



WMA™ 4300

Professional Series  
Installation Power  
Amplifier

Owner's Manual

## WMA™ 4300

### Power Amplifier

The WMA 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 WMA 4300 delivers amazing sonic performance. Low-noise design using discrete-transistor, variable-gain preamps and features applicable to “real-world” situations makes this unit ideal for audio applications where a wall mounted 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)

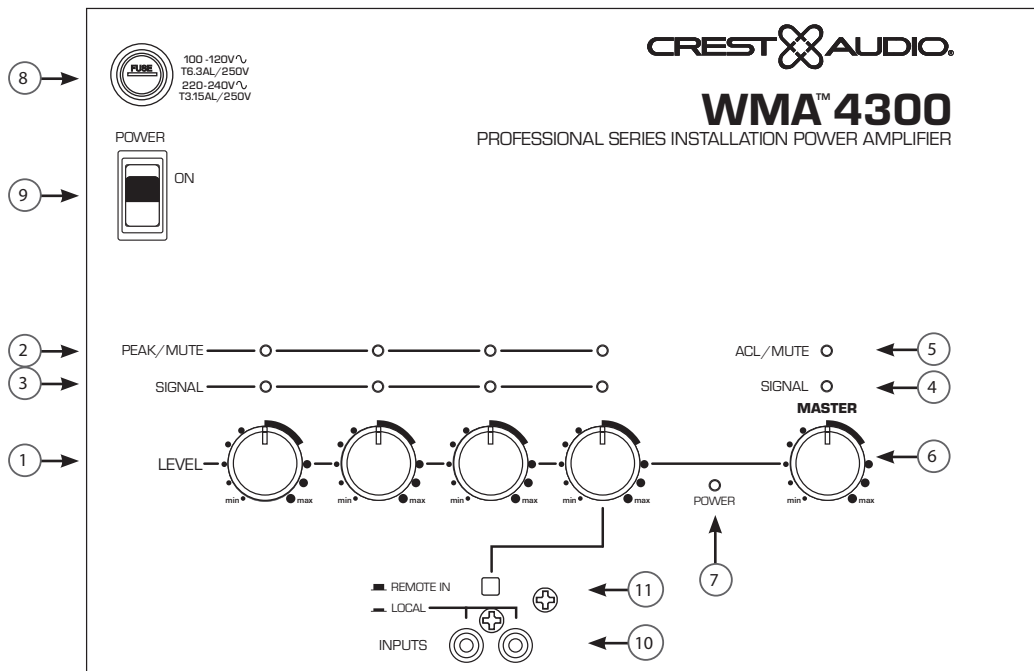
We are continuously looking for better ways to provide information about our products and your input is always appreciated.

### WMA™ 4300 Features:

- Efficient 300 Watt class-D power amplifier
- 4 electronically balanced mic/line Inputs
- Input 4 also has 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
- Electronically balanced line output with level control and mix or channel 4 source selector
- Channel input signal level indicators
- 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
- Key lockable door to prevent tampering with system controls
- All controls other than channel mix and master are located behind front panel to protect system settings
- Back box and electronics available separately
- Top and Bottom knock-outs for 1/2” or 16mm conduit.
- Can be surface mounted or flush mounted using front panel trim (included)
- Electronics can be retrofitted into previous generation WMA 75 or 150 back box

### 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 in the installer controls.

## (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 WMA is powered and active.

## (8) 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 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 switch is in the off position!

## (9) Power Switch

This rocker switch applies mains power to the unit.

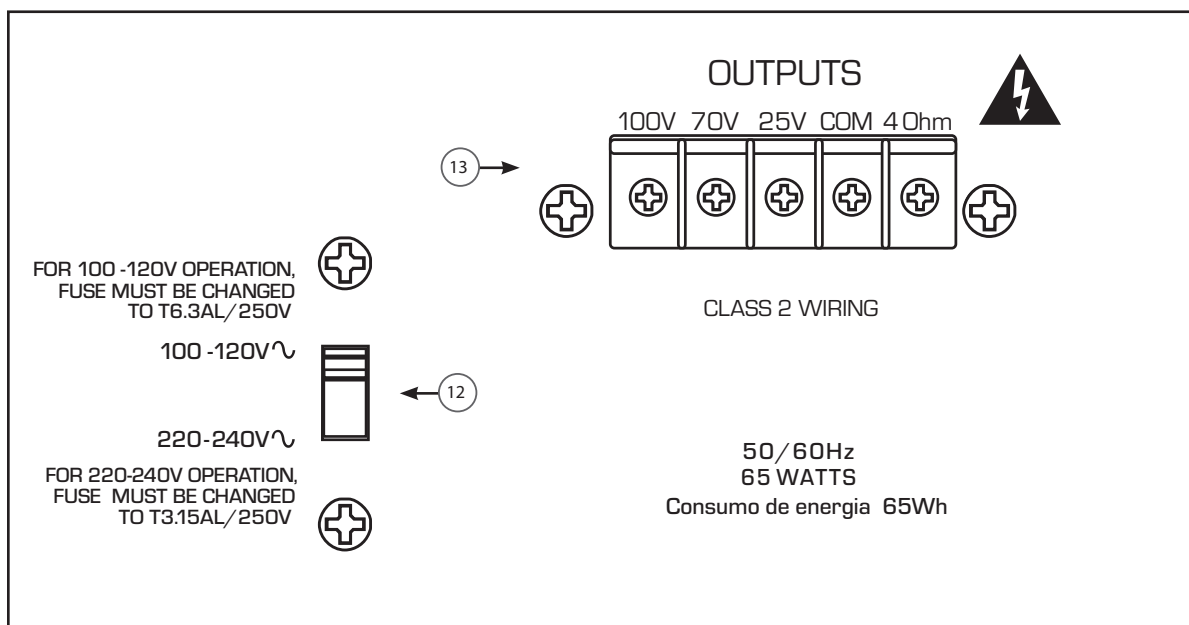
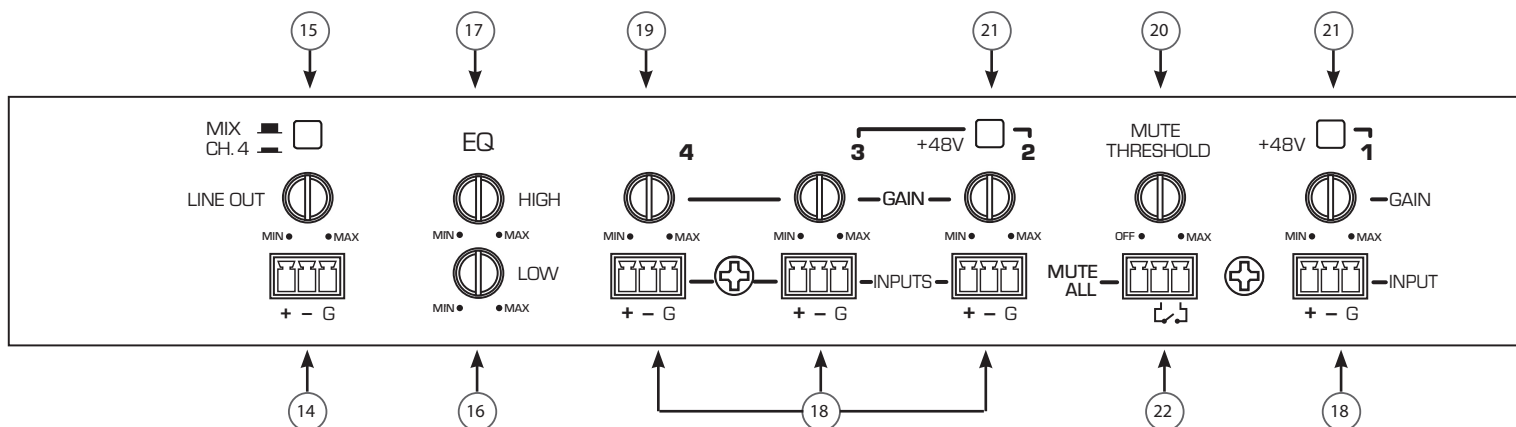
## (10) Dual RCA Input Connector

A user accessible dual RCA input connector is available on channel 4. It provides an easy way to connect a local mono or stereo unbalanced source to the WMA 4300. The Remote/Local selector switch must be pressed to activate this input.

## (11) Remote/Local Selector Switch

Pressing this switch replaces the balanced euro input with the dual RCA jack for channel 4.

### Installer Controls





## (12) 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 WMA 4300 can be operated at 100V-120 VAC or 220-240 VAC 50/60 Hz.

## (13) 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.

## (14) 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)

## (15) Output Source Selector

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

## (16) 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.

## (17) 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.

## (18) 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 3.3 k Ohms.

## (19) 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 WMA 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.

## (20) Threshold Control

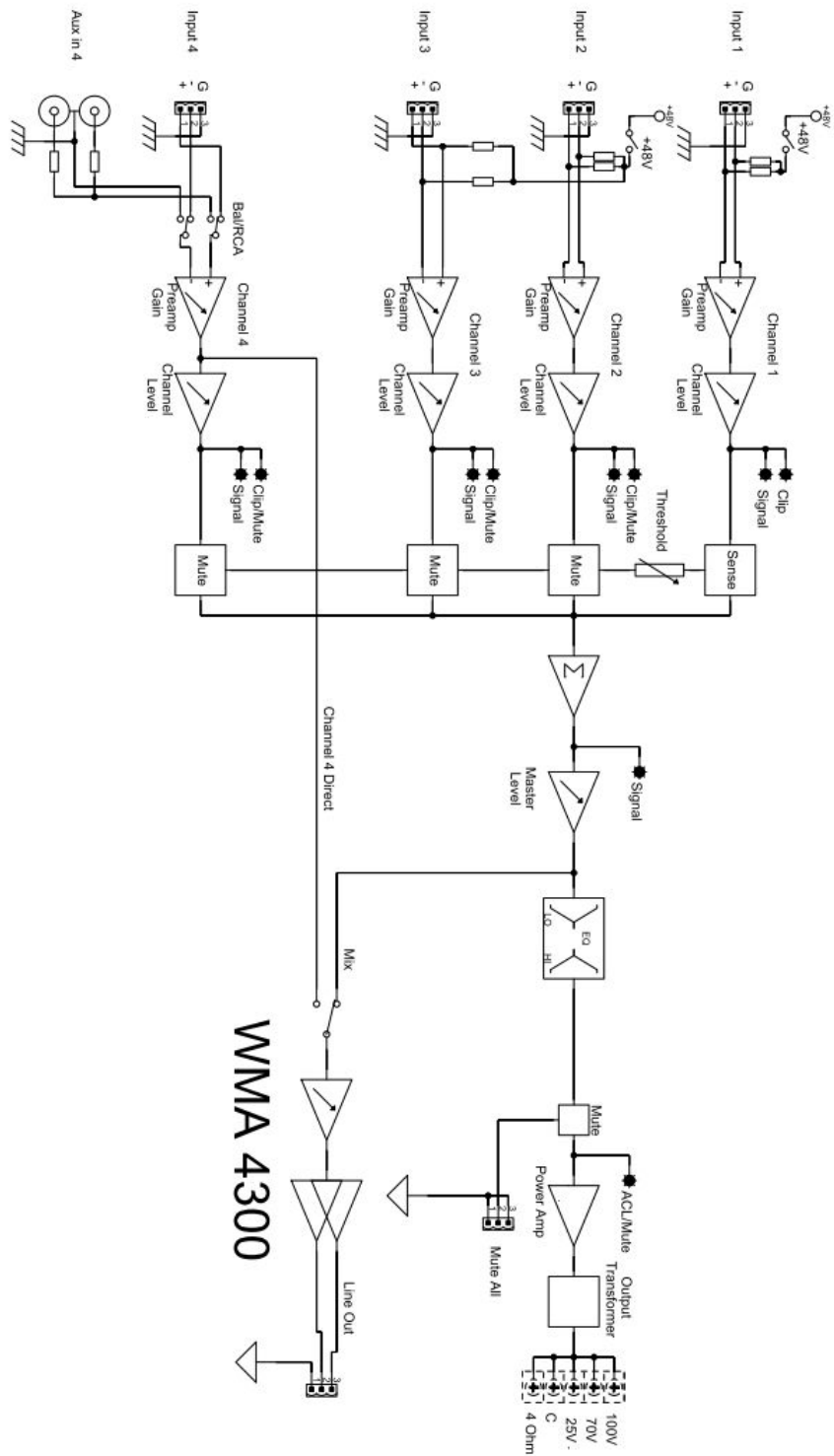
Channel 1 is the controlling channel of the priority mute system. When the level of the signal on channel 1 exceeds the threshold set by the Mute Threshold control, channels 2-4 are muted. Setting this control at the full counter-clockwise position defeats the muting function.

## (21) Phantom Power +48V

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

## (22) Mute All

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



### Back Box Installation:

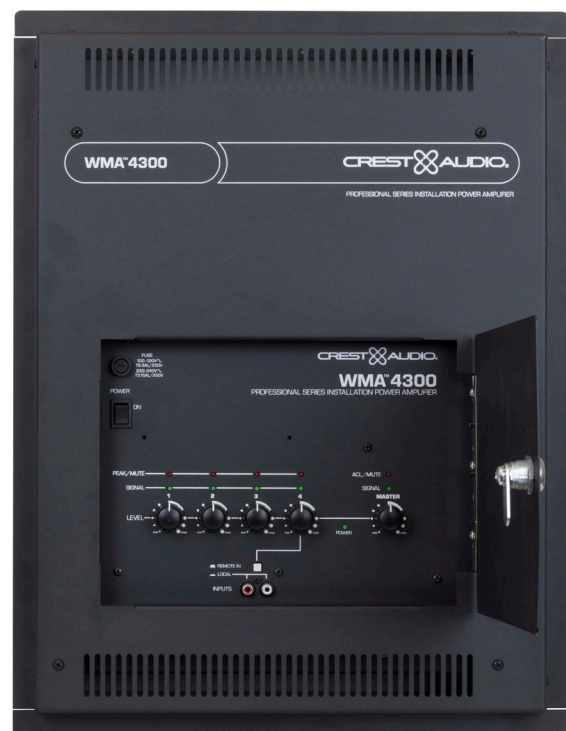
1. Determine if the unit is to be surface or flush mounted. If flush mounted, the front edge of the Back Box should be flush with the wall's finish surface.
2. The Back Box must be securely attached to the wall.
3. Connect the mains wiring to the Back Box with Hot, Neutral, and Ground following local electrical codes. If the conduit does not provide the safety ground, a mains ground wire must be attached to the ground stud located close to the terminal block with the lock washer and nut provided.



**Note:** For side mounting into studs, use a quantity of 8- #10 or equivalent fasteners, 4 on each side. For rear mounting, use a quantity of 4- 1/4" or equivalent fasteners. The fasteners must be of an appropriate type for the material the unit will be attached to. Installation shall be conducted by a skilled person or professional.

## Chassis Installation:

1. Make sure that the voltage selector switch and fuse are correct for the incoming mains voltage. An incorrect setting could damage the unit.
2. Slide the chassis onto Back Box hinges.
3. Wire the audio inputs and amplifier speaker outputs.
4. Connect the IEC power cord from the Back Box to the receptacle on the fan bracket.
5. Set user mix and master controls to nominal. Apply power to the unit.
6. Adjust channel gain controls for proper levels. Adjust equalization if necessary.
7. Configure the cover for flush or surface mounting. Remove trim if surface mounted.
8. Install front cover.



## 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

#### User Controls and Indicators:

Channel Level Controls 1-4

Master Level Control

Euro/RCA Input Selector Channel 4

Channel Signal present LED

Channel Clip/Mute LED

Master Signal present LED

Power Amplifier ACL LED

Power On LED

Power Switch

#### Installer Controls (located behind front cover):

Preamplifier 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

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)

#### 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:

24.4 lbs. (11kg)

#### Dimensions:

14.25"W x 19.0"H x 4.85"D (362mm x 483mm x 123mm) without surface mount trim

15.76"W x 20.56"H x 4.85"D (400mm x 522mm x 123mm) with surface mount trim

Color:

Black

## Architectural and Engineering Specifications

The wall mount mixer/amplifier shall have 4 electronically balanced mic/line inputs. The front panel shall include four input level controls, a master output level control and power switch. The gain of the input preamps shall be continuously variable. 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 a rated output of 300 Watts. There shall be four inputs with Euro-type connectors for the balanced input connections. Channel 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. 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. 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 bass and treble EQ controls, each with a  $\pm 10$  dB range of operation. 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 14.25"W x 19.0"H x 4.85"D (362mm x 483mm x 123mm) without surface mount trim and 15.76"W x 20.56"H x 4.85"D (400mm x 522mm x 123mm) with surface mount trim installed. The back box shall have knock-outs for 1/2" or 16mm conduit. The unit shall be called the Crest Audio Professional Installation Series Power Amplifier model WMA 4300.

## Appendix

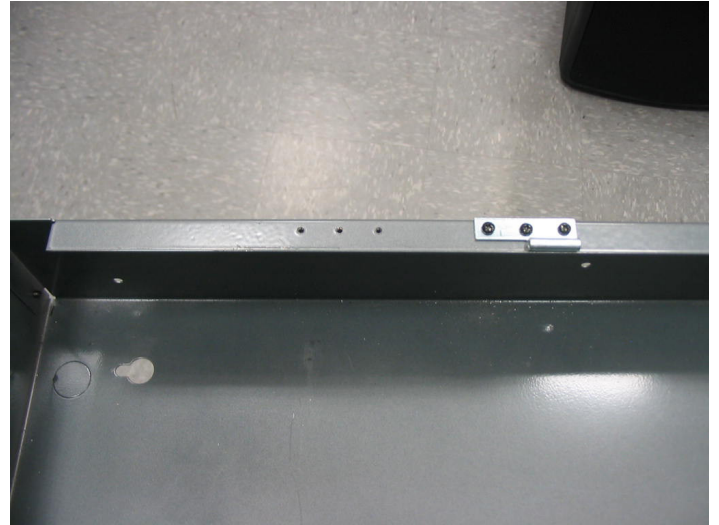
### UPDATING A WMA 75/150 WITH A WMA4300 CHASSIS

The WMA 75 and WMA 150 can be updated with a WMA 4300 chassis using the existing back box and cover. The WMA4300 is smaller than the other units, so some modifications to the original back box must be done to secure the new chassis in it.

1. Make sure that the power feeding the WMA 75/150 has been shut off before any operations are done.
2. Remove the cover from the existing WMA 75/150. Set the cover aside, it will be reinstalled later.
3. Disconnect any input and output connections to the chassis sub-assembly. Remove the main chassis. It will be replaced by the WMA4300 chassis.
4. The top hinge piece of the back box must be relocated to match the position of the one on the WMA 4300 chassis. An easy way to drill the holes is to remove the top hinge from the back box, fit this onto the mating hinge of the WMA4300 chassis and use it as a template to drill the holes. Drill three 7/64 inch diameter holes for #6 thread-forming screws, and attach to the back box in its new position.
5. Remove the two 1.0" stand-offs at the top of the WMA 4300 chassis and attach them to the flat metal bracket provided. These will be used to mount the old cover to the new chassis.
6. Slide the WMA 4300 chassis onto the hinges.
7. Mount the bracket to the wall box using the top two screw holes of the removed hinge and the single unused chassis mount insert on the other side.
8. Connect power, input, and output cables. The connectors will have to change to match what is on the new unit. Euro connectors are provided with the WMA 4300.
9. After gains and other functions are adjusted and set, install the original cover that was set aside.

Here are pictures of the process. (The door of the WMA 150 was removed for clarity):

Hinge moved to accommodate new chassis.



Chassis fitted to back box hinges.

Bracket added using existing mounting holes.





Views with chassis mounted.

New view of user controls









[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