

LINEAR ACOUSTIC® AERO.100

DTV Audio Processor

QUICK START GUIDE (V3.19.85)



INTRODUCTION

Congratulations on your purchase of the Linear Acoustic AERO.100.

AERO.100 delivers the high-quality television loudness control, 2-channel to 5-channel upmixing, and flexible signal routing expected in a Linear Acoustic processor for both PCM and Dolby®-coded audio with available Nielsen® watermark encoding.

Like all other AERO-series products, it uses the industry-standard AEROMAX® and UPMAX®-II algorithms to ensure a consistent and compliant output level for main channel and SAP audio without compromising audio quality. LKFS/LUFS loudness metering and logging is provided for each program.

AERO.100 is available with one or two AMX processing instances. Each instance can be of one of the following configurations:

- **AMX5.1 (5.1+2+2)** - 5.1-channel processing for main program audio with upmixing, 2-channel processing for SAP audio and/or a downmix of the main program audio, and a second 2-channel processor for an additional program and/or main program downmix
- **AMX2.0 (2+2+2)** - 2-channel processing for main program audio including downmixing for native 5.1-channel content, 2-channel processing for SAP audio and/or a duplicate of the main program audio, and a second 2-channel processor for an additional program

Both configurations allow local audio insertion from an outside source, typically for EAS alerts or TTS (text-to-speech) audio.

The first processing engine of any AMX instance can be optionally configured to include Dolby® Digital/ Dolby Digital plus transcoding. This provides decoding of Dolby Digital/Dolby Digital Plus content to PCM for loudness processing, and encoding to Dolby Digital/Dolby Digital Plus for transmission.

Nielsen watermark encoding is optionally available for all program outputs of a given instance including N2, N6, and CBET.

I/O includes one HD/SD-SDI input and output with access to all eight audio pairs and four pairs of AES-3 I/O.

AERO.100 Front Panel



Figure 1: Front panel

AERO.100 front panel features include:

- **Power LED (A)** behind the Linear Acoustic logo indicating the unit is receiving power from one or both power supplies
- **Front panel display (B)** showing the current software version, host name, and IP address
- **USB port (C)** for performing software updates and downloading loudness logs if the unit is not connected to a network

AERO.100 Rear Panel

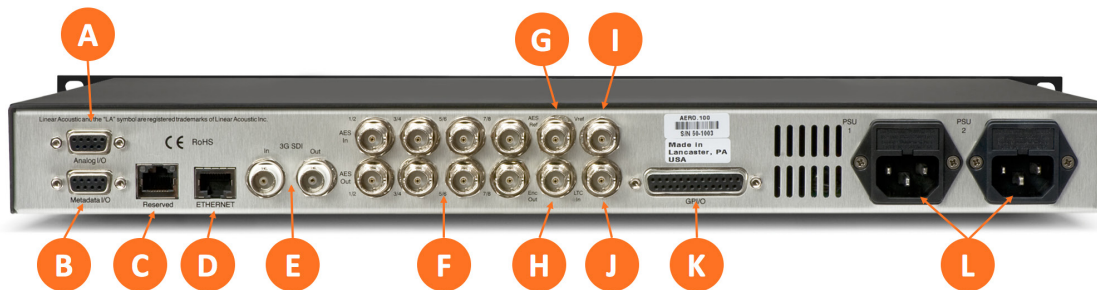


Figure 2: Rear panel

The rear panel of the AERO.100 contains the following connections:

- **Analog I/O DB-9 connector (A)**, not currently used
- **Metadata DB-9 connector (B)**, not currently used
- **Reserved Ethernet port (C)**, not currently used
- **Ethernet port (D)** used to connect the unit to a network for remote setup, control, monitoring, and logging
- Auto-sensing **HD/SD-SDI input and output BNC connectors (E)**, providing access to all eight channels of an applied SDI signal including de-embedding and pair shuffling at the input and re-embedding and pair shuffling at the output
- **AES-3 input and output BNC connectors (F)** for up to eight input and output channels
- **AES Reference Input (G)** for providing an external AES (dark) reference
- Dedicated **Encoder output BNC (H)**
- **Vref BNC (I)**
- **LTC timecode input (J)**, not currently used
- **GPI/O DB-25 connector (K)**
- **IEC power inlets (L)**

Installation

AERO.100 is a 1RU product intended to be permanently installed in a standard 19 ½" equipment rack and secured with four standard rack screws. It is fan cooled with air intakes and exhausts located on the side of the unit just behind the front panel, but whenever possible, it is recommended to leave 1RU of empty space above and below the unit.

Power

There is no on/off switch. AERO.100 will power up when power is applied to either power supply. To power down, simply remove power from both supplies.

Each of the supplied IEC power cords should be connected to different mains power sources. Remember that while redundant supplies do protect against the unit losing power in the event of a PSU failure, the loss of mains supply voltage is a bigger concern. Accordingly, each supply should be fed from a different circuit equipped with adequate surge protection and fitted with an uninterruptable power supply (UPS).

Note:

AERO.100 is a "headless" product and as such has no local front panel controls. The display is used only to show the current software version, host name, and IP address of the unit. Setup and configuration relies upon the use of NfRemote client software as explained below.

Connecting Inputs and Outputs

Connect inputs and outputs as required for your particular installation. AERO.100 can access any of the eight audio pairs carried on an incoming HD- or SD-SDI stream and provide de-embedding and pair shuffling at its input. Audio can also be received using the AES-3 inputs. Detailed instructions on audio routing are provided in the full AERO.100 user manual.

Initial Network Setup

AERO.100 ships with DHCP enabled and will automatically retrieve an IP address when connected to a network with a DHCP server. The Windows PC on which the NfRemote client software will be installed should be connected to the same network and subnet as the AERO.100.

Alternately, AERO.100 can be directly connected to a Windows PC using an Ethernet cable by setting a fixed IP address on the PC in the same subnet as the AERO.100 IP address.

Note:

If AERO.100 displays an IP address of 127.0.0.1, there is no valid IP connection to the unit.

If it shows an IP address of 169.x.x.x, either the unit is connected to a valid Ethernet port but cannot retrieve a DHCP address, or a fixed IP address has not been established.

Remote Connection via NfRemote Software

The NfRemote client software allows AERO.100 to be set up, configured, adjusted, and monitored remotely on nearly any Windows computer or tablet. AERO.100 is designed to remain connected to your local network at all times, ready to accept an incoming remote connection.

The latest version of NfRemote as well as the full user manual are available for download from the Telos Alliance website on the AERO.100 product page at <https://www.telosalliance.com/Linear/AERO100>.

After downloading NfRemote, double-click on the application and follow the on-screen instructions for installation. Once installed, enter the IP address of the AERO.100 and the default password of "1234". If you like, you can add a "friendly" name in the "Comment" field, a useful feature for quickly identifying multiple units.

Connect to the unit by clicking the "Connect" button. Optionally, clicking "Add" adds the unit to the quick recall list in the bottom portion of the window. Keep in mind that anyone with access to the host PC will be able to connect to the AERO.100 if you do so.

NfRemote can be used to connect to any Telos Alliance product that utilizes the client, and an almost infinite number of connections can be stored within a single NfRemote installation.

At this point, we refer you to the full user manual for complete detailed instructions and documentation on further configuration, setup, and operation of your AERO.100.

SPECIFICATIONS

Power

- Dual internal redundant auto-ranging power supplies, each rated at 100-264VAC, 50/60Hz, 40 Watts maximum

Dimensions and Weight

- 19" W x 9" D x 1.75" H (approximately 48.2 x 22.9 x 4.5 cm)
- Net weight: Approximately 9.0 lbs (4.08 kg)
- Shipping weight: Approximately 12.0 lbs (5.44 kg)

Environmental

- Operating: 0 to 50 degrees C
- Non-Operating: -20 to 70 degrees C

Intended Location

- Telecommunications center or dedicated computer/machine room

Regulatory

- North America – FCC and CE tested and compliant with UL-approved power supplies
- Europe – Complies with European Union Directive 2002/95/EC on the restriction of use of certain hazardous substances in electrical and electronic equipment (RoHS), as amended by Commission Decisions 2005/618/EC, 2005/717/EC, 2005/747/EC (RoHS directive), and WEEE

Warranty

- Standard Telos Alliance 2-year limited parts and labor

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