System Components
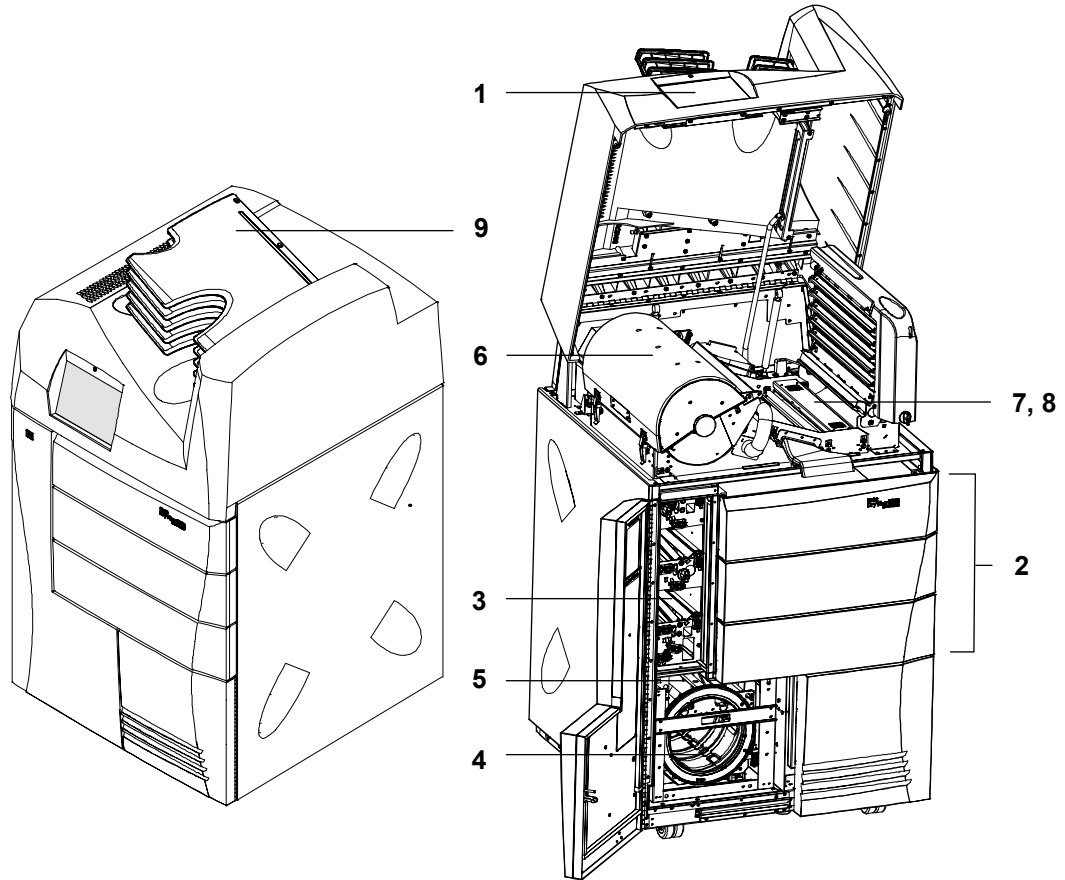

System Components

1   **Touch screen local panel**. The local panel is the interface between the user and the laser imager. The panel accepts commands from the user and provides status information to the user about imager functions.

2   **Film drawers.** Each of the three film drawers can hold any of five different sizes of DryView film. You can select the film cartridge in any drawer for printing.

3   **Film transport**. The film transport moves the film through the laser imager from the film cartridge to the film platen, then to the film processor and to the film sorter.

4   **Film platen**. The film platen positions the film and holds the film stationary for imaging.

5   **Optics module**. The optics module writes (exposes) the image onto the film while the film is positioned on the film platen.

6   **Film processor**. The film processor uses heat to develop the image exposed onto the film by the laser in the optics module.

7   **Densitometer**. The densitometer receives the film after it passes through the processor and performs a density check to confirm image quality. The densitometer is the key component of the Automatic Image Quality Control (AIQC) system.

8   **AIQC**. The AIQC system ensures that contrast, density, and other image-quality parameters meet preset user preferences.

9   **Film sorter**. The film sorter receives the processed film after the film passes through the densitometer and transports the film to the selected film bin on top of the laser imager. The bottom bin holds 125 sheets of film. Each of the top five bins holds 30 sheets of film.

How the Laser Imager Works

When the laser imager receives a print request and image data from the modality (image capturing device), the system determines the requested film size from the information included with the image data. The system then selects the appropriate film cartridge.
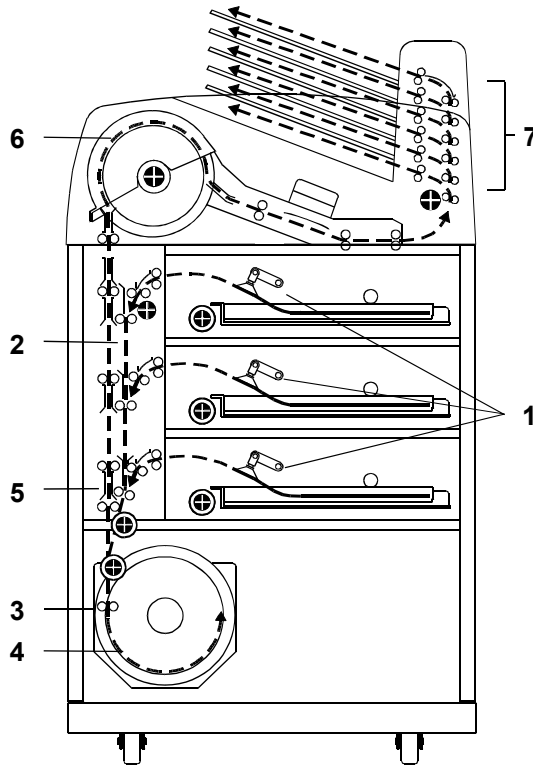
Each time a print request occurs by a modality, the following print sequence occurs.

1. Suction cups in the pickup areas lift a single sheet of film out of the supply cartridge and feed the film into the vertical transport rollers.

2. The vertical transport rollers move the film down to the film platen (exposure area).

3. The platen rollers move the film into the film platen.

4. The platen holds the film in a stationary position while the scanner writes the image onto the film.

5. The platen rollers move the film into the vertical transport rollers,

which move the film up into the film processor.

6. As the film passes over the processor drum, the heat generated by the drum develops the film.

7. The film transport rollers move the exposed film through the densitometer and out to one of the six bins.

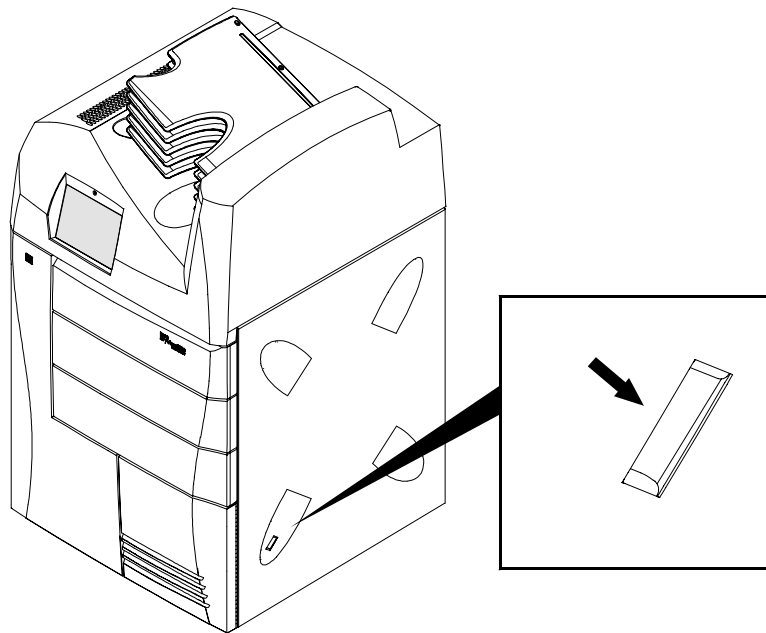**Print Sequence**

3 Operation and Maintenance

System Power Up and Power Down

Power Up

To power up the laser imager, push and hold the power switch to the ON position for about 2 seconds.

The power up process takes approximately 3 minutes. After power up, the laser imager begins accepting and queueing print jobs. At this point, you can determine cartridge status and load new cartridges if necessary.
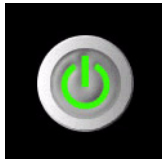
Film will not begin processing until the laser imager is completely warmed up (approximately 45 minutes).

Power Switch (press for two seconds)

Shut Down

To shut down the laser imager:

1. Touch the **Power** icon on the local panel.

2. Touch the **Shut Down** button.

NOTE: If the laser imager is not expected to be used for an extended period of time (three days or longer), shut down the laser imager.

Levels of Operation

The laser imager has four levels of operation:

NOTE: The reprint capability of the laser imager enables Levels 2, 3, and 4 users to command reprinting of images that may contain patient-identifiable data. Therefore, operation of the system by users at these levels is controlled by a login procedure that can assist users in meeting requirements to control access to such information.

Level 1 Operator   Activities include printing, clearing of some errors, and removing film jams.

Level 2 Operator (Key Operator)	Activities include printing, clearing of some errors, and removing film jams. Also perform minor setup, deleting, and reprinting jobs. Access to Level 2 requires a Key Operator ID and passcode. Refer to "Key Operator Information" on page 3-22 for Key Operator information.
Level 3 First Call	First Call providers are Kodak-trained and certified self-maintenance customers. Level 3 First Call provides access to all Level 1 and 2 features and functions. Activities include Preventive Maintenance with the ability to reset some of the parameters. Access to Level 3 requires a Level 3 ID and passcode.
Level 4 Full Service	Full Service providers are Kodak Health Imaging Field Engineers and Kodak Technical Support staff. Level 4 Full Service requires licensing for a specified time interval. Full Service providers have access to all Level 1, 2, and 3 service features. The providers can also access the laser imager through a service computer or through a remote computer connected to the network. Access to Level 4 requires a Service ID and passcode.

Power Failures

In the event of a power loss, the laser imager shuts down. To restore power, push and hold the power switch to the **ON** position for about 2 seconds.
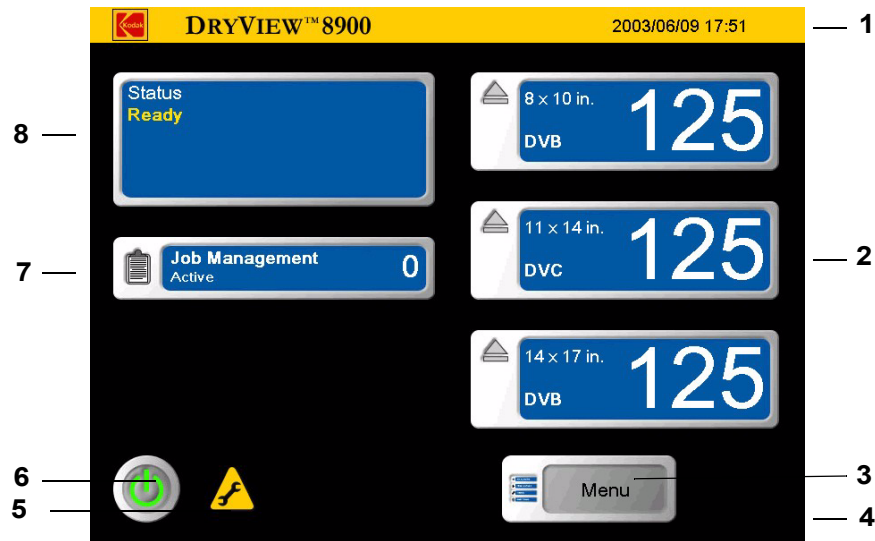
Using the Touch Screen Local Panel

The local panel provides touch-screen controls. To select a menu choice, touch the center of the button.

NOTE: Use only your finger when selecting buttons on the screen. Using hard objects, such as pens or pencils, can damage the surface of the touch screen.

Status Screen

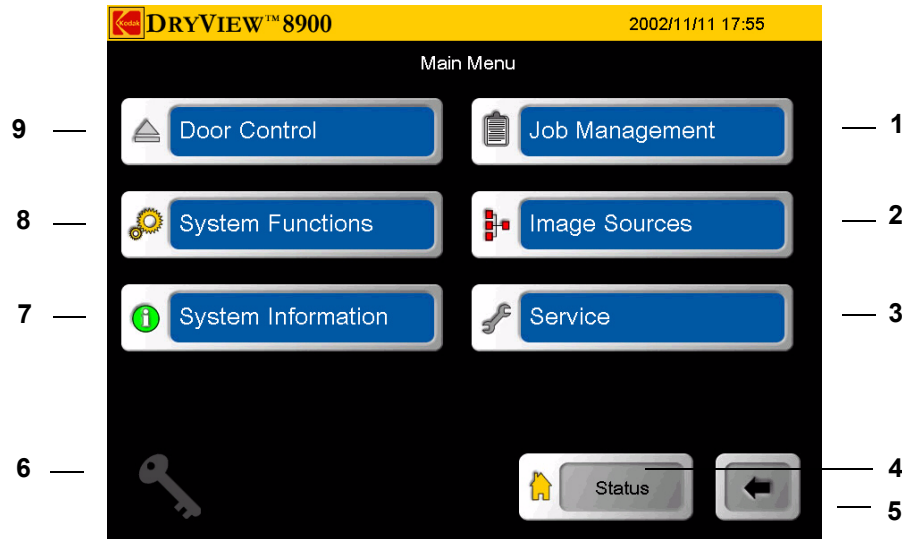The Status Menu is the first screen you see when the laser imager is completely powered up.

Status

1   **Date and Time.**

2   **Film supply drawers**. There are three film supply drawers accessed from the front of the laser imager. Touch menu buttons to close the film cartridge and open the drawers. The buttons also provide film information related to the currently installed cartridge:

- Film size appears in the upper left corner.
- Film base type appears in the lower left corner.
- Current number of film sheets available appears on the right

3   **Main Menu button**. When touched, the local panel displays the **Main Menu** (see "Main Menu" on page 3-6).

4   **Back Navigation** icon. When touched, the local panel displays the last previously displayed screen.

5   **Preventive Maintenance** icon. When on, Preventive Maintenance is needed (call Service).

6   **Power button.** When touched, the local panel displays the **Power** display.

7   **Job Management**. When touched, the local panel displays the **Job Management** screen (see "Job Management Screen" on page 3-10).

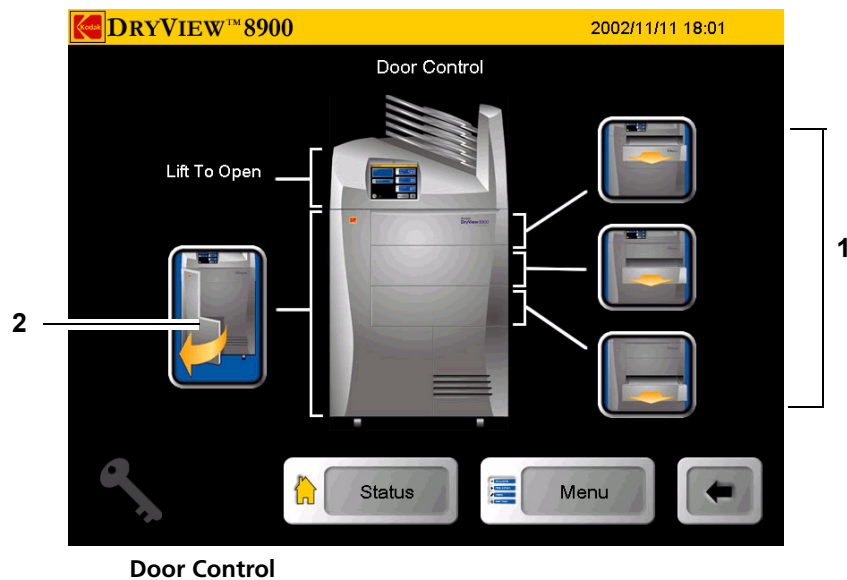**8**   **Status display area.** Displays system status messages.

Main Menu

Main Menu

1. **Job Management.** When touched, the local panel displays the **Job Management** screen (see "Job Management Screen" on page 3-10).

2. **Image Sources.** When touched, the local panel displays the Image Sources screen (see "Image Sources Screen" on page 3-12).

3. Service. When touched, the local panel displays the **Service** screen. The **Service** screen is only available to Level 4 Service.

4. Status. When touched, the local panel displays the **Status** screen (see "Status Screen" on page 3-4).

5. **Back Navigation**. When touched, the local panel displays the previously displayed screen.

6. Key Operator Login. When touched, the local panel displays the **Key Operator Login** screen (see Key Operator screen, page "Key Operator Passcode" on page 3-22).

7   System Information. When touched, the local panel displays the **System Information** screen (see "System Information Screen" on page 3-9).

8   **System Functions.** When touched, the local panel displays the **System Functions** screen (see "System Functions Screen" on page 3-8).

9   **Door Control.** When touched, the local panel displays the **Door Control** screen (see "Door Control Screen" on page 3-7).
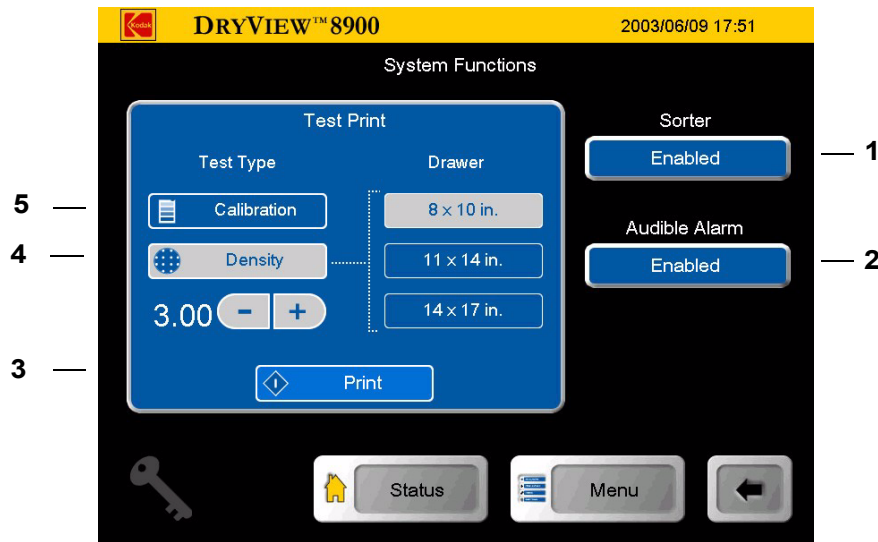
Door Control Screen

Door Control

1   **Film Drawer icons.** When touched, the corresponding film drawer opens (see "Opening the Film Drawers" on page 3-13).

2   **Front Door icon.** When touched, the front door opens (see "Opening the Front Door" on page 3-13).
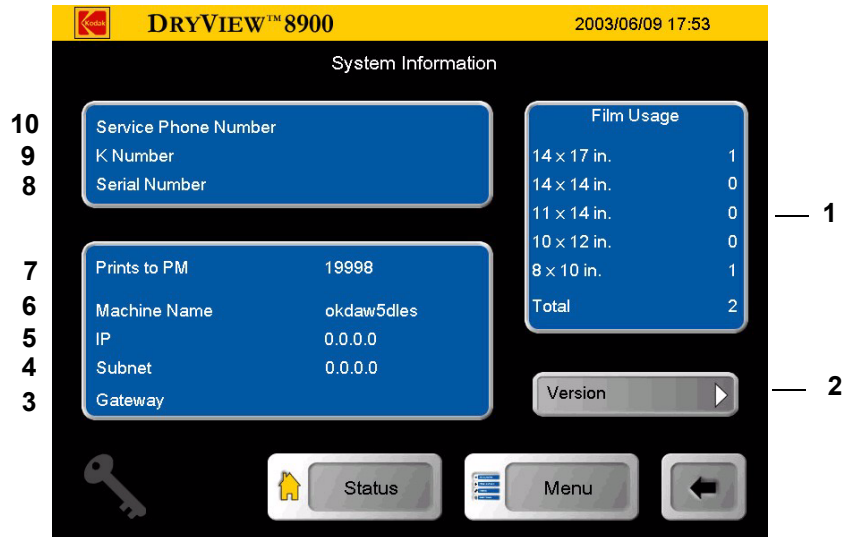
System Functions Screen

System Functions

1   **Sorter (Enabled/Disabled).** When touched, the sorter is enabled or disabled. When disabled, the laser imager sends all film to bin 1.

2   **Audible Alarm (Enabled/Disabled)**. When touched, the audible alarm for error and status messages is enabled or disabled.

3   **Print.** When touched, the system prints the selected test print (**Calibration** test print or **Density** test print).

4   Density test print. When touched, the laser imager prints a **Density** test print from the selected film drawer and at the selected density (default 3.0).

5   **Calibration test print.** When touched, the laser imager prints a **Calibration** test print from the selected film drawer.
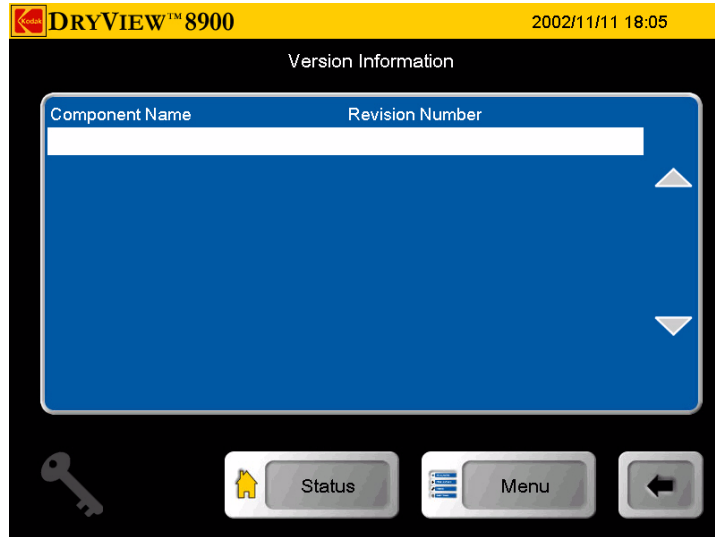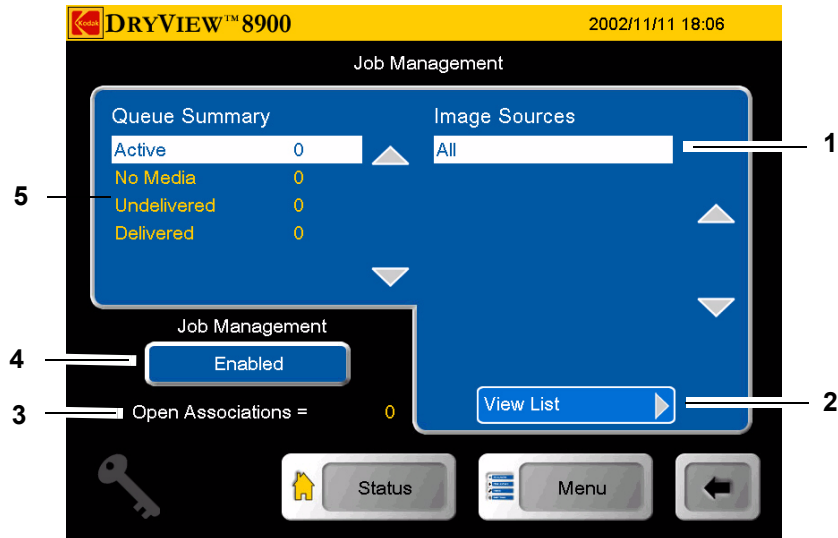
System Information Screen

System Information

1   **Film Usage**. The display area provides print counts for each film size and the total number of prints.

2   **The laser imager software version**.

3   The laser imager **Gateway**.

4   The laser imager **Subnet.**

5   **The laser imager IP address**.

6   The laser imager name.

7   **Prints to PM**: The number of prints before a Preventive Maintenance is due.

8   **Serial #**: The laser imager serial number.

9   **K #**: The laser imager Kodak number.

10   **Service Phone**: The Kodak Service telephone number.

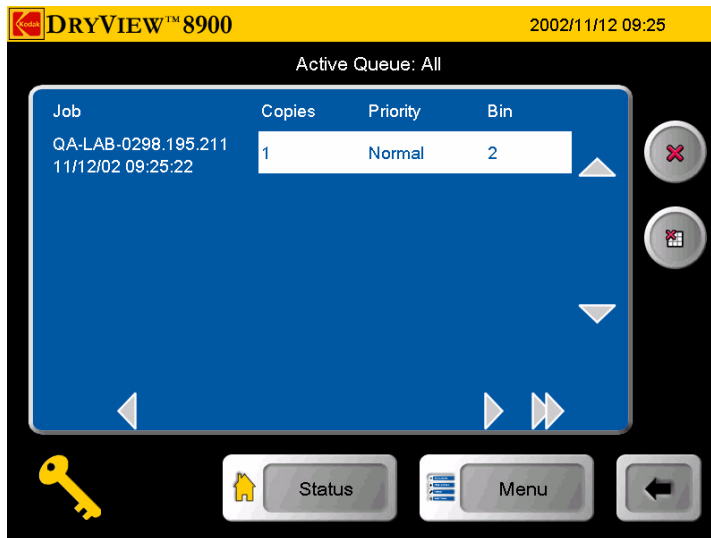## Version Information

Version Information

Job Management Screen

Job Management

1   List of modalities that have active print jobs in the queue.

2   **View List**. When touched, the **Active Queue** screen displays all print jobs currently in the queue (see "View List" on page 3-11).

3   **Open Associations**. Represents the number of modalities currently communicating actively with the laser imager.

4   When touched, the **Job Management** is enabled or disabled which prevents the spooling or storage of DICOM jobs.

5   Identifies the status of a print job currently in the queue.

View List

Active Queue View List
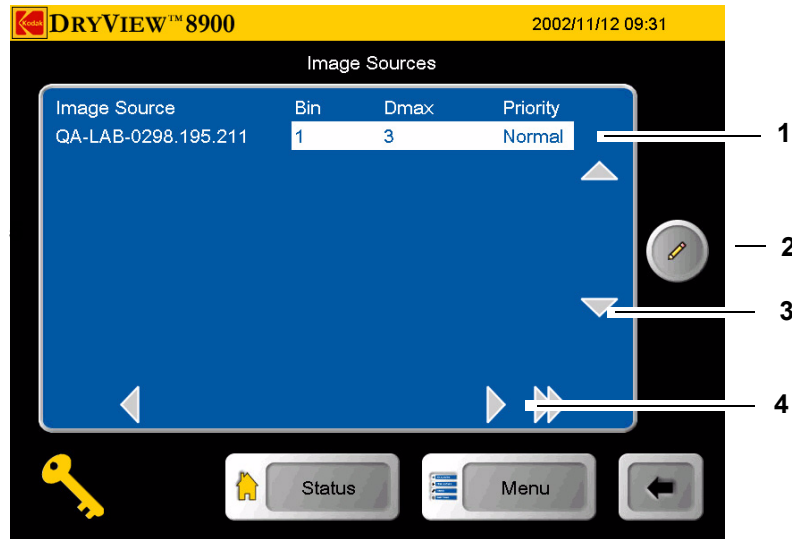
Image Sources Screen

Image Sources

1   List of all modalities currently connected to the laser imager. The list identifies the sorter bin, Dmax, and priority designation that the modality is associated.

2   When touched, the **Image Source Editor** screen is displayed.

3   Navigation arrows.

4   Navigation arrows
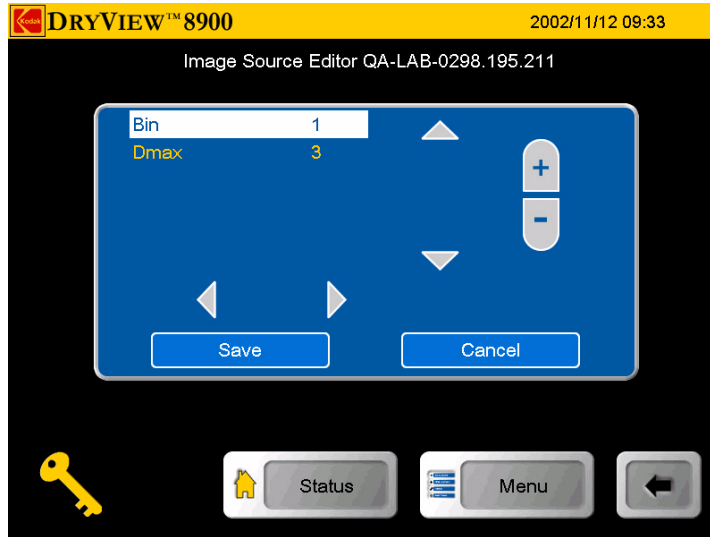
Image Source Editor

Image Source Editor

The **Image Source Editor** screen allows you to identify and select a modality and determine respective modality Dmax value and sorter bin. When touched, the bottom right navigation button scrolls to the right to reveal film border, film size, film base, and Dmin information.

Operation

Opening the Front Door

When open, the front door provides access to areas 2 and 3. Use the **Door Control** screen on the local panel to open the front door in normal situations (see "Door Control Screen" on page 3-7). If the **Door Control screen** fails to open the door, use the manual door override latch (see "Film Drawers and Front Door Manual Override Latches" on page 3-14).

1. Minimize film exposure by making the room as dark as possible.

2. At the **Door Control** screen, touch the front door icon.

3. If necessary, close any film cartridges to prevent the film from fogging:

Opening the Film Drawers

The open film drawer controls on the local panel are available on two display screens: **Door Control** screen and **Status** screen. If a film drawer

fails to open, use the manual drawer override latch (see "Film Drawers and Front Door Manual Override Latches" on page 3-14).

NOTE: If the drawer is opened without the film cartridge closed, several sheets of film at the top of the cartridge will be exposed (fogged) and should be discarded.
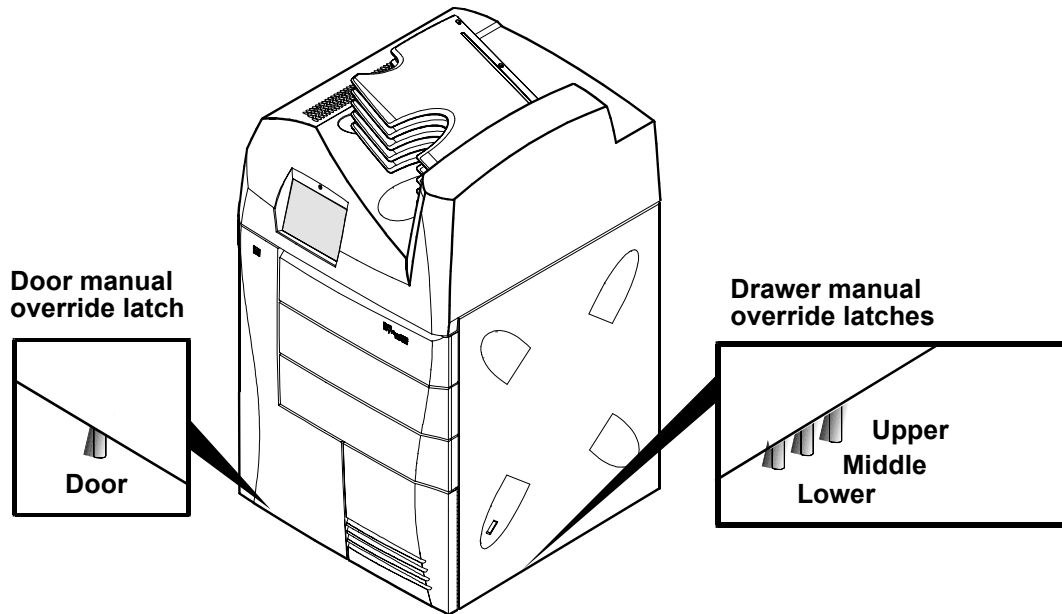
1. Minimize film exposure by making the room as dark as possible.

2. At the **Door Control** screen or **Status** screen, touch the desired drawer icon.

3. If necessary, close any film cartridge lid to prevent the film from fogging (see "Manually Closing the Film Cartridge Lid" on page 4-17).

Film Drawers and Front Door Manual Override Latches

If the laser imager is powered down or if the **Door Control** screen fails to open the drawers or door, use the manual override latches.

The door override is under the front of the imager. The drawer overrides are under the right of the imager.

NOTE: If the drawers or door are opened without the film cartridge closing, several sheets of film at the top of the cartridge will be exposed (fogged) and should be discarded.

**Door manual
override latch**

Door

**Drawer manual
override latches**

**Upper
Middle
Lower**

Manual Override Latches

To manually open the drawers and front door:

1. Minimize film exposure by making the room as dark as possible.

2. Lift up the desired override latch.

3. If necessary, manually close any film cartridges to prevent the film from fogging.
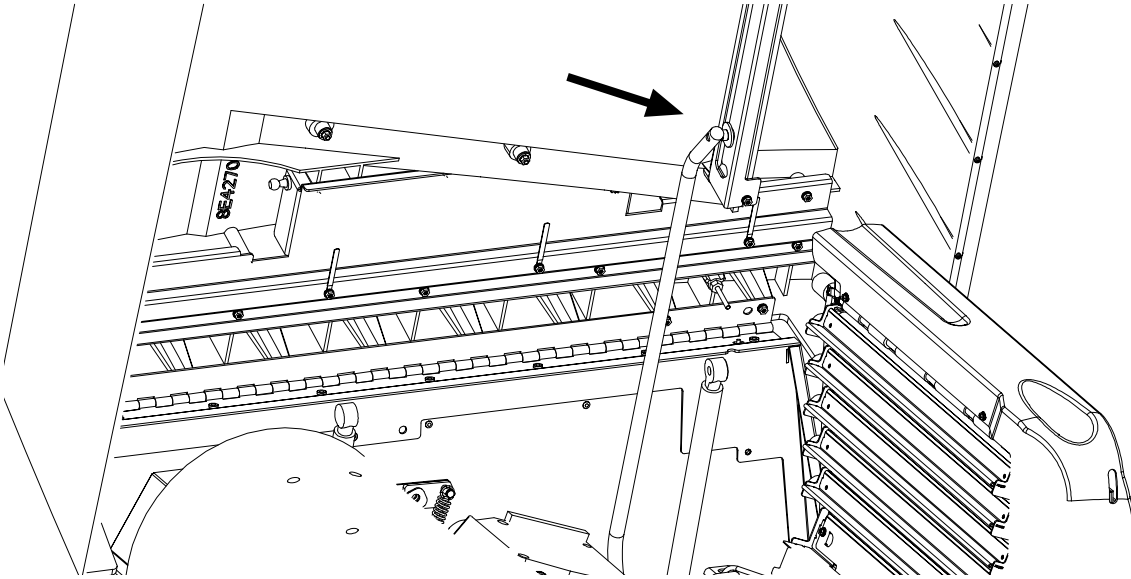
Opening the Hood

Opening the hood provides access to film jam areas 4 and 5.

⚠ CAUTION:
Whenever you raise or lower the hood, grasp the hood only in the area of the recessed slot below the local panel to avoid the possibility of pinching your fingers.

⚠ **CAUTION:**

Close the hood carefully. Releasing and dropping the hood could damage the laser imager.

Recessed Slot

To open the hood:

1. Grasp the hood at the recessed slot below the local panel.

2. Raise the hood until the support rod locks into the first slot.

To close the hood:

1. Raise the hood slightly to lift the support rod out of its slot and push the rod slightly to the rear from the slot.

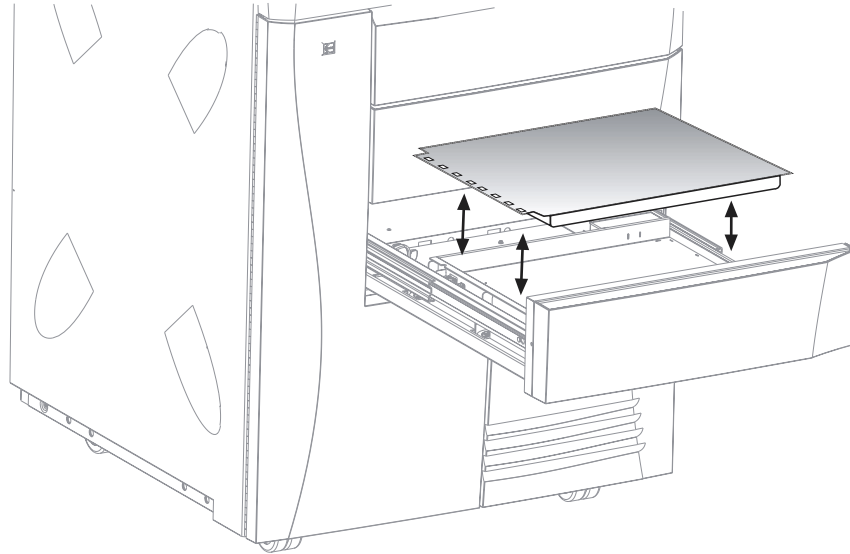2. Gently lower the hood to its closed position.

Loading Film Cartridges

You can monitor the number of sheets left in a film cartridge by looking at the film drawer icon on the **Status** screen. When a film cartridge runs out of film, an audible alarms sounds, the appropriate film drawer icon flashes, and a large zero appears in the drawer icon.

⚠ CAUTION:

To avoid injury, do not leave the laser imager unattended when the film drawers are open.

To load or unload a film cartridge:

1. At the **Door Control** or **Status** screens, touch the desired film drawer icon. The laser imager closes the cartridge and partially opens the drawer.

2. Pull the film drawer out to its furthest extension.

3. To remove a film cartridge, hold the edge of the cartridge and lift the cartridge out of the drawer.

4. To load a new or different cartridge, insert the cartridge into the film drawer with the perforations to the left.

5. Slide the drawer into the laser imager.

Recycling Empty Film Cartridges

Return your empty *Kodak DryView* film cartridges to Kodak for reuse and recycling.