

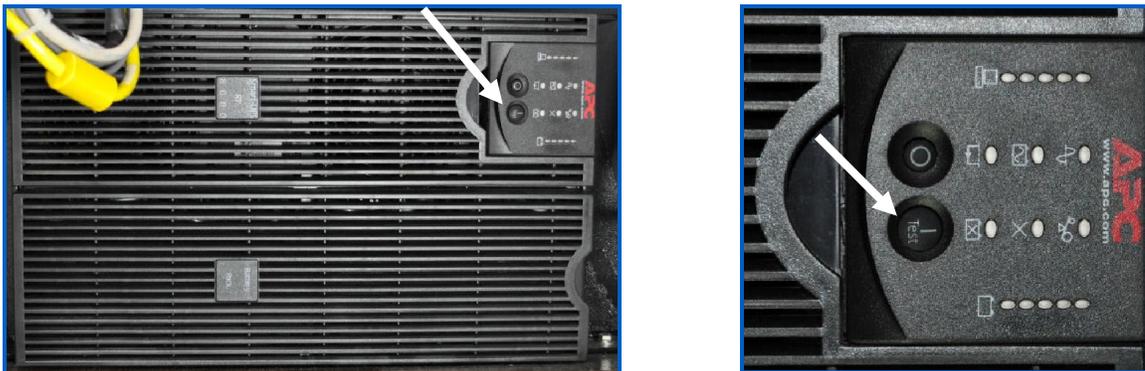
## 9 Scanner Operations

This chapter provides procedures for X-Ray Scanner startup, shutdown, and operation.

### 9.1 Location of the UPS on the X-Ray Scanner

The Uninterruptible Power Source (UPS) will need to be turned “ON” and “OFF” during the start up and shut down of the X-Ray Scanner.

The arrows below show the location of the “output-power “ON” switch on each UPS.



**Figure 1: Location of the “ON” Switch on the Scanner’s UPS**

The UPS unit is located **inside** the X-Ray Scanner cabinet, behind one of the panel doors, so you will need the panel door key to access the UPS.

The specific location of the UPS is different on each “version” of X-Ray Scanner, as indicated in **Figure 2**.

#### **CAUTION**

This is the **only** instance where someone who is not a qualified, authorized service provider should be allowed access to the interior of the X-Ray Scanner cabinet.



**Figure 2: Location of the UPS inside the X-Ray Scanner Cabinet**



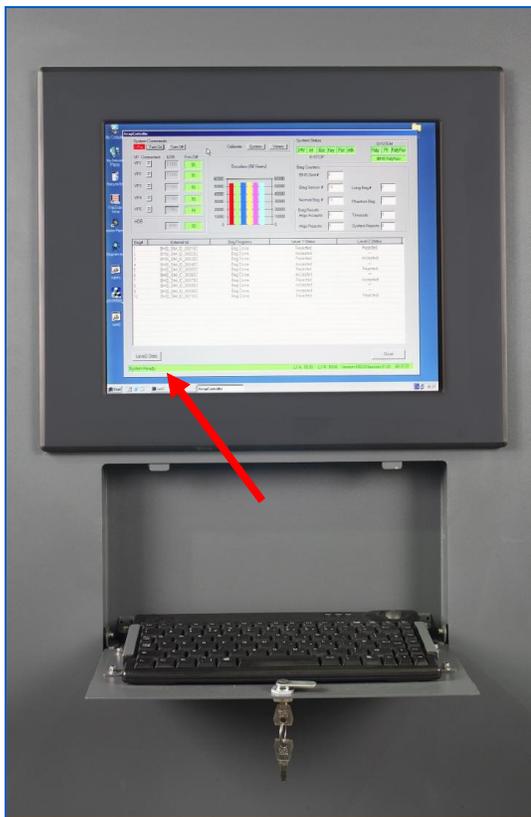
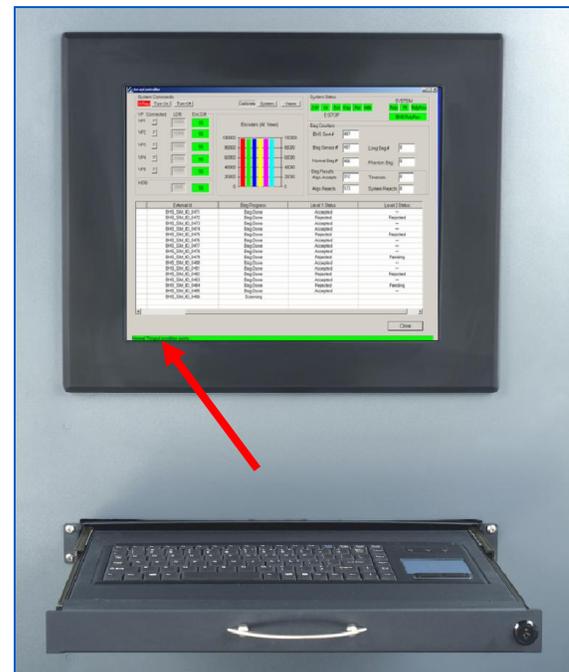
## OPERATIONS Procedures for a Hi-Tech Product

**Prerequisites:**

- Ensure that the site’s local power source is connected and switched “**on**”;
- Make sure all Emergency Stop buttons are in the released position;
- Make sure that the lead curtains at the tunnel entrance and exit are in place;
- Make sure there are no objects in the X-ray tunnel;
- Make sure all panels are closed and locked (except the panel covering the UPS).

**Step-by-Step:**

1. Switch the Main Circuit Breaker on the left-hand side of the CIP to “ON” (up).
2. Turn the UPS output power switch “on”, and all Scanner computers will start up.
3. Turn the Scanner key-lock to the “on” position, then press the green **[Start]** button to start the conveyor and X-ray generators.
4. The built-in **Control Console** will display the Array Controller (AC) “desktop”.

Most Recent ModelsEarlier Models

(Arrows show where the “**System Ready**” message will appear on the AC Window.)

**Figure 4: X-Ray Scanner Control Console displaying the Array Controller Window**

5. After a short while, the Array Controller (“**AC**”) window will display on the Scanner Control Console, as shown in **Figure 4**.

**NOTICE**

If the AC window does not appear but the AC computer desktop is visible on the Control Console, double click the [**runAC**] icon on the AC desktop to launch the AC application.

6. Once the Array Controller (“**AC**”) window displays, wait for the **System Ready** message to appear in the lower **left-hand corner** of the window.

This is the indicator that the X-Ray Scanner is **ready for operation**.

### 9.3 How to Operate and Clear the Emergency Stops

Emergency-Stop buttons on all 4 corners of the HBS System X-Ray Scanner enable **immediate manual shut down** of the **X-ray generators** and **conveyor movement**.



Figure 9-5: Emergency Stop Buttons on the X-Ray Scanner

To **activate** an Emergency Stop (“E-Stop”), push the red cap **inward**.

The conveyor and X-ray generators **stop**

At the built-in Control Console, the AC window displays the following in the lower left:

Internal E-STOP is activated! Please rectify

#### NOTICE

If processing is interrupted during a scan, an incomplete image may result. Bags in the tunnel when the conveyor stopped are **not** analyzed and are automatically rejected by the system. If the Scanner goes offline, the BHS can override the conveyor control to pass bags through the system without inspecting them.

To **deactivate** an Emergency Stop (“E-Stop”), twist and pull the red cap **outward**, then press the green “**POWER ON**” button near the key-lock switch.



Figure 6: Green POWER ON Button and Key-Lock Switch on the Scanner

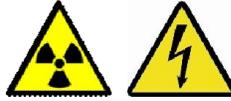
## 9.4 How to Safely Clear Bag Jams

Safely clearing a bag jam inside the X-Ray Scanner tunnel requires the following steps:

1. Turn the system key to the “**OFF**” position, to reset the X-Ray Scanner so that:
  - (a) **X-rays** are not being generated, and
  - (b) the Scanner’s internal **conveyor** is stopped.
  
2. If the X-Ray Scanner is “**inline**” with a BHS, ensure that:
  - (a) the BHS **conveyor(s)** to the infeed of the X-Ray Scanner are stopped, and
  - (b) the BHS cannot reverse (**a**) and cannot reverse **Item 1** above.
  
3. If the X-Ray Scanner is “**standalone**” (no connection to a BHS), ensure that:
  - (a) any **powered** conveyor(s) at the infeed/exit of the Scanner are stopped, and
  - (b) on each conveyor, **unplug** the power source to the unit during all work.
  
4. Manually clear the bag jam inside the tunnel of the X-Ray Scanner by:
  - (a) physically entering the Scanner tunnel, and/or
  - (b) using a long sturdy object (bar, stick, plastic rod) to reach into the Scanner tunnel.

This may involve climbing over conveyors and/or roller tables to access the entrance to the Scanner tunnel.

5. Reverse the “**lockout**” conditions from **Steps 2** and **3** above, and then and **only** then, turn the system key on the X-Ray Scanner to the “**ON**” position.



Do **not** rely on the Emergency Stop button to stop X-ray generation and stop the X-Ray Scanner's internal conveyor. Instead:

- always turn the X-Ray Scanner system key to the “**OFF**” position, then
- always **remove** the system key from the X-Ray Scanner key switch, and
- If the X-Ray Scanner is inline, always keep the system key **with you at all times** until yourself and all other personnel are clear from the X-Ray Scanner and from the BHS conveyors.

Otherwise the BHS can override an Emergency Stop, and/or another person can reset the Emergency Stop button(s) while yourself or other personnel are still inside the tunnel.



Be careful not to damage the conveyor belt assembly and other components inside the tunnel of the X-Ray Scanner.

Avoid inserting clothing or body parts into **conveyor gaps**.

**Note:** In the original Product Manuals, this chapter includes additional content that contains proprietary information, which therefore has been excluded from this excerpt.