



UMA™ 4300

Professional Series

Installation Power

Amplifier

Owner's Manual

# UMA™ 4300

## Professional Installation Power Amplifier

The UMA 4300 is a high quality, commercial grade analog audio mixer/amplifier. Designed for flexibility in application, this mixer/amp represents the latest, state-of-the-art technology in analog and class-D circuit design. Powerful, yet easy to use, the new UMA series delivers amazing sonic performance. Low-noise design and features applicable to “real-world” situations make these units ideal for audio applications where a compact, powered mixer with multiple input and output capabilities are required.

This manual was written to provide as much information as possible for your new Crest Audio Professional Series Installation Power Amplifier. It is our sincere desire that you enjoy your purchase. We feel that the best way to fully enjoy any purchase is to have an in-depth understanding of the product’s features, functionality, and performance characteristics. We hope that this manual, along with the manuals of our other products, will provide this. If you require additional information that this manual does not provide, please let us know. We are continuously looking for better ways to provide information about our products, and your input is always appreciated. If you require additional information not provided in this manual, please let us know or check out our website at:

Web site: <http://peaveycommercialaudio.com/products.cfm/cr/>:

Email: [techserve@crestaudio.com](mailto:techserve@crestaudio.com)

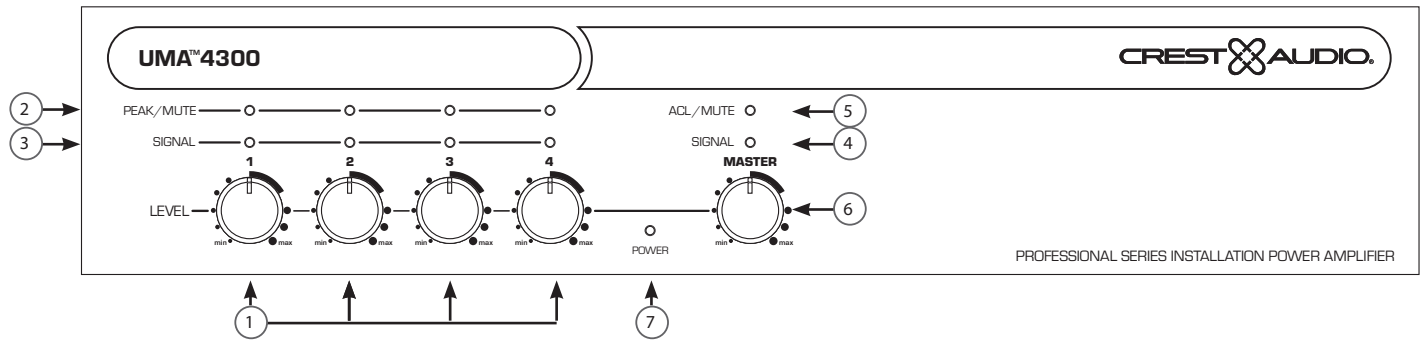
We are continuously looking for better ways to provide information about our products and your input is always appreciated.

### UMA™ 4300 Features:

- Efficient 300 Watt class-D power amplifier
- 4 electronically balanced mic/line Inputs
- 2 Inputs feature selectable dual-RCA, summing connectors for Auxiliary sources
- Discrete-transistor, variable-gain, channel preamps for consistent front panel level control.
- Channel 1 Priority/Muting system with variable threshold adjustment and mute indication
- External switch input for “Mute All” control with indication
- Bass and treble equalization controls
- Preamp output and power amp input loop for external processing equipment or auxiliary output
- Electronically balanced line output with level control and mix or channel 4 source selector
- Amplifier signal indicator
- ACL™ (Automatic Clip Limiting) circuitry with indicator
- 4 Ohm direct output
- 25 Volt, 70 Volt, and 100 Volt outputs
- Power ON indicator
- Line Voltage Selector switch for 100-120 VAC or 220-240 VAC 50/60 Hz operation
- Optional rack mounting with included rack ears

### Applications:

- Presentation rooms • Board rooms • Courtrooms • Auditoriums • Lecture halls • Meeting rooms • Convention centers
- Paging systems • Background music • Retail spaces • Restaurants



**(1) Input Channel Level Controls**

These rotary controls set the channel signal level sent to the mix bus. It is best set in the 12:00 to 2:00 range as indicated on the front panel. The preamp gain control should then be adjusted for proper operating level.

**(2) Input Channel Peak/Mute indicators**

These red LEDs perform a dual purpose of indicating that the corresponding channel is muted and when the input signal is too high and distortion can occur. To correct the problem, lower the corresponding channel gain control.

**(3) Input Signal Indicator (SIG)**

These LEDs illuminate green to indicate signal presence on the corresponding input.

**(4) Output Signal Indicator (SIG)**

These LEDs illuminate green to indicate signal presence to the mixer output master.

**(5) ACL/Mute Indicator**

This LED will illuminate red when the signal in the power amplifier reaches the point where the ACL circuit (Automatic Clip limiter) engages. The ACL circuit reduces the gain automatically when necessary to prevent amplifier clipping. It will also illuminate red when a switch closure is present on the Mute All input causing all signals through the amplifier to be muted.

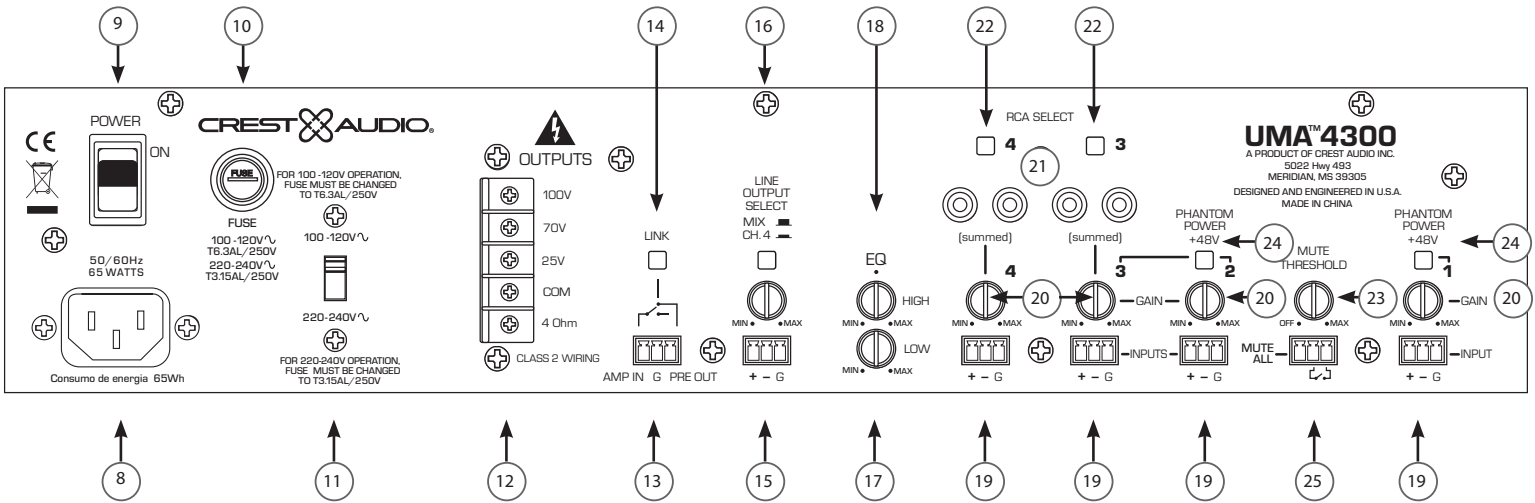
**(6) Master level control**

The master control sets the overall signal level of the system. It is best set in the 12:00 to 2:00 range as indicated on the front panel.

**(7) Power Indicator**

This LED illuminates when powered and active.

## Rear Panel



### (8) IEC Inlet connector

⚠ This receptacle is for the IEC line cord (included) that provides AC power to the unit.

### (9) Power Switch

This rocker switch applies mains power to the unit.

### (10) Fuse Holder

The fuse is located within the cap of the fuse holder. If the fuse fails, IT MUST BE REPLACED WITH THE SAME TYPE AND VALUE NOTED ON THE BACK OF THE UNITS FOR THE SELECTED LINE VOLTAGE IN ORDER TO AVOID DAMAGE TO THE EQUIPMENT AND TO PREVENT VOIDING THE WARRANTY. If the amp repeatedly blows the fuse, it should be taken to a qualified service center for repair.

⚠ **WARNING:** The fuse should only be replaced when the power cord has been disconnected from its power source!

### (11) Line Voltage Selector Switch

The line voltage select should be checked and set to match the mains voltage before connecting and operating this unit. The UMA 4300 can be operated at 100V-120 VAC or 220-240 VAC 50/60 Hz.

### (12) Outputs

A direct output and transformer outputs are provided to allow proper interface between the amplifier and the loudspeaker system. Connect the loudspeaker system to the appropriate output connector and the COM terminal. Connections for 4 Ohm, 25 Volt, 70 Volt and 100 Volt systems are available.

### (13) Processing Insert Connector

The preamplifier output and power amplifier input and ground are brought to this connector allowing processing such as an external equalizer to be inserted. The link switch (see below) bypasses this connection.

### (14) Link switch

The link switch, by default connects the preamp output to the power amplifier input.

### (15) Line Output

The balanced line output with level control can be used to extend the mixer to other power amplifiers, provide a monitor output, or send background music to a phone system etc. The output source is selectable (see output source selector below)

### (16) Output Source Selector

The signal sent to the line output can be selected to be either the main mix or the input 4 signal.



#### **(17) Low EQ (Bass)**

This rotary control varies low frequency response from +10 dB to -10 dB at 100 Hz. It is a shelving-type active control and delivers a flat response in the center “0” position.

#### **(18) High EQ (Treble)**

This rotary control varies high frequency response from +10 dB to -10 dB at 10 kHz. It is a shelving-type active control and delivers a flat response in the center “0” position.

#### **(19) Balanced Input Connectors (Inputs 1 - 4)**

The electronically-balanced, variable-gain, input will accept both line and mic level signals and has an input impedance of 3.3k Ohms.

#### **(20) Preamp Gain Controls**

The preamp gain controls adjust the sensitivity of the 4 inputs allowing microphone and line level signals to be connected to the UMA amplifier. Begin by setting the gain at minimum (full CCW). Set the master level and channel level controls on the front panel in the 12:00 to 2:00 range. Adjust the preamp gain for proper signal level through the system. The Green signal LED should flash and the Red PK LED should not light.

#### **(21) Dual RCA Input Connectors**

The dual RCA input connectors are available on inputs 3 and 4 and provide an easy way to connect a mono or stereo, unbalanced source to the UMA 4300. The RCA selector switch must be pressed to activate these inputs. There is no phantom power on these connectors.

#### **(22) RCA Selector Switches**

Pressing the RCA selector switch replaces the balanced input with the dual RCA jacks.

#### **(23) Threshold Control**

Channel one is the controlling channel of the priority mute system. When the signal level on channel 1 exceeds the threshold set by the threshold control, channels 2-4 are muted. Setting this control at the full counter-clockwise position defeats the muting function.

#### **(24) Phantom Power +48V**

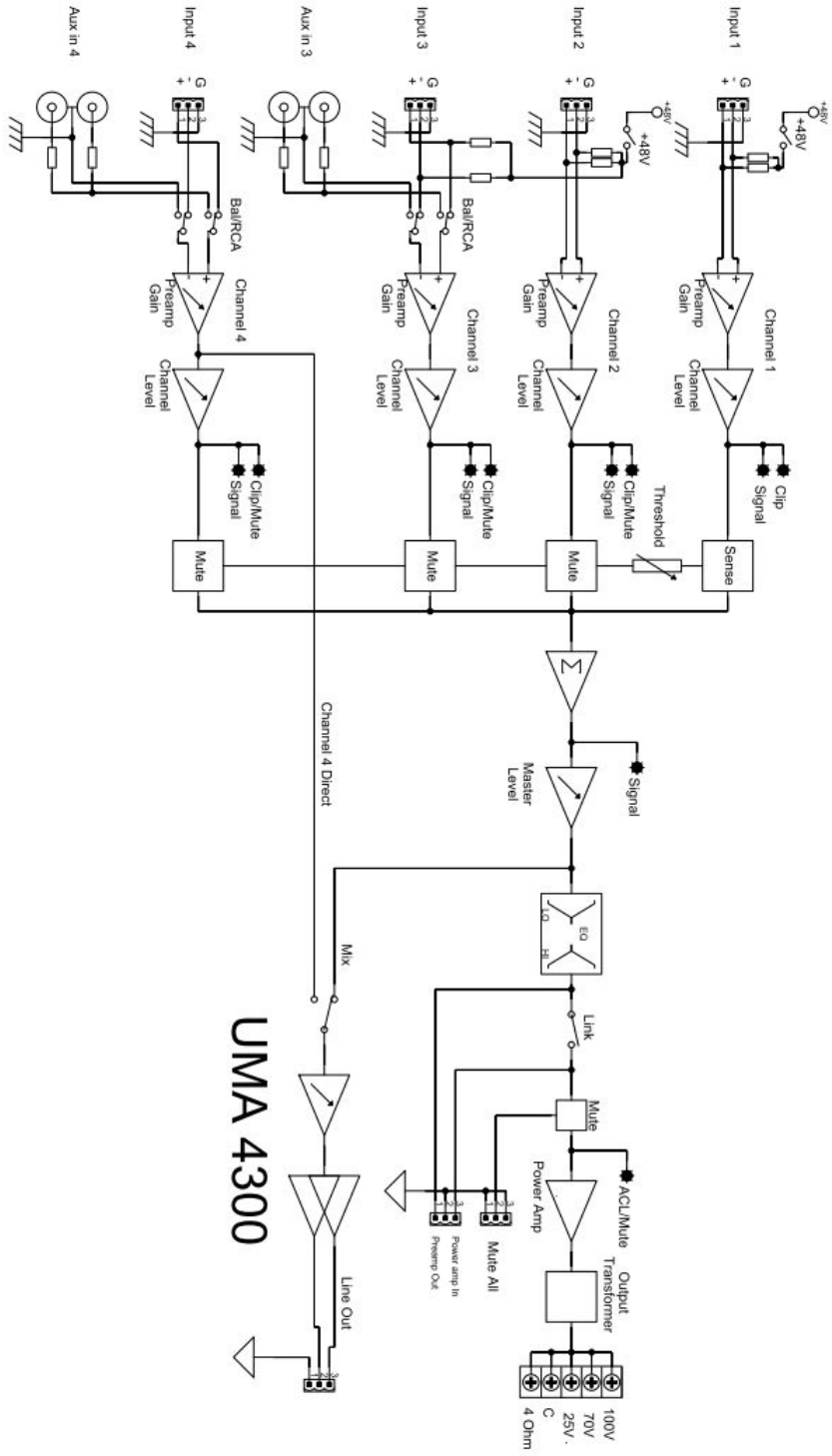
There are two phantom power switches on the rear of the UMA 4300. The first turns on +48V phantom power for input 1, the second for inputs 2 and 3.

#### **(25) Mute All**

Connecting the two terminals on the mute all input connector, mutes all audio through the UMA 4300. This may need to be connected to a fire alarm system, for example, to mute audio in case of emergency.

**NOTE:** For rack mount installations, use 4 machine screws through the front panel mounting holes to secure the amplifier to the rack rails

# Block Diagram



## Specifications

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### Technical support

Web site: <http://peaveycommercialaudio.com/products.cfm/cr/>:

Email: [techserve@crestaudio.com](mailto:techserve@crestaudio.com)

**Rated Output Power:** 300 Watts

### Frequency Response:

Power Amplifier Direct out: +0, -3 dB, 65 Hz to 20 kHz,

Transformer out: +0, -3 dB, 65 Hz to 20 kHz,

### THD:

Power Amplifier: 0.04% (1 kHz 1/8 power)

Preamplifier: 0.02% with nominal gain settings

### Signal /Noise:

(22 Hz — 22 kHz) typical

All controls CCW: -90 dB

All controls nominal (5): -86 dB

### Outputs:

Power Amplifier direct out: 4 Ohms

Power Amplifier transformer: 25V, 70 V, 100 V

Ch. 4/ mix out: 1 V nom., +21 dBu max.

Pre out: 1 V nom., +21 dBu max.

### Input Sensitivity Channels 1-4:

Preamp Gain Max: -73 dBu (170 uV)

Preamp Gain Min: -20 dBu (78 mV)

Maximum Input Level: +21 dBu

### Input Impedance:

Channels 1-4 (Euro): 3.3 k Ohms (Balanced)

Channels 3-4 (RCA): 3.6 k Ohm Stereo in /5.0 k Ohm Mono in

**Tone Controls:**

Bass:  $\pm 10$  dB at 100 Hz

Treble:  $\pm 10$  dB at 10 kHz

**Phantom Power Inputs 1-3:** 48 Volts

**Front Panel Controls and Indicators:**

Channel Level Controls 1-4

Master Level Control

Channel Signal present LED

Channel Clip/Mute LED

Master Signal present LED

Power amplifier ACL LED

Power On LED

**Rear Panel Controls:**

Preamp Gain Controls Channels 1-4

48V Phantom Power Switch for Channel 1

48V Phantom Power Switch for Channels 2 and 3

Channel 1 Mute Threshold Control

Euro/RCA Input Selector Channel 3

Euro/RCA Input Selector Channel 4

High EQ (Treble) Control

Low EQ (Bass) Control

Line Output Source Select (Mix/Channel 4)

Line Output Level Control

Master Mute control input (Mutes all audio)

Preamp output, Power amp Input Link switch (Bypass insert)

**Muting:**

Signal above threshold on Input 1 mutes inputs 2-4.

Mute-All switch input. Shorting mute connections mutes all audio.

Line Voltage Selector Switch (100-120 VAC/220-240 VAC)

Power switch

**Power Requirements:**

65 Watts, 120 V AC or 220 -240 VAC 50/60 Hz

**Weight:**

15.4 lbs. (7kg)



**Dimensions:**

19" x 13.25" x 3.45" with rack ears (483 mm x 337 mm x 88 mm)

17" x 13.25" x 3.45" without rack ears (432 mm x 337 mm x 88 mm)

**Color:**

Black

**Architectural and Engineering Specifications**

The mixer/amplifier shall have 4 electronically balanced mic/line inputs. The front panel shall include four input level controls and a master output level control. The gain of the input preamps shall be continuously variable with the controls located on the rear of the unit. Front panel indicators shall include channel signal, clip and priority mute condition, power on, signal presence at the amplifier, ACL™ status and master mute status. It shall have an internal power amplifier with rated output of 300 Watts. The power switch shall be on the rear panel along with the detachable IEC cord inlet. There shall be four inputs with Euro-type connectors for the balanced input connections. Channels 3 and 4 shall have a switch to select between the balanced input or dual summing RCA connectors. The mixer shall have switches to apply 48 Volt phantom power to Input 1 and to inputs 2 and 3. Additionally, an electronically balanced output with a Euro-type connector and a separate level control shall be provided with a switch to select between the mixer output or channel 4 input signal. Channel 1 shall have a continuously variable mute threshold control on the rear panel. Setting this control fully clockwise shall defeat the Channel 1 mute function. The mute threshold sensitivity for Channel 1 shall be increased as the control is turned clockwise. When the signal level in Channel 1 exceeds the mute threshold, Channels 2-4 shall be muted. The master section shall include rear panel bass and treble EQ controls, each with a ±10 dB range of operation. The capability to insert an external device shall be included via Euro connector. A link switch shall bypass the insert point. The unit shall have a line voltage selector switch for operation at 100 - 120 VAC or 220 - 240 V 50/60 Hz. The mixer amplifier shall have a direct 4 Ohm output, and 3 transformer outputs – 100 Volt, 70 Volt, and 25 Volt. The amplifier shall include clipping protection via ACL™. The unit shall be W x D x H 19" W x 13.25" D x 3.45" H with rack ears (483 mm W x 337 mm D x 88 mm H) and 17" W x 13.25" D x 3.45" H without rack ears (432 mm W x 337 mm D x 88 mm H). The unit shall be called the Crest Audio Professional Installation Series Power Amplifier model UMA 4300.







[www.peaveycommercialaudio.com](http://www.peaveycommercialaudio.com)

Warranty registration and information for U.S. customers available online at  
[www.peaveycommercialaudio.com/warranty](http://www.peaveycommercialaudio.com/warranty)  
or use the QR tag below



Features and specifications subject to change without notice.

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Logo referenced in Directive 2002/96/EC Annex IV  
(OJ(L)37/38, 13.02.03 and defined in EN 50419: 2005  
The bar is the symbol for marking of new waste and  
is applied only to equipment manufactured after  
13 August 2005