



AUDISEY *Athena*

BY INTELIX

Important Safety Instructions

- **Please completely read and verify you understand all instructions in this manual before operating this equipment.**
- Keep these instructions in a safe, accessible place for future reference.
- Heed all warnings.
- Follow all instructions.
- Do not use this apparatus near water.
- Clean only with a dry cloth.
- Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
- Use only accessories specified or recommended by Intelix.
- Explanation of graphical symbols:
 - Lightning bolt/flash symbol: the lightning bolt/flash and arrowhead within an equilateral triangle symbol is intended to alert the user to the presence of uninsulated “dangerous voltage” within the product enclosure which may be of sufficient magnitude to constitute a risk of shock to a person or persons. 
 - Exclamation point symbol: the exclamation point within an equilateral triangle symbol 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 APPARATUS TO RAIN OR MOISTURE AND OBJECTS FILLED WITH LIQUIDS, SUCH AS VASES, SHOULD NOT BE PLACED ON THIS APPARATUS.**
- Use the mains plug to disconnect the apparatus from the mains.
- **THE MAINS PLUG OF THE POWER SUPPLY CORD MUST REMAIN READILY ACCESSIBLE.**
- Do not defeat the safety purpose polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding-type plug has two blades and a third grounding prong. The wide blade or the third prong is provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of your obsolete outlet. **Caution! To reduce the risk of electrical shock, grounding of the center pin of this plug must be maintained.**
- Protect the power cord from being walked on or pinched particularly at the plugs, convenience receptacles, and the point where they exit from the apparatus.

- Do not block the air ventilation openings. Only mount the equipment per Intelix's instructions.
- Use only with the cart, stand, tripod, bracket, table, or rack specified by Intelix or sold with the equipment. When/if a cart is used, use caution when moving the cart/equipment combination to avoid injury from tip-over.
- Unplug this apparatus during lightning storms or when unused for long periods of time.
- The unit's main power switch labeling is "0" (OFF) and "I" (ON).
- **Caution!** Danger of explosion if battery is incorrectly installed. Replace with same or equivalent type.
- **Caution!** Shock Hazard. Do not open the unit. Refer to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
- **Warning!** This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.
- The unit's speaker outputs are balanced floating outputs. Do not bridge together and do not connect either phase to ground. **Warning! The unit requires an 8 ohm minimum load.**
- Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as the power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.



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Revision E

DESIGN WITH INTELLIGENCE

ATHENA IS PROUDLY MANUFACTURED IN THE UNITED STATES

Overview

The Intelix Audisey Athena combines the performance of a true matrix mixer with the flexibility and digital signal processing of a digital amplifier—all in a single, intuitive package.

Available in 8 inputs by 8 outputs or 16 inputs by 16 outputs, the Athena features built-in audio preamplification, input signal processing, true matrix mixing, output signal processing, and either eight or sixteen channels of independent power amplification. The Athena provides users with up to 128 system presets, 16 input DSP presets per channel, and 16 output DSP presets per channel via the front panel, USB, serial, or over the internet. Included real-time event scheduling software provides sophisticated control options.

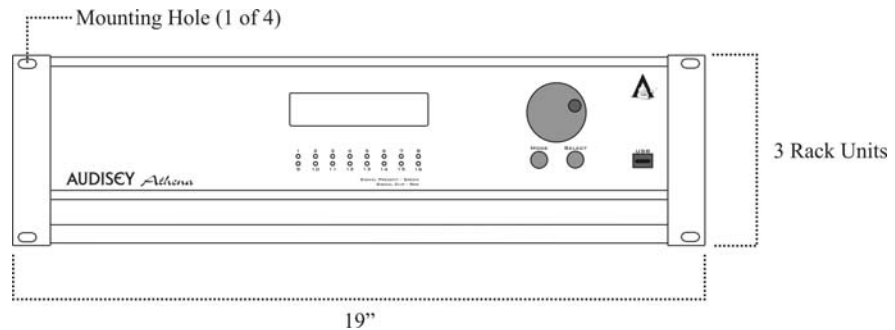
The Audisey Athena's amplifier provides a pure digital audio path and is 93% heat efficient. Complete short-circuit, thermal, and over-current automatic fault recovery ensure piece of mind.

**Mix, process, amplify, and control in a single chassis.
Design with Intelix and Design with Intelligence.**

Quick Start

Mounting the Athena in the Rack

The Intelix Athena matrix mixer/amplifier mounts in a standard 19" width rack and requires three rack spaces (3RU).



Ventilation

- At least 2 inches of free air space is required on both sides of the Athena matrix for proper side ventilation.
- Ensure there are no closeable doors on the rack that might seal the Athena matrix from a steady supply of cool air.
- All Athena matrices are equipped with a front panel mounted exhaust fan. The front of the Athena must not be obstructed.
- Avoid mounting the Athena matrix near a power amplifier or any other source of significant heat.
- It is recommended that you leave an empty rack space above and below the Athena matrix for additional cooling.

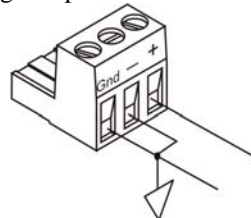
Connecting Audio Cabling to the Athena

Please follow the steps below when connecting audio cabling to the Athena matrix.

- 1) Determine if the output from the source device (CD player, microphone, receiver, etc.) to the Athena matrix is balanced or unbalanced. If unsure, refer to device's manual.
 - If the source device output is balanced, connect the device to the Athena matrix using a modified cable with either an XLR connector or a ¼" TRS (Tip Right Sleeve) connector.
 - If the source device output is unbalanced, connect the device to the Athena matrix using a modified cable with an RCA connector.
- 2) Once the cable and connector style have been determined, modify the cable by cutting off the connector on one end.
- 3) Strip back the main insulation of the cable 1/8". Take care not to damage the conductors inside the cable.
- 4) Separate the insulated conductors from the exposed outer strands.
- 5) Twist together the exposed strands into a single conductor.
- 6) Strip back the insulation of the internally insulated conductor 1/8".
- 7) Twist exposed strands of each conductor into one tightly twisted conductor. This will be the positive conductor or the plus and negative phase of a balanced source.
- 8) Connect the twisted conductors to the Athena matrix via removable screw-terminal (phoenix-type) connectors.
- 9) Repeat the above steps for each input source required.

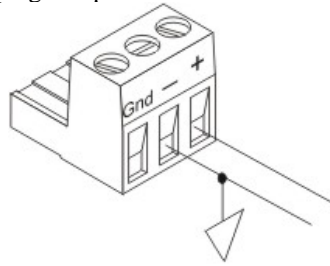
Recommended Audio Cable Wiring Methods **Connecting an Unbalanced Source to a Balanced Input**

- 1) Cut a piece of audio cable about 1" long.
- 2) Pull out the conductors from the cable and twist together so that there is now a single 1" long conductor.
- 3) Bend and insert each end of 1" long conductor into terminals (GND) and (-) of the Phoenix-type plug receptacles of the Athena unit.
- 4) Insert positive twisted conductor into terminal (+) of the phoenix-type plug receptacle.
- 5) Insert ground twisted conductor into terminal (+) of the phoenix-type plug receptacle.



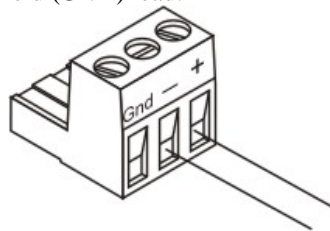
Connecting an Unbalanced Source to a Balanced Input

- 1) Insert positive twisted conductor into terminal (+) of the Phoenix-type plug receptacle.
- 2) Insert negative twisted conductor (shield) into terminal (-) of the Phoenix-type plug receptacle.



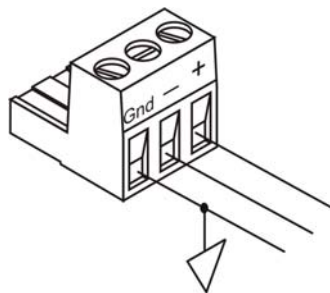
Connecting a Balanced Source to a Balanced Input

- 1) Insert positive twisted conductor into terminal (+) of the Phoenix-type plug receptacle.
- 2) Insert negative twisted conductor into terminal (-) of the Phoenix-type plug receptacle.
- 3) Remove the shield (GND) lead.



Connecting a Balanced Source to a Balanced Input

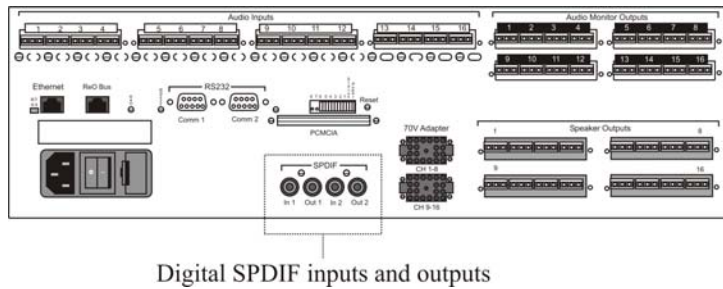
- 1) Insert positive twisted conductor into terminal (+) of the Phoenix-type plug receptacle.
- 2) Insert negative twisted conductor into terminal (-) of the Phoenix-type plug receptacle.
- 3) Insert the outer shield conductor to terminal (GND).



Connecting Digital Audio

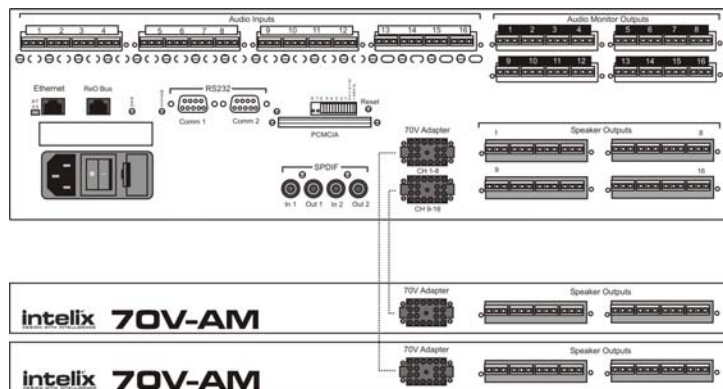
- 1) Using a 75 ohm coaxial digital audio cable (not included), connect one end of the cable to the coaxial SPDIF (Sony Phillips Digital Interface) connector on the source device.
- 2) Connect the other end of the coaxial cable to the SPDIF In 1 or In 2 (In 1 uses audio input channels 1 and 2, and In 2 uses audio input channels 5 and 6).

Note: The SPDIF inputs and outputs must be activated in the Athena Designer Software.



Connecting 70 volt Speaker Outputs

For 70 volt systems, the Intelix 70V-AM transformer module must be purchased separately. Each 70V-AM provides eight channels of outputs. Two 70V-AM modules are required for an Athena-16 system.



Connecting Amplified Outputs

Each channel of the amplifier is a full-bridge output configuration consisting of a positive (+) and negative (-) output. The outputs must remain floating and must not be connected to ground.

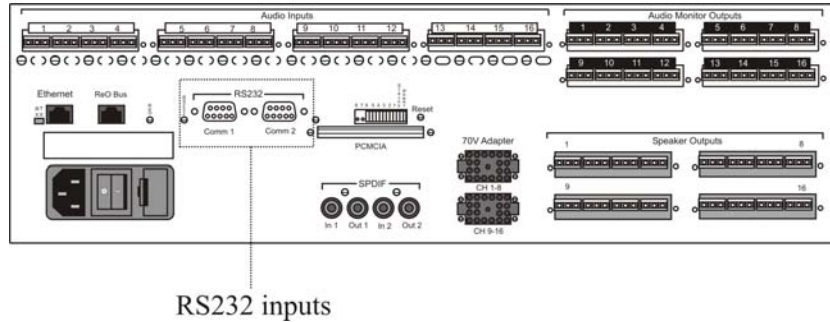
Note: The speaker outputs are fully protected against shorts and over current conditions. A short to ground or over current condition will cause the affected output channel to shut down for five seconds. The amplifier will resume operation automatically after removal of the short or over current condition. An over temperature condition will cause the amplifier to limit the output power gracefully. If temperature rises over a critical point, the amplifier will shut down.

Connecting Control Cabling to the Athena

The Audisey Athena provides multiple control options. When connecting controllers and control cabling to the Athena, please follow the steps below.

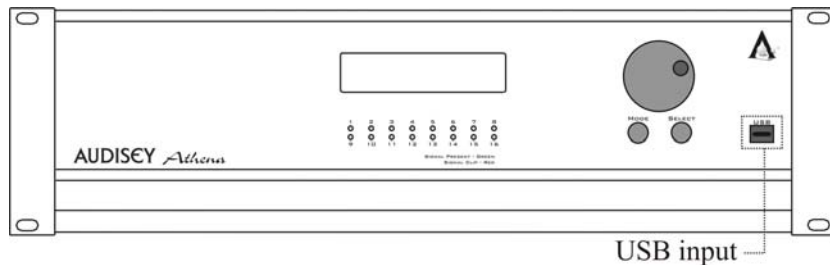
RS232

The Athena features two RS232 serial ports on the rear panel of the matrix. Using a straight-through type modem cable (DB9 to DB9), connect one end of the cable to the computer communication port and the other end to either of the RS232 ports on the Athena.



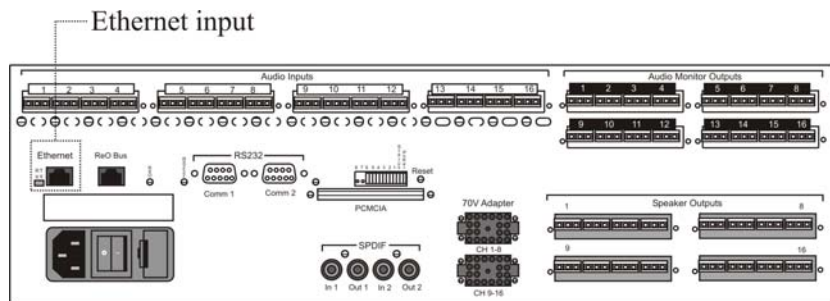
USB

The Athena features a USB port on the front panel of the matrix. The Athena USB driver must be installed on the controlling computer prior to connecting to the Athena. This driver is available on the Athena Installation CD-ROM provided with the matrix or online from www.intelix.com. Using a USB cable, connect one end of the cable to the USB port on the computer and the other end to the USB port on the Athena.



Ethernet

The Athena features an ethernet connector on the rear panel of the matrix. For direct PC connection, use an ethernet crossover cable. For network connection, use a standard ethernet patch cable.



Powering the Athena

Please follow the steps below when connecting and powering on the Athena matrix mixer/amplifier.

- 1) Connect the three-pronged power connector into the back of the Athena matrix.
- 2) For 120V systems (United States), connect the supplied power cord into a standard 120VAC 60HZ outlet. For systems other than 120V, use a power cord with the generic IEC female receptacle and a local style male plug (not included).
- 3) Power on the AC power switch located on the rear panel (0 = OFF; I = ON). The blue power LEDs on the front of the Athena matrix will illuminate and the front panel LCD will indicate the Athena system configuration.

Note

The Audisey Athena matrix requires 30 seconds to fully boot up.

- 4) Using the LCD menu, confirm the output channel volume controls are set at an acceptable level.

Warning!

If the volume is set at too high a level, damage to the speakers could occur.

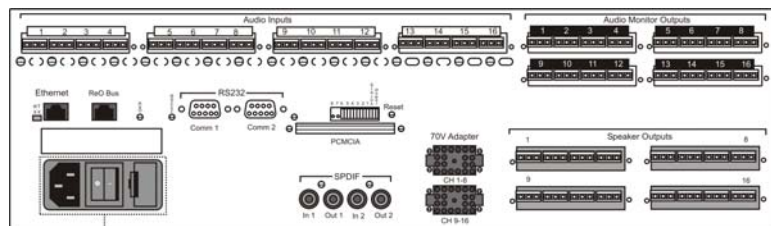
Powering Down the Athena

Please follow the steps below when powering off the Athena matrix mixer/amplifier.

- 1) Power off the AC power switch located on the rear panel (0 = OFF; I = ON). The blue power LEDs and the LCD display on the front of the Athena matrix will turn off.

Note

When unplugging the power cord from the Athena, wait 30 seconds after powering down the matrix to remove power. The master CPU and fan may continue to run for up to 30 seconds after the matrix has been turned off.



AC power switch

Installing Athena Software

In order to install the Athena Software, please follow the steps below.

- 1) Insert the Athena Software CD into the computer's CD-ROM drive.
- 2) The CD should automatically start, and the Athena Autorun Wizard window should initiate. If this does not occur, manually select your computer's CD-ROM drive and open the *Autorun.exe*.
- 3) Select the program(s) you wish to install and follow the Installation Wizards.

Downloading the Athena Software Online

Athena Designer Software is available for download free from www.intelix.com in the Technical Library or on the Athena web page.

Controlling the Athena

The Audisey Athena provides multiple control options for added flexibility. The Athena may be controlled simultaneously via the front panel, RS232, USB, or ethernet. Begin by determining with method(s) will be used and then connect the control cabling (see section *Connecting Control Cabling to the Athena*). Then follow the steps below.

Control via a Dedicated Computer

A dedicated computer running Athena Designer Software, Stardraw Athena Control Software, or another software control program may be used to control the Audisey Athena matrix mixer/amplifier. Simply connect the computer to the Athena via an ethernet crossover cable or serial cable.

PC Requirements

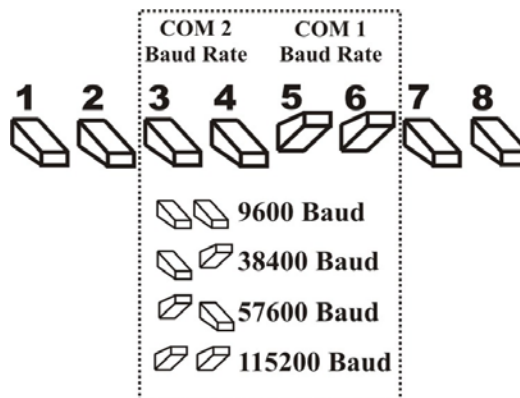
- PC computer (Pentium 133MHz and 32 MB RAM or better) with a CD-ROM drive
- Windows 98 or later
- USB, Ethernet, or RS232 port connections

Control via RS232

The Athena features two RS232 serial ports on the rear panel of the matrix. Using a straight-through type modem cable (DB9 to DB9), connect one end of the cable to the computer communication port and the other end to either of the RS232 ports on the Athena.

Dip Switches

There are eight dip switches on the rear panel of the Athena. Dip switches 3, 4, 5, and 6 allow the RS232 baud rate to be fixed at one of four values: 9600, 38400, 57600 or 115200. These baud rates only apply to the RS232 port connections.



Control via USB

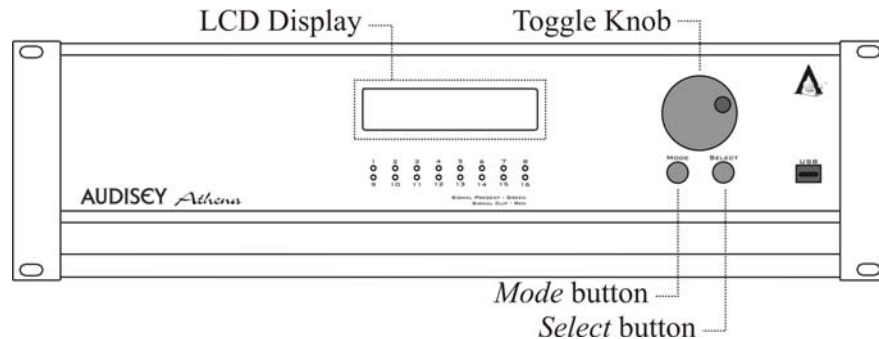
The Athena features a type “B” USB port on the front panel of the matrix. Using a USB cable, connect one end of the cable to the USB port on the computer and the other end to the USB port on the Athena. Once connected, the Athena USB driver must be installed on the controlling computer. This driver is available on the Athena Installation CD-ROM provided with the matrix.

Control via Ethernet

The Athena features an ethernet connector on the rear panel of the matrix. The ethernet port is a 10 base T port, and runs the TCP/IP protocol. The Athena is factory configured for DHCP host address assignment by default. A fixed IP address may be assigned via Athena Designer Software.

Control via the Front Panel of the Athena

The Audisey Athena matrix mixer/amplifier features front panel control, including control of volume and preset triggering.



Locking the Front Panel

- 1) Select the **Mode** button until *Admin* appears in the LCD display.
- 2) Turn **toggle knob** until *Lock Yes/No?* appears in the LCD display.
- 3) Select the **Select** button.
- 4) Turn the **toggle knob** to select *Lock Yes* or *Lock No*.
- 5) Select the **Select button**.
- 6) Once *Yes* is selected, *Display Controls Locked* appears in the LCD display.
- 7) If *No* is selected, the main *Admin* menu appears in the LCD display.

Un-locking the Front Panel

- 1) Hold down both the **Mode** button and the **Select** button.
- 2) While holding down the two buttons, turn **toggle knob** clockwise.

Adjusting LED Display Contrast

1. Select the **Mode** button until *Admin* appears in the LCD display.
2. Turn **toggle knob** until *Contrast 1-100* appears in the LCD display.
3. Select the **Select** button.
4. Turn the **toggle knob** to adjust the Contrast to the desired level.

Selecting an Input DSP Preset

- 1) Select the **Mode** button until *Input DSP Preset* appears in the LCD display.
- 2) Turn the **toggle knob** to select the desired input channel.
- 3) Select the **Select** button to access the *Active and Cued Presets* menu for that channel.
- 4) Turn the **toggle knob** to scroll through and select the desired DSP preset.
- 5) Select the **Select** button to invoke a preset.

Setting the Inactivity Timeout Function

- 1) Select the **Mode** button until *Admin* appears in the LCD display.
- 2) Turn the **toggle knob** until *Inactivity Timeout* appears in the LCD display.
- 3) Select the **Select** button.
- 4) Turn the **toggle knob** to select *Inactivity Timeout On* or *Inactivity Timeout Off*.

Adjusting Output Volume for a Specific Channel

- 1) Select the **Mode** button until *Output Volume* appears in the LCD display.
- 2) Select the **Select** button.
- 3) Turn the **toggle knob** to select a specific output channel.
- 4) Select the **Select** button.
- 5) Turn the **toggle knob** to adjust volume.

Setting the Blank Screen Function

- 1) Select the **Mode** button until *Admin* appears in the LCD display.
- 2) Turn the **toggle knob** until *Blank Screen Enable/Disable* appears in the LCD display.
- 3) Select the **Select** button.
- 4) Turn the **toggle knob** to select *Blank Screen On* or *Blank Screen Off*.

Selecting System Presets

- 1) Select the **Mode** button until *System Preset* appears in the LCD display.
- 2) Turn the **toggle knob** to scroll through and select the desired system preset.
- 3) Select the **Select** button to invoke a preset.

Troubleshooting

Should the Athena not operate as expected, please consult the steps below.

No image or low lit image on the front panel LCD

- 1) Verify power to the unit (page 9).
- 2) Verify the unit is powered on (page 9).
- 3) Increase the contrast in the *Administration* menu (page 14).
- 4) Verify the unit is not in *Blank Screen* mode (page 14).

The front panel LCD is not responding

- 1) Verify the front panel of the unit is unlocked (page 13).
- 2) Power down and restart the unit (page 9).

Technical Specifications

General

| | |
|---------------------------|---|
| Power Requirements..... | internal 120-240 VAC; 60-50 Hz 7A |
| Rack Spaces..... | 3 rack units |
| Shipping Weight..... | 24 lb |
| Intelix Part Number | Athena-8 (eight channel) Athena-16 (sixteen channel) |
| Frequency Response..... | +/-0.5 dB from 20 Hz to 20 kHz |
| Dynamic Range | greater than 105 dB |
| Crosstalk | better than -90 dB |
| THD+N..... | less than .05% @ 1 watt, 8 Ohm load, 20 Hz to 20 kHz |

Inputs

| | |
|----------------------------------|---|
| Nominal Source Impedance..... | less than or equal to 600 ohms |
| Nominal Line Input Level | +4 dBu RMS |
| Nominal Mic Input level..... | -50 dB RMS |
| Maximum Input Level | +26 dBu RMS |
| Maximum Input Voltage Gain | 60 dB |
| Equivalent Input Noise | -129 dB @ 50 ohms 20 Hz to 20 kHz (mic preamp stage) |
| Phantom Power..... | +15 VDC |
| Input Impedance | (electronically balanced) 20 kOhms (unbalanced) 10 kOhms |
| Input Gain/Trim Range..... | 60 dB |

Monitor Outputs

| | |
|-------------------------------------|---|
| Monitor Output Impedance..... | (electronically balanced) 440 ohms (unbalanced) 220 ohms |
| Nominal Monitor Load Impedance..... | greater than or equal to 600 ohms |
| Nominal Level | +4 dBu RMS |
| Maximum Level | (electronically balanced) +26 dBu RMS (unbalanced) +20 dBu RMS |
| Output Master Volume Range | -100 dB to 0 dB |
| Output Channel Volume Range..... | -88 dB to +12 dB |
| Monitor Dynamic Range | greater than 112 dB (IEC-AA) range |

Speaker Outputs

| | |
|--------------------------------|--|
| Athena-8 Speaker Outputs..... | 100 watts per channel max 400 aggregate watts total per matrix into 8 Ohm load (70 volt distribution systems require Audisey 70V-AM) |
| Athena-16 Speaker Outputs..... | 100 watts per channel max 800 aggregate watts total per matrix onto 8 Ohms. (70 volt distribution systems require Audisey 70V-AM) |
| Amplifier Efficiency..... | 93% efficient |
| Amplifier Class..... | Class-D |

Processing

| | |
|---|--|
| Input Digital Signal Processing (DSP) | input preamplification gain control 3-band parametric EQ |
| EQ Center Frequency | 255 steps between 20 Hz to 20 kHz |
| EQ Quality Factor | greater than 0.5 and less than 10 |
| EQ per Channel Filter Gain | -60 dB to +6 dB |
| Output Digital Signal Processing (DSP)..... | high and low shelf tone control 5-band parametric EQ time delay compressor/limiter channel output volume |
| Tone Corner Frequency Adjustment..... | 20 Hz to 20 kHz |
| Tone Gain | -10 to 9.55 dB |
| Speaker Align Time Delay | 0 ms to 3.98 ms |
| Compressor Threshold..... | 0 dB to -90 dB |
| Compressor Attack Time..... | 1 ms to 100 ms |
| Compressor Release Time | 1 ms to 100 ms |
| Compressor Ratio | 1 ms to 100 ms |
| Matrix Mixing | ramping/slewing and linear/log control taper |
| Matrix Mixer Control | mix control at every crosspoint |
| Matrix Mixer Control Range | 0 dB to -100 dB |
| Output Channel Control Range | +12 dB to -88 dB |
| Master Output Control Range..... | -100 dB to 0 dB |

Warranty

All Intelix products are guaranteed against malfunction due to defects in materials or workmanship for two years after date of purchase. If a malfunction does occur during the specified period, the defective product will be repaired or replaced at Intelix's option without charge. Furthermore, the "Fresh Start" program ensures that a product which has been repaired or replaced is itself guaranteed for an additional two years.

This warranty does not cover: 1) Malfunction resulting from use of the product other than as specified in the user manual; 2) Installation specific wiring; 3) Malfunction resulting from abuse or misuse of the product; 4) Exterior chassis appearance; 5) Malfunction occurring after repairs have been made by anyone other than Intelix or any of its authorized service representatives; 6) Acts of nature; 7) Optional embedded software upgrades or updates.

All repair and service of Intelix products should only be provided by qualified service personnel. Please contact Intelix for a list of authorized service agents. Other attempts at service or repair will void the warranty. Warranty service is only offered after a return authorization number has been generated by an authorized Intelix factory representative.

Intelix Applications and Engineering support must be contacted prior to any return of goods. To return a unit for service or repair, please call Intelix directly for a return authorization number. Intelix will match shipping charges for units still under warranty. If a unit which is out of warranty needs repair, the dealer must pay for shipping, replacement parts, and a fixed \$100/hr labor fee. Normal Intelix credit terms apply to billable repairs. If a unit is returned and found to work according to factory specifications, a standard \$100 service fee is billed regardless of warranty status. All repairs are made in a reasonably quoted amount of time; a rush shipment fee may apply to repairs needing a quicker than usual turn-around time.

Note: Warranty Terms and Conditions subject to change and do not apply outside the United States.

Thank you for your purchase.

We appreciate your business. Please contact us with your questions and comments.

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