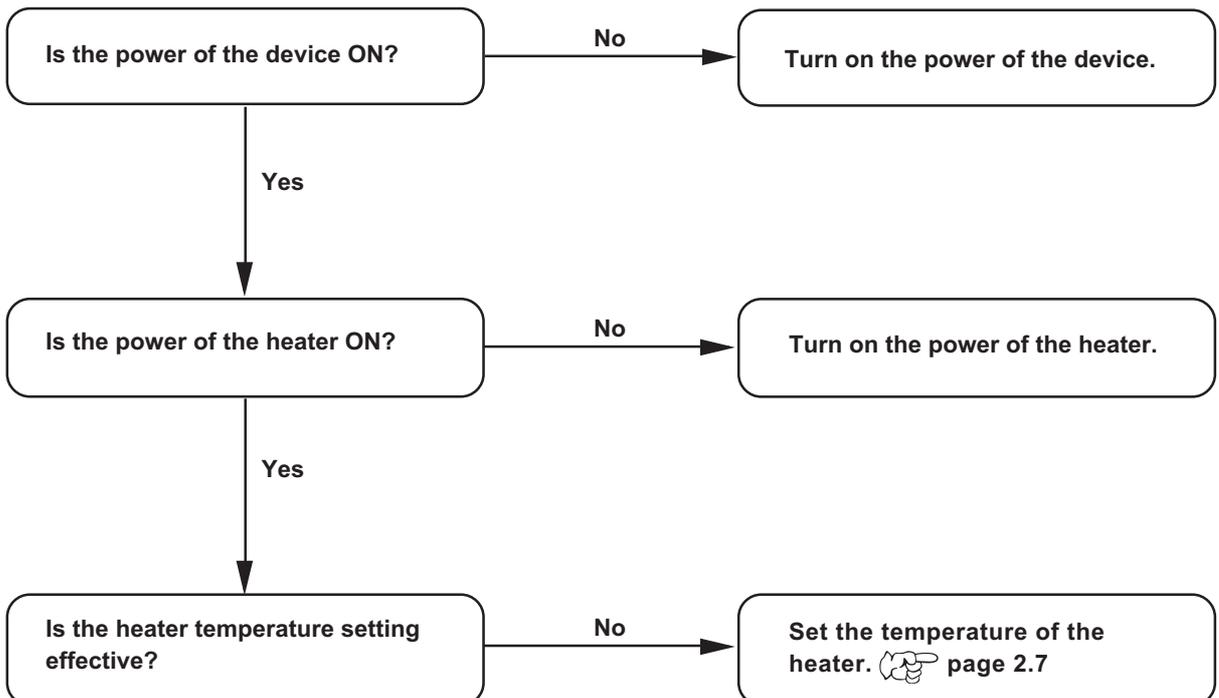
The device cannot perform printing after data transmission.

In case a heater temperature is not enough, it may take time to raise the heater temperature to the appropriate temperature.



The [HEAT] or [CONSTANT] indicator does not go on

Check the basic operation.



If an image failure occurs

In case an image failure occurs, follow the measures described below.

If the measures fail restore the device to the normal state, contact your local MIMAKI distributor.

White lines/thin spots obvious or dark stripes occur (In the direction of travel of the head)

- Corrective measure :
1. Execute the head cleaning.  page 2.8
 2. Clean the interior of the station.  page 3.4, 5.4

Displacement is observed between outward and inward printing

- Corrective measure :
- Execute the [PRINT ADJUST] function.  page 5.7

Ink does not properly overlap

- Corrective measure :
- Execute the [PRINT ADJUST] function.  page 5.7

Ink drops on the garment during plotting

- Corrective measure :
1. Execute the wiper cleaning.  page 3.4
 2. Execute the ink caps cleaning.  page 3.4
 3. Execute the head cleaning [normal].  page 2.8

Ink beadings occur

- Corrective measure :
- Lower the heater temperature.  page 2.7



What is “beading”?

For the adjacent dots come to get together, irregular spaces or the concentration differences occur. These phenomena result in inferior in the image quality.

Spotch the outside of the effective plotting area

- Corrective measure :
- Adjust the head height.
- In case the garment is fuzzy or wrinkled, press the [CYCLE START] key, and heighten the head a few millimeters.
-  page 4.15

Difference in color appearance

- Corrective measure :
1. Select the same [ON/OFF] setting of the LOGICAL seek.
 2. Keep regular time interval between after plotted the garment (T-shirt) and before performing the posttreatment.

Ink cartridge trouble

If an error occurs on the ink cartridge, the corresponding message appears.
When this is the case, replace the ink cartridge in question immediately.



- Do not leave the ink cartridge error for a long time, or it may cause a failure on the nozzle clogging prevention function. In this case the nozzle clogged, the device needs repairs by a service person.

Display the ink cartridge error to confirm the details

STEP

1. Press the [ENTER] key in the LOCAL mode.

```
< LOCAL >  
CARTRIDGE KCMYWWDD
```

2. Press the [ENTER] key.

- The menu will return to the LOCAL mode automatically when no trouble exists.



```
< LOCAL > K C M Y W W D D  
REMAIN 9 8 7 5 * * * *
```

page 2.15

- If two or more cartridges have a problem, press the [ENTER] key again to display the details.
After displaying all the error messages, it returns the LOCAL mode automatically.



```
INK COLOR  
K C M Y - - - -
```

Troubles for which error messages are given on the LCD

If something is wrong with the device, the buzzer sounds and a corresponding error message is given on the LCD.

Take an appropriate corrective measure in accordance with the message.

Warning error

These errors arise on the ink-related components.

Warning message	Cause	Corrective measure
< LOCAL > CARTRIDGE KCMYWWDD	The mounted ink cartridge is defective.	Press the [ENTER] key to display the details of the error. Check the error.  page 6.5
< LOCAL > NEAR END KCMY - - - -	The amount of ink remaining in the ink cartridge is insufficient.	Printing can be continued by pressing the [REMOTE] key. However, it is recommended to replace the ink cartridge of which number is shown on the LCD with a new one.
< LOCAL > INK END KCMYWWDD	The ink cartridge has run out of ink.	Replace the ink cartridge of which color is shown on the LCD with a new one.
< LOCAL > timeLIMIT KCMY - - - -	The ink cartridge will expire soon or has expired.	Printing can be continued by pressing the [REMOTE] key. However, it is recommended to replace the ink cartridge of which number is shown on the LCD with a new one.
< LOCAL > REPLACE WIPER	Time to replace the wiper in the capping station with a new one has come.	Printing can be continued pressing the [REMOTE] key. The error message will not appear until the power is returned on. It is recommended, however, to replace the wiper with a new one as soon as possible.
< LOCAL > DO TEST DRAW	The nozzle recovery cannot be expected because the device is left for a prolonged period of time.	Perform test plotting. If nozzle missing is serious, execute [STATION] - [WASH] for maintenance.

Warning message	Cause	Corrective measure
<div style="border: 1px solid black; border-radius: 10px; padding: 5px; text-align: center;"> NON-ORIGINAL INK KCMY - - - - </div>	The loaded ink cartridge is not MIMAKI genuine.	Use the ink specified by MIMAKI.
<div style="border: 1px solid black; border-radius: 10px; padding: 5px; text-align: center;"> WRONG INK IC KCMY - - - - </div>	The IC chip of the ink cartridge cannot be read normally.	Attach the ink cartridge(s) corresponding with the color shown on the display. If the same error message appears again on the LCD, contact your local distributor to call for service.
<div style="border: 1px solid black; border-radius: 10px; padding: 5px; text-align: center;"> KIND OF INK KCMY - - - - </div>	The type of the loaded ink cartridge is different from the previous one.	Check the type of the loaded ink cartridge.
<div style="border: 1px solid black; border-radius: 10px; padding: 5px; text-align: center;"> INK COLOR KCMY - - - - </div>	The color of the loaded ink cartridge is different from the previous one.	Check the color of the loaded ink cartridge.
<div style="border: 1px solid black; border-radius: 10px; padding: 5px; text-align: center;"> NO CARTRIDGE KCMYWWDD </div>	No cartridge attached to the ink station.	Attach the ink cartridge(s) corresponding with the color shown on the display.
<div style="border: 1px solid black; border-radius: 10px; padding: 5px; margin-bottom: 5px;"> * REMOTE *  HEATER TYPE. 1 x.x </div> <div style="border: 1px solid black; border-radius: 10px; padding: 5px;"> <LOCAL>  HEATER width : x.x mm </div>	The heater has failed.	Press the [END] key to display the details of the error. Check the error.
<div style="border: 1px solid black; border-radius: 10px; padding: 5px; text-align: center;"> Heater Power OFF </div>	The power of the heater is off.	Turn on the power of the heater. If the same error message appears again on the LCD, contact your local distributor to call for service.
<div style="border: 1px solid black; border-radius: 10px; padding: 5px; text-align: center;"> Print BREAKAGE </div>	The heater is disconnected.	Contact your local distributor to call for service.
<div style="border: 1px solid black; border-radius: 10px; padding: 5px; text-align: center;"> Print THERMISTOR </div>	The thermistor of the print heater is defective.	

Error messages

Error messages indicates error numbers.

If any error message is given on the LCD, turn off the power to the device and turn it on after a while.

If the same error message appears again on the LCD, contact your local MIMAKI distributor or MIMAKI office to call for service.

Error message	Cause	Corrective measure	
ERROR 01 MAIN ROM	Control circuit board is defective.	Turn off the power to the device and turn it on after a while. If the same error message appears again on the LCD, contact your local distributor to call for service.	
ERROR 02 MAIN RAM			
ERROR 03 POWER +5V	Control circuit board is defective. POWER+5V POWER+35V		
ERROR 04 FRASH ROM	Control circuit board is defective.		
ERROR 06 D-RAM			
ERROR 07 HEAD ---*-----	Head connection failure is detected.		
ERROR 08 ENCODER n	Trouble with detection of linear encoder.		
ERROR 09 HDC	Control circuit board is defective. FPGA Error HDC Error		
ERROR 10 COMMAND	The device has received data other than command data. The interface cable used is not in conformance with this plotter.		Securely connect the interface cable in position. Use an interface cable in conformance with the standard.
ERROR 11 PARAMETER	A parameter outside the range of acceptable numeric values is received.		Turn off the power to the device and turn it on after a while. If the same error message appears again on the LCD, contact your local distributor to call for service.
ERROR 13 CONNECT RIP	Received data from the RIP unable connect to the device.	Send data from the RIP available on the device. For detail information on the RIP, refer to your local distributor.	
ERROR 15 OFF SCALE	Received data out of x-direction.	Send data included in print area.	

Error message	Cause	Corrective measure
ERROR 20 I / F BOARD	An error occurs on the interface between the I/F board and the control board.I	Turn off the power to the device and turn it on after a while. If the same error message appears again on the LCD, contact your local distributor to call for service.
ERROR 21 I / F NONE	No I/F board is attached to the control board.	
ERROR 23 HOST I / F	HOST I/F Timeout error has arisen during communication between the host computer and interface board.	Confirm that the cable is securely connected to the host computer and interface board. Also, confirm no error has arisen on the host computer side.
ERROR 24 I / F INITIAL	Initial operation failure of the I/F board and control board.	Turn off the power to the device and turn it on after a while. If the same error message appears again on the LCD, contact your local distributor to call for service.
ERROR 30 OPERATION	Improper operation has been conducted on the operation panel.	Perform a proper operation.
ERROR 34 DATA REMAIN	Settings for functions have been tried to be changed though there remains received data that has not yet been printed.	Print all pieces of received data or execute the data clear function. Then, change the settings.
ERROR 40 MOTOR X	The Xmotor has been overload.	Turn off the power to the device and turn it on after a while. If the same error message appears again on the LCD, contact your local distributor to call for service.
ERROR 41 MOTOR Y	The Ymotor has been overload.	
ERROR 42 X CURRENT	Overcurrent error on the Xmotor has been detected.	
ERROR 43 Y CURRENT	Overcurrent error on the Ymotor has been detected.	
ERROR 46 WIPER	The wiper position is not correct.	
ERROR 51 Y ORIGIN	Y Origin could not be detected.	
ERROR 55 X ORIGIN	X Origin could not be detected.	
ERROR 56 Z ORIGIN	Z Origin could not be detected.	

Error message	Cause	Corrective measure
<div data-bbox="220 241 564 318" style="border: 1px solid black; border-radius: 10px; padding: 5px; text-align: center;"> ERROR 71 WORK TOO HIGH </div>	<p>Sensor detects the garment during plot operation. The head may rub to the garment.</p>	<p>Set the garment correctly. Set the garment correctly or alter the head height.</p>
<div data-bbox="220 430 564 506" style="border: 1px solid black; border-radius: 10px; padding: 5px; text-align: center;"> ERROR 73 WORK SENSOR </div>	<p>Sensor fails to detect the garment, or the garment is not properly set.</p>	<p>Set the garment correctly.</p>
<div data-bbox="220 609 564 685" style="border: 1px solid black; border-radius: 10px; padding: 5px; text-align: center;"> ERROR 120 ENV TEMP LOW </div> <div data-bbox="220 748 564 824" style="border: 1px solid black; border-radius: 10px; padding: 5px; text-align: center;"> ERROR 120 ENV TEMP HIGH </div>	<p>Environment temperature is beyond the guarantee. It may cause the image problem.</p>	<p>Adjust to the appropriate environment temperature.</p>

APPENDIX

This appendix describes the specifications and components the device, function menu structure.

Table of contents

Basic specifications	A.2
Specification for ink	A.3
Specification for cleaner and discharge liquid	A.3
Moving the device	A.4
Position of the warning level	A.5
Operation Flow	A-7

Basic specifications

Item		GP-604D
Printing head	Method	Piezo-electric drop-on demand
	Specification	3-heads Inlines
	Nozzle	Each color 180 nozzles Discharge 360 nozzles
	Resolution	360, 540, 720 dpi
Drawing mode	Discharge	360 x 540 dpi : 3 / 6 /12 passes, Unidirection / bidirection 360 x 720 dpi : 2 / 4 / 8 passes, Unidirection / bidirection 720 x 720 dpi : 2 / 4 / 8 passes, Unidirection / bidirection
	Color	360 x 540 dpi : 3 / 6 /12 passes, Unidirection / bidirection 360 x 720 dpi : 4 / 8 /16 passes, Unidirection / bidirection 720 x 720 dpi : 4 / 8 /16 passes, Unidirection / bidirection
Usable inks		Usable inks: Special printing pigment ink: 4 colors (C,M,Y,K: 1 each) Discharge liquid (2 cartridges)
Delivery system of ink		Supplies ink through a tube from ink cartridge Remaining ink quantity indication function for C,M,Y,K inks only. (Equipped with IC) Ink-end detection function for C,M,Y,K inks only. Ink cartridge replacement system.
Capacity of ink cartridge		210 cc ± 5 cc per cartridge About 200 cc for each cartridge variable
Max. printing width		610 mm (570 mm at 360x360/540/720 dpi in a high speed mode plotting) 420 mm
Waste ink tank		Bottle type (1,000 cc) Replacement timing is judged visually
Interface		IEEE1394 compliant
Command		MRL-IIIE (ESC/PV.2 base, MIMAKI original command)
Noise		during standby : Less than 58 dB (FAST-A, Front & Rear & Left & Right 1 m) during continuous printing : Less than 65 dB during discontinuous printing : Less than 70 dB
Safety Standard		UL, VCCI-classA, FCC-classA, CEMarking, CBReport, CCC
Power		AC 100 — 240 V± 10%, 50/60 Hz ± 1 Hz
Power consumption		980 VA or less
Recommended Environment	Available temp.	20 °C to 35 °C
	Humidity	35 to 65 % Rh (No condensation)
	Guaranteed temp.	20 °C to 25 °C
	Temperature change	± 10 °C / h or less
	Dust	Equivalent to normal office level
Weight		Less than 150 kg
Table height		Approx. 400 mm
Outside		1660 mm (w) x 1070 mm (D) x 650 mm (H)

Specification for ink

Item	Specifications
Ink type	Exclusive Reactive Dye ink cartridge (SPC-0350 series)
Contents	210 cc per cartridge
Shelf life	One year from the data of manufacture (at room temperature) Within three months after opening the package
Storage temperature	During storage : 1 to 40°C (Storage at temperature of 40°C is permitted within a month.) During : 1 to 60°C (Storage at temperature of 60°C is only permitted within 120 hours, and at temperature of 40°C is permitted within a month.)



- Do not leave the ink in a cold place too long, or it may be frozen. In the case ink froze, leave the ink cartridge at room temperature (at 25°C) for more than three hours to allow the ink to melt.
- Disassembling the ink cartridge or refilling the ink shall be avoided.

Specification for cleaner and discharge liquid

Item	Specifications
Ink type	Cleaner (SPC-0422)
	Discharge liquid (SPC-0409)
Contents	220 cc per cartridge
Shelf life	Cleaner One year from the data of manufacture (at room temperature) Within three months after opening the package
	Discharge liquid 9 months from the data of manufacture (at room temperature) Within three months after opening the package
Storage temperature	During storage : 15 to 35°C (Storage at temperature of 40°C is permitted within a month.) During : 0 to 60°C (Storage at temperature of 60°C is only permitted within 120 hours, and at temperature of 40°C is permitted within a month.)



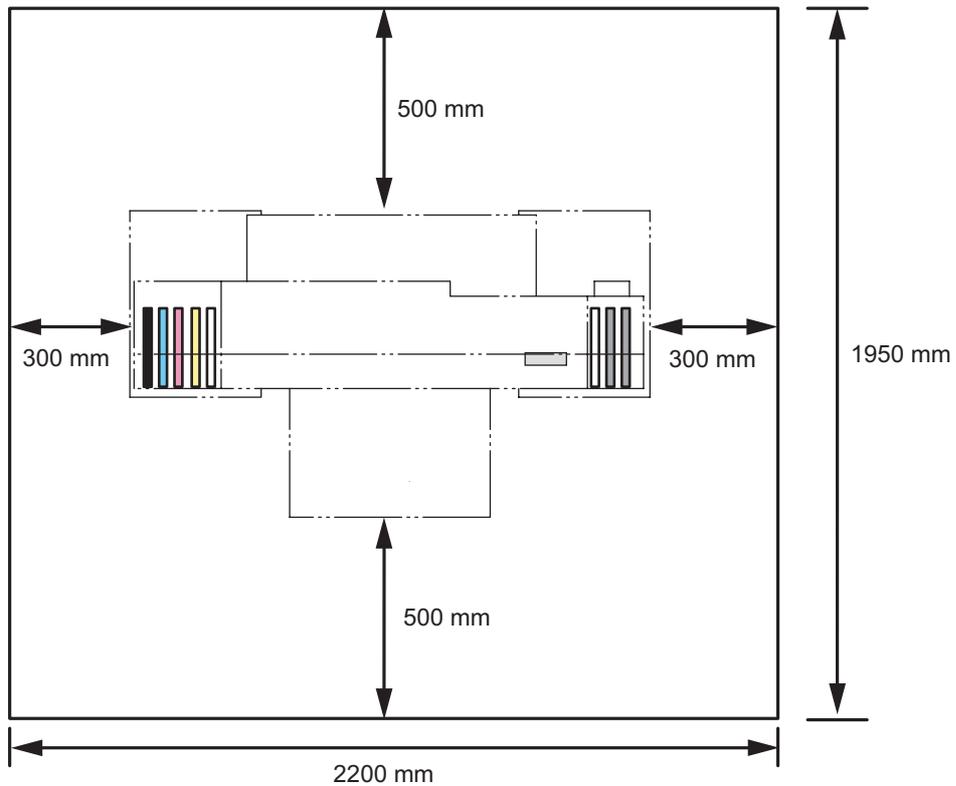
- Do not leave the cleaner and discharge liquid in a cold place too long, or it may be frozen. In the case ink froze, leave the ink cartridge at room temperature (at 25°C) for more than three hours to allow the ink to melt.
- Disassembling the cartridge or refilling the liquid shall be avoided.

Moving the device

Please contact your dealer when moving the device.

If moving the device by yourself out of necessity, secure a suitable space as below before moving the device.

Width	Depth	Height	Gross weight
1660 mm	1070 mm	650 mm	About 150 kg or less



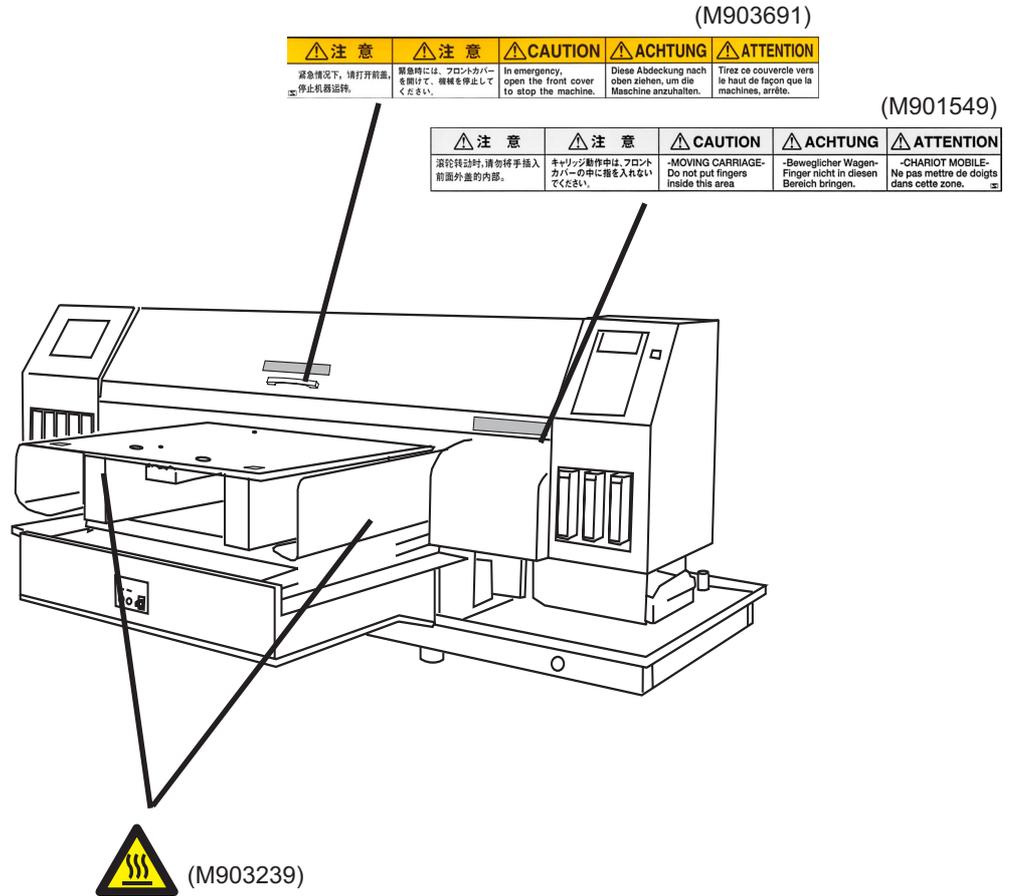
CAUTION

- When moving the device, not to apply excessive shock to it.
- Hold up by at least four persons.
- When moving the device, first unplug the power cable, and then move the device after the heater temperature lowered enough.

Position of the warning level

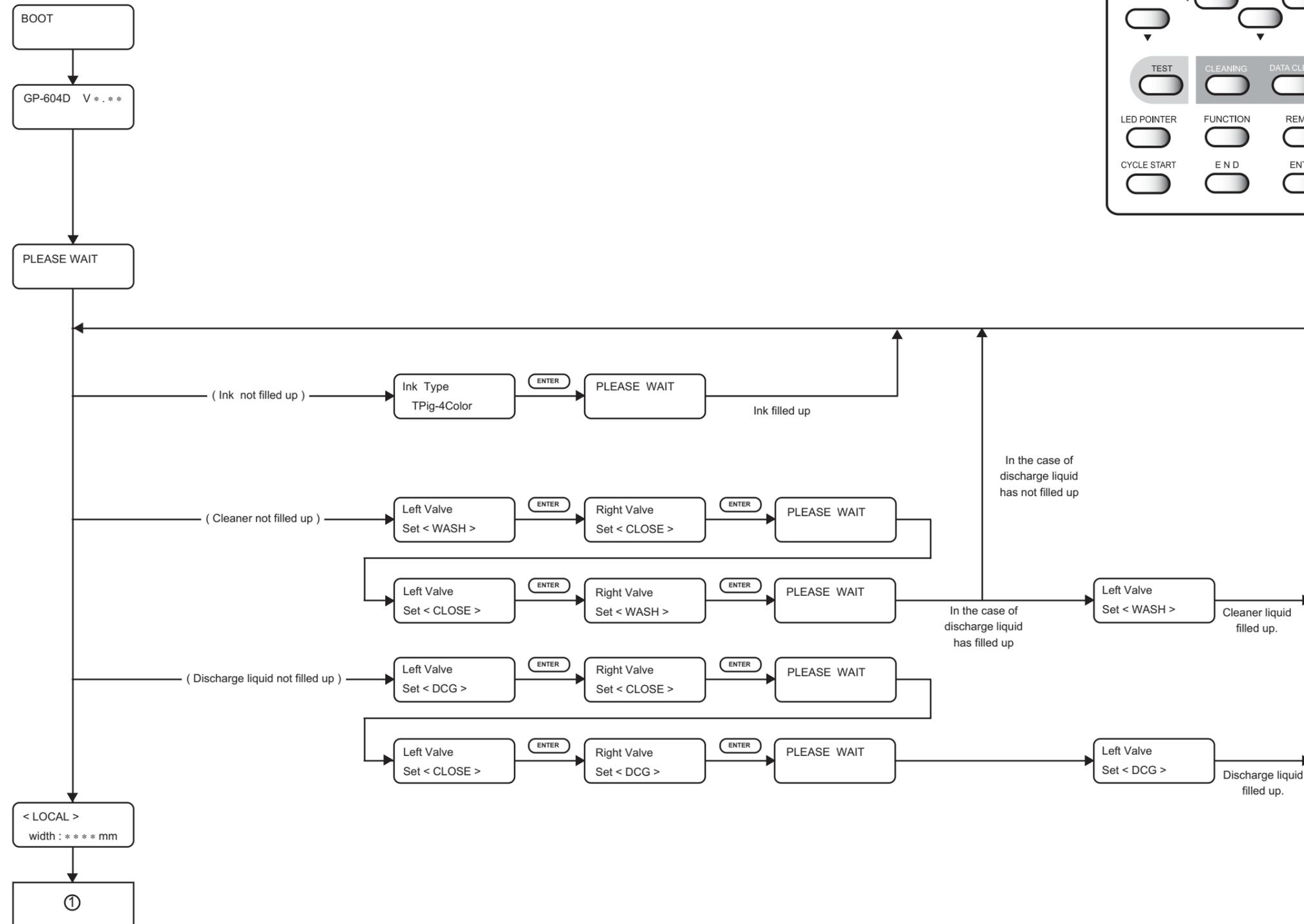
This device is adhered with the warning label. Be sure to fully understand the warning given on the labels.

In the case where any of the warning label has become so soiled that the warning message is illegible or has come off, purchase a new one from your local distributor.

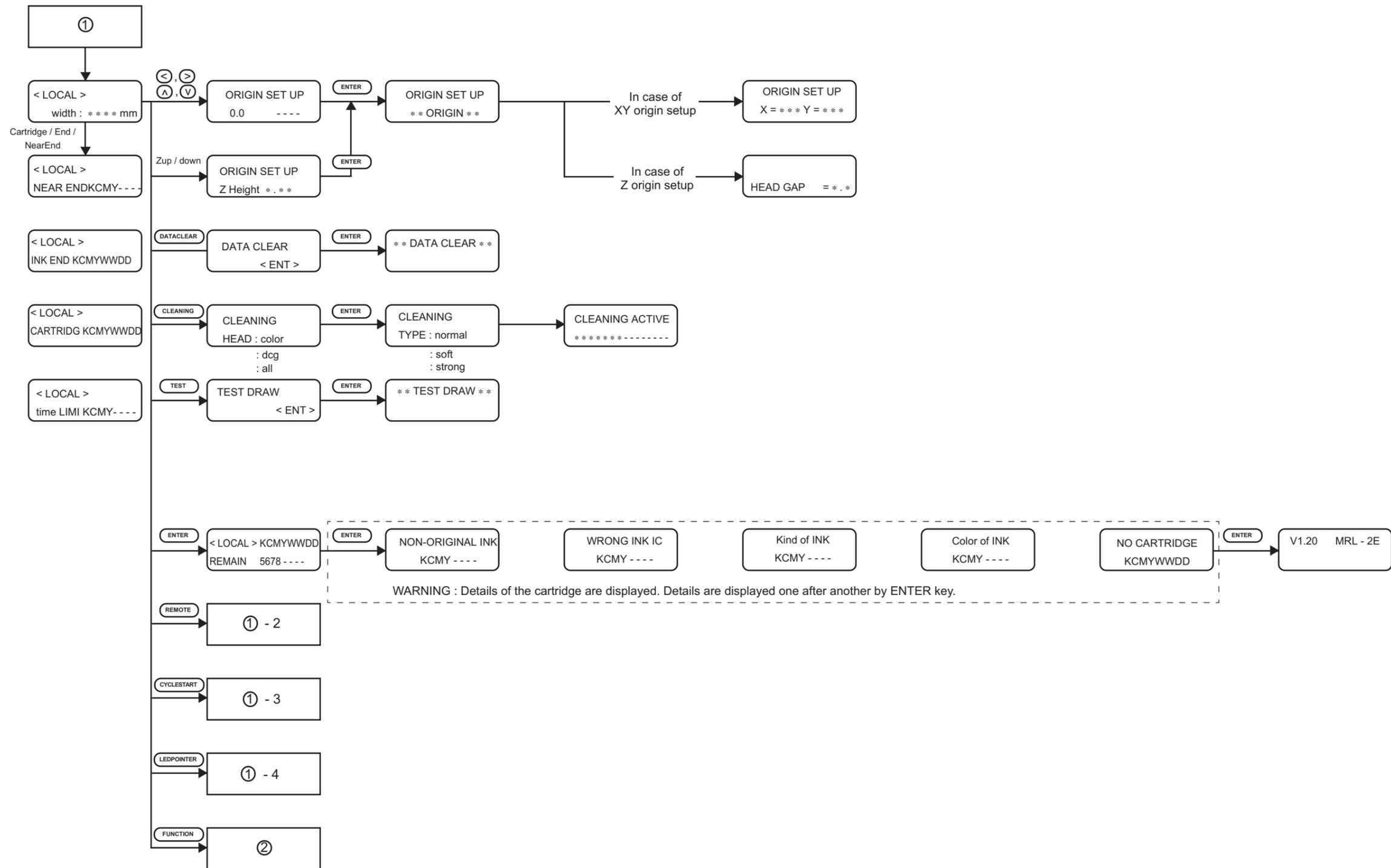


Operation Flow

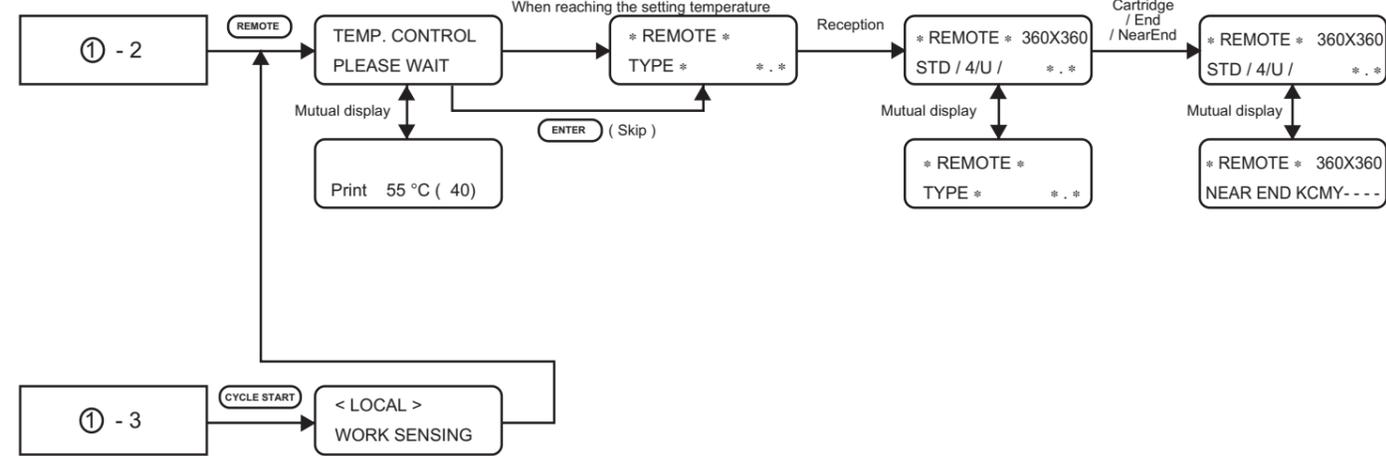
GP604D operation flow : Starting 1 / 1



GP604D operation flow : Local 1 / 2

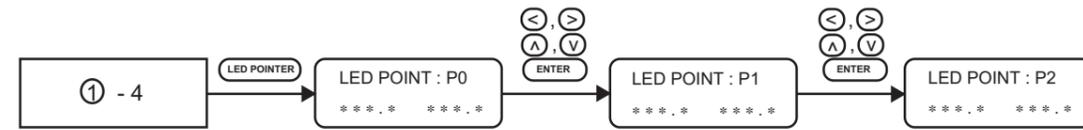
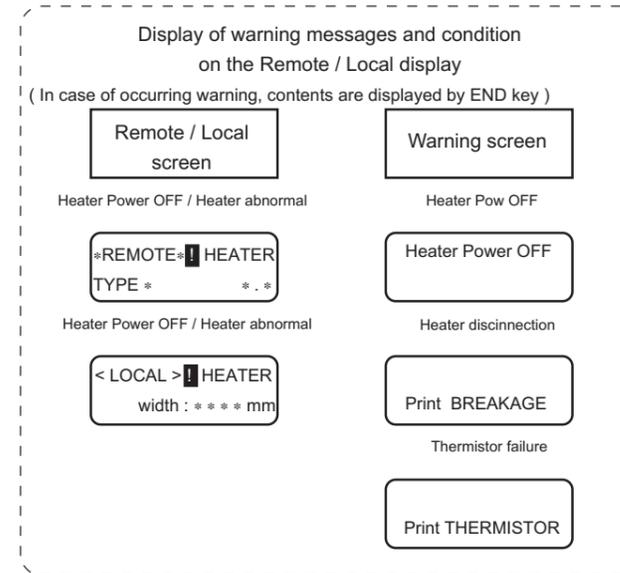


GP604D operation flow : Local 2 / 2



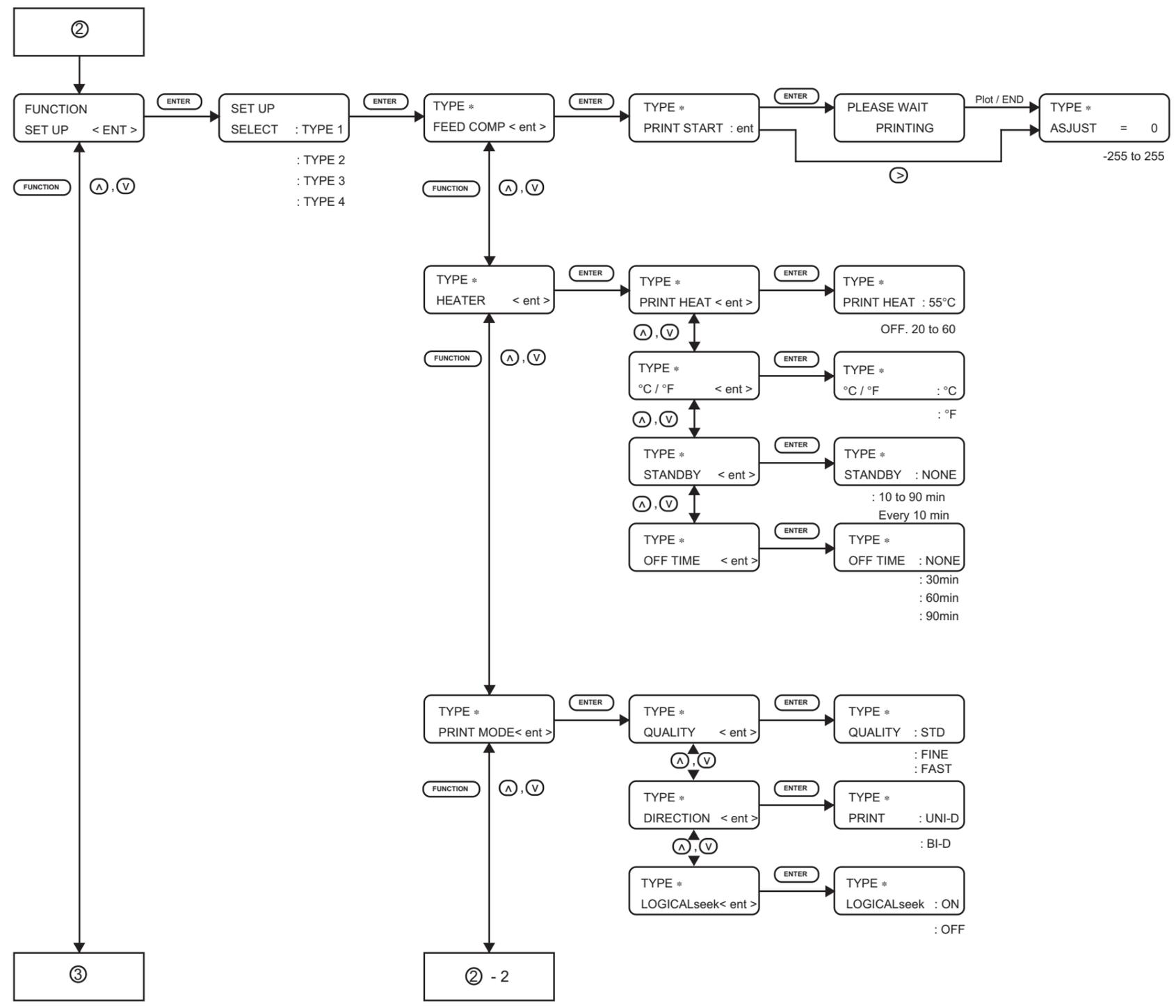
Resolution (DPI) is as follows ;
360X540 360X720 720X720

Mode is as follows ;
FINE STD FAST HOST

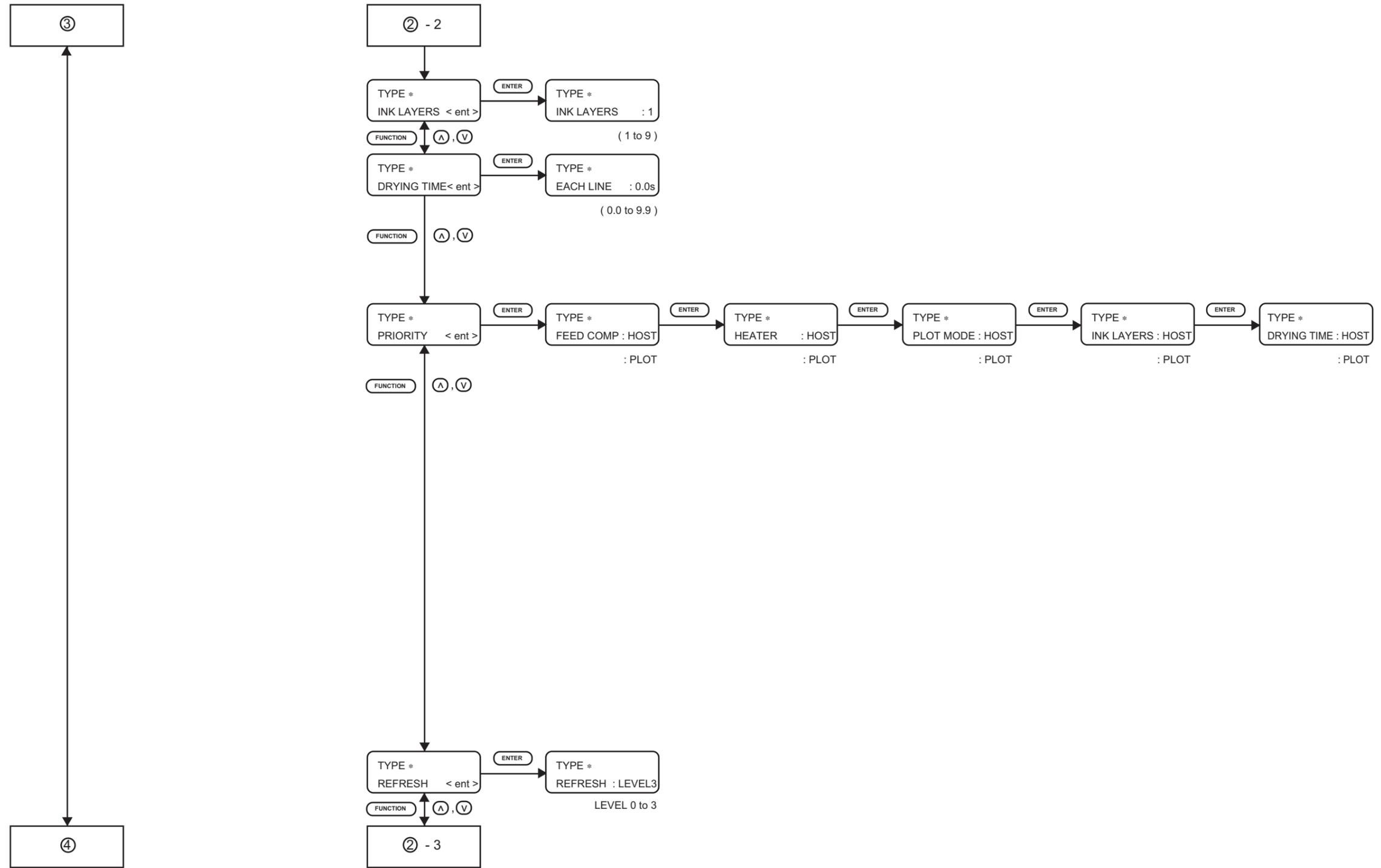


Setup - When LED pointer setup is " POINT ", set up until P1 point.

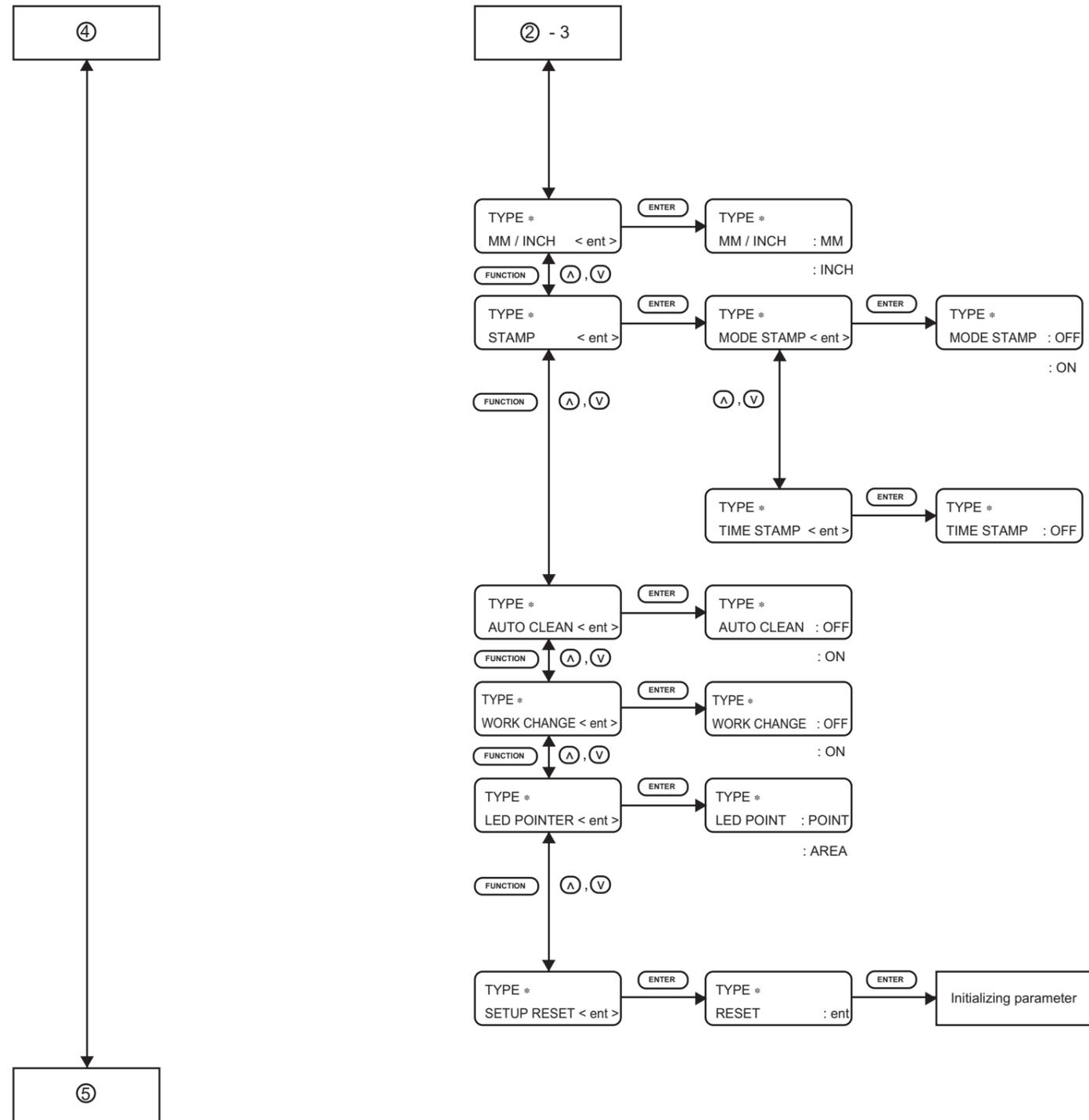
GP604D operation flow : Setup 1 / 3



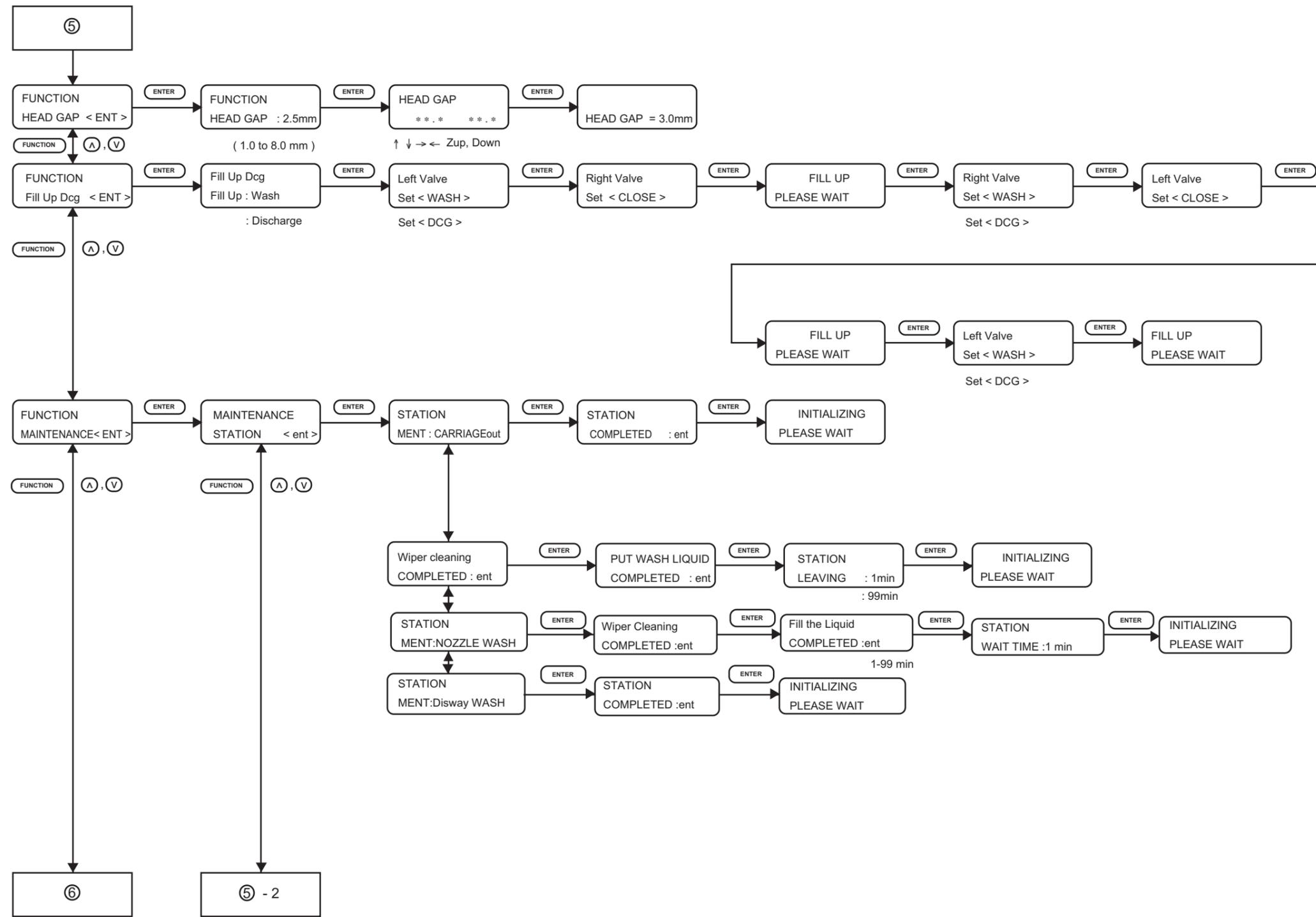
GP604D operation flow : Setup 2 / 3



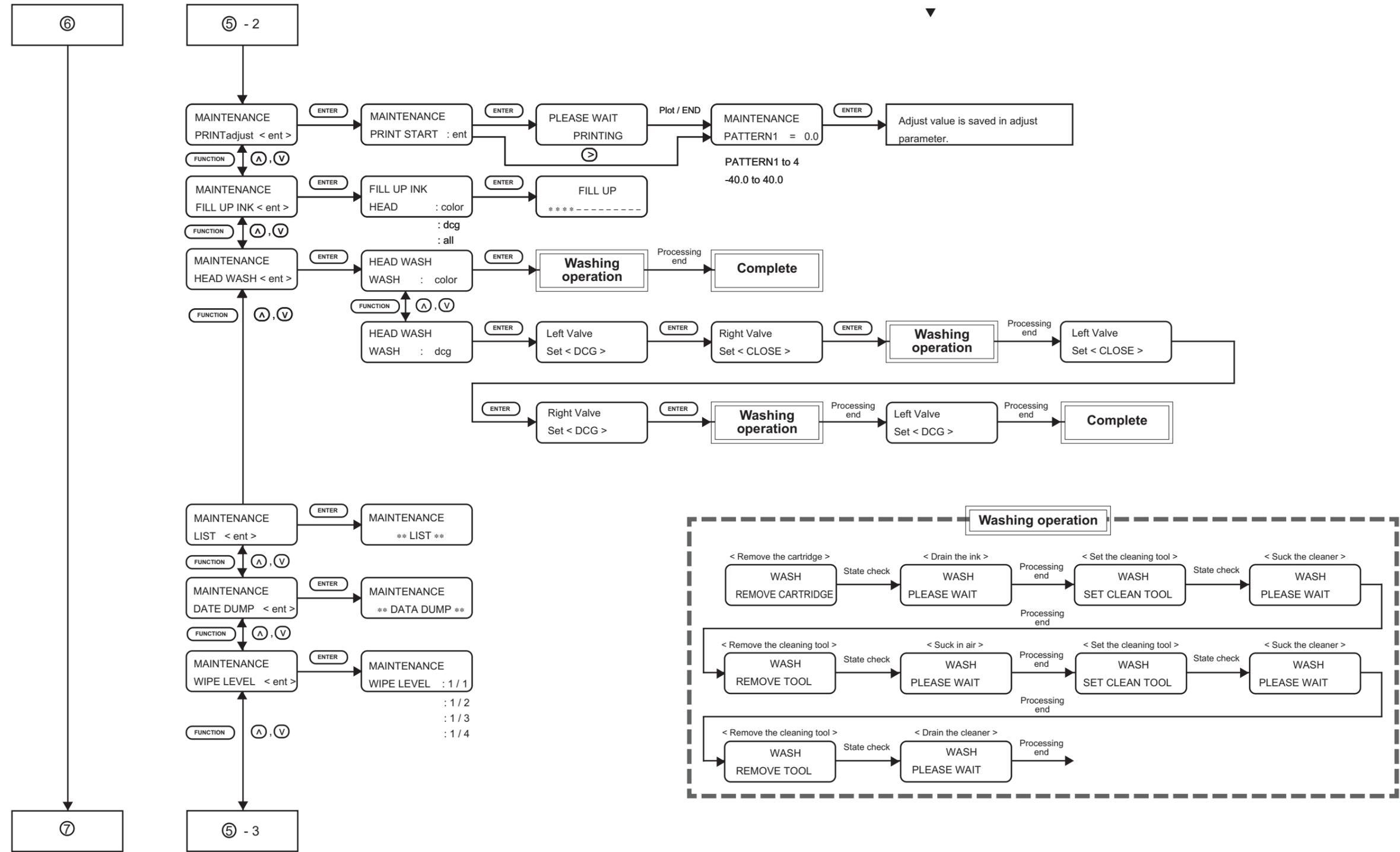
GP604D operation flow : Setup 3 / 3



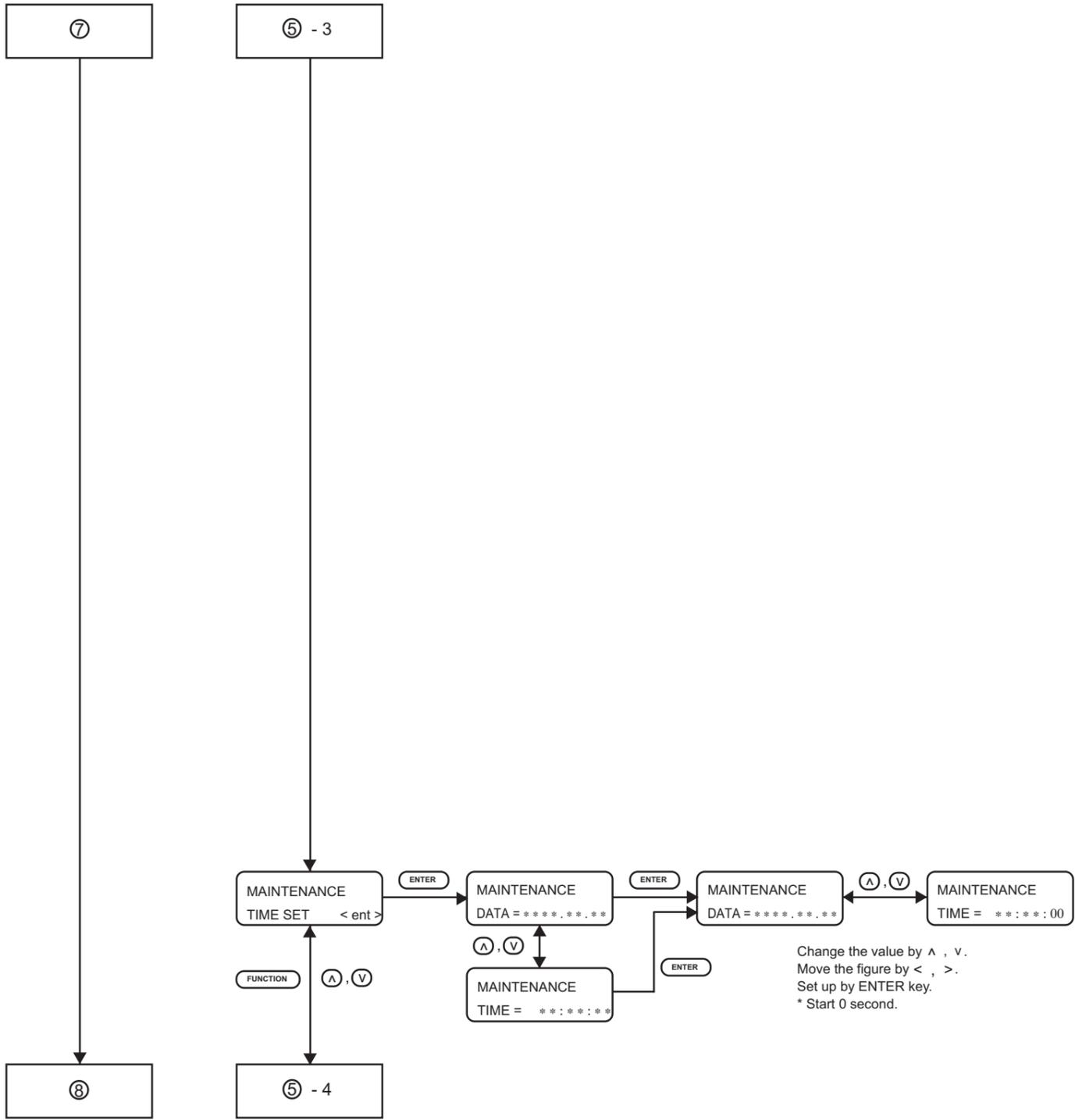
GP604D operation flow : Maintenance 1 / 4



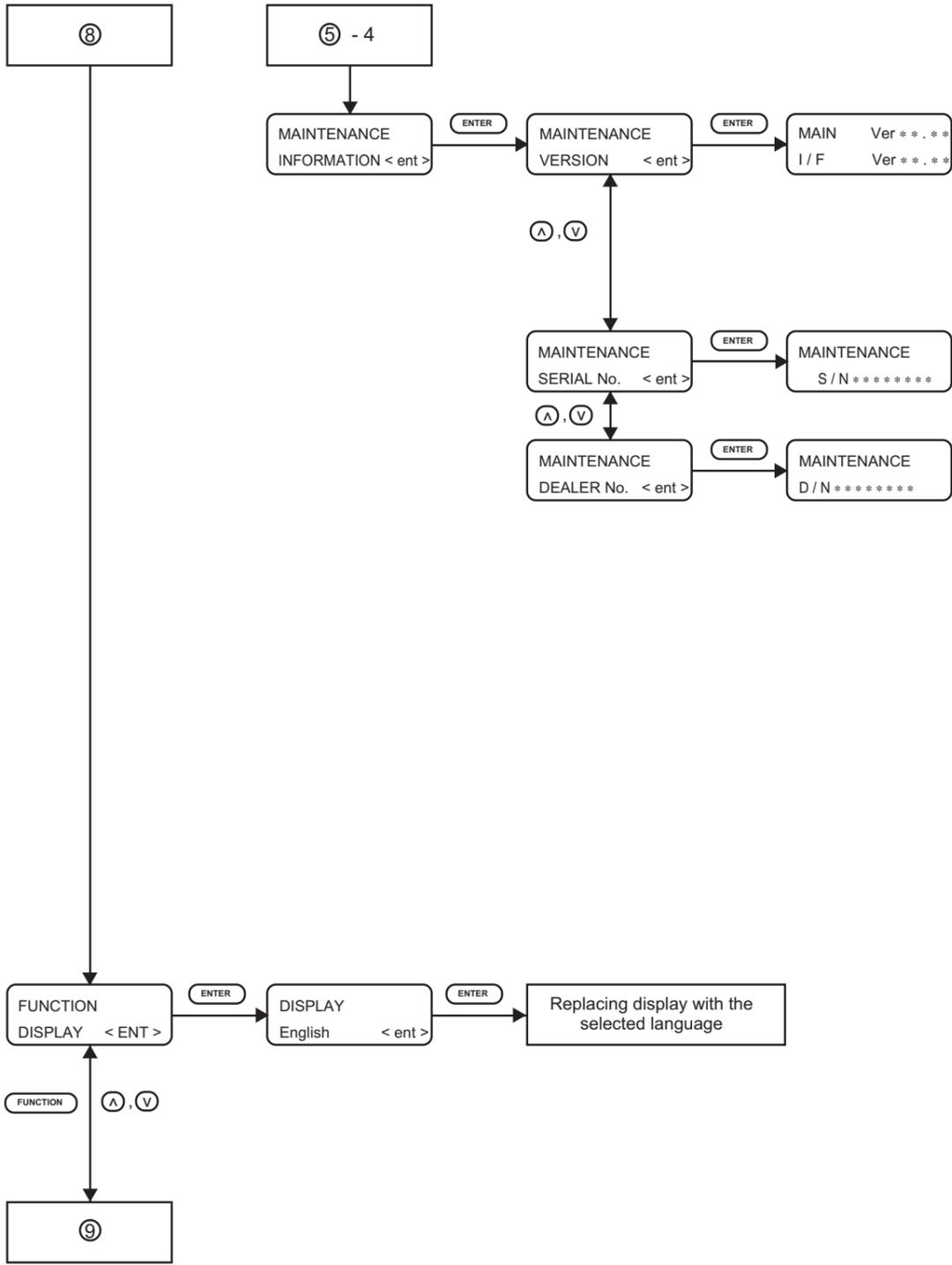
GP604D operation flow : Maintenance 2 / 4



GP604D operation flow : Maintenance 3 / 4



GP604D operation flow : Maintenance 4 / 4





Printed in Japan

© MIMAKI ENGINEERING Co., Ltd.

