

Crestron **CNAMPX-7X200**  
7- Channel Surround Sound Amplifier

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Operations Guide



**CRESTRON**

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# 7 Channel Surround-Sound Amplifier: CNAMPX-7X200

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## Introduction

### Features and Functions

The CNAMPX-7X200 is a high-powered, 7 channel amplifier that delivers 200 Watts per channel. Designed for surround-sound configurations that incorporate a powered subwoofer, it is ideally suited for home theaters, large rooms, or multi-room locations, to provide the authentic cinema experience for everything from action movies to classic films. Like all Crestron CNAMPX intelligent amps, it runs over the Cresnet control network. Designed for professional quality and ultimate reliability, the CNAMPX-7x200 is an integral component of the Crestron Home™ audio distribution solution. The CNAMPX-7X200 produces all the crystal clear highs and rich lows that serious audiophiles demand and is ideal for use with Crestron's CNX-DAP8 or CNX-DAP8RC surround sound processors.

As part of a Cresnet system, the unit can accept remote power on/off commands and reports ambient temperature within the enclosure. Temperature is available as Fahrenheit or Celsius and the signal can be used under program control to reduce the audio volume, activate an external cooling fan, or turn the unit off.

#### *Functional Summary*

- 7 Channels of Amplification
  - 200 Watts/Channel Stereo into 8 Ohm Load (300 Watts into 4 Ohms)
  - Flat within +0, -0.1 dB from 20 Hz to 20 KHz
  - SNR “A” Weighted > 100dB
  - SMPTE IM Distortion 0.05%
- Designed to be used in a system that includes a powered subwoofer
- Ideal for use with CNX-DAP8 or CNX-DAP8RC surround-sound processors
- Provides authentic cinema experience in home theaters or large rooms

All audio connectors are gold plated to minimize oxidation. Two types of wire terminations can connect to the audio outputs. A highly efficient toroid transformer provides ample power to the amplifier modules. No fans are required, but if the unit is placed in a rack configuration, it **must** have a minimum of one rack space above and below for adequate ventilation.

The CNAMPX-7X200 is also available in an international version. All of the features are identical with the exceptions of the international AC power requirements, the power rating of the Master Switch circuit breaker, the power cord and the unit nomenclature of CNAMPXI-7X200. Throughout this operations guide, all references to CNAMPX-7X200 apply to both versions except where noted.

## Specifications

The following table provides specifications for the CNAMPX-7X200 and CNAMPXI-7X200.

### *CNAMPX-7X200 Specifications*

SPECIFICATION	DETAILS
Power Input Requirements: US version International version	120 VAC $\pm$ 10%, 60 Hz, 2400 Watts, 20 Amps max. 230 VAC $\pm$ 10%, 50 Hz, 2400 Watts, 10 Amps max.
Cresnet Power Requirements	3 Watts (24VDC @ 0.125A)
Default NET ID	3F
Channels	7
Output Power – All channels driven, 20Hz to 20KHz, at rated THD	200 Watts/Channel into 8-ohm loads 300 Watts/Channel into 4-ohm loads
Input Impedance	28K ohms
Power Bandwidth – 3dB	3Hz to 150KHz
Frequency Response @ 1W 8ohm	Flat +0, -0.1dB from 20Hz to 20KHz
Total Harmonic Distortion @ full power	0.02% or less
SMPTE I.M. Distortion @ full power	0.05% or less
Signal to Noise Ratio (S/N) "A" Weighted	> 110dB
Gain	28dB
Damping Factor	> 1000
Channel Separation over full bandwidth	> 100dB
Environmental Temperature & Humidity	41 to 104° F (5 to 40°C) 10 to 90% RH (non-condensing)
Rack Space Required	4U (not including free rack space above and below)
Master Switch	20-Amp Magnetic Circuit Breaker (US version) 10-Amp Magnetic Circuit Breaker (Int'l version)
Control System Update Files <sup>1, 2, 3</sup> 2-Series Control System Update CEN/CN-TVAV Update File CNMSX-AV/Pro Update File CNRACKX-DP Update File ST-CP Update File	Version C2-1001.CUZ or later Version 5.10.13V.UPZ or later Version 5.10.11X.UPZ or later Version 5.10.11W.UPZ or later Version 4.01.04S.UPZ or later
Dimensions & Weight	Height: 7.70 in (19.56 cm) Width: 19.0 in (48.26 cm) – with ears 17.18 in (43.64 cm) – without ears Depth: 18.88 in (47.95 cm) Weight: 94.4 lb (42.48 kg)

1. The latest versions can be obtained from the Downloads | Software Updates page of the Crestron website ([www.crestron.com](http://www.crestron.com)). Refer to NOTE after last footnote.
2. Crestron 2-Series control systems include the AV2 with CAGE2, PAC2, PRO2, and RACK2.
3. CNX update files are required for either CNMSX-AV/Pro or CNRACKX-DP. Filenames for CNX update files have a UPZ extension and ST-CP files are in one EXE or zipped UPZ file. To avoid program problems, make certain you are using the update file with the correct suffix letter (e.g., S, V, W, X).

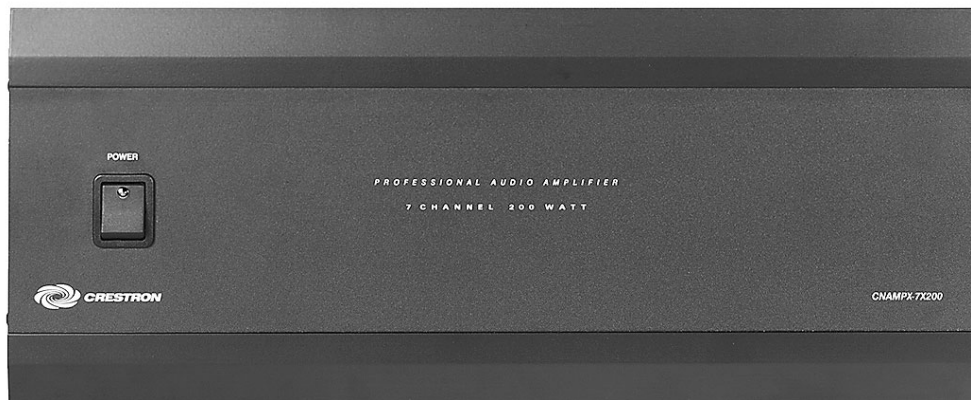
**NOTE:** Crestron software and any files on the FTP site are for Authorized Crestron dealers only. New users may be required to register to obtain access to certain areas of the FTP site.

## Physical Description

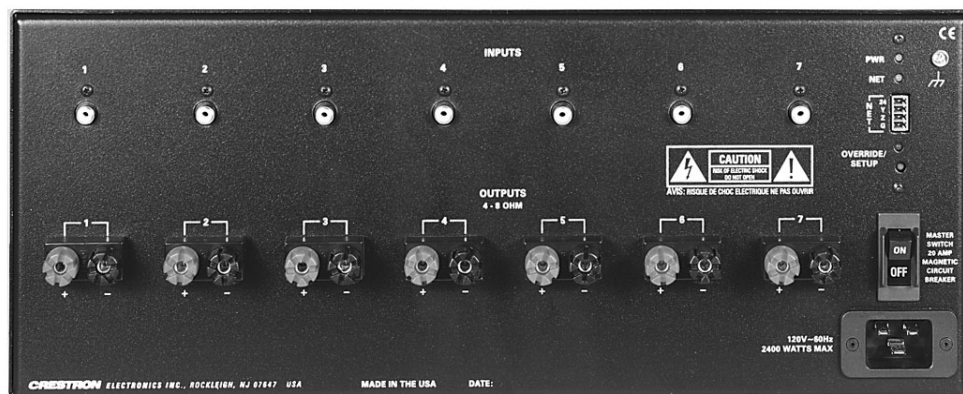
The CNAMPX-7X200 is housed in a black enclosure with labeling on the front and rear panels. The enclosure consists of 13-gauge powder-coated steel with stainless steel screws. The front panel contains the main power switch with built-in light-emitting diode (LED). All audio input and output, Cresnet system, and power connections are made on the rear panel. Four rubber feet on the base of the unit provide stability and prevent slippage in shelf placement or stacked configurations.

### Front and Rear Panels

#### *CNAMPX-7X200 Front Panel*



#### *CNAMPX-7X200 Rear Panel*



### Ports, Indicators, and Controls

The ports, indicators, and controls provided on the front and rear of the CNAMPX-7X200 are described below.

#### **PWR Indicator**

This LED (green) is illuminated when 24VDC is supplied via the Cresnet connector.

#### **NET Indicator**

This LED (yellow) indicates that the SIMPL program currently loaded in the control system has a network device defined at the same NET ID code as the CNAMPX-7X200.

**⚡ (Chassis Ground)**

Use this chassis screw to connect the audio device(s) common ground(s) to the CNAMPX-7X200.

**NET**

The 4-pin network connector is used to connect the CNAMPX-7X200 to the Cresnet system. Refer to “Network Wiring” on Page 6 when making connections to the ports labeled NET.

**OVERRIDE/SETUP Button and Indicator**

The OVERRIDE/SETUP button is used to activate AC power to the CNAMPX-7X200 and activate the room outputs, overriding program control. This button functions only when 24VDC is applied to the NET connector; the Master Switch and front panel POWER switch must also be set to their On positions. The LED (red) illuminates when the OVERRIDE function is activated.

**Power Connector**

Provides AC operating power to the CNAMPX-7X200. The connector is a 20 Amp IEC connector. U.S. models require a dedicated 20-Amp line and receptacle. Use only the supplied power cord, or equivalent, to connect to the AC power source.

**Master Switch**

This 20-amp magnetic circuit breaker (10-amp on international version) electrically protects the internal circuitry from power overloads.

**INPUTS**

The seven gold plated RCA connectors are typically used to connect single-ended, line-level pre-amplified audio to the CNAMPX-7X200.

**4 – 8 OHM OUTPUTS**

These seven pairs of speaker dual-binding posts output the amplified audio to the speakers. The audio positive posts have **red** screw-on caps and the audio negative posts have **black** screw-on caps. Each post is gold-plated and accepts bare wire or banana plugs.

**Front Panel Power Switch**

The front panel of the CNAMPX-7X200 contains a power switch with an LED indicator. This two-position switch turns operating power to the CNAMPX-7X200 circuitry on and off. It must be positioned to ON when the unit is to be controlled by the control system. When the Cresnet system 24VDC is applied to the NET connector on the rear panel and this switch is set to ON, AC power is applied to the unit and the switch’s LED (green) illuminates.

**Industry Compliance**

As of the date of manufacture, this unit has been tested and found to comply with specifications for CE marking and standards per EMC and Radio Communications Compliance Labeling (N11785)



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**NOTE:** This device complies with part 15 of the FCC rules. Operation is subject to the following two 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.

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## Setup

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**WARNING:** To prevent bodily injury when mounting or servicing this unit in a rack, you must take special precautions to ensure that the system remains stable. The following guidelines are provided to ensure your safety.

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- If the rack is provided with stabilizing devices, install the stabilizers before mounting or servicing the unit in the rack.
- When mounting this unit assembly in a partially filled rack, load the rack from the bottom to the top with the heaviest component at the bottom of the rack.

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**CAUTION:** Due to the heat dissipation of the CNAMPX-7X200 (and all audio amplifiers in general), allow at least one free rack space above and below the CNAMPX-7X200 for proper circulation.

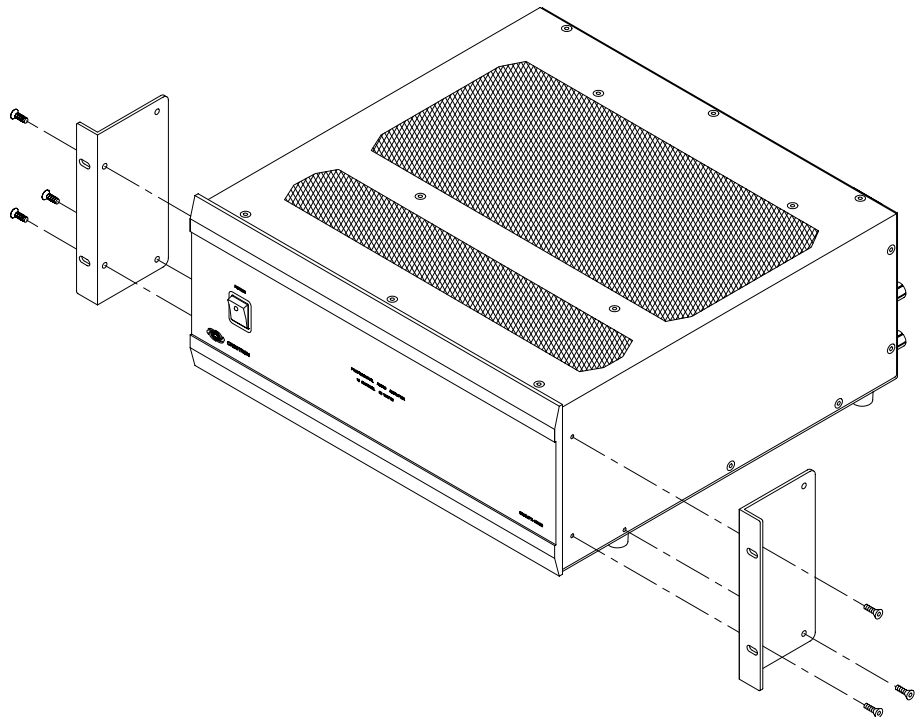
**NOTE:** Reliable grounding of rack-mounted equipment should be maintained. Particular attention should be given to supply connections other than direct connections to the branch circuit. (e.g., use of power strips).

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### Rack Mounting

Two “ears” are provided with the unit and must be installed so that it can be rack mounted. Refer to the following illustration and complete the procedures below to attach ears to the unit. The only tool required is an Allen wrench (supplied).

#### *Ear Attachment for Rack Mounting*



1. Using the supplied Allen wrench, remove and retain the three side screws closest to the front panel.
2. Position a rack ear so that its mounting holes align with the vacated holes, and secure the ear to the unit with the three screws from step 1.
3. Repeat the procedure to attach the remaining ear to the opposite side.

## Network Wiring

**NOTE:** When installing network wiring, refer to the latest revision of the wiring diagram(s) appropriate for your specific system configuration, available from the Downloads | Product Manuals | Software and Wiring Diagrams section of the Crestron website ([www.crestron.com](http://www.crestron.com)).

When calculating the wire gauge for a particular Cresnet run, the length of the run and the power factor of each network unit to be connected must be taken into consideration. If Cresnet units are to be daisy-chained on the run, the power factor of each unit to be daisy-chained must be added together to determine the power factor of the entire chain. If the unit is a home-run from a Crestron system power supply network port, the power factor of that unit is the power factor of the entire run. The length of the run in feet and the power factor of the run should be used in the following resistance equation to calculate the value on the right side of the equation.

### Resistance Equation

$$R < \frac{40,000}{L \times PF}$$

Where: R = Resistance (refer to table below).  
L = Length of run (or chain) in feet.  
PF = Power factor of entire run (or chain).

The required wire gauge should be chosen such that the resistance value is less than the value calculated in the resistance equation. Refer to the table below.

### Wire Gauge Values

RESISTANCE (R)	WIRE GAUGE
4	16
6	18
10	20
15	22
13	Doubled CAT5
8.7	Tripled CAT5

**NOTE:** All Cresnet wiring must consist of two twisted-pairs. One twisted pair is the +24V conductor and the GND conductor and the other twisted pair is the Y conductor and the Z conductor.

**NOTE:** When daisy-chaining Cresnet units, strip the ends of the wires carefully to avoid nicking the conductors. Twist together the ends of the wires that share a pin on the network connector, and tin the twisted connection. Apply solder only to the ends of the twisted wires. Avoid tinning too far up the wires or the end becomes brittle. Insert the tinned connection into the Cresnet connector plug and tighten the retaining screw. Repeat the procedure for the other three conductors.

## Identity Code

Every equipment and user interface within the Cresnet system requires a unique identity code (NET ID). These codes consist of a two-digit hexadecimal number from 03 to FE. The NET ID of the unit must match an ID code specified in the SIMPL Windows program. The NET ID of the CNAMPX-7X200 is factory set to **3F**. The NET IDs of multiple CNAMPX-7X200s in the same system must be unique. NET IDs are changed from a personal computer (PC) via the Crestron Viewport. Complete the following steps to change the NET ID.

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**NOTE:** For detailed information on establishing communication between the PC and Control System, refer to the network's Control System Operations Guide.

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1. Ensure that the CNAMPX-7X200 is the only device connected to the control system (verify that the software is running).
2. Open the Crestron Viewport.
3. From the Viewport menu, select **Functions | Set Network ID**. The software checks the baud rate and then opens the "Set Network ID" window.
4. In the "Set Network ID" window, select the CNAMPX-7X200 from the *Current Network Devices* text window.
5. From the *Choose the new network ID for the selected device (Hex):* text box, select the new Net ID for the CNAMPX-7X200.
6. Click **Set ID** to initiate the change. This will display the "ID command has been sent" window.
7. In the "Command Complete" window, click **OK**.
8. In the *Current Network Devices* text window, verify the new NET ID code.
9. In the "Set Network ID" window, click **Close**.

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**NOTE:** The new NET ID code may also be verified by selecting **Diagnostic | Report Network Devices** in the Viewport (alternately, select **F4**).

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10. Repeat this procedure for each CNAMPX-7X200 to be added to the system.

## Hookup

Refer to the following suggested configuration diagram, and make the connections to the input and output connectors of the CNAMPX-7X200 amplifier appropriate for the intended operation of the unit. Other than making the power connection last, complete the connections in any order. The power cord is supplied, but RCA audio cables, speaker wire, or Cresnet cables are **not** provided.

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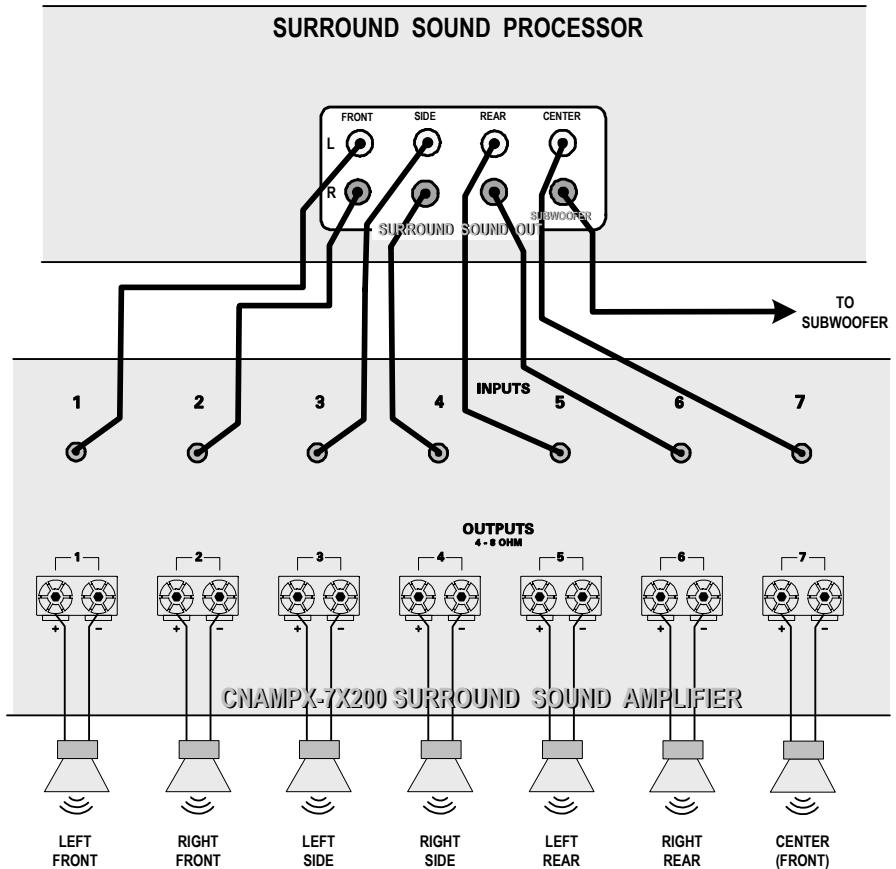
**NOTE:** Each of the seven amplifier channels are functionally identical and can be connected to a surround-sound processor in any convenient arrangement.

**NOTE:** Refer to "Network Wiring" on page 6 when making connections to the port labeled NET.

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**NOTE:** U.S. models require a dedicated 20-Amp line and receptacle. Use only the supplied power cord, or equivalent, to connect to the AC power source.

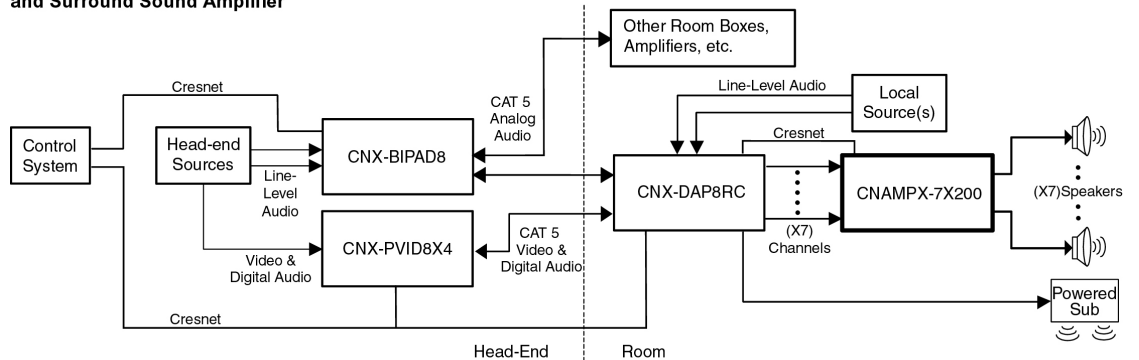
*Suggested Hookup Connections for the CNAMPX-7X200*



**Typical System Configuration**

The following figure shows a typical head-end/room audio configuration using the CNAMPX-7X200.

**Bi-Directional CAT 5 Audio and Digital Audio Distribution with In-Room Crestron Controller, Digital Audio Processor and Surround Sound Amplifier**



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## Programming

You can create a program that allows you to control the CNAMPX-7X200 through a Crestron control system using the Crestron programming tools Crestron Application Builder™ (AppBuilder) and SIMPL™ Windows®. These tools are intended for users with different levels of programming knowledge. The flexibility of each tool is proportional to the degree of programming expertise (i.e., the more flexible, the more a programmer needs to know and account for). Of course, one can initiate programming using the easiest method (Crestron AppBuilder) and use advanced techniques that are available from SIMPL Windows to customize the job.

The following are recommended software version requirements for the PC:

- SIMPL Windows version 2.01.05 or later. Requires SIMPL+ Cross Compiler version 1.1.
- Crestron Database version 15.6.8 or later.
- Application Builder version 1.0.9 or later. Requires SIMPL Windows.

### Programming with the Crestron AppBuilder

The Crestron AppBuilder offers automatic programming for such residential and commercial applications as audio distribution, home theater, video conferencing, and lighting. The interface of this tool guides you through a few basic steps for designating rooms and specifying the control system, touchpanels, devices, and functionality. The Crestron AppBuilder then programs the system, including all touchpanel projects and control system logic.

The Crestron AppBuilder is fully integrated with Crestron's suite of software development tools, including SIMPL Windows, VT Pro-e, Crestron Database, User IR Database, and User Modules Directory. The Crestron AppBuilder accesses these tools behind the scenes, enabling you to easily create robust systems.

### Programming with SIMPL Windows

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**NOTE:** The following assumes that the reader has knowledge of SIMPL Windows. If not, refer to the extensive help information provided with the software.

**NOTE:** In the following, the PRO2 control system is used.

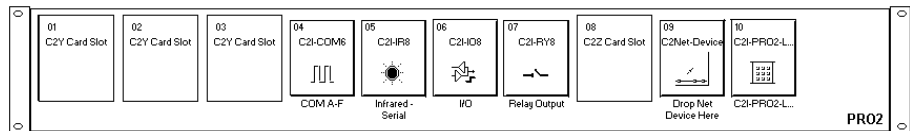
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SIMPL Windows is Crestron's software for programming Crestron control systems. It provides a well-designed graphical environment with a number of workspaces (i.e., windows) in which a programmer can select, configure, program, test, and monitor a Crestron control system. SIMPL Windows offers drag and drop functionality in a familiar Windows® environment.

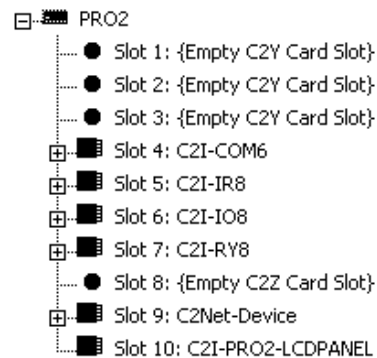
This section explains how to create a SIMPL Windows program that includes the CNAMPX-7X200.

Configuration Manager is where programmers “build” a Crestron control system by selecting hardware from the *Device Library*. In Configuration Manager, drag the PRO2 from the Control Systems folder of the *Device Library* and drop it in the upper pane of the *System Views*. The PRO2 with its associated communication ports is displayed in the *System Views* upper pane.

*The easiest method of programming, but does not offer as much flexibility as SIMPL Windows.*

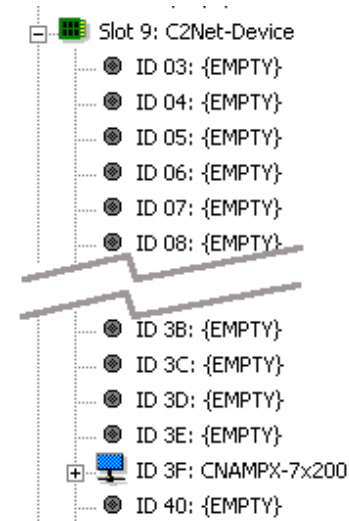
*PRO2 System View*

The *System Views* lower pane displays the PRO2 system tree. This tree can be expanded to display and configure the communications ports.

**Expanded PRO2 System Tree****C2Net-Device Slot in Configuration Manager**

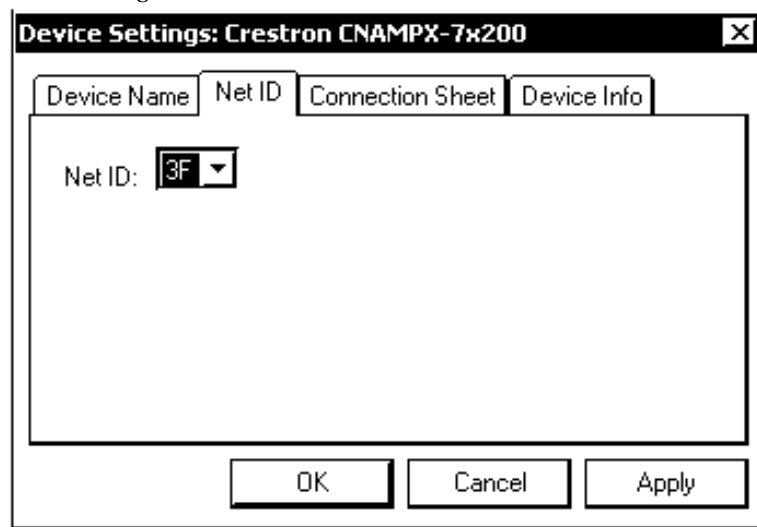
The C2Net-Device Slot can accept an amplifier such as the CNAMPX-7X200. Once the amplifier is configured in a C2Net-Device Slot, the slot allows Cresnet communication between the amplifier and the control system.

In Configuration Manager, drag the CNAMPX-7X200 from the Cresnet Control Modules | Cresnet Audio Modules folder of the *Device Library* and drop it on the PRO2 C2Net-Device slot in *System Views*. The *System Views* upper pane displays the CNAMPX-7X200 device icon below the PRO2 graphic. The PRO2 system tree displays the amplifier in Slot 9, with a default NET ID of 3F.

**C2Net Device, Slot 9**

Double-click the CNAMPX-7X200 icon in the upper pane to open the “Device Settings” window. This window displays CNAMPX-7X200 device information. The NET ID can be changed in this window using the NET ID tab.

*Device Settings Window*

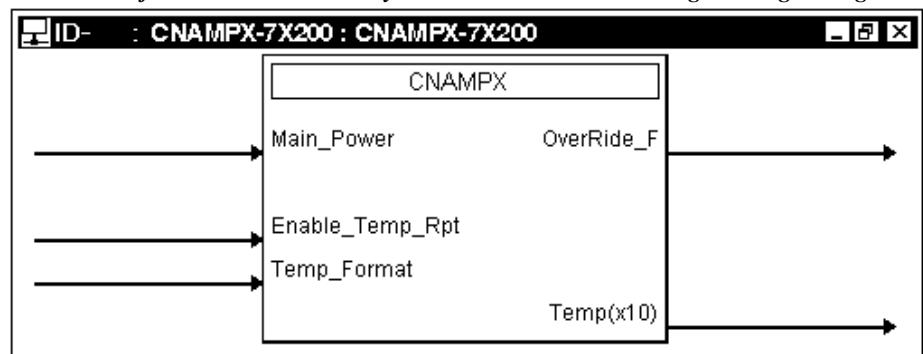


**NOTE:** SIMPL Windows automatically resets the default NET ID values of a device added to a program if a duplicate device or a device with the same default NET ID already exists in the program. Always ensure that the network device NET IDs set via Viewport match the ones in your SIMPL Windows program.

### ***CNAMPX-7X200 Symbol in Programming Manager***

Programming Manager is where programmers “program” a Crestron control system by assigning signals to symbols. The diagram below shows the CNAMPX-7X200 symbol in the *Detail View* of the Programming Manager.

*Detail View of the CNAMPX-7X200 Symbol in SIMPL Windows Programming Manager*



The two tables on the next page list the input and outputs, respectively, and their functional descriptions.

**NOTE:** All signals listed in the following tables are *DIGITAL* signals unless noted otherwise. A digital signal can be high (logic level of 1), low (logic level of 0), and also have rising edge (when it goes from low to high) and falling edge (from high to low) transitions. Depending upon how the symbol was created, symbol inputs may work at the logic levels or on transitions.

*CNAMPX-7X200 Symbol Input Signal Descriptions*

INPUT	DESCRIPTION
Main_Power	This signal activates the main operating power to the CNAMPX-7X200 circuitry. (Master Switch and front panel POWER switch must be set to On.) High/1=power on Low/0=power off
Enable_Temp_Rpt	This signal selects whether or not the Temp(x10) analog output described in the next table is updated with the CNAMPX-7X200 enclosure temperature. High/1 = update temperature Low/0/default = temperature not updated
Temp_Format	This signal selects the format of the temperature to be displayed. High/1 = Celsius Low/0/default = Fahrenheit

*CNAMPX-7X200 Symbol Output Signal Descriptions*

OUTPUT	DESCRIPTION
OverRide_F	This signal indicates that the audio output override function is activated. High/1 = override active Low/0 = override not active
Temp(x10) (analog)	This analog signal corresponds to the ambient temperature within the CNAMPX-7X200 enclosure. The temperature reports approximately once every 2-seconds. (The Enable_Temp_Rpt entry in previous table must be driven high/1 for this to update.) The temperature reports in tenths of a degree (eg, 725 corresponds to 72.5 degrees).

The OverRide\_F signal is typically used to provide a visual indication (e.g., on a Touchpanel screen) that the Override function has been selected, preventing program control of the audio output. The temperature report signal is typically used under program control to activate amplifier power shutoff when the temperature reaches a predetermined level.

**Example Program**

An example program for the CNAMPX-7X200 is available from the Crestron FTP site ([www.ftp.crestron.com](http://www.ftp.crestron.com)). Select the Examples folder and search for CNAMPXE1.ZIP.



## Problem Solving

### Troubleshooting

The table below provides corrective action for possible trouble situations. If further assistance is required, please contact a Crestron customer service representative.

#### *CNAMPX-7X200 Troubleshooting*

<b>TROUBLE</b>	<b>POSSIBLE CAUSE(S)</b>	<b>CORRECTIVE ACTION</b>
No functions and no indicators illuminate.	CNAMPX-7X200 is not receiving VAC power.	Verify that POWER switch is positioned to ON, AC power cord is plugged into CNAMPX-7X200 power port and cord is plugged into a good power source. Reset Master Switch circuit breaker.
	CNAMPX-7X200 is not receiving 24VDC Cresnet power.	Verify that 24VDC is present at cable plugged into NET port.
Green PWR LED does not illuminate.	CNAMPX-7X200 in SIMPL Windows program not properly configured.	Verify SIMPL Windows CNAMPX-7X200 program.
	CNAMPX-7X200 is not receiving 24VDC Cresnet power.	Verify that 24VDC is present at cable plugged into NET port.
Yellow NET LED does not illuminate.	Improper NET ID.	Verify that CNAMPX-7X200 NET ID matches NET ID in software program.
Hum on audio.	Grounding problem.	Either connect or remove chassis ground wire; remove AC ground.
Audio is supplied to room regardless of programming.	Override/Setup function selected.	Press OVERRIDE/SETUP button on rear panel of CNAMPX-7X200.
Audio distorted or not present at room output.	Audio input cable(s) loose or not connected.	Verify that audio input cables plugged into INPUTS ports are secure.
	Room output (speaker) wire(s) loose or not connected.	Verify that speaker wires connected to OUTPUTS terminals are secure.

## Further Inquiries

If after reviewing this Operations Guide you cannot locate specific information or have questions, please take advantage of Crestron's award winning customer service team by calling:

- In the US and Canada, call Crestron's corporate headquarters at 1-888-CRESTRON [1-888-273-7876] or 1-201-767-3400.
- In Europe, call Crestron International at +32-15-50-99-50.
- In Asia, call Crestron Asia at +852-2341-2016.
- In Latin America, call Crestron Latin America at +5255-5093-2160.
- In Australia and New Zealand, call Crestron Pacific at +613-9480-2999.

## Firmware Upgrades

To take advantage of all the CNAMPX-7x200 features, it is important that the unit contains the latest firmware available. Therefore, please check our website ([http://www.crestron.com/downloads/software\\_updates.asp](http://www.crestron.com/downloads/software_updates.asp)) for the latest version of firmware. Not every product has a firmware upgrade, but as Crestron improves functions, adds new features, and extends the capabilities of our products, firmware upgrades are posted. For questions regarding upgrade procedures, contact Crestron customer service.

## Future Updates

As Crestron improves functions, adds new features, and extends the capabilities of the CNAMPX-7X200, additional information and programming examples may be made available as manual updates. These updates are solely electronic and serve as intermediary supplements prior to the release of a complete technical documentation revision.

Check the Crestron website ([www.crestron.com](http://www.crestron.com)) periodically for manual update availability and its subjective value. Updates are available from the Downloads | Product Manuals section and are identified as an "Addendum" in the Download column.

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## Return and Warranty Policies

### Merchandise Returns / Repair Service

1. No merchandise may be returned for credit, exchange, or service without prior authorization from CRESTRON. To obtain warranty service for CRESTRON products, contact the factory and request an RMA (Return Merchandise Authorization) number. Enclose a note specifying the nature of the problem, name and phone number of contact person, RMA number, and return address.
2. Products may be returned for credit, exchange, or service with a CRESTRON Return Merchandise Authorization (RMA) number. Authorized returns must be shipped freight prepaid to CRESTRON, Cresskill, N.J., or its authorized subsidiaries, with RMA number clearly marked on the outside of all cartons. Shipments arriving freight collect or without an RMA number shall be subject to refusal. CRESTRON reserves the right in its sole and absolute discretion to charge a 15% restocking fee, plus shipping costs, on any products returned with an RMA.
3. Return freight charges following repair of items under warranty shall be paid by CRESTRON, shipping by standard ground carrier. In the event repairs are found to be non-warranty, return freight costs shall be paid by the purchaser.

### CRESTRON Limited Warranty

CRESTRON ELECTRONICS, Inc. warrants its products to be free from manufacturing defects in materials and workmanship under normal use for a period of three (3) years from the date of purchase from CRESTRON, with the following exceptions: disk drives and any other moving or rotating mechanical parts, pan/tilt heads and power supplies are covered for a period of one (1) year; touchscreen display and overlay components are covered for 90 days; batteries and incandescent lamps are not covered.

This warranty extends to products purchased directly from CRESTRON or an authorized CRESTRON dealer. Purchasers should inquire of the dealer regarding the nature and extent of the dealer's warranty, if any.

CRESTRON shall not be liable to honor the terms of this warranty if the product has been used in any application other than that for which it was intended, or if it has been subjected to misuse, accidental damage, modification, or improper installation procedures. Furthermore, this warranty does not cover any product that has had the serial number altered, defaced, or removed.

This warranty shall be the sole and exclusive remedy to the original purchaser. In no event shall CRESTRON be liable for incidental or consequential damages of any kind (property or economic damages inclusive) arising from the sale or use of this equipment. CRESTRON is not liable for any claim made by a third party or made by the purchaser for a third party.

CRESTRON shall, at its option, repair or replace any product found defective, without charge for parts or labor. Repaired or replaced equipment and parts supplied under this warranty shall be covered only by the unexpired portion of the warranty.

Except as expressly set forth in this warranty, CRESTRON makes no other warranties, expressed or implied, nor authorizes any other party to offer any other party to offer any warranty, including any implied warranties of merchantability or fitness for a particular purpose. Any implied warranties that may be imposed by law are limited to the terms of this limited warranty. This warranty statement supercedes all previous warranties.

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**Operations Guide – DOC. 8179**  
**04.02**

Specifications subject to  
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