1407A
1415A

Power Amplifiers

COMMERCIAL

General Product Description

The Electro-Voice® **1407A** and **1415A** power amplifiers are high quality, low cost monaural power amplifiers for general purpose applications and those involving the use of Electro-Voice'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 kohm 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 ohm direct output (8 ohm in **1407A**), a built-in output transformer provides a plurality of true balanced outputs including 8 ohm (4 ohm 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 Electro-Voice® **1407A** and **1415A** power amplifiers are the choice in professional designs where quality, reliability, flexibility, and cost are a prime concern.

Architects' and Engineers' 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, startup/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 phone 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 kohms. A power output isolation transformer shall provide balanced outputs of 25 volts (4.2 ohm load), 8 ohms (34.6 volts), and 70 volts (33.3 ohm load) (**1415A**), or 4 ohms (17.3 volts), 25 volts (8.3 ohm load), and 70 volts (66.7 ohm 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 ohms (**1415A**) or 8 ohms (**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 (SMPTF): 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 °C (140 °F) ambient. Dimensions: 5 ¼" H x 19" W x 12 ½" D. Net weight: 30.8 lbs (**1415A**), or 24.2 lbs (**1407A**). Color: black. Enclosure: Rack mountable chassis.

The power amplifier shall be the Electro-Voice® Model **1415A** (or the Electro-Voice® Model **1407A**).

Electro-Voice®

SPECIFICATIONS:

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

Continuous Average Output Power (Direct or transformer output)

1415A ..... 150 watts **1407A** ..... 75 watts

Maximum Midband Output Power (Ref. 1 kHz, 1% THD)

Direct Output **1415A** ..... 200 watts **1407A** ..... 100 watts

Transformer Output (Any output tap)

1415A ..... 190 watts **1407A** ..... 95 watts

Power Bandwidth (+0/-3 dB. Ref. 1 kHz at rated output power)

Direct Output ..... 20 Hz - 20 kHz

Transformer Output (Any output tap) ..... 50 Hz - 15 kHz

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-15 kohm (Pad switched “out”)

Balanced Line Input -15 dBu/SB-15 kohm (Pad switched “In”)

Unbalanced Line Input (Phono connector) 0 dBu/47 kohm

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 kohm
(XLR male, balanced)

PRE Auxiliary Output ..... 0 dBu/600 ohm
(Pre-fader, unbalanced, phono connector)

POST Auxiliary Output ..... 0 dBu/600 ohm
(Post-fader, unbalanced, phono connector)

1415A Direct Output (Unbalanced) ..... 24.5 vrms / 4 ohm

1415A Transformer Output (Balanced) ..... 25 vrms / 4.2 ohm
..... 34.6 vrms / 8 ohm
..... 70.7 vrms / 33.3 ohm

1407A Direct Output (Unbalanced) ..... 24.5 vrms / 8 ohm

1407A Transformer Output (Balanced) ..... 17.3 vrms / 4 ohm
..... 25 vrms / 8.3 ohm
..... 70.7 vrms / 66.7 ohm

Damping Factor (20 Hz - 1 kHz, direct output) ..... > 50

Output Regulation (Ref. 1 kHz, no load to full load)

Direct Output ..... < 0.5 dB

Transformer Output ..... < 1.0 dB

Signal-to-Noise Ratio ..... > 100 dB

(A-weighted, MASTER at full clockwise position, input shorted, pad and high pass filter switched out)

Connectors

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)

Controls and Indicators

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
Excessive temperature Power Requirements

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: .... 5 ¼” (13.3 cm) H x 19" (48.2 cm) W x 12 ½” (31.7 cm) D

Weight (Net) **1415A** ..... 30.8 1 lbs (14 kg)
1407A ..... 24.2 lbs (11 kg)

Color ..... Black

Electro-Voice® continually strives to improve products and performance. Therefore specifications are subject to change without notice.

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Electro-Voice®

U.S.A. and Canada only.

For customer orders, contact the Customer Service department at 800/392-3497 Fax: 800/955-6831

For warranty repair or service information, contact the Service Repair department at 800/685-2606

For technical assistance, contact Technical Support at 866/78 AUDIO

Please refer to the Engineering Data Sheet for warranty information.

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