



IMPORTANT:
Refer to www.extron.com for the complete user guide and installation instructions before connecting the product to the power source.

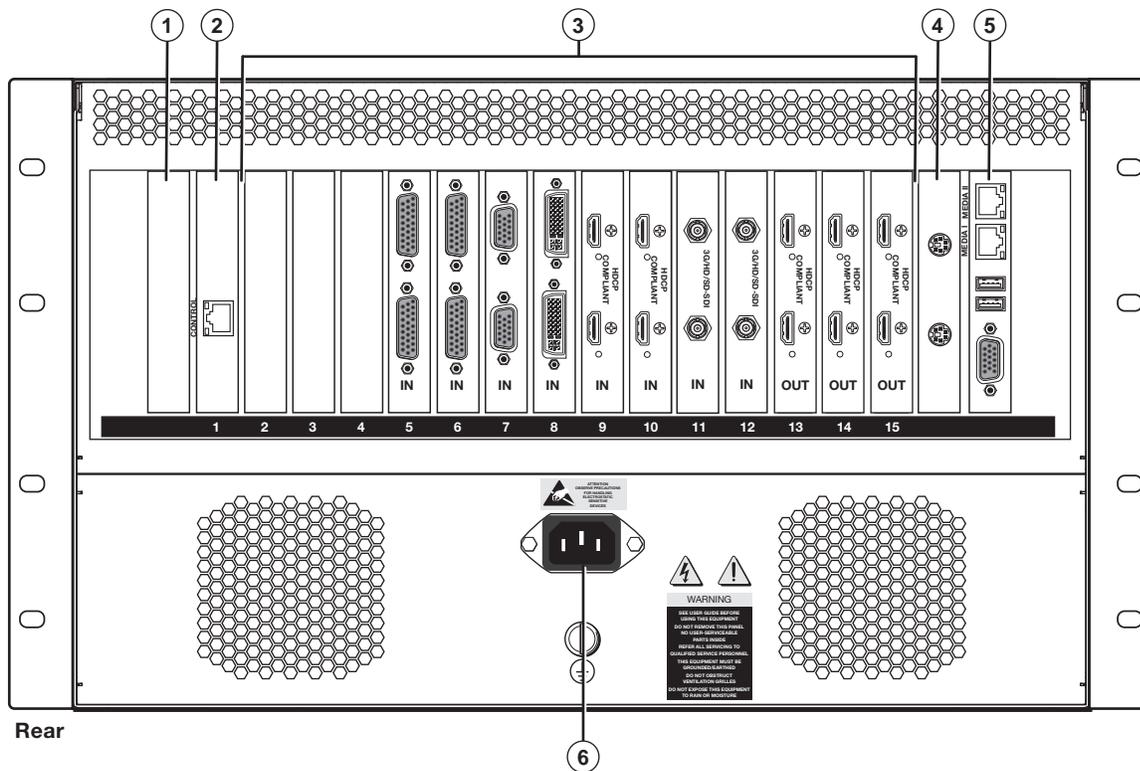
Quantum® Videowall Processor • Setup Guide

The Extron Quantum Elite 615 and 408 and the Quantum Connect are multi-window scalable and expandable videowall processors that can be configured for a variety of input, output, and window capabilities. Both processors feature high performance video scaling technology that produces very high quality images. Both models can be populated at the factory with any combination of DVI-I or HDMI output cards, each of which supports 128 video graphic source windows, and with input cards for composite video or S-video, RGB or HD component video, DVI, HDMI, and SDI (including 3G-SDI, HD-SDI, and SD-SDI) sources.

NOTE: For full installation, configuration, and operation details, see the *Quantum User Guide*, which is provided with the Quantum on the Extron Videowall Processing disc and is also available on the Extron website at www.extron.com.

Rear Panel Features and Connections

Quantum Elite 615 Rear Panel

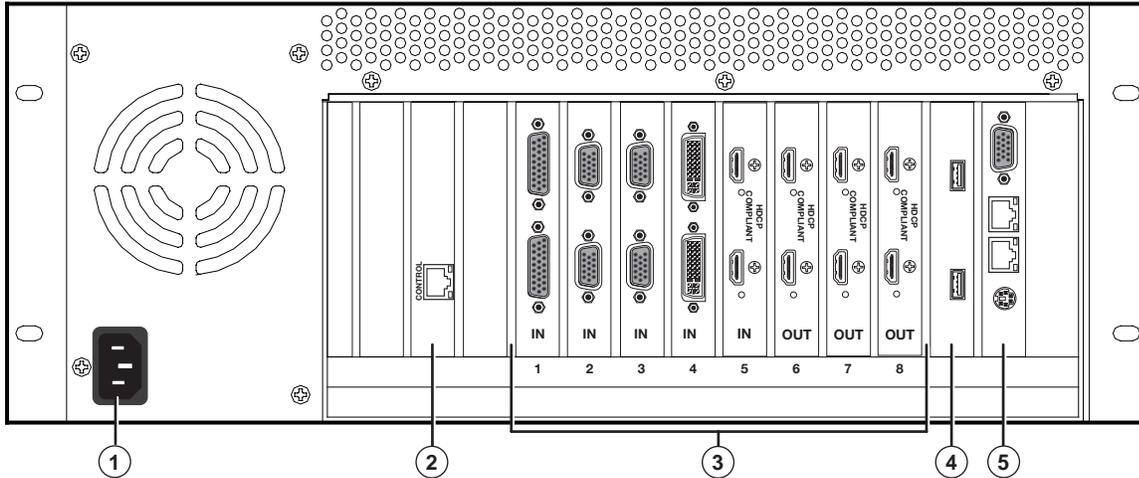


- ① **Slot 0** — If the processor slots are fully populated, an input card can be placed in this slot.
- ② **Control card** — Contains the RJ-45 connector for Ethernet control.
- ③ **Input and output cards** — Contain composite, S-video, RGB/YUV, DVI, HDMI, or SDI input connectors and DVI or HDMI output connectors. Up to 15 input or output cards can be installed. At least one input card and one output card are required.
- ④ **PS/2 keyboard and mouse card** — Contains PS/2 keyboard and mouse connectors to access the Control Panel for system setup.
- ⑤ **Media I and II, USB, and monitor card** — Contains the Media I and Media II RJ-45 network connectors for access to remote QGE 100 sources, USB connectors for access to the Control Panel, and a monitor port to display the Control Panel.
- ⑥ **AC power connector** — Connection for the provided IEC power cord

Quantum • Setup Guide (Continued)

Quantum Elite 408 and Quantum Connect Rear Panel

The illustration below shows a Quantum Elite 408. The Quantum Connect rear panel is the same, except that the two Media RJ-45 ports on ⑤ are disabled.



- ① **AC power connector** — Connection for the provided IEC power cord
- ② **Control card** — Contains the RJ-45 connector for Ethernet control.
- ③ **Input and output cards** — Contain composite, S-video, RGB/YUV, DVI, HDMI, or SDI input connectors and DVI or HDMI output connectors. Up to eight input or output cards can be installed; at least one input card and one output card are required.
- ④ **USB card** — Contains USB connectors for access to the Control Panel.
- ⑤ **Media I and II and monitor card** — Contains the Media I and Media II RJ-45 network connectors for access to remote QGE 100 sources (Elite 408 only), a PS/2 keyboard and mouse connector for access to the Control Panel for system setup, and a monitor port to display the Control Panel.

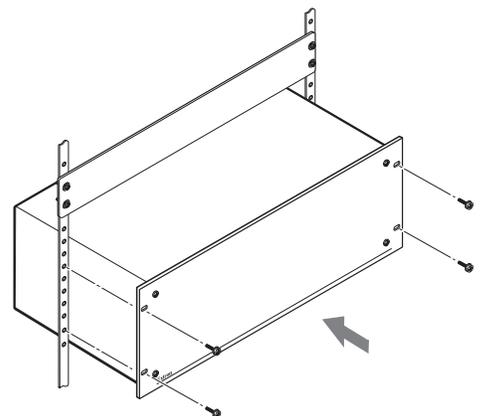
Installation Steps

WARNING: Risk of electric shock. To avoid electric shock or product damage due to condensation, always let the Quantum become acclimated to ambient temperature and humidity for at least 30 minutes before switching it on. This is very important when you are moving the unit from a cold to a warm location.

1. **Disconnect power** from all equipment.
2. **(Optional) Mount the unit to a rack** using the supplied bolts (see the illustration at right).
3. **Connect the video inputs and outputs.** Connect cables in any order between source and display devices and the following rear panel ports as needed:

- Control (Ethernet)
- DVI, RGB, HDMI, SDI, and video inputs
- DVI and HDMI outputs
- USB
- RGB video monitor
- Keyboard and mouse
- Media 1 and Media II RJ-45 for QGE 100 networks (Elite models only)

4. **Connect power** to the Quantum IEC connector.
5. **Power on all connected devices.**
6. **Open the front access panel and set the Quantum power switch or switches to On.**
7. **(Optional) Access the Control Panel and configure the IP address.** A keyboard, mouse, and monitor must be connected to the appropriate card to view and use the Control Panel.
8. **Install and set up the Quantum Control Software** on your computer.
9. **Configure sources and displays** for your videowall system using the Quantum Control software.



NOTE: Steps 8 and 9 can be performed without inputs, outputs, or other hardware being connected to the processor.

Powering On the Quantum Processor

After all rear panel connections have been made and all connected devices are powered on, you are ready to power on the Quantum processor. Before powering on the system, ensure that the provided power cord is connected between the Power connector on the rear panel and an AC power source. Power switches are located on the front panel behind the access panel. To access the power switches, turn the panel latch one-quarter turn to the left, then grasp the latch knob firmly and pull the door outward and down.

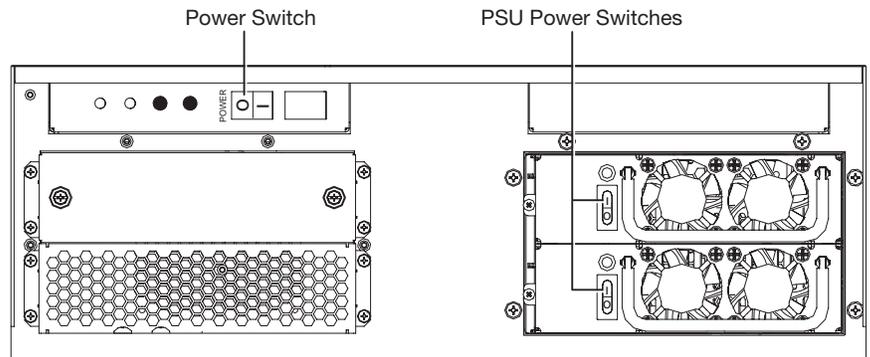
Quantum Elite 615

- **To power on the Elite 615:**
 1. Set the vertical PSU Power rocker switches on both PSUs to **I** (On).

ATTENTION: Both power supply units must be powered on at all times during unit operation.

2. Set the horizontal Power switch to **I**.

To power off the Elite 615, set the horizontal Power rocker switch to **O** (off).

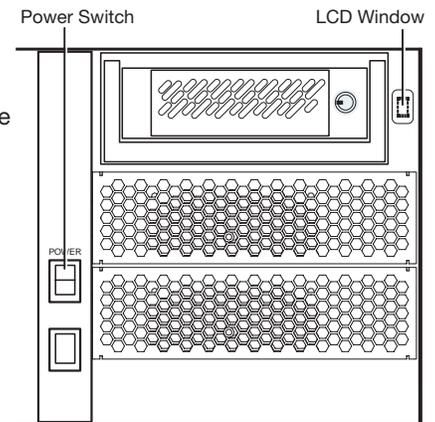


NOTE: It is not necessary to turn off the switches on the two PSUs. They can remain set to On.

Quantum Elite 408 and Quantum Connect

- **To power on the Elite 408 or Connect,** press and release the front panel vertical Power rocker switch. While the system is powering up, the 0 in the LCD window to the right of the hard drive blinks. When the processor is completely powered up, the LCD stops blinking and remains lit steadily.
- **To power off the Elite 408 or Connect,** press and hold the Power rocker switch until power is off (approximately 5 seconds).

ATTENTION: If your Quantum front panel contains a black rectangular Reset button below the Power switch, **do not press it**. Doing so could damage the operating system.



Using the Quantum Control Panel

Starting the Control Panel

The Quantum processor is a host device with Windows XP embedded. The Control Panel is a Windows-based program that is resident on the Quantum internal disk or flash drive and lets you perform certain setup tasks. To start the Control Panel:

1. With the Quantum powered **off**, connect a PS/2 or USB keyboard and mouse to the USB or mini-DIN connectors on the rear panel.
2. Connect a monitor to the 15-pin VGA connector on the rear panel Media card (Elite 615) or the Keyboard and Mouse card (Elite 408 and Connect).
3. Power on the processor. The Quantum introductory screen is displayed.
4. On the Quantum keyboard, press <Ctrl> + <F2>. The Control Panel main window opens (shown at right).



Changing Network Settings

1. On the Control Panel window, click **Network Settings**.
2. On the Network Settings window, select the port to configure from the **Select Network Connection** drop-down menu.
3. Enter the new IP addresses in the following panels as required:
 - **IP Settings:** Enter any needed changes in these IP address fields; **or** select the **DHCP Enabled** check box to specify automatic detection of these addresses.
 - **Machine Name:** If desired, enter a name of 1 to 15 characters for the processor (letters, numbers, and hyphens [-] only).
 - **DNS Settings:** Enter any needed changes in these fields; **or** select the **DHCP Enabled** check box.
 - **WINS Settings:** Enter any desired changes in these IP address fields.

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4. Click **OK** to confirm the settings.
5. A prompt appears stating that your changes will go into effect with the next reboot. Click **Yes** to reboot the processor.

ATTENTION: Do not power off or reset the Quantum while it is rebooting.

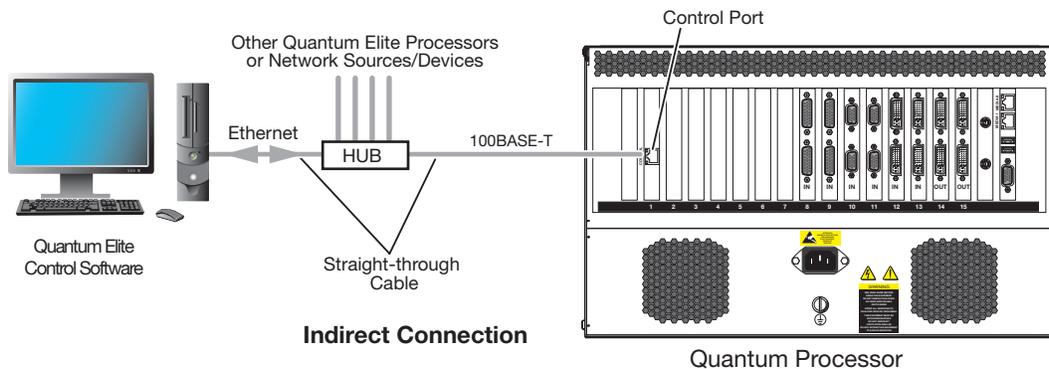
Using the Quantum Control Software

The Quantum Elite and Quantum Connect software programs enable you to configure and control the Quantum from your computer by creating a videowall project. Both control programs are provided on CD with the processor. This section provides an overview to get you started using the software. For detailed information, see the *Quantum Control Software User Guide*, available at www.extron.com.

Connecting the Quantum to a Computer

For you to use the software, your computer must be connected to the RJ-45 Control connector on the Quantum rear panel.

- If using multiple videowall processors, connect **straight-through** cables from the computer Ethernet port to the hub or router and from the hub or router to the Quantum Control port (indirect connection, shown below).



- If using only a single videowall processor, you can connect a **crossover** cable from the computer to the Quantum Control port (direct connection).

Installing and Starting the Software

To install and run the appropriate software on your computer:

1. Insert the Quantum CD in the disk drive and navigate to the CD drive.
2. Open the folder for your Quantum product.
3. Open the folder for your Quantum model.
4. Double-click on the file named **Quantum Elite_SetupVn.nn.exe** or **Quantum Connect_SetupVn.nn.exe**.
5. Follow the instructions on the wizard screens to complete the software installation.
6. Open the software program by clicking the Quantum icon on your desktop or by clicking **Start > All Programs > Extron Electronics > Quantum Elite (or Connect) > Quantum Elite (or Connect)**. The main application window opens.

Configuring the System

To use the Quantum software to configure and control the processor, start by setting up a project (presentation), in which you define the processor, select or create a layout, set up video sources, and create multiple scenes. For best results, perform the following setup procedures in the order they are presented in this guide.

Choosing a display processor

Before the software can control a Quantum processor, it must detect and be connected to the processor as follows:

1. On the taskbar (the left column of the main window), click the **Choose Display Processors** button (shown at right). The Choose Display Processors workspace window opens.
2. Click the **Detect** button (shown at right) on the toolbar or select **Detect** from the **Detect** menu.
3. Select the **Connect** check box to the right of the IP address of the processor to which you want to connect.



Choosing a layout

The target display can be a single screen or multiple screens interlocked to form a larger display area. You can select one of the default layouts or create a new one. The layout you select is applied to all scenes in your project.

1. On the taskbar, click the **Choose Layout** button (shown at right).

2. On the Choose Layout Workspace window, click one of the layout diagrams on this screen, create a new layout, or change an existing one:



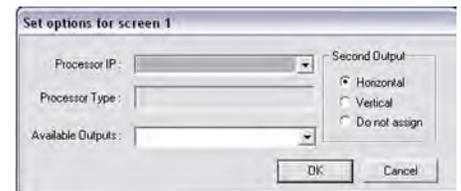
- a. From the **Layouts** menu, select **New**.
- b. On the New Wall Layout window, enter a name for the layout in the **Name** field.
- c. On the Wall layout panel, enter or select the number of screens in the rows and columns of the videowall.
- d. From the **Output Mode** menu, select a resolution for each screen in the layout.
- e. From the **HDMI Format** menu, select whether the output will be formatted as DVI, HDMI, or automatically, based on the EDID of the display.
- f. From the **HDCP Notification** menu, select whether to enable or disable notification of HDCP content.
- g. If the layout contains more than one screen, select either the **Mullion Adjustment** radio button or the **Edge Blend Compensation** button and parameters to specify compensation for the areas between the screens.
- h. Click **OK** to save the new layout.



3. Right-click a screen in the selected layout (usually starting with the top left screen) and select **Change Screen Processor IP** from the drop-down menu.

4. Make selections on the Set options for screen 1 window (shown at right):

- a. Select the IP address of your Quantum processor from the **Processor IP** drop-down menu.
- b. From the **Available Outputs** drop-down menu, select an output card to assign to this screen as the primary output.
- c. In the Second Output panel, select how the secondary output will be assigned:



- **Horizontal** — The secondary output is assigned to the screen immediately to the right of the primary output.
- **Vertical** — The secondary output is assigned to the screen immediately below the primary output.
- **Do not assign** — No secondary output is assigned; only the primary output is used.

d. Click **OK** to confirm the assignments.

5. Repeat steps 3 and 4 for each remaining screen in the layout.

Setting up sources

Each source to be used in a project must have a corresponding source definition in the Quantum Control software. For you to create a source definition, the Quantum must be connected to the computer on which the control software is installed. Use the Quantum Control Software to set up source definitions as follows:

1. On the taskbar, click the **Set Up Sources** button (shown at right).

2. In the source explorer tree in the left pane of the Set Up Sources workspace, right-click **Display Processors** and select **Detect Sources** from the drop-down menu that appears.

3. On the Detect Quantum Sources window, click the **Full Detect** button, then click **Yes** on the confirmation prompt that opens. A list of source types is added to the source explorer tree, based on the cards installed in the processor.

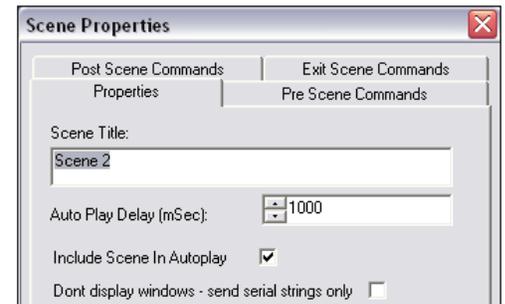


NOTE: To customize sources, see “Setting Up Sources” in the *Quantum Control Software User Guide*.

Creating a scene (preset)

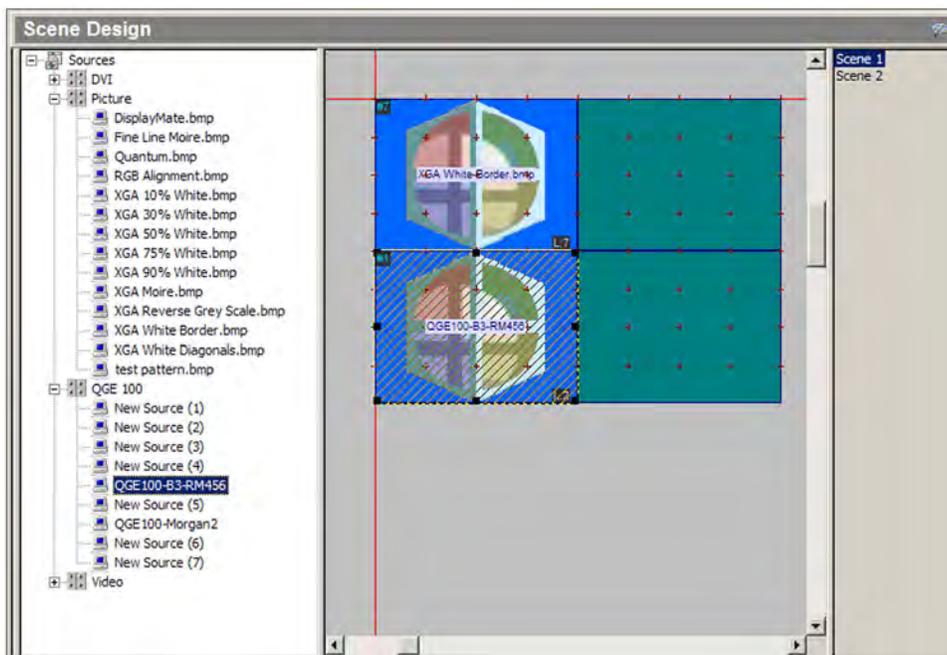
A scene, or preset, is a set of one or more windows in which video sources are displayed on a videowall. Window layout parameters, including size, position, and content of the windows are stored in the scenes. Scenes can be recalled and displayed in any order. To create a new scene:

1. On the taskbar, click the **Scene Design** button (shown at right) to display the scene Design workspace.
2. On the Scene Properties toolbar, click the **New Scene** button (shown at right). The Scene Properties window opens with the **Properties** tab displayed (see the illustration below right).
3. In the **Scene Title** field, enter a title for the new scene.
4. Make changes to the other properties in this dialog as needed.
5. When finished, click **OK**. The Scene Properties window closes, and the new scene title is displayed in the Scene palette (far right panel) of the Scene Design screen.
6. Add windows to the scene, as described in the next section.



Adding windows to a scene

In the Scene Design workspace, the videowall is represented by a virtual canvas, on which windows can be placed. The windows are indicated by rectangles in the selected scene.



See the *Quantum Control Software User Guide* for details on these and other window properties that you can set.

To add a window to a scene:

1. From the source pane, **left-click** and drag a source icon to the desired location on the virtual display.
2. If desired, click on the window and modify it as follows:
 - **Resize:** Click on the window and drag the resizing handles on the window border.
 - **Move:** Click within the window and drag it to the desired location. If you do not want the window to snap to the grid, deselect **Snap Grid** on the **Grid** menu.
 - **Resize to fill the display area:** Right-click the window and select **Full Screen** from the drop-down menu.
 - **Set to a specific size:** Right-click on the window and select **Adjust Position and Size** from the drop-down menu. On the Window Size & Position dialog, enter the desired settings.
 - **Change the source in an existing window:** Right-click and drag a source icon to the desired window.

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