Extron® Electronics
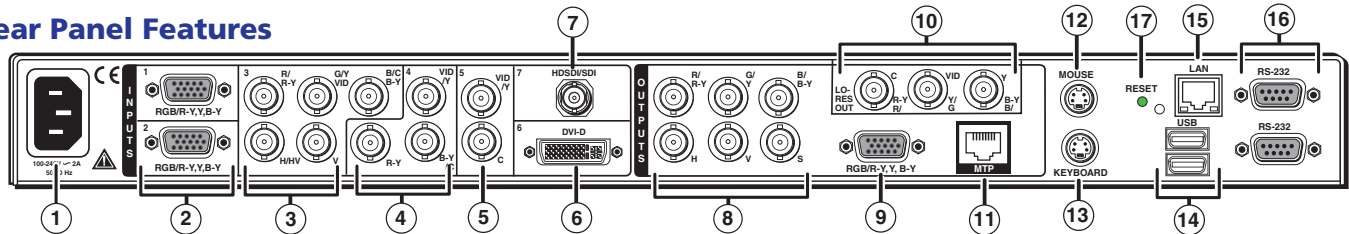INTERFACING, SWITCHING AND CONTROL

Annotator • Setup Guide

The Extron Annotator (Annotation Graphics Processor) is a scaling product that allows a presenter to draw, point, or type on video or computer source outputs using a touch panel, mouse, or keyboard.

This setup guide allows you to easily and quickly set up and configure your Annotator using step by step instructions. It covers performing basic operations using the front panel controls and selected Simple Instruction Set (SIS™) commands.

> **NOTE:** For full installation, configuration, menus, and operation details, see the *Annotator User Guide* at **www.extron.com**

Installation

Rear Panel Features

Power and video input connections

① AC power connector
② RGB/HD VGA connectors (inputs 1 and 2)
③ Universal BNC connectors (input 3)
④ Component/S-video/composite BNC connectors (input 4)
⑤ S-video/composite video BNC connectors (input 5)
⑥ DVI connector (input 6)
⑦ (Optional) HD/SD-SDI connector (input 7)

Output, user interface, and control connections

⑧ RGB/HD BNC connectors
⑨ RGB/HD VGA connectors
⑩ (Optional) output card*
⑪ MTP twisted pair connector
⑫ PS/2 mouse port
⑬ PS/2 keyboard port
⑭ USB A ports
*scan converter shown

⑮ RJ-45 Ethernet connector
⑯ 9-pin RS-232 connectors
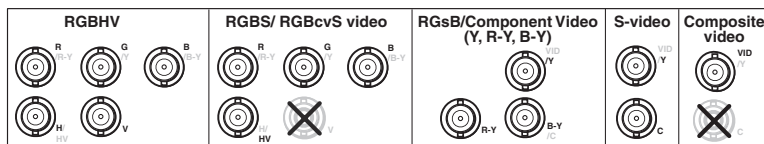⑰ Reset button and LED

Mounting and Cabling

Step 1 — Mounting

Turn off or disconnect all equipment power sources and rack mount the Annotator using the supplied brackets (see image at right).

Rack Mount Bracket

Step 2 — Connect inputs

Connect inputs from video sources to the applicable connectors marked "Inputs". See ② through ⑦ above for connector types and the image below for signal format.

Step 3 — Connect outputs

Connect video output devices to the applicable connectors marked "Outputs" (see ⑧ through ⑪ above).

> **CAUTION** Do not connect the MTP cable to the LAN port, or connect the LAN cable to the MTP port.
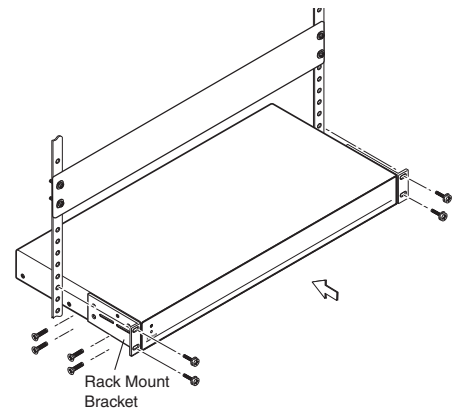
Step 4 — Connect user interface devices

PS/2 mouse and keyboard ports — Connect a mouse and/or a keyboard for annotation use.

Step 5 — Connect touch panel devices — USB or RS-232 connection

USB A ports — Connect a touch panel device to the Annotator via either of the USB A ports.

RS-232 — Using a NULL RS-232 cable only, connect a touch panel device to the Annotator via either of the RS-232 comm ports.

> **NOTE:** USB and RS-232 driver configuration is necessary and must be done using the Signal Processing Products Control Program (SPPCP). Within the SPPCP program click `Help > Contents` for configuration instructions.
> See the *Annotator User Guide*, for Simple Instruction Set (SIS™) command definitions, and SPPCP use.

Step 6 — Connect control devices

LAN Ethernet port — Connect an Ethernet LAN or WAN via this RJ-45 connector ⑮ for remote control of the Annotator using a PC's Internet browser, or the SPPCP control program.

One Ethernet connection LED lights green when connected to the LAN and one flickers amber as the devices communicate.

RS-232 ports — For serial RS-232 or RS-422 control, connect a host computer or control system via a 9-pin D connector ⑯. RS-232 protocol (default values): 9600 baud, 1 stop bit, no parity, 8 data bits, no flow control.
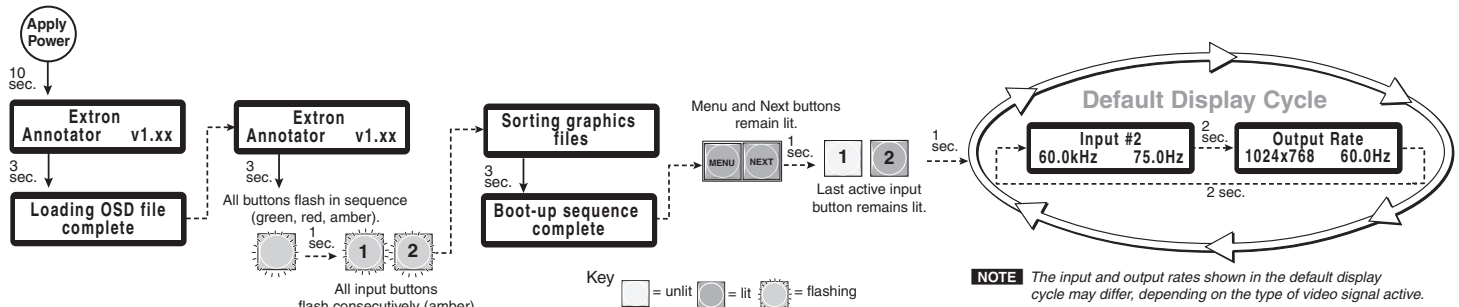
Step 7 — Connect power

AC power connector — Plug in a standard IEC power cord from a 100 to 240 VAC, 50 - 60 Hz power source into this receptacle ①.
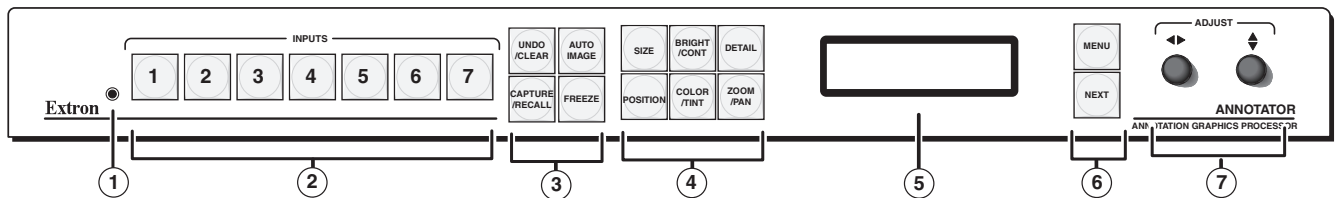
Powering Up

When powering up the Annotator, the unit undergoes a self testing sequence (see image below). The LCD displays the default display cycle, showing the output rate and the refresh rates for the currently selected input.
When not in any menu mode the screen cycles through the input/output configuration currently installed.

Front Panel Overview

① **Front panel configuration port** — Connect a control system or computer to this (RS-232) port, using a TRS RS-232 cable, Extron part number **70-335-01**. RS-232 protocol (default values): 9600 baud, 1 stop bit, no parity, 8 data bits, no flow control

② **Input selection buttons** — Selects/switches inputs, and indicates which input is active (button lights amber).

③ **Special function buttons** — These four, dual colored buttons are:
- • Undo/Clear — Allows a reversal of up to the last seven annotation points. Press and hold to clear annotations.
- • Auto Image— Allows automatic image adjustment on selected input.
- • Capture/Recall — Allows the capture and saving of the current image or the recall of a saved image.
- • Freeze — Allows the current displayed image to be frozen or unfrozen as desired.

④ **Picture contol buttons** — These six, dual colored buttons are:
- • Size — Allows adjustment to the displayed image size.
- • Bright/Cont — Allows adjustment of the brightness and contrast settings for the displayed image.
- • Detail — Allows adjustment of the detail (sharpness) setting for the displayed image.
- • Position — Allows horizontal and/or vertical position adjustment of the displayed image.
- • Color/Tint — Allows adjustment of the color and tint settings for the displayed image.
- • Zoom/Pan — Allows displayed image to be zoomed in or back out, or panned horizontally and/or vertically.

⑤ **LCD display** — This 16x2 screen displays device settings and menu configuration information.

⑥ **Menu navigation buttons (Menu, Next)** — These buttons allow navigation through the Annotator's menu system.

⑦ **Adjust knobs** — These are used with the picture adjustment and the menu navigation buttons to adjust settings.

Setting the Front Panel Locks (Executive Modes)

The Annotator has three modes of front panel security lock that limit the operation of the unit from the front panel.

Executive mode 0 (disabled) — The front panel is fully unlocked. This is the default setting.

Executive mode 1 (enabled) — The front panel is locked except for input switching, video freeze, and auto image.

Executive mode 2 (enabled) — The front panel is completely locked and can only be enabled and disabled using SIS commands. See the online *Annotator User Guide* for SIS commands.

Enabling or disabling Executive mode 1 from the front panel

To enable Executive mode 1 or 0, press and hold the Size and Position buttons simultaneously for 2 seconds. The display indicates that Executive mode is either enabled or disabled. When the Annotator is in Executive mode 0 (unlocked), this selects mode 1 (locked) and if in Executive mode 1, this selects mode 0 (unlocked).

When either Executive mode (1 or 2) is enabled and a front panel action is attempted (other than input switching, video freeze, and auto image), the LCD displays the status for 2 seconds. Executive mode 2 can only be enabled or disabled by SIS commands.

Configuring the Annotator

The Annotator has six front panel configuration menus with another menu available where optional boards are installed. To use any menu, press the Menu button to access the Main menu, then repeatedly press the Menu button to cycle through the list to the desired menu. Press Next to enter the desired submenu, and follow the steps below.

User Presets	Menu →	Input Configuration	Menu →	Output Configuration	Menu →	Advanced Configuration	Menu →	View Comm Settings	Menu →	Exit Menu Press NEXT

> **NOTE:** Press Menu at any time to exit a submenu and return to the main menu.
> For detailed information on the menus, see the *Annotator User Guide*, available online at **www.extron.com.**

Configure the outputs, then the inputs, as follows:

1. Within the Output Configuration menu, use either Adjust knob to configure the output rate and resolution, the output signal type, and the sync polarity.

2. From the Advanced Configuration menu, Test Pattern submenu, select the Alternating Pixels (Alt. Pixels) test pattern. Adjust your display's active pixels, total pixels (clock), and pixel phase settings for optimal picture quality.

3. From the Advanced Configuration menu, change the test pattern to Crop, and adjust your display settings until all four sides of the crop pattern are visible.

4. Use the Advanced Configuration menu to set the Aspect ratio (Fill or Follow). Rotate either Adjust knob to the desired setting.

5. Within the Input Configuration menu, press the applicable input button, then press Next to cycle to the desired submenu. Rotate the right Adjust knob (⬍) to change the input values (for example, Input type, Film detection and so on) as required. Use this menu to make any desired advanced adjustments including Horizontal and Vertical Start, Pixel Phase, Total Pixels, Active Pixels, and Active Lines;

6. *or* Perform Auto-Image™. Auto-Image is a quick way to size an input to fit the current output window. To perform Auto-Image on an input, press the Auto Image button. Press it again to confirm.

7. Use the Advanced Configuration menu to change image transition effect and RGB delay. Rotate either Adjust knob to select.

Touch Panel Configuration

If a USB or RS-232 touch panel screen is part of the system, a supporting module must be uploaded to the Annotator using SPPCP.
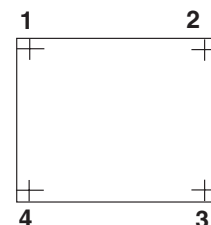
1. Connect to the Annotator via telnet using the SPPCP program.

2. Under the Tools menu, open the Device Module Configuration tool.

3. Select USB or RS-232 as applicable, and find the touch panel device in the list of available modules.

4. Select Add Module, and close the Tools menu when the upload is complete.

If your model is not listed, contact your Extron representative.

Touch Panel Calibration

If a touch panel screen is attached to the Annotator, the touch accuracy can be calibrated using the Calibrate Panels setting in the Advanced configuration menu.

1. Within the Advanced configuration menu press Next to cycle to Calibrate Panels.

2. Press size and observe the touch panel screen. A cross appears in the upper left corner.

3. Tap the screen at the cross, which then moves to the top right corner.

4. Repeat by tapping the cross as it reappears in each corner, in sequence (see image at right).

5. After tapping the fourth cross, the unit saves the calibration data and restarts the sequence.

6. Repeat for each connected touch screen. Press any front panel button to exit the sequence and save the data.

Annotation Graphics Overview

The Annotator output can include a graphical toolbar, which is used for annotation. The toolbar slides in from the right side, and can be accessed through a touch screen, or by using a compatible 2-button mouse attached to the rear PS/2 or USB port.

To open the tool bar, click on the green arrow at top right of the screen. The menu bar slides into view and, when enabled, the toolbar stays visible down the right side of the display and allows for selection of various tools and controls. See page 4 for details.

To close the toolbar, click on the arrow again.

> **NOTE:** By default, the tool bar closes after 10 seconds of inactivity. This duration can be modified using SIS commands.

Annotation Graphics — Button Selection

Input Selection — This opens a pop-up palette displaying the Annotator's selectable inputs. Selecting an input button switches the display to that input.

Pointer — This changes the cursor to an extra large arrow of the currently selected color.

Auto Image — When selected, the unit performs an Auto-Image on the currently selected input.

Freehand — This allows freehand drawing on the display.

Line — This creates a straight line between two points.

Arrow — This creates a straight line with arrowheads.

Rectangle — This creates a rectangle with edges parallel to the raster.

Ellipse — This creates an ellipse between the primary and the opposite corner.

Text — This creates on-screen text at any point selected. Press the Enter key to commit the text to the screen.

Highlighter — This creates a semi-transparent line allowing the video to show through.

Size Select — This adjusts size of the annotation tool, such as text size, after selecting the Text tool.

Eraser — This erases any (unsaved) annotations on the screen. The size is defined by the line and size tool

Color — This allows up to 16 colors to be selected for any drawing function (fill or outline), text, or pointer.

Fill — Select this in conjunction with selecting rectangle or ellipse, to draw a solid shape, filled with the currently selected color.

Undo — This reverses the last 7 completed annotations or one Clear action.

Redo — If selected while using the Undo function, it recreates the last undone annotation.

Clear — This clears the screen of all unsaved annotations. Undo this with the Undo function.

Tools — This opens a secondary palette containing the advanced tools: Capture, Freeze, Mute, Whiteboard, Spotlight, Zoom, and Pan.

Capture — This takes a snapshot image of the current program output, including annotations. Captured images can be saved to the unit or a PC.

Freeze — This freezes the live video. Re-select to unfreeze the video, or alternatively, switch inputs.

Mute — This mutes the video input and displays a black screen. Annotations and menus are still visible. Re-select to unmute, or alternatively, switch inputs.

Whiteboard — This creates a white screen for annotations. Re-select to disable the whiteboard.

Spotlight — This creates a no-fill ellipse to focus on a specific area of the screen, while the outer area brightness is greatly reduced.

Zoom — This zooms in on a specific area of the screen. Using the cursor, create a rectangle at that area.

Pan — Select this while an image is zoomed in, to move the focus to a new area. Place the cursor on a zoomed image and drag to the new area.

Basic SIS Commands Table

The Annotator can be configured with specific SIS commands via RS-232 or a LAN connection. This table lists a selection of the commands. For a full list of SIS commands refer to the *Annotator User Guide*, online at **www.extron.com.**

Command	ASCII command (host to switcher)	Response (switcher to host)	Additional description
Select input	X1!	InX1↵	Select video from input X1.
Execute Auto-Image	A	Img↵	Execute auto image for current input.
Mute video to black	1B	Vmt1↵	Mute video and display a black screen.
Mute video to white	2B	Vmt2↵	Mute video and display a white screen.
Unmute video	0B	Vmt0↵	Unmute video mute.
Freeze input	1F	Frz1↵	Freeze selected input.
Unfreeze input	0F	Frz0↵	Unfreeze selected input.
Show/hide annotations	Esc X2 Ashw←	Ashw X2↵	Set output(s) to display annotations.
Show/hide cursor	Esc X2 Cshw←	Cshw X2↵	Set output(s) to display cursor.
Show/hide OSD menu	Esc X2 Mshw←	Mshw X2↵	Set output(s) to display OSD menu.
Clear all annotations	Esc 0Edit←	Edit0↵	Clears all annotations on the output (can be undone).

NOTE: X1 = Input number (1 – 7)
X2 = Output selections: 0 = All (default), 1 = Group 1 only (BNC, MTP, optional output card), 2 = Group 2 only (VGA), 3 = None

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