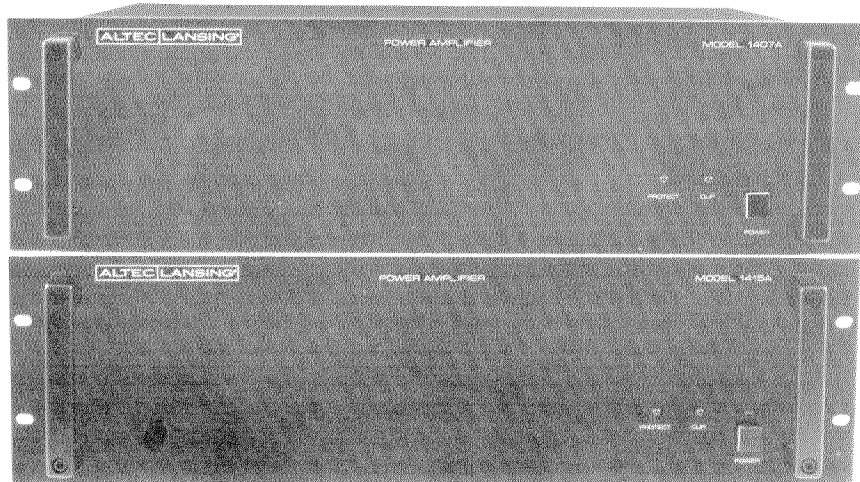


# HIGH QUALITY, LOW COST GENERAL PURPOSE MONAURAL POWER AMPLIFIERS



## 1407A and 1415A Power Amplifiers

- MASTER LEVEL CONTROL AND CONFIGURATION SWITCHES ARE REAR MOUNTED
- TWO AUXILIARY UNBALANCED OUTPUTS ARE PROVIDED
- FULLY PROTECTED FROM SHORT CIRCUITED LOADS

### APPLICATIONS

- Clubs
- Convention Centers
- Hotel Paging Systems
- Houses of Worship
- Meeting Halls
- Monitoring Installations
- Touring Sound

### DESCRIPTION

The Altec Lansing **1407A** and **1415A** power amplifiers are high quality low cost monaural power amplifiers for general purpose applications and those involving the use of ALTEC LANSING'S **1700** series mixer products.

Both amplifier models are identical in size and features and differ only in their output power ratings. The **1407A** is a 75 watt amplifier while the **1415A** produces 150 watts of continuous average output power. Included are many built-in features that far exceed what is normally found in amplifiers of this type. This fact undeniably eases any design chore. For example, the amplifiers include a 15 k $\Omega$  input bridging transformer, a 300 Hz high pass filter (switchable), a 15 dB input pad (switchable), and a choice of four input connector types; a 5-lug screw terminal, female XLR, male XLR, and a phono connector. The male XLR is also usable as a convenient patch output point for routing the input signal to another amplifier.

Two auxiliary unbalanced outputs are also provided. One is before (pre-fader), and the other after (post-fader), the MASTER output level control. These outputs greatly simplify many complex system designs. In addition to a 4 $\Omega$  direct output (8 $\Omega$  in **1407A**), a built-in output transformer provides a plurality of true balanced outputs including 8 $\Omega$  (4 $\Omega$  in **1407A**), 25 volts, and 70.7 volts.

The amplifiers are fully protected from short circuited loads, over temperature, and excessive load reactance, and the loads from turn-on/turn-off transients, subsonic signals, and DC. When a problem is detected the output relay automatically disconnects the load and illuminates the front panel PROTECT indicator. In addition, a front panel clipping indicator warns of excessive output levels. The MASTER level control and configuration switches are rear mounted for extra protection against "accidental" changes made by non-qualified personnel.

The Altec Lansing **1407A** and **1415A** power amplifiers are the choice in professional designs where quality, reliability, flexibility, and cost are of prime concern.

# SPECIFICATIONS FOR THE 1407A AND 1415A POWER AMPLIFIERS

(Note: The following specifications apply to both models unless noted.)

## Continuous Average Output Power

(Direct or transformer output)

<b>1415A</b>	150 watts
<b>1407A</b>	75 watts

## Maximum Midband Output Power

(Ref. 1 kHz, 1% THD)

Direct Output

<b>1415A</b>	200 watts
<b>1407A</b>	100 watts

Transformer Output

(Any output tap)

<b>1415A</b>	190 watts
<b>1407A</b>	95 watts

## Power Bandwidth

(+0/−3 dB. Ref. 1 kHz at rated output power)

Direct Output 20 Hz - 20 kHz

Transformer Output 50 Hz - 15 kHz

(Any output tap)

## Frequency Response

Ref. 1 kHz at 1 watt output power)

Direct Output

±1 dB	20 Hz - 20 kHz
±3 dB	10 Hz - 30 kHz

Transformer Output

(Any output tap)

±1 dB	20 Hz - 16 kHz
±3 dB	10 Hz - 30 kHz

## Total Harmonic Distortion (THD)

(Ref. 1 kHz at rated output power, 30 kHz

low pass filter)

Direct Output

20 Hz	< 0.1%
1 kHz	< 0.01%
20 kHz	< 0.1%

Transformer Output

(Any output tap)

50 Hz	< 1.0%
1 kHz	< 0.02%
15 kHz	< 0.1%

## Intermodulation

**Distortion (SMPTE)** < 0.01%

SMPTE 4:1, at rated output power, direct output

## Input High Pass Filter

Frequency	300 Hz, switchable
Slope	−12 dB/oct (−40 dB/dec)

## Input Sensitivity/Input Impedance

(Ref. 1 kHz, 0 dBu = 0.775 vrms)

Balanced Line Input 0 dBu/SB-15kΩ  
(Pad switched "out")

Balanced Line Input −15 dBu/SB-15kΩ  
(Pad switched "In")

Unbalanced Line

Input

(Phono connector) 0 dBu/47 kΩ

## Input Pad

(Ref. 1 kHz)

Type	Balanced "H", switchable
Attenuation	15 dB, ±1 dB

**Maximum Input Level** +35 dBu (43.5 vrms)

(Ref. 1 kHz, pad in, signal applied to XLR female, MASTER off)

## Output Level/Load Impedance

(Ref. 1 kHz, ) dBu = 0.775 vrms applied to balanced line input, ±1 dB)

Line Output 0 dBu/15 kΩ  
(XLR male, balanced)

PRE Auxiliary Output 0 dBu/600 Ω

(Pre-fader, unbalanced, phono connector)

POST Auxiliary Output 0 dBu/600 Ω

(Post-fader, unbalanced, phono connector)

**1415A Direct Output** 24.5 vrms/4 Ω

(Unbalanced)

<b>1415A Transformer Output (Balanced)</b>	25 vrms/4.2 $\Omega$ 34.6 vrms/8 $\Omega$ 70.7 vrms/33.3 $\Omega$
<b>1407A Direct Output (Unbalanced)</b>	24.5 vrms/8 $\Omega$
<b>1407A Transformer Output (Balanced)</b>	17.3 vrms/4 $\Omega$ 25 vrms/8.3 $\Omega$ 70.7 vrms/66.7 $\Omega$
<b>Damping Factor</b> (20 Hz - 1 kHz, direct output)	> 50
<b>Output Regulation</b> (Ref. 1 kHz, no load to full load)	
Direct Output	< 0.5 dB
Transformer Output	< 1.0 dB
<b>Signal-to-Noise Ratio</b> (A-weighted, MASTER at full clockwise position, input shorted, pad and high pass filter switched out)	> 100 dB
<b>Connectors</b>	
Input	1 - XLR female 1 - 5-lug screw terminal 1 - Phono
Output	1 - XLR male 2 - phono 1 - 7-terminal barrier strip
AC	1 - Aux AC grounding outlet (500 watts max)
<b>Controls and Indicators</b>	
Front Panel	1 - Power on-off switch 1 - Power indicator LED 1 - CLIP indicator LED 1 - PROTECT indicator LED
Rear Panel	1 - MASTER output level control 1 - 15 dB PAD switch

1 - 300 Hz high pass filter switch

**Amplifier/Load Protection**

Short Circuited loads  
Excessive load reactance  
RF

**Requirements**

Excessive temperature  
Power 100, 120, 200, 220, or 240 vac, 50/60 Hz,

**Power Consumption/Heat Generated**

**1415A** (Max. output power) 365 watts/580 BTU/hr

**1407A** (Max. output power) 175 watts/255 BUT/hr

**1415A** (1/3 rd Max. output power) 230 watts/560 BTU/hr

**1407A** (1/3 rd Max. output power) 130 watts/330 BTU/hr

**Operating Temperature Range**

Up to 60 °C (140 °F)

**Dimensions**

5¼" (13.3 cm) H x 19" (48.2 cm) W x 12½" (31.7 cm) D

**Weight**

(Net)

**1415A** 30.8 lbs (14 kg)

**1407A** 24.2 lbs (11 kg)

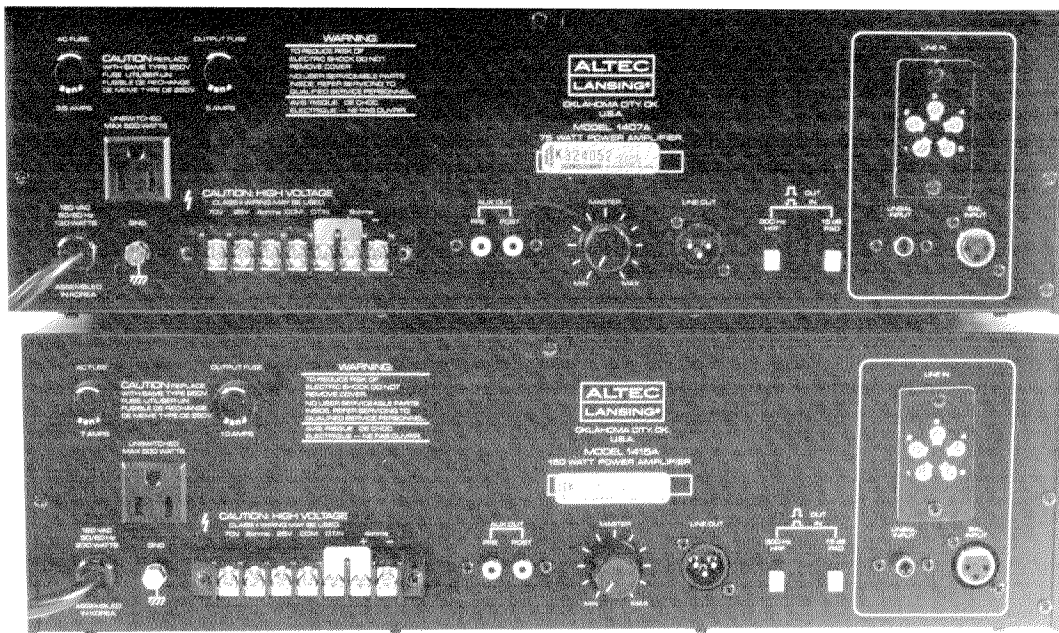
**Color**

Black

**Included Accessories**

- 1 - Operating/Service Instructions
- 1 - Shorting bar (Direct out to OT IN, installed)
- 4 - Rubber feet (installed)
- 1 - 220/240 voltage sticker (for Int'l use)
- 1 - Fuse sticker (for Int'l use)
- 1 - Fuse (for Int'l use)
- 1 - Rack mount hardware kit

ALTEC LANSING continually strives to improve products and performance. Therefore specifications are subject to change without notice.



## ARCHITECT'S AND ENGINEER'S SPECIFICATIONS

The power amplifier shall be a monaural amplifier of solid state design employing true complementary symmetry output circuitry and capable of operating from a 100, 120, 200, 220, or 240 vac, 50/60 Hz line. The amplifier shall provide a plurality of balanced transformer output taps as well as an unbalanced direct output, and a bridging input transformer for input isolation. The amplifier shall contain sensing circuitry to provide protection for the output transistors against over temperature, excessive output voltage, radio frequency interference, excessive output current, and excessive output phase shift. The load shall be similarly protected against subsonic signals, start-up/shutdown transients, low AC line voltage, and DC.

Rear mounted panel controls and switches shall include an input level control, a 300 Hz high pass filter in/out switch, and an attenuator in/out switch. The attenuator, when engaged, shall attenuate the input level by 15 dB. Input connectors shall include a 5-lug screw terminal connector and a 3-pin XLR female connector for balanced inputs, and a phono connector for unbalanced inputs. Output connectors shall include a 3-pin XLR male connector, two phono connectors as auxiliary unbalanced outputs, and a 7-terminal barrier strip connector.

Front panel illuminated indicators shall include a power on/off indicator, a signal clipping indicator, and a protection circuit activation indicator. The front panel control shall be the power on/off switch.

The amplifier shall include an input bridging transformer with a nominal input impedance of 15 k $\Omega$ . A power output isolation transformer shall provide balanced outputs of 25 volts (4.2  $\Omega$  load), 8 ohms (34.6 volts), and 70 volts (33.3  $\Omega$  load) (**1415A**), or 4 ohms (17.3 volts), 25 volts (8.3  $\Omega$  load), and 70 volts (66.7  $\Omega$  load) (**1407A**);

The power amplifier shall meet the following performance criteria. Maximum input voltage: 9.75 vrms (pad out). Input voltage for rated output power: 0.775 vrms (MASTER at maximum). Rated output power (direct output): 150 watts from 20 Hz to 20 kHz at less than 0.1% THD (**1415A**), or 75 watts from 20 Hz to 20 kHz at less than 0.1% THD (**1407A**). Minimum load impedance (direct power output): 4  $\Omega$  (**1415A**) or 8  $\Omega$  (**1407A**). Hum and noise: at least 100 db below rated output power (A weighted). Damping factor: greater than 50 from 20 Hz up to 1 kHz. Intermodulation distortion (SMPTE): less than 0.01%. Heat Generated (at 1/3rd rated output power): not more than 680 BTU/hr (**1415A**), or 340 BTU/hr (**1407A**). Operating temperature range: up to 60  $^{\circ}$ C (140  $^{\circ}$ F) ambient. Dimensions: 5 $\frac{1}{4}$ " H x 19" W x 12 $\frac{1}{2}$ " D. Net weight: 30.8 lbs (**1415A**), or 24.2 lbs (**1407A**). Color: black. Enclosure: Rack mountable chassis.

The power amplifier shall be the ALTEC LANSING Model **1415A** (or the ALTEC LANSING Model **1407A**).



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