

CP4-R

4-Series Control Processor for Crestron Pyng® OS 2

The Crestron® CP4-R 4-Series control processor provides a secure, high-performance, rack-mountable control processor with an embedded Crestron Pyng® OS 2 operating system. The CP4-R is designed exclusively to function as the core of a Crestron Pyng home automation system, and features enhanced processing power to handle larger home automation, home theater, multiroom video, and MDU (multidwelling unit) applications.

Check the Box

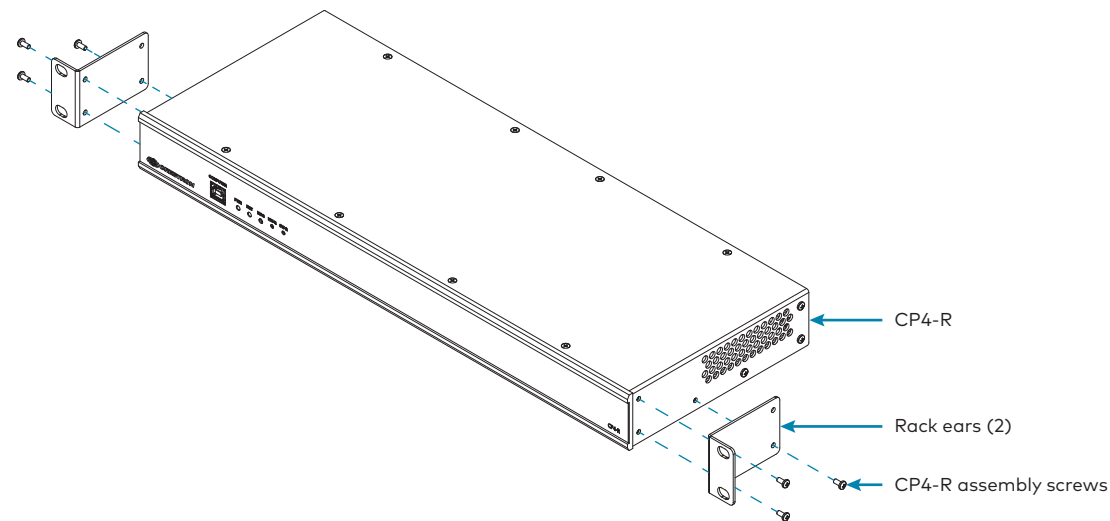
Item	Qty
CP4-R	1
Bracket, Rack Ear, 1U (P/N 2032122)	2
Cable, USB 2.0, A - B, 6 ft (1.83 m) (P/N 2014966)	1
Connector, 3-Pin (P/N 2003575)	2
Connector, 4-Pin (P/N 2003576)	1
Connector, 5-Pin (P/N 2003577)	1
Connector, 8-Pin (P/N 2003580)	4
Connector, 9-Pin (P/N 2003581)	1
Foot, 0.5 in. x 0.5 in. x 0.23 in., Rubber, Black (P/N 2002389)	4
IR Emitter, with Terminal Block Connector, IRP2 (P/N 4500152)	4
Power Cord, 5 ft 10 in. (1.78 m) (P/N 2042043)	1
Power Pack, 24 VDC, 2.5 A, 100-240 VAC (P/N 2045873)	1

Install the Device

The CP4-R may be mounted into a rack or placed onto a flat surface.

Mount into a Rack

The CP4-R occupies 1U of rack space. Use a #1 Phillips screwdriver to remove the required screws from the CP4-R assembly (shown in the illustration below), and then attach the two included rack ears with the removed screws. Mount the CP4-R into the rack with four mounting screws (not included).

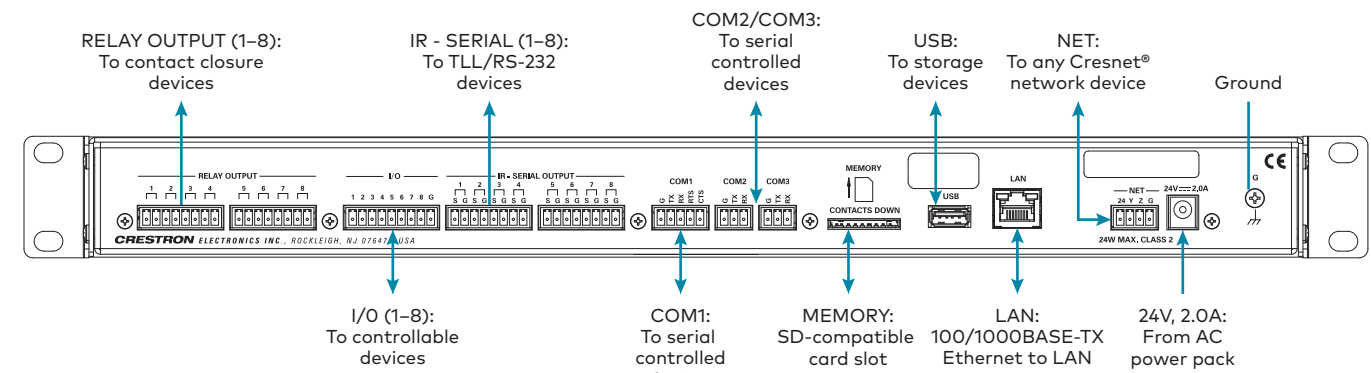


Place onto a Flat Surface

When the CP4-R is placed onto a flat surface or stacked with other equipment, attach the four included feet near the corners on the underside of the CP4-R.

Connect the Device

Make all necessary connections to the CP4-R as shown in the illustration below.



NOTE: Ensure that the included SD card is seated fully in the MEMORY slot prior to powering on the CP4-R.

Observe the following when connecting the CP4-R:

- Use Crestron power supplies for Crestron equipment.
- The CP4-R may be powered with the included 24 VDC power supply or via Cresnet® network power with the **NET** 4-pin terminal block port.
- The included cables may not be extended.
- Connect the chassis ground lug to a known earth ground circuit (for example, building steel) to ensure that the CP4-R is grounded properly.
- Apply power after all connections have been made.

COM 1 Connections

Port	RS-232	RS-422 ¹	RS-485
G	GND	GND	GND ²
TX	TX (from CP4-R)	TX- (from CP4-R)	TX-/RX-
RX	RX (to CP4-R)	RX+ (to CP4-R)	Not used
RTS	RTS (from CP4-R)	TX+ (from CP4-R)	TX+/RX+
CTS	CTS (to CP4-R)	RX- (to CP4-R)	Not Used

1. RS-422 transmit and receive are balanced signals that require two lines plus a ground in each direction. RXD+ and TXD+ should idle high (going low at start of data transmission). RXD- and TXD- should idle low (going high at start of data transmission). If necessary, RXD+/RXD- and TXD+/TXD- may be swapped to maintain correct signal levels.
2. A ground terminal connection is recommended but not required.

Download the Crestron Pyng Configuration App

The Crestron Pyng configuration app may be downloaded onto an Apple® iPad® device from the App Store® online store.

NOTES:

- An Apple ID is required to download the Crestron Pyng configuration app. Refer to <https://support.apple.com/kb/HT2731> for help with creating an Apple ID.
- For a comprehensive list of iOS® hardware and software versions that are compatible with the Crestron Pyng configuration app, refer to OLH article 5655 at https://support.crestron.com/app/answers/detail/a_id/5655.

To download the Crestron Pyng configuration app:


1. Tap the **App Store** icon on the iPad device home screen.
2. Tap the search field, and enter the search term "Crestron Pyng."
3. Tap **Search**.
4. Tap the Crestron Pyng app icon .
5. Follow the prompts to download the app to the device.



Configure the System

Once the Crestron Pyng app is downloaded and installed, system setup takes place entirely through the app.


NOTE: Ensure that the iPad device and the CP4-R are placed on the same subnet prior to configuration.

Tap the Crestron Pyng app icon  on the iPad device home screen. The Crestron Pyng app connects to the CP4-R automatically, and a splash screen is displayed.

NOTES:

- The Crestron Pyng system may also be configured on a computer using the built-in CP4-R web XPanel interface by entering the device IP address or hostname into a web browser. If the CP4-R is assigned an IP address over DHCP (Dynamic Host Configuration Protocol), use the Device Discovery tool in Crestron Toolbox™ software to discover the device and its IP address. For more information on configuring XPanel Web UI settings, refer to the Crestron Pyng OS 2 for CP4-R Product Manual (Doc. 8432) at www.crestron.com/manuals.
- To connect to the CP4-R for the first time using Crestron Toolbox, enter the default username ("Crestron") and leave the password field blank when prompted by the software.

To enable authentication for the CP4-R:

- In the Crestron Pyng app, tap the gear button  on the bottom right of the **Setup** screen to display the **Installer Settings** screen.
- Navigate to **System Configuration > Ethernet Settings > Advanced Ethernet Settings**.
- Tap **On** next to **Authentication**.
- Enter a username and password to use for authentication, and then tap **OK**.
- Follow the system prompts that are displayed to confirm and enable authentication.

Once authentication is enabled, the credentials set using the procedure above are required to connect to the CP4-R using Crestron Toolbox, XPanel, or the Crestron Pyng app.

CAUTION: Once authentication is enabled, do not lose the username and password required for authentication, as the Crestron Pyng system may not be accessed without these credentials. If the authentication credentials are lost, the CP4-R must be restored to factory defaults.

For more information on setting up and configuring the Crestron Pyng system, refer to the Crestron Pyng OS 2 for CP4-R Product Manual (Doc. 8432).

Install the IR Emitters (Optional)

The CP4-R ships with four IR (infrared) emitters, which are designed to adhere to the IR sensor window of a display, an optical disc player, or any other IR-controlled device. Each IR emitter is equipped with a 2-pin terminal block that connects to the **IR - SERIAL** port on the CP4-R, providing a one-way IR control interface to the connected device.

NOTE: The white-traced wire on the IR emitter is positive and connects to one of the **IR - SERIAL** port pins labeled "S."

Position the IR Emitter

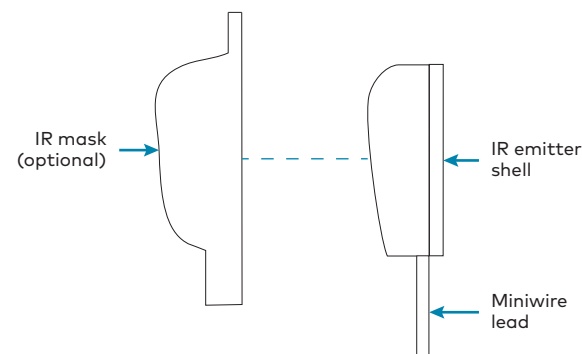
With many devices, the IR emitter works best when positioned directly over the IR sensor of the controlled device. However, operation is more consistent for some devices when the IR emitter is placed an inch or two offset from the IR sensor.

Since it may be difficult to locate the IR sensor on the controlled device, send commands from the CP4-R while moving the IR emitter around the front panel of the controlled device. When operation is consistent and reliable, attach the IR emitter using the procedure described in "Attach the IR Emitter" below.

Attach the IR Mask (Optional)

Attach the IR mask (packaged with the IR emitter) when two or more identical devices are being controlled using IR. The IR mask prevents stray IR output from controlling another device accidentally.

To attach the IR mask, place it over the IR emitter shell as shown in the illustration below. Do not remove the clear adhesive strips from the IR emitter shell or the IR mask.



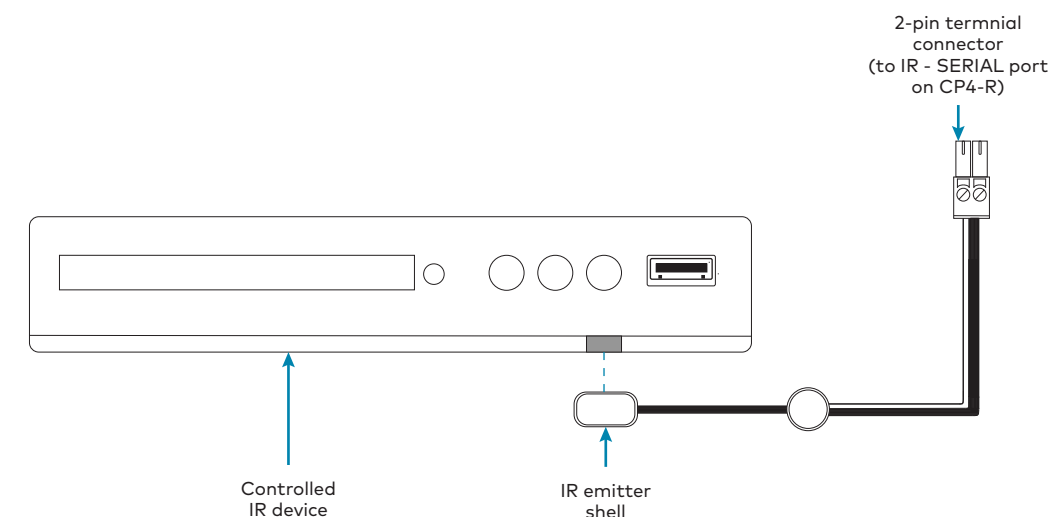
Attach the IR Emitter

To attach the IR emitter to the controlled device:

- Peel off the clear adhesive strip on the back of the IR emitter shell and the IR mask (if attached).
- Affix the IR emitter by pressing it firmly to the desired location on the front panel of the controlled device.

If the IR emitter must be removed and repositioned for any reason, it may be necessary to replace the adhesive on the IR emitter with a new piece of two-sided tape.

NOTE: The IR emitter is a pure infrared emitter that does not emit any visible light. Since IR signals can be captured with a camera, test to see that the IR emitter is working properly by triggering an IR command from the CP4-R. Then, use a digital camera device (such as a smart phone) to record a video of the IR emitter while it is being triggered. If the IR signal is visible in the video during playback, the IR emitter is working properly.



Additional Information

Scan or click the QR code for detailed product information.



CP4-R

Compliance and Legal

Original Instructions: The U.S. English version of this document is the original instructions. All other languages are a translation of the original instructions.

Regulatory Model: M201903003

As of the date of manufacture, the product has been tested and found to comply with specifications for CE marking.



This product is Listed to applicable UL® Standards and requirements tested by Underwriters Laboratories Inc.

Ce produit est homologué selon les normes et les exigences UL applicables par Underwriters Laboratories Inc.



Federal Communications Commission (FCC) Compliance Statement

This device complies with part 15 of the FCC Rules. Operation is subject to the following conditions: (1) This device may not cause harmful interference and (2) this device must accept any interference received, including interference that may cause undesired operation.

CAUTION: Changes or modifications not expressly approved by the manufacturer responsible for compliance could void the user's authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Industry Canada (IC) Compliance Statement

CAN ICES-3 (B)/NMB-3(B)

Rack Mounting Safety Precautions

Elevated Operating Ambient Temperature: If installed in a closed or multi-unit rack assembly, the operating ambient temperature of the rack environment may be greater than room ambient temperature. Therefore, consideration should be given to installing the equipment in an environment compatible with the maximum ambient temperature (T_{ma}) specified by the manufacturer.

Reduced Airflow: Installation of the equipment in a rack should be such that the amount of airflow required for safe operation of the equipment is not compromised.

Mechanical Loading: Mounting of the equipment in the rack should be such that a hazardous condition is not achieved due to uneven mechanical loading.

Circuit Overloading: Consideration should be given to the connection of the equipment to the supply circuit and the effect that overloading of the circuits might have on overcurrent protection and supply wiring. Appropriate consideration of equipment nameplate ratings should be used when addressing this concern.

Reliable Earthing: Reliable earthing of rack-mounted equipment should be maintained. Particular attention should be given to supply connections other than direct connections to the branch circuit (e.g., use of power strips).

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The product warranty can be found at www.crestron.com/warranty.

The specific patents that cover Crestron products are listed at www.crestron.com/legal/patents.

Certain Crestron products contain open source software. For specific information, please visit www.crestron.com/opensource.

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Specifications subject to change without notice.