**Axis-3D® X-ray Systems**

**Stereo Imaging Functions**

The Axis-3D® series X-ray machines feature a unique stereoscopic imaging system in order to aid the operator in the visualization of scanned baggage. The following controls are associated with the stereo imaging aspect of the system.

**Toggle Stereo Key**

This key toggles the Axis-3D® display between stereoscopic and standard display modes. The Axis-3D® system is capable of displaying two-dimensional X-ray images in the same way as a regular X-ray baggage inspection system.

**Flip Stereo Key**

This key toggles the apparent depth ordering of the current image in order to aid visualization of some stereo images. Image artefacts ‘nearest’ the operator will become the farthest away and vice versa. Occasionally certain items of baggage are more easily resolved in stereo 3D when they are ‘flipped’. The key toggles; pressing the key a second time will flip the stereo back to the standard view.

**Image Enhancement Keys**

**General**

There are five basic image display modes available to the operator. The display mode is selected by the operator by use of the appropriate keys on the system control panel.

In addition, each basic display mode may be further enhanced by two image processing functions. The effects of each image processing function are cumulative. For example, the operator could choose to view the current image as an inverted tri-materials view with Deep Focus™ also applied.

**Black and White Key**

This key allows the operator to toggle between a coloured tri-materials view and a standard monochrome shadowgraph view. Each time the key is pressed the system will toggle between the two display modes.
The images above show the same suitcase viewed in both tri-materials and monochrome modes.

**Material Group Cycle Key**

Materials are grouped according to their atomic weight. When baggage is X-rayed, the differing materials inside are artificially coloured to aid discrimination between threat objects and innocuous items.

This key allows the operator to cycle between different materials display modes. Each time the key is pressed the display cycles to the next display mode in the sequence: Organic, Mixture and Inorganic.

<table>
<thead>
<tr>
<th>Organic</th>
<th>Mixture</th>
<th>Inorganic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Selecting organic has the effect of removing the colour information of all groups except for Group 1 (organic).</td>
<td>Selecting mixture has the effect of removing the colour information of all groups except for Group 2 (mixture).</td>
<td>Selecting inorganic has the effect of removing the colour information of all groups except for Group 3 (inorganic).</td>
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</tbody>
</table>
Invert Key

This key allows the operator to toggle between a standard display and an inverted display each time the key is pressed. The invert function may be applied to any of the five basic image display modes and combined with other image processing functions.

Deep Focus™ Key

Deep Focus™ is a special image enhancement mode that optimises the display of the current X-ray image to maximise the amount of information available to the operator.

This key toggles the application of the Deep Focus™ display function to the current display. The Deep Focus™ image enhancement may be applied to any of the five basic image display modes and may also be combined with other image processing functions.
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Stereo Imaging Functions

<table>
<thead>
<tr>
<th>Normal View</th>
<th>Zoomed View</th>
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### Increase Zoom

The increase zoom key allows the operator to magnify the current image for more detailed inspection of the current image. The zoom is continuous and unlimited. Magnification will continue to increase whilst the key is depressed. Note that as stereo images cannot be resolved at high zoom levels, the system automatically displays a normal image (two dimensional) when it would be uncomfortable for the operator to resolve a stereo image.

### Decrease Zoom

The decrease zoom key allows the user to zoom out and reduce the current magnification level. The zoom out is progressive and will continue to decrease magnification whilst the key is depressed.