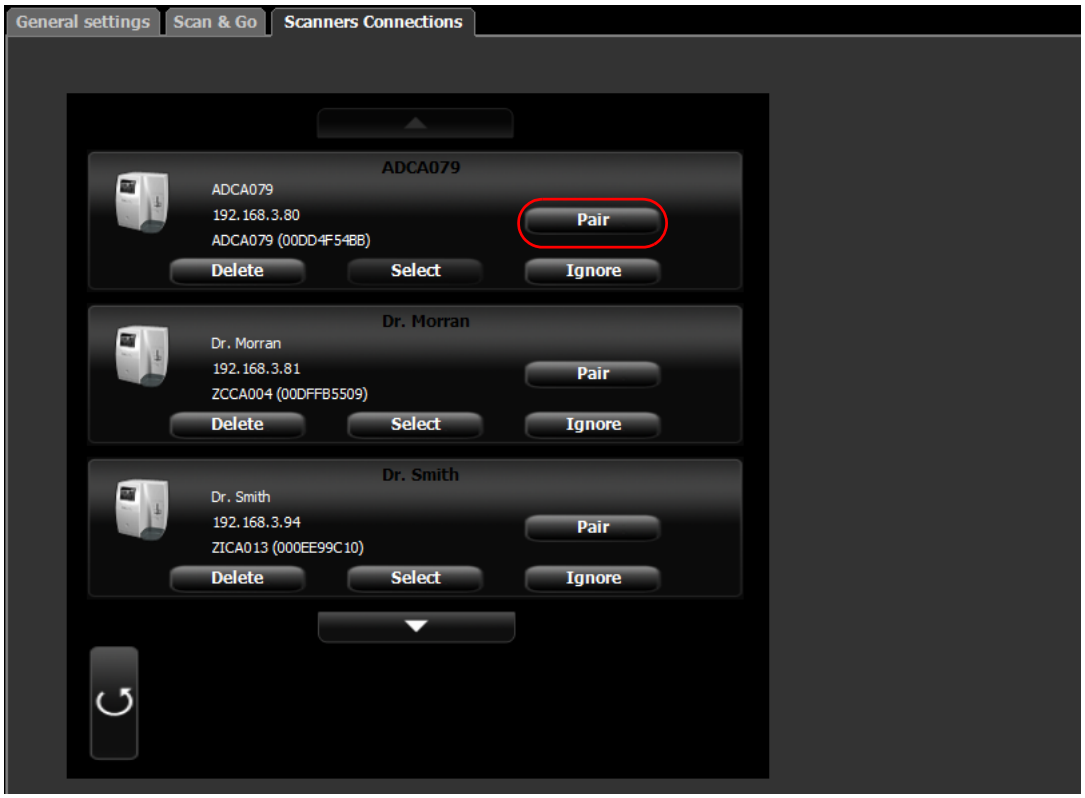
A Peer to Peer connection makes a scanner dedicated to a Workstation. This saves time by not having to select a scanner each time you make a scan.

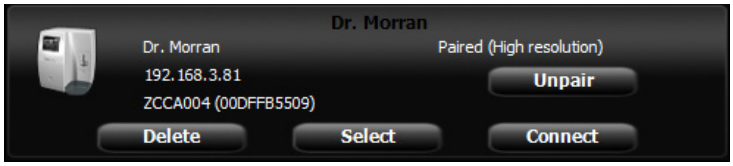
Creating a Peer to Peer Connection

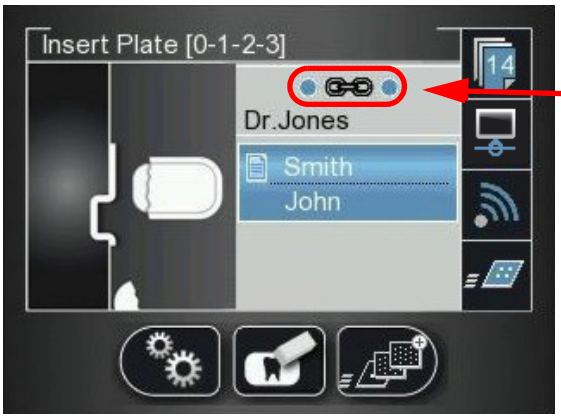
To create a Peer to Peer connection, follow these steps:

1 In the **Scanners Connections** tab, click the **Pair** button on the scanner you wish to pair with the image Acquisition interface.



The status (located above the **Pair**/**Unpair** button) changes from **Connected** to **Paired** and the **Pair** button changes to **Unpair**.





Peer to Peer Icon

The Peer to Peer icon appears in the scanner.

> **Note:** If you change the resolution on the Scanner LCD, the change in resolution will only take place upon next scan or image acquisition.

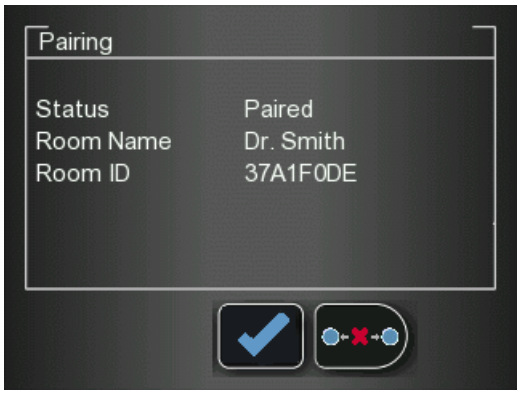
Disconnecting a Peer to Peer Connection

Disconnecting a Peer to Peer Connection may be done from the image Acquisition interface or from the Scanner interface.

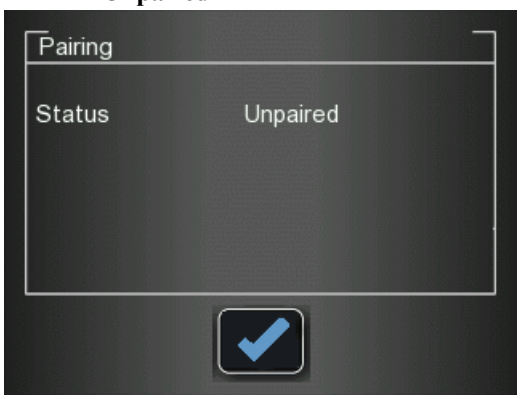
To Unpair the Scanner, follow these steps:

1 In the Scanner interface, press **Settings**.
The **Scanner Settings** menu opens.

2 Press to select **Pairing**, and press
The **Pairing** status screen opens and shows a **Paired** status.



3 Press and press
The **Pairing** status screen shows an **Unpaired** status.

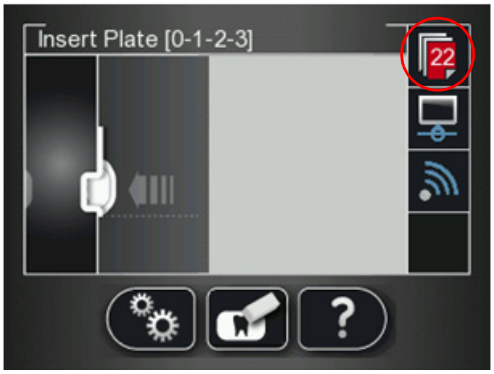


Clearing Scanner Memory

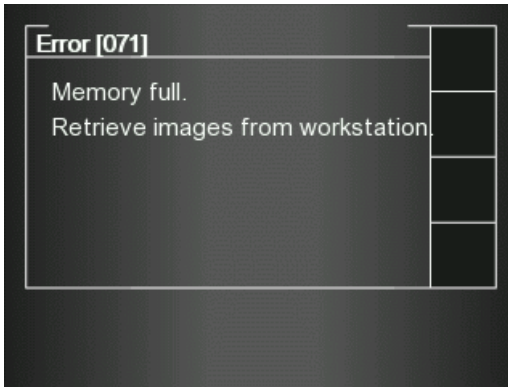
The scanner's storage capacity is 25 images. Images are stored in the scanner's memory in the following cases:

- When No ID is selected in the scanner's Select patient screen. (
- When the destination workstation is not available due to network problems and so forth.

When the scanner's memory nears its limit, the scan number icon changes to red.



When memory is full, error 071: **Memory full. Retrieve images from workstation** is displayed.



To clear the scanner's memory, follow these steps:

1 Start the CS 7600 image Acquisition interface.

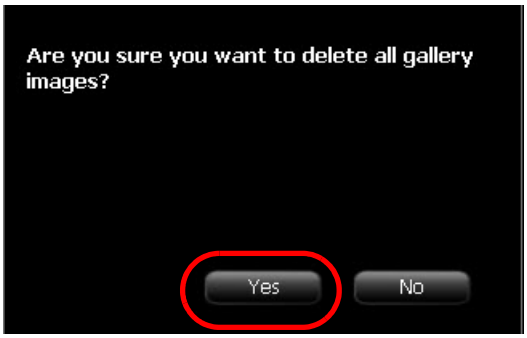
2 Open the exam acquisition to which the images belong, or alternatively create a new temporary exam acquisition in which you will save these images.

3 Select the scanner; it is indicated by the following full memory/error state icon:

4 In the **Scanner List**, select the desired scanner and click the small arrow.
The list of No ID images for this scanner is displayed.

5 In the scanner memory panel select the image you wish to clear, and drag to the desired frame in the images area template or delete by dropping to the Images Gallery.

6 To delete all the images in the Images Gallery, click



7 To confirm, click **YES**.
All the images are removed from the Images Gallery.

The scanner icon becomes highlighted green indicating that the scanner is ready for use.

10 Maintenance

Imaging Plate Care

If used with care, the imaging plates can be used indefinitely until physically damaged. However, the imaging plates will show wear over time due to continuous use. Inspect the imaging plates regularly and replace them if they are scratched and/or show signs of excessive wear.

CAUTION: To prevent damage to the imaging plates and the possibility of image artifacts, avoid contact between the imaging plates and the following materials/solutions/solvents: Isopropyl alcohol, hydrogen peroxide and other peroxides, citrus-based cleaners, hand lotions and water-less hand sanitizers, as well as surfactants and lubricants.

Handling and Storage of Imaging Plates

- Imaging plates should be stored in their original packing or storage box when they are not in use. Always store imaging plates in a dark and dry place.
- Do not expose the imaging plates to light for long periods as this can have a degrading effect.
- Do not store imaging plates in hot or moist conditions.
- Do not fold, crease, or bend the imaging plates.
- Avoid touching the active side of the imaging plates, and be careful not to drag the active side of the imaging plate across any surface as this will damage the imaging plate.
- Do not leave imaging plates where they can become damaged by liquid or chemical spills.
- Do not autoclave.

Cleaning the Imaging Plate

CAUTION: Read and follow the instructions in the Safety Data Sheets (SDS) for Screen Cleaner P/N 1030428.

Clean the imaging plate to remove dirt, dust particles, finger prints and so forth that could affect image quality.

Cleaning Materials

- Clean, dry non-abrasive, lint-free wipes or cloths
- Screen Cleaner P/N 1030428 (Ask your Carestream Dental representative)

Cleaning Method

To clean the imaging plates, follow these steps:

1. Fold a non-abrasive, lint-free wipe or cloth and dampen with a small amount of the solution. Be careful not to pour the solution directly on the imaging plate. Excessive amounts of the screen cleaner may damage the imaging plate.
2. Wipe the imaging plate thoroughly dry with a clean, dry, non-abrasive, lint-free cloth to remove residual cleaner. DO NOT LEAVE THE imaging plate TO AIR-DRY. Apply pressure to remove persistent dirt, if necessary.

Disinfecting the Hygienic Sheath and the Imaging Plates

CAUTION: Do not soak the hygienic sheath in any cleaning or disinfecting solutions. Do not autoclave; autoclaved hygienic sheaths must be discarded.

Frequency of Disinfection

The hygienic sheath is the primary means of infection control and protection from contaminated imaging plates.

Disinfect the imaging plate **after every use** (after the image plate is scanned), before it is inserted in the hygenic sheath for the next use.

Disinfection Solutions

To disinfect, use either a self-prepared solution, or a commercially prepared product that adheres to the following specifications and restrictions:

- Diluted bleach solution: dilute one part 5.25% sodium hypochlorite with ten parts of water.
- A commercially prepared equivalent solution of diluted bleach that does not contain any ingredients (Isopropyl alcohol, hydrogen peroxide and other peroxides, citrus-based cleaners, hand lotions and water-less hand sanitizers, as well as surfactants and lubricants) that can cause damage to the hygienic sheaths and imaging plates.

Disinfection Method

CAUTION: If a commercially prepared equivalent solution of diluted bleach is used, follow the manufacturer's specifications and warnings.

To disinfect the hygienic sheaths and imaging plates, follow these steps:

1. Moisten thoroughly (but not dripping) a non-abrasive, lint-free cloth with the prepared diluted bleach and wipe the hygienic sheath clean.
2. After one minute wipe off the bleach residue with a new, soft, lint-free cloth dampened with water.
3. Wipe dry with a non-abrasive, lint-free cloth.

Disposing of the Imaging Plate

Important: The imaging plate contains Barium and should be considered hazardous or special waste in specific conditions at the end of its useful service life. For disposal or recycling information, contact your local authorities.

Scanner Care

Cleaning the Scanner Body

Use disinfection wipes for medical equipment to clean the scanner body thoroughly from all sides, including the tray.

WARNING: It is the user's responsibility to disinfect the imaging plates tray daily to prevent cross contamination.

Cleaning the Detachable Insertion Panels

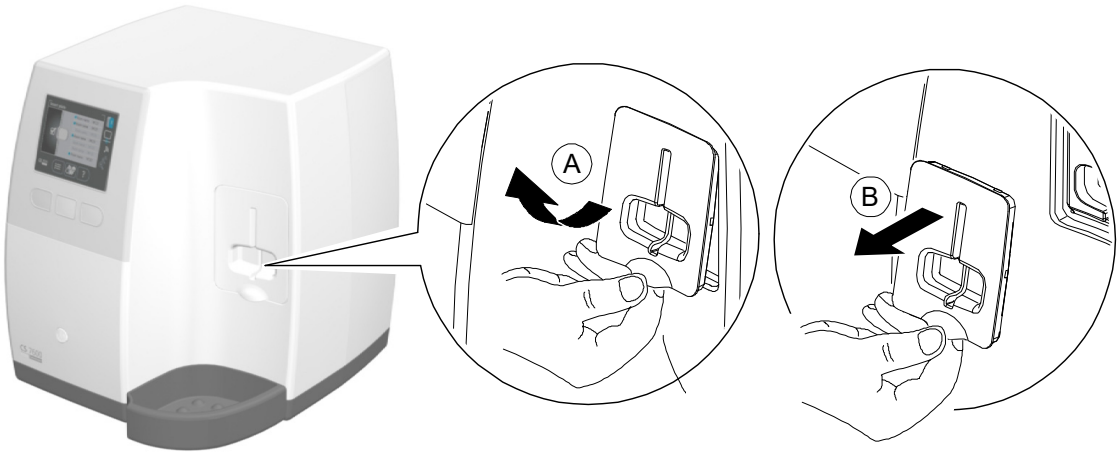
The CS 7600 makes use of three insertion panel sizes according to the inserted plates size (0, 0–3, and 4). The maintenance procedure is identical for both insertion panels.

WARNING: It is the user's responsibility to disinfect the detachable insertion panel(s) daily to prevent cross contamination.

CAUTION: Do not autoclave; autoclaved detachable insertion panel(s) must be discarded.

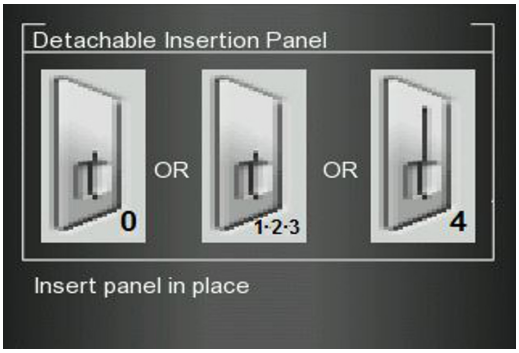
To clean and disinfect the insertion panels, follow these steps:

1 Remove the installed insertion panel by inserting a finger in the designated removal depression at the bottom of the insertion panel (A) and lifting out the insertion panel (B).

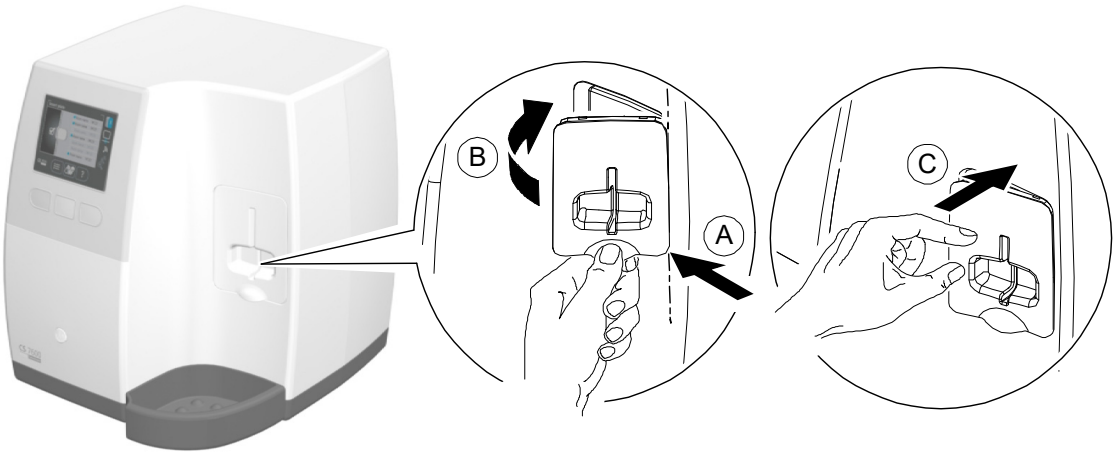


2 Use disinfection wipes for medical equipment to clean the detachable insertion panels thoroughly from all sides including the slot.

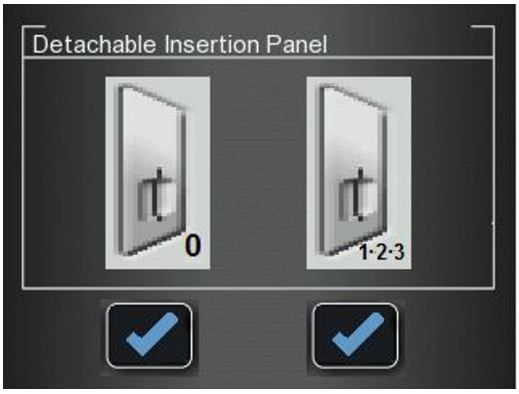
3 The scanner displays a prompt to put in place an insertion panel, either a size 0 (left figure in prompt), size 0-3 (middle figure in prompt) or a size 4 (right figure in prompt) insertion panel.



4 Install the cleaned and disinfected insertion panel by positioning the insertion panel at a 45 degree angle to the right side of the insertion panel's housing (A) and pressing the insertion slot panel in from right to left (B) until it's completely inserted (C).



The scanner displays an insertion confirmation.



5 For size 0, press the left function button to confirm and return to the main screen.

6 For size 1-3, press the right function button to confirm and return to the main screen.

If insertion Panel 4 is inserted, the scanner displays the following insertion confirmation.

7 For size 4, press the middle function button to confirm and return to the main screen.

Cleaning the Scanner Rollers

Note: Before you perform this procedure, make sure you have the rollers cleaning plate.

The scanner rollers should be cleaned in the following cases:

- When the scanner prompts to clean the rollers (after every 1000 cycles).
- When there are dirt-related artifacts on the scanned image.

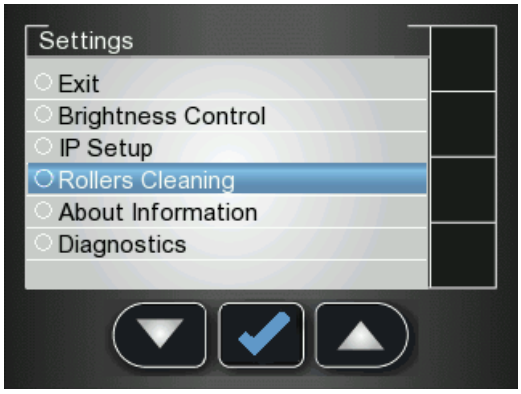
To clean the scanner rollers, follow these steps:

Note: Cleaning the rollers requires using the size 4 insertion slot

1 If the size 4 insertion slot is not installed, replace the insertion slot with the size 4 insertion slot. (See page 70.)

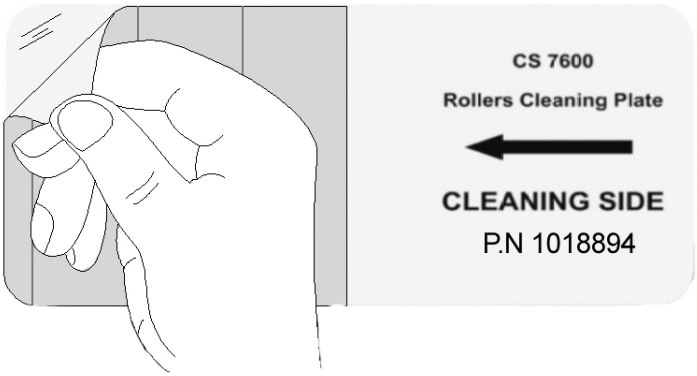
2 Press the scanner's left function button to access the Settings menu.

3 Select **Rollers Cleaning**.



4 Press the middle function button to confirm the Rollers Cleaning message.
The Rollers Cleaning screen appears.

5 Peel the adhesive protective sheet from the rollers cleaning plate.



6 Insert gently the rollers cleaning plate into the size 4 insertion slot with the adhesive side first and the black stripe facing downwards until the rollers draw the rollers cleaning plate in.

When the cleaning procedure is completed the scanner displays a message that the roller cleaning is done.

7 Remove the roller cleaning plate from the insertion slot.

Tip: The cleaning procedure is to be repeated 3 times to ensure the rollers are thoroughly cleaned.

Scan & Go Device Care

Cleaning the Scan & Go

Use disinfection wipes for medical equipment to clean the Scan & Go device thoroughly from all sides.

Replacing the Battery (Scan & Go Generation 1)

For Scan & Go Generation 1 models released before June 2012.

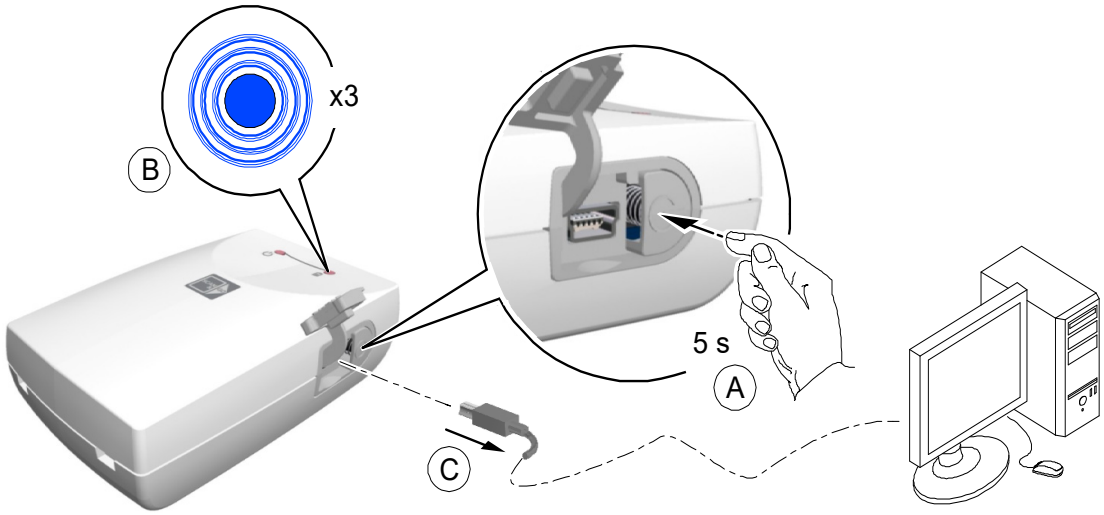
Scan & Go devices after June 2012 do not have a battery.

Important: Replace only with a Carestream Dental genuine BL-5C battery.

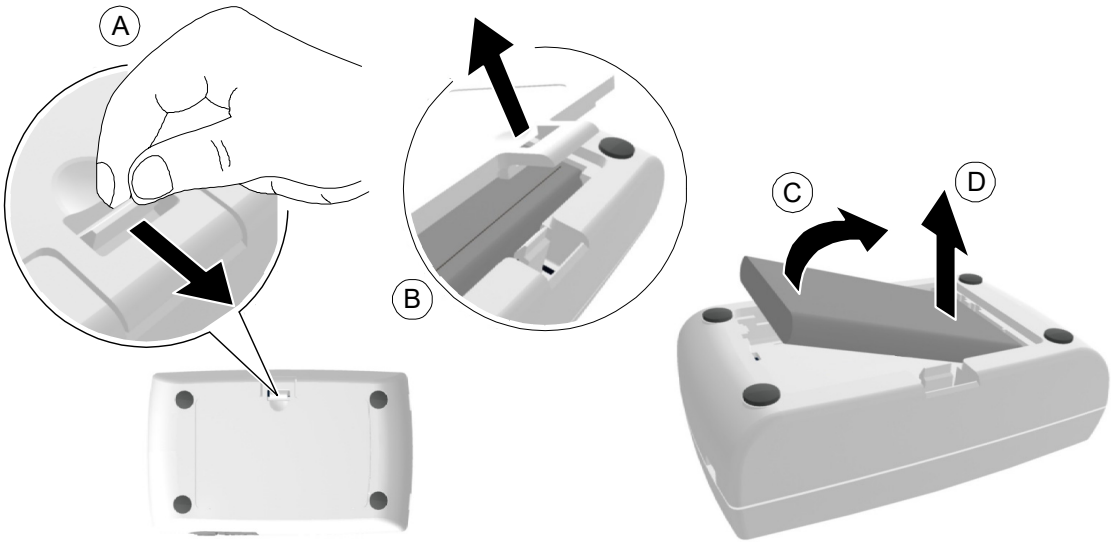
To replace the Scan & Go battery, follow these steps:

1 Press the On/Off button for 5 seconds to turn off the Scan & Go device (**A**).

(The blue LED will flash quickly 3 times (**B**) and then the device is powered off.) Disconnect the Scan & Go device's USB cable (**C**).

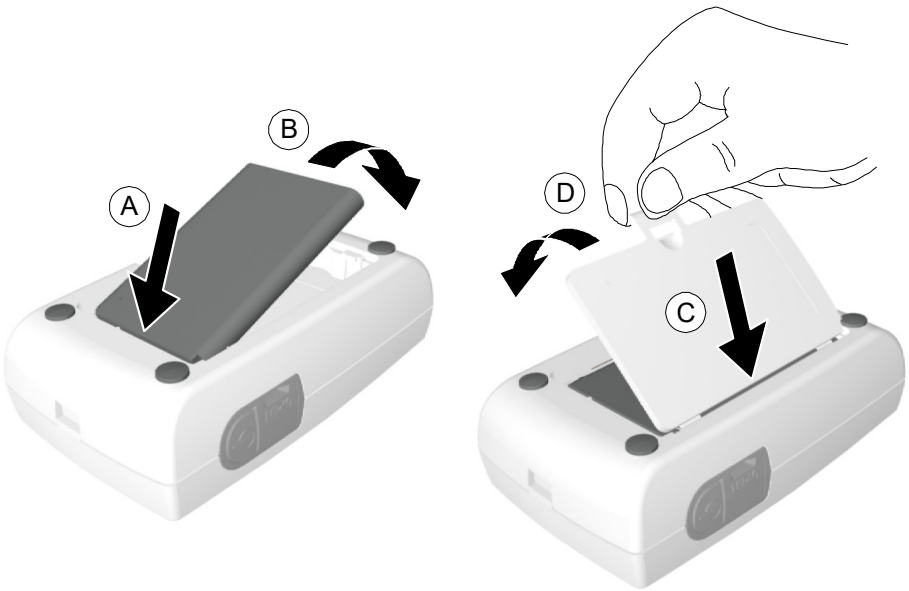


2 Open the battery compartment by carefully pressing the clip outwards and lifting out the cover (**A**, **B**).



3 Extract the battery as shown in the figure above (**C, D**) using the removal depression to lift the battery out.

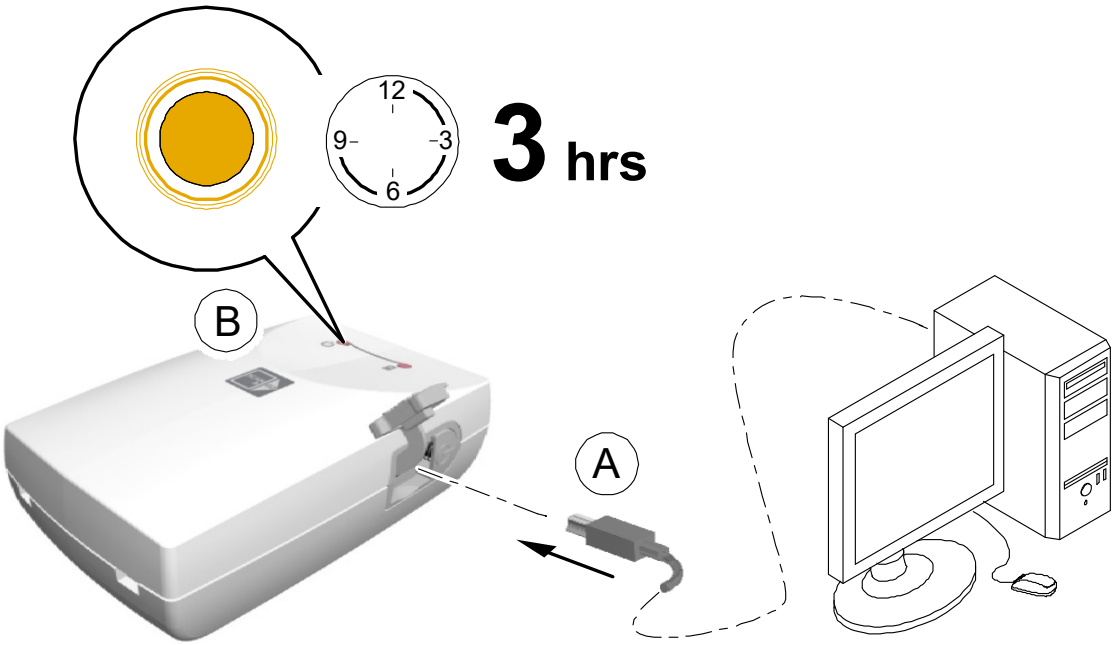
4 Insert the new battery by first pressing its contacts against the battery housing terminals (A) and then place it in the housing (**B**).



5 Press the cover firmly to close it (**C, D** in above figure).

6 Connect the USB cable to the computer.

7 Charge for 3 hours.



8 Verify the device operates: press the On/Off button for 1 second and verify that the LEDs function as described in the "Scan & Go Overview" on page 9.

9 Dispose of the old battery in accordance with all applicable federal, state, and local regulations.

11 Troubleshooting

Quick Troubleshooting

The quick troubleshooting guides you through actions you need to take to correct malfunctions you may encounter and that do not require authorized technical support. For errors and malfunctions not detailed in this section, contact technical support.

The following table lists the malfunctions that are displayed on the scanner's LCD and in the image Acquisition interface, and details the corrective action.

Table 1 Quick Troubleshooting

Malfunction	Possible Cause	Action
or on scanner display and/or in the image Acquisition interface	Limited or no connection to scanner (physical connection is intact, but the IP address is not correct).	• Check the network cable is connected to its RJ45 port in both the scanner and workstation computer. • Check the local network connectivity. • Check the computers's firewall settings and disable the firewall. • Replace the network cable. • Check the scanner's network configuration.
	No connection to scanner after launching image Acquisition interface.	• Check that the scanner's power supply is connected. • Check the network cable is connected to its RJ45 port in both the scanner and workstation computer. • Check the local network configuration. • Check the computers's firewall settings and disable the firewall. • Exit the image Acquisition interface and relaunch the application. • Check the scanner's network configuration by checking in the scanner's Settings-IP Setup screen if DHCP is enabled or not and consult with your system administrator what the scanner configuration should be. • Replace the network cable. • If the scanner icon frame does not change to green within 40 s, restart the scanner by turning it off and then on again.
Scanner Error # 071	Scanner memory full.	See "Clearing Scanner Memory" on page 64. Also See "Brightness Control" on page 52

Table 1 Quick Troubleshooting (Continued)

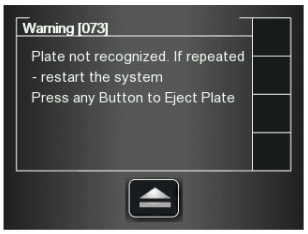
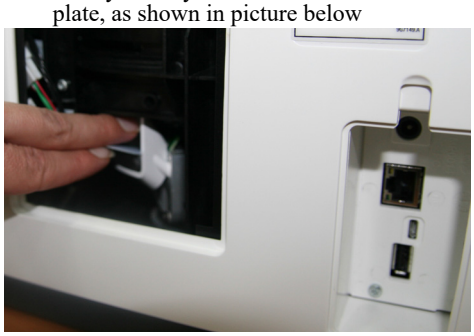
Malfunction	Possible Cause	Action
Scanner Error # 073	Imaging plate loading failure.	 • Press the middle function button to eject the imaging plate and then reinsert the imaging plate again. • Replace imaging plate if reinsertion does not work.
Scanner Error # 087	Imaging plate inserted incorrectly	**Important:** Do not insert any tools into the scanner. If any tool is inserted into the scanner the warranties are null and void. To retrieve a fallen imaging plate, follow these steps: • Turn off the scanner and disconnect the scanner from the mains power source. • Disconnect the scanner from the network. • Unscrew the crosshead screw which is holding the rear service cover. • Open the rear service cover, and put it to one side. • Gently insert your hand and remove the fallen plate, as shown in picture below  **Important:** If the plate is not in the location shown in the above picture, do not continue to look for the plate, call service. • After the imaging plate has been removed, replace the rear service cover and reinstall the crosshead screw firmly so that there is no possibility of light penetration. • Connect the scanner to the mains power supply. • Reconnect the scanner to the network. • Replace the cover over the network and power sockets. • Turn on the scanner. • Wait for the "**Insert Plate**" message. The scanner is ready for use • In case Error 41 appears, check that the rear service cover is closed properly.

Table 1 Quick Troubleshooting (Continued)

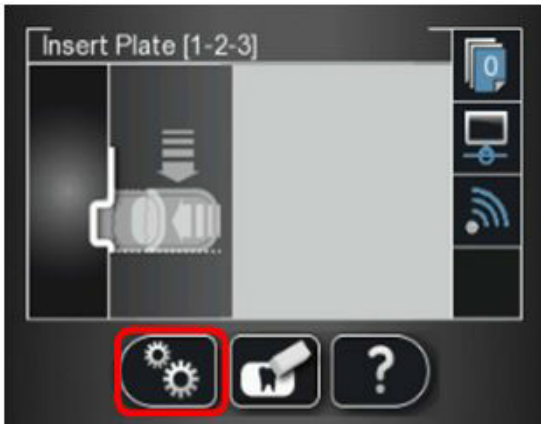
Malfunction	Possible Cause	Action
Scanner Error # 008	Either imaging plate inserted incorrectly, or the imaging plate hygienic sheath is inserted in the wrong direction.	• Make sure you are using Carestream Dental imaging plates. • Make sure you follow the preparations and scanning instructions in the Acquiring Images procedures to prevent incorrect insertion of the imaging plates. • Reinsert the imaging plate in the right direction: with the active side facing outwards. • Turn the hygienic sheath around to switch between the open side of the sheath with the foam strip to the sealed side, then position it correctly into the insertion slot.
Scanned images do not populate frame.	The scanned image was routed to the scanner's memory.	Use the image Acquisition interface to check the selected scanner's unclaimed images and retrieve the required images. In addition, the system can be interfaced with patient data management software applications. For more information, see Scanner Area in"Image Acquisition Interface Key" on page 29.
Imaging plate is blocked when inserting an imaging plate into the insertion panel.	Incompatible insertion panel size.	Check if the insertion panel size is compatible to the imaging plate size.
Artifacts (black dots or smeared lines) on scanned image.	Scanner rollers have accumulated grime.	See "Cleaning the Scanner Rollers" on page 73.
For Scan & Go configurations only, image Acquisition interface displays:	No USB connection to Scan & Go device.	• Press the Scan & Go device On/Off button for 1.5 s. If the icon color changes from red to white, connection is established. • Disconnect the USB cable from the Scan & Go device and reconnect it. If the icon color changes from red to white, connection is established. • Insert the Scan & Go device in an alternative USB port in your workstation. If this is the first time the Scan & Go device is detected. When the icon color changes from red to white, connection is established. • Reinstall the image Acquisition interface and leave the Scan & Go connected.

Retrieving a Fallen Imaging Plate

Important: Do not insert any tools into the scanner. If any tool is inserted into the scanner all warranties are null and void.

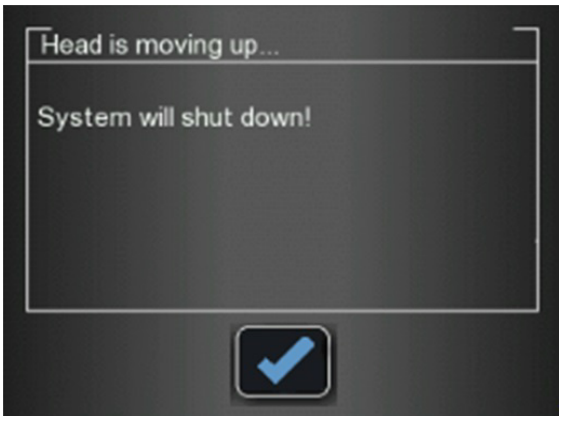
To retrieve a fallen imaging plate, follow these steps:

1 Tap the **Settings** button.



2 Select **Move Head Up** and press **OK**.

The optical head moves up and the scunner shuts down.



3 Position the scanner so that you have access to the service door and cable compartment.

4 Remove the cable compartment cover.

5 Unscrew the Phillips screw that attaches the service door to the rear cover, using the Phillips PH2 screwdriver and remove the service door.

6 Tilt the scanner backwards, until the plate falls out of the scanner into your hand.

Important: If the plate is not in the location shown in the above picture, do not continue to look for the plate. Please call service.

7 After the imaging plate has been removed, replace the rear service cover and reinstall the crosshead screw firmly so that there is no possibility of light penetration.

8 Connect the scanner to the mains power supply.

9 Reconnect the scanner to the network.

10 Turn on the scanner.

11 Wait for the **Insert Plate** message.
The scanner is ready for use.

Important: In case Error 41 appears, check that the rear service cover is closed properly.

Appendix:

CS 7600 Consumables & Accessories

Consumables & Accessories

P/N	Description	Quantity
1014364	CS 7600 hyg. sheaths size 0	200 pcs.
1014372	CS 7600 hyg. sheaths size 1	200 pcs.
1014380	CS 7600 hyg. sheaths size 2	200 pcs.
1014398	CS 7600 hyg. sheaths size 3	200 pcs.
1014406	CS 7600 hyg. sheaths size 4	200 pcs.
1059955	CS 7600 smart plate size 0	4 pcs.
1059963	CS 7600 smart plate size 1	4 pcs.
1059989	CS 7600 smart plate size 2	4 pcs.
1059997	CS 7600 smart plate size 3	4 pcs.
1060011	CS 7600 smart plate size 4	2 pcs.
1014513	CS 7600 imaging plate transport box & pad	1
1015098	CS 7600 imaging plate pad	1
1044445	CS 76000 slot panel size 0 only	1
1023704	CS 7600 slot panel size 0-3	1
1023712	CS 7600 slot panel size 4	1
1014497	CS 7600 wall mount adapter	1
1018894	CS 7600 Roller cleaning plate	1
1020338	CS 7600 battery for Scan & Go device, for Scan & GO released before June 2012	1
1030428	Carestream X-Omat screen cleaner 177 mL, 6 Fluid Ounces	1
1023720	CS 7600 quality control tool	1

Scanner Manager

The scanner manager is mainly for use by technicians or under direct supervision of a dental service technician.

> **Note:** For information on the Scanner Manager for technicians, see the CS 7600 Service Guide.

Accessing the Scanner Manager

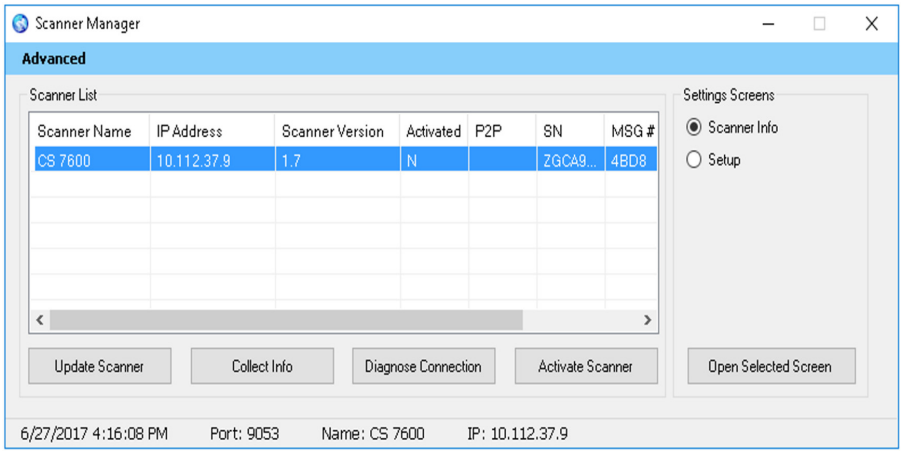
To access the **Scanner Manager**, perform the following steps:

1 On the desktop, double-click on the

Scanner Manager icon**.**
OR
Click **Start > Programs > IP Image Acquisition > Scanner Manager**
The Scanner Manager opens

> **Tip:** To create a desktop shortcut for the Scanner Manager, click **Start > Programs > IP Image Acquisition > Scanner Manager** and drag and drop the Scanner Manager to the desktop

Figure 1 Scanner Manager



.

> **Note:** The connected scanner or scanners are shown in the Scanner List

2 Select a scanner from the Scanner List.
If the message **Scanner not found** appears, Please check scanner connectivity, See "Quick Troubleshooting" on page 79..

The following functions can be selected from the Scanner Manager window:

- "Scanner Info" on page 89 – Presents General system information
- "Scanner Setup" on page 90 – Enables Setting of Scanner name, user language, time &date

- "Update Scanner" on page 91– Upgrades the scanner's embedded software version to the latest version
- "Collect Info" on page 93 – Enables you to collect the necessary log files from the scanner and from the work station for inspection

Scanner Info

You may provide this information to your Carestream Dental distributor upon request.

To open the Scanner Info screen:

1 In the **Settings Screens** area, select the **Scanner Info** checkbox.

2 Click **Open Selected Screen.**
The **Scanner Info** screen opens.

Figure 2 Scanner Info screen

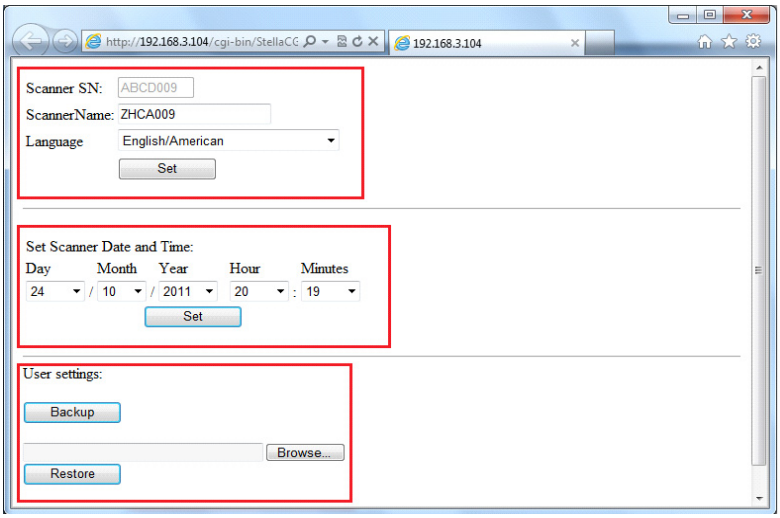
Scanner Setup

To open the Scanner Setup screen:

1 In the **Settings Screens** area, select the **Scanner Setup** checkbox.

2 Click **Open Selected Screen.**
The **Scanner Setup** screen opens.

Figure 3 Setup screen



Note: Scanner serial number cannot be changed.

The Scanner Setup screen enables you to set the following:

- Scanner Serial Number, Scanner Name, and LCD User Interface language
- Scanner Date and Time
- Backup and Restore User settings (File name is - *CS7600_UserBackup.tar.gz*.

Important: Restoring Scanner settings is to be performed under direct supervision of a dental service engineer.

Update Scanner

Important: Updating the Scanner is to be performed under direct supervision of a dental service engineer.

Note: Not all USB devices are recognized by the scanner. Therefore we suggest that you update the scanner using the scanner manager tool.

There are two options for updating the scanner embedded software:

- Using USB storing device plugged into the USB socket located at the back of the system. Not all USB devices are recognized by the scanner
- By using the scanner manager tool

Updating the Scanner using the USB Storage Device

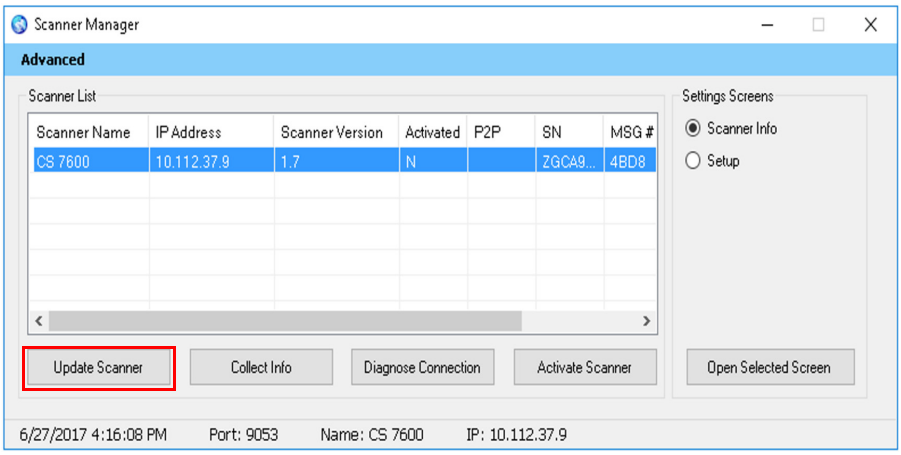
To upgrade the scanner by using a USB storage device proceed with the following steps:

Note: Before starting this procedure make sure that the system is turned off. Not all USB devices are recognized by the scanner.

1. Copy the file **Reader_Embedded_xxx.upgrade** from the Installation disc located in the **UPGScanner** folder or from CS 7600 folder at http://infotec.carestreamdental.com to USB storage device. Make sure to use only the relevant file from the installation disc.
2. Press simultaneously on the On/Off button, and on the extreme left and right navigation buttons of the scanner.
3. Wait until **Starting** appears on the LCD display and then release the buttons.
4. The process starts automatically and continues until you are requested to reset the scanner.
5. In order to check that the scanner is updated to the desired software version, click on the right button sign with "**?**"
6. Disconnect the USB storage device, and continue to work with normal operation mode.

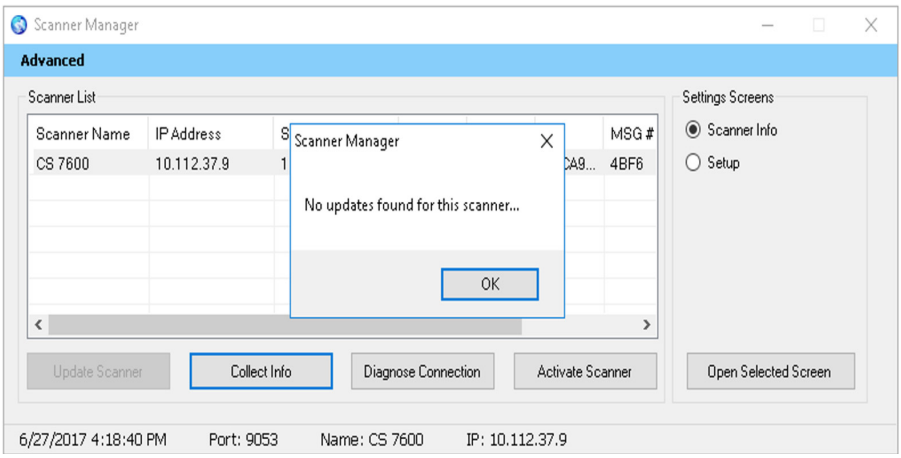
Updating the Scanner using the Scanner Manager Tool

The Scanner version (Embedded software) can be updated by the scanner manager tool by selecting the **Update Scanner** button.

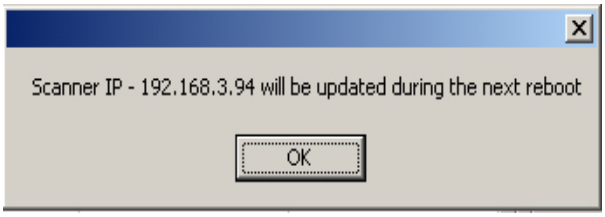


To upgrade the scanner perform the following steps:

1 Select the scanner and click **Update Scanner.**
Wait while the scanner updates.



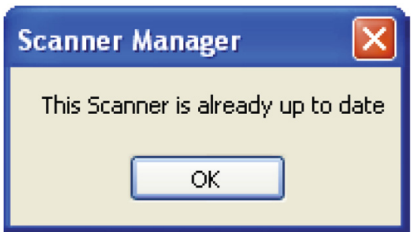
The file named **Reader_Embedded_xxx.tar** is copied from the **UPGScanner** folder to the scanner
The process starts and takes approximately one minute.
Then the Reboot screen appears



2 Click **OK** and reboot the scanner.
After the scanner is restarted, the scanner has been updated.

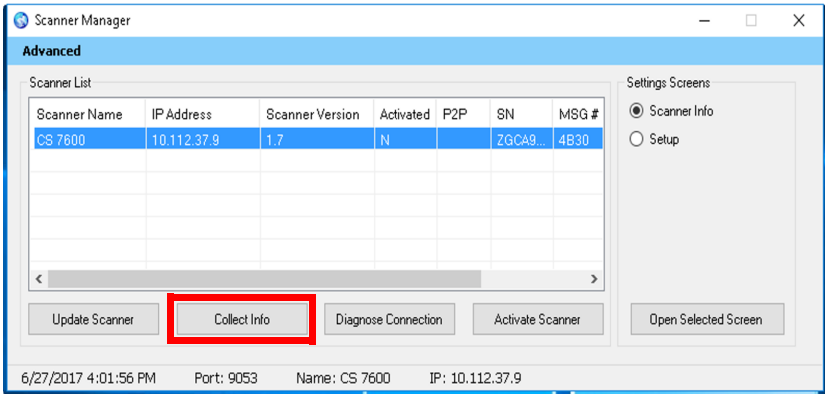
3 By pressing the right navigation button sign with “?”, the scanner info screen with the new version appears.
After the update process is completed, the scanner is ready for scanning

4 If the scanner is already up to date, the following message appears, click **OK**.



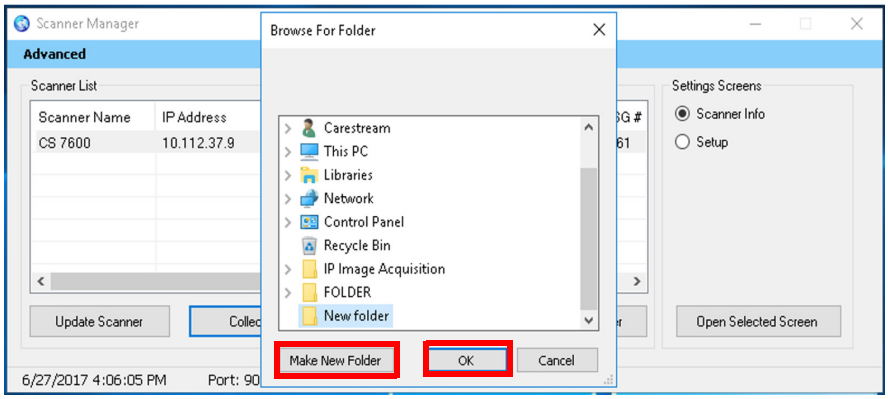
Collect Info

This tool is collecting the necessary log files from the Scanner and from the work station, and then the DSE/User is able to save the zip file on the local PC and send it for inspection.



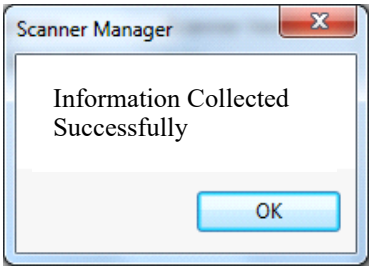
1 Select the scanner and click **Collect Info**.

2 Create new folder with the Scanner name (Recommended).
A browse window opens.



3 Click on the folder and press **OK.**
The process begins and takes few minutes until it is completed.
Upon completion you are able to send the file for inspection.
The zip file that was created by this tool is called **"CollectInfo.tar.gz"**

4 Select a destination folder for the information to be stored and click **OK**.
Wait a few minutes as the Information is being collected.



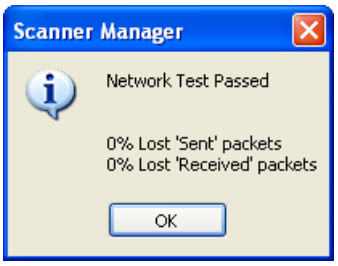
5 When the **Collect Information is done** message appears, click **OK.**
The information is stored in the selected destination folder.

Diagnose Connection

Important: Diagnose connection is to be performed under direct supervision of a dental service engineer.

To diagnose the connection between the scanner and computer:

1 Click **Diagnose Connection**.
After a few minutes the following message appears:



Note: If more than 3% of packets are lost, a Network Test Failed appears, click **OK** and contact your system administrator.

2 Click **OK**.

Activate Scanner

1 Click Activate.

The CS -licensing is launched.

2 Follow the activation process.