# Crestron **CNAMPX-12/16X60** Professional Audio Amplifiers Service Guide



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# Professional Audio Amplifiers: CNAMPX-12/16X60

## Service Guide Overview

This guide provides service instructions for the CNAMPX-12X60 and CNAMPX-16X60 Professional Audio Amplifiers. The amplifiers contain two-channel amplifier modules (six in the CNAMPX-12X60 and eight in the CNAMPX-16X60), a Crestron<sup>®</sup> remote control system (herein referred to as the Cresnet<sup>®</sup> system) interface card, and an AC power fuse that are field replaceable. For any other components that need replacement, the unit must be returned to the factory for repair service. Refer to "Merchandise Returns/Repair Service" on page 21 and contact Crestron customer service for further information.

The CNAMPX-12X60 and CNAMPX-16X60 amplifiers are also available as international versions. All of the features are identical with the exceptions of international AC power requirements, power cords and unit nomenclatures of CNAMPXI-12X60 and CNAMPXI-16X60, respectively. Throughout this service guide, all references apply to all models and all versions except where noted.

### **General Safety Precautions**

- Read all precautions, information, and instructions provided in this service guide.
- Retain this service guide.
- Heed all warnings and cautions printed in this service guide.
- Follow all instructions in the order that they are provided.
- Do not use this unit near water.
- Clean unit only with a damp cloth.
- Do not block any of the ventilation openings. Install or re-install in accordance with the instructions in this service guide.
- Do not install unit near any heat sources such as radiators, heat registers, stoves, or other apparatus that produce heat. If installing or re-installing multiple amplifiers, follow the instructions provided in this service guide.

- Do not defeat the safety purpose of the polarized or ground-type plug. A polarized plug has two blades with one wider that the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong is provided for safety. When the provided plug does not fit into an outlet, consult an electrician for replacement of the obsolete outlet.
- Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles (if provided), and the point where they exit the unit.
- Unplug this unit during lighting storms or when unused for long periods of time.

### **Rack Mounting Precautions**

**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 precautions are provided to ensure your safety.

- If the rack is provided with stabilizing devices, install the stabilizers before mounting or servicing the unit in the rack.
- When an equipment rack is used, use caution when moving the rack/unit combination to avoid injury or tip-over.

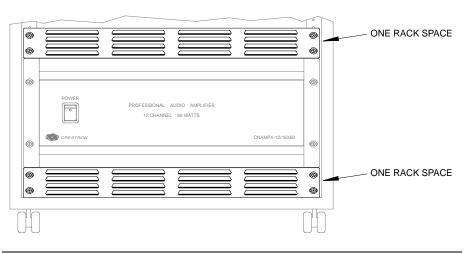
**WARNING:** The CNAMPX-12/16X60 amplifiers are heavy units. The CNAMPX-12X60 weighs approximately 81.40 lbs (37.00 kg) and the CNAMPX-16X60 weighs approximately 90.20 lbs (41.00 kg). Use more than one person to remove unit from or install unit into rack.

- When mounting this unit in a partially filled rack, load the rack from the bottom to the top with the heaviest component at the bottom of the rack.
- The unit should be mounted at the bottom of the rack if it is the only unit in the rack.



**CAUTION:** Due to the heat dissipation of the CNAMPX-12/16X60 (and all audio amplifiers in general), allow at least one free rack space above and below the CNAMPX-12/16X60 for proper circulation. Refer to the diagram on the next page.

CNAMPX-12/16X60 Rack Spacing



**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).

## **Electro-Static Discharge (ESD) Precautions**

The CNAMPX-12/16X60 contains ESD sensitive devices. Perform the following procedures while wearing a grounding strap that is properly grounded or on a grounded work station to avoid damaging the unit.

# **AC Power Fuse Replacement**

The AC power fuse replacement of the CNAMPX-12/16X60 does **not** require cover removal and can be performed with the unit installed in an equipment rack.

**NOTE:** The unit shown in this procedure is a CNAMPX-16X60. The procedure is identical for all models and all versions except where noted.

The only tool required for fuse replacement is a #1 flat-tipped screwdriver. Complete the following procedure in the order provided.

- 1. At the CNAMPX-12/16X60 front panel, position the POWER switch to **OFF**.
- 2. At the rear panel, disconnect the AC power cord from the power port.
- 3. Refer to the diagram on the next page. Insert the tip of the #1 flattipped screwdriver between the retainer tab of the fuse holder and the fuse section of the input power assembly.

#### Fuse Holder Retainer Tab



4. Carefully push the fuse holder retainer tab **upwards** until the tab releases and remove the fuse holder.

**CAUTION:** Refer to the table below. Use only the listed fuse for each corresponding CNAMPX model and version to replace a defective fuse. The fuse is available commercially but if a replacement fuse cannot be obtained, contact Crestron customer service.

CNAMPX MODEL	FUSE SIZE		CURRENT	VOLTAGE	
	DIAM. x LENGTH		RATING	RATING	
CNAMPX-12X60 <sup>1</sup>	1/4 in x	1-1/4 in	12A	125V (or 250V)	
CNAMPXI-12X60 <sup>2</sup>	5mm x	20mm	6.3A	250V	
CNAMPX-16X60 <sup>1</sup>	1/4 in x	1-1/4 in	15A	125V (or 250V)	
CNAMPXI-16X60 <sup>2</sup>	5mm x	20mm	8A	250V	
The characteristics of all listed fuses are FAST-ACTING.					
<sup>1</sup> The fuse holder of non-international versions contains a spare fuse. Verify that the spare fuse is the same type, size and rating as the defective fuse and use as the replacement. If the spare fuse is used as the replacement, obtain the same type, size and rating fuse to be used as the spare as soon as possible.					
<sup>2</sup> The fuse holder of international versions contains two active fuses. Verify the defective fuse(s) and replace as necessary.					

- 5. Remove the defective fuse(s) according to the appropriate step below.
  - 5a. For NON-international versions, remove the defective fuse from the **right** compartment of the fuse holder and insert the replacement fuse.
  - 5b. For international versions, verify the defective fuse(s) and replace as necessary.
- 6. With the retainer tab facing **downward**, insert fuse holder into the fuse section of the input power assembly until it snaps into place.
- 7. At the rear panel, re-connect the AC power cord to the power port.
- 8. At the front panel, position the POWER switch to **ON**.

## **Internal Replacement Procedures**

Internal replacement procedures consist of Amplifier Module, Audio Output Relay Board Replacement (not contained in CNAMPX-12X60), Cresnet System Interface Card procedures, and In-Rush Surge Suppressor. Prior to performing any of these procedures, the Disconnect Unit and Cover Removal procedure must be performed. After the internal procedure(s) has been performed, the Cover Installation and Reconnect Unit procedure is performed.

### **Disconnect Unit and Cover Removal**

To replace the internal components of the CNAMPX-12/16X60, the unit must first be disconnected and the cover removed. To disconnect the unit, the only tool required is a #2 Phillips screwdriver and the only tool required to remove the cover is the 1/8-inch hex wrench supplied with the unit. Complete the following procedure in the order provided.

**WARNING:** The CNAMPX-12/16X60 amplifiers are heavy units. The CNAMPX-12X60 weighs approximately 81.40 lbs (37.00 kg) and the CNAMPX-16X60 weighs approximately 90.20 lbs (41.00 kg). Use more than one person to remove unit from or install unit into rack.

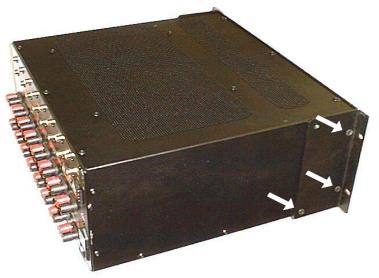
**CAUTION:** To prevent stripping of screw heads, threads, or mounting holes, do **NOT** overtighten screws. Tighten only to the specification listed in the individual step(s).

**NOTE:** The unit shown in this procedure is a CNAMPX-16X60. The procedure is identical for all models and all versions except where noted.

- 1. At the CNAMPX-12/16X60 front panel, position the POWER switch to **OFF**.
- 2. At the rear panel, disconnect the AC power cord from the power port.
- 3. Detach the Cresnet system wiring connector from the NET port.
- 4. Using a #2 Phillips screwdriver, loosen the ground screw, remove the ground wire, and retighten the screw.
- 5. Label and detach all audio input and output cables/wires from the respective connectors.
- 6. Use at least two people to place the CNAMPX-12/16X60 on a suitable work surface.

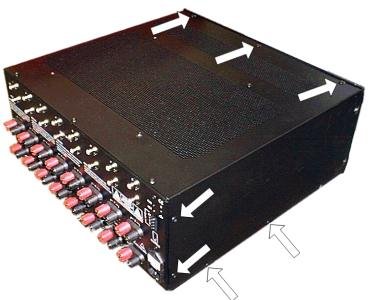
- 7. Depending upon the particular installation, rack mounting ears may or may not be installed. Perform the appropriate step below.
  - 7a. If rack mounting ears are **NOT** installed, continue to step 8 below.
  - 7b. If rack mounting ears are installed, refer to the diagram below. Using the **1/8-inch** hex wrench, remove the mounting ear screws and ears from the left and right sides of the CNAMPX-12/16X60.

Mounting Ear Screws (Left-Side)



8. Refer to the diagram below. Using the **1/8-inch** hex wrench, remove the **three** screws from the top-front edge, then remove the **four** screws from the left side and **four** screws from the right side.

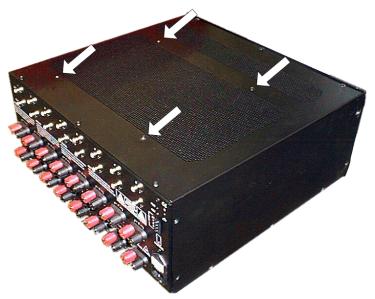
**Top-Front and Side Cover Screws** 



9. Refer to the diagram below. Using the **1/8-inch** hex wrench, remove the **four** screws from the top-center of the cover.

**NOTE**: The four screws at the top-center of the cover are 1/2-inch long. The remaining cover screws are 1/4-inch. When reinstalling the cover, these screws are **NOT** interchangeable.

Top-Center Cover Screws



10. Refer to the diagram below. Using the **1/8-inch** hex wrench, remove the **three** screws from the top-rear of the cover.

Top-Rear Cover Screws



11. Remove the cover and proceed to the appropriate internal replacement procedure.

#### **Amplifier Module Replacement**

The tools required for amplifier module replacement in the CNAMPX-12/16X60 are a grounding strap (or grounded workstation), a #1 Phillips screwdriver, and 5/64-inch and 5/32-inch hex wrenches.

To replace an amplifier module, the defective module must be returned to Crestron and a replacement must be obtained from Crestron. Refer to "Merchandise Returns/Repair Service" on page 21 and contact Crestron customer service for further information.

**WARNING:** The CNAMPX-12/16X60 amplifiers are heavy units. The CNAMPX-12X60 weighs approximately 81.40 lbs (37.00 kg) and the CNAMPX-16X60 weighs approximately 90.20 lbs (41.00 kg). Use more than one person to remove unit from or install unit into rack.

**CAUTION:** The CNAMPX-12/16X60 amplifier modules contain ESD sensitive devices. Perform the following procedures while wearing a grounding strap that is properly grounded or on a grounded work station to avoid damaging the module and/or unit.

**CAUTION:** To prevent stripping of screw heads, threads, or mounting holes, do **NOT** overtighten screws. Tighten only to the specification listed in the individual step(s).

**NOTE:** The unit shown in this procedure is a CNAMPX-16X60. The procedure is identical for all models and all versions except where noted.

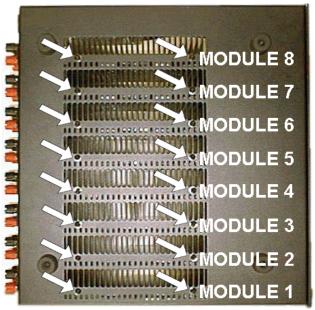
**NOTE:** The CNAMPX-12/16X60 modules operate independently. If a replacement module is not available, the unit may be operated without all modules.

**NOTE:** To replace a defective module of the **CNAMPX-16X60**, starting from module #8, all modules prior to the defective module MUST be removed. As an example, to replace module #5, modules #8, #7, and then #6 must be removed first. This procedure contains optional steps to accommodate removal of the appropriate module(s) and should be followed carefully.

**NOTE:** For the **CNAMPX-12X60**, any defective module other than module #6 may be removed directly. Replacement of module #6 requires partial removal of the Cresnet system interface card. This procedure contains optional steps to accommodate removal of the card and should be followed carefully.

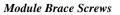
- 1. Make sure that the "Disconnect Unit and Cover Removal" procedure on page 5 has been performed.
- Facing the left-side (the side with the rear panel Cresnet system NET connectors) of the CNAMPX-12/16X60, stand the unit onto its right-side.
- 3. Refer to the diagram on the next page. Using a **5/32-inch** hex wrench, remove the appropriate (refer to the note above) module bottom screws (two screws per module).

Module Bottom Screws



**NOTE:** For the **CNAMPX-16X60**, there is minimum clearance between the modules. When removing the module brace screws, do not allow the screws to fall between the modules. If screws fall between the modules, additional modules may have to be removed.

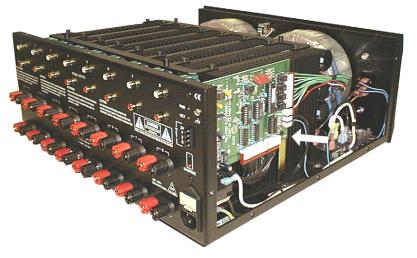
 Position the unit bottom-side down onto the work surface. Refer to the diagram below (view is from overhead). Using a 5/32-inch hex wrench, remove the module brace screws (12 for the CNAMPX-12X60, 16 for the CNAMPX-16X60) and remove both braces.





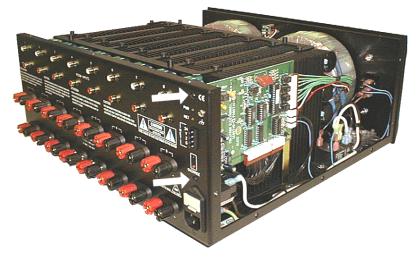
- 5. Access to modules of the CNAMPX-12X60 is slightly different than access to CNAMPX-16X60 modules. Perform the appropriate step below.
  - 5a. To replace module #6 of the **CNAMPX-12X60** or any module of the **CNAMPX-16X60**, continue to step 6 below.
  - 5b. To replace a module **other than** module #6 of the **CNAMPX-12X60**, proceed to step 8 on page 11.
- 6. Refer to the diagram below. Using a **#1** Phillips screwdriver, remove the screw that secures the card to the vertical bracket.

Cresnet System Interface Card Vertical Bracket Screw



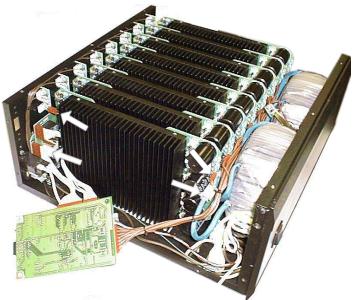
7. Refer to the diagram below. Holding the card by hand and using a 5/64-inch hex wrench, remove the two mounting screws that secure the card and allow the card to hang by its wiring.

Cresnet System Interface Card Mounting Screws



- 8. Removal of the CNAMPX-12X60 modules is slightly different than removal of CNAMPX-16X60 modules. Perform the appropriate step below.
  - 8a. For the **CNAMPX-12X60**, refer to the diagram below. By hand, detach the **four** connectors from the defective module and remove the module.
  - 8b. For the **CNAMPX-16X60**, refer to the diagram below. By hand, detach the **four** connectors from module #8 (module #8 is nearest the interface board) and remove this module. Repeat this step until access to the specific module to be replaced is obtained and remove the module. For example, to replace module #5, modules #8, #7, and then #6 must first be removed.

#### Module Connectors



**NOTE:** The CNAMPX-12/16X60 modules operate independently. If a replacement module is not available, the unit may be operated without all modules.

**NOTE:** The CNAMPX-12/16X60 may be operated without all modules. The suspected bad module may be verified by swapping with a known good module.

**NOTE:** To obtain a replacement module, refer to "Merchandise Returns/Repair Service" on page 21 and contact Crestron customer service for further information.

- 9. Module replacement of the CNAMPX-12X60 and the CNAMPX-16X60 are slightly different. Perform the appropriate step below.
  - 9a. In the **CNAMPX-12X60**, orient and position the replacement module into the CNAMPX-12X60 and re-attach the **four** connectors to the module.
  - 9b. In the CNAMPX-16X60, orient and position the replacement module into the CNAMPX-16X60 and re-attach the four connectors to the module. If other modules have been removed to gain access to the defective module, orient and position the *next* module into the unit and re-attach the four connectors to the module. Repeat for each subsequent module.

- 10. Module replacement of the CNAMPX-12X60 and the CNAMPX-16X60 are slightly different. Perform the appropriate step below.
  - 10a. To replace module #6 of the **CNAMPX-12X60** or any module of the **CNAMPX-16X60**, continue to step 11 below.
  - 10b.To replace a module **other than** module #6 of the **CNAMPX-12X60**, proceed to step 14 below.
- 11. Make sure that the card is **outward** of the vertical bracket and position the card to its mounting holes.
- 12. Re-install the **two** card mounting screws to **finger-tight** then, using a **5/64-inch** hex wrench, tighten the screws an additional **1/8-turn**.
- 13. Re-install the card vertical bracket screw to finger-tight then, using a #1 Phillips screwdriver, tighten the screw an additional 1/8-turn.
- 14. Re-install all module brace screws and appropriate module bottom screws to **finger-tight** then, using **5/32-inch** hex driver wrench, tighten the screws an additional **1/4-turn**.
- 15. Perform the appropriate step below.
  - 15a. If performing another internal replacement procedure, proceed to that procedure.
  - 15b.If **NOT** performing another internal replacement procedure, perform the "Cover Installation and Reconnect Unit" procedure on page 16

#### Audio Output Relay Board Replacement

**NOTE:** The CNAMPX-12X60 does not contain an audio output relay board. This procedure applies only to the CNAMPX-16X60.

The audio output relay board of the CNAMPX-16X60 requires extensive disassembly of the unit and is **NOT** recommended by Crestron. If the audio output relay board is suspected of being bad, the CNAMPX-16X60 must be returned to Crestron. Refer to "Merchandise Returns/Repair Service" on page 21 and contact Crestron customer service for further information.

#### **Cresnet System Interface Card Replacement**

The only tools required to replace the Cresnet system interface card in the CNAMPX-12/16X60 are a grounding strap (or grounded workstation), a #1 Phillips screwdriver, and a 5/64-inch hex wrench.

To replace the card, the defective card must be returned to Crestron and a replacement must be obtained from Crestron. Refer to "Merchandise Returns/Repair Service" on page 21 and contact Crestron customer service for further information.

**WARNING:** The CNAMPX-12/16X60 amplifiers are heavy units. The CNAMPX-12X60 weighs approximately 81.40 lbs (37.00 kg) and the CNAMPX-16X60 weighs approximately 90.20 lbs (41.00 kg). Use more than one person to remove unit from or install unit into rack.

**CAUTION:** The CNAMPX-12/16X60 Cresnet system interface card contains ESD sensitive devices. Perform the following procedures while wearing a grounding strap that is properly grounded or on a grounded work station to avoid damaging the card and/or unit.

**CAUTION:** To prevent stripping of screw heads, threads, or mounting holes, do **NOT** overtighten screws. Tighten only to the specification listed in the individual step(s).

**NOTE:** The CNAMPX-12/16X60 Cresnet system interface card provides Cresnet system control and is used to activate AC power. **DO NOT** attempt to operate the CNAMPX-12/16X60 with the card removed.

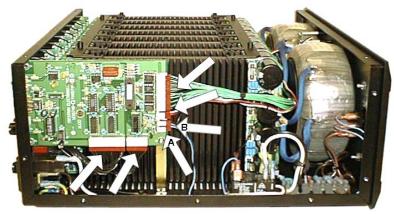
**NOTE:** The unit shown in this procedure is a CNAMPX-16X60. The procedure is identical for all models and all versions except where noted.

1. Make sure that the "Disconnect Unit and Cover Removal" procedure on page 5 has been performed.

**CAUTION:** The two connectors at the bottom-right of the Cresnet system interface card are both 2-pin connectors that are electrically **NOT** interchangeable. Observe the wire colors and/or label the connectors.

 Refer to the diagram below. Facing the left-side (the side with the rear panel Cresnet system connectors) of the CNAMPX-12/16X60, hold the card by hand and disconnect all connectors (one for the CNAMPX-12X60, six for the CNAMPX-16X60) from the card.

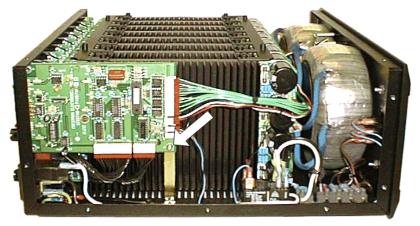
Cresnet System Interface Card Connectors



**CAUTION:** In the diagram above, the connector "A" has one black and one blue wire; the connector "B" has two black wires. Make certain these connectors are not reversed when reconnected.

3. Refer to the diagram below. Using a **#1** Phillips screwdriver, remove the screw that secures the card to the vertical bracket.

#### Cresnet System Interface Card Vertical Bracket Screw



4. Refer to the diagram below. Holding the card by hand and using a 5/64-inch hex wrench, remove the two screws that secure the card to the rear panel and remove the card.

#### Cresnet System Interface Card Mounting Screws



**NOTE:** To obtain a replacement Cresnet system interface card, refer to "Merchandise Returns/Repair Service" on page 21 and contact Crestron customer service for further information.

- 5. Make sure that the replacement card is **outward** of the vertical bracket and position the card to its mounting holes.
- 6. Re-install the **two** card mounting screws to **finger-tight** then, using a **5/64-inch** hex wrench, tighten the screws an additional **1/8-turn**.
- Re-install the card vertical bracket screw to finger-tight then, using a #1 Phillips screwdriver, tighten the screw an additional 1/8-turn.

**CAUTION:** The two connectors at the bottom-right of the Cresnet system interface card are both 2-pin connectors that are electrically **NOT** interchangeable. Observe the wire colors and/or connector labels. Refer to the CAUTION at the bottom of the previous page.

- 8. Re-connect all connectors (**one** for the CNAMPX-12X60, **six** for the CNAMPX-16X60) to the card.
- 9. Perform the appropriate step below.
  - 9a. If performing another internal replacement procedure, proceed to that procedure.
  - 9b. If **NOT** performing another internal replacement procedure, perform the "Cover Installation and Reconnect Unit" procedure on page 16.

#### In-Rush Surge Suppressor Replacement

Follow the instructions below to replace the in-rush surge suppressor in the CNAMPX-12/16X60.

Tools/material required
Grounding strap or grounded workstation
#2 Phillips screwdriver
Needle-nose pliers
1/8-inch hex wrench (supplied with the unit)
5/64-inch hex wrench (not supplied)
Thread sealer (Three Bond 1401C or equivalent)

**WARNING:** To prevent bodily injury or equipment damage, position the CNAMPX-12/16X60 POWER switch to OFF, disconnect the power cord, and detach Cresnet from the NET port.

- 1. Perform the "Disconnect Unit and Cover Removal" procedure provided on page 5.
- 2. Once the top cover is removed, locate the terminal block assembly in the left front corner near the power switch.
- 3. Using needle-nose pliers, carefully remove the "push-on" type connectors one at a time, and connect them to the corresponding connection on the replacement in-rush surge suppressor assembly, part number 2008782, one at a time to avoid incorrect wiring.

**NOTE:** The two brown and black wires that are screwed into place DO-NOT need to be removed, as they are included in the new assembly.

- 4. Remove the large black and white wires on the top of the main relay (to the left of the terminal block) one at a time, and replace them with the like wires from the new assembly.
- 5. Tilt the chassis on its side and, using the 5/64-inch hex wrench, remove the two 6-32 screws that mount the old assembly to the chassis.
- 6. Remove the old assembly.
- 7. Remove the 6-32 hex nuts from the old assembly and re-install onto the replacement in-rush surge suppressor assembly. Install the assembly into the chassis, making sure the insulator sheet remains in place, re-using the two screws from step 5 (refer to photo).



Installation of In-Rush Surge Suppressor



- 8. Tighten the two screws snug do not over-tighten. Apply Three Bond 1401C (or similar thread sealer) to the nuts to prevent loosening.
- 9. Verify that the thermistor is not in contact with any components to allow for ambient air movement around it.

**CAUTION:** The thermistor becomes hot during normal operation. Therefore, component damage may occur if components are touching the hot thermistor.

- 10. Perform the appropriate step below.
  - 10a. If performing another internal replacement procedure, proceed to that procedure.
  - 10b.If **NOT** performing another internal replacement procedure, perform the "Cover Installation and Reconnect Unit" procedure below.

#### **Cover Installation and Reconnect Unit**

After replacement of internal components of the CNAMPX-12/16X60, the cover must be installed and the unit reconnected. The only tool required for cover installation is the 1/8-inch hex wrench supplied with the unit. The only tool required to reconnect the unit is a #2 Phillips screwdriver. Complete the following procedure in the order provided.

**WARNING:** The CNAMPX-12/16X60 amplifiers are heavy units. The CNAMPX-12X60 weighs approximately 81.40 lbs (37.00 kg) and the CNAMPX-16X60 weighs approximately 90.20 lbs (41.00 kg). Use more than one person to remove unit from or install unit into rack.

**CAUTION:** To prevent stripping of screw heads, threads, or mounting holes, do **NOT** overtighten screws. Tighten only to the specification listed in the individual step(s).

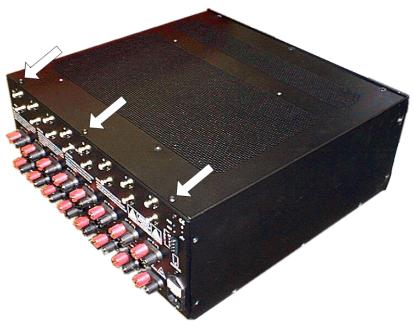
**NOTE:** The unit shown in this procedure is a CNAMPX-16X60. The procedure is identical for all models and all versions except where noted.

1. Orient and position the cover onto the CNAMPX-12/16X60.

**CAUTION**: The cover screws are 1/4-inch except the four screws at the top-center that are 1/2-inch long. To prevent stripping of screws and/or screw holes, do **NOT** interchange the screws.

2. Allow cover to overhang front panel and install top-rear cover screws (shown on the next page) to **finger-tight**.

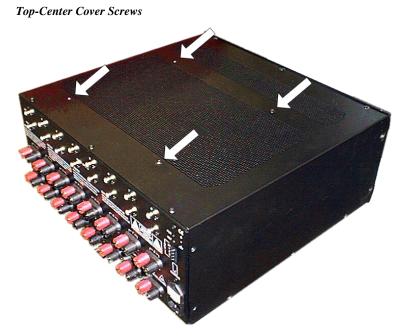
**Top-Rear Cover Screws** 



3. By hand, push cover towards rear panel until the top-front cover screw holes align.

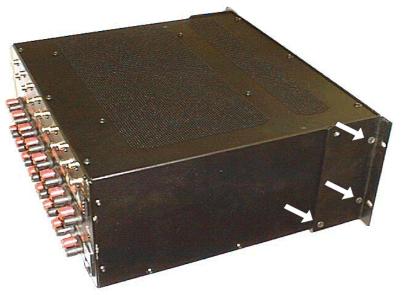
**CAUTION**: The four screws at the top-center of the cover are 1/2-inch long. The remaining cover screws are 1/4-inch. To prevent stripping of screws and/or screw holes, do **NOT** interchange the screws.

4. As shown on the next page, install top-center cover screws to **finger-tight**.



- 5. Re-install all remaining cover screws to **finger-tight** then, using the **1/8-inch** hex wrench, tighten all cover screws an additional **1/8-turn**.
- 6. Perform the appropriate step below.
  - 6a. If the CNAMPX-12/16X60 is **NOT** to be installed into an equipment rack, proceed to step 9 below.
  - 6b. If the CNAMPX-12/16X60 is to be installed into an equipment rack, orient and position the left-side mounting ear as shown below and re-install the **three** rack mounting ear screws to **finger-tight** then, using the 1/8-inch hex wrench, tighten the screws an additional **1/8-turn**.

Mounting Ear Screws (Left-Side)



7. Orient and position the right-side mounting ear and re-install the **three** rack mounting ear screws to **finger-tight** then, using the **1/8-inch** hex wrench, tighten the screws an additional **1/8-turn**.

**WARNING:** Observe the "Rack Mounting Precautions" on page 2 to install unit into equipment rack.

**WARNING:** The CNAMPX-12/16X60 amplifiers are heavy units. The CNAMPX-12X60 weighs approximately 81.40 lbs (37.00 kg) and the CNAMPX-16X60 weighs approximately 90.20 lbs (41.00 kg). Use more than one person to install unit into rack.

- 8. Using at least two people, install unit into rack.
- 9. At the rear of the CNAMPX-12/16X60, attach the labeled audio input and output cables/wires to their respective connectors.
- 10. Using a #2 Phillips screwdriver, loosen the ground screw, attach the ground wire, and retighten the screw.
- 11. Attach the Cresnet system wiring connector to the NET port.
- 12. Connect the AC power cord to the power port.
- 13. At the front panel, position the POWER switch to **ON**.

# **Problem Solving**

### **Further Inquiries**

If you cannot locate specific information or have questions after reviewing this guide, please take advantage of Crestron's award winning customer service team by calling the Crestron corporate headquarters at 1-888-CRESTRON [1-888-273-7876]. For assistance in your local time zone, refer to the Crestron website (http://www.crestron.com/) for a listing of Crestron worldwide offices.

You can also log onto the online help section of the Crestron website to ask questions about Crestron products. First-time users will need to establish a user account to fully benefit from all available features.

## **Future Updates**

As Crestron improves functions, adds new features, and extends the capabilities of the CNAMPX-12/16X60, additional information 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 periodically for manual update availability and its relevance. Updates are identified as an "Addendum" in the Download column.

# **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 an authorized CRESTRON dealer. Only authorized CRESTRON dealers may 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, 6 Volvo Drive, Rockleigh, 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 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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Specifications subject to change without notice.