

VersaUV **LEF-20**

Master Guide



Thank you very much for purchasing this product.

- To ensure correct and safe usage with a full understanding of this product's performance, please be sure to read through this manual completely and store it in a safe location.
- Unauthorized copying or transferral, in whole or in part, of this manual is prohibited.
- The contents of this document and the specifications of this product are subject to change without notice.
- The documentation and the product have been prepared and tested as much as possible. If you find any misprint or error, please inform us.
- Roland DG Corp. assumes no responsibility for any direct or indirect loss or damage which may occur through use of this product, regardless of any failure to perform on the part of this product.
- Roland DG Corp. assumes no responsibility for any direct or indirect loss or damage which may occur with respect to any article made using this product.

This system (including the housing and safety device) is a Class 1 laser product.

Laser specifications of this system (including the housing)

Wavelength: 655 nm, maximum output: less than 46.5 μ W, pulse duration: 3.0 μ s

Complies with IEC 60825-1 Edition 2.0 (2007-03).

Complies with FDA performance standards for laser products except for deviations pursuant to Laser notice No.50 dated June 24, 2007.

CAUTION

Use of controls or adjustments or performance of procedures other than those specified herein may result in radiation exposure.

This product is using GNU General Public License (GPL) / GNU Lesser General Public License (LGPL) software. You have the right to acquire, modify, and distribute the source code for this GPL/LGPL software. You can obtain the GPL/LGPL source code used in this product by downloading it from the following website.

URL: <http://www.rolanddg.com/gpl/>

Roland DG Corp. has licensed the MMP technology from the TPL Group.

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Chapter 1

Fully Utilizing the Machine

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Important Points to Check Before Printing

Three Important Points (Measures for UV Reflected Light and Ink Mist)

On this machine, ink affixed on the surface of the print heads might be cured by reflection of the UV-LED lamp light and ink mist (ink splash upon printing). If ink affixed on the surface of the print heads is cured, it might cause dot drop-outs, and if you use the product without taking any measures, it might cause a failure which requires replacement of the print heads.

While daily cleaning is important to prevent dot drop-outs, there are also three important points to check before printing. Be sure to check the three points given below:

1. You cannot use a object which reflects light as a print object (media).

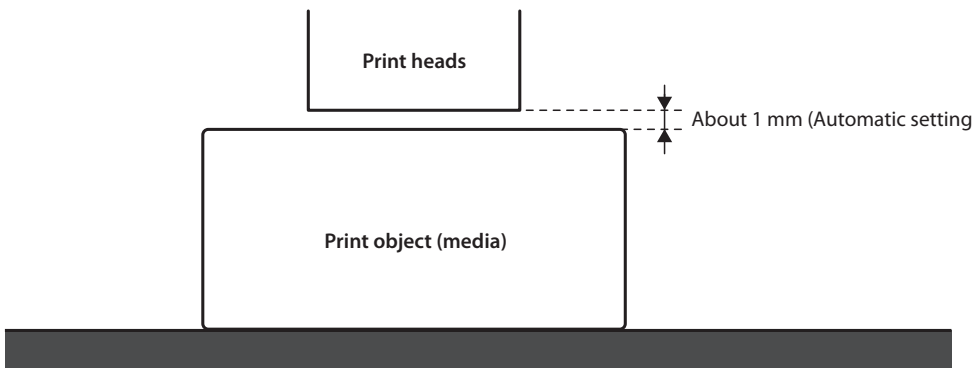
Mirrors and stainless materials, etc. which are likely to reflect the UV-LED lamp light promote curing of the surface of the print heads, and therefore they cannot be used as a print object (media).

2. Make the distance between the surface of the print object (media) and the print heads as short as possible.

As the distance between the surface of the print object (media) and the print heads increases, the likelihood of ink mist increases. When setting the height of media manually, make the distance as short as possible. When the height is automatically set, their distance is about 1 mm (39.4 mils).

☞ "2. Setting Height of Media Automatically" (First Step Guide)

☞ "Setting Height of Media Manually" (p. 8)



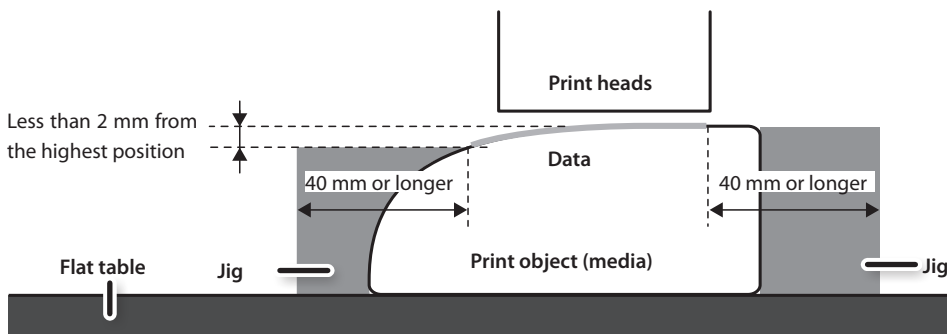
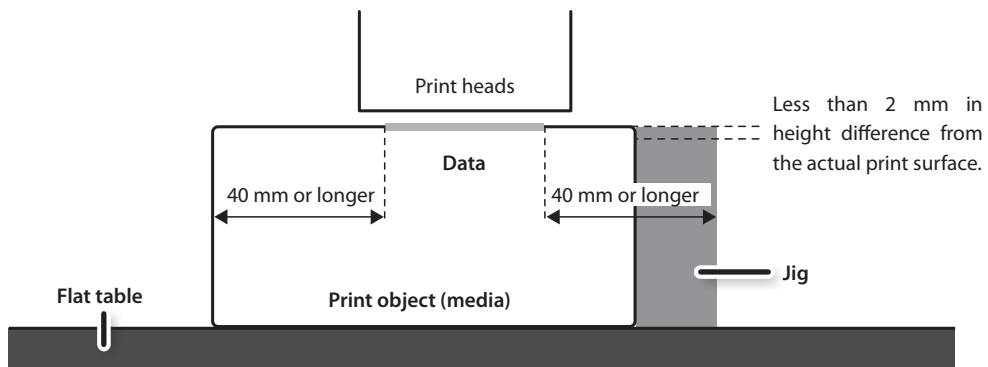
3. A jig might be required according to the size and shape of the print object (media).

According to the size and shape of the print object (media), the distance between the print object (media) and print heads may increase with the likelihood of ink mist increased. In the direction to which the print heads move, there must be a print object (media) and/or a jig in the areas of 40 mm (1.6 inches) on both right and left sides of the portion (width) of the data to be printed. In that case, the difference in height between the surfaces of the print object (media) and jig must be less than 2 mm (78.7 mils).

- ☞ "2. Setting Height of Media Automatically" (First Step Guide)
- ☞ "Setting Height of Media Manually" (p. 8)
- ☞ "Height Settings When the Print Surface is Uneven" (p. 9)

When a jig is required:

- The print object (media) is not large enough to spread over the areas of 40 mm on both right and left sides of the portion (width) of the data to be printed.
- The variation in height of the print object (media) surface is 2 mm or more.



* There are conditions in the height settings when the print object (media) surface has a height difference. For more information, refer to p. 9.

Saving Frequently Used Media Size (Preset Function)

You can save media settings in presets. If you save the settings of frequently used media, you can load them instantly and shorten the time for setting.

Saving Current Media Setup with a Different Name

The following settings configured in media setup can be saved as up to a maximum of 20 different types of presets.

- Height position of media
- Print area (including print-start position)

You can assign a name to each preset. Using media names for these presets may aid recognition.

Procedure

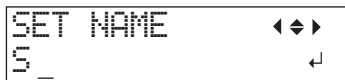
1. Set up the media (height position, print area) and make sure [SETUP] is lit.
2. Press [MENU].
3. Press [▶] [▼] in this order to display the figure on the below.



4. Press [▶].
5. Press [▲] [▼] to select among NAME1 through NAME20.

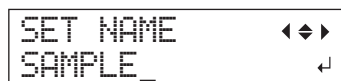


6. Press [ENTER].
The current "height position of media" and "print area setting" are saved.
7. Press [▲] [▼] to enter a character.



8. When you have decided on a character, press [▶].

The characters you can enter are "A" through "Z," "0" through "9," and the "-" character. You can enter up to 15 characters, including spaces.



9. Press [◀] [▶] to enter the next character.
Enter the following characters in the same way.
10. When entries are completed, press [ENTER].
11. Press [MENU] [◀] in this order to return to the original screen.

Load a Preset and Print

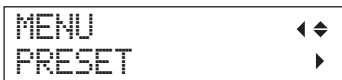
Load a media setting saved in presets and perform printing.

NOTE

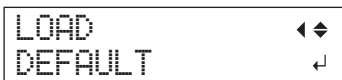
Be sure to hold the handle of the front cover, open and close it gently.

Procedure

1. Press [MENU].



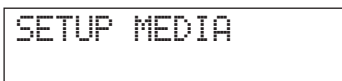
2. Press [▶] twice.



3. Press [▲][▼] to select the name of the preset (setting) you want to load.

Select any one of the 20 types of presets (when no names have been assigned, select from among NAME1 through NAME20) or DEFAULT (DEFAULT is the factory defaults for each setting).

4. Press [ENTER].



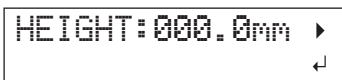
Media setup is cancelled ([SETUP] goes dark).

5. Open the front cover and secure the media in place.

☞ "1. How to Secure the Media (Media Setup)" (First Step Guide)

6. Press [SETUP].

The loaded preset setting is displayed.



7. Press [ENTER].

The LCD display shows two lines of text: 'W: 508mm L: 330mm' on the top line and 'H: 100.0mm' on the bottom line.

MEMO

Every time you make a setup of media, you can set the print area (base position, range).

For details, refer to "Setting Print Area for Each Setup of Media" (p. 11).

8. Start printing.

Printing is made with the loaded preset setting.

Make Fine Adjustments of Preset Setting and Print

You can change part of a preset setting and perform printing.

For instance, you can change the print area only without changing the media height setting.

Procedure

1. Load a preset setting and fix the position of the media by following the steps 1 to 7 of "Load a Preset and Print" (p. 7).

2. If you want to change the height setting of the media, set the height of the media.

☞ The steps 2 to 5 of "2. Setting Height of Media Automatically" (First Step Guide)

☞ The steps 4 and 5 of "Setting Height of Media Manually" (p. 8).

3. If you want to change the print area, set the print area.

☞ "Changing Print Area" (p. 12)

4. Start printing.

Making Advanced Setup of Media

Setting Height of Media Manually

Manually set the height of media for printing.

Although the manual setting takes a little longer than the automatic setting because you need to visually set the height, it is suitable when you do not want to make the head gap sensor contact with the media or when you want to set the distance between the head and media.

* If the print surface is uneven, there is a limit to the area of unevenness.

☞ “Height Settings When the Print Surface is Uneven” (p. 9)

NOTE


Be sure to hold the handle of the front cover, open and close it gently.

Procedure

1. Secure the media in place on the flat table.

☞ “1. How to Secure the Media (Media Setup)” (First Step Guide)

2. Close the front cover.



SETUP MEDIA

3. Press [SETUP].

[SETUP] starts to flash.

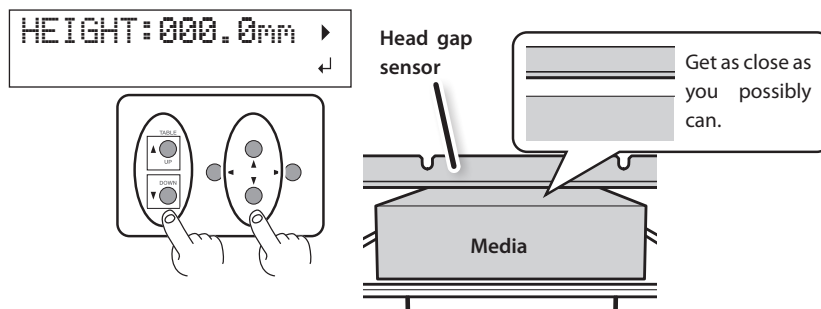
4. Press [▲][▼][UP][DOWN] to move the flat table.

Move the head gap sensor as close as possible to the print surface until they are in a position where they are just about to touch.

This step can be performed with the front cover open.

NOTE

Set the height of the table in a way that the highest position of the media (print surface) will not come into contact with the head gap sensor.



When the screen shown in the figure appears



If you press [ENTER] in this screen, automatic detection of the height starts. During automatic detection, the head gap sensor comes in contact with the media.
If you do not want to perform automatic detection, press [◀] to return to the original screen.

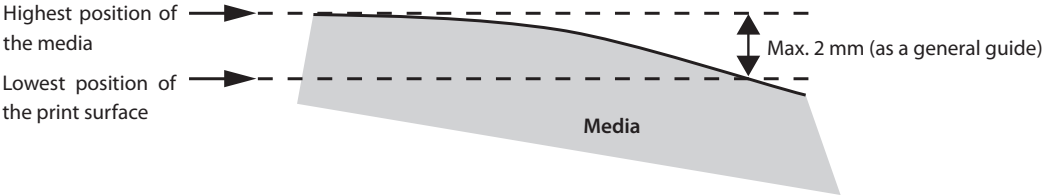
- 5. Close the front cover when it is open.
- 6. When the location is set, press [ENTER].

Height Settings When the Print Surface is Uneven

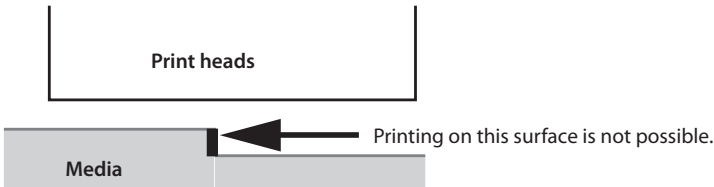
This machine can also print on uneven surfaces. However, remember the following points for the height setting.

Gap between “highest position of the media” and “lowest position of the print surface” should be 2 mm or less (as a general guide).

Print quality at the lower position degrades as the height gap widens.



Printing on a surface that is perpendicular to print heads is not possible.



Expanding Distance Between Media and Print Heads

When you set the height of the media automatically (First Step Guide), the distance between the media and print heads is set to 1.0 mm with which optimum printing is performed. However, if the height (thickness) of the media on which printing is performed varies, or when the media is lifted or warped during printing, the media might come into contact with the print heads.

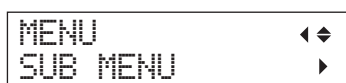
You can expand the distance in advance considering change of the height (thickness) of the media.

NOTE

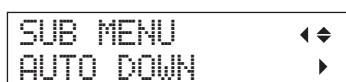
- If the distance is expanded too much, the print quality may be deteriorated and/or the nozzles of the print heads may be clogged. The distance between “highest position of the media” and “lowest position of the print surface” set to 2 mm or less (p. 9).
 - This setting is enabled when the height of the media is set automatically.
- ☞ “2. Setting Height of Media Automatically” (First Step Guide)

Procedure

1. Press [MENU].
2. Press [▼] to display the figure on the below.



3. Press [▶].
4. Press [▼] several times until the screen shown on the below appears.



5. Press [▶].



6. Press [▲] or [▼] to set the distance between the media and print heads.

You can adjust the distance in increments of 0.1 mm.

AUTO DOWN	Distance between media and print heads
0.0 mm (Default settings)	1.0 mm
:	:
2.0 mm	3.0 mm

7. Press [ENTER].
8. Press [MENU] [◀] in this order to return to the original screen.

Setting Print Area for Each Setup of Media

Usually, when you make a new setup of media, the print area and base position of the previous setup are set. You can change them every time you make a new setup of media.

Procedure

1. Press [MENU].
2. Press [▼] to display the figure on the below.

```
MENU      ◀▶
SUB MENU  ▶
```

3. Press [▶] twice.

```
SET AT SETUP  ◀▶
ENABLE ▶DISABLE↵
```

4. Press [▲] or [▼] to select a relevant item.

SET AT SETUP	Explanation
DISABLE (Default settings)	Make a setup using the print area of the previous setup. The print area of the factory default is the full area (508 x 330 mm). This setting is suitable when you always perform printing on media of a fixed size.
ENABLE	Set the print area (base position, width, and length of the print area) every time you make a setup of media. This setting is suitable when you change the media size according to print.

5. Press [ENTER].
6. Press [MENU] [◀] in this order to return to the original screen.

Changing Print Area

In the factory default, the base position (home position) of the print area is at the right front of the flat table, and the print area is the full area (508 x 330 mm).

The base position of the print area should be changed according to the media size.

You can reduce the print time if you narrow (limit) the print area.

Determining Base Position of Print Area (Home Position)

Determine the base position used as a base to set the print area.

1. Press [MENU].
2. Press [▼] to display the figure on the below.

```
MENU      ◀◆
SUB MENU  ▶
```

3. Press [▶].
4. Press [▼] to display the figure on the below.

```
SUB MENU  ◀◆
SET BASE POS. ▶
```

5. Press [▶].

```
SET BASE POS. ◀◆
LOWER R▶LOWER R↵
```

6. Press [▲] or [▼] to select the base position.

SET BASE POS.	Print object
LOWER R	<p>Set the base position (home position) at the front right of the print area.</p> <p>This method is appropriate when the print site is level, and you can clearly specify the print area.</p> <p>“Setting Print Area Using Lower Right of Media as Base Position” (p. 13)</p>
CENTER	<p>Set the base position at the center of the media.</p> <p>This method is appropriate when clear specification of the print area is difficult, or when the print site is curved or uneven.</p> <p>“Setting Print Area Using Center of Media as Base Position” (p. 14)</p>

7. Press [ENTER].

MEMO

You can select the setting method for the print area every time you make a setup of media. For more information “Setting Print Area for Each Setup of Media” (p. 11).

8. Press [MENU] [◀] in this order to return to the original screen.

Setting Print Area Using Lower Right of Media as Base Position

This is the print area setting method when the print site is level, and you can clearly specify the print area.

MEMO

During print area setup, the procedure can be performed with the front cover open. However, if the front cover is left open for more 40 seconds, the print heads automatically return to the standby position. The menu goes back to the previous menu so you must repeat setup.

NOTE

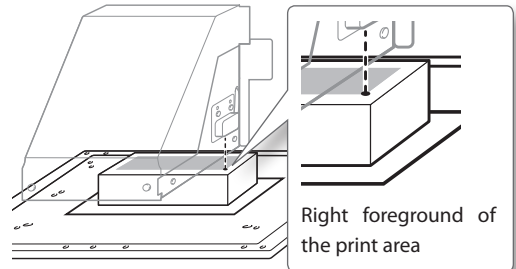
Be sure to hold the handle of the front cover, open and close it gently.

1. Set "SET AT SETUP" (p. 11) to "ENABLE."
2. Set "SET BASE POS." (p. 12) to "LOWER R."
3. Set up the media.
 - ⇨ "STEP 2: Installing Media and Setting Height" (First Step Guide)
4. When this screen appears, press any one of [▲][▼][◀][▶].

```
SCAN: 000.0mm
FEED: 000.0mm ↵
```

The flat table moves to the rear, the print heads move to above the flat table, and the laser pointer illuminates.

5. Press [▲][▼][◀][▶] to move the laser pointer until it points to a position to the right foreground of the print area.



6. Press [ENTER].
Print heads return to the standby position.

```
WIDTH: 000.0mm
LENGTH: 000.0mm ↵
```

MEMO

When the media comes into contact with the head gap sensor, the screen shown below appears, and the setup is cancelled. Redo from "2. Setting Height of Media Automatically" (First Step Guide), or "Setting Height of Media Manually" (p. 8).

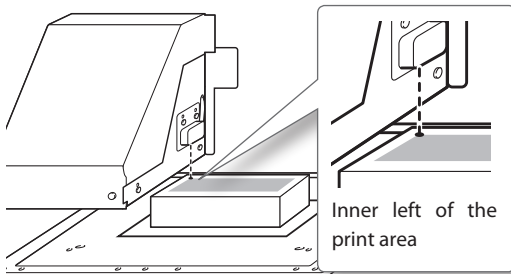
```
CHECK TABLE
HEIGHT ↵
```

7. Press any one of [▲][▼][◀][▶].
The flat table moves to the front, and the print heads move to the left side of the flat table.

8. Press [▲][▼][◀][▶] to move the laser pointer until it points to a position to the inner left of the print area.

MEMO

For a test print, set "WIDTH" to 80 mm or more, and "LENGTH" to 70 mm or more. An error will occur and test prints cannot be done if the area is smaller than this.



9. Press [ENTER].
10. Close the front cover when it is open.
- The print area is specified. Print heads return to the standby position.
- Make sure the "W (Width), L (Length), and H (Height)" values on the menu screen are as intended.

```
W: 500mm L: 330mm
H: 100.0mm
```

MEMO

If you want to use the print area specified here for next printing, switch "SET AT SETUP" (p. 11) to "DISABLE." With this setting, you can make a setup of media without setting the print area and base position.

Setting Print Area Using Center of Media as Base Position

This is the print area setting method clear specification of the print area is difficult, or when the print site is curved or uneven.

MEMO

During print area setup, the procedure can be performed with the front cover open. However, if the front cover is left open for more 40 seconds, the print heads automatically return to the standby position. The menu goes back to the previous menu so you must repeat setup.

NOTE

Be sure to hold the handle of the front cover, open and close it gently.

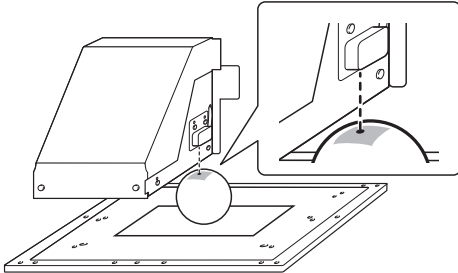
Procedure

1. Set "SET AT SETUP" (p. 11) to "ENABLE."
2. Set "SET BASE POS." (p. 12) to "CENTER."
3. Set up the media.
☞ "STEP 2: Installing Media and Setting Height" (First Step Guide)
4. When this screen appears, press any one of [▲][▼][◀][▶].

```
SCAN: 000.0mm
FEED: 000.0mm ↵
```

The flat table moves to the rear, the print heads move to above the flat table, and the laser pointer illuminates.

5. Press [▲][▼][◀][▶] to move the laser pointer until it points to the center position of the area you want to print.



6. Press [ENTER].
Print heads return to the standby position.

```
WIDTH: 000.0mm
LENGTH: 000.0mm ↵
```

MEMO

When the media comes into contact with the head gap sensor, the screen shown below appears, and the setup is cancelled. Redo from "2. Setting Height of Media Automatically" (First Step Guide), or "Setting Height of Media Manually" (p. 8)

```
CHECK TABLE
      HEIGHT ↵
```

7. Press [▲][▼] to enter the length of the area you want to print.
8. Press [◀][▶] to enter the width of the area you want to print.

```
W: 500mm L: 330mm
H: 100.0mm
```

MEMO

For a test print, set "WIDTH" to 80 mm or more, and "LENGTH" to 70 mm or more. An error will occur and test prints cannot be done if the area is smaller than this.

9. Close the front cover when it is open.
10. Press [ENTER].
The print area is specified. Print heads return to the standby position.

Make sure the "W (Width), L (Length), and H (Height)" values on the menu screen are as intended.

```
W: 500mm L: 330mm
H: 100.0mm
```

MEMO

If you want to use the print area specified here for next printing, switch "SET AT SETUP" (p. 11) to "DISABLE." With this setting, you can make a setup of media without setting the print area and base position.

Specifying the minimum print area allows reducing the print time

Specify "FULL WIDTH S" to "PRTAREA", the width in which the print heads move is narrowed, reducing the print time.

☞ "Reducing Output Time" (p. 22)

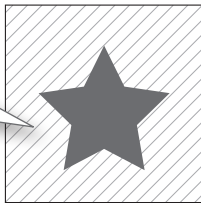
Example of good setting

The blank area in the print area is minimized.



Example of bad setting

The print area has a lot of unnecessary blank areas.



This feature is effective when the print area or output data has a small width.

When the laser pointer is difficult to see

Depending on the material used on the media, such as transparent media and high-gloss media with dark color used on the print surface, the laser pointer is difficult to see.

In such cases, the laser pointer may become more visible by placing masking tape on the print surface or on the back.

Check the Print Area

After you change the print area, you can check whether or not the print area that you intend is set.

1. Press [FUNCTION].
2. Press [▼] to display the figure on the below.

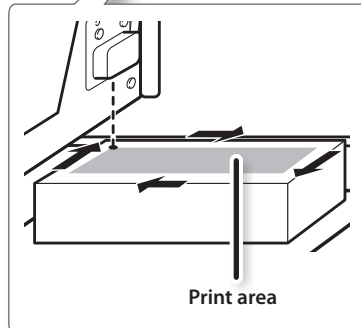
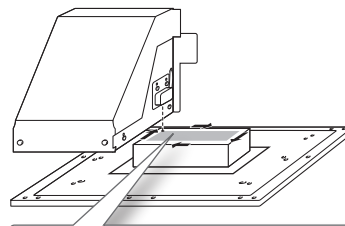


3. Press [▶].



4. Press [ENTER].

The laser pointer displays the print area that has been set.



5. Press [FUNCTION].
Return to the original screen.

Maintaining Print Quality

Preventing Soiling and Dot Drop-Out by Cleaning During Printing

In the following cases, ink tends to collect on the surface of the heads. Under some conditions, this ink may be transferred to the media or cause dot drop-out.

- When you use media prone to a buildup of static charge
- When the ambient temperature is low
- When the variation in unevenness on the print surface is high (There is a limit to the unevenness of the print surface.)

☞ “Height Settings When the Print Surface is Uneven” (p. 9)

Use of the periodic cleaning function enables you to perform printing as removing the ink buildup before or during printing.

Procedure

1. Press [MENU].
2. Press [▼] to display the figure on the below.

```
MENU      ◀▶
SUB MENU  ▶
```

3. Press [▶].
4. Press [▼] several times until the screen shown on the below appears.

```
SUB MENU  ◀▶
PERIODIC CL. ▶
```

5. Press [▶].

```
PERIODIC CL. ◀▶
NONE ▶ 10min ↵
```

6. Press [▲] or [▼] to select a relevant item.

PERIODIC CL.	Explanation
PAGE	Automatic cleaning is performed each time prior to the start of printing. This feature is useful when you want to overlay multiple images on a single medium.
5 to 990 min	Automatic cleaning is performed when the cumulative printing time reaches the value you set here. The color may become uneven because the printing is paused.
NONE (Default settings)	Automatic cleaning is not performed.

MEMO

Using “PAGE” or a value from “5 to 990 min” results in longer printing times.

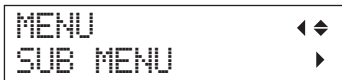
7. Press [ENTER].
8. Press [MENU] [◀] in this order to return to the original screen.

Reducing Print Quality Degradation from Ink Mist (Ink Spatter)

Under some printing conditions (such as low temperature or when a static charge is likely), a greater amount of ink mist (ink spatter during printing) may be produced and adversely affect the print quality. In these cases, you may be able to alleviate the symptom by lowering the rotation of the carriage fan.

Procedure

1. Press [MENU].
2. Press [▼] to display the figure on the below.



3. Press [▶].
4. Press [▼] several times until the screen shown on the below appears.



5. Press [▶].
6. Press [▲] or [▼] to select a relevant item.

MIST CATCHER	Explanation
HIGH (Default settings)	Rotates the carriage fan at high speed.
MIDDLE	Rotates the carriage fan at middle speed.
LOW	Rotates the carriage fan at low speed.
OFF	Stops the carriage fan.

7. Press [ENTER].
8. Press [MENU] [◀] in this order to return to the original screen.

Description

Whether the symptom can be alleviated or not depends on the temperature and media type. Be sure to check the print status as you adjust the setting.

However, the purpose of the carriage fan is to prevent ink buildup on the surface of print heads. Lowering its rotation will lead to more dot drop-outs. This means if you set it to "MIDDLE," "LOW," or "OFF," you should perform normal cleaning more frequently. The "PERIODIC CL." setting (p. 17) is also effective against dot drop-outs.

- ☞ "STEP 3: Test Print and Normal Cleaning" (First Step Guide)
- ☞ "Preventing Soiling and Dot Drop-Out by Cleaning During Printing" (p. 17)

Re-Curing Ink

When the ink is not completely cured after printing is complete, cure the ink by illuminating it once again with the UV-LED lamp. A characteristic of UV ink is that it cures quickly when exposed to the UV-LED lamp, but curing may be difficult for materials like cloth that absorb ink. This function may alleviate the symptom.

MEMO

- This feature cannot be used if media setup has been canceled ([SETUP] goes dark).
- The UV-LED lamp illuminates the print area configured in media setup.
- The effect depends on the media material.

Procedure

1. Press [FUNCTION].
2. Press [▼] several times until the screen shown on the below appears.



A screenshot of the printer's menu. The text 'FUNCTION' is on the top line and 'UV SCANNING' is on the bottom line. To the right of 'FUNCTION' is a left-pointing arrow and a right-pointing arrow. To the right of 'UV SCANNING' is a downward-pointing arrow and an upward-pointing arrow.

3. Press [ENTER].
The print heads move, and the print area is illuminated by the UV-LED lamp.

MEMO

You can stop the operation by pressing [ENTER] while operation is in progress.



A screenshot of the printer's menu showing the text 'TO CANCEL, PRESS ENTER KEY' in two lines.

Fully Utilizing Convenient Features

Continuing Printing even If Media Contact the Head Gap Sensor

This setting allows the height to be readjusted automatically to continue printing even when the media moves out of position or lifts up and comes into contact with the head gap sensor during printing. (*)

This function is effective for printing on media that cannot be redone.

Procedure

1. Press [MENU].
2. Press [▼] to display the figure on the below.

```
MENU          ◀▶
SUB MENU      ▶
```

3. Press [▶].
4. Press [▼] several times until the screen shown on the below appears.

```
SUB MENU          ◀▶
CLEARANCE MODE  ▶
```

5. Press [▶].

```
CLEARANCE MODE ◀▶
CANCEL ▶RE-ADJ. ↵
```

6. Press [▲][▼] to select "RE-ADJ."

CLEARANCE MODE	Explanation
RE-ADJ	The height is readjusted and printing continues even when the media comes into contact with the head gap sensor during printing.
CANCEL (Default settings)	Printing and setup will be canceled when the media comes into contact with the head gap sensor during printing. (**)

7. Press [ENTER].

8. Press [MENU] [◀] in this order to return to the original screen.

Description

When the height is readjusted automatically, and printing continues, the height setting is changed, and therefore the print quality may be changed. Hence, proper printing requires properly securing the media before printing to keep it from moving out of position or lifting up.

- ☞ "1. How to Secure the Media (Media Setup)" (First Step Guide)
- ☞ "2. Setting Height of Media Automatically" (First Step Guide)
- ☞ "Setting Height of Media Manually" (p. 8)

At the time when the height is readjusted automatically, the head gap sensor comes into contact with the media.

Even if "RE-ADJ" is selected, printing and setup will be canceled in the following cases.

- In automatic readjustment, the flat table descends more than 10 mm (0.4 inches).
- In automatic readjustment, even if the flat table has moved to the bottom, the media comes into contact with the head gap sensor.

* For information on operation after printing is finished, refer to "READJUST TABLE HEIGHT" (p. 64).

** For information on operation after printing is canceled, refer to "CANCELED FOR TABLE HEIGHT" (p. 66) and "CHECK TABLE HEIGHT" (p. 66).

Continuously Outputting Print Data

When multiple print data are sent at a time from the computer, the print data can be output in a row.

Procedure

1. Press [MENU].
2. Press [▼] to display the figure on the below.

```
MENU      ◀▶
SUB MENU  ▶
```

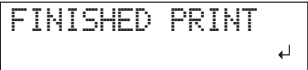
3. Press [▶].
4. Press [▼] several times until the screen shown on the below appears.

```
SUB MENU  ◀▶
PRT CONTINUE ▶
```

5. Press [▶].

```
PRT CONTINUE ◀▶
ENABLE ▶DISABLE ↵
```

6. Press [▲][▼] to select "ENABLE."

PRT CONTINUE	Explanation
ENABLE	Select this setting when you want to output multiple data in a row without replacing the media.
DISABLE (Default settings)	Even when multiple data are sent at a time from the computer, they are not output in a row and the screen shown below appears when one data is output.  If you want to replace the media for each print data, select "DISABLE."

7. Press [ENTER].

8. Press [MENU] [◀] in this order to return to the original screen.

Description

When "DISABLE" is selected and this screen is displayed, no data is accepted from the computer.

```
FINISHED PRINT
                ↵
```

Pressing [ENTER] to return to the screen shown on the below, and data can be accepted from the computer.

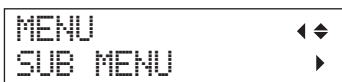
```
W: 508mm L: 330mm
H: 100.0mm
```

Reducing Output Time

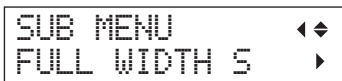
The output time is reduced by restricting the operating range of the print heads. This feature is effective when the print area or output data has a small width.

Procedure

1. Press [MENU].
2. Press [▼] to display the figure on the below.



3. Press [▶].
4. Press [▼] several times until the screen shown on the below appears.



5. Press [▶].



6. Press [▲][▼] to select "PRTAREA" or "OFF".

FULL WIDTH S	Explanation
PRTAREA	Adjust the operating range of the print heads to the preset print area.
OFF	"OFF" matches the range of print heads movement to the output data. Movement is limited to the minimum amount necessary, and this can be expected to yield the fastest output. When this feature is used, the time needed for the ink to harden is not constant, and an uneven color may result.
FULL (Default settings)	The media moves at a constant speed. The most stable output result can be obtained.

MEMO

In the case of the output data of which width gradually narrows (e.g., an inverted triangle), even if "FULL WIDTH S" is set to "OFF", the movement of the print heads may not match the output data. This is to prevent an ink-curing failure by the print position and not a malfunction.

7. Press [ENTER].
8. Press [MENU] [◀] in this order to return to the original screen.

Specifying the minimum print area allows reducing the print time

Specify the minimum required print area. The width in which the print heads move is narrowed, reducing the print time.

☞ "Changing Print Area" (p. 12)

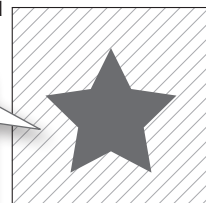
Example of good setting

The blank area in the print area is minimized.



Example of bad setting

The print area has a lot of unnecessary blank areas.



Making Setting of This Machine

Setting the Menu Language and Units of Measurement

This feature sets the language and units of measurement displayed on the display screen of the operation panel.

Procedure

1. Hold down [MENU] and switch on the sub power.
2. Press [▲][▼] to select the display (menu) language.



MENU LANGUAGE	Explanation
ENGLISH (Default settings)	English
JAPANESE	Japanese

3. Press [ENTER].



4. Press [▲][▼] to select the measurement unit for length

LENGTH UNIT	Explanation
mm (Default settings)	In millimeter (mm)
INCH	In inch (in)

5. Press [ENTER].



6. Press [▲][▼] to select the measurement unit for temperature

TEMP. UNIT	Explanation
°C (Default settings)	In Celsius
°F	In Fahrenheit

7. Press [ENTER].

Setting the Interval until Activation of the Sleep Mode (Power Saving Function)

This feature sets the time to activate the sleep mode when no operation is in progress in the case that the sleep mode SETTING (p. 24) is "ENABLE."

Procedure

1. Press [MENU].
2. Press [▼] to display the figure on the below.

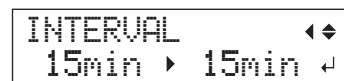


3. Press [▶].

4. Press [▲] several times until the screen shown on the below appears.



5. Press [▶] twice.



6. Press [▲][▼] to select appropriate time.

INTERVAL	Explanation
15min, 30min (Default settings), 45min, 60min, 75min, 90min, 105min, 120min	Time to activate the sleep mode when no operation is in progress

7. Press [ENTER].

8. Press [MENU] [◀] in this order to return to the original screen.

Deactivating the Sleep Mode (Power Saving Function)

The machine goes into the sleep mode when no operation is performed for a certain period of time. Meanwhile, you can disable the sleep mode.

Procedure

1. Press [MENU].
2. Press [▼] to display the figure on the below.

```
MENU      ◀▶
SUB MENU  ▶
```

3. Press [▶].
4. Press [▲] several times until the screen shown on the below appears.

```
SUB MENU  ◀▶
SLEEP     ▶
```

5. Press [▶][▼] in this order.

```
SLEEP     ◀▶
SETTING   ▶
```

6. Press [▶].

```
SETTING   ◀▶
ENABLE ▶DISABLE↵
```

7. Press [▲][▼] to select "DISABLE."

SETTING	Explanation
ENABLE (Default settings)	The sleep mode is activated in a certain period of time.
DISABLE	The sleep mode is not activated.

8. Press [ENTER].
9. Press [MENU][◀] in this order to return to the original screen.

Returning All Settings to Factory Defaults

This menu returns all settings to the same as their factory defaults. However, the settings for "MENU LANGUAGE," "LENGTH UNIT," and "TEMP. UNIT" are not returned to the factory defaults.

Procedure

1. Press [MENU].
2. Press [▼] to display the figure on the below.

```
MENU      ◀▶
SUB MENU  ▶
```

3. Press [▶].
4. Press [▼] several times until the screen shown on the below appears.

```
SUB MENU  ◀▶
FACTORY DEFAULT↵
```

5. Press [ENTER].

```
SETUP MEDIA
```

Determining What Happens When Ink Runs Out

This menu lets you select the operation that takes place when an ink cartridge becomes empty during printing.

Procedure

1. Press [MENU].
2. Press [▼] to display the figure on the below.

```
MENU      ◀▶
SUB MENU  ▶
```

3. Press [▶].
4. Press [▲] twice.

```
SUB MENU  ◀▶
INK CONTROL ▶
```

5. Press [▶] twice.

```
EMPTY MODE ◀▶
STOP      ▶CONT. ◀↵
```

6. Press [▲] or [▼] to select an operation.

EMPTY MODE	Explanation
STOP (Default settings)	Printing is paused immediately when an ink cartridge becomes empty.
CONT	A warning beep goes off when an ink cartridge becomes empty. Printing continues until all the print data that this machine has received is output. In this case, you can pause printing by pressing [PAUSE].

7. Press [ENTER].
8. Press [MENU] [◀] in this order to return to the original screen.

Description

When "STOP" is selected, printing pauses and so colors may be uneven. Ensure a sufficient amount of remaining ink before you begin printing.

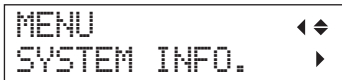
When "CONT" is selected, printing does not stop even if ink runs out completely. To replace the cartridge, wait until printing ends or press [PAUSE] to pause printing.

Viewing Information About the System of This Machine

For information on how to set up a network, refer to “STEP 8: Network Settings” (First Step Guide).

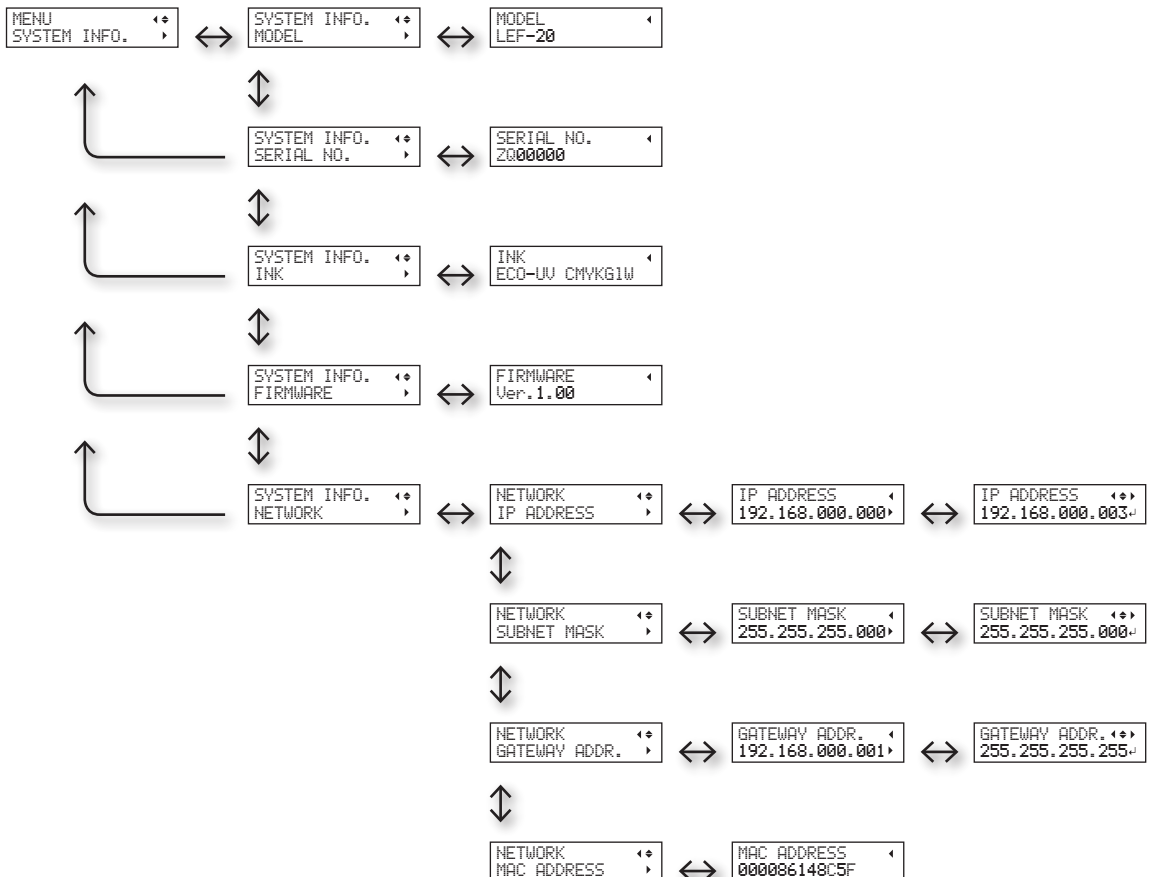
Procedure

1. Press [MENU].
2. Press [▲] several times until the screen shown on the below appears.



You can check the following information.

Parameter	Explanation
MODEL	Model name
SERIAL NO.	Serial number
INK	Ink type
FIRMWARE	Firmware version
Network	Network configuration (IP address, etc.)



Chapter 2

Maintenance

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About Maintenance

Instructions for Maintenance

Switch the power on once every two weeks

Switch the sub power on once every two weeks. When you turn on the power, the machine automatically performs some operations such as those to keep the print heads from drying out. Allowing the machine to stand completely unused for a prolonged period may damage the print heads, so be sure to switch on the power to perform these automatic operations.

Keep at a constant temperature and relative humidity

Even when the machine is not in use, keep it at a temperature of 5 to 40°C (41 to 104°F) and a relative humidity of 20 to 80% RH (with no condensation). Not doing so may cause the machine to breakdown.

Automatic Maintenance Feature and Notes

This machine has a feature that automatically performs maintenance periodically. Please observe the following because operations, such as preventing the print heads from drying out are performed.

- Always leave the main power on.
- Do not leave the front cover open for a long time.
- Return to the top menu after specifying settings in various menus.

Alarm Feature

This feature reminds you to switch on the sub power once a month. When the machine remains unused for about a month, this screen appears and a warning beep sounds. If this screen appears, switch on the sub power. When maintenance operations finish, switch

off the sub power.

This feature operates when the printer's main power is turned on. We recommend leaving on the main power to the printer even when the machine will remain unused for a prolonged period.

PRESS THE POWER
KEY TO CLEAN

Maintenance that Should Be Performed Daily

Maintenance of Ink Cartridges

The ingredients in the ink have a tendency to precipitate. Particularly, the white ink contains ingredients that precipitate easily, and deposits may harden and cause problems including printer malfunctions if left untouched for an extended period of time.

- Shake the new ink cartridge 20 times (about 10 seconds) before loading it.

☞ "2. Insert the Ink Cartridges for the Respective Colors" (First Step Guide)

- Temporarily remove only the white ink cartridge, shake it 20 times (about 10 seconds), and load it before starting operation for the day.

☞ "STEP 3: Test Print and Normal Cleaning" (First Step Guide)


About Care and Maintenance of the Print Heads

Be sure to perform a printing test and normal cleaning before and after daily operations so that you can perform optimum printing any time. Also perform care and maintenance during daily operations according to need.

☞ "STEP 3: Test Print and Normal Cleaning" (First Step Guide)

- * The print heads are components that wear out. Periodic replacement is required, with the frequency of replacement depending on use. Purchase them from your authorized Roland DG Corp. dealer.

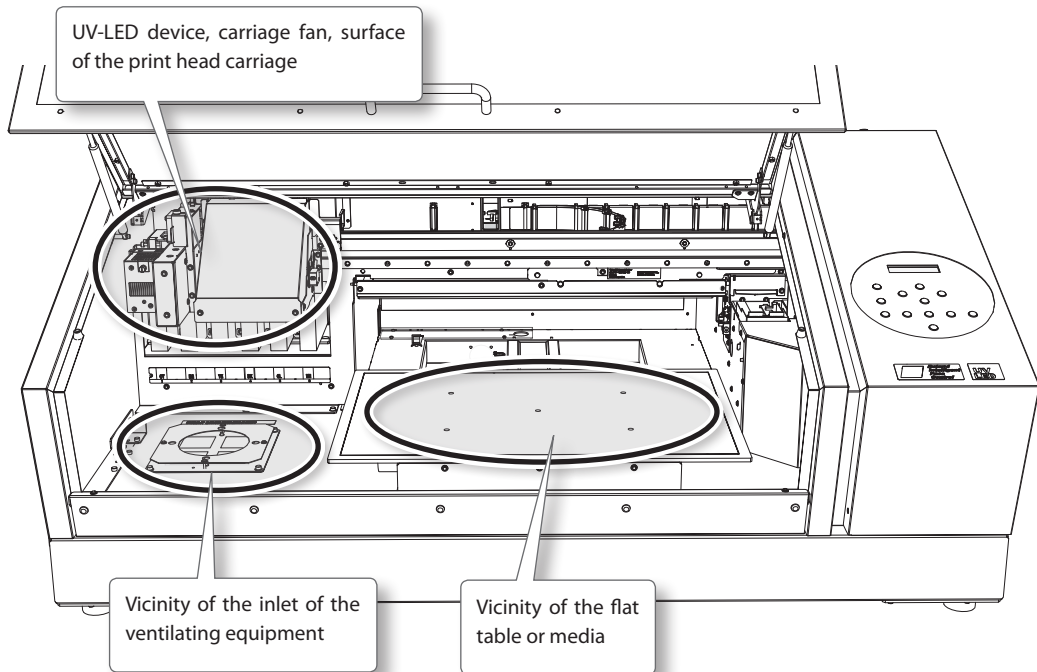
About Care and Maintenance of the Machine

 **WARNING** Never use gasoline, alcohol, thinner, or any other flammable material.
Doing so may cause fire

Wipe away any buildup of ink or grime that has adhered to the machine as part of daily cleaning. In particular, the flat table is likely to have a buildup of grime. Clean by wiping with a cloth moistened by neutral detergent diluted with water then wrung dry.

About Care and Maintenance of the Inside of the Machine

Frequently perform cleaning of the inside of the machine using a vacuum cleaner or wiping with a cloth moistened by water then wrung dry. If dust and dirt are accumulated in the machine, they are likely to affix to printed materials.



Disposing of Discharged Ink

⚠️ WARNING Never place discharged fluid or ink near open flame.

Doing so may cause fire.

⚠️ CAUTION Before you detach the drain bottle, be sure to wait for the screen to display [EMPTY DRAIN BOTTLE].

Failing to follow this procedure may cause discharged fluid to flow out of the tube and spill, soiling your hands or the floor.

⚠️ CAUTION To store discharged fluid temporarily, place it in the included drain bottle or in a durable, sealed container such as a metal can or polyethylene tank, and cap tightly.

Any spillage or vapor leakage may cause fire, odor, or physical distress.

Do not store discharged liquids in a location where they are exposed to direct sunlight.

When temporarily storing discharged fluid in the included drain bottle, do not store in a location that is exposed to direct sunlight. The discharged fluid may harden, making the drain bottle unusable.

Dispose of discharged fluid properly, in accordance with the laws in effect in your locale.

Discharged fluid is flammable and contains toxic ingredients. Never attempt to incinerate discharged fluid or discard it with ordinary trash. Also, do not dispose of it in sewer systems, rivers, or streams.

Doing so may have an adverse impact on the environment.

When "EMPTY DRAIN BOTTLE" Is Displayed

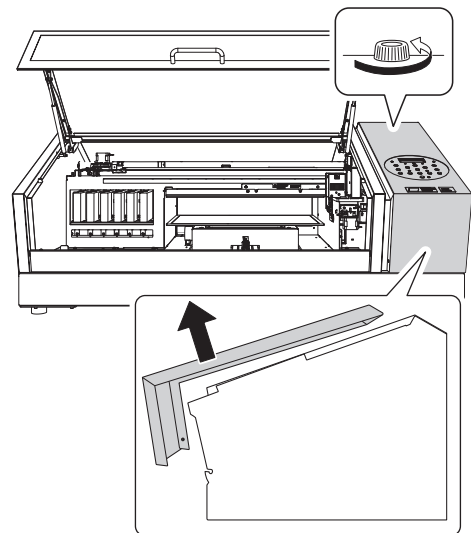
The message shown in the figure appears when a certain amount of discharged fluid has collected in the bottle.



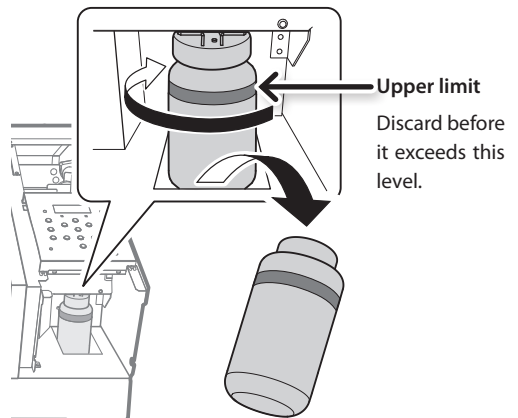
Follow the procedure below to discard the discharged fluid.

1. Open the panel cover.

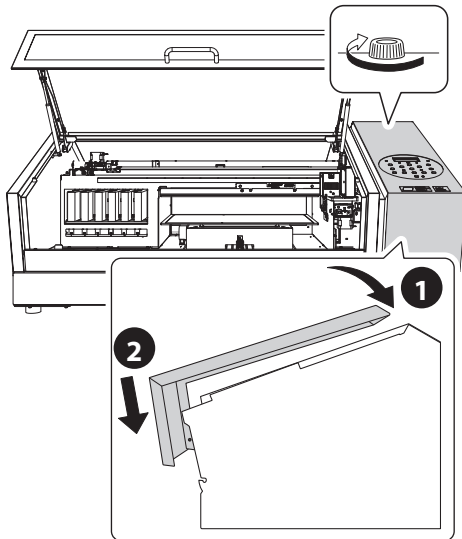
Remove the screw on the top of the panel cover and pull out the panel cover in the arrow direction.



2. Detach the bottle, and empty it to discard the discharged fluid.



3. Re-attach the emptied drain bottle.
4. Close the panel cover.



5. Press [ENTER].

```

NOW EMPTY?  <>
[YES] NO    ↵
    
```

6. Press [◀][▶] to select "YES."

7. Press [ENTER].

NOTE

The "EMPTY DRAIN BOTTLE" message also disappears when you select "NO" and press [ENTER] without discarding the discharged fluid.

If "EMPTY DRAIN BOTTLE" appears again, you should discard the discharged fluid, if you can. Repeatedly selecting "NO" without discarding the discharged fluid may cause it to spill out of the drain bottle, soiling your hands or the floor.

Discarding the Discharged Fluid Before the Message Appears

To discard the discharged fluid when "EMPTY DRAIN BOTTLE" has not been displayed yet, follow the procedure given below:

1. Press [MENU].
2. Press [▼] to display the figure on the below.

```

MENU          <>
SUB MENU      ▶
    
```

3. Press [▶][▲] in this order.

```

SUB MENU      <>
MAINTENANCE  ↵
    
```

4. Press [▶][▲] in this order.

```

MAINTENANCE  <>
DRAIN BOTTLE ↵
    
```

5. Press [ENTER].

```

OPEN PANEL
COVER
    
```

6. Open the panel cover (p. 30).

```

EMPTY        ◀
DRAIN BOTTLE ↵
    
```

7. Detach the bottle, and empty it to discard the discharged fluid (p. 30).

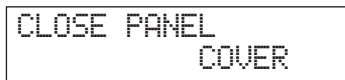
8. Re-attach the emptied drain bottle.

9. Press [ENTER].

```

RESET DRAIN
COUNTER ↵
    
```

10. Press [ENTER].



11. Close the panel cover (p. 31).

12. Press [MENU] [◀] in this order to return to the original screen.

Periodic Cleaning Maintenance

There are several cleaning menus on this machine. Perform cleaning periodically or as needed.

Cleaning	Explanation
N o r m a l cleaning	<p>Select this cleaning under normal operation.</p> <p>Perform normal cleaning when there is a nozzle drop-out in test prints. Be sure to do this in the following cases.</p> <ul style="list-style-type: none"> • Before daily operations • After daily operations <p>Also, perform normal cleaning during daily operations as needed.</p> <p>☞ "STEP 3: Test Print and Normal Cleaning" (First Step Guide)</p>
M e d i u m cleaning	<p>If you cannot fix nozzle drop-out with normal cleaning, try medium cleaning. If medium cleaning does not fix the problem, perform powerful cleaning.</p> <p>☞ "Medium and Powerful Cleaning" (p. 33)</p>
P o w e r f u l cleaning	
M a n u a l cleaning	<p>Perform every day when the machine's interior tends to be grimy due to the scattering of ink mist (this problem tends to occur when printing with the some distance between the print heads and the print surface). Even if it does not become very grimy, clean periodically as needed based on your usage (at least, once a month).</p> <p>☞ "Manual Cleaning" (p. 35)</p>

Medium and Powerful Cleaning

When normal cleaning (“Printing Test and Normal Cleaning” (First Step Guide)) does not correct dot drop-out, perform the more powerful cleaning, a “medium cleaning,” two or three times. If the condition is not improved, try the even more powerful “powerful cleaning.”

NOTE

Ink consumption becomes larger in the order of normal cleaning, medium cleaning, and powerful cleaning.

Because the print heads are prone to damage if cleaned too frequently, do not perform cleaning more than necessary.

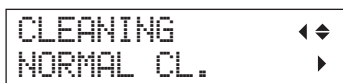
Procedure

1. Press [FUNCTION].



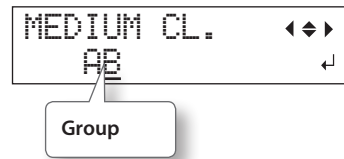
2. Press [▶][▼] in this order.

3. Press [▲][▼] to select the cleaning type.

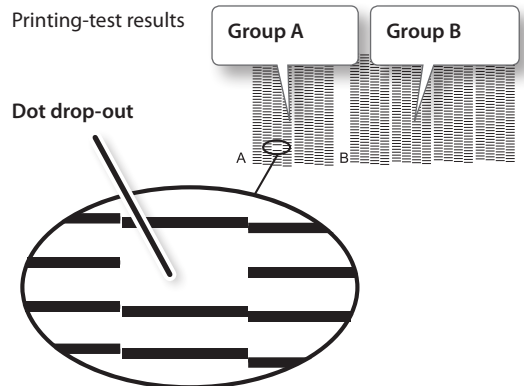


CLEANING	Explanation
NORMAL CL.	Cleaning of the print heads is performed.
MEDIUM CL.	Select this cleaning when you cannot fix nozzle drop-out with NORMAL CL.
POWERFUL CL.	Select this cleaning when you cannot fix nozzle drop-out with MEDIUM CL.
TEST PRINT	A printing test is performed. ☞ “STEP 3: Test Print and Normal Cleaning” (First Step Guide)

4. Press [▶].



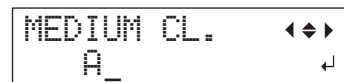
5. Press [◀][▶] to choose the group of heads that is not to be cleaned.



MEMO

If the printing-test results are difficult to interpret, examine the results from different angles in a well-lighted location. Take advantage of reflected light to enable visual checking.

6. Press [▲][▼] to get rid of the group display.



7. Press [ENTER].

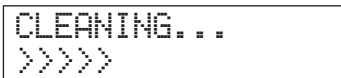
When you select powerful cleaning, the screen shown in the figure appears.



```
EMPTY
DRAIN BOTTLE ←
```

If the amount of discharged fluid is near the upper-limit line, then remove the bottle, discard the collected fluid, and reattach the bottle. Press [ENTER].

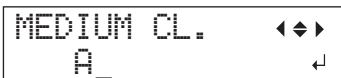
The screen shown in the figure appears, and then cleaning starts.



```
CLEANING...
>>>>
```

When it finishes, the screen shown in the figure appears again.

* The screen shown below appears when you select medium cleaning.



```
MEDIUM CL.   ←◆→
A_           ↵
```

8. Press [FUNCTION] in this order to return to the original screen.

When Powerful Cleaning Is Not Effective

When dot drop-out does not improve after cleaning several times, perform "Manual Cleaning." Such cleaning can be effective when carried out periodically, according to the frequency of use.

☞ "Manual Cleaning" (p. 35)

Manual Cleaning

When the Manual Cleaning Becomes Necessary

When there is a lot of scattered ink mist and the inside of the machine is soiled

Perform every day when frequently printing with the print heads at a distance from the print surface or when ink is emitted to locations that protrude from the print surface. If the scattered ink mist is allowed to harden, it may cause malfunctions.

Perform once a month or more

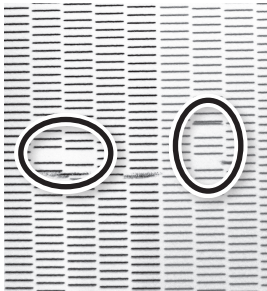
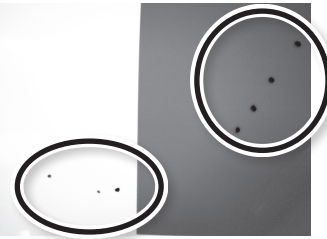
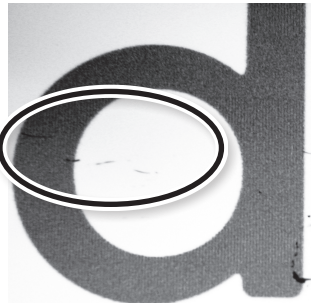
To maintain stable output conditions at all times, perform manual cleaning more than once a month.

We recommend manual cleaning when any of the following symptoms occurs

If the following symptoms occur and you are not able to fix them with automatic cleaning features, such as normal cleaning, perform manual cleaning.

Wiper replacement may also be effective in improving these symptoms.

☞ "Replacing the Wiper" (p. 48)

Dot drop-out	Ink drips	Dragging dirt
		
<p>Flaws in the dot pattern caused by dust on the print heads.</p>	<p>Ink pools in dust or dirt adhered to the print heads, and drips onto the media.</p>	<p>The phenomenon where dirt or dust accumulates on the print heads.</p>

- The frequency with which manual cleaning should be performed depends on the machine's use. For information about frequency of cleaning needed for your conditions of use, contact your authorized Roland DG Corp. dealer.
- When the cleaning stick and cleaning liquid used for manual cleaning runs out, purchase them from your authorized Roland DG Corp. dealer.
- The print heads are components that wear out. Periodic replacement is required, with the frequency of replacement depending on use. Purchase them from your authorized Roland DG Corp. dealer.

Important Notes on This Procedure

- For manual cleaning, the cleaning liquid included, the cleaning stick, and a commercially available glass cleaner are necessary. Please prepare them in advance.
- Before performing this operation, remove any media.
- To prevent the heads from drying out, finish this procedure in 10 minutes or less. A warning beep sounds after 10 minutes.
- Never use any implement other than the included cleaning stick. Cotton swabs or other lintproducing items may damage the heads. If you use up the cleaning stick, purchase a new one from your authorized Roland DG Corp. dealer.
- Use one cleaning stick per cleaning session. Reusing cleaning sticks may reduce print quality.
- Do not put a cleaning stick that has been used for cleaning into the cleaning liquid. It may deteriorate the fluid.
- Never rub the nozzle surface of the heads.
- Stroke the sponges very gently, applying as little pressure as possible. Never rub, scrape, or crush them.

When a warning beep sounds during cleaning

A warning beep sounds 10 minutes after operation begins. Stop work and close the front cover. And then, press [ENTER] to quit the manual cleaning menu. After that, restart the procedure from the beginning.



CAUTION

Be sure to perform operations as specified in the instructions above, and never touch any area not specified in the instructions.

Sudden movement of the machine may cause injury.

1. Change to the Print-Head Manual-Cleaning Mode

NOTE

Be sure to hold the handle of the front cover, open and close it gently.

1. Remove any media. Close the front cover.
2. Press [MENU].
3. Press [▼] to display the figure on the below.

MENU ◀▶
SUB MENU ▶

4. Press [▶] [▲] in this order.

SUB MENU ◀▶
MAINTENANCE ▶

5. Press [▶].

MAINTENANCE ◀▶
CLEANING ◀↵

6. Press [ENTER].

NOW PROCESSING..

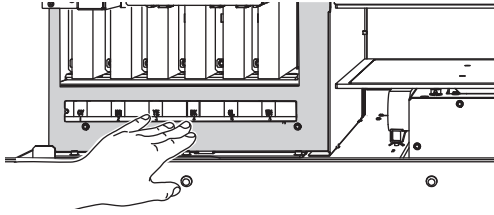
The print-head carriage moves, and then the screen shown in the figure appears.

OPEN FRONT
COVER

7. Open the front cover.

FINISHED? ◀↵

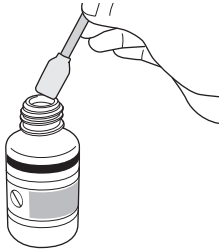
8. Touch the location shown in the figure (under the ink cartridge cover) to discharge any static electricity.



2. Clean Using the Cleaning Stick

1. Moisten the cleaning stick with the cleaning liquid.

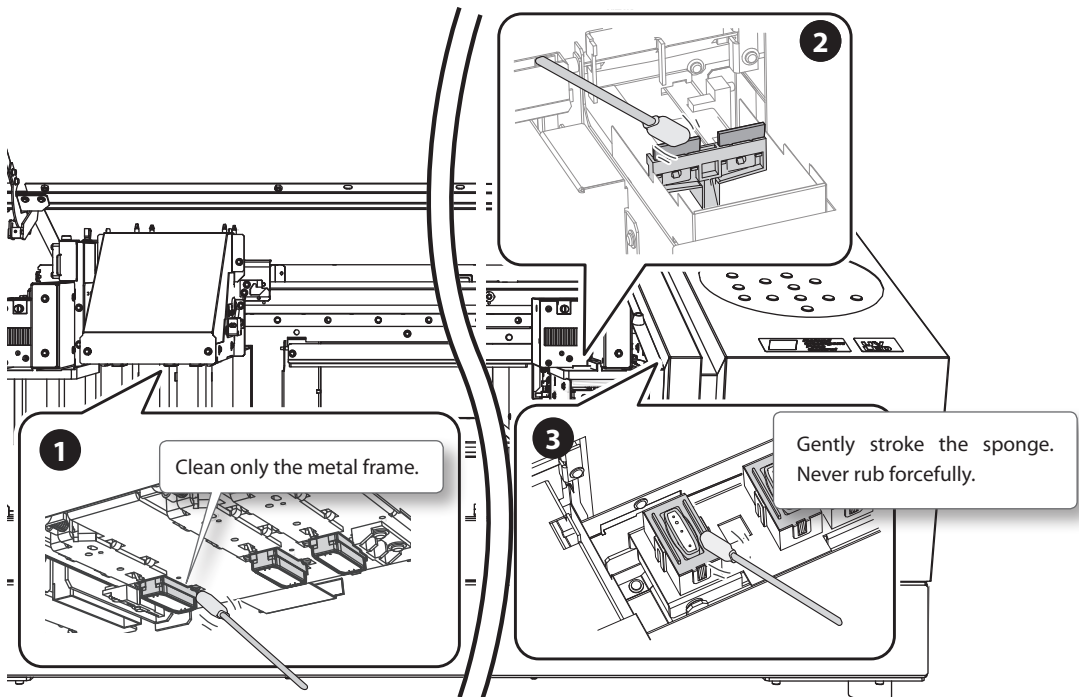
Be sure to use one of the included cleaning sticks.



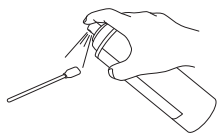
2. Clean in the sequence shown in the figure below.

Be especially careful to clean away any fibrous dust (lint).

While cleaning, be careful not to touch the head surfaces (nozzle surface) directly with the stick.



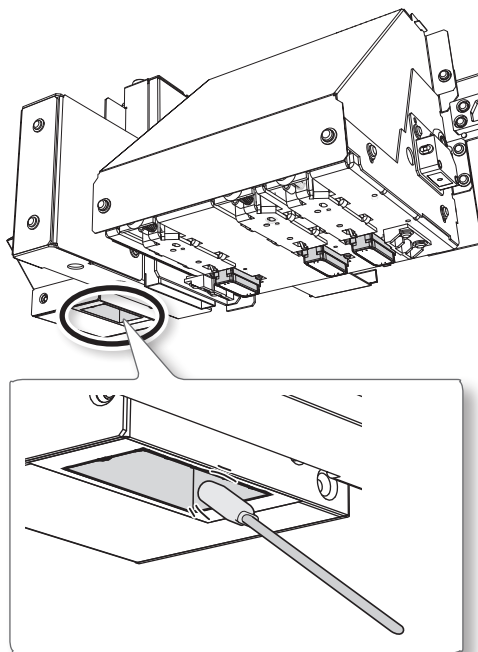
3. Apply commercially available glass cleaner to the new cleaning stick.

**NOTE**

Never use the cleaning liquid. If you use the cleaning liquid, it may cause breakdown of the machine.

4. Clean the locations shown in the figure.

Be especially careful to clean away any fibrous dust (lint).

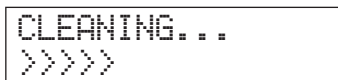


3. Quit Manual Cleaning Mode

NOTE

Be sure to hold the handle of the front cover, open and close it gently.

1. Close the front cover.
2. Press [ENTER].



The print-head carriage moves to the right side of the machine. After quitting the manual cleaning mode, the screen returns to the original screen.

4. Perform a test print to check if cleaning is done properly

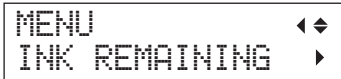
1. Perform a printing test to check the results.
Perform cleaning using the machine's cleaning feature several times when necessary.
☞ "STEP 3: Test Print and Normal Cleaning" (First Step Guide)

Checking for Remaining Ink and Replacing Ink Cartridges

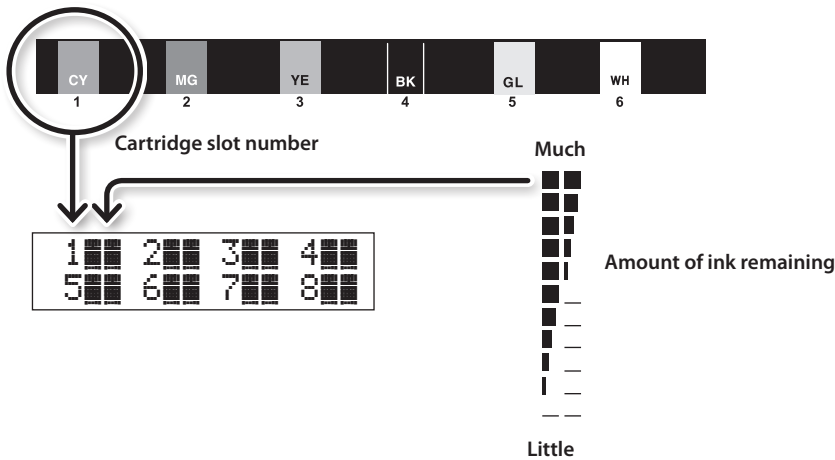
Checking for Remaining Ink

Procedure

1. Press [MENU].
2. Press [▲] several times until the screen shown on the below appears.



3. Press [▶].



■ Indicates the amount of ink remaining. When there are more ■, the amount of ink remaining is larger.

* The displays shows approximately how much ink remains. It may differ somewhat from the actual amount remaining.

4. Press [MENU] [◀] in this order to return to the original screen.

How to Replace the Ink Cartridge

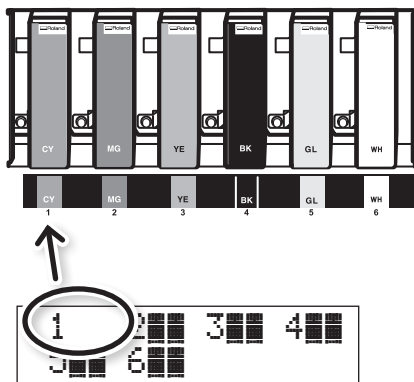
When ink runs out, a warning beep sounds and printing pauses (unless the default settings have been changed). Pull out the empty cartridge and insert a new one. After replacing the cartridge, close the ink cartridge cover and front cover. Printing resumes.

NOTE

Be sure to hold the handle of the front cover, open and close it gently.

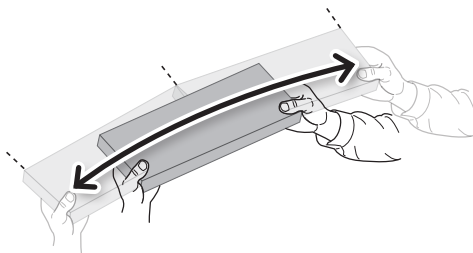
Procedure

1. Check the number flashing on the screen.



The ink at the flashing cartridge slot number is running out.

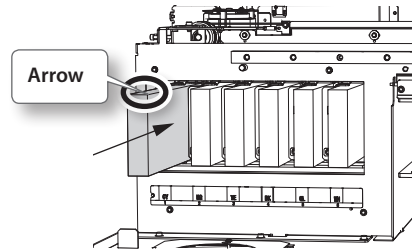
2. Open the front cover.
3. Shake a new ink cartridge of the same type 20 times (about 10 seconds) and same color prior to replacing.



The precipitation of the ingredients in the ink disables printing in normal color. To allow the ingredients to be mixed well, greatly shake

the ink cartridges from side to side using twice the length of each cartridge as a guide.

4. Pull out the empty ink cartridge and immediately insert the new one.



- Keep the side with the arrow face up
- Insert and remove slowly, one at a time

5. Close the front cover.

Important Notes on Replacing Cartridges

- Be sure to replace with an item of identical type.
- Never mix items of different types.
- Never allow the machine to stand with an ink cartridge removed. The print heads may become clogged.
- Never insert or remove a partially used ink cartridge with undue force.
- Never remove an ink cartridge suddenly while the printer is in operation.

WARNING Never store ink, cleaning liquid, or discharged fluid in any of the following locations.

- Any location exposed to open flame
- Any location where high temperatures may occur
- Near bleach or any other such oxidizing agent or explosive material
- Any location within the reach of children (Accidental ingestion by children may pose a health hazard.)

When the White Ink Concentration is Low

Restoring White Ink Concentration

Prolonged use of this machine may cause the concentration of the white ink to decrease. This is because white ingredients in white ink easily precipitate. The "CIRCULATING INK" feature circulates the ink to eliminate white ink precipitation.

MEMO

This procedure requires some ink to be discharged, so you should not perform this procedure frequently.

Procedure

1. Press [MENU].
2. Press [▼] to display the figure on the below.

```
MENU          ◀◆
SUB MENU      ▶
```

3. Press [▶].
4. Press [▲] several times until the screen shown on the below appears.

```
SUB MENU      ◀◆
INK CONTROL   ▶
```

5. Press [▶][▲] in this order.

```
INK CONTROL   ◀◆
CIRCULATE INK ▶
```

6. Press [▶].

```
CIRCULATE INK ◀◆
CIR-DISCHARGE ◀
```

7. Press [ENTER].

Ink circulation starts.

```
CIRCULATING INK
```

```
CIRCULATE INK ◀
CIR-DISCHARGE ◀
```

8. Press [MENU][◀] in this order to return to the original screen.

When Dot Drop-Out Cannot Be Cleared Up

In this operation, all white and gloss inks within the printer are discharged, and the interior is cleaned. Ink is refilled after cleaning. This operation requires two SOL INK cleaning cartridges.

☞ If you want to perform maintenance on inks other than white or gloss ink, see “Cleaning All Print Heads” (p. 44).

MEMO

White ink tends to settle, and may harden if allowed to stand for a lengthy time. Therefore, abnormal ink emission including dot drop-out tends to occur more frequently than with other inks, even when using the cleaning function (Normal, Medium, or Powerful) or manual cleaning.

NOTE

Be sure to hold the handle of the front cover, open and close it gently.

Important Notes on This Procedure

- A large amount of ink will be discharged during this operation. Perform this operation when all procedures such as “Normal,” “Medium,” “Powerful,” and “Manual” cleaning, and measures to improve ink emission flaws (such as dot drop-out) do not improve the symptoms.
 - ☞ “Maintenance that Should Be Performed Daily” (p. 28)
 - ☞ “Medium and Powerful Cleaning” (p. 33)
 - ☞ “Manual Cleaning” (p. 35)
- Be sure to use SOL INK cleaning cartridges. Use of any other type may result in breakdown.
- According to the procedure, fill with ink as soon as possible. Allowing the machine to stand without ink may damage the print heads.

Procedure

Prepare

SOL INK cleaning cartridge (2)

1. Press [MENU].
2. Press [▲] to display the figure on the left.

```
MENU      ◀◆
INK RENEWAL  ↵
```

3. Press [ENTER].

```
CLEANING LIQUID ◀
IS REQUIRED ↵
```

4. Press [ENTER].

```
EMPTY      ◀
DRAIN BOTTLE ↵
```

5. Discard the discharged fluid and attach the emptied bottle (p. 30).

6. Press [ENTER].

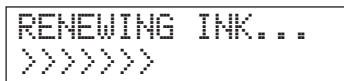


7. Open the front cover.

8. Remove the ink cartridges from slots 5 and 6.



9. Insert SOL INK cleaning cartridges into slots 5 and 6.

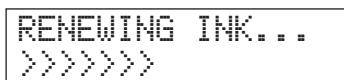


10. When the screen shown on the below appears, remove the SOL INK cleaning cartridges from slots 5 and 6.



11. Carry out steps 8 through 10 as many times as indicated on the display

12. When the screen shown on the below appears, insert an ink cartridge in slots 5 and 6.



13. Close the front cover.

14. Press [MENU] [◀] in this order to return to the original screen.

Cleaning All Print Heads

In this operation, all inks within the printer are discharged, and the interior is cleaned. Ink is refilled after cleaning.

This operation requires six unused SOL INK cleaning cartridges (four for cleaning and two for refilling ink).

Have these on hand before you start.

* The effect on white ink and gloss ink is the same as "When Dot Drop-Out Cannot Be Cleared Up" (p. 42). If you want to perform maintenance only on white and gloss ink, see p. 42.

Important Notes on This Procedure

- All inks are discharged in this operation. Perform this operation when all procedures such as "Normal," "Medium," "Powerful," and "Manual" cleaning, and measures to improve ink emission flaws (such as dot drop-out) do not improve the symptoms.
- ☞ "Maintenance that Should Be Performed Daily" (p. 28)
- ☞ "Medium and Powerful Cleaning" (p. 33)
- ☞ "Manual Cleaning" (p. 35)
- Be sure to use SOL INK cleaning cartridges. Use of any other type may result in breakdown.
- According to the procedure, fill with ink as soon as possible. Allowing the machine to stand without ink may damage the print heads.

Procedure

Prepare

SOL INK cleaning cartridge (6)

1. Press [MENU].
2. Press [▼] to display the figure on the below.

```
MENU      ◀▶
SUB MENU  ▶
```

3. Press [▶].
4. Press [▲] several times until the screen shown on the below appears.

```
SUB MENU  ◀▶
INK CONTROL ▶
```

5. Press [▶][▼][▼] in this order.

```
INK CONTROL ◀▶
HEAD WASH  ↵
```

6. Press [ENTER].

```
CLEANING LIQUID ◀
IS REQUIRED ↵
```

7. Make sure the cleaning liquid is ready.

8. Press [ENTER].

```
EMPTY      ◀
DRAIN BOTTLE ↵
```

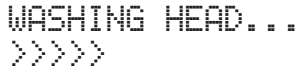
9. Discard the discharged fluid.

Perform operations in "Disposing of Discharged Ink" (p. 30) and the following procedures before discharging ink.

NOTE

The following operations will discharge large amounts of fluid. Empty the drain bottle, or the discharged fluid may overflow

10. Press [ENTER].



WASHING HEAD...
>>>>

11. Thereafter, follow the on-screen instructions to carry out the operations.

After cleaning has finished, the sub power is automatically switched off.

12. Start filling ink.

See "STEP 7: Filling with Ink for the First Time" (First Step Guide) and promptly fill with ink. When filling with ink, you use (two) SOL INK cleaning cartridges again.

Cleaning of the head surface as an emergency measure

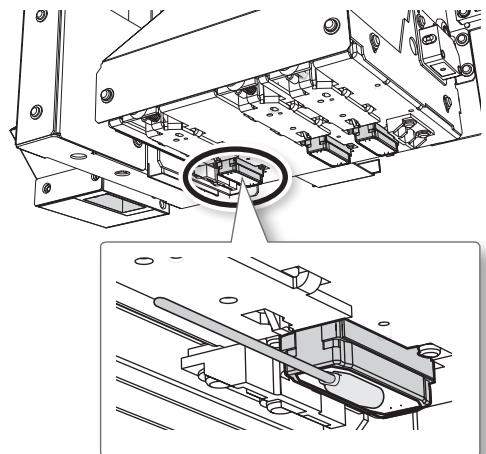
When dot drop-out and/or dot deflection is not improved even if cleaning is performed several times, you can clean the head surface as an emergency measure. Since the head surface (nozzle surface) is an extremely delicate mechanism, make sure to perform the operation carefully and deliberately.

This operation is an emergency measure. It may damage defect-free parts depending on the symptoms, worsening the symptoms. If you have any questions, contact your authorized Roland DG Corp. dealer.

Procedure

1. Perform on "1. Change to the Print-Head Manual-Cleaning Mode" (p. 36).
2. Apply a large amount of cleaning solution to the cleaning stick.
3. Softly press the cleaning stick to the head surface (nozzle surface).

Press it gently and softly so that the head nozzle is permeated with the cleaning liquid. Never rub the stick on the surface or press it forcibly.



4. Perform on "3. Quit Manual Cleaning Mode" (p. 38) and "4. Perform a test print to check if cleaning is done properly" (p. 38).

Switching the Ink Type

The ink types can be switched between ECO-UV ink and ECO-UV3 ink on this machine.

Restrictions on Switching Ink Type

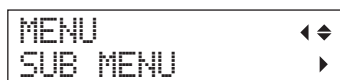
- You can switch the ink types (between ECO-UV ink and ECO-UV3 ink). You should note that you cannot change the combination of colors.
- When using Roland VersaWorks, you must initialize Roland VersaWorks after switching the ink types (p. 47).
- If you initialize the Roland VersaWorks, previously saved settings and data will be lost.
- This procedure requires some ink to be discharged, so you should not perform this procedure frequently.
- Switching the ink types may cause dot drop-out. In that case, perform the cleaning of the print heads.
 - ☞ “STEP 3: Test Print and Normal Cleaning” (First Step Guide)
 - ☞ “Medium and Powerful Cleaning” (p. 33)
 - ☞ “Manual Cleaning” (p. 35)

Method for Switching the Ink Type

1. Draining Ink Remaining Inside the Unit

Procedure

1. Press [MENU].
2. Press [▼] to display the figure on the below.



MENU ◀▶
SUB MENU ▶

3. Press [▶].
4. Press [▲] several times until the screen shown on the below appears.



SUB MENU ◀▶
INK CONTROL ▶

5. Press [▶][▼] in this order.



INK CONTROL ◀▶
PUMP UP ↵

6. Press [ENTER].
7. Thereafter, follow the on-screen instructions to carry out the operations.

After cleaning has finished, the sub power is automatically switched off.

2. Fill with Ink

NOTE

- Insert each color ink cartridge into the slot labeled with the matching color. If you insert an incorrect ink cartridge, it may cause breakdown of the machine. Be careful not to insert the wrong cartridges. Contact your authorized Roland DG Corp. dealer or us, if you inserted the wrong cartridges.
- Be sure to hold the handle of the front cover, open and close it gently.

Procedure

1. Press the sub power switch to turn the power on.

MEMO

The error message "CANCELED FOR MOTOR PROTECTION" (p. 67) may display to prevent damage to the machine due to the overheating of pump motor.

In this case, allow the machine to stand for approximately 10 minutes before resuming operation.

2. Select the ink type.

When switching to ECO-UV ink

- 2-1. Press [▲] [▼] to select "ECO-UV."



- 2-2. Press [ENTER].

When switching to ECO-UV3 ink

- 2-1. Press [▲] [▼] to select "ECO-UV3."



- 2-2. Press [ENTER].

3. Thereafter, follow the on-screen instructions to carry out the operations.

After finishing the operation, close the ink cartridge cover.

When You Use the Roland VersaWorks

NOTE

Be sure to perform the following operation after filling with ink. Otherwise, you cannot use the Roland VersaWorks.

Procedure

1. From the [Start] menu, click [All programs (or Programs)] - [Roland VersaWorks] - [Initialize Application].

2. Click [Yes] when a confirmation message for initialization of the application appears.

NOTE

If you initialize the Roland VersaWorks, previously saved settings and data will be lost.

3. Click [OK] when a completion message for initialization of the application appears.

4. Start Roland VersaWorks.

The "Printer Settings" window is displayed. This is because the connection with the printer is initialized by performing Initialize Application.

5. Make the settings of the printer.

- "Printer Connection and Settings" (Roland VersaWorks Quick Start Guide)
- "Making the Settings for Roland@NET" (Roland VersaWorks Quick Start Guide)

MEMO

When you initialize the Roland VersaWorks, the settings of Roland@NET are initialized as well. Please make the settings again.

Replacing Consumable Parts

Replacing the Wiper


The wipers are components that you use when cleaning the print heads. When the screen displays a message like the one shown, it means the item needs to be replaced. Replace with new items.

For information about purchasing wipers, contact your authorized Roland DG Corp. dealer.

```
TIME FOR  
WIPER REPLACE ↵
```

When a warning beep sounds during wiper replacement

A warning beep sounds 10 minutes after operation begins. Stop work and close the front cover. Press [ENTER] to quit the wiper replacement menu. After that, restart the procedure from the beginning.

 **CAUTION** Be sure to perform operations as specified in these instructions, and never touch any area not specified in the instructions.

Sudden movement of the machine may cause injury.

1. Enter the WIPER REPLACE Mode

NOTE

Be sure to hold the handle of the front cover, open and close it gently.

1. When the message shown in the figure appears, press [ENTER].

```
TIME FOR  
WIPER REPLACE ↵
```

2. Remove any media.

3. Press [MENU].

4. Press [▼] to display the figure on the below.

```
MENU  
SUB MENU ▶
```

5. Press [▶][▲] in this order.

```
SUB MENU  
MAINTENANCE ▶
```

6. Press [▶][▼] in this order.

```
MAINTENANCE  
REPLACE WIPER ↵
```

7. Press [ENTER].

The print-head carriage moves, and then the screen shown in the figure appears.

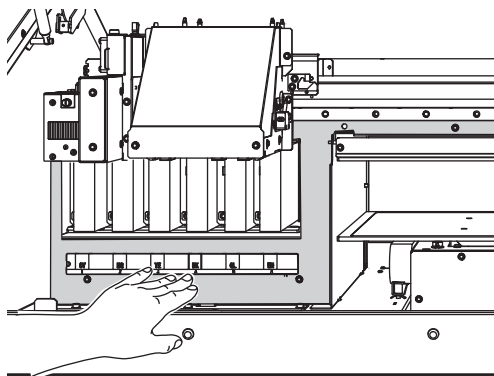
```
NOW PROCESSING..
```

```
OPEN FRONT  
COVER
```

8. Open the front cover.

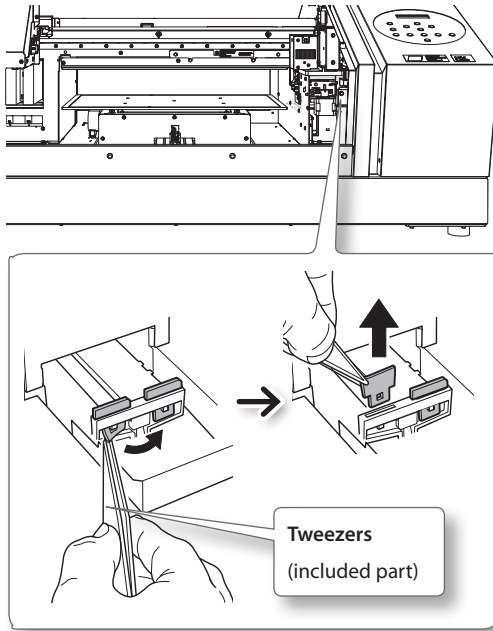
```
FINISHED? ↵
```

9. Touch the location shown in the figure (under the ink cartridge cover) to discharge any static electricity.

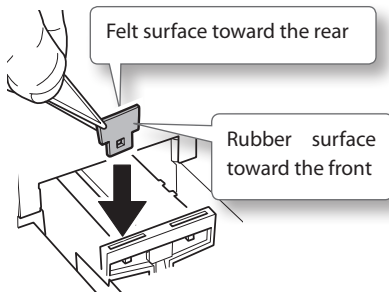


2. Replace the Wipers

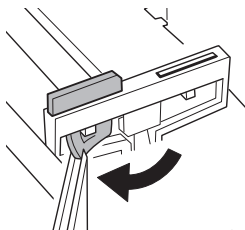
1. Detach the old wipers.



2. Insert the new wipers.



3. Attach the hook.



MEMO

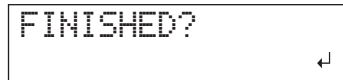
Replace the two wipers at the same time.

3. Quit the WIPER REPLACE Mode

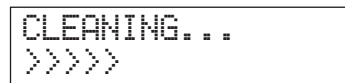
NOTE

Be sure to hold the handle of the front cover, open and close it gently.

1. Close the front cover.



2. Press [ENTER].



After quitting the wiper replacement menu, the screen returns to the original screen.


Replacing the Filter

This section explains how to replace the filter used for the mist fan that adjusts scattering of ink mist. When the screen displays a message like the one shown, it means the item needs to be replaced. Replace with new items.

For information about purchasing filters, contact your authorized Roland DG Corp. dealer.

When a warning beep sounds during filter replacement

A warning beep sounds 10 minutes after operation begins. Stop work and close the front cover. Press [ENTER] to quit the filter replacement menu. After that, restart the procedure from the beginning.

 **CAUTION** Be sure to perform operations as specified in these instructions, and never touch any area not specified in the instructions.

Sudden movement of the machine may cause injury.

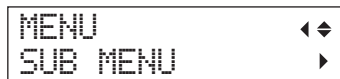
1. Enter the FILTER REPLACE Mode

1. When the message shown in the figure appears, press [ENTER].



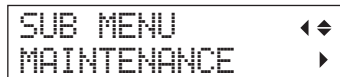
```
TIME FOR
FILTER REPLACE
```

2. Remove any media.
3. Press [MENU].
4. Press [▼] to display the figure on the below.



```
MENU
SUB MENU
```

5. Press [▶][▲] in this order.



```
SUB MENU
MAINTENANCE
```

6. Press [▶][▼][▼] in this order.



```
MAINTENANCE
REPLACE FILTER
```

2. Replace the Filter

NOTE

Be sure to hold the handle of the front cover, open and close it gently.

1. Press [ENTER].

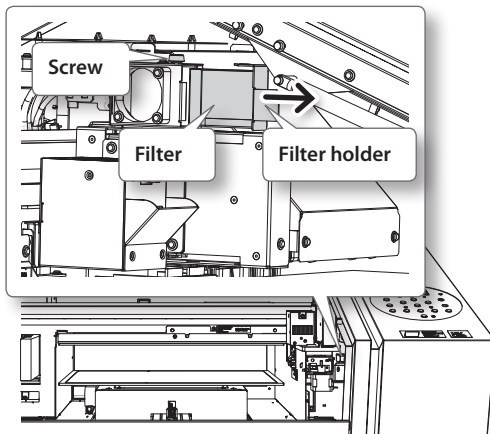
The print-head carriage moves, and then the screen shown in the figure appears.

NOW PROCESSING..

OPEN FRONT
COVER

2. Open the front cover.

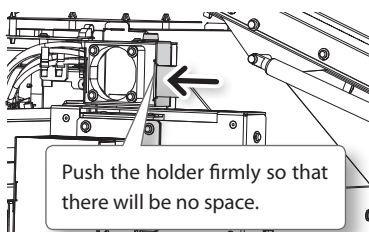
3. Loosen the screw and pull out the filter holder of the carriage mist fan.



When replacing, wipe away any buildup of ink around the fan module with a cloth.

4. Replace the filter.

5. Tighten the screw as pushing the filter holder of the carriage mist fan.



3. Quit the FILTER REPLACE Mode

NOTE

Be sure to hold the handle of the front cover, open and close it gently.

1. Close the front cover.

2. Press [ENTER].

CLEANING...
>>>>

After quitting the filter replacement menu, the screen returns to the original screen.

When Moving the Unit

Procedures from Preparing to Move Through Reinstalling

To move the machine, you must completely drain all ink inside the machine and secure the print heads in place with packing materials to protect them. Attempting to move the machine without first doing this may result in damage to internal components due to leaking ink or damage to the heads.

This operation requires six unused SOL INK cleaning cartridges (four for cleaning and two for refilling ink). Have these on hand before you start.

Important Notes on Moving

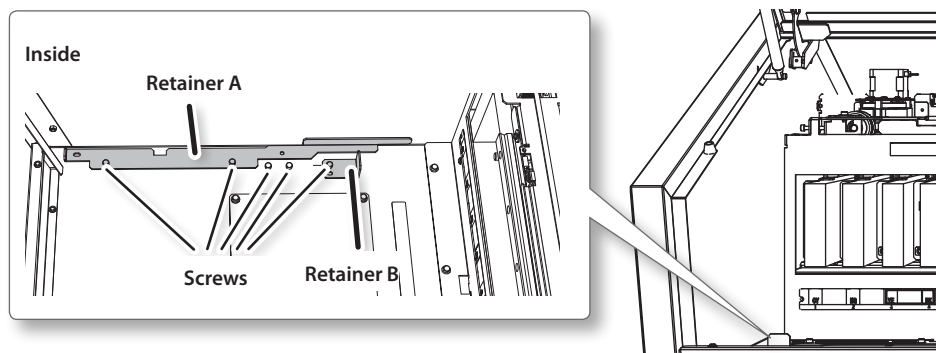
- Be sure to use SOL INK cleaning cartridges. Use of any other type may result in breakdown.
- Once the preparations for moving are complete, move the machine and fill it with ink with as little delay as possible. Allowing the machine to stand without ink may damage the print heads.
- When moving the machine, keep it at a temperature between 5 to 40°C (41 to 104°F) and at relative humidity between 20 to 80% (with no condensation). Failure to do so may result in breakdown.
- Handle the machine with care when moving, keeping it level (not tilted at an angle) and preventing it from striking other objects.
- For transportation of this machine, please contact us or your authorized Roland DG Corp. dealer.

Procedure

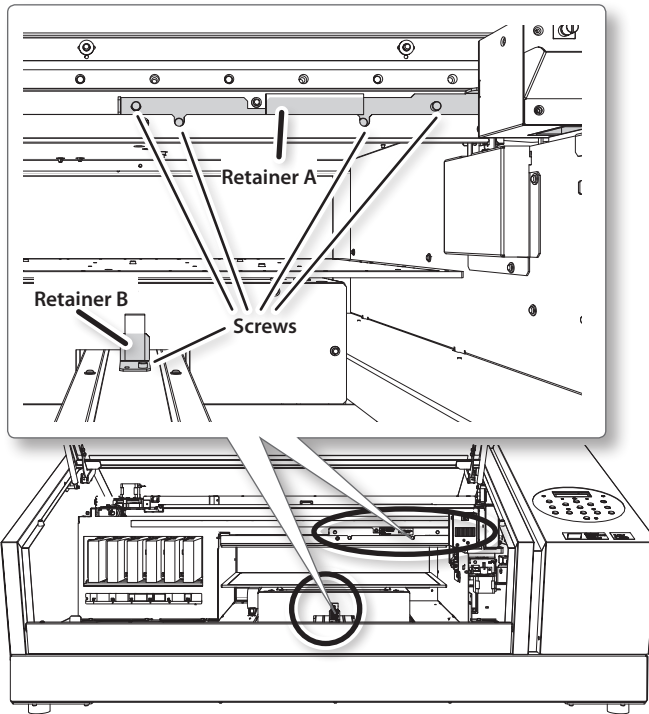
Prepare

SOL INK cleaning cartridge (6)

1. Clean print heads.
☞ "Cleaning All Print Heads" (p. 44)
2. If the drain bottle and panel cover are detached, put them on.
3. Remove the stored retainers.



4. Secure the print heads and the flat table.



The machine is now ready to be moved.

5. Move as soon as possible.

6. Immediately reinstall the machine and fill with ink.

See "STEP 7: Filling with Ink for the First Time" (First Step Guide) and promptly fill with ink. When filling with ink, you use (two) SOL INK cleaning cartridges again.

Handwriting practice lines consisting of 20 horizontal dotted lines.



Chapter 3

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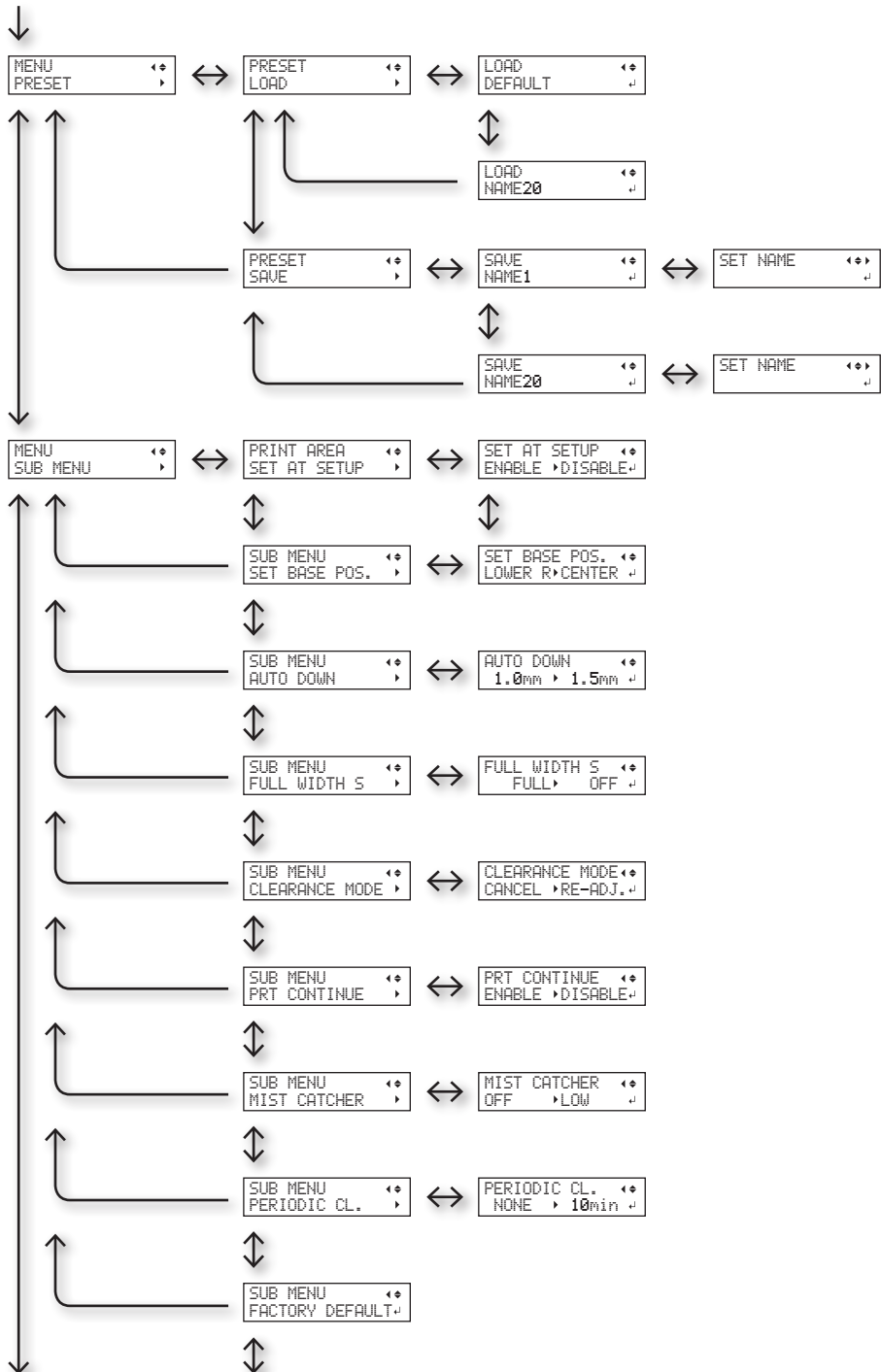
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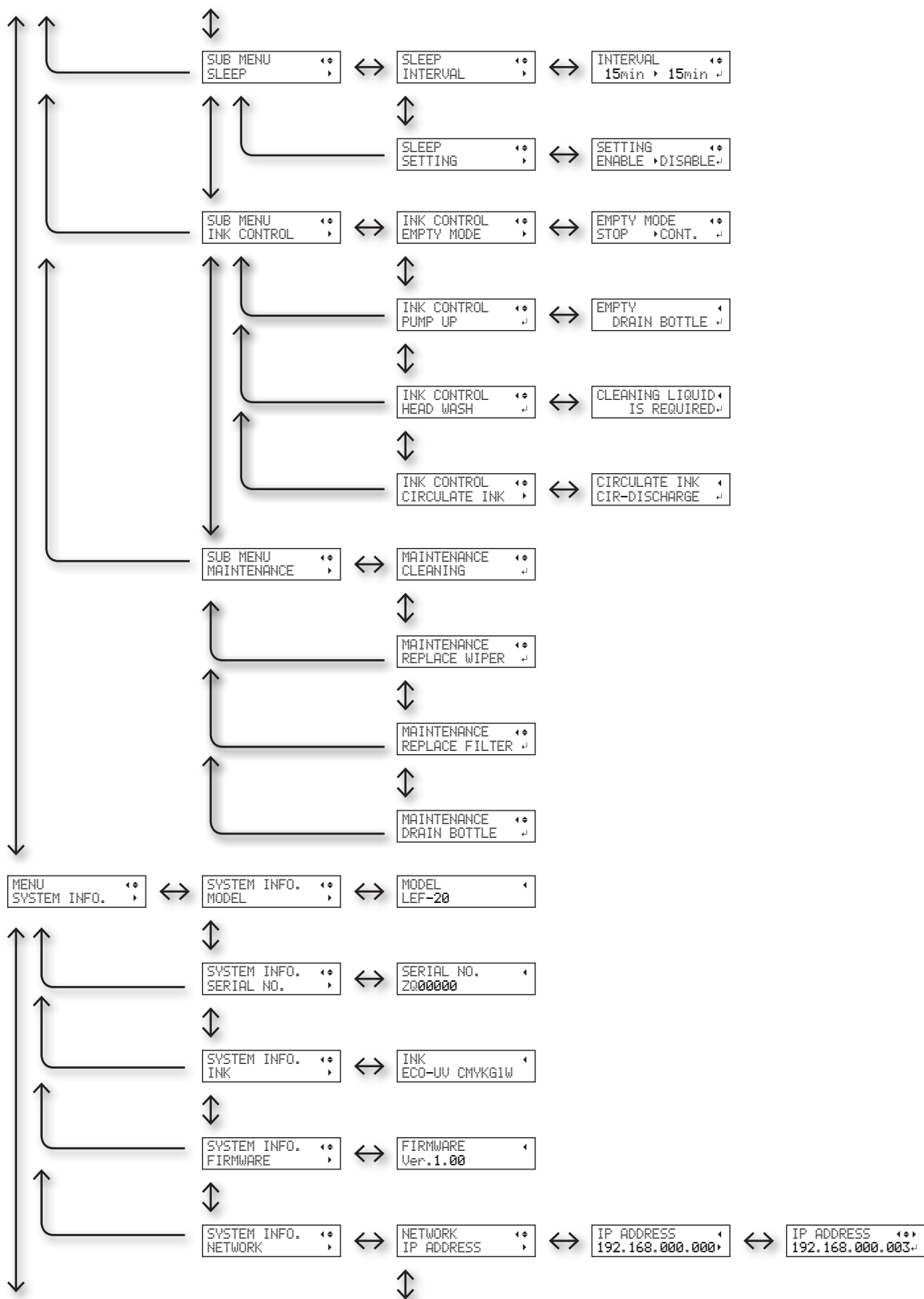
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Menu List

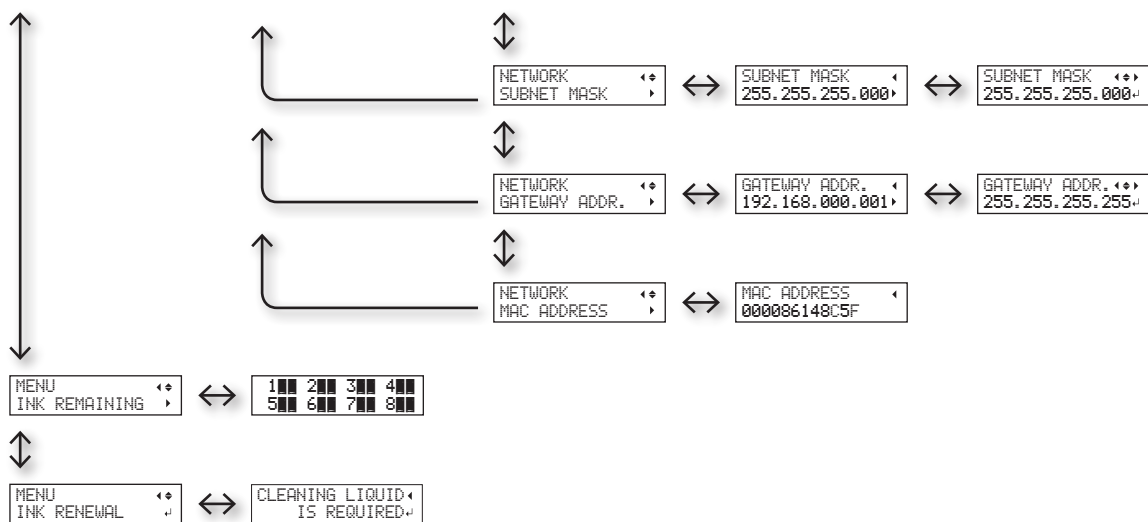
Main Menu

Press [MENU].





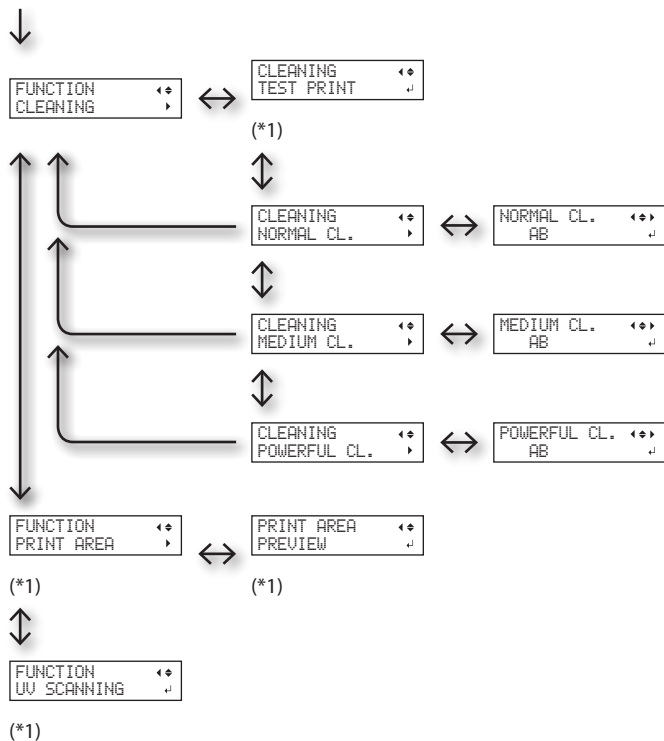
Menu List



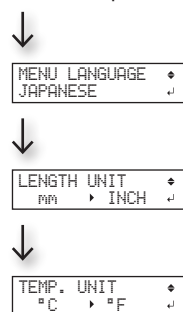
Function Menu

Language and Unit Menu

Press [FUNCTION].




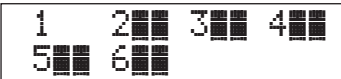
While holding down [MENU], switch on the sub power.



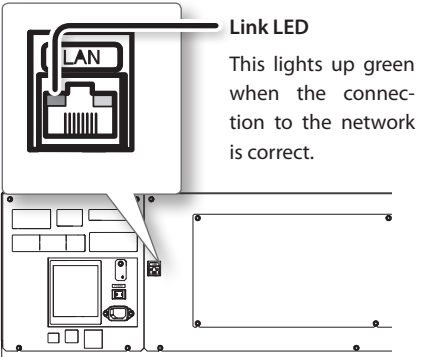
(*1) Not displayed if the setup of media is not completed (when [SETUP] is dark or flashing).

Read This Chapter Whenever You Face a Problem (FAQ)

Printer Does Not Run

Problem	Items to check	Action	Page
The printer unit does not run	Is the power switched on?	Switch on the printer's main power, then press the sub power switch and make sure the sub power switch lights up.	"STEP 1: Turning the Power On" (First Step Guide)
	Is [SETUP] illuminated?	If [SETUP] is not illuminated, the printer cannot print. Complete up to setting the printer area, close the front cover, and press [SETUP].	"1. How to Secure the Media (Media Setup)" (First Step Guide)
	Are any covers open?	Close the front cover and the panel cover.	—
	Is the top menu displayed?	If the top menu is not displayed, output will not start even when data is sent from the computer. To go to the top screen, press [MENU], then press [◀]. 	—
	Is [PAUSE] illuminated?	If [PAUSE] is illuminated printing is paused. To resume, press [PAUSE]. [PAUSE] goes out, and output resumes.	"Pausing or Canceling Output" (First Step Guide)
	Has ink run out?	When data is sent while the screen shown in the figure is displayed, a message appears and a warning beep sounds. At the same time, operation pauses. When the ink cartridge is replaced with a new one, output resumes. 	"How to Replace the Ink Cartridge" (p. 40)
	Is a message displayed on the screen?	"A Message Appears" (p. 64) "An Error Message Appears" (p. 66)	
Is the cable connected?	Connect the cable securely.	"STEP 5: Connecting the Cables" (First Step Guide)	

Read This Chapter Whenever You Face a Problem (FAQ)

Problem	Items to check	Action	Page
The printer unit does not run	Is the Link LED lit?	<p>If the Link LED for the Ethernet connector is not lit, the network connection has not been made correctly. Check whether or not the network routing is appropriate. Try connecting the computer and the machine to the same hub or connecting them directly using a crossover cable. If this makes it possible to perform output, it means the problem is in the network itself.</p> 	—
	Are the network settings correct?	<p>If output is not possible even though the link LED is on, make sure the IP address and other settings are correct. The settings on both the machine and the computer must be appropriate. Redo the settings, checking to ensure that the IP address does not conflict with the IP address for another device on the network, that the port setting for the software RIP specifies the IP address set on the machine, that the settings have no typing errors, and for other such problems.</p>	<p>“STEP 8: Network Settings” (First Step Guide)</p> <p>“Viewing Information About the System of This Machine” (p. 26)</p>
	Did the software RIP end abnormally?	<p>Make sure the software RIP is running correctly, then switch the sub power switch off and back on.</p>	<p>“Roland VersaWorks Quick Start Guide”</p>
	Is the temperature of the room too low?	<p>Use the machine in an environment where the temperature is 20 to 32°C (68 to 90°F)</p>	—
The flat table does not move	Is something stuck in the X-axis, Y-axis, or Z-axis movable axes?	<p>Check whether or not something is catching or stuck and interfering with operation.</p>	—
	Are any covers open?	<p>Are any covers open?</p> <p>Close the front cover and panel cover while starting up or printing. If any cover is open while starting up or printing, the flat table cannot be moved for your safety.</p>	—
The media gap sensor does not sense media	Is something covering the media gap sensor or has it attracted dust?	<p>Check whether or not something is interfering with the media gap sensor’s ability to sense.</p>	—

Attractive Printing Is Not Possible

Problem	Items to check	Action	Page
Printed results are coarse or contain horizontal stripes	Do the print heads show dot drop-out?	Carry out a printing test and make sure no dot drop-out occurs. If dot drop-out is present, perform head cleaning.	<ul style="list-style-type: none"> • “STEP 3: Test Print and Normal Cleaning” (First Step Guide) • “Medium and Powerful Cleaning” (p. 33) • “When Dot Drop-Out Cannot Be Cleared Up” (p. 42) • “Cleaning All Print Heads” (p. 44)
	Is the print mode suitable?	Try an appropriate print mode. Specific combinations of media and print mode may cause the colors to be uneven, and results may also vary greatly depending on the settings of your software RIP (such as the colorprofile selection). Select settings appropriate for the media you are using.	—
	Is the printer installed in a level and stable location?	Never install the machine in a location where it is tilted or where it may wobble or experience vibration. These factors may lead to dot-dropout or reduced printing quality.	—
	Is the printer installed in a location out of direct sunlight?	Never install the machine in a location that is exposed to direct sunlight. Doing so may result in dot drop-out or other problems with reduced printing quality, or may even result in malfunction.	—
	Is the media loaded and set up correctly?	If the media is not loaded correctly, printing may be adversely affected. Make sure the media is loaded and set up correctly.	<ul style="list-style-type: none"> • “1. How to Secure the Media (Media Setup)” (First Step Guide) • “2. Setting Height of Media Automatically” (First Step Guide) • “Setting Height of Media Manually” (p. 8) • “Changing Print Area” (p. 12)

Read This Chapter Whenever You Face a Problem (FAQ)

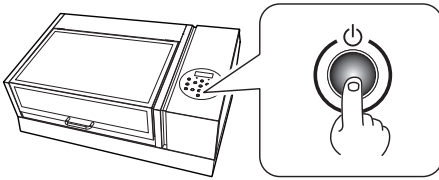
Problem	Items to check	Action	Page
Colors are unstable or uneven	Did you shake the ink cartridges before loading them?	Before loading a new ink cartridge, shake each of them 20 times (about 10 seconds).	"2. Insert the Ink Cartridges for the Respective Colors" (First Step Guide)
	Have the printer been used for a long time?	If the white ink concentration becomes low during use, use the "CIRCULATING INK" feature.	"Restoring White Ink Concentration" (p. 41)
	Was printing paused partway through?	When printing is paused, the coloring at the seam may be altered when printing resumes. Avoid pausing printing. By default, printing pauses when ink remaining inside the machine runs out. Printing may also pause when data is not sent from the computer quickly enough. We recommend not performing any other tasks with the computer while printing is in progress.	—
	Is the printer installed in a level and stable location?	Never install the machine in a location where it is tilted or where it may wobble or experience vibration. These factors may lead to dot-dropout or reduced printing quality.	—
	Are the operating parameters set to appropriate values?	Depending on the settings for the "PERIODIC CL." menu, uneven colors may occur. If the settings have been changed, try restoring them to their default values.	• "Preventing Soiling and Dot Drop-Out by Cleaning During Printing" (p. 17)
	Is the printer being used in a location subject to severe changes in the operating environment?	Large fluctuations in temperature or humidity while printing is in progress may cause the colors to change partway through the printing. When printing, use the machine in a location where the temperature and humidity are stable.	—
	Are the settings for the "PRESET" menu item appropriate?	Are the settings for the "PRESET" menu item appropriate? If the settings selected with the "PRESET" menu item are not suitable for the type of media, printing may be adversely affected. Choose settings optimized for the media you are using.	• "Saving Frequently Used Media Size (Preset Function)" (p. 6)
The media becomes soiled when printed	Are the print heads dirty?	The following may cause ink to drip on the media during printing. <ul style="list-style-type: none">• Buildup of fibrous dust (lint) around the heads• Ink transferred to the heads due to rubbing against the media If this happens, clean the print heads manually. We recommend carrying out periodic head cleaning.	• "Manual Cleaning" (p. 35)
	Humidity is too low	Use this machine in a 35-80% RH (non-condensation) environment.	—

The Print Heads Do Not Move

If the print-head carriage stops in the standby position (the right side of the main unit), take action immediately to prevent the heads from drying out.

What to Do First

Switch the sub power off, and then back on again. If the print-head carriage moves to the standby position (the right side of the main unit), the operation has ended successfully.



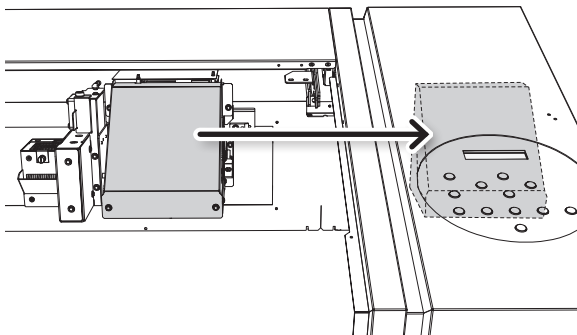
If the Heads Still Do Not Move

Try switching off the main power, then switching on the main power again, followed by the sub power.

If the heads still do not move, carry out the following emergency response measure, and then contact your authorized Roland DG Corp. dealer.

Procedure

1. Turn off the main power switch.
2. Open the front cover.
3. Gently move the print heads into the standby position by hand.
Stop when you hear the print heads click into place.



4. Close the front cover.

Handling Messages and Error Messages

A Message Appears

These are the main messages that appear on the machine's display to prompt correct operation. They do not indicate any error. Follow the prompts and take action accordingly.

Message	Explanation	Action	Page
1 2 ■ 3 ■ 4 ■ 5 ■ 6 ■	Only a small amount of ink remains.	Replace the ink cartridge indicated by the flashing number with a new cartridge.	—
PRESS THE POWER KEY TO CLEAN	This message appears when the machine has not been used for approximately a month.	Turn on the sub power once a month.	<ul style="list-style-type: none"> • “About Maintenance” (p. 28)
CIRCULATING INK	White ink is being circulated inside the machine. This action is automatically performed to clear the white ink precipitation.	Wait until the displayed message changes.	—
FINISHED PRINT	Printing is finished.	Press [ENTER].	<ul style="list-style-type: none"> • “Continuously Outputting Print Data” (p. 21)
SET CARTRIDGE	This message appears at times such as during ink cartridge replacement.	Insert the ink cartridge indicated by the flashing number.	—
REMOVE CARTRIDGE		Remove the ink cartridge indicated by the flashing number.	—
CLOSE THE COVER DRY-UP MAY DAMAGE THE HEAD	The front cover and panel cover are open.	Close either the front cover and panel cover, or both. If the message is left displayed, the print heads may get dry, resulting in malfunction.	—
CLOSE THE FRONT COVER DRY-UP MAY DAMAGE THE HEAD	The front cover is open.		—
CLOSE THE PANEL COVER DRY-UP MAY DAMAGE THE HEAD	The panel cover is open.		—
SET CL-LIQUID	This message appears at times such as during head cleaning.	Insert the SOL INK cleaning cartridge into the slot(s) indicated by the flashing number.	—
REMOVE CL-LIQUID		Remove the SOL INK cleaning cartridge indicated by the flashing number.	—
READJUST TABLE HEIGHT	The Height of the Media was Automatically Re-set, and Printing was Finished.	Press [ENTER].	<ul style="list-style-type: none"> • “Setting Height of Media Manually” (p. 8) • “Changing Print Area” (p. 12) • “Continuing Printing even If Media Contact the Head Gap Sensor” (p. 20)
INSTALL DRAIN BOTTLE	Check whether the drain bottle is installed.	Install the drain bottle, then press [ENTER].	—

Message	Explanation	Action	Page
EMPTY DRAIN BOTTLE	The message shown in the figure appears when a certain amount of discharged fluid has collected in the drain bottle.	Discard the discharged fluid in the drain bottle.	• “Disposing of Discharged Ink” (p. 30)
SETUP MEDIA	This message appears when an attempt to perform a printing test was made while no media was loaded.	Reload the media and press [SETUP].	—
TIME FOR FILTER REPLACE	It is time to replace the filters.	Press [ENTER].	• “Replacing the Filter” (p. 50)
TIME FOR MAINTENANCE	It is time to perform manual cleaning.		• “Manual Cleaning” (p. 35)
TIME FOR WIPER REPLACE	It is time to replace the wipers.		• “Replacing the Wiper” (p. 48)

An Error Message Appears

This section describes the error messages that may appear on the machine's display, and how to take action to remedy the problem. If the action described here does not correct the problem, or if an error message not described here appears, contact your authorized Roland DG Corp. dealer.

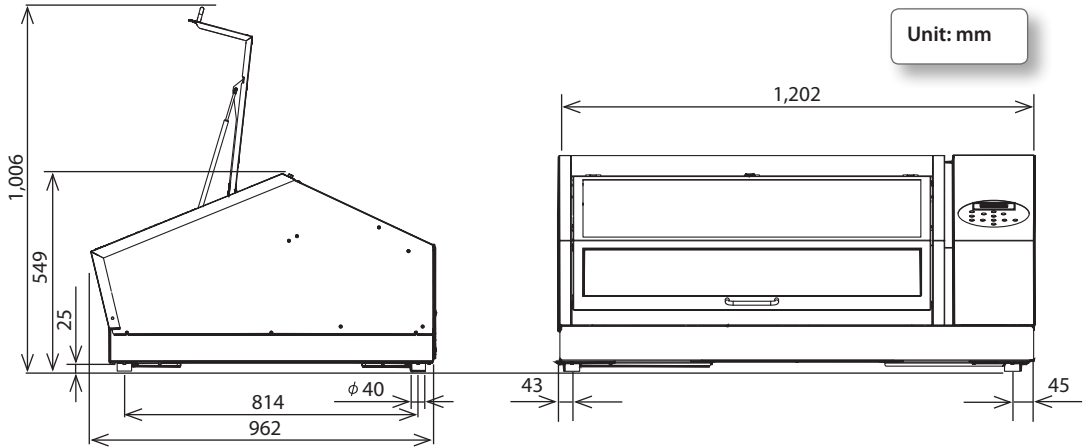
Message	Explanation	Action
AREA TOO SMALL CONTINUE?	The size of the data is larger than the print area of the loaded media.	To print immediately, press [ENTER]. The portion extending beyond the print area will not be printed. To stop printing, stop sending data from the computer and hold down [ENTER] for one second or longer. Make the print area wider by replacing the media with a larger piece of media or by changing the position of the media, then send the data again.
PRINT AREA TOO SMALL	The size of the test print is larger than the print area of the loaded media.	Press any key on the operation panel to go back to the main menu. Make the print area wider by replacing the media with a larger piece of media or by changing the position of the media, then send the data again.
CANCELED FOR TABLE HEIGHT	Detected that the media is in a position (height) of hitting the print heads.	Remove the media or change its position. Press any key (except the sub power switch) on the operation panel, and the message disappears. If the setup of the media is completed, the setup is canceled. Redo the setup. <ul style="list-style-type: none"> ☞ "1. How to Secure the Media (Media Setup)" (First Step Guide) ☞ "2. Setting Height of Media Automatically" (First Step Guide) ☞ "Setting Height of Media Manually" (p. 8) ☞ "Changing Print Area" (p. 12) ☞ "Continuing Printing even If Media Contact the Head Gap Sensor" (p. 20)
CHECK TABLE HEIGHT		Remove the media (remove the cause of the failure) or change its position. Press [ENTER]. <ul style="list-style-type: none"> ☞ "1. How to Secure the Media (Media Setup)" (First Step Guide) ☞ "2. Setting Height of Media Automatically" (First Step Guide) ☞ "Setting Height of Media Manually" (p. 8) ☞ "Changing Print Area" (p. 12) ☞ "Continuing Printing even If Media Contact the Head Gap Sensor" (p. 20)
TEMPERATURE IS TOO HIGH **°C	The temperature of the location where the machine is installed has risen above the ambient temperature at which the machine can operate.	Operation cannot be continued. Turn off the sub power. The displayed temperature is the current ambient temperature of the installation location. Bring the installed location to a temperature at which operation is possible (20 to 32°C or 68 to 90°F) and allow the machine to come to room temperature, and then turn on the power.

Message	Explanation	Action
SERVICE CALL ****	An unrecoverable error occurred, or part replacement that must be performed by a service technician is required.	Note the number displayed on the display screen, and then switch off the sub power. After you switch off the power, inform your authorized Roland DG Corp. dealer of the number that appeared on the display screen.
TEMPERATURE IS TOO LOW **°C	The temperature of the location where the machine is installed has fallen below the ambient temperature at which the machine can operate.	Operation cannot be continued. Turn off the sub power. The displayed temperature is the current ambient temperature of the installation location. Bring the installed location to a temperature at which operation is possible (20 to 32°C or 68 to 90°F) and allow the machine to come to room temperature, and then turn on the power.
DATA ERROR CANCELING...	Output was stopped because a problem was found in the data received.	Operation cannot be continued. Check whether or not there is an error in the data. Check for a problem with the connector cable or the computer, and redo the operation from the starting with loading the media.
WRONG CARTRIDGE	A cartridge that cannot be used was installed.	Remove the ink cartridge to clear the error. Use an ink cartridge of the specified type.
WRONG HEAD IS INSTALLED	Unusable print heads are installed.	Turn off the sub power. After turning the power off, contact the your authorized Roland DG Corp. dealer.
AVOIDING DRY-UP TURN POWER OFF	The print heads were forced to standby position to prevent them from drying out.	Operation cannot be continued. Switch the sub power off, and then back on. Opening the front cover while printing is in progress causes an emergency stop. Never allow the print heads to remain in this state.
MOTOR ERROR TURN POWER OFF	A motor error occurred.	Operation cannot be continued. Turn off the sub power. Next, eliminate the cause of the error, then immediately switch on the sub power. If the machine is allowed to stand with the error uncorrected, the print heads may dry out and become damaged. This error may be caused by the media being set incorrectly.
CANCELED FOR MOTOR PROTECTION	<p>Either of the following menu items is to be started in a row:</p> <ul style="list-style-type: none"> • PUMP UP • HEAD WASH • INK RENEWAL • POWERFUL CLEANING • Filling with ink 	<p>Press any key other than the sub power switch to cancel the error message.</p> <p>When performing these menu items in a row, this error message may display to prevent damage to the machine due to the overheating of pump motor.</p> <p>In this case, allow the machine to stand for approximately 10 minutes before resuming operation.</p>

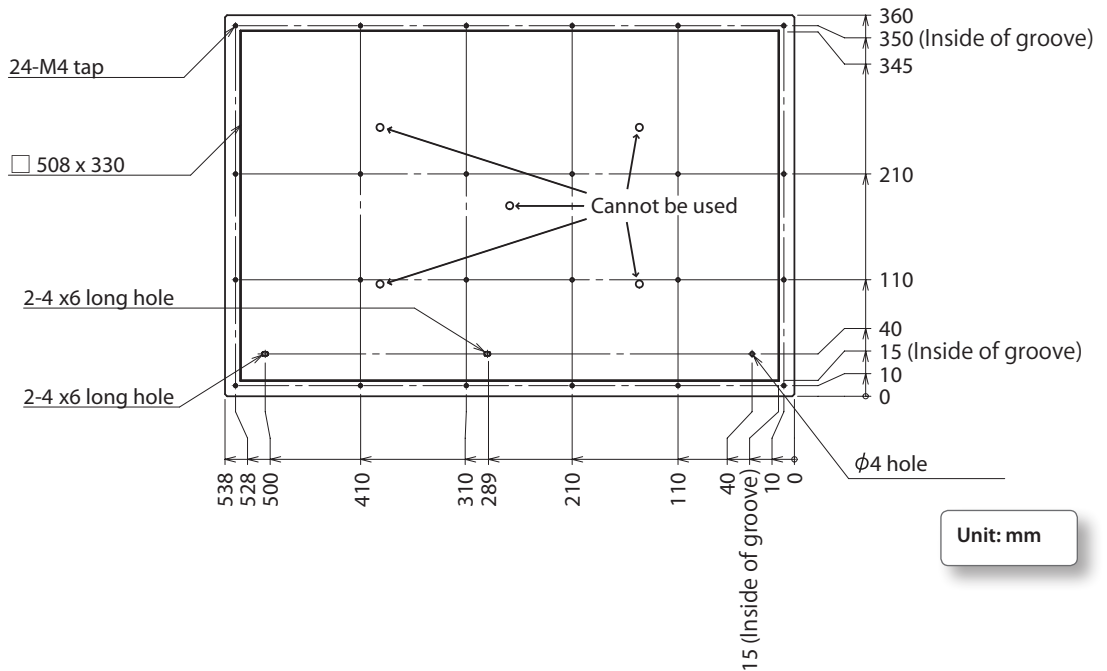
Main Specifications

Dimensional Drawing

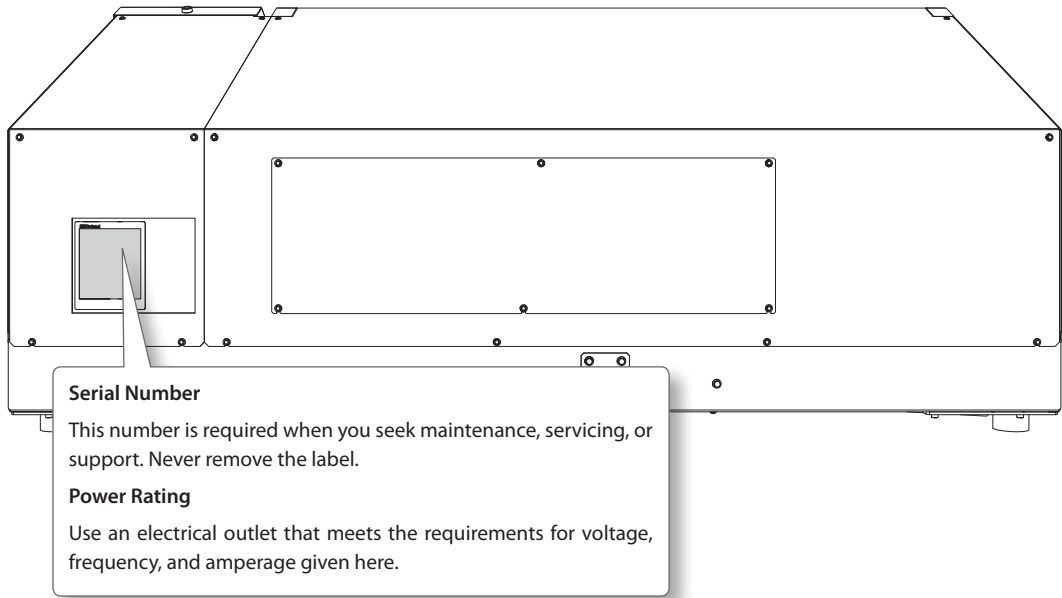
Dimensions



Flat Table Dimensions



Locations of the Power Rating and Serial Number Labels



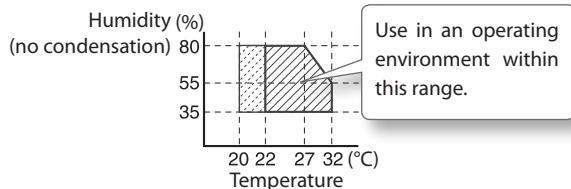
Main Specifications

Specification Table

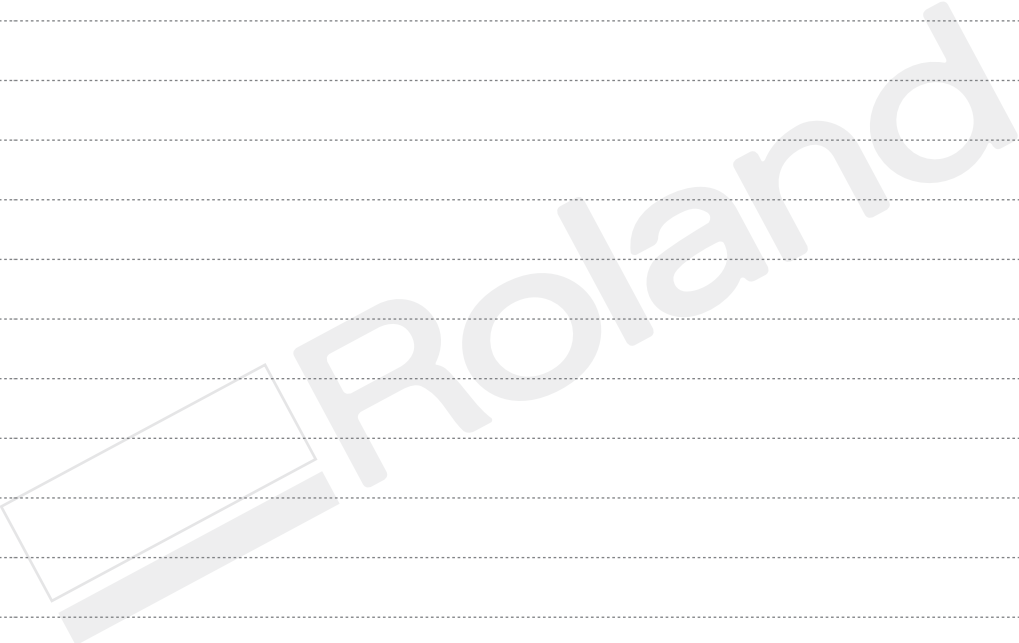
		LEF-20
Printing method		Piezo ink-jet method
Acceptable media	Width	Maximum 538 mm (21.2 in.)
	Length	Maximum 360 mm (14.2 in.)
	Thickness	Maximum 100 mm (3.94 in.)
	Weight	Maximum 5 kg (11 lbs)
Maximum printing width / printing length		Maximum 508 (width) x 330 (length) mm (20 x 13 in.)
Ink cartridges	Types	ECO-UV 220 cc cartridge
	Colors	Six colors (cyan, magenta, yellow, black, white, and gloss)
Ink-curing unit		Built-in UV-LED lamp
Print resolution (dpi)		Maximum 1,440 dpi
Distance accuracy (when printing) *1		Error of less than $\pm 0.3\%$ of distance traveled, or ± 0.3 mm, whichever is greater
Connectivity		Ethernet (10BASE-T/100BASE-TX, automatic switching)
Power-saving function		Automatic sleep feature
Power requirements		AC 100 to 240 V $\pm 10\%$, 1.8 A (50 / 60 Hz)
Power consumption	During operation	Approximately 149 W
	Sleep mode	Approximately 13 W
Acoustic noise level	During operation	60 dB (A) or less
	During standby	49 dB (A) or less
Outer dimensions		1,202 (width) x 962 (depth) x 549 (height) mm (47.4 x 37.9 x 21.7 in.)
Weight		110 kg (242.5 lbs)
Environment (*2)	During operation	Temperature: 20 to 32°C (68 to 90°F) (22°C / 72°F or higher is recommended) Humidity: 35 to 80% RH (no condensation)
	Not operating	Temperature: 5 to 40°C (41 to 104°F), Humidity: 20 to 80% RH (no condensation)
Accessories		Power cord, software RIP (Roland VersaWorks), user documentation, pad trays, etc.

*1 Temperature: 25°C or 77°F, humidity: 50%

*2 Operating environment



Handwriting practice lines consisting of 25 horizontal dotted lines.



 **Roland**



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