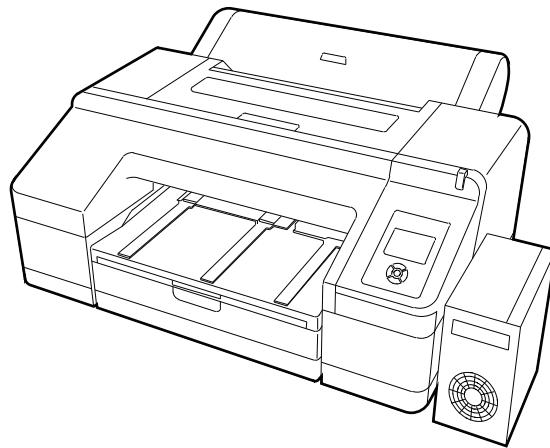


**SHORT TERM CONFIDENTIAL**

# **DRYVIEW CHROMA Imaging System**



## **User's Guide**

**For Trade Trial Use Only**

**SHORT TERM CONFIDENTIAL**

**Carestream**



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# 1 Overview

## DRYVIEW CHROMA Imager at your Site

The DRYVIEW CHROMA Imaging System produces high-quality color and grayscale images on film and paper. Use the prints from this versatile system for diagnostic or referral purposes:

- Print on DRYVIEW CHROMA Medical Film to produce diagnostic or referral images.
- Print on DRYVIEW CHROMA Matte and Glossy Papers to produce images for referral, sharing, or educational purposes.

The imager receives and prints from image sources such as medical electrical equipment (modalities) and workstations over the network. You can send print jobs simultaneously from multiple image sources. The open design lets you connect to modalities of all types and vendors.

The imager provides the latest generation of pigment ink technology. Utilizing 11 ink colors, the imager produces a wide color gamut and supports up to 43 cm (17 in.) wide media. The supported film and papers provide consistent quality and resist fading and fingerprints, making the prints durable and long-lasting.

**IMPORTANT:** *Install the imager in a secure location to protect patient privacy rights if required by local regulations.*

## Intended Use

The DRYVIEW CHROMA Imaging System is intended to provide hard copy images from digital imaging source output signals. The device is intended for use with DRYVIEW CHROMA film and reflective media (DRYVIEW CHROMA Medical Film and DRYVIEW CHROMA Medical Paper). The printer will interface with a variety of digital modalities, including, but not limited to, CR (Computed Radiology), DR (Digital Radiology), CT (Computerized Tomography), MRI (Magnetic Resonance Imaging). The images are to be used for medical diagnosis and referral to physicians and their patients. The DRYVIEW CHROMA Imaging System is not intended for use with FFDM or CR Mammography systems.

Additionally, for the media:

- DRYVIEW CHROMA Medical Papers and DRYVIEW CHROMA Medical Film are intended to be used in the DRYVIEW CHROMA Imaging System.
- DRYVIEW CHROMA Medical Film is used to visualize selected parts of the human body, to determine whether they are normal or

pathologic. It is used by highly trained specialists, such as medical physicians or radiologic technologists working in diagnostic imaging. This film is intended for diagnostic or referral purposes.

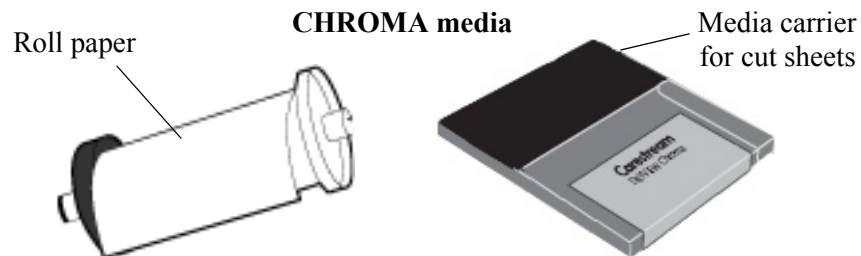
- DRYVIEW CHROMA Medical Paper, DRYVIEW CHROMA Medical Paper—Matte/Roll, and DRYVIEW CHROMA Medical Paper—Glossy/Roll, are intended to be used for referral only. These media types are not to be used for diagnostic purposes.

## Imager Features

### CHROMA Media

The imager is a wide-format ink jet color printer that supports DRYVIEW CHROMA Medical Film and DRYVIEW CHROMA Medical Paper (media). The CHROMA roll paper, media sheets, and media carriers are specially designed for the CHROMA imager.

You must keep the cut media in the original carrier when you load it into the imager cassette.



CHROMA media is available in the following sizes and types:

- 20 x 25 cm (8 x 10 in.) blue base film
- 25 x 30 cm (10 x 12 in.) blue base film
- 28 x 35 cm (11 x 14 in.) blue base film
- 35 x 43 cm (14 x 17 in.) blue base film
- 22.0 x 28.0 cm (8.5 x 11.0 in.) matte paper and glossy paper
- A3 (297.00 x 420.00 mm or 11.69 x 16.54 in.) matte and glossy paper
- A4 (210.00 x 297.00 mm or 8.27 x 11.69 in.) matte and glossy paper
- 297 mm x 100 m matte roll paper
- 11 in. x 100 m matte roll paper
- 297 mm x 75 m glossy roll paper
- 11 in. x 75 m glossy roll paper

For more information about the media, see [“Chapter 2 Working with the Media and Ink”](#).

### Network Interfaces

The DICOM interface supports standard Ethernet network interfaces 1000Base-T, 100Base-TX, and 10Base-T.



## **Power Management Features**

To reduce power consumption, the imager supports sleep mode.

When no print jobs are in progress, the imager enters sleep mode. The default setting is 15 minutes; the imager enters sleep mode after 15 minutes of no activity. To change the number of minutes, see [“Number of Minutes Before Automatic Sleep Mode”](#) on page 3-3.

## **Configuring and Monitoring the System (using the Web Portal)**

The Web Portal is your interface to more features. In addition to the installation and setup of your system, you can view and manage the imager's connections over the network, configure features, view error messages, and access general status information at the Web Portal. You can also check media count, size, and type.

For more information, see [“Accessing the Web Portal”](#) on page 1-12.

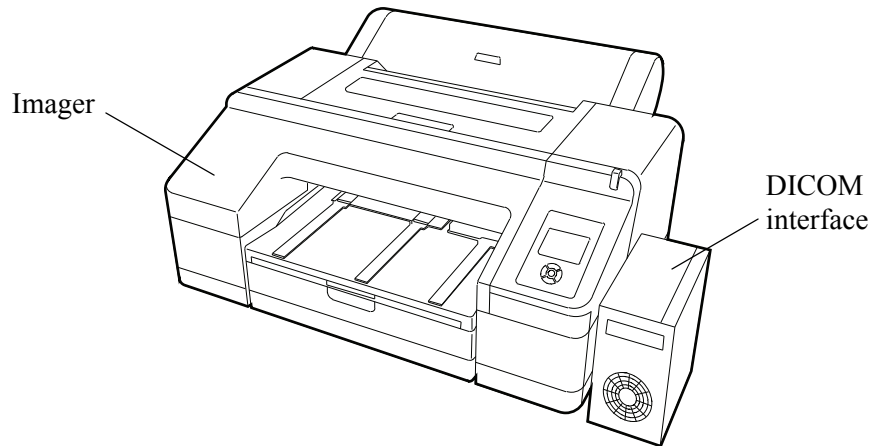
## **Enhancing Serviceability with Remote Monitoring**

CARESTREAM Remote Management Services is set up through the Web Portal, and is designed to enhance efficient system serviceability and simplify analytical and service processes through the monitoring of your equipment. Additionally, this simplifies the service process by providing qualified service personnel with faster, easier, and more complete access to the operational history of each system.

Remote Management Services provides the following for the imager:

- Ability to monitor and diagnose error conditions without introducing “downtime”
- Firewall-safe, Internet transmission of machine data, while complying with patient confidentiality regulations
- Minimal effort to set up communication
- Flexibility to facilitate specific configurations at each site

## How the Imaging System Works



The imaging system consists of a DICOM interface (a small computer) and a printer (imager), connected together with a USB cable. The DICOM interface receives, processes, and manages the images, and the imager holds the media (film or paper) and ink and prints the images. The DICOM interface has hard-disk storage to hold a large number of digital images. As images are received for printing, they are stored, placed in a sequential print queue, and printed in order. The system can continue to accept incoming print jobs even if temporarily unable to print (for example, the media cassette is empty).

During normal operation, the imager requires very little attention. It prints automatically in response to print requests from the configured image sources. Information sent with the images by the image source, such as media type and size and image quality settings, is applied unless you set the imager to override information that comes from the image source.

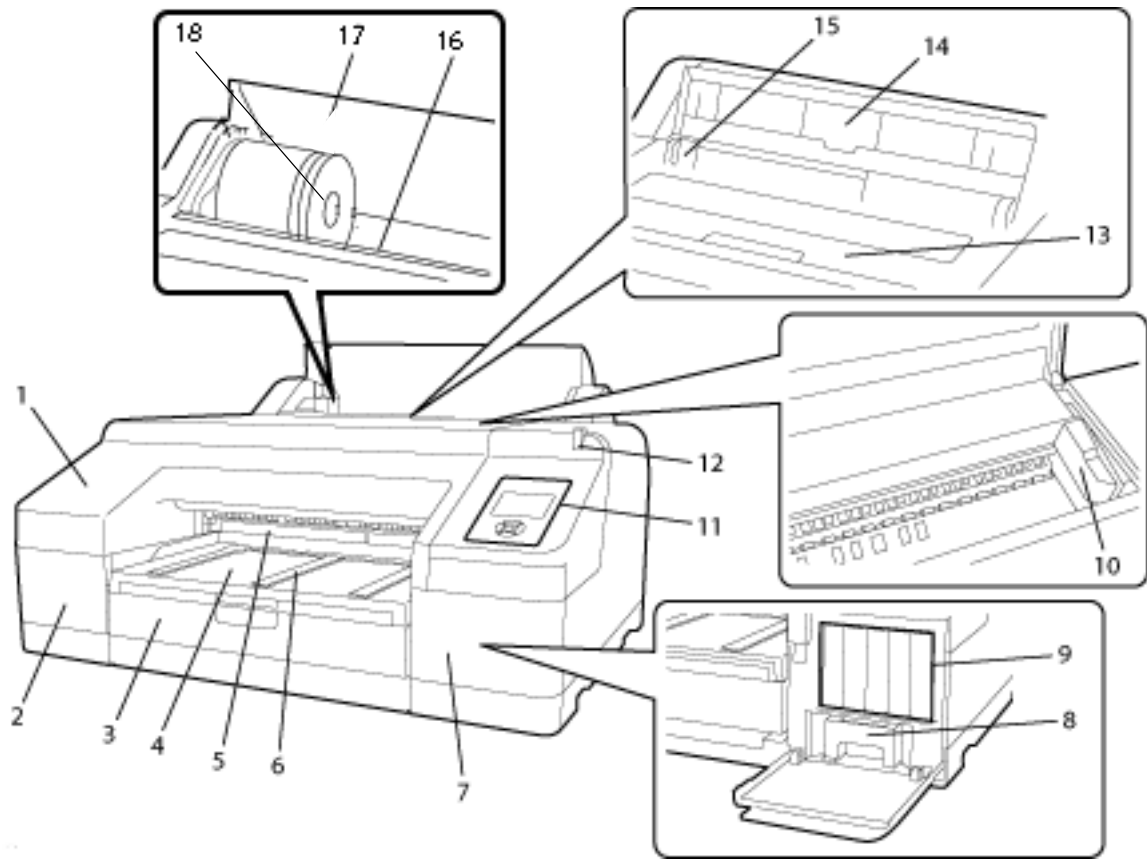
## System Components

### DICOM Interface

The DICOM interface brings the images over the network and formats them. It applies the processing parameters for optimal image quality and sends the images to the imager. The small screen at the front of the DICOM interface displays the installed media size and the requested media size (if different). It also displays a counter that tracks the approximate amount of loaded media that remains. For more information, see [“Working with the Loaded Media”](#) on page 2-2.

For instructions to restart the DICOM interface, see [“The DICOM Interface is Non-Responsive \(How to Restart\)”](#) on page 4-27.

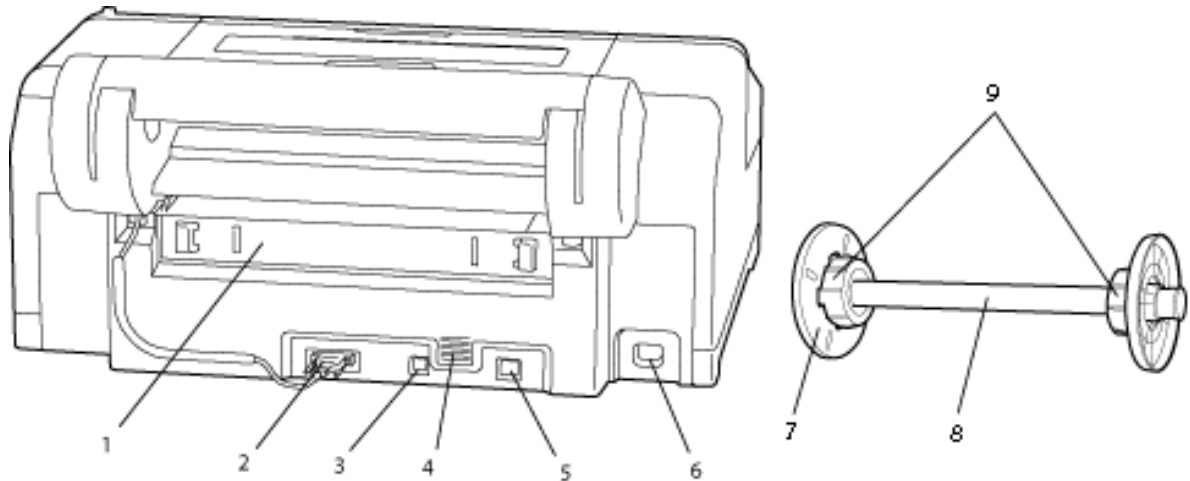
**Imager**



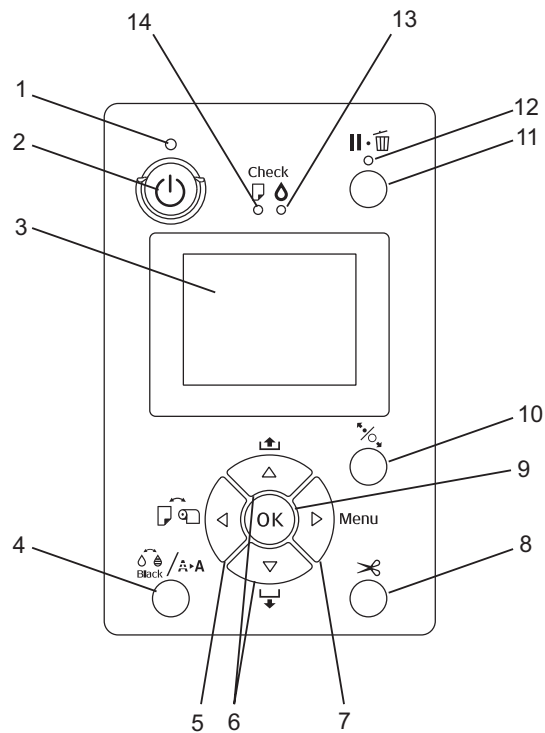
- 1 **Front cover.** Closes over the built-in cutter.
- 2 **Cartridge cover (left).** Covers ink cartridges #1–6. See [“Replacing the Ink Cartridges”](#) on page 2-21.
- 3 **Media cassette.** Houses the cut sheet media in the media carrier. See [“Loading the Media Cassette \(Cut Sheets\)”](#) on page 2-4.
- 4 **Output tray.** Collects the ejected paper and film. Extend the tray according to the size of the media that is being ejected.
- 5 **Maintenance tank.** Collects the waste ink for borderless printing. (Borderless printing is not supported with this imager release.)  
NOTE: In the software, this is referred to as “Maintenance Box 2.”
- 6 **Media eject support.** Supports the ejected (printed) media.
- 7 **Cartridge cover (right).** Covers ink cartridges #7–11 and the ink maintenance tank. To replace ink or maintenance tank, see [“Working with Ink”](#) on page 2-19.




- 8 **Ink maintenance tank.** Collects the waste ink.  
NOTE: In the software, this is referred to as “Maintenance Box 1.”
- 9 **Ink cartridges.** Install a total of 11 ink cartridges on the left and right sides. To replace ink, see [“Replacing the Ink Cartridges” on page 2-21.](#)
- 10 **Print head.** Fires ink via high-density nozzles while moving left and right. Do not move the print head by hand.
- 11 **Control panel.** See [“Control Panel” on page 1-8.](#)
- 12 **Alert lamp.** Alerts you with light when an error or warning occurs.
  - On—An error occurred. Check the error on the display screen.
  - Flashing—Ink or media is low. You can specify if the warning occurs for the media or the ink. The default is Off (no warning).
  - Off—No error.You can specify when the lamp alerts you. See [“Alert Settings” on page 3-2.](#)
- 13 **Top cover.** Covers the inside of the imager.
- 14 **Media support.** Supports the media that is fed manually. (Manual feed is not supported with this imager release.)
- 15 **Manual edge guides.** Guides the media that is fed manually. (Manual feed is not supported with this imager release.)
- 16 **Roller paper feeder.** Receives the roll paper in the feeder slot. See [“Loading the Roll Paper into the Imager” on page 2-9.](#)
- 17 **Roll paper cover.** Covers the roll paper. Leave the cover closed except when loading or removing the roll paper. See [“Loading the Roll Paper into the Imager” on page 2-9.](#)
- 18 **Spindle holder.** Supports the left side of the roll paper spindle. See [“Loading the Roll Paper” on page 2-9.](#)

## Back View



- 1 **Rear access panel** (covers the rear unit). Allows access to clear media jams. See [“Feeding or Ejecting Problems/Media Jams”](#) on page 4-21.
- 2 **Roll paper holder unit connector**. Always leave the cable connected.
- 3 **USB connector**. Connects the USB cable to the DICOM interface.
- 4 **Airflow vents**. Vents the air that cools the inside of the imager.
- 5 **LAN connector**. Not supported. The network is connected at the DICOM interface.
- 6 **AC inlet**. Connects the power cable.
- 7 **Movable flange (black)**. Fixes the roll paper placed on the spindle. Remove and install when loading or removing the roll paper on the spindle. See [“Placing the Roll Paper on the Spindle”](#) on page 2-9.
- 8 **Spindle**. Holds the roll paper. To load roll paper into the imager, place the roll paper on the spindle. The gray flange on the right side is fixed on the spindle.
- 9 **Attachment**. Leave the attachment installed on the spindle.

**Control Panel**

- 1 **Power light.** Indicates the operational status.
  - On—Power is on.
  - Flashing—Receiving data or performing processes such as shutting off the power, head cleaning, or auto nozzle check.
  - Off—Power is off.
- 2 **Power button.** Powers the imager on or off. To shut down the imager, press the Power button. See [“Restarting the Imager” on page 4-26](#).
- 3 **Display screen.** Displays the imager status, menus, and error messages. See [“Display Screen” on page 1-10](#).
- 4 **Ink Menu button.**  / A·A  
Provides access to the Ink Menu when the imager is in Ready status. From the Ink Menu, you can initiate a print head cleaning or a nozzle check.
- 5 **Media Source button.**  Lets you change between cut sheets and roll paper at the Paper Type Menu. See [“Display Screen” on page 1-10](#).  
Press while the imager is in Ready status to display the Paper Type Menu.  
When any menu displays, press  to return to the previous screen.

## 6 Up/down or Media Feed buttons.

- When roll paper is loaded:
  - Feed up to 3 m of paper by holding the ▼ button.
  - Increase the paper feed rate by holding ▼ for at least two seconds.
  - Press ▲ to rewind up to 20 cm of the roll paper.
- If roll paper is not loaded, press ▼ to feed media from the cassette and to eject it from the imager.
- When any menu displays, press an arrow button to navigate through the menu.

## 7 Menu button.

- Press in the Ready status (or when no media is loaded) to display the menu.
- Press when printing to display the Printer Status Menu.
- When a menu displays, press the **Menu** button to access the next screen.

## 8 Paper Cut button. Press to cut the roll paper with the built-in cutter.

NOTE: This feature is not necessary because the CHROMA Imager always cuts the roll paper automatically at the end of a print.

## 9 OK button.

- Press when an item is selected from a menu to execute the item.

## 10 Paper release light and button.

- When pressed after roll paper printing is complete, the paper presser becomes unlocked, and the roll paper winds up to be removed.
- Press to lock or unlock the paper presser.

## 11 Pause/Reset button.

- Press to pause a print job. To restart printing, press again, or select **Pause Cancel** on the screen and then press **OK**.

NOTE: To cancel print jobs in process, select **Job Cancel** on the screen and then press **OK**.

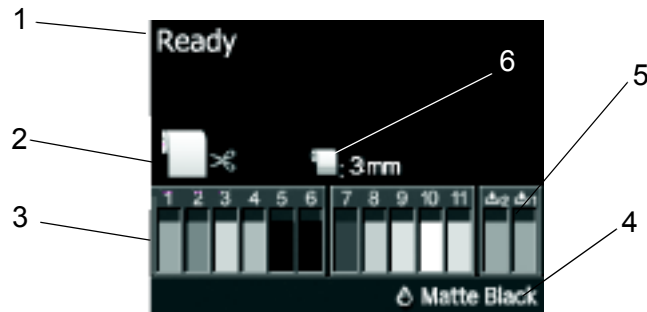
- Press while the menu displays to return to Ready status.

## 12 Pause/Reset light. Indicates if the imager is ready to print.

- On—Not ready to print. The job is paused or canceled.
- Off—Ready to print.

- 13 **Ink alert light.** Indicates the ink status.
- On—Indicates errors such as an empty ink cartridge. Check the error on the display screen. See [“Correcting Errors” on page 4-12.](#)
  - Flashing—The ink is low. Replace the cartridge to avoid the ink cartridge becoming empty while printing. See [“Working with Ink” on page 2-19.](#)
  - Off—No error.
- 14 **Media alert light.** Indicates the status of the media.
- On—No media is loaded or the paper setting is not correct. Check the error on the display screen. See [“Correcting Errors” on page 4-12](#) for help.
  - Flashing—Indicates errors such as media jam or skew. Check the error on the display screen. See [“Correcting Errors” on page 4-12](#) for help.
  - Off—No error.

## Display Screen



1 **Message.** Displays status, operational, and error messages.

2 **Media source setting.** Indicates the media source.

**IMPORTANT:** *If you will use roll paper, it is only necessary to change the media source initially to Roll Paper/Cut. After you have enabled the imager to print to roll paper, you can leave the media source setting at Roll Paper/Cut.*



Prints on roll paper and cuts automatically after printing each page. This setting supports printing to both roll paper and the media cassette.



Prints on roll paper but does not automatically cut after printing.

**NOTE:** This setting is not used because the CHROMA Imager always cuts the roll paper automatically.





Prints from the media cassette only.

- 3 **Ink cartridge status.** Displays the approximate level of remaining ink in the cartridge. The icons change when the ink is low or an error occurs. See [“Checking the Ink Levels” on page 2-20](#) for more information.
- 4 **Black ink.** Displays the type of black ink that the imager is using. The imager automatically uses the optimal black ink type for the installed media.  

NOTE: The imager uses either Matte or Photo Black ink to provide the best quality for the requested print job. Photo Black ink provides a smooth finish for glossy paper, while Matte Black ink increases black optical density for matte paper.
- 5 **Maintenance tank status.** Displays the status for the maintenance tanks. See [“Checking the Maintenance Tank Levels” on page 2-23](#) for more information.
- 6 **Roll paper margin parameter.** The margin settings display after the icon. The margin parameter is set to 3 mm during installation, and other margin parameters are not supported.

## Using the Web Portal to Access Additional Functionality

The Web Portal is your interface to additional features. In addition to the installation and setup of your system, you can view and manage the imager's connections over the network, configure features, view error messages, and access general status information at the Web Portal. You can also check media count, size, and type.

Troubleshooting tools include:

- Optimization of image quality for modalities.
- Retrieval of logs, statistics, and system status.
- Diagnostic utilities, including backup and restore.

The Web Portal provides an online Help system and a user's guide to assist you.

### Accessing the Web Portal

To access the Web Portal, use a desktop or laptop computer that is connected to the network.

1. On a desktop or laptop computer, start WINDOWS INTERNET EXPLORER.
2. In the address field, type: `http://<the imager IP address>`.

NOTE: The IP address should be written on the back of the Quick Reference Guide. If you cannot locate the IP address, check with your network administrator or the person who installed the imager.

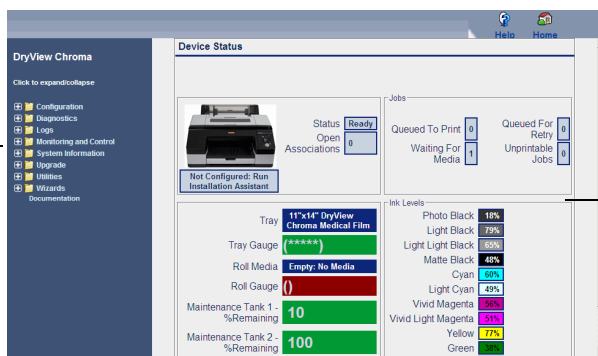
3. Click **Go**.

The main window for the Web Portal shows the general status, the number of print jobs queued, the number of jobs waiting for media, and the media count.

The center panel displays the screens where you view and perform tasks. The user's guide for the Web Portal procedures is available by selecting **Documentation** from the left panel, and the Help icon provides context-sensitive Help for fields and pages.

The left panel also provides the links to all other screens.

Left panel to navigate to other areas of the Web Portal



View status, etc.

## Agency Compliance

See the Safety Manual, 9G4259.

## Reference Information

The following documentation and information might be useful as you use and support the CHROMA Imaging System.

- DICOM Conformance Statement—Go to <http://www.carestream.com/dicom.html>
- CHROMA on the Web—Go to <http://www.carestream.com/med-printing.html>
- CHROMA online registration—Go to <http://www.carestream.com/chroma-registration.html>
- Web Portal procedures, 9G7572—Access the Web Portal, and then click the **Documentation** link
- Quick Reference Guide, 9G6534—See the most commonly used CHROMA features at a glance
- Safety Manual, 9G4259—Access information about safety and standards compliance
- Media Requirements, 9G8448—Learn how to handle the CHROMA media

## User Guide Conventions

The following special messages emphasize information or indicate potential risks to personnel or equipment.

NOTE: Notes provide additional information, such as expanded explanations, hints, or reminders.

IMPORTANT: *Important notes highlight critical policy information that affects how you use this guide and this product.*



### **CAUTION:**

**Cautions point out procedures that you must follow precisely to avoid damage to the system or any of its components, loss of data, or corruption of files in software applications.**

**DANGER: DANGER IDENTIFIES PROCEDURES THAT YOU MUST FOLLOW PRECISELY TO AVOID INJURY TO YOURSELF OR OTHERS.**

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## **2 Working with the Media and Ink**

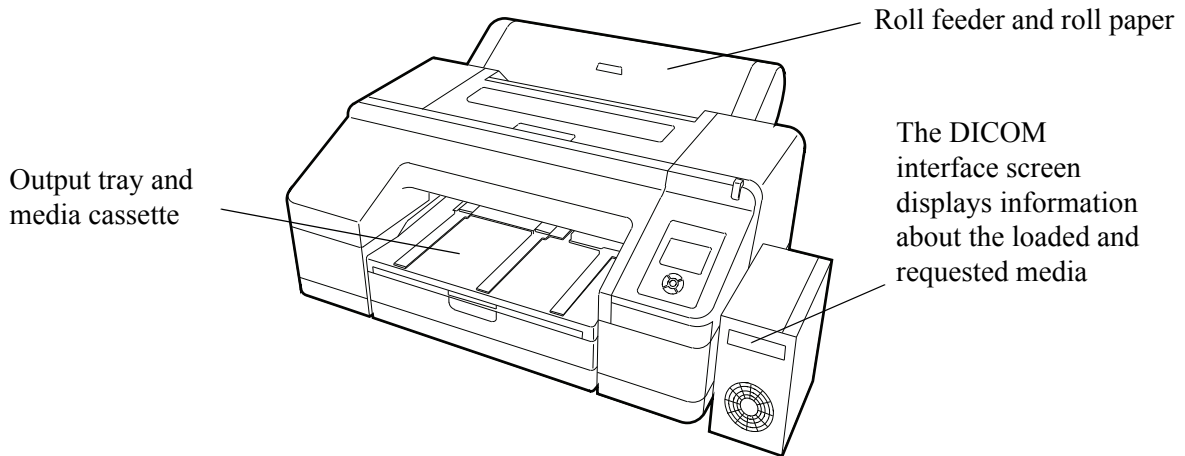
### **Handling the CHROMA Media (Film or Paper)**

When working with media:

- Avoid touching the printable surface with your bare hands. Fingerprints might affect print quality. Handle the media by its edges.
- For optimal performance, allow the media to dry thoroughly. Media drying time may vary depending on environmental conditions.
- Avoid exposure to moisture and adhesives.
- Do not place sticky notes on the media. Removal of a sticky note could damage the printed image.
- Before storing printed media, let the media thoroughly dry.
- Remove prints promptly after printing due to limited space in the output tray.

NOTE: If disposing of used media, manage the disposal appropriately to protect patient privacy rights, if required by local regulations.

### Working with the Loaded Media



### Viewing the Loaded Media Size

The DICOM interface screen displays the loaded media size by dimension, for example, “8.5 x 11” or “A4.” The dimensions are represented in inches with the exception of “A3” and “A4.”

### Monitoring the Amount of Loaded Media

The DICOM interface screen displays a gauge to help you monitor the amount of loaded media that remains in the media carrier or on the roll.

A full carrier or roll is represented by the following:

[ \* \* \* \* \* ]

The asterisks decrease as the carrier or roll is emptied. This example shows a nearly empty carrier or roll:

[ \*         ]

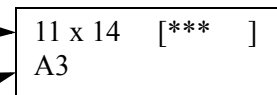
### Checking the DICOM Interface for the Requested Media Size

If a print request has arrived at the imager with a different media size than the loaded media, the new size appears on the DICOM interface screen to alert you to install the requested size.

The DICOM interface screen displays the loaded size on the top row and the requested size on the lower row. For example:

The loaded media size is  
11 x 14 in.

The requested media size is A3.  
You must unload the 11 x 14 in. media and then load A3 media to let the job print.



See “[Changing the Media in the Imager](#)” on page 2-12 for instructions to change the loaded media.

## Understanding How Media is Selected for Print Requests

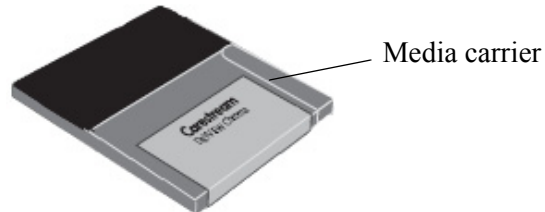
Your imager can print to both the media cassette **and** the roll feeder. The imager automatically selects the media source based on the media type (film or paper) and size of the job request, for example:

- A job request with film specified at the modality will only go to the media cassette (because film can only be loaded in the media cassette).
  - If the job request matches the loaded film size, the job prints.
  - If the job request matches a supported film size but that size is not loaded in the cassette, the DICOM interface alerts you that a different media size is requested. You must load the requested film size in the media cassette so the job can print.
  - If the job request does not match a supported film size, then the imager prints to (or requests) the supported film size that is closest to and larger than the job request.
- A job request with paper specified at the modality will only print to paper. If paper is loaded in the media cassette **and** in the roll feeder, then the imager uses the image size to determine the media source:
  - If the job request matches a size that is already loaded in the media cassette **or** can be printed on the roll paper (22.0 x 28.0 cm / 8.5 x 11.0 in., A3, or A4), then the job goes to the matching media.
  - If the job request matches a size that is loaded in the media cassette **and** can be printed on roll paper (when either A3 or A4 paper is loaded in the media cassette), then the job goes to the roll paper.
  - If the job request does not match a supported paper size, then the imager prints to (or requests) the supported paper size that is closest to and larger than the job request. For example, a request to print on 8.0 x 10.0 in. paper would print on 8.5 x 11.0 in. paper.

## Loading the Media Cassette (Cut Sheets)

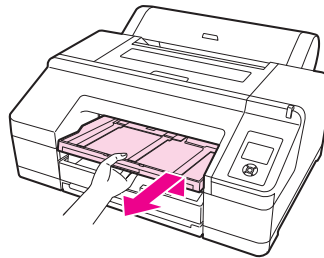
**IMPORTANT:** *Do not remove or insert the cassette from the imager while printing. It may cause the print quality to decline or cause a jam. If you do remove the cassette while printing, wait until printing is complete to reinsert it.*

**IMPORTANT:** *Always leave the media in the carrier when you load it into and unload it from the cassette. Store the unused media in its carrier and in the original carton.*



**IMPORTANT:** *Always remove the output tray and the cassette from the imager to load or remove media. Sliding the media carrier into the cassette without fully removing the tray from the imager can cause issues with the media.*

1. Lift the edge of the output tray to remove it.



2. Slide open the media cassette, lift it slightly, and pull it out.

**IMPORTANT:** *Be careful not to drop the media! The media must remain in the carrier and in the original orientation, with the same side facing up. Do not remove or lose any sheets from the media carrier. If any sheets are removed, the imager cannot accurately track the media count.*

3. Open the new media package, and fan the open end. Leave the media in the carrier when you fan it.

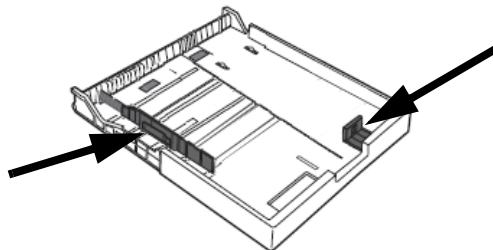




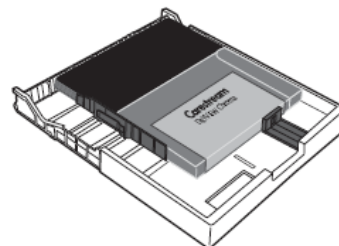
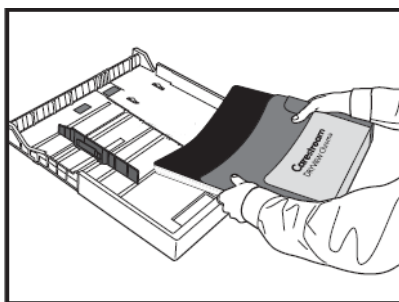
# SHORT TERM CONFIDENTIAL

4. If necessary, expand the edge guides to make space for the media before you place the media into the cassette.

Open the edge guides to make space for the media

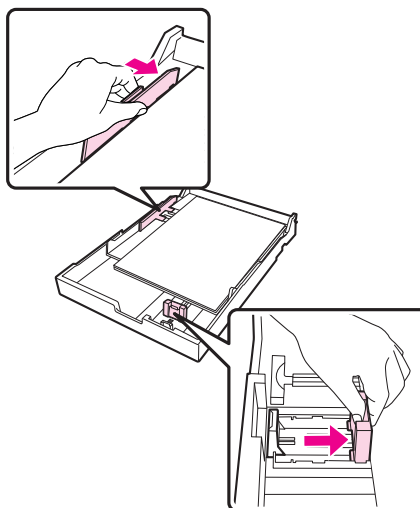


5. Carefully place the media, with the carrier, into the media cassette.

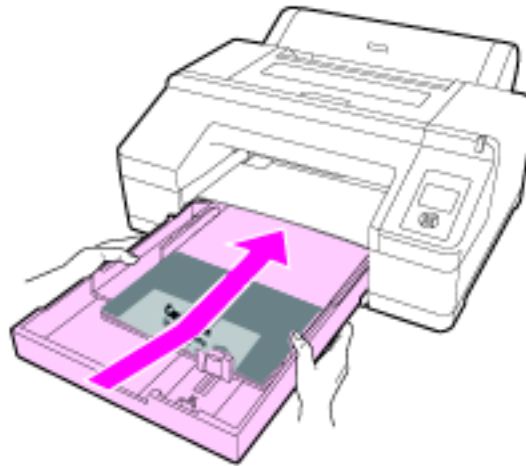


**IMPORTANT:** *Keep the media carton. If you change the media size in the imager later, place the media back in the original carton.*

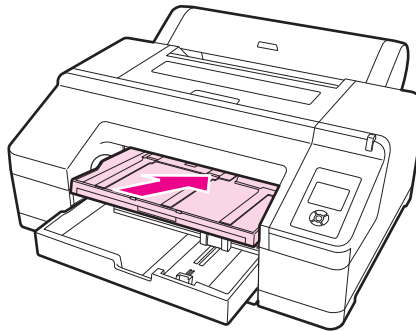
6. Adjust the edge guides around the media carrier. Move the guide without moving the slider.



7. Insert the cassette and push it firmly into the imager.

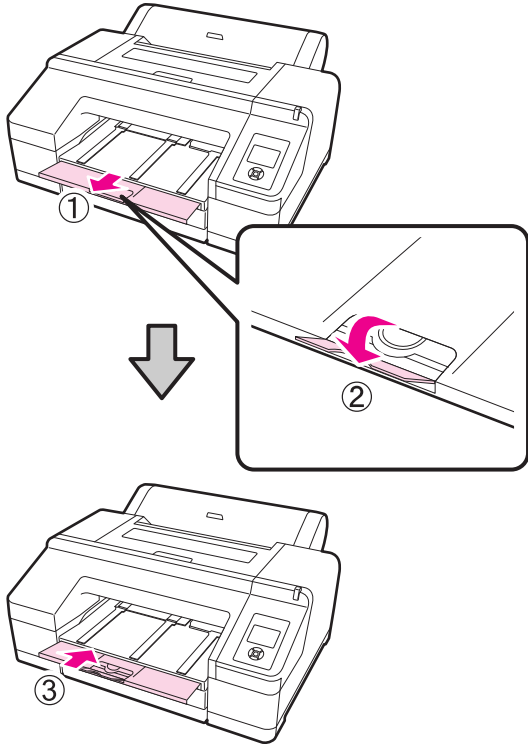


8. Replace the output tray.

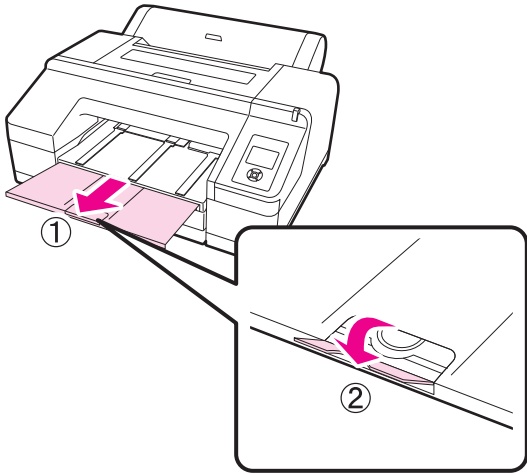


9. Extend the output tray for the media size and raise the flap. Adjust the output tray depending on the size of the media loaded in the cassette:
  - A4: Slide out the third extension of the output tray, raise the flap, and then push the section back in.

# SHORT TERM CONFIDENTIAL

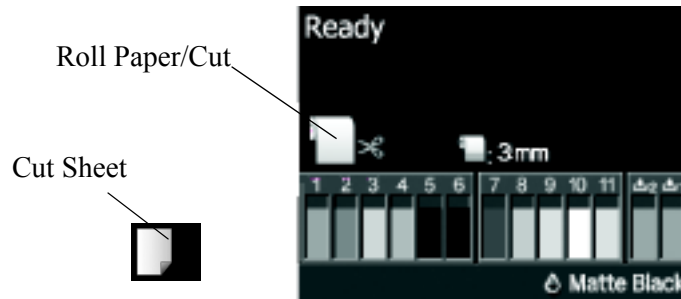


- A3: Pull out the third section of the output tray, and then raise the flap.



10. Check that the imager is on.
11. If you will print:
  - **Only** to the media cassette, check that the Media Source setting is set to **Cut Sheet**.
  - To both media cassette **and** roll paper, check that the Media Source setting is set to **Roll Paper/Cut**.

NOTE: The **Roll Paper/Cut** setting supports printing to both roll paper and to cut sheets in the media cassette.



To change the Media Source setting:

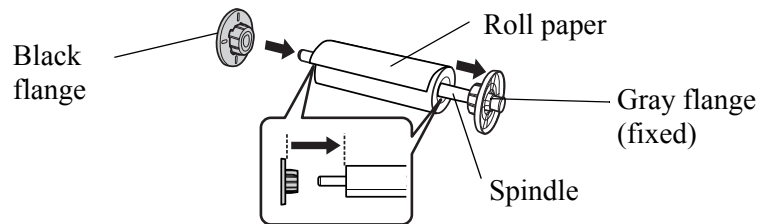
- Press ◀ to display the Paper Type Menu.
- Press ▼ to select **Roll Paper/Cut** or **Cut Sheet**.
- Press **OK**.

## Loading the Roll Paper

### Placing the Roll Paper on the Spindle

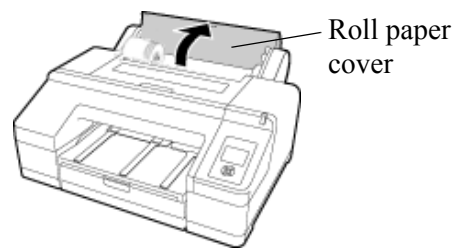
NOTE: If the roll paper is already loaded on the spindle, go to [“Loading the Roll Paper into the Imager”](#) on page 2-9.

1. Remove the black flange from the spindle.
2. To insert the spindle into the roll paper, place the roll paper on a flat surface where the end of the roll paper is hanging down toward you, and insert the spindle from the right.
3. Install the black flange on the end of the spindle. Push until there are no gaps between the roll paper core and the flange.

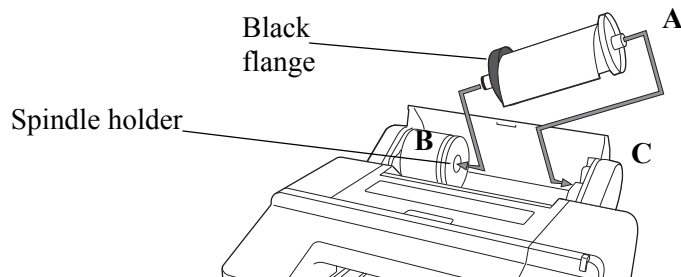


### Loading the Roll Paper into the Imager




1. Open the roll paper cover.

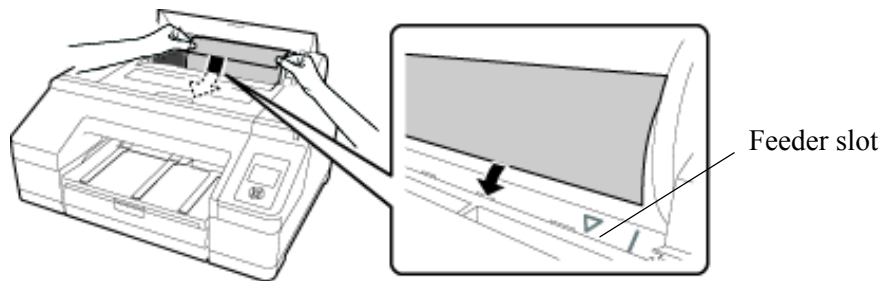


2. Hold the roll and paper with the black flange on the left and the gray flange on the right. Holding the flanges, tilt the spindle up on the right side at a 45 ° angle (A). Slide the left side of the spindle into the hole of the spindle holder so the spindle rests on the holder (B). Then place the right side of the spindle straight down into the imager (C).



NOTE: If the spindle is set in the wrong direction, the paper will not feed correctly.

3. Remove the protective wrap from around the roll paper.
4. Press  on the control panel.
5. Insert the leading edge of the roll paper into the slot. Make sure the edge is not folded, and remove any slack from the paper.
  - When **Auto Roll Feeding** is **On** (default)—Insert the roll paper slightly into the feeder slot, and watch the display screen.
  - When **Auto Roll Feeding** is **Off**—Insert the paper so the edge of the paper comes out of the front manual feeder, and watch the display screen.
6. When the display screen changes to: **Press the  button,** press  to automatically feed the paper to the start position.



7. Close the roll paper cover.

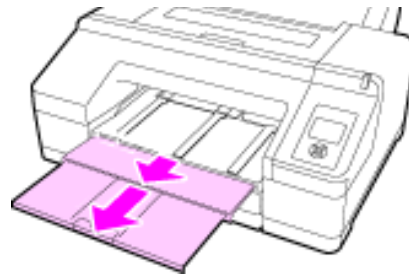
## Readying the Imager to Print to Roll Paper

1. The screen displays **Are these settings OK?**
  - Select **No**, and then press **OK**.
  - When the Paper Type Menu appears, use the arrow buttons to select **No Paper Selected**.
  - Select **OK**.

NOTE: Remove prints promptly after printing due to limited space in the output tray.

**SHORT TERM CONFIDENTIAL**

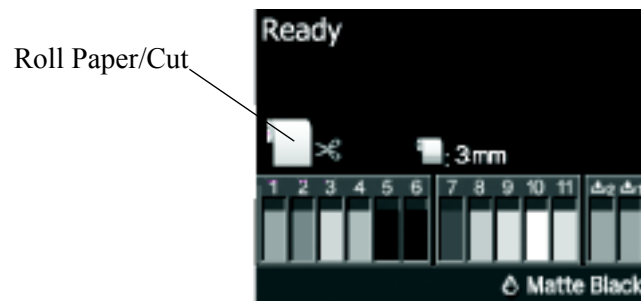
- Slide the output tray to the second and third extensions.



NOTE: Do not raise the flap. If the flap is raised while printing from the roll feeder (for example, if **No Cut** is selected), the paper might eject incorrectly.

- Set up the paper eject support depending on the paper type.
- Check that the Media Source setting is set to **Roll Paper/Cut**.

NOTE: The **Roll Paper/Cut** setting supports printing to both roll paper and to cut sheets in the media cassette.



To change the Media Source setting:

- Press ◀ to display the Paper Type Menu.
- Press ▼ to select **Roll Paper/Cut**.
- Press **OK**.

**Cutting the Roll Paper** After printing, the paper is cut automatically.

NOTE: If the roll paper cannot be cut by the built-in cutter, press ▼ to feed the paper to a position where you can cut it manually.

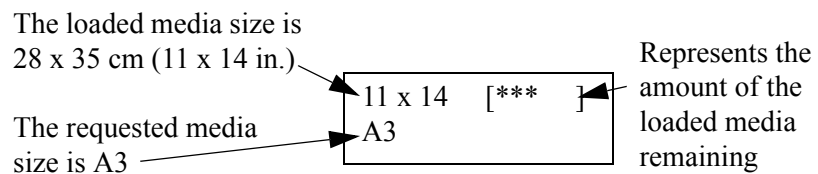
## Changing the Media in the Imager

### Handling a Print Request with a Different Requested Media

If a print job requires a different media from the media that is currently loaded in the imager, the new size appears on the DICOM interface screen to alert you to install the requested size.

See [“Understanding How Media is Selected for Print Requests” on page 2-3](#) for more information about image sizes and requested media sizes.

The DICOM interface screen displays the loaded size on the top row and the requested size on the lower row. For example:



In this example, the 28 x 35 cm (11 x 14 in.) media is loaded, but a print job has arrived at the CHROMA imager requesting A3 media.

<b>If there are current jobs to print on the loaded media...</b>	<b>If there are no current jobs for the loaded media...</b>
<ol style="list-style-type: none"> <li>1. Wait until the current jobs finish printing.</li> <li>2. Replace the loaded media with the requested media. See <a href="#">“Replacing the Cut Sheet Media” on page 2-14</a> or <a href="#">“Replacing the Roll Paper” on page 2-16</a>.</li> </ol> <p>The DICOM interface senses the change; the DICOM interface screen changes, and the new job automatically prints.</p>	<p>Replace the loaded media with the requested media. See <a href="#">“Replacing the Cut Sheet Media” on page 2-14</a> or <a href="#">“Replacing the Roll Paper” on page 2-16</a>.</p> <p>The DICOM interface senses the change; the DICOM interface screen changes, and the new job automatically prints.</p>



## **Handling a Media Change when the New Print Request is Urgent**

If a print job requires a different media size from the loaded media, but several current jobs are processing with the loaded media and you cannot wait for the current jobs to complete printing, you can stop the jobs in progress to print your urgent job.

1. Access the Web Portal. See [“Using the Web Portal to Access Additional Functionality” on page 1-12.](#)
2. In the Web Portal, click **Monitoring and Control > Imager Monitor**.
3. Next to Delivery Output Online, click **Change Subsystem Status**. All the current print jobs will stop, and printer status changes to “Printing Disabled.”
4. Replace the loaded media with the requested media (for the urgent print request). See [“Replacing the Cut Sheet Media” on page 2-14](#) or [“Replacing the Roll Paper” on page 2-16.](#)
5. Send the urgent print request from the modality.
6. Return to the Web Portal, and click **Monitoring and Control > Imager Monitor**.
7. Next to Delivery Output Online, click **Change Subsystem Status** again. The printer status changes to “Printing,” and the urgent job prints.
8. To print the jobs that you stopped, replace the urgent job’s media with the requested media for the earlier jobs. See [“Replacing the Cut Sheet Media” on page 2-14](#) or [“Replacing the Roll Paper” on page 2-16.](#) The earlier jobs will automatically start printing.

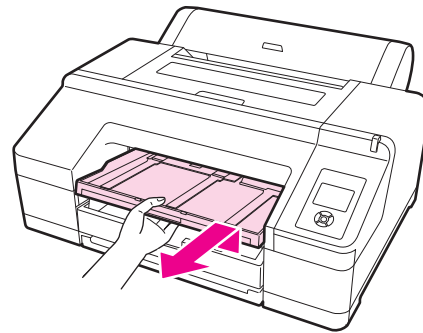
## Replacing the Cut Sheet Media

1. Retrieve the new media.

**IMPORTANT:** *Be careful not to drop the media! The media must remain in the carrier and in the original orientation, with the same side facing up. Do not remove or lose any sheets from the media carrier. If any sheets are removed, the imager cannot accurately track the media count.*

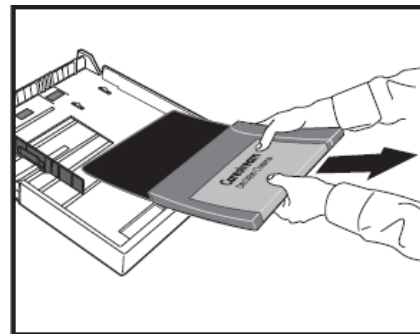
**IMPORTANT:** *Always leave the media in the carrier when you load it into and unload it from the cassette. Store the unused media in its carrier and in the original carton.*

2. Lift the edge of the output tray to remove it.



**IMPORTANT:** *Always remove the output tray and the cassette from the imager to load or remove media. Sliding the media carrier into the cassette without fully removing the tray from the imager can cause issues with the media.*

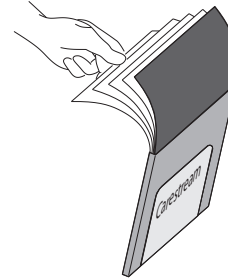
3. Slide open the media cassette, lift it slightly, and pull it out.
4. Remove the media, with the carrier, from the media cassette. Open the edge guides as necessary to remove the media and carrier.



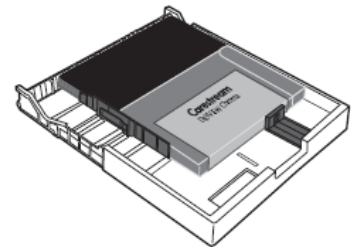
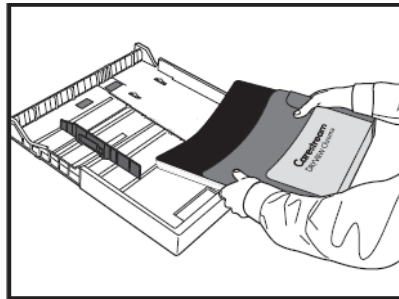
5. Carefully place the media and carrier in the original carton. Set it aside if you will use it again soon, or place it in storage with the appropriate environmental conditions (see [“Environmental Recommendations”](#) on page 5-2).

**SHORT TERM CONFIDENTIAL**

6. Open the new media package, and fan the open end. Leave the media in the carrier when you fan it.



7. Expand the edge guides if necessary, and then carefully place the media, with the carrier, into the media cassette.

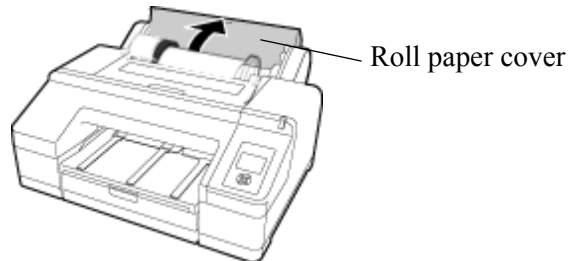


**IMPORTANT:** *Keep the media carton. If you change the media size in the imager later, place the media back in the original carton.*

8. To check that the new media size has been read by the imager, view the DICOM interface screen and confirm that the new media size appears in the top row. The system is ready, and the print request starts printing.

## Replacing the Roll Paper

1. Retrieve the new media.
2. Open the roll paper cover.



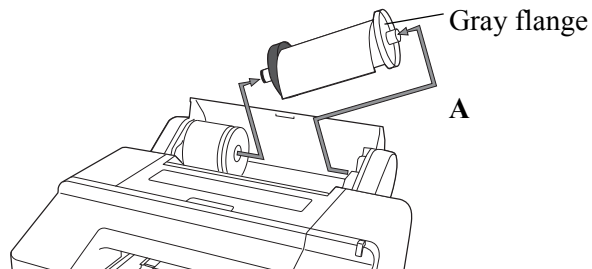
3. Press  $\frac{1}{2}$  to release the paper presser.

NOTE: Normally, the roll paper rewinds automatically after cutting. If the roll paper does not rewind, rotate the flanges in the opposite direction to rewind, and then press  $\frac{1}{2}$  to release the paper presser. Check that the roll paper is rewound before attempting to remove the spindle.

### **CAUTION:**

**If the roll paper is not rewound, the spindle might be locked. You might damage the imager by trying to remove the spindle when it is locked. Always rewind the paper and then press  $\frac{1}{2}$  to release the paper presser before removing the spindle.**

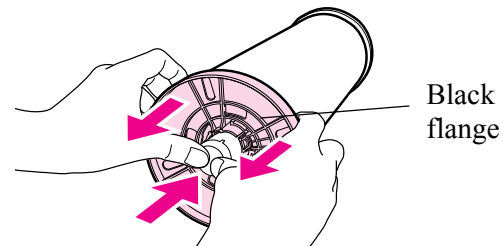
4. Lift up on the right side of the spindle from the gray flange to bring the spindle to a 45° angle (A). Pull the spindle up and to the right to remove it from the spindle holder.



**SHORT TERM CONFIDENTIAL**

## 5. Remove the black flange from the spindle:

- While holding the black flange as shown, push the end of the spindle to release the flange from the spindle.

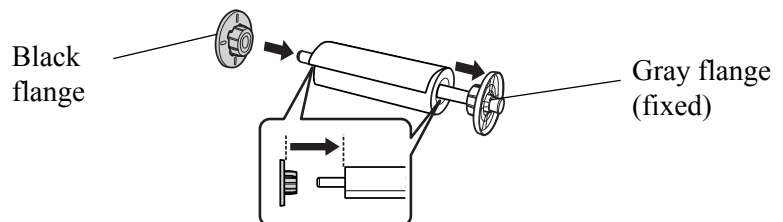


- If the flange does not come off easily, lightly tap the end of the spindle on the black flange side.
- When removing a flange from the spindle while only the paper core is remaining, hold the core and push the spindle.

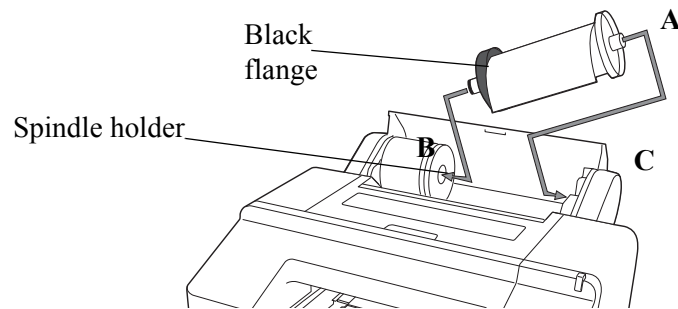
**⚠ CAUTION:**

**Be careful to avoid tapping the right side of the spindle (the side with the gray flange) against a hard surface. You might damage the spindle by the impact.**


6. To insert the spindle into the new roll paper, place the roll paper on a flat surface where the end of the roll paper is hanging down toward you, and insert the spindle from the right.
7. Install the black flange on the end of the spindle. Push until there are no gaps between the roll paper core and the flange.



8. Hold the roll and paper with the black flange on the left and the gray flange on the right. Holding the flanges, tilt the spindle up on the right side at a 45 ° angle (A). Slide the left side of the spindle into the hole of the spindle holder so the spindle rests on the holder (B). Then place the right side of the spindle straight down into the imager (C).



NOTE: If the spindle is set in the wrong direction, the paper will not feed correctly.

9. Remove the protective wrap from around the roll paper.
10. Press .
11. To check that the new media size has been read by the imager, view the DICOM interface screen and confirm that the new media size appears in the top row. The system is ready, and the print request starts printing.

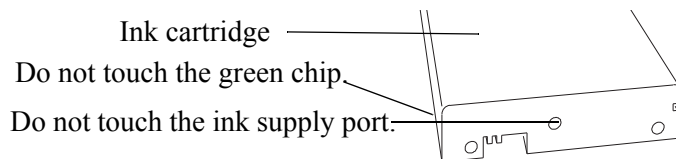
## Working with Ink

**DANGER: IF INK GETS ON SKIN, WASH IT OFF WITH SOAP AND WATER. IF INK GETS IN EYES, FLUSH IMMEDIATELY WITH WATER.**



**CAUTION:**

**Do not dismantle ink cartridges or try to refill them. This could cause damage to the print head. Also, do not touch the ink supply port or its surrounding area or the green IC chip on the side of the ink cartridge.**



**CAUTION:**

**Use inks that are designed for this imager for optimal quality and reliability. The use of other products may affect your print quality and could result in damage to the imager.**

Store ink cartridges in a cool, dry place. See [“Ink Cartridges” on page 5-3](#) for more information.

NOTE: Dispose of the used ink cartridges carefully and in accordance with local ordinances.

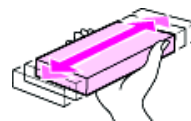
### Extending the Life of Ink Cartridges During Periods of Inactivity or Low Use

For best printing results, use an ink cartridge within six months of opening the ink cartridge package.

You can store partially used ink cartridges out of the imager for up to six months. If you do so, cover the opening (the ink supply port) with cellophane tape to prevent the ink from drying.

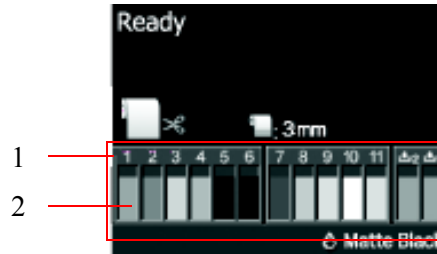
To extend the life of the ink cartridges during periods of low or no activity, remove the ink cartridges from the imager and, without touching the green IC chip, gently shake the ink cartridges horizontally.

Some ink cartridges are likely to be used more slowly than others. To extend the life of low-use ink cartridges, occasionally take the ink cartridges out of the imager and gently shake them horizontally, and then return them to the imager.



## Checking the Ink Levels

Check the ink level at the display screen.



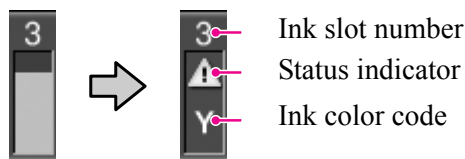
1. Ink slot numbers—the location of the ink cartridge in the imager.
2. Ink levels—the approximate amount of remaining ink.

NOTE: You can also view the ink levels at the Status Menu. See [“Ink Levels” on page 3-4](#). Check the ink levels before printing a large job. If an ink cartridge is low, prepare a new cartridge.

**Ink slot numbers.** When facing the imager, the slots are numbered from left to right in ascending order from 1:

- |                              |                       |
|------------------------------|-----------------------|
| 1. GR (Green)                | 7. MK (Matte Black)   |
| 2. LLK (Light Light Black)   | 8. VM (Vivid Magenta) |
| 3. Y (Yellow)                | 9. LK (Light Gray)    |
| 4. LC (Light Cyan)           | 10. C (Cyan)          |
| 5. VLM (Vivid Light Magenta) | 11. PK (Photo Black)  |
| 6. OR (Orange)               |                       |

When the ink is low or empty, the icons on the display screen change:



**Ink cartridge status indicators.** These appear on the ink icon when a status condition exists (ink low or error).

	Ink is low. Prepare a new ink cartridge. See <a href="#">“Replacing the Ink Cartridges” on page 2-21</a> .
	An error occurred. Check the message on the screen, and clear the error. See <a href="#">“Correcting Errors” on page 4-12</a> for help.

**Ink color codes.** An additional indicator of the ink cartridge with the condition that must be addressed.

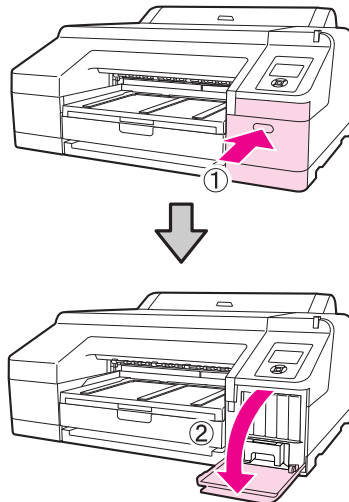


## Replacing the Ink Cartridges

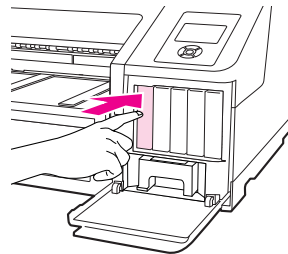
If one of the ink cartridges is empty, printing will stop. If an ink-low warning displays, replace the ink cartridge(s) as soon as possible.

This procedure uses Matte Black ink as an example. Follow the same steps to replace any ink cartridge.

1. Check that the imager is on.
2. Press the groove in the cartridge cover to open the cover.

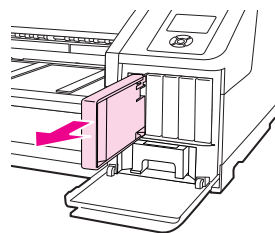


3. Push the empty ink cartridge into the imager until you hear a click. The ink cartridge pops out slightly.



4. Carefully pull the cartridge straight out of the slot.

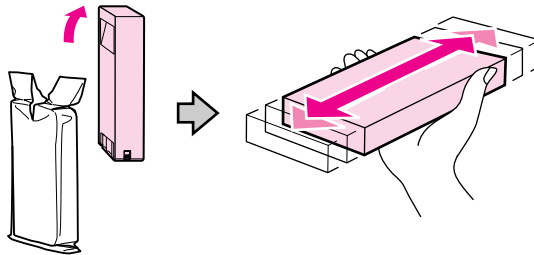
**NOTE:** Removed ink cartridges may have ink around the ink supply port, so be careful not to get ink on the surrounding area when removing a cartridge. Dispose of the used ink cartridges in accordance with local ordinances.



5. Remove the replacement ink cartridge from the bag. Shake the ink cartridge horizontally for approximately 15 seconds.

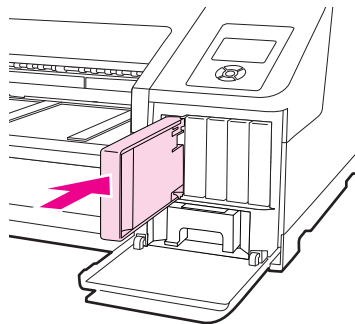
**⚠ CAUTION:**

**Do not touch the green IC chip on the ink cartridges. This can cause the imager to malfunction.**



6. Match the ink cartridge color with the color label on the back of the cartridge cover. Hold the ink cartridge with the arrow mark facing up. The cartridge label is upright and faces you. Insert the cartridge into the slot as far as it will go until it clicks.

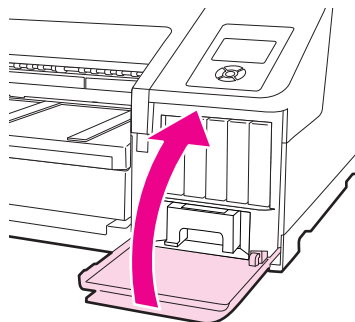
NOTE: When the cartridge is inserted, the label faces out toward you.



7. Repeat the steps for each ink cartridge as needed.

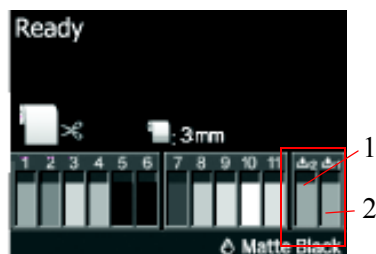
NOTE: Install an ink cartridge in each slot. You cannot print if any of the slots are empty.

8. Close the cartridge cover.



## Checking the Maintenance Tank Levels

Check the maintenance tank levels at the display screen.





1. Maintenance tank 1—the main maintenance tank that collects waste ink while the system prints. To replace, see [“Replacing the Ink Maintenance Tank \(Tank 1\)”](#) on page 2-24.
2. Maintenance tank 2—the borderless maintenance tank. To replace, see [“Replacing the Borderless Maintenance Tank \(Tank 2\)”](#) on page 2-26.

NOTE: Since maintenance tank 2 is used for borderless printing, it may not be necessary to replace it. (The CHROMA system does not support borderless printing.)

NOTE: You can also view the maintenance tank levels at the Status Menu. See [“Maintenance Tank Levels”](#) on page 3-4. Check the level of maintenance tank 1 before doing a power cleaning. If the tank is almost full, prepare a new tank.

When the maintenance tank is full or nearly full, the icons on the display screen change:

	<p>When flashing, the maintenance tank is almost full. Prepare a new maintenance tank.</p>
	<p>When flashing, the maintenance tank is full. Replace it with a new tank. See <a href="#">“Replacing the Maintenance Tanks”</a> on page 2-24.</p>

## Replacing the Maintenance Tanks

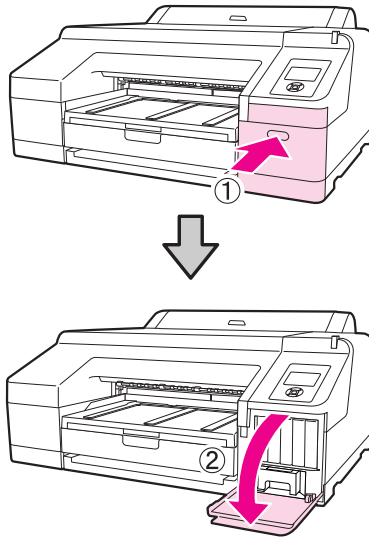
If the message “Replace Maint Box” or “Not Enough Empty Space” appears at the display screen, replace the specified maintenance tank.

**IMPORTANT:** *Do not reuse a maintenance tank that has been removed from the imager and exposed to air for an extended period of time. The ink inside the exposed tank will dry, making the tank unable to absorb new ink.*

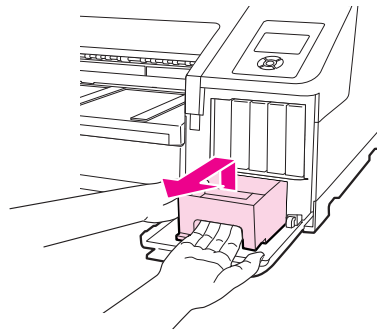
## Replacing the Ink Maintenance Tank (Tank 1)

**NOTE:** Do not replace the maintenance tank while printing. The waste ink may leak.

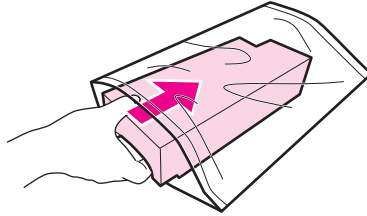
1. Press the groove in the right cartridge cover to open it.
2. Pull out the maintenance tank.



3. Lift the tank up to release the lock.

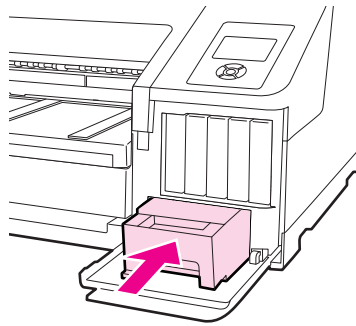


4. Place the used tank in the plastic bag that is included with the new tank.



NOTE: Dispose the used tank in accordance with local ordinances.

5. Insert the new maintenance tank.



**IMPORTANT:** *Do not touch the green IC chip on the side of the maintenance tank. Do not remove the film from the top of the maintenance tank.*

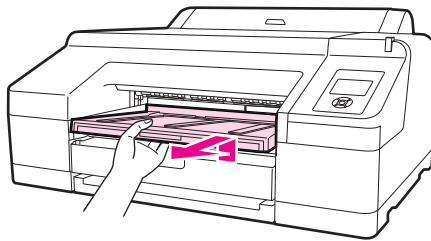
6. Close the cartridge cover.

**Replacing the Borderless Maintenance Tank (Tank 2)**

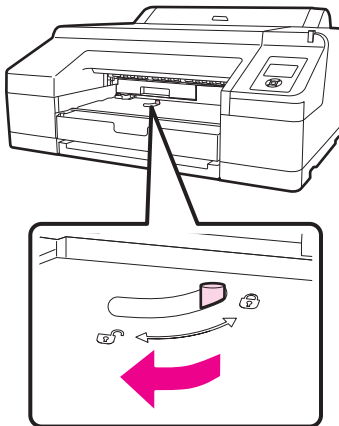
**IMPORTANT:** *Do not replace the maintenance tank while printing. Printing stops if the lock on the maintenance tank 2 is released. If stopped during printing, the colors may vary and/or the print quality may decline when printing is resumed.*

**NOTE:** Since maintenance tank 2 is used for borderless printing, it may not be necessary to replace it. (Borderless printing is not supported with this release.)

1. To remove the output tray, lift the edge of the output tray slightly.

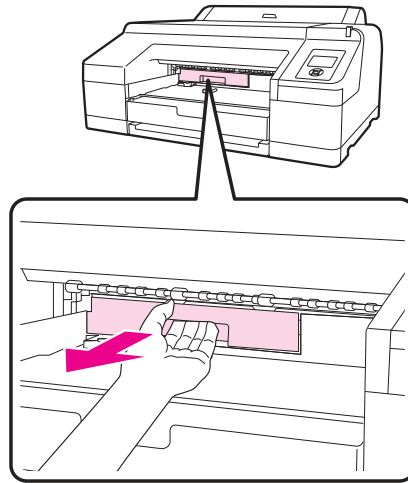


2. Release the tank lock.



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3. Pull out the maintenance tank carefully so it does not tilt.



**DANGER: IF INK SPILLS ONTO YOUR SKIN OR INTO YOUR EYES, WASH THE AFFECTED AREA WITH WATER IMMEDIATELY.**

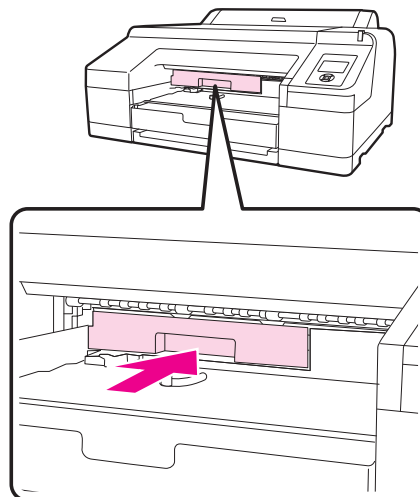
4. Place the used tank in the plastic bag that is included with the new tank.

NOTE: Dispose of the used tank in accordance with local ordinances.

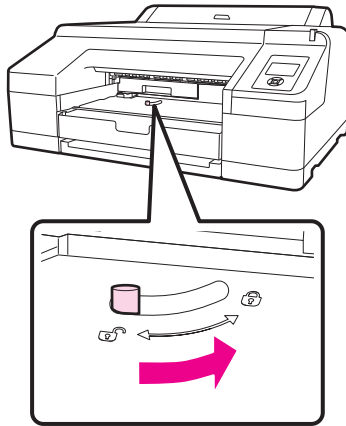
NOTE: Do not tilt the tank until it is completely in the plastic bag and the zipper is closed. The waste ink might leak.

5. Insert the new tank. Push it in firmly.

**IMPORTANT:** *Do not touch the green IC chip on the side of the maintenance tank. Do not remove the film from the top of the maintenance tank.*



6. Set the lock.









7. Replace the output tray.



# 3 System Settings and Status

## Changing the Imager's Date and Time

NOTE: To change the date and time for the Web Portal, log on to the Web Portal, and then click the **Documentation** link for instructions. This procedure lets you change the date and time for the imager only.




1. At the imager control panel, press .
2. Press  to select **Maintenance**, and then press .
3. Press  to select **Clock Setting**, and then press .
4. Use the arrow buttons to set each item for the date and time, displayed in the format: MM/DD/YY HH:MM.
5. Press **OK**.
6. Press  to exit.

## Changing Configuration Items in Maintenance Mode

In maintenance mode, you can set up configuration items such as the language and temperature units. These changes apply on the imager display screen, on some reports, and on test prints.

### Working in Maintenance Mode


To start the imager in maintenance mode:

1. Shut down the imager. (Press the Power button on the imager control panel.)
2. Press and hold . Continue to hold down the button, and at the same time, press and then release the Power button. When the Maintenance Mode Menu appears, release the  button.
3. Use the arrow buttons to change the settings. (See details in the procedures below). To return to the previous menu, press .
4. When finished changing the settings, shut down the imager to exit from maintenance mode.

NOTE: When you start the imager again, it will have exited from maintenance mode and will be ready to print.

### Imager Language

NOTE: To change the language for the Web Portal, log on to the Web Portal, and then click the **Documentation** link for instructions. The procedure below changes the language for the imager display screen only.

1. Enter maintenance mode. See [“Working in Maintenance Mode” on page 3-1](#).
2. Make sure **Language** is selected, and then press .

3. Press ▼ to select the language, and then press **OK**.

NOTE: The language changes immediately, but you must shut down the imager to exit from maintenance mode.

4. Press the Power button to shut down the imager, and then start the imager again. The display screen appears in the language you selected.

**Units of Measurement** Select between metric or U.S. imperial to display, for example, the media size on reports and test prints at the imager.

1. Enter maintenance mode. See [“Working in Maintenance Mode” on page 3-1](#).
2. Press ▼ to select **Length Units**, and then press ►.
3. Press ▼ to change between metric and feet/inch, and then press **OK**.
4. Shut down the imager, and then start it again.

**Temperature Units** Select between Celsius (C) and Fahrenheit (F) to display, for example, on reports and test prints at the imager.

1. Enter maintenance mode. See [“Working in Maintenance Mode” on page 3-1](#).
2. Press ▼ to select **Temperature Units**, and then press ►.
3. Press ▼ to change between C and F, and then press **OK**.
4. Shut down the imager, and then start it again.

**Auto Cleaning** The imager automatically cleans the nozzles as needed, for example, if clogged nozzles are detected during a nozzle check.

1. Enter maintenance mode. See [“Working in Maintenance Mode” on page 3-1](#).
2. Press ▼ to select **Auto Cleaning Times**, and then press ►.
3. Use the arrow buttons to change the value (1-3), and then press **OK**.  
1 (default) = one auto cleaning, 2 = two auto cleanings, and 3 = three auto cleanings per session.
4. Shut down the imager, and then start it again.

**Alert Settings** If alert settings are enabled, the alert lamp flashes when the condition is met. For example, if you select **Ink** from the Maintenance Alert Menu, the lamp flashes when ink is low. If **Ink** is not selected, an Ink Low message will still appear on the display screen, but the alert lamp will not flash.

NOTE: A flashing alert lamp is helpful because you can see it from across a room.

1. Enter maintenance mode. See [“Working in Maintenance Mode” on page 3-1](#).

2. Press ▼ to select **Maintenance Alert**, and then press ►.
3. Press ▼ to select an item, and then press **OK**.
  - **Disable**—The alert lamp is disabled.
  - **Ink**—The alert lamp flashes when ink is low or empty.
  - **Maintenance Box**—The alert lamp flashes when maintenance tank is full.
  - **Ink or Maint Box**—The alert lamp flashes when ink or maintenance tank is nearing replacement.
  - **Papers**—The alert lamp flashes when media is low or empty; set to **Roll Paper Remaining** or **Cut Sheet Remaining**.
  - **All**—The alert lamp flashes for ink, maintenance tank, and media (film and paper) warnings.
4. Shut down the imager, and then start it again.

## Number of Minutes Before Automatic Sleep Mode

To reduce power consumption, the imager enters sleep mode after a configurable number of minutes without activity. When in sleep mode, the imager display screen goes dark. The imager becomes active again when it receives a print job. The default setting is 15 minutes.

1. Enter maintenance mode. See [“Working in Maintenance Mode” on page 3-1](#).
2. Press ▼ to select **Sleep Mode**, and then press ►.
3. Press ▼ to select 5, 15 (default), 60, 120, or 180 minutes, and then press **OK**.
4. Shut down the imager, and then start it again.

## Return Settings to the Defaults

**IMPORTANT:** *If you return to the default settings, you change some settings that are required for the CHROMA system to operate normally. It will be necessary to reconfigure some settings that you specified during the system installation. For that reason, this procedure is not recommended for CHROMA users.*






1. Enter maintenance mode. See [“Working in Maintenance Mode” on page 3-1](#).
2. Press ▼ to select **Default Panel**, and then press ►.
3. With **Execute** selected, press **OK**.
4. Shut down the imager, and then start it again.

## Checking Imager Status

Print a status sheet or view various items on the imager screen. You can also check status at the Web Portal. See [“Accessing the Web Portal” on page 1-12](#) for more information.






### Print a Status Sheet

The status sheet shows settings such as auto nozzle check (on or off), the media status (how much is remaining), the maintenance tank status (how much space is remaining in the tank), and the IP address.



1. Press .
2. Press  to select **Test Print**, and then press .
3. Press  to select **Status Sheet**, and then press .
4. Press **OK** to start printing.

### View Imager Status





This procedure displays the selected information on the imager display screen.

1. Press .
2. Press  to select **Printer Status**, and then press .
3. Select one of the procedures below.
4. Press   to exit the menu.

### Firmware Version



From the Printer Status Menu, press . When done viewing the firmware version, press  to exit.

### Ink Levels

From the Printer Status Menu, press  to select **Ink Level**, and then press . The percentage of ink remaining in the first ink cartridge displays. Continue pressing  to see the status of the remaining cartridges. When done, press  to exit.

NOTE: You can also view the approximate ink levels at any time on the imager display screen. See [“Checking the Ink Levels” on page 2-20](#).

### Maintenance Tank Levels

From the Printer Status Menu, press  to select Maintenance Box, then press . The percentage of ink absorption space remaining for each tank displays.

As the tank fills, the percentage decreases. When done, press  to exit.

NOTE: You can also view the approximate maintenance tank levels at any time on the imager display screen. See [“Checking the Maintenance Tank Levels” on page 2-23](#).

## Job History

From the Printer Status Menu, press ▼ to select **Job History**, and then press ►. For the last 10 print jobs saved in the imager, the following displays:

- Job no. (0-9), with 0 being the current job
- Amount of ink used, in milliliters
- Amount of media used, in square centimeters

When done, press ◀ to exit.

## Total Print Count

From the Printer Status Menu, press ▼ to select **Total Prints**, then press ◀. When done, press ◀ to exit.

## Setting up Automatic Nozzle Check

You can configure the imager to regularly check for nozzle clogs. If clogs are found, Auto Cleaning is initiated.

1. Press ►.
2. Select **Printer Setup**, and then press ►.
3. Press ▼ to select **Auto Nozzle Check**, and then press ►.
4. Select one of the following, and then press **OK**:
  - **On: Every Job**—The imager checks the nozzles before every print job and runs a cleaning cycle if necessary.
  - **On: Periodically** (default)—The imager periodically checks the nozzles and runs a cleaning cycle if necessary.
  - **Off**—The imager does not perform automatic nozzle checks or cleaning cycles.

When changing the black ink type, the imager always performs an Auto Nozzle Check.

When a clog is detected, Auto Cleaning is performed for the number of times set in the Maintenance Mode Menu until the clogged nozzles are clear. (See [“Auto Cleaning” on page 3-2.](#))

## Setting up Roll Paper Settings

These parameters are set up during the installation of the imager.


### Media Selection

When the media source is set to **Cut Sheet**, the image only prints from the media cassette. When the media source is set to **Roll Paper**, the imager can print to both the media cassette and roll paper. Leave the media source set to **Roll Paper/Cut** to print from both media sources.

Press the **Media Source** button ◀ to change between **Cut Sheet** and **Roll Paper/Cut**.


### Roll Paper Margins

Only 3 mm is supported.

1. Press ▶ .
2. Press ▼ to select **Printer Setup**, and then press ▶ .
3. Press ▼ to select **Roll Paper Margin**, and then press ▼ to select **3 mm**.
4. Press **OK**.
5. Press  to return to the Ready screen.


### Paper Size Check

Leave **Paper Size Check** set to **On**.


1. Press ▶ .
2. Press ▼ to select **Printer Setup**, and then press ▶ .
3. Press ▼ to view **Paper Size Check**. Confirm that the setting is **On**.
4. Press **OK**.
5. Press  to return to the Ready screen.

### Paper Skew Check

Leave **Paper Skew Check** set to **On**.

1. Press ▶ .
2. Press ▼ to select **Printer Setup**, and then press ▶ .
3. Press ▼ to view **Paper Skew Check**. Confirm that the setting is **On**.
4. Press **OK**.
5. Press  to return to the Ready screen.

**Set Roll Paper Tension** If wrinkles appear in the roll paper while printing, change the setting.

1. Press ▶ .
2. Press ▼ to select **Paper Setup Menu**, and then press ▶ .
3. Press to select **Set Roll Paper Tension**.
4. Press to select **High** or **Extra High**.
5. Press **OK**.
6. Press  to return to the Ready screen.

## Optimizing the Look of the Image

You can adjust the look of the printed images. To access these options, access the Web Portal (see [“Accessing the Web Portal” on page 1-12](#)).

NOTE: In the Web Portal, the Help (?) icons provide information about each area. Also, click the **Documentation** link to access the Web Portal procedures.

- For grayscale images on film, use the Grayscale Image Quality wizard to print a test page with an image from a modality. The test print provides several copies of the image with different processing parameters applied. Select the optimal image (the image with the “best” look). When you save your selection, all images from that modality will have the same processing parameters applied. See [“Optimizing Grayscale Images on Film” on page 3-7](#).
- For grayscale images on paper, you can optimize the transfer function table (TFT) settings. See [“Optimizing Grayscale Images on Paper” on page 3-8](#).
- For color images on paper, you can adjust the color density, with the lower number providing a lower density of ink on the paper. See [“Optimizing Color Images on Paper” on page 3-8](#).
- There are also multiple types of test prints to view and experiment with the system capabilities and image processing parameters such as density, sharpness, and contrast.
- If the tools above do not result in an optimal image, it might be necessary to contact your qualified service provider for help. There are additional procedures for image adjustment at the Web Portal (such as Service Class Provider configuration), but those are not recommended unless you have a strong understanding of image processing.

### Optimizing Grayscale Images on Film

1. Load film in the media cassette. See [“Loading the Media Cassette \(Cut Sheets\)” on page 2-4](#).
2. At a modality, send an image to the CHROMA imager.
3. Log on to the Web Portal. See [“Accessing the Web Portal” on page 1-12](#).
4. From the Web Portal menu, select **Wizards > Grayscale Image Quality**.
5. Under Optimization Steps, click >>.
6. Return to the modality, and send an image to the imager.
7. Return the Web Portal. At the Grayscale Image Quality Wizard, under Optimization Steps, click >>.

NOTE: The image does not print until you click >>. Then a test page prints.

8. View the test page and visually select the optimal image. Each image is labeled with a number.
9. At the Grayscale Image Quality Wizard, under Image Number, click >> to select the number of your optimal image.
10. Under Optimization Steps, click >> again to continue.
11. Check for a “Passed” status near the bottom of the screen.
12. Return to the modality and resend the image to print. Visually check the print. If it still needs improvement, return to step 5 and repeat the process.

## Optimizing Color Images on Paper

1. Load paper in the media cassette or on the roll feeder. See [“Loading the Media Cassette \(Cut Sheets\)” on page 2-4](#) or [“Loading the Roll Paper into the Imager” on page 2-9](#).
2. At a modality, send a color image to the CHROMA imager.
3. Log on to the Web Portal. See [“Accessing the Web Portal” on page 1-12](#).
4. From the Web Portal menu, select **Configuration > Paper Density Control > Paper Density Control**.
5. Click **Modify**, and then next to Paper Density Value, click >> to increase or decrease the density.
6. Click **Save**.
7. Return to the modality and resend the image to print. Visually check the print. If it still needs improvement, return to step 2 and repeat the process.

## Optimizing Grayscale Images on Paper

1. Load paper in the media cassette or on the roll feeder. See [“Loading the Media Cassette \(Cut Sheets\)” on page 2-4](#) or [“Loading the Roll Paper into the Imager” on page 2-9](#).
2. At a modality, send a color image to the CHROMA imager.
3. Log on to the Web Portal. See [“Accessing the Web Portal” on page 1-12](#).

To optimize the images for your preferences, it might be necessary to try the transfer function table (TFT) sets and related settings on the next page. The settings are based on the types of images you are printing.

NOTE: With images of Monochrome1 photometric interpretation, the image’s areas of lower density display and print in lighter shades, while the higher densities are darker. Monochrome2 images are the opposite: the lower densities display and print in darker shades while the higher densities are lighter.



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NOTE: The DICOM header tag for Monochrome1 and 2 is 0028,0004.

**TFT and Related Settings**

	<b>TFT Set</b>	<b>Smoothing Type</b>	<b>Perception LUT Contrast</b>	<b>Dmax</b>	<b>Types of Image</b>	<b>Notes</b>
1a	LINODS.w87	15	7	2.8	CT, MI, Nuclear Medicine, Ultrasound, DSA/Digital Fluoroscopy	To increase the image contrast, decrease the Perception LUT Contrast setting.
1b	LINODS.w87	5	7	2.8	CR, DR with Monochrome2 Photometric Interpretation	Monochrome2 = Perception or Luminance space. To increase the image contrast, decrease the Perception LUT Contrast setting.
2	LD4305.w87	5	1	2.8	CR, DR with Monochrome1 Photometric Interpretation	Monochrome1 = Density space. If using LINODS.w87 and the printed image is inverted (black bone on white), use LD4305.w87 instead.

4. From the Web Portal menu, select **Configuration > DICOM SCP > Configuration**.
5. From the SCU menu, select the service class user (SCU) from which you are printing.
6. Click **Modify**.
7. Enter the first set of parameters from the table above that matches the SCU. For example:
  - For CT images, enter the settings for row 1a.
  - For CR images with Monochrome2 photometric interpretation, enter the settings for row 1b.
  - For each, select **Always Apply**.
8. Return to the modality and resend the image to print. Visually check the print. If it still needs improvement, return to step 4 and retry different settings. For example, you might experiment with the Perception LUT Contrast setting for images using the TFT Set LINODS.w87.

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# 4 Maintenance and Troubleshooting

## Overview

This chapter provides instructions to:

- Clean the imager, either as preventive maintenance or to solve problems
- Correct any print quality issues
- Realign the print head
- Replace the cutter blade
- Correct any errors at the imager
- Correct any print jams
- Restart the DICOM interface
- Restore the system software
- Call for support

## Keeping the Imager Clean

### Clean the Outside

To keep the imager in optimal operating condition, clean it regularly (about once a month).

**IMPORTANT:** *Always leave cut sheet media in the carrier when you remove it from the cassette. Store the unused cut sheet media in its carrier, and store all unused media in the original carton.*

1. Remove any media from the imager. See “Chapter 2 Working with the Media and Ink” for help.
2. Shut down the imager. Wait for the screen to go dark, and then unplug the power cable from the electrical outlet.
3. Use a soft, clean cloth to carefully remove any dust or dirt.

If there is heavy dust or dirt, clean the imager using a soft, clean cloth dampened with a mild detergent. Then wipe off with a dry, soft cloth.



**CAUTION:**

**Never use benzene, thinners, or alcohol to clean the imager. They could cause discoloration and deformities.**

### Uneven Prints: Clean the Cassette Printing Path

**IMPORTANT:** *Make sure you are printing through the DICOM interface according to the instructions in this guide.*

Clean the cassette printing path if the prints are dirty or if particles are on the print. If the printing path is not clean, the ink might be applied unevenly.

1. Load A2 or 43 cm (17 in.) CHROMA paper in the media cassette.
2. Check that the imager is on, and change the media type to **Cut Sheet**:
  - Press ◀ to display the Paper Type Menu.
  - Press ▼ to select **Cut Sheet**.
  - Press **OK**.
3. Press ▼ . Paper ejects from the cassette.
4. Repeat steps 1–3 until the media is not dirty.
5. Return the media type to **Paper Roll/Cut** if you will print from the roll feeder.

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## “Dirty” Prints: Clean the Inside

**IMPORTANT:** *Make sure you are printing through the DICOM interface according to the instructions in this guide.*

1. Shut down the imager. Wait for the screen to go dark, and then unplug the power cable from the electrical outlet.
2. Wait for one minute.
3. Open the imager cover and use a soft, clean cloth to carefully clean away any dust or dirt inside the imager.

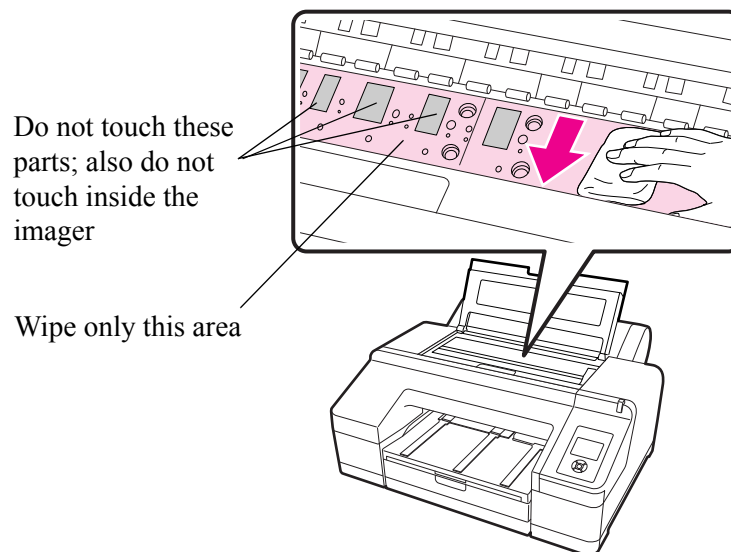
Wipe the shaded area in the illustration below, avoiding the areas shown. To avoid spreading the dirt, wipe from the inside to the outside. If there is heavy dust or dirt, clean it using a soft, clean cloth dampened with a mild detergent. Then, wipe the inside of the imager with a dry, soft cloth.



### **CAUTION:**

**Do not touch the roller and the ink absorption (indicated below); otherwise, prints may be soiled.**

**Do not touch the ink tubes inside the imager. This can damage the imager.**



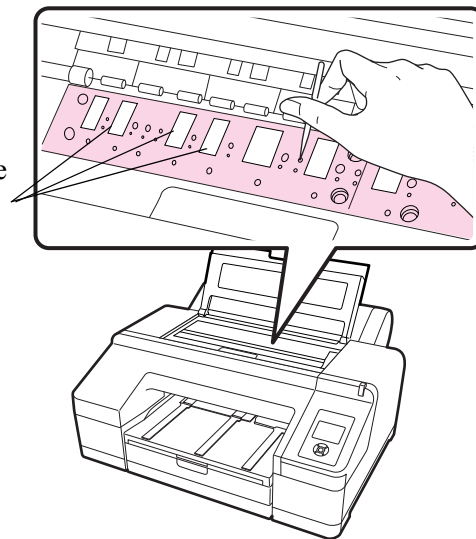
4. Close the imager cover.

## White Powder on the Platen: Clean the Platen

**IMPORTANT:** *Make sure you are printing through the DICOM interface according to the instructions in this guide.*

1. Shut down the imager. Wait for the screen to go dark, and then unplug the power cable from the electrical outlet.
2. Wait for one minute.
3. Use a toothpick or similar object to push in the paper particles on the platen. The particles look like white powder.

Do not touch these parts; also do not touch inside the imager



### **CAUTION:**

**Do not touch the roller and the ink absorption; otherwise, the prints may be soiled.**  
**Do not touch the ink tubes inside the imager. This can damage the imager.**

4. Close the imager cover.

## Smudged Prints from the Roller

If the roll paper prints are smudged or soiled, clean the roller:

1. Turn on the imager.
2. If not already loaded, load the roll paper. See [“Loading the Roll Paper” on page 2-9](#).
3. Press ▼ to feed the paper through the imager. The paper feeds while you hold the button. Feed the paper until it comes out clean.

## Running a Nozzle Check to Avoid or Correct Print Issues

### Checking and Cleaning the Nozzles

Run a nozzle check:

- Regularly to keep your imager in optimal condition. The manufacturer recommends running a nozzle check **daily**.
- If white lines or spots appear in the prints, or if the imager is not printing evenly.
- If print quality has declined in any way.





There are multiple approaches:


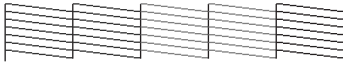
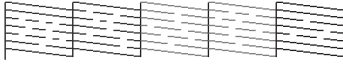
- Auto Nozzle Check—If the imager detects a clogged nozzle, you are notified and Auto Cleaning is initiated. To set up Auto Nozzle Check, see [“Setting up Automatic Nozzle Check” on page 3-5](#).

NOTE: You can set the intensity of the Auto Cleaning process. See [“Auto Cleaning” on page 3-2](#).

- Print Check Pattern—Checks the nozzles for clogs. If you see banding or gaps in the printed pattern, perform a head cleaning.


To start a nozzle check or a print check pattern:

1. Load A4 or larger paper or roll paper.
2. Press  to display the Ink Menu.
3. Press  to select **Nozzle Check**, and then press .
4. Press  to select **Auto Nozzle Check** or **Print Check Pattern**, and then press **OK**.
5. Check the results.





Nozzle Check	Print Check Pattern
<p>A message displays if a clog is detected.</p> <p>If detected, press  to start Auto Cleaning, and then press <b>OK</b> to close the Ink Menu.</p>	<p>Review the test print for any gaps in the pattern.</p> <p><b>Example of clean nozzles</b></p>  <p><b>Example of clogged nozzles</b></p>  <p>If any segments are missing in the nozzle check pattern, perform a head cleaning.</p>

## Working with the Print Head




### Overview

- Clean the print head if the print quality declines, for example, if the printout is blurry or the color is incorrect or missing.
- Ink is consumed when head cleaning is performed.
- When you perform **All Colors/All Colors (Powerful)** in **Manual Cleaning** from the imager, ink is consumed from all of the ink cartridges. Even if you are using only black inks for black and white printing, the color inks are also consumed.
- If the Ink Check light (  ) is on, there might not be enough ink to perform an ink check. Replace the near-empty ink cartridge with a new one. Check the display screen to know which cartridge to replace. See [“Checking the Ink Levels” on page 2-20](#).
- If you repeat head cleaning in a short time period, the maintenance tank may fill up quickly due to a small amount of ink evaporation in the tank. Install a new maintenance tank if there is not enough empty space in the tank. See [“Replacing the Maintenance Tanks” on page 2-24](#).
- If the nozzles are still clogged after cleaning the print head several times, try the power cleaning.
- The power cleaning cycle consumes more ink than normal head cleaning. Check the remaining ink level in advance, and prepare a new ink cartridge before you start cleaning if the ink is low.
- If the nozzles are still clogged after performing power cleaning, shut down the imager and leave it overnight or longer. When left for some time, the clogged ink may dissolve. If the nozzles are still clogged, contact your qualified service provider.
- If a cleaning error message displays, see the next procedure to check for the cause and solution.







### Clean the Print Head

1. Run a nozzle check to make sure you need to clean the print head. See [“Running a Nozzle Check to Avoid or Correct Print Issues” on page 4-5](#).
2. Check that the imager is in the Ready state and the red Ink Check light is not on or flashing.
3. Press  /  . The Ink Menu displays.
4. Press  to select **Manual Cleaning**, and then press  .

NOTE: Run the powerful cleaning only if the normal cleaning process has not cleared the nozzles. The power cycle uses a large quantity of ink.

- Select a color pair to clean—Press  to select the color pair, and press  . Press  to select **Execute** or **Execute (Powerful)**, and then press **OK**. The cleaning starts.



- Clean all colors—Press  to select **All Colors**, and press . Press  to select **Yes**, and then press **OK**. The cleaning starts.
- Power clean all colors—Press  to select **All Colors (Powerful)**, and press . Press  to select **Yes**, and then press **OK**. The cleaning starts.

The power light flashes and head cleaning starts. It takes from one to 10 minutes. Cleaning is finished when the Power light is on.









NOTE: If Auto Nozzle Check is set to On, it might take 10 minutes or longer.

5. Print a nozzle check pattern, and check the result (see [“Running a Nozzle Check to Avoid or Correct Print Issues”](#) on page 4-5).






## Align the Print Head

Aligning the print head is important to ensure the best print quality. If banding appears on your prints, or if prints look grainy or blurry, align the print head.

Perform a nozzle check before you align the print head. See [“Running a Nozzle Check to Avoid or Correct Print Issues”](#) on page 4-5.

1. Load A4 or larger CHROMA paper or roll paper.
2. Press .
3. Use the arrow buttons to select **Head Alignment**, and then press .
4. Press  twice and select the paper type. Press , select the paper type, and then press **OK**.
5. Press  three times, and then press  to select **Alignment**.
6. Press  to select **Auto**, and then press  again. UNI-D is selected.

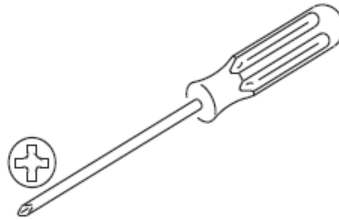
**IMPORTANT:** *Each alignment takes about seven minutes. Do not open the front cover or shut down the imager during this process.*

7. Press , and then press **OK** to start the alignment.
8. When the process is complete, press .
9. Select **Head Alignment**, **Alignment**, and **Auto**.
10. Select **Bi-D 5-Color**, press , and then press **OK**.
11. When the process is complete, press   to exit.

## Correcting Paper Cutting Problems

Replace the cutter if it is not cutting cleanly. It might not be necessary to replace the cutter during the life of the imager.

Use a cross-head screwdriver to replace the cutter.



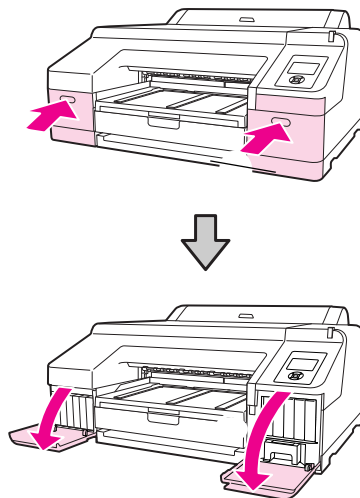
**CAUTION:**

Be careful not to damage the cutter blade. Dropping it or knocking it against a hard object can damage the blade.

1. Turn off the imager.

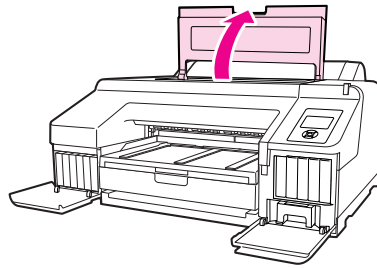
**IMPORTANT:** *Always leave cut sheet media in the carrier when you remove it from the cassette. Store the unused cut sheet media in its carrier, and store all unused media in the original carton.*

2. If media is loaded in the imager, remove it.
3. Open the cartridge covers on both sides.

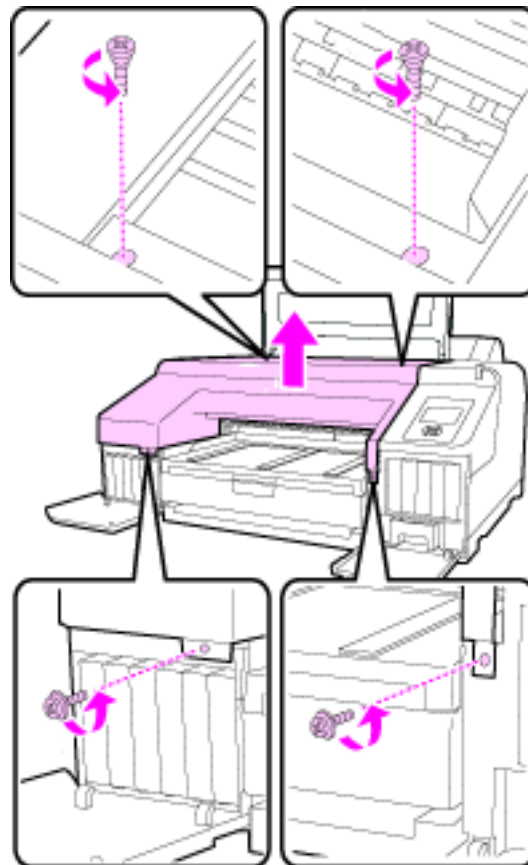


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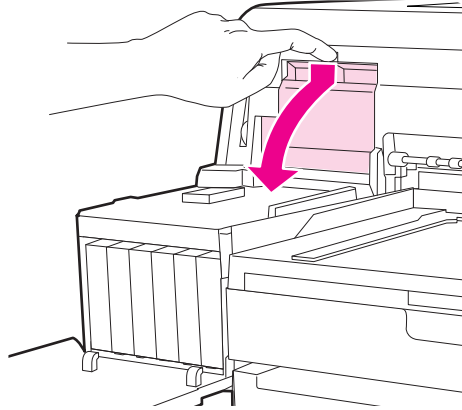
4. Open the top cover.



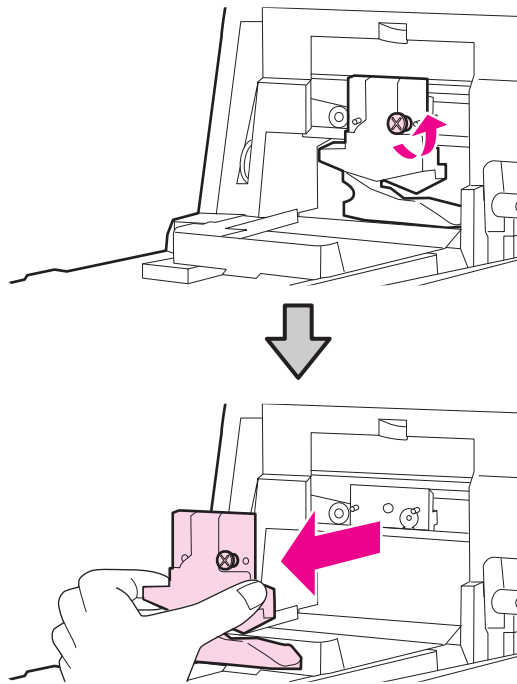
5. Use the screwdriver to remove the four screws that hold the cover in place, and then remove the cover.



6. Locate and open the cutter cover. Pull the cover toward you while holding down the lock.

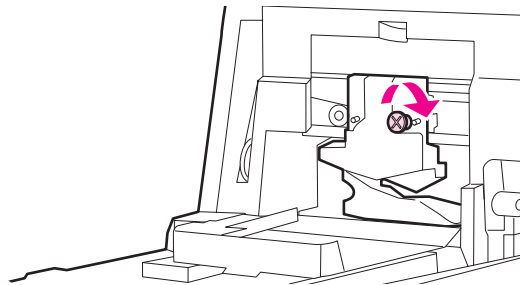
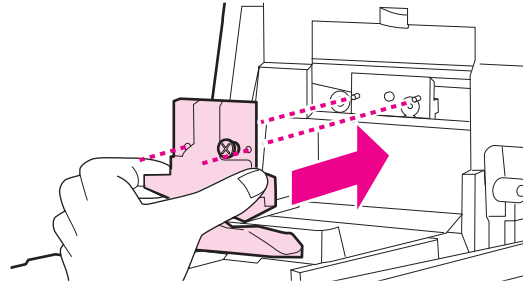


7. Using the screwdriver, loosen the screw that holds the cutter in place, and then pull the cutter straight out.

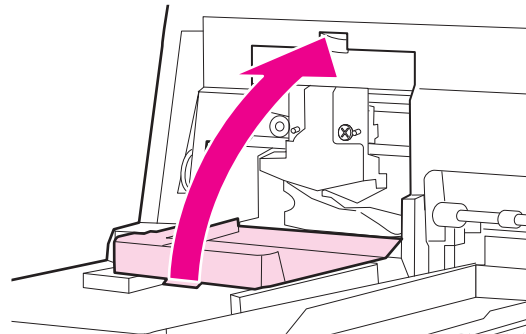


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8. To install the new cutter, insert it so the pin on the imager aligns with the hole on the cutter. Use the screwdriver to tighten the screw to hold the cutter in place.



9. To close the cover, push it in until you hear a click.



10. To return the front cover, reinsert and tighten the four screws that hold the cover in place. Use the screws with washers for the front (the cartridge cover area).

NOTE: If the front cover is not correctly installed, an error displays and the imager will not respond.

11. Close the top cover and the cartridge covers.

## Correcting Errors

### Introduction

There are several places to check the status of the system:

- The alert lamp on the imager automatically lights or flashes when an error or warning occurs. You can set or change the alert lamp settings in maintenance mode. (See [“Alert Settings” on page 3-2.](#))
- The imager display screen shows messages that are related to printing functions, for example, ink low and maintenance messages. If an error occurs, the alert lamp and/or the display screen light illuminate, and a message displays.
- The small screen on the DICOM Interface shows the media size for loaded and requested media for the jobs from modalities.
- The Web Portal provides more detailed status and system information.

Messages and suggested correction actions are provided in this chapter.

### Messages at the Imager Display Screen and Suggested Actions

Message	Action
Ink Cartridge Expended. Replace ink cartridge.	Replace the ink cartridge. See <a href="#">“Replacing the Ink Cartridges” on page 2-21.</a>
Ink Cartridge Alert. Please use genuine Epson ink cartridges.	Replace the ink cartridge with an ink cartridge that is supported by this imager.
Ink Cartridge Alert Non-genuine cartridge! Quality of non-genuine ink may vary. Non-genuine cartridge may not perform at optimum. Continue? Decline or Accept	Select <b>Decline</b> , and then replace the ink cartridge with a supported ink cartridge.
Ink Cartridge Alert. Replace ink cartridge(s).	Remove the ink cartridge and reinstall it. If the message still displays, install a new ink cartridge.  Condensation may occur in the ink cartridge. Leave it at room temperature for at least four hours before reinstalling the ink cartridge.
Ink Cartridge Error. Please install the correct ink cartridge.	Remove the ink cartridge, and install an ink cartridge that is supported by this imager.


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<b>Message</b>	<b>Action</b>
No Ink Cartridges. Install ink cartridge(s).	Install ink cartridges. See <a href="#">“Replacing the Ink Cartridges”</a> on page 2-21.
Ink Low	Prepare a new ink cartridge for replacement.
Cartridge Cover Open. Close right and left cartridge covers.	Close the ink cartridge covers.
Cartridge Cover Open. Close left cartridge cover.	Close the cartridge cover on the left.
Cartridge Cover Open. Close right cartridge cover.	Close the cartridge cover on the right.
Paper Load Error. Remove the rear unit to fix paper jam.	See <a href="#">“Feeding or Ejecting Problems/Media Jams”</a> on page 4-21 and remove the jammed media.
Paper Load Error. Remove paper cassette to fix paper jam.	See <a href="#">“Feeding or Ejecting Problems/Media Jams”</a> on page 4-21 and remove the jammed media.
Cleaning Error Not enough ink Continue cleaning? Yes (Recommended) or No	<b>Yes</b> —The ink cartridge replacement message displays. Replace the ink cartridge with a new one to continue cleaning. <b>No</b> —Cleaning is canceled and the imager returns to a Ready state.
Cleaning Error Automatic head cleaning failed. Retry? Yes or No	Clogged nozzles could not be cleared even after cleaning. Select <b>Yes</b> to clean again. If the cleaning does not start, cancel the printing, shut down the imager, wait for a while, and then restart the imager. If you select <b>No</b> , cleaning is canceled and the imager returns to a Ready state.
Cleaning Error Not enough empty space in maint box 1. Continue cleaning? Yes (recommended) or No	<b>Yes</b> —The maintenance box 1 replacement message displays. Replace the maintenance tank with a new tank to continue cleaning. See <a href="#">“Replacing the Maintenance Tanks”</a> on page 2-24. <b>No</b> —Cleaning is canceled and the imager returns to a Ready state.
Ink Too Low To Clean Replace ink cartridge. The cartridge being used can be installed again for printing.	The message displays when <b>Yes</b> is selected due to a Cleaning Error or Nozzle Clog Detected error. Replace the ink cartridge with a new cartridge. See <a href="#">“Replacing the Ink Cartridges”</a> on page 2-21.
Auto Cleaning This feature is not available now. Print the check pattern in the Nozzle Check Menu.	Press <b>OK</b> to remove the message. Then run a print check pattern. See <a href="#">“Running a Nozzle Check to Avoid or Correct Print Issues”</a> on page 4-5.

<b>Message</b>	<b>Action</b>
Auto Nozzle Check This feature is not available now. Print the check pattern in the Nozzle Check Menu.	Press the <b>OK</b> button to remove the message. Then run a print check pattern. See <a href="#">“Running a Nozzle Check to Avoid or Correct Print Issues” on page 4-5.</a>
No Front Cover. Attach front cover then restart imager.	Shut down the imager, and then install the front cover. Start the imager.
Clogged nozzles detected. Cleaning recommended.	Perform head cleaning to remove any clogs. The message displays until the clogged nozzles have been cleared, but it clears when a check pattern is printed. You can print when this message displays. See <a href="#">“Running a Nozzle Check to Avoid or Correct Print Issues” on page 4-5.</a>
Nozzle Clog Detected Not enough ink. Continue cleaning? Yes (Recommended) or No	<b>Yes</b> —The ink cartridge replacement message displays. Replace the ink cartridge with a new cartridge to continue cleaning. See <a href="#">“Replacing the Ink Cartridges” on page 2-21.</a> <b>No</b> —Cleaning is canceled and the imager returns to a Ready state.
Nozzle Clog Detected Not enough empty space in maint box 1. Continue cleaning? Yes (recommended) or No	<b>Yes</b> —The maintenance box 1 replacement message displays. Replace the maintenance tank with a new tank to continue cleaning. <b>No</b> —Cleaning is canceled and the imager returns to a Ready state.
Wrong Support Position. Lower the paper eject support.	The media eject support is raised. Lower the eject support.
Wrong Support Position. Raise the paper eject support.	The media eject support is lowered. Raise the eject support.
No Rear Unit. Install the rear unit.	Install the rear unit. For instructions, see <a href="#">“Feeding or Ejecting Problems/Media Jams” on page 4-21.</a>
F/W Install Error. Update failed. Restart the imager.	Shut down the imager, wait for a few minutes, and then start the imager again. If this message appears again, contact your qualified service provider.
Imager Cover Open. Please close the cover.	Close the imager cover.
Maint Box 2 Unlocked. Lock lever for maintenance box 2.	Lock maintenance tank 2 (borderless tank).
Not Enough Empty Space. Replace the maintenance box 1.	Replace the maintenance tank 1 (maintenance box) with a new tank. See <a href="#">“Replacing the Maintenance Tanks” on page 2-24.</a>












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<b>Message</b>	<b>Action</b>
Maintenance Box 1 Error. Replace maintenance box 1.	Set the maintenance tank 1 (maintenance box) again correctly. If the error occurs again, replace maintenance tank 1 with a new tank. See <a href="#">“Replacing the Maintenance Tanks” on page 2-24.</a>
Maintenance Box 2 Error. Replace maintenance box 2.	Set the maintenance tank 2 (borderless tank) again. If the error occurs again, replace maintenance tank 2 with a new tank. See <a href="#">“Replacing the Maintenance Tanks” on page 2-24.</a>
Replace Maint Box 1. At the end of service life. Replace maint box 1.	Replace the maintenance tank 1 (maintenance box) with a new tank. See <a href="#">“Replacing the Maintenance Tanks” on page 2-24.</a>
No Maintenance Box 1. Install maintenance box 1.	Install the maintenance tank 1 correctly. See <a href="#">“Replacing the Maintenance Tanks” on page 2-24.</a>
No Maintenance Box 2. Install maintenance box 2.	Install the maintenance tank 2 (borderless tank) correctly.
Maint box near end of service life.	To check if free space is running low in maintenance tank 1 or 2, look at the display screen. See <a href="#">“Checking the Maintenance Tank Levels” on page 2-23.</a> Replace the appropriate tank. See <a href="#">“Replacing the Maintenance Tanks” on page 2-24.</a>
No Paper Cassette. Install paper cassette.	Install the media cassette. See <a href="#">“Loading the Media Cassette (Cut Sheets)” on page 2-4.</a>
Paper Size Error. Load correct paper size.	The loaded media width is not supported. Check the following conditions and load media with an appropriate width. The smallest media width is 20.32 cm (8.00 in.). Make sure that A4 or larger media is loaded when performing head alignment. If an error message displays even though media with an appropriate width is loaded, set Paper Size Check to <b>Off</b> . Press <b>Menu &gt; Printer Setup &gt; Paper Size Check &gt; Off</b> .
Paper Setting Error. This paper cannot be loaded from paper cassette.	The wrong type of media has been loaded in the cassette. Press the  button and select <b>Job Cancel</b> , then remove the media from the cassette.
Paper Jam. Remove paper from imager. Power off and then on.	See <a href="#">“Feeding or Ejecting Problems/Media Jams” on page 4-21.</a>

Message	Action
Paper Out. Load paper in paper cassette.	Confirm that no jobs are in the process of printing, then remove the cassette and load the media.  <b>IMPORTANT:</b> <i>Always leave the media in the carrier when you load it into and unload it from the cassette. Store unused media in its carrier and in the original carton.</i>
Paper Sensor Error. Loaded paper or print out has a problem. Refer to manual for details.	If this error displays when performing an automatic head alignment, check the following items: <ul style="list-style-type: none"> <li>• Did you load media that is not supported for automatic head alignment? Automatic head alignment cannot be performed with plain paper or thick paper. Install CHROMA paper.</li> <li>• Did you load media that is smaller than A4 size? Load paper that is A4 size or larger.</li> <li>• Are any nozzles clogged? Perform a head cleaning. See <a href="#">“Running a Nozzle Check to Avoid or Correct Print Issues”</a> on page 4-5.</li> </ul> If this error displays at any other time, make sure that CHROMA paper is loaded.

## Roll Paper Errors

Message	Action
Paper Cut Error	Roll paper is not cut correctly. Press  to release the paper presser, and then remove the uncut paper.  The paper cutter may be blunt. Replace the cutter. See <a href="#">“Correcting Paper Cutting Problems”</a> on page 4-8.
Paper Eject Error Press the  button, or Remove paper and press the  button.	This error might occur when you are near the end of a roll of paper. When a paper roll is almost depleted, the imager cannot print beyond a certain point on the roll. If this error occurs, follow the instructions on the screen to press  to rewind (and remove) the roll paper, and install a new roll.
Paper Jam or Paper Jam/Remove paper from printer. Power off and then on.	Press  to release the paper presser, and then remove the paper. See <a href="#">“Clearing a Roll Paper Jam”</a> on page 4-24.
Paper Load Error/Press the  button and reset roll paper.	Press  to rewind the roll paper, and then load it into the imager. See <a href="#">“Loading the Roll Paper into the Imager”</a> on page 2-9.
Paper Low	Prepare a new roll paper for replacement. See <a href="#">“Replacing the Roll Paper”</a> on page 2-16.
Paper Out/Press the  button.	Press  to release the paper presser, and then load more roll paper. See <a href="#">“Replacing the Roll Paper”</a> on page 2-16.

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<b>Message</b>	<b>Action</b>
Cutter unit nearing end of service life. Recommend replacing the cutter unit.	The paper cutter may be blunt. Replace the cutter. See <a href="#">“Correcting Paper Cutting Problems” on page 4-8.</a>
Paper Setting Error Roll paper is loaded. Remove it and change paper source to roll paper.	Remove the roll paper and see <a href="#">“Replacing the Roll Paper” on page 2-16</a> to install the roll paper again.
Paper Skew/Load paper correctly.	The paper is not loaded straight. Press  to release the paper presser, and then load the paper correctly. See <a href="#">“Replacing the Roll Paper” on page 2-16.</a>

### **Maintenance or Service Call is Required**

<b>Message</b>	<b>Action</b>
Maintenance Request. Code XXXX (the code varies by the error, for example Code 1234) Refer to the manual.	An imager part is nearing the end of its service life. Contact your qualified service provider and provide the maintenance request code. You cannot clear the maintenance request until the part is replaced. A service call occurs if you continue to use the imager.
Call For Service. Code XXXX (the code varies by the error, for example, Code 1125) Power off and then on. If this doesn't work, note the code and call for service.	A call for service occurs when: <ul style="list-style-type: none"> <li>• The power cable is not connected securely</li> <li>• An error that cannot be cleared occurs</li> </ul> When a call for service has occurred, the imager automatically stops printing. Shut down the imager, disconnect the power cable from the outlet and from the AC inlet, and then reconnect. Restart the imager multiple times. (Press the power switch on the front of the imager multiple times.) If the call for service displays again, contact your qualified service provider. Provide the code that displays.

## Troubleshooting

### Imager is Not Printing

Symptom	Action
The imager does not start.	<p>Make sure the power cable is securely plugged into the imager, into the DICOM interface, and into the electrical outlets.</p> <p>Is there a problem with the electrical outlet? Make sure your outlet works by connecting the power cable for another electric product.</p>
The print job from the modality fails.	<p>Check that the imager is selected as the print destination at the modality. If yes, check the Web Portal software to confirm that the modality network information has been configured correctly. See <a href="#">“Accessing the Web Portal” on page 1-12</a>.</p> <p>Check that the network cable is connected properly on both sides and that the network is operating at the site.</p> <p>Check the connection between the DICOM interface and the imager. Check the USB cable and disconnect, then reconnect as necessary. Make a test print from the DICOM interface to the imager to confirm connectivity.</p>
The imager is not communicating with the DICOM interface.	<p>Make sure the USB cable is securely connected into the correct terminal of the DICOM interface and the imager. Also, make sure the cable is not broken nor bent. If you have a spare USB cable, try connecting with the spare cable.</p>
You cannot print over the network.	<p>Are the network settings correct? Ask your network administrator for the network settings. Check the settings at the Web Portal. See <a href="#">“Accessing the Web Portal” on page 1-12</a>.</p>
The imager has an error.	<p>Confirm if errors have occurred by checking the lights and messages on the imager display screen.</p>

### Imager Sounds Like it is Printing, but Nothing Prints

Symptom	Action
The print head moves, but nothing prints.	<p>Confirm the imager operation.</p> <p>Print a nozzle check pattern. See <a href="#">“Running a Nozzle Check to Avoid or Correct Print Issues” on page 4-5</a>.</p> <p>Check the next section if the nozzle check pattern does not print correctly.</p> <p>If “Motor Self Adjustment” displays on the display screen, the imager is adjusting the internal motor. Leave the imager on and wait for a while.</p>

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Symptom	Action
The nozzle check pattern does not print correctly.	<p>Perform head cleaning. The nozzles may be clogged. Print a nozzle check pattern again after performing head cleaning. See <a href="#">“Running a Nozzle Check to Avoid or Correct Print Issues”</a> on page 4-5.</p> <p>If the imager has not been used for a while, the nozzles may have dried ink inside, which can cause a clog. See <a href="#">“Running a Nozzle Check to Avoid or Correct Print Issues”</a> on page 4-5.</p>

**Prints Do Not Look as Expected**

Symptom	Action
Print quality is poor, uneven, too light, or too dark.	<ul style="list-style-type: none"> <li>• Are the print head nozzles clogged? If the nozzles are clogged, specific nozzles do not fire ink and the print quality declines. Print a nozzle check pattern. See <a href="#">“Running a Nozzle Check to Avoid or Correct Print Issues”</a> on page 4-5.</li> <li>• Did you align the print head? See <a href="#">“Align the Print Head”</a> on page 4-7.</li> <li>• Are you using a supported ink cartridge? The imager is developed for use with specific ink cartridges. If you use non-supported ink cartridges, the prints may smear, or the color of the printed image may be changed because the remaining ink level is not correctly detected.</li> <li>• Are you using an old ink cartridge? The print quality declines when an old ink cartridge is used. Replace the old ink cartridge with a new cartridge. Use the ink cartridges before the expiration date printed on the packaging (within six months after installing in the imager). For more information, see <a href="#">“Extending the Life of Ink Cartridges During Periods of Inactivity or Low Use”</a> on page 2-19.</li> <li>• Did you open the imager cover while printing? If the imager cover is opened while printing, the print head stops suddenly, which can cause unevenness in the color. Do not open the imager cover while printing.</li> <li>• Does “Ink Low” appear on the display screen? The print quality may decline when the ink is low. Replace the ink cartridge. If there is a difference in color after replacing the ink cartridge, try cleaning the print head. See <a href="#">“Clean the Print Head”</a> on page 4-6.</li> </ul>
The image quality of the prints needs improvement.	See <a href="#">“Optimizing the Look of the Image”</a> on page 3-7.
The print is not positioned properly on the paper.	<p><b>IMPORTANT:</b> <i>Make sure you are printing through the DICOM interface according to the instructions in this guide.</i></p> <ul style="list-style-type: none"> <li>• Is the media size setting correct?</li> <li>• Is the media skewed? Check that the cassette is installed properly, and that the media carrier is loaded properly.</li> </ul>

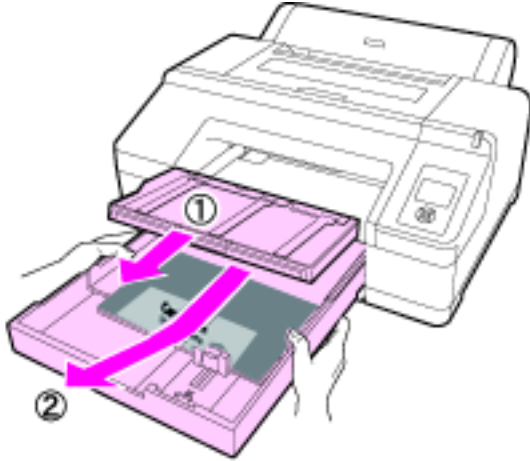
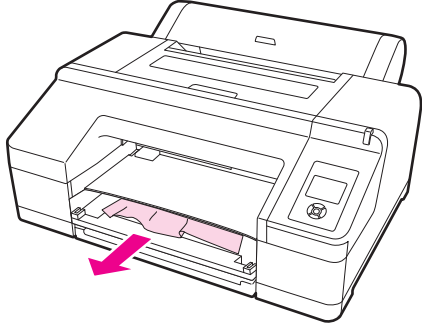
Symptom	Action
Vertical ruled lines are misaligned.	Is the print head misaligned? See <a href="#">“Align the Print Head”</a> on page 4-7.
The printed surface is scuffed or soiled.	<ul style="list-style-type: none"> <li>• Are you using CHROMA media inside a carrier? Only CHROMA media is supported.</li> <li>• Have changes in temperature or humidity damaged the media? Store and use the CHROMA media in an appropriate environment. See <a href="#">“Environmental Recommendations”</a> on page 5-2.</li> <li>• Start with a new package of CHROMA media if the media seems to be altered in any way.</li> </ul>
The paper is creased.	<ul style="list-style-type: none"> <li>• Have changes in temperature or humidity damaged the media? Store and use the CHROMA media in an appropriate environment. See <a href="#">“Environmental Recommendations”</a> on page 5-2.</li> <li>• Start with a new package of CHROMA media if the media seems to be altered in any way.</li> </ul>
The reverse side of the printed paper is soiled.	<p><b>IMPORTANT:</b> <i>Make sure you are printing through the DICOM interface according to the instructions in this guide.</i></p> <p>Is ink dry on the printed surface? Depending on the printing density and media type, the ink may take a while to dry. Do not stack the media until the printed surface is dry.</p>

### Top Line of the DICOM Interface Screen is Blank

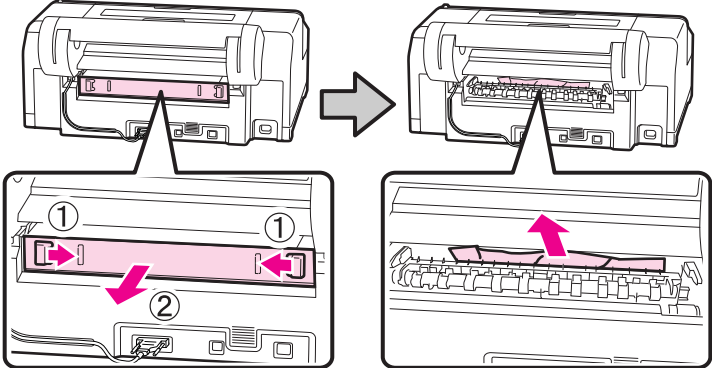
Symptom	Action
The DICOM interface typically displays the loaded media size on the top line of the screen. If nothing displays on the top line, there might be an issue reading the RF tag on the media.	<p><b>Cut Sheets</b>—Check the media cassette to confirm that the media is loaded correctly. The media carrier in the cassette might be empty or loaded incorrectly. Remove and reseal the media carrier.</p> <p>The RF tag is the chip on the underside of the media carrier. If it is loose or is not attached firmly to the media carrier, the media might not be counted properly. Load a new media package (media plus carrier) in the media cassette.</p> <p><b>Roll Paper</b>—Check that the roll paper is loaded correctly.</p> <p>The RF tag is the chip on the outside of the paper roll. If it is loose or not attached firmly to the roll, the media might not be tracked properly. Load a new roll if necessary.</p>

## Feeding or Ejecting Problems/Media Jams


Symptom	Action
The imager is not feeding or ejecting media.	<ul style="list-style-type: none"> <li>• Is the media cassette loaded in the correct position?</li> <li>• If you are printing to roll paper and media cassette, make sure <b>Roll Paper/Cut</b> is selected from the Paper Type Menu. If you are printing only to media cassette, select <b>Cut Sheet</b> from the Paper Type Menu.</li> <li>• Are you using CHROMA media? If using cut sheets, is the paper inside a media carrier? Only CHROMA media is supported.</li> <li>• Have changes in temperature or humidity damaged the media? Store and use the CHROMA media in an appropriate environment. See <a href="#">“Environmental Recommendations” on page 5-2</a>.</li> <li>• Start with a new package of CHROMA media if the media seems to be altered in any way.</li> <li>• Loading the media in the imager with the wrong side up will cause feeding problems. Make sure the media and the carrier are positioned correctly, with CHROMA visible on the top of the carrier, and facing up in the cassette. If the media has been inadvertently removed from the carrier, it must be reinserted in the correct orientation or you are likely to have feed issues. <ul style="list-style-type: none"> <li>– Film—The printed side of the media must face down inside the carrier and in the cassette.</li> <li>– Glossy paper—The printed side (the glossy side) must face down inside the carrier and in the cassette.</li> <li>– Matte paper—The printed side (the lightest side) must face down inside the carrier and in the cassette.</li> </ul> </li> </ul>
Unable to feed or eject paper.	<ul style="list-style-type: none"> <li>• Is media jammed in the imager (from the media cassette)? Open the cover of the imager and check that there are no jams or foreign objects in the imager. If media is jammed, see the next step.</li> </ul>

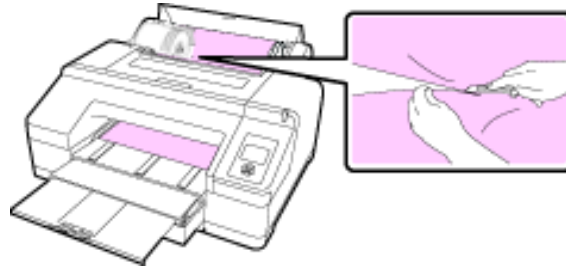
Symptom	Action
<p>Media sheets from the cassette have jammed while printing.</p>	<p>To remove jammed media:</p> <ul style="list-style-type: none"><li>• Remove the output tray and the media cassette.</li></ul> 
	<ul style="list-style-type: none"><li>• Remove the jammed media from where the cassette was inserted.</li></ul> 



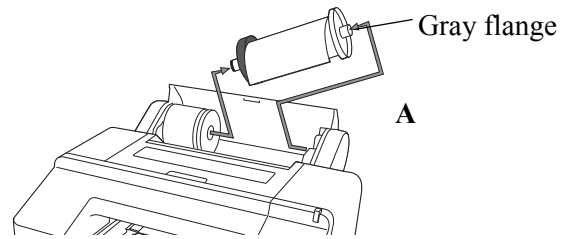
Symptom	Action
	<ul style="list-style-type: none"><li data-bbox="630 296 1455 394">• If media is jammed in the back, remove the rear unit by moving the tabs toward the inside and pulling the rear unit toward you. Then remove the jammed media. </li><li data-bbox="630 848 1468 947">• Replace the rear unit. With the rear unit's tabs moved to the inside, push it into the imager firmly until you hear it click into place.</li><li data-bbox="630 968 1446 1031">• Shut down the imager, and then start it again. Reload the media cassette and restart printing.</li></ul>

### Clearing a Roll Paper Jam

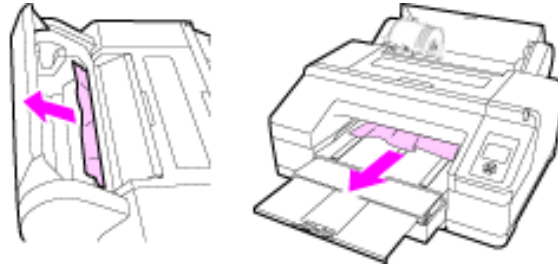
1. Press  to release the paper presser.
2. Open the roll paper cover and using a cutter, cut off the paper at the slot of the roll paper feeder.



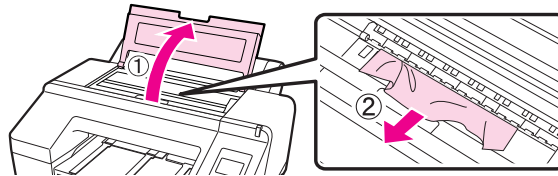
3. Lift up on the right side of the spindle from the gray flange to bring the spindle to a 45 ° angle (A). Pull the spindle up and to the right to remove it from the spindle holder.



4. Remove the jammed paper from the roll paper feeder or front manual feeder.



5. Open the top cover and remove any other jammed paper.



6. Turn off the imager, and then turn it back on. Reload the paper and restart printing. See [“Loading the Roll Paper” on page 2-9](#).



**SHORT TERM CONFIDENTIAL****An Icon on my Print Indicates a Sizing Issue, or some of the Image or Information is Cut Off**

When you send an image to print, the image size should be appropriate for the media that the imager supports. If an image received for printing is too large to be printed at the CHROMA imager, the image file will be altered to let it print.

- **Scale**—The full image is printed but at a smaller size than requested. This enables the job to print on the requested media size.
- **Crop**—The image’s perimeter is removed to let the image print, while the scale of the image’s anatomical area of interest is retained. Cropping allows “true size” printing for larger images. True size printing provides a common scale between images captured on analog systems and printed digital images. The anatomical area of interest is printed at the same size that it is captured on the analog system. Measurements and comparisons between printed analog and digital images are simplified.

To change the setting for image resizing, access the Web Portal (see [“Accessing the Web Portal” on page 1-12](#)). Navigate to **Configuration > DICOM SCP > SCP Configuration**, and then click the **Film and Image Options** tab.

NOTE: You can also specify that the imager will not perform image resizing. In that case, print jobs that are too large for the CHROMA media will not print.

Symptom	Action
An icon prints with the image: 	The image has been <i>scaled</i> . Scaling allows a larger image to print at a smaller size than requested so that it can print on the installed media. If the quality of the print is less than optimal, it may be necessary to crop rather than scale.
An icon prints with the image: 	The image has been <i>cropped</i> . If important information has been cropped off the print, for example, if text annotations, patient information, or anatomical areas of interest are near an outer edge of the image, it may be necessary to scale rather than crop.
The image has been resized, but resizing is not acceptable.	You can prevent all resizing. In that case, jobs that exceed the supported size will not print. Access the SCP Configuration section of the Web Portal.

## Miscellaneous Issues

Symptom	Action
Cannot remove the media cassette.	<ul style="list-style-type: none"> <li>You may have shut down the imager while an error occurred.</li> <li>Restart the imager, wait a few minutes, and then remove the media cassette.</li> </ul>
The display screen keeps turning off.	Is the imager in sleep mode? The imager returns to its normal status when a print job is received. You can change the elapsed time before entering sleep mode. See <a href="#">“Number of Minutes Before Automatic Sleep Mode”</a> on page 3-3.
Color ink runs out quickly even when printing in the Black mode or when printing black data.	Color ink is consumed during the head cleaning process. When performing <b>All Colors</b> or <b>All Colors (Powerful)</b> from Manual Cleaning, all nozzles are cleaned and some ink from all colors is consumed. (Even when Black mode is selected, the ink for all colors is consumed while cleaning.)
The red light is on inside the imager.	This is not a failure. The red light is normally on inside the imager.
The imager will not accept images.	It is possible for the hard-disk storage to become full. In that case, new jobs might be rejected. Wait for the hard disk to automatically delete the oldest jobs from the print queue. Restart the DICOM interface.

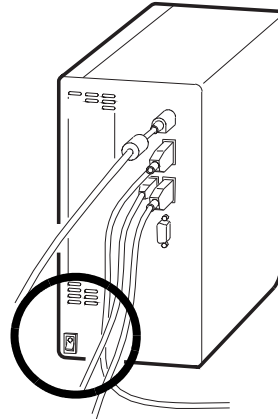
## Restarting the Imager

When restarting, press the power button to turn off the imager, and then wait at least 30 seconds before turning the imager on again. The imager display screen goes blank in approximately 15 seconds, but it is not fully off yet. Wait to press the button again to restart.

The display screen reports “Ready” when the imager has fully started.

## The DICOM Interface is Non-Responsive (How to Restart)

If the DICOM interface is not responding, you might restart it to correct various conditions.



**IMPORTANT:** Do not hold down the power switch.

1. Press and release the power switch. Wait at least **five minutes** as the DICOM interface shuts down.
2. Press and release the power switch again. Wait as the DICOM interface starts. It is fully powered up when the media size displays on the DICOM interface screen.

**NOTE:** If media is not loaded in the imager, the DICOM interface screen will be illuminated but it will be blank.

## Restoring the System Software—Ghosting

The “ghosting” procedure is used to restore the CHROMA system. This procedure is not recommended unless you are instructed to follow it by qualified service personnel (for example, if your system is having issues and you have called the support number). To follow the ghosting procedure, you must use the USB flash drive that arrived with your new CHROMA system.

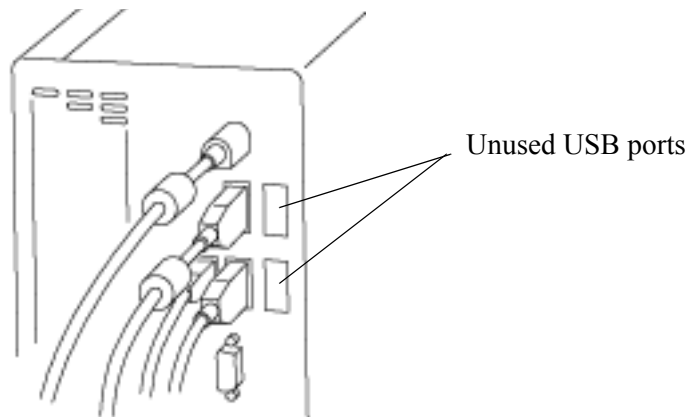
You can connect a monitor to the DICOM interface to view the progress of the ghosting procedure. This helps if any problems occur during the procedure and if you need to be away from the system. If you do not connect a monitor, you will need to be at the system to hear the beeps that indicate whether ghosting was successful.

1. Retrieve the backup file for your system. If you do not have a backup file, make a new backup and save it to your computer.

NOTE: A backup file was created at the end of the CHROMA installation. If you need to create a new backup file, log on to the Web Portal, and then click the **Documentation** link. See the procedure, “Backing up the Software” in the Web Portal documentation, and follow the instructions to make a backup file.

NOTE: If you do not have a backup file and cannot create a new file, you must reconfigure the system **after** you perform this ghosting procedure.

2. Shut down the DICOM interface. (Press and release the power switch.)
3. Install the portable USB flash drive that contains the ghost software into an unused USB port on the back of the DICOM interface.



4. Press and release the DICOM interface power switch again to begin ghosting.

Ghosting takes approximately 10 minutes. The imager beeps when ghosting has completed. If you connected a monitor, the screen displays the progress and reports when ghosting has completed.

- When ghosting completes successfully, the DICOM interface beeps **eight** times in one-second, high-frequency tones.
  - If ghosting fails, the DICOM interface beeps **five** times in three-second, low-frequency tones.
5. After ghosting has completed, wait 20 seconds and then power off the DICOM interface.
  6. Remove the USB flash drive.

7. Log on to the Web Portal, and then click the **Documentation** link. See the procedure, “Backing up the Software” in the Web Portal documentation. Follow the instructions to restore from a saved backup file.

or

If you do not have a configuration file to restore, perform the following procedures from the Quick Start Guide, 9G4261:

- “Set up your PC to Communicate with the Imager”
- “Log on to CARESTREAM Web Service Portal Software”
- “Configure the Site-Specific Information”
- “Start CARESTREAM Remote Management Services”
- “Reconfigure your PC to Connect to the Imager”
- “Verify the Image Look”
- “Back up the Configuration Parameters”

## Calling for Support

If you cannot correct a condition and need help, call for support. Have the following information ready when you call:

- Serial number (on the side of the DICOM interface)
- K-number (on the side of the DICOM interface)
- Error code from the display screen and/or code and error message from the Web Portal

Worldwide support numbers are available at [www.carestream.com](http://www.carestream.com). Click **Contact Us**, click **World Wide Contacts**, and then select your region.

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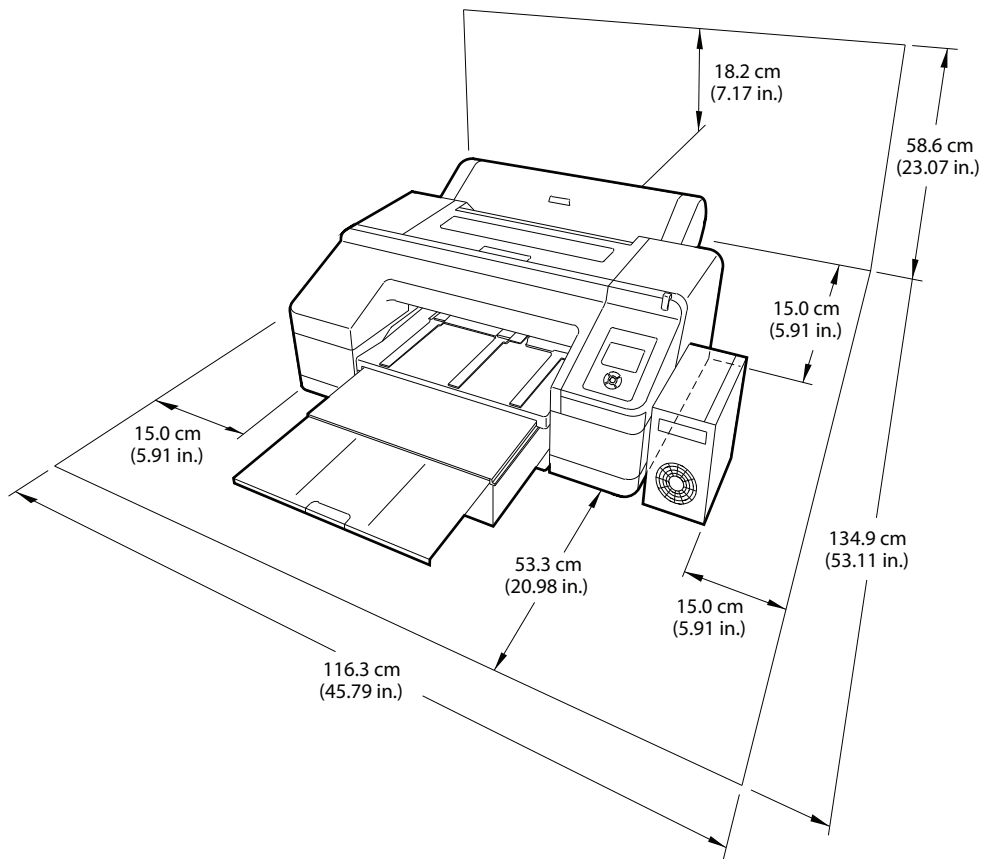


# 5 Specifications

## Dimensions and Clearance

	<b>CHROMA System and required clearance</b>	<b>Imager only (not including clearance)</b>
<b>Height</b>	58.6 cm (23.1 in.)	41 cm (16 in.)
<b>Width</b>	116.3 cm (45.8 in.)	86 cm (34 in.)
<b>Depth</b>	134.9 cm (54.1 in.)	77 cm (30 in.)
<b>Weight</b>	53.5 kg (118.0 lb)	52 kg (115 lb)

Make sure that you have adequate space and clearance around the imager. Allow at least 5.08 cm (2.00 in.) clearance around the top, sides, and back of the imager.



## Packed Dimensions

Height	58.4 cm (23.0 in.)
Width	101.6 cm (40.0 in.)
Depth	91.4 cm (36.0 in.)

## Environmental Recommendations

### Temperature

- Operating: 10–30 °C (50–86 °F)
- Storage: -20–60 °C (-4–140 °F)

### Relative Humidity

Keep the imager away from drying, direct sunlight, or heat sources to maintain the appropriate humidity.

- Operating: 20–70 % without condensation
- Storage: 5–85 %

### Surface Levelness

The surface where the imager is installed must be level.

### Acoustical Noise

Less than or equal to 50 dB-A momentary at 1 m from the front of the imager during normal operation

## Network Requirements

The imager receives digital images from medical imaging devices (modalities) over a 10/100Base-T or 1000Base-T Ethernet Network.

## Power Requirements

Two power cords are provided with this equipment. The system requires agency-approved power cords with a plug type suitable for the location of use. Contact a qualified dealer for help.

Connect the equipment to a power source that is suitable for the voltage and current ratings shown on the rating label. The single-phase power source, with grounding, must be provided within 2.5 m (8.0 ft) of the imager.

Avoid using an outlet on the same circuit as a photocopier or air control system that regularly restarts.

### Power Consumption —Imager

Operating	Approximately 52 watts
Standby	20 watts
Sleep mode	Approximately 8.5 watts or less
Power off	Approximately 0.5 watts or less

### Power Consumption —DICOM Interface

Operating	Approximately 20 watts
Idle	20 watts
Power off	Approximately 5 watts or less

## Ink Cartridges

### Cartridge Life

Two years from production date if unopened; within 6 months after opening the package, at 25 °C (77 °F).

### Temperature

Storage (not installed): -30–40 °C (-22–104 °F); one month at 104 °F  
Storage (installed): -20–40 °C (-4–104 °F); one month at 104 °F

### Capacity

200 ml

### Weight

Approximately 385.00 g (0.85 lb)

NOTE: Dispose of the used ink cartridges carefully and in accordance with local ordinances.

## Media

### Environmental

For best results, use the media at:

- 15–25 °C (59–77 °F)
- 20–60 % relative humidity

### Storage

- Store the unused (unprinted) media in its carrier and in the original packaging, away from high temperatures and high humidity. For best results, storage conditions should not exceed 25 °C (77 °F) and 60 % relative humidity.
- Store the printed media away from extreme temperatures or high humidity.
- As the CHROMA media is used with ink jet technology utilizing pigmented inks, there is no inherent shelf life or expiration date defined for these products.

NOTE: Follow local waste disposal regulations. Manage the disposal appropriately to protect patient privacy rights if required by local regulations.

## Publication History

Revision	Date	Reason for Change
A	2011-08-19	First release
B	2011-09-19	Corrected an error on page 1-8
C	2012-01-27	To support CHROMA Release 2. Added details throughout the guide for the roll feeder and roll paper, removed information about power management mode, added procedures for managing image quality, changed the time from one minute to five minutes when restarting the DICOM interface, added the procedure to restart the imager, expanded the intended use statement, added the power consumption details.