

## 2 HBS System Overview

This chapter provides an exterior, operator-level overview of all the components that make up the **Hold Baggage Screening (HBS) System**.

**Note:** In the original Product Manuals, this overview covers each component in more depth than is shown in this brief excerpt, and covers additional components as well.

### 2.1 HBS System Network

The HBS System Network (**Figure 1**) is the central hub that transfers information between one or more "inline" X-Ray Scanners performing Level 1 Screening and multiple **networked workstations**, employed for Level 2 Screening and other functions.

Each X-Ray Scanner communicates with the airport terminal Baggage Handling System (**BHS**) computers and automatic conveyor network via a built-in **BHS Interface**.

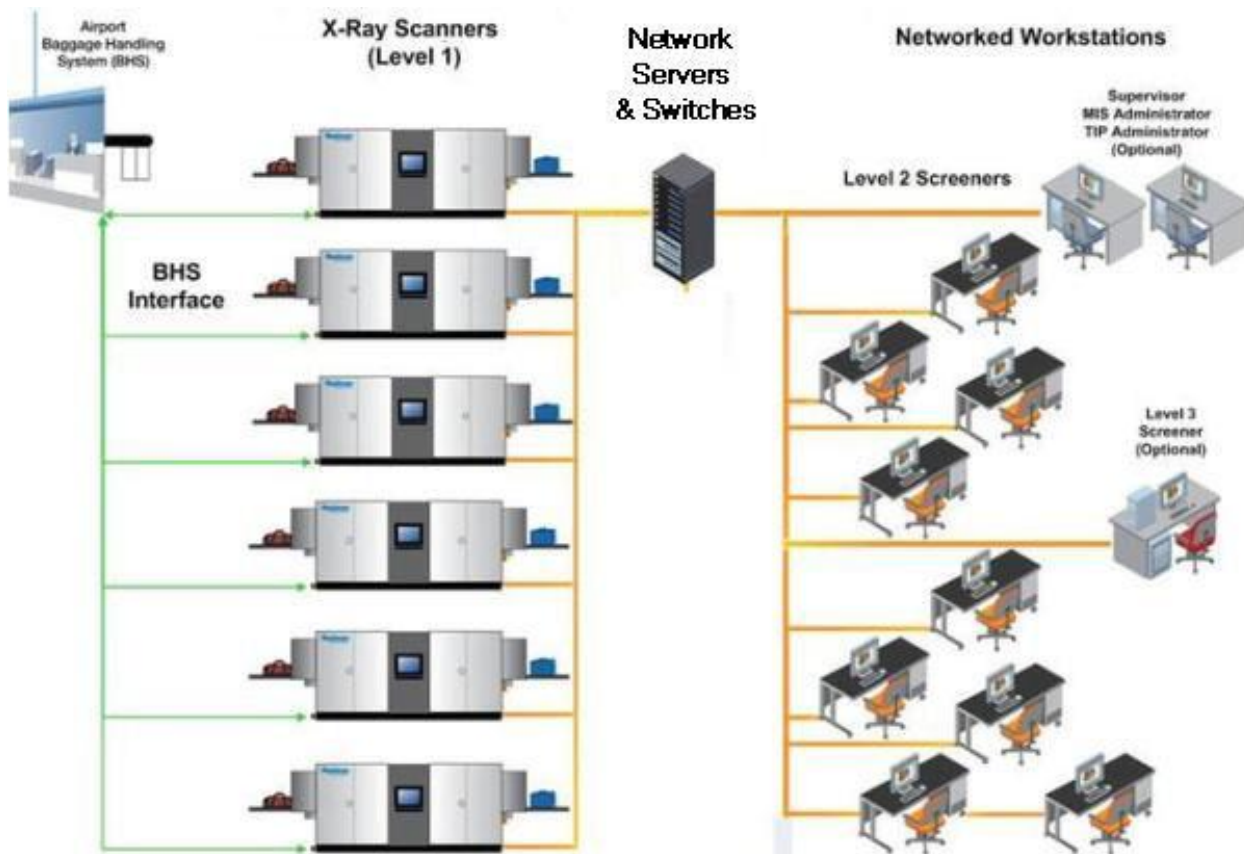


Figure 1: HBS System Network

As shown in **Figure 2**, each "inline" X-Ray Scanner is fully integrated into the BHS conveyor systems. Scanner communication with the BHS is as follows:

- The BHS computers send signals to the X-Ray Scanner to control baggage flow.
- The X-Ray Scanner sends signals to the BHS computers and conveyors to control baggage flow to and from the Scanner.
- The X-Ray Scanner also transmits its Level 1 Screening "decision" to the BHS, and where Level 2 Screening is performed, relays that decision to the BHS.

Note:

The X-Ray Scanner receives Level 2 Screening "decisions" from the networked workstations via the HBS Network Server (**Figure 1**).



**Figure 2: X-Ray Scanners "Inline" with an Airport BHS**

As shown in **Figure 3**, networked workstations employed for Level 2 screening and other Hold Baggage Screening operations, are usually located in a remote Screening Room away from the airport BHS conveyors and computers.

Each Level 2 Screener usually has a limited time in order to render a decision, which is controlled by the HBS System and may be configured for airport requirements.

X-ray scan images are transmitted from the Level 1 X-Ray Scanner to a Level 2 Screening Workstation only when the bag is automatically rejected at Level 1.

The bag scan images are routed via the HBS Network to the "next available" Screener.



**Figure 3: Remote Screening Room with Networked Level 2 Workstations**

## 2.2 X-Ray Scanner (Level 1 Screening)

Figure 4 below shows the basic components of the HBS System X-Ray Scanner.

### Most Recent Models



### Earlier Models



1 Infeed Assembly / Tunnel Entrance	4 Customer Interface Panel (CIP) [Includes Main Circuit Breaker.]
2 Exit Assembly / Tunnel Exit	
3 Built-In Control Console	5 Air Conditioning Unit [Optional]

**Figure 4: X-Ray Scanner Basic Components**

## Exterior "User Level" Description of a Hi-Tech Product

### 2.3 Control Console on the X-Ray Scanner

Built into each X-Ray Scanner unit is a Control Console (**Figure 5**), which includes a built-in monitor and fold-down (or pull-out) keyboard with mouse interface, and is employed by Operators, Screeners, and Service Personnel to:

- start up, control, and shut down the X-Ray Scanner,
- monitor the X-Ray Scanner during operation, and
- assist maintenance and test personnel.

The keyboard folds up (or slides) into the machine and locks into place when not in use, to prevent unauthorized access.

Most Recent Models



Earlier Models



(Keyboard pulls out on the above Console.)

**Figure 5: Control Console on the X-Ray Scanner**

## 2.4 **Optional Archive PC Onboard the X-Ray Scanner**

The X-Ray Scanner comes with an optional onboard Archive PC, to facilitate automatic bag scan image **archiving** by the X-Ray Scanner unit. These archived images can then later be "replayed" (retrieved and viewed) from an HBS Workstation, as described in the HBS Supervisor and Administrator User Manual (listed in the beginning of the Manual).

## 2.5 **HBS Workstation**

An HBS Workstation is employed by a **human operator** to perform one or more of the following functions:

- (a) Level 2 and optionally Level 3 screening of bag scan images from Level 1;
- (b) Supervisor replay of previously archived bag scan images from one or more HBS X-Ray Scanners (stored on each Scanner's Archive PC);
- (c) MIS Administration actions, such as user account maintenance, overall HBS system monitoring, and generation of performance reports for management.



**Figure 6: HBS Workstation with Level 2 / Level 3 Screening Software**  
(Shown with UPS and Optional Desk Kit)