First Step Guide

Note: Please read accompanying sheet “To Ensure Safe Use” beforehand.

Roland DG Corporation

Thank you very much for purchasing the BN-20.
This document describes the procedure of "First Time Printing and Cutting," from installation and setup of this machine to the actual printing.

About Roland On Support
Using On Support allows you to receive your printer’s ink status and error information as an email sent to your PC and mobile phone. You can also receive product updates and other support information from On Support. To install On Support, download from the following URL:
### System requirements

**Operating system**
- Windows 10, 8.1, 7 (32- or 64-bit)

**CPU and RAM**
- CPU of 2.0-GHz or faster Core 2 Duo, and RAM of 2 GB or more

**Optical drive**
- DVD-ROM drive

**Video card and display**
- Recommended: 1024 x 768 dots or higher, 256 colors or more

*For the latest information, see the Roland DG Corp. website (http://www.rolanddg.com).*

**This software is a 32-bit application and uses WoW64 (Windows 32-bit On Windows-64) when run on a 64-bit Windows system.**

### Installation and Preparation

#### Checking the Included Items

- Power cord (1)
- USB cable (1)
- Wiper (1)
- Blade holder, blade, Pin (1 each)
- Cleaning sticks
- Felt wipes (1)
- Cleaning liquid (1)**
- Media flanges (2)
- Media bar (1), Mounting pin (1)
- Tweezers (1)
- Roland Software Package (1)
- Label for cartridge slot (one each for ECO-SOL MAX and FPG)
- Inkjet printer maintenance guide (1)**
- Media bar (1)
- Mounting pin (1)
- Tweezers (1)
- Roland Software Package (1)
- Label for cartridge slot (one each for ECO-SOL MAX and FPG)
- Inkjet printer maintenance guide (1)**

* **Included only in ECO-SOL MAX ink type machines, *** VersaWorks (with Installation Guide)*

#### Important

Do not connect the machine with a computer using a USB cable before installing the BN-20 driver. If you do so, you may not be able to install the BN-20 driver.

* For information on how to install software RIP (VersaWorks), refer to “VersaWorks Installation Guide.”

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**WARNING**

Carry out these operations before you connect the power cord.

Be sure to remove the retainer. Failure to do so may cause faulty operation or breakdown when the power is switched on.

The retainer is required when moving the machine to a different location. Store it carefully so that it does not get misplaced.

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**WARNING**

Perform this task with all power switches left switched off.

Otherwise sudden movement of the machine may cause injury.

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### Installation

#### Temperature and Humidity

Maintain the specified temperature and humidity even when the machine is not in use. If temperatures are too high or too low, it may cause the machine to malfunction.

- During operation: Temperature 20 to 32°C (68 to 90°F), relative humidity 35 to 80% (no condensation)
- During non-operation: Temperature 5 to 40°C (41 to 104°F), relative humidity 20 to 80% (no condensation)

#### Installation Space

Provide space as shown in the figure on the left.

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#### Height of Installation

The height of installation should be 0.6 m (23.7 in.) or higher above the work floor. This machine is desktop type. Please decide the height of installation so that you can easily reach the emergency stop button when operating this machine.

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#### Connecting the Power Cable

Perform this task with all power switches left switched off.

Otherwise sudden movement of the machine may cause injury.

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#### Installing and Setting Up the Software

**System requirements**

**Operating system**
- Windows 10, 8.1, 7 (32- or 64-bit)

**CPU and RAM**
- CPU of 2.0-GHz or faster Core 2 Duo, and RAM of 2 GB or more

**Optical drive**
- DVD-ROM drive

**Video card and display**
- Recommended: 1024 x 768 dots or higher, 256 colors or more

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**This software is a 32-bit application and uses WoW64 (Windows 32-bit On Windows-64) when run on a 64-bit Windows system.**

**Installation software**

**BN-20 driver**
- Driver required for sending data from a computer to this machine.

**Utility**
- Software for operating the machine, checking its status, and performing maintenance.

**R-Works**
- Software for creating output data
  - *This is not available on a white ink model. To make an output on a white ink model, the software RIP (VersaWorks) is needed.*

* For information on how to install software RIP (VersaWorks), refer to “VersaWorks Installation Guide.”

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**Important**

You can view and download the electronic-format manual from the following URL or QR code.

https://webmanual.rolanddg.com/BN-20

You can also view and download all the paper manuals.

* You can also view this website from a smartphone.
1. Installing the software

1. Load the VersaWorks DVD into the computer’s DVD-ROM drive.
   When the automatic playback window appears, click [Run menu.exe] when the [User Account Control] appears, click [Allow] or [Yes].
   After a while, the install menu appears automatically.

2. Click [Install] for “Driver & Utility.”

3. Select [Install], Model name [Roland BN-20], Port [USB], and then click [Start].

   Installation of the BN-20 driver starts. Proceed with the installation by following the on-screen instructions.

   **Windows 10, 8.1:**
   When the screen shown here is displayed, click [Install].

   **Windows 7:**
   If the screen shown in the figure appears, click [Install this driver software anyway].

   After completing the installation of the driver, continue to install the utility software. When the following screen appears, the installation is complete. Click “Finish.”

4. Click [Install] for “R-Works.”

   Since you cannot make an output from R-Works on a white ink model, you do not need to install it. Go to “Step 2. Setting Up Printer”.

Proceed with the installation by following the on-screen instructions. When the following screen appears, the installation is complete. Click “Finish.”

5. Remove the Roland Software Package DVD-ROM from the computer.

2. Setting up the printer

1. Place the label for the ink type that will be used.
   Mixing different types of ink may cause a malfunction. Please make sure to affix this label.

2. Close the front cover, press Main power, and then press POWER key.
   When the POWER key indicator changes from flashing to steady, startup is completed.

3. Connect the machine to the computer by USB cable.
   Use the supplied USB cable.
   Do not use a USB hub.

   The driver is installed automatically.

4. After a while, the screen shown in the figure will appear.

   Click [Next] to start filling with ink.

   Proceed by reading the on-screen instructions. The POWER key will flash while filling with ink.

   * When having difficulty pulling out the dummy cartridges which is used for filling with ink, insert the Jig for inserting cartridges into the slots to make the task easier.

   * Please note, you will be asked to remove and re-insert the cleaning cartridge into the next ink cartridge color slot. Please make you have the cleaning cartridge inserted into the slot that matches the ink cartridge color slot shown on the computer screen of the BN-20 Utility software program.

   When the message of “The ink tanks have been filled” appears, filling with ink is completed. Click [Close], and then continue to “Printing and Cutting for the First Time” on the back.
**STEP 1: Installing the Blade and Roll Media**

Prepare roll media for printing and cutting that meets the following criteria:
- Width: 150 - 515 mm (5.9 - 20.27 in.). Paper tube inner diameter: 3 or 2 inches.

*In this manual, the paper wound onto the paper tube is called “roll media.”
- To purchase these media, contact your authorized dealer or Roland DG.

1. **Installing the Blade**
   - Insert the pin into the blade holder. Insert until the tip protrudes about 3 - 5 mm (0.12 - 0.20 in.).
   - Insert the blade.

2. **Loading the Roll Media**
   - Insert the side of the media bar with a hole into the media flange, and secure it with the mounting pin. Use one of the two media flanges. The inside should be the one that fits the inner diameter of the roll media paper tube.

* For detailed information about how to install sheet media, such as standard-sized media, and usable media for this machine, refer to "BN-20 Master Guide."

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**Important Note on the Handling and Use of the Cutting Carriage**

Leave the cutting-carriage screw loose when no blade holder is installed. Keeping the screw tightened causes the blade-holder insertion hole to become gradually smaller, making installation difficult.

Place the fixed media flange at the bottom, so that the media feeds in a clockwise direction when looking from above. You cannot set the media correctly if the feed direction is not right.

A **CAUTION**

Do not move the pinch roller by hand. Use the media guide to move the pinch roller. Moving the pinch roller by force may result in injury.
STEP 2: Making Adjustments Before Output

Before output, perform printing tests and test cuts, and make the necessary adjustments. This is required to make the most of BN-20’s printing and cutting capabilities. Perform this task before daily operations and when changing the media type.

Important

The components of the white ink and metallic silver ink can separate easily, so gently shake this ink cartridge each day before operations. The other color cartridges do not have to be shaken each day, but be sure to shake them when replacing. Failure to shake the ink can result in ink not being properly printed.

1. Starting the adjustment

1. Click in the computer’s task tray.
   The BN-20 utility is displayed.

2. In the [Adjustment] tab, click [Adjust All].

3. Click [Next] on the displayed screen.

2. Check for nozzle clogging

1. Click [Test Print].
   The test pattern is printed. Follow the on-screen instructions to check for nozzle clogging.

   - Nozzle is clogged → Proceed to
   - Nozzle is not clogged → Proceed to

2. Select [Normal Cleaning] and click [Go].
   Normal cleaning starts.

3. To check for nozzle clogging again → Return to
   If the nozzle clogging is not fixed, perform “Normal Cleaning” again.
   For information about “Medium Cleaning” and “Powerful Cleaning,” refer to pages regarding maintenance in “BN-20 Master Guide.”

4. Click [Next] on the displayed screen.

3. Bidirectional adjustment

1. Click [Test Print].
   The test pattern is printed.

2. Read the on-screen instructions and then enter a value in the [New Value] box.

3. Click [Apply].
   The value in [Present Value] changes to the entered value.

4. Click [Close].

5. Click [Next] on the displayed screen.

4. Media feed correction

1. Click [Test Print].
   The test pattern is printed.

2. Read the on-screen instructions and then enter a value in the [New Value] box.

3. Click [Apply].
   The value in [Present Value] changes to the value entered.

4. Click [Close].

5. Click [Next] on the displayed screen.

5. Adjusting cutting

1. Click [Test Cut].
   Test cutting is performed.

2. Read the on-screen instructions and then enter values in the [Cut Force] box.

3. Click [Apply].
   Repeat until adjustment is done to allow the two shapes to peel off separately.

4. Click [Close].

5. Click [Next] on the displayed screen.

6. Adjusting printing & cutting

1. Click [Print and Cut Pattern].
   The test pattern is printed.

2. Follow the on-screen instructions and enter the values for [New Value for Scanning] and [New Value for Feeding].

3. Click [Apply].
   The values in [New Value for Scanning] and [New Value for Feeding] change to “0.”

4. Click [Close].

5. Click [Skip] on the displayed screen.
   “Crop cut adjustment” will not be done here. It is not necessary for printing and cutting.

6. Click [OK] on the displayed screen.
   Adjustment is completed.
STEP 3: Output Printing & Cutting Data

Output from R-Works

This section describes how to output printing and cutting data using R-Works.

1. R-Works starts.
   - Windows 10, 7: From the Start menu, click [All apps] (or [All Programs]) - [R-Works] - [R-Works].
   - Windows 8.1: Right-click the background in the start screen to display the app bar, and click [All Apps] - [R-Works].
2. Click [Help] > [Table of Contents].
   - "R-Works Help" is displayed.
3. From the contents on the left, click [Operation Procedures].
   - Follow the instructions from "Introduction" to "Step 4: Output the data" to perform each operation and test the output of printing and cutting.

Output from VersaWorks

This section describes how to output printing and cutting data using VersaWorks. For installation of VersaWorks, refer to "VersaWorks Installation Guide".

1. VersaWorks starts.
   - Windows 10, 7: From the Start menu, click [All apps] (or "All Programs") - [VersaWorks] - [VersaWorks].
   - Windows 8.1: Right-click the background in the start screen to display the app bar, and click [All Apps] - [VersaWorks].
2. Draw cutting paths on the data for output.
   - For information on how to use VersaWorks, refer to the "VersaWorks Help".
3. Make an output.
   - For information on how to use VersaWorks, refer to the "VersaWorks Help".

Cutting off the media

Use a commercially-available utility knife to cut the media.

STEP 4: Manual Cleaning after Daily Operations Finish

Output from R-Works

*This operation is required every day if you are using ECO-SOL MAX 3 ink.
*This operation is required once a month if you are using ECO-SOL MAX ink or ECO-SOL MAX 2 ink.

Requirements for Manual Head Cleaning

- Remove media before cleaning.
- To prevent the heads from drying out, complete the cleaning within 30 minutes. After 30 minutes a warning alarm will sound.
- Only use the included cleaning sticks. Any other tool, e.g. cotton bud or similar is not designed for this task and will become fluffy and damage the heads. Please order cleaning sticks directly from us or your authorized Roland DG Corp. dealer.
- Do not use a cleaning stick more than once; the print quality will deteriorate. Dispose of the stick after each cleaning.
- Do not soak a used cleaning stick in cleaning liquid; the cleaning liquid will deteriorate.
- Do not rub the nozzle surface of the print heads.
- Clean the sponge section by stroking very lightly and gently. Do not rub, scrape, or flatten the section.

When a warning alarm sounds during cleaning

An alarm sounds 30 minutes after the start of the operation. Perform the operation by following the message displayed in the Utility window.

Always carefully follow the procedures in accordance with the instructions. Otherwise a sudden movement of the machine may cause injury.

Procedure

1. Click in the computer’s task tray.
   - The BN-20 utility is displayed.
2. In the [Adjustment] tab, click [Manual Cleaning].
   - Manual Head Cleaning procedures are displayed. Carefully read the on-screen instructions and start the cleaning tasks.
3. Carry out test printing and check the result.
   - Use the cleaning functions and perform cleaning several times if needed.