



# Installation and Operation

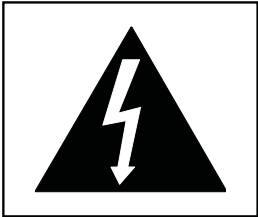


## PX-800 Multiroom Audio Controller



PX-800 Serial Number	_____
Custom Installer	_____
Telephone Number	_____

	<b>CAUTION</b> RISK OF ELECTRICAL SHOCK DO NOT OPEN	
<b>CAUTION: TO REDUCE THE RISK OF ELECTRICAL SHOCK, DO NOT REMOVE COVER (OR BACK) NO USER-SERVICEABLE PARTS INSIDE REFER SERVICING TO QUALIFIED SERVICE PERSONNEL</b>		



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated “dangerous voltage” within the product’s enclosure that may be of significant magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.

**WARNING**

**TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK,  
DO NOT EXPOSE THIS PRODUCT TO RAIN OR MOISTURE**

**CAUTION: TO PREVENT ELECTRIC SHOCK, DO NOT USE THE (POLARIZED) PLUG WITH AN EXTENSION CORD, RECEPTACLE OR OTHER OUTLET UNLESS THE BLADES CAN BE FULLY INSERTED TO PREVENT BLADE EXPOSURE.**

# Installation and Operation Manual

## PX-800 Multiroom Audio Controller

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# INTRODUCTION

The PX-800 is an innovative analog audio matrix switch with advanced digital signal processing. The DSP features and multiple control interface options make it an excellent solution for audio distribution in residential and commercial applications.

## Key Features

- Sixteen source inputs/sixteen zone outputs.
- Advanced DSP features per zone output, including 10-band EQ, low-pass filter and tone controls (see below)
- Integrates seamlessly with third party control systems such as Control4, URC, RTI and others
- Discrete IR and RS-232 codes available for download - use with virtually any third party IR control system
- Zone grouping (10 groups) and Source/Zone combination presets (10 source/zone combinations)
- Global source selection (all zones on to same source)
- Simple setup using PX-800 PC utility via serial, Ethernet or USB drive
- 2U rack ears included

## DSP Features

- Custom DSP settings per zone: 10-band Equalization, bass/treble, and more
- Low-pass filter and zone grouping feature provides a full-range/sub configuration, delivering 2.1 audio to every zone
- 10 global EQ presets which can be saved and recalled from any zone
- DSP settings can be updated on the fly using serial commands

## Control Interfaces

- Ethernet
- RS-232 Serial
- Front panel IR sensor
- Rear panel IR input (3.5 mm jack or 3-pin header) switchable to amplifier/zone trigger output.
- Front panel capacitive touch buttons and knob with VFD screen

## Carton Contents

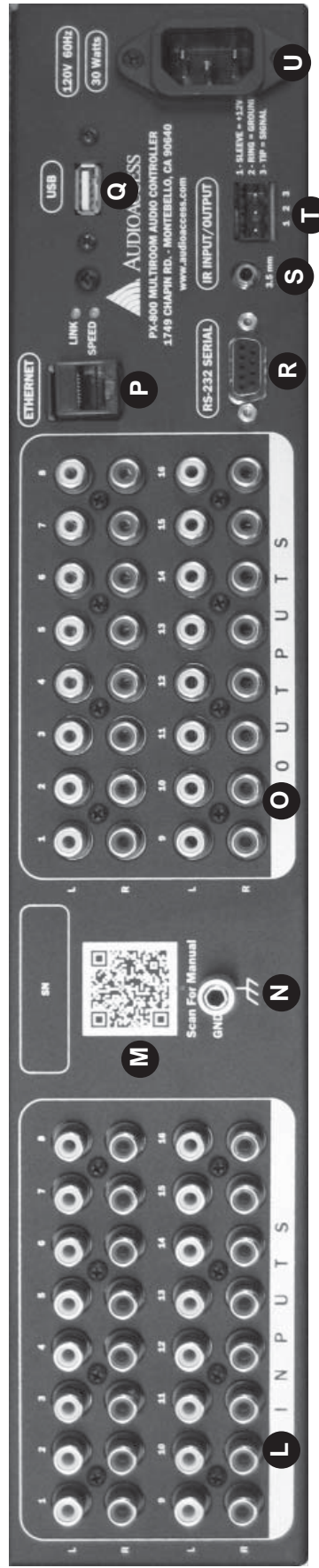
- PX-800 Multiroom Audio Controller
- Power cord
- Rack ears
- User manual

## Other Materials You May Need

- Patch cables (Ethernet, RCA)
- Infrared receiver
- Third party programmable remote or touchscreen interface
- USB 1.1 or USB 2.0 compliant drive

# PANEL DESCRIPTIONS

- A Power Switch
- B Power Indication LED
- C Front Panel IR Receiver
- D Vacuum Fluorescent Display (VFD)
- E Multi Function Knob
- F Group Selection Button
- G Favorite Selection Button
- H All Selection Button
- I Menu Selection Button
- J Back Button
- K Dim Button
- \* "Buttons" are capacitive touch



- L Analog Audio Input Jacks 1-16
- M QR Code to View/Download Operator's Manual
- N Ground Terminal
- O Analog Audio Output Jacks Zone 1-16
- P Ethernet Connector with Link and Speed Indicators
- Q USB Connector (For USB Flash Drive Programming Only)
- R RS-232 DB9 Connector
- S 3.5MM IR Input Jack
- T 3-Wire IR Input/Trigger Out Terminal Block
- U AC Input Jack

## GETTING STARTED

- Confirm that nothing is missing from your shipping carton. Refer to **Carton Contents** on page 4.
- Record the serial number (found on the product rear panel) in the space provided on the inside front cover of this manual for easy reference.
- Read this instruction manual to become familiar with the configurations and functions of this product.

### Quick Setup

Although it is highly recommended that you follow the more detailed installation instructions provided in this manual, a very basic installation may be accomplished by performing the following steps:

1. Connect source equipment to the input jacks 1-16. (Detailed instructions located in the Installation Section.)
2. Connect the PX-800 zone output jacks 1-16 to a multi-channel amplifier (Detailed instructions located in the Installation Section.)
3. Connect the PX-800's power inlet to a suitable AC outlet using ONLY the furnished power cord. Press the button on the front to turn on the PX-800. After a few seconds, the PX-800 boots up and is ready to perform switching. Use the front panel controls to select the preferred source input and the zone output number(s) of your preferred listening zones.

### Choosing a Control Interface

The chart below provides an overview of the different range of capabilities when using each control method. For more detailed instructions on the various control methods available, please refer to the following sections:

- Controlling the PX-800 through RS-232, see page 16
- Controlling the PX-800 through Ethernet, see page 16
- Controlling the PX-800 through IR, see page 17
- Controlling the PX-800 with the Front Panel, see page 13

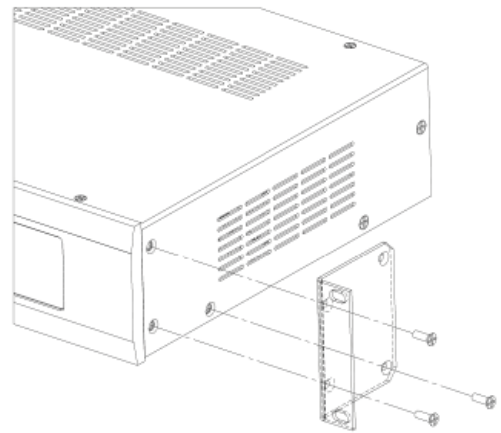
#### Control Interface Capabilities

All commands are available on Ethernet and RS-232, but other control methods are limited as shown.

	RS-232	Ethernet	Infrared	Front Panel
Audio signal switching	X	X	X	X
Dimming	X	X		X
Lock IR	X	X		
Lock front panel interface	X	X		
Change Ethernet settings	X	X		
Upgrade firmware				X
Group and Favorite creation	X	X		
Group and Favorite switching	X	X	X	X

## INSTALLATION

The PX-800 is designed so that it may be installed either on a shelf or in a standard 19-inch equipment rack. If rack mounting, remove the feet and the cover screws adjacent to the front panel of the unit. Reuse the cover screws to mount the rack adapters supplied with the PX-800.



### Initial Audio Setup

Independently test each component to be connected to the PX-800 prior to system assembly. This will reduce troubleshooting measures later. Verify basic PX-800 functionality by performing the following steps:

1. Connect one audio source to a pair of PX-800 input jacks numbered 1-16.
2. Connect one pair of PX-800 zone output jacks numbered 1-16 to an audio amplifier.
3. Use high quality cable and keep the lengths as short as possible.
4. Turn on the source, amplifier and the PX-800 for an initial test. Verify that the audio pathway is performing acceptably by selecting the appropriate source input and zone output from the front panel (detailed instructions for **Front Panel** operation can be found on page 13). You should now hear the source material being played. If you do not, please refer to the **Troubleshooting** section found on page 16. If you are still experiencing difficulty, please contact Technical Support by phone at (323) 278-0001 extension 112 or email: support@ati-amp.com.
5. Repeat steps 1-4 with jacks numbered 9-16.
6. If no problems have been noted, remove power and continue installation.

### Input and Output Connections and Testing

- Determine the wiring configuration for your setup. Label the RCA cables by the connected device (e.g. Input 1 - Cable Box, Input 2 - Music Server, Zone 1 - Kitchen, Zone - 2 Living Rm etc.). Use good quality RCA cables for optimal results.
- Connect the PX-800 power cord and turn the unit on via the front panel power switch.
- Apply power to all sources and associated equipment. Use the front panel controls to verify audio signal integrity of sources at each zone location.

## CONFIGURATION

The PX-800 PC utility is the easiest way to perform advanced setup tasks. Most of these tasks may also be accomplished using serial or Ethernet commands, or via the PX-800 front panel controls (see page 13).

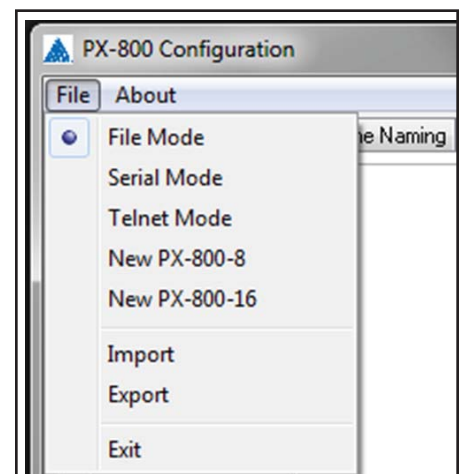
### Initial Setup

1. **Select Programming Mode:** Select the mode you will be using for your PX-800 configuration. There are three options:

- File Mode - (default) requires a USB drive to save and transfer the setup file to the PX-800 via the back panel USB jack.
- Serial Mode - requires a direct serial port connection.
- Telnet Mode - requires a connection via a network or a direct Ethernet connection.

2a. **Create A New PX-800 Configuration:** If you are setting up a new PX-800, start with "New PX-800-16".

2b. **Modify An Existing Configuration:** If you are modifying an existing setup, import the current setup file.



## Configuration File Page

This page provides a quick look at all commands and command descriptions in the existing configuration file, primarily used for diagnostics and troubleshooting. In most cases this information should not be modified.

## Source/Zone Naming Page

This page lists all current Zone and Source Names. To change the names of zones and sources, double click in the appropriate field and type in your changes. Use up or down arrow keys to move to the next field.

Zone Names		Source Names	
Zone 1	Kitchen	Source 1	iPod Dock
Zone 2	Dining Rm	Source 2	CD1
Zone 3	Den	Source 3	CD2
Zone 4	Great Room	Source 4	Tuner1
Zone 5	Master Bed	Source 5	Tuner2
Zone 6	Master Bath	Source 6	Music Server1
Zone 7	Guest Bed1	Source 7	Den DVR
Zone 8	Guest Bed2	Source 8	Master DVR
Zone 9	Garage	Source 9	Kitchen Local
Zone 10	Porch	Source 10	Dining Rm Local
Zone 11	Deck	Source 11	Den Local
Zone 12	Zone Name 12	Source 12	Great Rm Local
Zone 13	Zone Name 13	Source 13	Master Bed Local
Zone 14	Zone Name 14	Source 14	Guest1 Local
Zone 15	Zone Name 15	Source 15	Guest2 Local
Zone 16	Zone Name 16	Source 16	Porch Local

## Favorite/Group Naming Page

This page lists all current configured Favorites and Groups. To change the names of Favorites and Groups, double click in the appropriate field and type in your changes. Use up or down arrow keys to move to the next field.

Favorite Names		Group Names	
Favorite 1	Party	Group 1	Indoor Party
Favorite 2	Sports	Group 2	Outdoor Party
Favorite 3	Relax	Group 3	Master Bed 2.1
Favorite 4	Kids Party	Group 4	Guest1 2.1
Favorite 5	Game	Group 5	Guest2 2.1
Favorite 6	Quiet	Group 6	Den 2.1
Favorite 7	Vacation	Group 7	Group Name 7
Favorite 8	Master	Group 8	Group Name 8
Favorite 9	Guest1	Group 9	Group Name 9
Favorite 10	Guest2	Group 10	Group Name 10

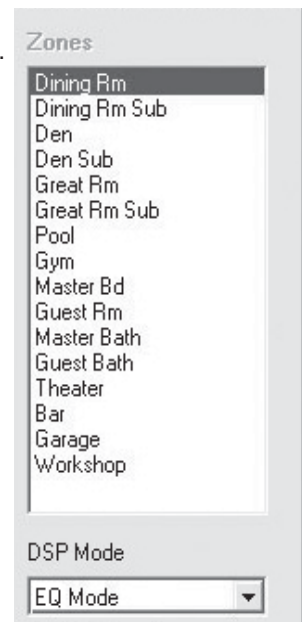
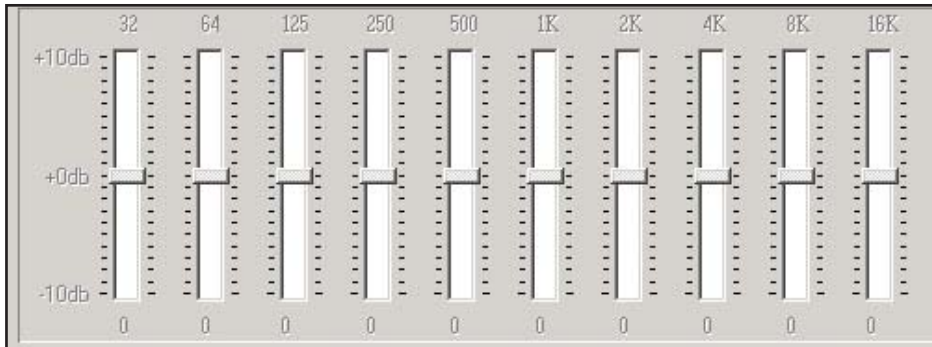


## Zone Audio Controls Page

This page includes all software tools required to modify zone-specific DSP settings for the PX-800. Below is a summary of each tool:

### 10-band Zone Equalization (EQ Mode)

1. Select the zone you wish to adjust
2. Select **EQ Mode** from the DSP Mode dropdown menu
3. Make desired EQ adjustments for any of the 10 available frequency bands\*



### Save EQ settings to a EQ File

Occasionally, it may be desired to save a zone's EQ settings to a EQ file so that those settings can be used in future installations. This is accomplished using the following steps:

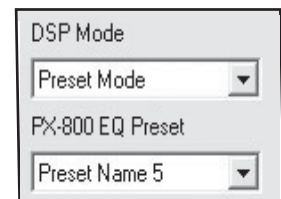
1. Select the zone from which you wish to copy settings.
2. Select EQ Mode from the DSP Mode dropdown menu.
3. Under the PC Quick EQ Presets section, click the "Save" button.
4. Name the new EQ file.
5. The EQ file is now saved in a folder on your computer for use in other projects. To recall, the EQ file must reside in the same folder with the PC Utility.



### Global EQ Presets (Preset Mode)

The PX-800 includes 10 built-in "Global" EQ presets, which can be used by any PX-800 zone. By default, all 10 EQ presets are flat. *Adjustment of global EQ presets is accomplished using the PX-800 EQ Presets page (See page 10). Once all EQ presets have been set up, preset mode can recall any global preset to a zone.*

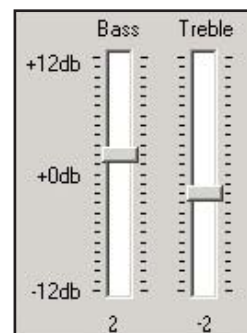
1. First, make sure the desired EQ preset has been set up on the PX-800 EQ Presets page.
2. Select **Preset Mode** from the DSP Mode dropdown menu.
3. Select a zone.
4. Select the desired EQ preset from the PX-800 EQ Preset dropdown menu\*.



### Bass & Treble (Tone Controls)

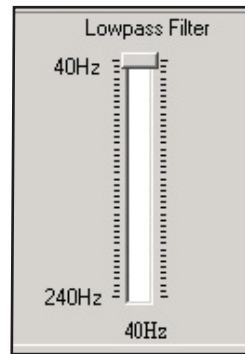
1. Select the zone you wish to adjust.
2. Select **Tone Controls** from the DSP Mode dropdown menu.
3. Make any desired bass and treble adjustments\*.

*\*IMPORTANT NOTE: In order to hear your changes, you must transfer all utility settings into the PX-800 using the "export" option from the File menu.*



### Low-Pass Filter (Low-Pass Mode)

This mode is used to turn any zone output into a dedicated mono low-pass output for a subwoofer. Additionally, a low-pass zone output can be grouped with a full range zone output to create a single 2.1 audio zone. IR and serial group commands (source, volume, and mute) can then be used to control both outputs (low-pass and full range) together. See page 11 for instructions on how to set up a zone group and page 18 for source, volume and mute group serial commands.



How to set up a low-pass zone output:

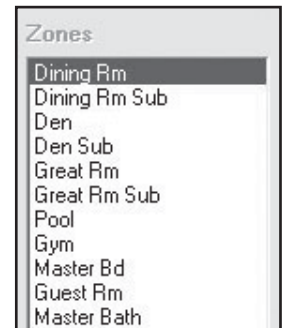
1. On the Source/Zone Naming page, select and name a zone you wish to designate as a low-pass output. If you are grouping a low-pass zone with a full-range zone, it is recommended to name your zones in pairs for clarity. For example, if Zone 1 is labeled “Master BR”, Zone 2 should be labeled “Master BR Sub”, and so on.
2. On the Zone Audio Controls page, select a zone for low-pass.
3. Select **Lowpass** from the DSP Mode dropdown menu.
4. Make any desired changes to the Crossover Frequency. Range of adjustment is 40Hz to 240Hz\*.
5. On the Groups page, group the low-pass zone output with a full-range zone output (See page 11 for more information).

### EQ/Tone Disabled

If no EQ or tone mode is desired select EQ/Tone Disabled from the DSP Mode dropdown. All levels will be flat, but previous settings can be recalled by switching back to EQ or Tone Mode.

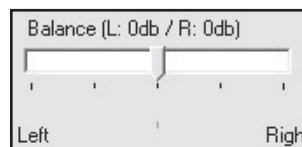
### Volume

1. Select a zone.
2. Adjust volume to the desired level\*.
3. If your installation requires a fixed volume level from the PX-800 (i.e. volume level is adjusted through an external amplifier or volume control), select the “Volume Lock” setting. **When an PX-800 zone is set to “Volume Lock”, it ignores all PX-800 volume up/down commands (Serial, Telnet or IR) and remains at a fixed full output level.**



### Balance

1. Select a zone.
2. Adjust left/right balance levels accordingly\*.



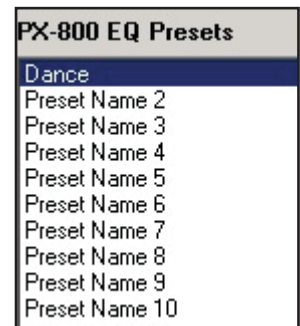
### PX-800 EQ Presets Page

The PX-800 includes 10 built-in “Global” EQ presets, which can be used by any zone. By default, all 10 EQ presets are flat and require adjustment for use. The PX-800 EQ Presets Page allows you to name all 10 presets and adjust band settings for each.

### Modify and Store Global EQ Presets

1. Select a EQ preset.
2. Name the preset in the PX-800 Preset Name text box.
3. Make any desired adjustments to EQ sliders\*.

*\*IMPORTANT NOTE: In order to hear your changes, you must transfer all utility settings into the PX-800 using the “export” option from the File menu.*

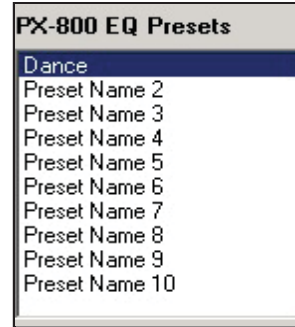


## PX-800 EQ Presets Page (Continued)

### Save EQ Preset to an EQ File

Occasionally, it may be desired to save a global preset's EQ settings to an EQ file so that those settings can be used in future installations. This is accomplished using the following steps:

1. Select the EQ preset you wish to copy settings from.
2. Under the PC Quick EQ Presets section, click the "Save" button.
4. Name the EQ file.
5. The EQ file is now saved in a folder on your computer for use in other projects. To recall, the EQ file must reside in the same folder with the PC Utility.



## Favorites Page

This page allows you to quickly setup zone & source combination audio "scenes" such as party, dinner, game night, etc. All favorites can then be recalled with a dedicated serial or IR command or from the front panel of the PX-800. To set up a favorite, use the following steps:

1. Label your favorites on the Favorite/Group Naming page (See page 8).
2. Back on the Favorites page select a favorite name from the "Choose a Favorite" list.
3. Double click the junction between a zone and a source to include a source/zone combination into a favorite scene.
4. Repeat this step for all other source/zone combinations you desire to be included in the favorite scene.
5. Follow steps 2-4 above for all additional favorites.



Source Name	Sources															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Kitchen	A															
Dining Room	A															
Great Room	A															
Den	A															
Master Bed												A				
Guest Bed1													A			
Guest Bed2														A		
Master Bath																

## Groups Page

Use this page to put several zones into a group. Groups are useful for controlling several zones at the same time with volume, source selection and mute commands. You can also create 2.1 audio zones (a full-range and a low-pass zone output joined together) using the group feature. (More on low-pass mode: page 10.)

To set up a group, use the following steps:

1. Label groups on the Favorite/Group Naming page.
2. On the Groups page (illustration on page 12) double click the junction between a zone and a group to include a zone in a group. The group name is displayed in the upper left corner when you click on a junction square.
3. Repeat this step for all other zone/group combinations desired.


## Groups Page (Continued)

Configuration File   Source / Zone Naming   Favorite / Group Naming   Zone Audio Controls   PX-800 EQ Presets   Favorites   Groups											
Group Name		Groups									
Zones		1	2	3	4	5	6	7	8	9	10
	Den 2.1										
	Kitchen	G	G								
	Dining Room	G									
	Great Room	G									
	Den	G	G				G				
	Master Bed			G							
	Guest Bed1				G						
	Guest Bed2					G					
	Master Bath										
	Garage										
	Porch	G	G								
	Deck		G								
	Den Sub	G	G				G				

## Network Page

This page allows you to adjust the following:

1. Network settings (Enable DHCP, IP Address, Network Mask & Gateway).
2. Lockouts (Front Panel Buttons & Front Panel IR).
3. Display brightness.

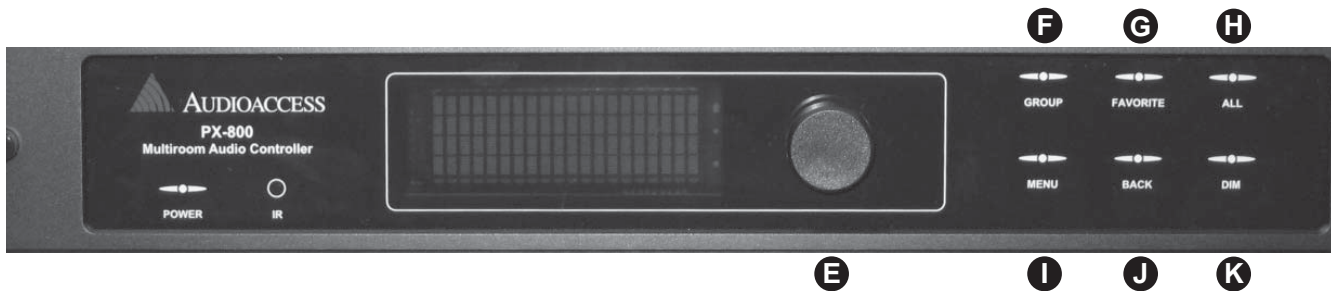
Source / Zone Naming   Favorite / Group Naming   Zone Audio Controls   PX-800 EQ Presets   Favorites   Groups   Network														
<p><b>Network Card Settings</b></p> <p><input checked="" type="checkbox"/> Enable DHCP?</p> <p>IP Address</p> <input type="text" value="IPAddress"/> <p>Netmask</p> <input type="text" value="Netmask"/> <p>Gateway</p> <input type="text" value="Gateway"/>					<p><b>Lockouts</b></p> <p><input type="checkbox"/> Lock Front Panel?</p> <p><input type="checkbox"/> Front Panel IR Lockout?</p>					<p><b>Display Brightness</b></p> <p>Level: 100%</p> 				

# OPERATION

## Front Panel

The front panel is operated by using six touch sensitive keys: Group **F**, Favorite **G**, All **H**, Menu **I**, Back **J**, and Dim **K** and a Multi-Function Knob **D**.

**Multi-Function Knob Operation:** Used to navigate through all menu items, the multi-function knob can scroll (clockwise or counterclockwise) and select or de-select (press in). The open arrow  $\triangleright$  symbol is displayed when scrolling through menu items. Once an item has been selected (by pressing in the knob), the arrow will fill in  $\blacktriangleright$ . Next, turn the knob to adjust the value. Finally, press in the knob again to de-select the menu item and scroll to the next item that needs to be adjusted.



### Zone/Source Selection Screen

This default screen performs zone and source switching via the Multi-Function Knob **E**

### Group Button > Group Selection Screen **F**

This screen displays all configured groups and allows for group source selection. To learn more about zone groups and defining zone groups, see page 11.

**About Groups:** The PX-800 is capable of storing up to 10 Groups. Each group may be assigned a name up to 16 characters long. Groups can only be created using the PX-800 PC utility (see page 11) or serial commands (page 19).

### Favorite Button > Favorite Selection Screen **G**

This screen displays all configured favorites. To learn more about defining favorites, see page 11. To select a favorite, rotate the knob until the desired favorite is listed, then press in the knob to activate it.

**About Favorites:** Favorites are unique zone and source combinations, or audio “scenes” such as party, dinner, game night, etc. Favorites allow the end user to recall these audio scenes with a remote or touchscreen control. The PX-800 is capable of storing up to 10 Favorites. Each Favorite may be assigned a unique name up to 16 characters in length. Favorites can only be configured and named using the PX-800 PC utility (see page 11) or with serial commands (page 20).

### All Button > All Selection Screen **H**

This screen allows switching all output zones to a single source.

### Menu Button > Menu Screen **I**

Press the Menu Button to access the following sub-menus: Volume, Equalizer, Tone/Lowpass, Balance, Network Settings, Export File, Import File, Front Panel IR, Display Settings, Firmware Versions, Firmware Update, Factory Default.

### Back Button **J**

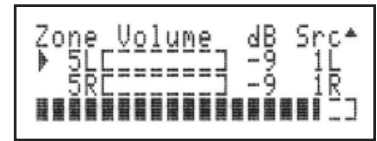
Pressing this button returns you to the previous screen. Press the back button repeatedly to return to the default Zone/Source screen.

### Dim Button **K**

This button toggles through four predefined brightness levels for the VFD and panel LED indicators. After a set period of time (adjustable using the front panel or in the PX-800 PC utility), the VFD will enter a screen saver mode and turn off. The power and button LED's will remain on at a very low level to show that the unit is receiving power. Any key press or knob adjustment returns the VFD and LED indicators to the last selected brightness level.

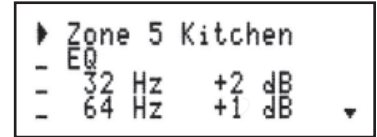
## Volume

Adjusts the volume level (measured in dB) for each zone output. Displays real-time zone output level meters and source selection. Scroll past 0 db to set a zone output to “fixed.” See page 10 for more information on fixed volume applications.



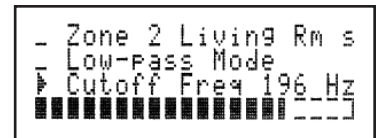
## Equalizer (EQ Mode and EQ Preset Mode)

Use to switch between EQ Mode (10-band zone EQ) or EQ Preset Mode (10 Global EQ presets assignable to any zone). Both EQ and EQ Preset Modes allow for adjustment of all 10 bands of equalization. EQ can be bypassed by selecting “EQ Disabled”. All ten frequencies are reset to flat, but returning to either EQ mode recalls the last settings.



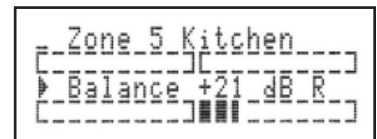
## Tone/Lowpass

Use to switch between Tone Mode or Lowpass Mode. Tone Mode allows for adjustment of bass and treble levels and Lowpass Mode allows for adjustment of the crossover frequency of a zone’s low-pass filter. Lowpass mode is used to assign a zone output to a dedicated subwoofer. Additionally, a low-pass zone output can be grouped together with a full range zone output (using PX-800 PC utility) for a 2.1 audio “zone”. See page 10 for more information on setting up a lowpass zone in the PX-800 PC utility. Tone and Lowpass filters can be bypassed by selecting “Tone/LP Disabled”.



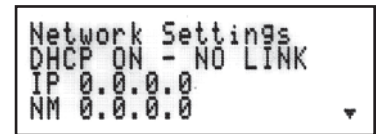
## Balance

Use to adjust the Left/Right stereo balance (measured in db) for a zone output. Also displays real-time Left/Right balance level meters.




## Network Settings

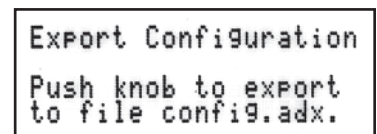
Displays the current network settings of the PX-800. See page 12 for more information on Network Settings.



## Export File

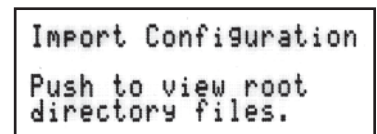
With a USB 1.1 or USB 2.0 drive connected to the USB port  on the rear panel of the PX-800, follow the on screen instructions to export to the default file name, “config.PX-8”. If the file is already present, you will be prompted to overwrite it.

Note – The USB port is v1.1 and v2.0 compatible. There is a small delay when inserting a USB drive in order to identify the device and mount the file system. Although many different drives were tested successfully with the system, not all USB drives will work with the PX-800. Tested file systems include FAT and FAT32.



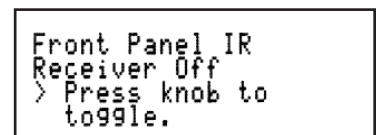
## Import File

This selection imports the configuration settings from a text file on a USB drive. Simply follow the on screen instructions to select the file to import, which must have the “.PX8” format. Once the file has been selected, the fourth line of the screen displays the commands as they are read from the file and a serial/telnet connection details the commands read and their execution status.



## Front Panel IR

This screen allows the front panel IR receiver to be turned on or off. Factory default is off.





## Wired IR/Trigger

Shows the current settings for the IR output jacks on the rear panel. The choices are: Wired IR Mode; Trigger Mode; Trigger + Serial. Wired IR mode allows the rear panel jacks to receive signals from an external IR sensor. Trigger Mode switches the rear panel jacks **Ⓢ** and **Ⓣ** to send a signal to turn on/off an external amplifier and adds signal sensing turn-on and turn-off. The turn-off no-signal time is adjustable in 5 minute increments from 5 to 15 minutes. The turn-off level is adjustable in 5 mV increments from 20 to 200 mVRMS. The Trigger+Serial mode generates a serial command to identify which zone triggered the response.

```
Wired IR / Trigger
> Trigger+Serial
- Time 5 Minutes
- Level 200 mVRMS
```

**SEE APPENDIX C FOR APPROPRIATE WIRING WHEN USING THE TRIGGER OUTPUT. REAR PANEL JACK **Ⓢ** DOES NOT FOLLOW THE INDUSTRY STANDARD.**

## Display Settings

Shows current settings for the front panel display: Sleep timer (screen timeout) and display brightness. The sleep timer can be set to 5, 2 and 1 minute(s) or Disabled. Brightness can be set to 25%, 50%, 75% or 100%.

```
Display Settings
> Sleep Timer
  Five Minutes
- Brightness 50%
```

## Firmware Versions

Displays the firmware versions of the primary firmware and the boot-loader.

```
Firmware..: 1.0.0
Bootloader: 1.0.0
```

## Firmware Update

Use to load firmware updates to the PX-800 using a USB drive. Follow on-screen instructions and/or the text file instructions included with online firmware updates.

```
>PX-800_V1.519
```

## Factory Defaults

Use to restore all PX-800 settings to factory default. Follow on-screen instructions.

```
Factory Defaults
> Restore to default
```

## USING SERIAL AND ETHERNET (TELNET)

Follow the instructions for your Control4, RTI, URC, or other controller to connect to the PX-800 using the serial settings below, and/or Ethernet settings accessible via the PX-800 front panel menu. All of the commands listed in Appendix A can be used via telnet or serial connection.

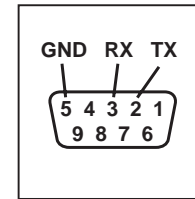
- At idle, the PX-800 checks for received serial or telnet data every 200 ms. Once data has been received, it checks every 1 ms to handle rapid groups of commands and macros. After 100 ms of inactivity, it returns to checking at intervals of 200 ms.
- The PX-800 telnet server allows two clients to be connected at one time. Each client connection has a time out of 15 minutes; if a client crashes and does not close the connection properly (sending an EOF) that connection remains busy until it times out.

### Connecting to the PX-800 RS-232 Port

System controllers and PCs can send all setup and control commands as well as receive feedback via the RS-232 serial port.

- Important: If a PC is connected directly to the PX-800 RS-232 port, use a *standard* serial cable.
- Communication Settings: baud rate is 9600 bps, 8 data bits, no parity, 1 stop bit, and no flow control.
- See the table and diagram below for the PX-800 serial port pinout.

<b>Transfer Rate</b>	9600 bps
<b>Data Bits</b>	8
<b>Parity</b>	None
<b>Stop Bits</b>	1
<b>Flow Control</b>	None or Off
<b>Character type</b>	ASCII
<b>Connector</b>	DB-9
<b>Electrical Rating</b>	Pins 2 and 3, $\pm 15$ VDC
<b>Pin out (Standard cable)</b>	Pin 2, Tx
	Pin 3, Rx
	Pin 5, Ground
	Shell, Ground



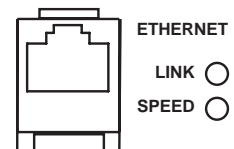
DB-9 connector **P** on rear panel of

### Using a Computer via Ethernet

To use a PC or Mac with the PX-800, use a telnet client or terminal program to send commands (listed in Appendix A) through the Ethernet port on the PX-800. Connect a computer directly to the Ethernet port using a crossover cable, or alternatively use a standard Ethernet hub or switch and a standard patch cable. Once connected to a computer or network, the PX-800 by default attempts to obtain an IP address automatically using DHCP. To use static settings, see the detailed instructions on page 17 or serial commands on page 21.

There are two LED indicators located next to the Ethernet port **P** on the rear panel that help to identify connection issues:

- Link - The Link LED is steadily lit if a connection is detected and flashes when activity is present.
- Speed - The Speed LED is off for 10 base T, and on for 100 base T.





## DHCP

DHCP is enabled on the PX-800 by default. If DHCP is enabled on your network, simply connecting the PX-800 to the network with an existing DHCP server enables it to obtain all necessary information.

## Static Addressing Connected Directly to a PC

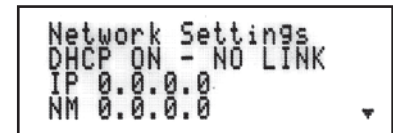
The PX-800 must be given an IP address which will not conflict with the PC. Go to the network settings (which are found in control panel -> network -> local connection properties of a PC running Windows XP).

Change the TCP/IP protocol properties, and set the IP address, gateway, and subnet mask, if they are not already set. This can be arbitrarily done on a direct connection, but a good choice for the settings would be IP address of **192.168.0.1**, subnet mask of **255.255.255.0**, and an empty default gateway. Once these values have been set, use serial commands (page 21) to set the network settings of the PX-800 in a similar manner, but use a different IP address than that of the computer (for example, 192.168.0.2).

## Static Addressing on a Network

The PX-800 must be set to the same settings as the PC except for the IP address, which must not conflict with anything else on the network. To determine this in Windows, use the DOS prompt (Start->Run->cmd) commands ipconfig and ping. Ipconfig lists the PC's settings, and ping tests addresses to make sure that nothing else on the network has that address. Enlist the help of a network administrator if you are unfamiliar with setting up a network connection.

Once a connection is established, a telnet program such as Hyper Terminal, Teraterm, PuTTY etc, must be used to connect to the device. Enter the IP address of the PX-800 and leave the default port (23) to connect. Once connected, standard serial commands (listed in Appendix A) can be issued in an identical manner to serial control.

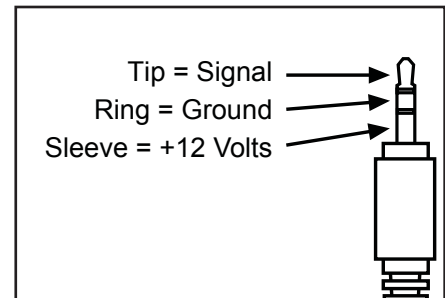


PX-800 screen image showing Network Settings with DHCP set to ON, with no link

## Using an IR Control System

The PX-800 uses a three wire IR circuit. It is imperative that the correct polarity be maintained when connecting third party IR equipment. The 3.5mm pinout is shown in the illustration below and the connecting block pinout is screen printed on the back panel of the PX-800. Patch the IR signal from your IR receiver directly to the IR input port on the rear panel using the connection method of your choice. Alternatively, adhere an IR emitter from your infrared system onto the PX-800 front panel IR sensor.

If the PX-800 IR codes are available from your remote control company, download and/or activate those files. A file containing the latest codes can be downloaded from the Audioaccess website, [www.audioaccess.com/](http://www.audioaccess.com/).



### Tips for Using Infrared Control

- If you are using standard hand-held IR remote controls, ensure correct operation by avoiding sources of light pollution such as Plasma and LCD TVs, direct sunlight, fluorescent light, etc. Experiment with the physical placement of the IR sensor to avoid interference.
- If a source of interference cannot be eliminated or avoided, use IR sensors that block that type of interference, such as Plasma-proof or LCD-proof sensors.

In addition to basic IR commands, discrete IR commands are now available for download at [www.audioaccess.com](http://www.audioaccess.com) such as:

- Connecting a zone to a source
- Mute on/off and mute toggle a zone
- Volume up/down in a zone
- Balance left/right/center in a zone
- Bass up/down/flat in a zone
- Treble up/down/flat in a zone
- Connecting a group to a source
- Group volume up/down
- Group mute on/off/toggle

# Appendix A: Serial and Telnet Commands

## Zone Commands

Description	Structure	Example	Reply	Result
<b>SOURCE SELECT</b>				
Switch a zone to a source input	[C0##I##]	[C0I2]	(C0I2)	Zone output 1 is connected to source input 2
Switch all zones to one source input	[CXI##]	[CXI4]	(CXI4)	All zone outputs are connected to source input 4
<b>VOLUME</b>				
Zone volume up one step	[V0##U]	[V03U]	(V03R-20)	Zone 3 volume increased one step to -20 dB
Zone volume down one step	[V0##D]	[V03D]	(V03R-21)	Zone 3 volume decreased one step to -21 dB
Set zone volume level	[V0##R##]	[V01R-10]	(V01R-10)	Zone 1 volume is -10 dB, Range: -80 to 0 dB
<b>MUTING</b>				
Zone mute	[VMO##]	[VM01]	(VM01)	Zone 1 output is muted
Zone unmute	[VUMO##]	[VUM03]	(VUM03)	Unmute Zone 3 and set to previous volume level
Zone mute toggle	[VMT0##]	[VMT02]	(VM02) or (VUM02)	Zone 2 is muted or Zone 2 is returns to previous volume level
<b>BALANCE</b>				
Increment balance to the left	[B0##LU]	[B05LU]	(B05L40)	Zone 5 balance adjusted to the left, now +40
Increment balance to the right	[B0##RU]	[B05RU]	(B05L39)	Zone 5 balance adjusted to the right, now +39
Balance to the center	[B0##R0] or [B0##L0]	[B01R0] or [B01L0]	(B01R0) (B01L0)	Zone 1 balance is centered
Set balance level left	[B0##L##]	[B07L70]	(B07L70)	Zone 7 balance is left +70 Range: 0 to +80, 0 = center
Set balance level right	[B0##R##]	[B07R25]	(B07R25)	Zone 7 balance is right +25 Range: 0 to +80, 0 = center
<b>LOWPASS MODE</b>				
Set to lowpass mode	[E0##M4]	[E02M4]	(E02M4)	Zone 2 is in lowpass mode and mono (subwoofer)
Set lowpass crossover frequency	[E0##LP##]	[E02LP115]	(E02LP115)	Lowpass filter for Zone 2 is now 115 Hz Range: 40 Hz to 240 Hz
<b>TONE MODE (BASS &amp; TREBLE)</b>				
Set to tone mode	[E0##M3]	[E02M3]	(E02M3)	Zone 2 is switched to tone mode (bass/treble)
Bass up/down one step	[T0##BU] [T0##BD]	[T016BU] [T016BD]	(T016B10T0) (T016B9T0)	Zone 16 bass level increased to +10 dB Zone 16 bass level decreased to +9 dB
Treble up/down one step	[T0##TU] [T0##TD]	[T08TU] [T08TD]	(T08B9T1) (T08B9T0)	Zone 8 treble level increased to +1 dB Zone 8 treble level decreased to 0 dB
Set bass/treble level	[T0##B##T##]	[T02B-3T9] [T02B0T0]	(T02B-3T9) (T02B0T0)	Zone 2 bass is -3 dB and treble is +9 dB Zone 2 bass/treble = flat Range: -12 to +12 dB, 0 = flat
<b>EQ MODE (10-BAND ZONE EQ)</b>				
Set to EQ mode	[E0##M1]	[E04M1]	(E04M1)	Zone 4 is switched to EQ mode
EQ band up/down one step	[E0##B##U] [E0##B##D]	[E03B1U] [E03B1D]	(E03B1L6) (E03B1L5)	Zone 3, EQ band 1 increased to +6 dB Zone 3, EQ band 1 decreased to +5 dB
Set EQ band level	[E0##B##L##]	[E012B2L-4] [E012B2L0]	(E012B2L-4) (E012B2L0)	Zone 12, EQ band 2 is set to -4 dB Zone 12, EQ band 2 is set to unity gain (0) Range: -10 to +10 per band, 0 = flat
Save EQ settings to EQ preset	[E0##STP##]	[E05STP2]	(E05STP2)	Saves zone 5 EQ settings to preset #2 Zone must be in EQ mode. 10 presets available.
<b>EQ PRESET MODE (GLOBAL EQ PRESETS)</b>				
Set zone to EQ preset mode	[E0##M2]	[E09M2]	(E09M2)	Zone 9 is switched to EQ preset mode
Query an EQ preset	[QEP##]	[QEP8]	(EP8N"JAZZ") (EP8B1L2) (EP8B2L2) (EP8B3L1) (EP8B4L0) (EP8B5L-1) (EP8B6L2) (EP8B7L3) (EP8B8L5) (EP8B9L0) (EP8B10L2) (QEP8)	Preset 8 name is JAZZ EQ band 1 level = +2 EQ band 2 level = +2 EQ band 3 level = +1 EQ band 4 level = 0 EQ band 5 level = -1 EQ band 6 level = +2 EQ band 7 level = +3 EQ band 8 level = +5 EQ band 9 level = 0 EQ band 10 level = +2

## Zone Commands (Continued)

Description	Structure	Example	Reply	Result
Adjust EQ preset band up/down	[EP##B##U] [EP##B##D]	[EP9B1U] [EP9B1D]	(EP9B1L3) (EP9B1L2)	EQ preset 9, band 1 increased to +3 dB EQ preset 9, band 1 decreased to +2 dB
Set EQ preset band level	[EP##B##L##]	[EP2B9L-6] [EP2B9L0]	(EP2B9L-6) (EP2B9L0)	EQ preset 2, band 9 is set to -6 dB EQ preset 2, band 9 is set to unity gain (0) Range: -10 to +10 per band, 0 = flat
Apply EQ preset to a zone	[E0##P##]	[E07P3]	(E07P3)	Zone 7 is now in preset mode, using preset 3
<b>ZONE QUERY COMMANDS</b>				
Query volume status	[QVO##]	[QV016]	(V016R-30)	Zone 16 volume level is -30 dB
Query mute status	[QVMO##]	[QVM07]	(VM07)	Zone 7 is muted
Query a zone's source connection	[QCO###]	[QC04]	(C04I1)	Zone output 4 is connected to source input 1
Query all information about a zone	[Q0###]	[Q08]	(E08M0) (B08L0) (V08R-12) (VUM08) (C08I4) (N08"POOL") (Q08)	DSP mode=2 (Tone) Balance=0 (Flat) volume is set to -12 not muted source input 4 selected the name of the zone is POOL
<b>MISCELLANEOUS</b>				
Name an output zone	[N0###"@"]	[N03"Den"]	(N03"Den")	Zone 3 is named "Den"
Name an input source	[NI##"@"]	[NI3"ipod"]	(NI3"ipod")	Source 3 is named "ipod"

## Group Commands

Description	Structure	Example	Reply	Result
<b>SOURCE SELECT</b>				
Switch a group to a source input	[CG##I##]	[CG2I4]	(CG2I4)	All zones in group 2 switch to source input 4
<b>VOLUME</b>				
Group volume up one step	[VG##U]	[VG7U]	(VG7R-4)	Group 7 volume increased one step dB to -4 dB
Group volume down one step	[VG##D]	[VG7D]	(VG7R-5)	Group 7 volume is decreased one step to -5 dB
Set group volume level	[VG##R##]	[VG1R-10]	(VG1R-10)	Group 1 volume is -10 dB, Range: -80 to 0 dB
<b>MUTE</b>				
Mute a group	[VMG##]	[VMG4]	(VMG4)	Group 1 output is muted
Unmute a group	[VUMG##]	[VUMG4]	(VUMG4)	Unmute Group 1, set to previous volume level
Mute toggle a group	[VMTG##]	[VMTG3]	(VMG3) or (VUMG3)	Group 3 is muted or Group 3 returns to previous volume level
<b>GROUP QUERY</b>				
Query a group	[QG##]	[QG10]	(G10A5) (G10A9) (NG10"GUEST") (QG10)	Group 10 members include zones 5 and 9, group name is "GUEST"
<b>MISCELLANEOUS</b>				
Add a zone to a group	[G##AO###]	[G1A03]	(G1A03)	Zone 3 is now a member of group 1
Remove a zone from a group	[G##RO###]	[G1R03]	(G1R03)	Zone 3 is removed from group 1
Name a group	[NG##"@"]	[NG1"Bedrms"]	(NG1"Bedrms")	Group 1 is named "Bedrms"
Erase all group members	[GAR]	[GAR]	(GAR)	All groups are empty (no member zones)

## Favorites

Description	Structure	Example	Reply	Result
Connect a favorite	[CF##]	[CF3]	(CF3)	Favorite 3 is now connected
Add zone/source combination to a favorite	[F##AO##I##]	[F1A03I2]	(F1A03I2)	Favorite 1 now includes zone 3/source 2
Query a favorite	[QF##]	[QF10]	(F1A01I3) (F1A03I4) (NF1“Favorite 1 Name”) (QF10)	Query favorite membership and settings. See the favorite adding and naming commands for how to read the results
Remove a zone/source combination from a favorite	[F##RO###]	[F1R03]	(F1R03)	Remove zone 3 from favorite 1
Name a favorite	[NF##“@”]	[NF1“Gameday”]	(NF1“Gameday”)	Favorite 1 is named “Gameday”
Erase all favorite memberships	[FAR]	[FAR]	(FAR)	All favorites are empty (no member zones)

## Front Panel Interface Adjustment

Description	Structure	Example	Reply	Result
Query front panel interface lockout	[QFPL]	[QFPL]	(FPL0) (QFPL)	Front panel interface is locked out (1) or unlocked (0)
Lock or unlock front panel interface	[FPL#]	[FPL0] [FPL1]	(FPL0) (FPL1)	Front panel interface is locked out (1) or unlocked (0)
Query front panel IR lockout	[QIRL]	[QIRL]	(IRL0) (QIRL)	Front panel IR is disabled (1) Front panel IR is enabled (0)
Enabled or disable front panel IR	[IRL#]	[IRL1] [IRL0]	(IRL1) (IRL0)	Front panel IR sensor off or disabled (1) Front panel IR sensor on or enabled (0)
Dim front panel display and controls	[SD#]	[SD1]	(SD1)	Shows screen and LED brightness setting Range: 0-3

## Configuration Utilities

Description	Structure	Example	Reply	Result
Query the current configuration	[QX]	[QX]	(SC100) (SD4) (SBL100) (SLED100) (DHCP1) ...	All configuration information is returned in parentheses
Editable configuration or backup	[QXSB]	[QXSB]	[SC100] [SD4] [SBL100] [SLED100] [DHCP1] ...	All configuration information is returned in square brackets that can be edited and/or reloaded into the PX-800 to restore settings
Load the backup configuration	[LOAD]	[LOAD]	(LOAD)	Loads a configuration from output in square brackets
Reset configuration to factory defaults	[RESET]	[RESET]	(RESET)	Loads the factory default settings for every option
Save the current configuration to active memory	[SAVE]	[SAVE]	(SAVE)	Saves current configuration settings immediately; PX-800 auto-saves settings every 30 seconds during normal operation

## Configure Rear Panel IR/Trigger Outputs

Description	Structure	Example	Reply	Result
Select rear panel IR mode	[TRIGMODE#]	[TRIGMODE0] [TRIGMODE1] [TRIGMODE2]		Jacks set to IR Jacks set to Trigger Jacks set to Trigger + Serial
Select no-signal turn-off time	[TRIGTIME##]	[TRIGTIME05]		Unit turns off after 5 minutes with no signal at any zone. 10 minutes and 15 minutes are the other choices.
Set no-signal level	[TRIGLVL###]	[TRIGLVL200]		Signals below 200mV RMS send the turnoff signal. Adjustable in 5mV increments starting at 20 mV

## Network Settings Adjustment

Note: Network settings are stored but not committed until the [EC] command is sent, or PX-800 power is cycled. The [SAVE] command does not commit network settings.

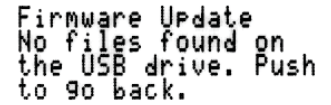
Description	Structure	Example	Reply	Result
Query current network (Ethernet) settings	[QE]	[QE]	(DHCP1) (IP0.0.0.0) (NM0.0.0.0) (GW0.0.0.0) (MAC00-00-5E-A8-00-D3)	DHCP status, IP address, subnet mask, gateway, and MAC address are displayed by this command
Enable or disable dynamic host configuration protocol (DHCP)	[DHCP#]	[DHCP1] [DHCP0]	(DHCP1) (DHCP0)	DHCP is enabled (1) or disabled (0) It is not possible to set a static IP address while DHCP is on
Define the static IP address	[IP###.###.###.###]	[IP192.168.0.212]	(IP192.168.0.212)	Set the IP address to the specified value
Define the default gateway	[GW###.###.###.###]	[GW192.168.0.2]	(GW192.168.0.2)	Set the default gateway for accessing computers outside of the subnet
Define the subnet mask	[NM###.###.###.###]	[NM255.255.255.0]	(NM255.255.255.0)	Set subnet mask (determines devices accessible without traveling through the gateway)
Commit network settings	[EC]	[EC]	(EC)	This command makes it possible to set a static IP/gateway/network mask over telnet without being disconnected

## Appendix B: Firmware Update Procedures

The latest version of firmware is available for download from [www.audioaccess.com/](http://www.audioaccess.com/).

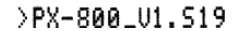
### To update from all versions to the latest version:

1. Copy the firmware file (e.g. "PX-800\_v1.s19") onto a USB drive.
2. Insert the drive in the USB port on the rear panel of the PX-800.
3. Press the menu key and navigate the firmware update menu item.
4. Follow the prompts and select the firmware file.
5. After a short delay the PX-800 reboots and performs the firmware update.
6. Once the update has finished, the PX-800 reboots and resumes operation with the new firmware version.



```
Firmware Update
No files found on
the USB drive. Push
to go back.
```

If you see this screen, make sure the firmware file is named correctly and is on the root level of the USB drive.



```
>PX-800_U1.S19
```

Push to select the firmware file.

## Appendix C: Use of Jacks **S** and **T** for Amplifier Trigger Output and Control.

Both rear panel jacks **S** and **T** are switchable from IR Input to 12-Volt Trigger Output.

However, as the 12-volt feed remains live when switching from IR input to Trigger output, only jack **T** should be used for trigger functions. In that case pins 2 and 3, labelled "Ring - Ground" and "Tip - Signal", should be used for the trigger connections. **DO NOT USE PIN 1 LABELLED "12-VOLT" FOR THE TRIGGER.**

## Appendix D: Troubleshooting

Symptom	Possible Cause
No power	<ul style="list-style-type: none"> <li>• Check for available AC power from the wall outlet.</li> <li>• Check power switch operation.</li> </ul>
No Audio	<ul style="list-style-type: none"> <li>• Check for proper operation of Source and Receiver.</li> <li>• Ensure cabling between the PX-800 and third party equipment is good and connected properly.</li> <li>• Ensure power is connected to the PX-800.</li> <li>• Check volume levels at receiver and in PX-800 controls.</li> </ul>
No Ethernet Control	<ul style="list-style-type: none"> <li>• Refer to Page 16 and Appendix A for Ethernet Setup and Control. If problem persists, contact your Installer or Network Administrator for assistance.</li> </ul>
No RS232 Response	<ul style="list-style-type: none"> <li>• Make sure the Baud Rate matches between the PX-800 and the Serial Terminal program being used to issue commands. PX-800 Default = 9600</li> <li>• Make sure Flow Control is turned off.</li> <li>• Check cable pinout for compatibility between PX-800 and control equipment.</li> </ul>
No USB Response	<ul style="list-style-type: none"> <li>• Ensure the USB storage device you are using is USB 1.1 or USB 2.0 compliant.</li> <li>• Some USB storage devices may not be compatible with the PX-800. If your device meets the standard requirements but will not function with the PX-800, try using a different USB storage device.</li> </ul>
No IR Response	<ul style="list-style-type: none"> <li>• Check the menu to see if front panel IR sensor is enabled. (It is disabled by default.)</li> <li>• Ensure proper connection and operation of any external IR sensor.</li> </ul>

If you have applied the above troubleshooting suggestions and are still experiencing difficulties, contact Audioaccess Technical Support by phone at 1-323-278-0001 or email Technical Support at [support@ati-amp.com](mailto:support@ati-amp.com).

## Specifications

Input Connections	32 - Analog RCA Jacks Configured in Stereo Pairs 1 - DB-9 for RS-232 Communication 1 - USB A-Type for Programming 1 - RJ-45 for Network Communication 1 - 3.5mm Mini Jack for IR Input or Remote Trigger Output 1 - 3 Wire terminal block (Parallel connection with 3.5mm Mini) 1 - 15 Amp IEC Power Inlet 1 - Chassis Ground Post	
Input Impedance	100K	
Output Connections	32 - Analog RCA Jacks Configured in Stereo Pairs	
Min Load Impedance	10K	
Frequency Response	10-25kHz	
S/N Ratio	82dB	
THD+Noise	0.02%	
Crosstalk	-85dB	
AC Input Voltage/Frequency (Configured at Factory)	120VAC/60Hz	240VAC/50Hz
Maximum AC Input Current	300mA	150mA
Heat Output	68 BTU/hr	

## Limited Warranty

### Terms and Conditions

All Audioaccess products are warranted against defects in materials and workmanship for 90 days from the date of purchase by the original owner. The date of purchase shall be established by the original owner presenting to the ATI Customer Service Facility the original owner's purchase receipt or sales slip showing from whom the product was purchased, the date of purchase and the purchase price of the unit.

In the event that proof of purchase cannot be established as stated in the preceding sentence, the warranty period shall commence on the date of manufacture, provided the serial number on the unit has not been altered in any manner.

During the warranty period, ATI will repair, or at its option, replace at no charge, components that prove to be defective provided the product is returned in accordance with the shipping instructions that are contained in the unit. The unit is to be sent PREPAID in the original carton and packing along with a detailed description of the problem to ATI in the event it needs factory servicing. ATI will return it prepaid to you upon completion of the service.

### Optional Extended Warranty Program

The standard 90-Day Limited Warranty will be extended to a 3-Year Limited Warranty (on all A/V Processors) if the following conditions are met:

The product is purchased from an authorized ATI reseller. The customer completes the registration card. The customer returns the completed registration card AND copy of original bill of sale to ATI within 14 days of purchase.

This extended warranty is transferable to subsequent purchasers as long as all Optional Extended Warranty conditions are met.

### Transferability

The above warranties are transferable to subsequent owners as long as all the conditions are met under the Optional Extended Warranty Program. The warranty is not transferable if the unit(s) was originally purchased from an unauthorized seller.

The above warranties do not apply if the product has been damaged by accident or misuse or as a result of modification by other than the ATI factory service facility.

ATI shall not be held liable for incidental or consequential damages of any kind arising from the sale or use of its products. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.

THERE ARE NO WARRANTIES GIVEN BY ATI THAT EXTEND BEYOND THE DESCRIPTION ON THE FACE HEREOF. ALL IMPLIED WARRANTIES OF FITNESS FOR PURPOSE SOLD, MERCHANTABILITY, DESCRIPTION, QUALITY PRODUCTIVENESS OR ANY OTHER MATTERS ARE LIMITED TO THE TERM OF THE EXPRESS WARRANTIES HEREIN STATED.

Some states do not allow limitations on how long an implied warranty may last, so the above limitation may not apply to you.

### Obligation to Make Changes

Products are sold on the basis of specifications applicable at the time of sale. ATI shall have no obligation to modify or to update products once sold. This warranty gives you specific rights and you may also have other rights that vary from state to state. This warranty is applicable only in the United States.

### Warranty Outside the United States

ATI has formal distribution agreements in many countries. The ATI importer in those countries has assumed the responsibility for servicing ATI products. Please contact the dealer or distributor in the country where you purchased your product for service issues.



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