



Electro-Voice®

a MARK IV company

7600 Two-Channel Power Amplifier

SPECIFICATIONS

Conditions:

1. 0 dBu=0.775 V rms.
2. Dual-mode ratings are for each channel.
3. Both channels operating at rated output power unless noted.
4. 120-volt ac line voltage maintained throughout testing.

Continuous Rated Output Power (20 Hz-20 kHz, 30 kHz measurement bandwidth),

Dual Mode, 4 Ohms:

600 watts/ch at <0.10% THD

Bridge Mode, 8 Ohms:

1200 watts at <0.10% THD

Dual Mode, 8 Ohms:

400 watts/ch at <0.05% THD

Bridge Mode, 16 Ohms:

800 watts at <0.05% THD

Continuous Rated Output Power to Subwoofer

(20 Hz-1 kHz at less than 0.1 THD),

Dual Mode, 4Ω: 650 watts/ch

Bridge Mode, 8Ω: 1300 watts

Dual Mode, 8Ω: 420 watts/ch

Bridge Mode, 16Ω: 840 watts

Maximum Midband Output Power (reference 1 kHz, 1% THD),

Dual Mode, 4 Ohms:

>725 watts/ch

Bridge Mode, 8 Ohms:

>1450 watts

Dual Mode, 8 Ohms:

>450 watts/ch

Bridge Mode, 16 Ohms:

>900 watts

Dynamic Headroom

(reference 1 kHz, 1% THD),

Any Mode:

>0.25 dB

Power Bandwidth

(+0, -1 dB, reference 0 dB at 1 kHz, where 0 dB ref. = rated output power in any mode),
20 Hz - 20 kHz

Frequency Response

(ref. 1 kHz, 1 watt output, +0, -3 dB):

10 Hz - 90 kHz

Voltage Gain (reference 1 kHz),

Dual Mode, 4 or 8 Ohms:

36 dB

Bridge Mode, 8 or 16 Ohms:

42 dB

Input Sensitivity for Rated Output Power (reference 1 kHz),

Dual Mode, 4 Ohms:

+0.2 dBu (0.79 V rms)

Bridge Mode, 8 Ohms:

+0.2 dBu (0.79 V rms)

Dual Mode, 8 Ohms:

+1.4 dBu (0.91 V rms)

Bridge Mode, 16 Ohms:

+1.4 dBu (0.91 V rms)

Maximum Input Level (reference 1 kHz):

+20 dBu (7.75 V rms)

Input Impedance

(per channel, 20 Hz - 20 kHz),

Balanced:

>30 kilohms

Unbalanced:

>15 kilohms

Phase Response

(at rated output power, any mode),

at 20 Hz:

< +25 degrees

at 20 kHz:

> -15 degrees

THD (at rated output power, 30 kHz measurement bandwidth),

Any Mode:

<0.10%

IMD [SMPTE 4:1] (at rated output power),

Any Mode:

<0.05%

TIM [DIN 100] (at rated output power),

Any Mode:

<0.05%

Rise Time

(10% to 90%, at rated output power),

Any Mode:

<6 μsec

Slew Rate (at rated output power),

Dual Mode, 4 or 8 Ohms:

>30 V/μsec

Bridge Mode, 8 or 16 Ohms:

>60 V/μsec

Damping Factor,

Dual Mode, 8 Ohms,

20 Hz - 1 kHz: >250

20 kHz: >75

Channel Separation (below rated output power, single channel operating):

>80 dB at 1 kHz

Noise (below rated output power, A weighted, any mode):

>100 dB

Amplifier Protection:

Excessive output voltage

Shorted loads

Excessive phase shift

RF interference

Over temperature

Load Protection:

Startup/shutdown transients

dc fault

Infrasonic signals

Low ac line voltage

Cooling:

2-speed fan

Output Topology:

True complementary symmetry

Output Type,

Dual Mode: Unbalanced, each channel

Bridge Mode: Balanced

Output Devices (32, both channels),

Pd_{max}: 250 watts

Ic: 16 A dc

Vceo: 250 V dc

Tj_{max}: 200°C (392°F)

Controls and Switches,

Input Level Controls (two)-Rear:

Continuously variable

Dual/bridged mode switch-rear

Power switch-front

Front-Panel Indicators:

Power LED

Clip LED's (two)

Protect LED's (two)

Connections,

Input:

Female XLR-type connectors (two)

Octal accessory sockets (two)

Output:

Power:

3-terminal IEC ac line receptacle

Power Requirements:

120 V ac, 50/60 Hz, 1800 watts

(configurable to 240 V ac)

100 V ac, 50/60 Hz model available

Power Consumption/Heat Produced (both

channels operating dual mode with 1 kHz

input signal at stated output power into 4

ohms, or bridge mode into 8 ohms),

1/2 Power:

1800 watts/4.465 kBTU/hr

Rated Power:

2520 watts/4.488 kBTU/hr

Maximum Midband Power:

2700 watts/4.216 kBTU/hr

Operating Temperature Range:

Up to 60 degrees C

(140 degrees F) ambient

Dimensions,

Height: 13.3 cm (5.25 in.)

Width: 48.3 cm (19 in.)

Depth: 40.8 cm (15.75 in.)

Color:

Gray front panel with black chassis

Enclosure:

Rack mount chassis

16-GA steel

3/16-inch 6061-T6 aluminum front panel

Shipping Weight:

28.1 kg (62 lb)

Net Weight:

23.6 kg (52 lb)

Supplied Items:

One owner's manual

One detachable power cord

Four "U" jumper plugs for octal sockets

Optional Accessories:

The octal sockets permit a variety of plug-in accessories to be used with the amplifier.

Modules Include:

APX two-way crossover module,

24 dB/octave, freq. selectable

50 Hz - 10 kHz, 24 freq. available

APX-2 crossover module, same as APX

with separate high-pass output for

other amplifiers

APX-200

INSTALLATION

Unpacking

Upon receipt of the unit, inspect the shipping carton for possible damage during transit. If damage is found, notify the transportation company immediately. Should damage occur during shipping, it is the responsibility of the consignee to initiate a claim with the carrier.

*** CAUTION ***

No user serviceable parts inside. Hazardous voltage and currents may be encountered within the chassis. The service information contained within this document is for use only by Electro-Voice, Inc., authorized warranty stations and qualified service personnel. To avoid electric shock, do not perform any servicing unless you are qualified to do so.

DESCRIPTION

The 7600 is a dual-channel power amplifier for professional sound reinforcement.

Each channel delivers more than 400 watts of continuous average power into 8 ohms or 600 watts into 4 ohms over full audio frequency range. In the bridge mode, the amplifier can deliver more than 1200 watts at less than 0.10% THD into 8 ohms.

Each channel is independently protected against...

- Over temperature
- Excessive output voltage
- Excessive phase shift
- Radio-frequency interference
- Shorted loads

The load is protected from startup/shutdown transients, infrasonic signals, low ac line voltage, and dc. When a problem is detected, an output relay automatically disconnects the load from the channel and illuminates the Protect LED located on the front panel.

The 7600 has electronically balanced inputs and accessory sockets for plug-in transformers and electronic modules. The level controls are rear mounted to avoid accidental changes. The standard power transformer permits operation at 120/240 V ac, 50/60 Hz. A 100-V-ac, 50/60-Hz model is available. The Electro-Voice 7600 power amplifier is the choice for serious professional installations which demand the highest quality at high power levels for extended periods of time.

ARCHITECTS' AND ENGINEERS' SPECIFICATIONS

The power amplifier shall be a dual-channel model of solid-state design employing true complementary-symmetry output circuitry and capable of operating from a 120/240 V ac, 50/60 Hz ac line. 100 V ac, 50/60 Hz is available. The amplifier shall contain sensing circuitry to provide protection for the output transistors against over temperature, excessive output voltage, radio-frequency interference, shorted loads, and excessive output phase shift. The load shall be similarly protected against infrasonic signals, startup/shutdown transients, low ac line voltage, and dc.

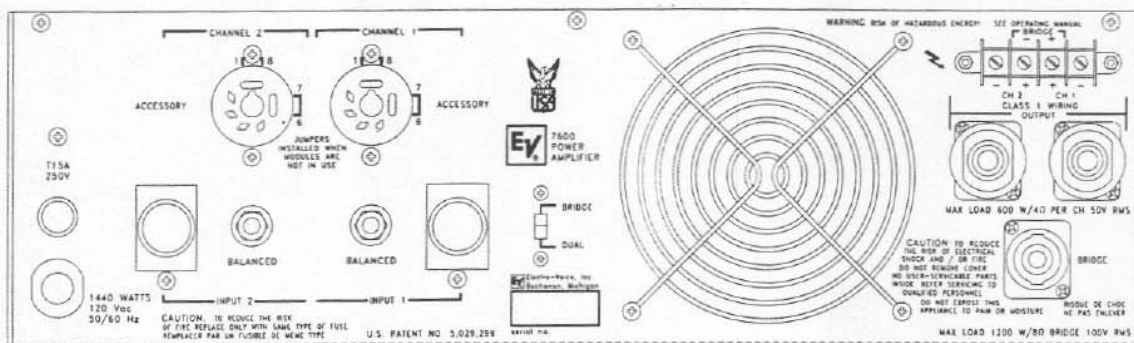
Front panel controls shall include a power on/off switch, and a 31-position detented level control for each channel. Front panel indicators shall include an illuminated power on/off indicator, individually illuminated clipping and protection-circuit-activation indicators for each channel. The amplifier shall have rack handles on the front panel.

Rear-mounted panel controls shall include a two-position mode switch for selecting between the dual monophonic mode or the bridged monophonic mode. Input connections for each channel shall include a 3-pin female XLR-type connector and 1/4-inch unbalanced and TRS connectors. The amplifier shall have octal accessory sockets for electronic crossover and equalizer modules. The amplifier shall have Neutrik® Speakon and a covered barrier-strip output connectors.

The power amplifier shall meet the following performance criteria. Maximum input voltage: 7.75 V rms. Input voltage for rated output power into 4 ohms: 0.79 Vrms. Rated output power per channel: 600 watts into 4 ohms from 20 Hz to 20 kHz at less than 0.10% THD; 400 watts into 8 ohms from 20 Hz to 20 kHz at less than 0.05% THD; 1200 watts into an 8-ohm bridged load from 20 Hz to 20 kHz at less than 0.10% THD with channel #1 driven. Voltage amplification in dual mode: 36 dB. Hum and noise: at least 100 dB (A weighted) below rated output power. Frequency response: 20 Hz to 20 kHz, ±1 dB at any output power up to rated output power. Damping factor: greater than 250 at any frequency up to 1 kHz in dual mode with 8-ohm load.

Transient intermodulation distortion (DIN 100): less than 0.05 in dual mode into 8 ohms. Intermodulation distortion (SMPTE): less than 0.05% in dual mode into 8 ohms. Crosstalk: more than 80 dB below rated output power. Operating temperature range: up to 60 degrees C (140 degrees F) ambient. Dimensions: 5.25"H x 19"W x 15.75"D. Net weight: 52 pounds. Color: black. Enclosure: rack mounted chassis; 16GA steel bottom/sides; 3/16" 6061-T6 aluminum front panel.

The power amplifier shall be the Electro-Voice 7600.



BACK PANEL LAYOUT

Figure 4 illustrates the items described below:

- AC FUSE RECEPTACLE:** This holder requires a Littelfuse type 3AB, 15 amp, 1250-volt SLO-BLO®326 series ceramic cartridge body, or equivalent.
SLO-BLO is a registered trademark of Littelfuse, Inc.
- INPUT ATTENUATORS:** These controls adjust the input levels for both channels.

- ACCESSORY SOCKETS:** These octal sockets allow the use of several accessories. See the SPECIFICATIONS section for a listing of all compatible accessories.
- CHANNEL OUTPUT CONNECTIONS:** This terminal strip is for speaker connections, either in the dual or bridge mode.

- MODE SWITCH:** This switch enables either the dual or bridge mode of operation.
- CHANNEL INPUT CONNECTIONS:** Differential input connections can be made to either the terminal strip or the XLR-type connectors.
- POWER CORD RECEPTACLE:** This receptacle is for the supplied three-prong male power cord.



CONNECTIONS AT THE AMPLIFIER

The Electro-Voice 7600 power amplifier incorporates three Speakon connectors: two for stereo and one for bridged mono operation. The electrical output of each of these connectors appears at pins 1+ and

1-. When connecting the low end of an MTS-1, S-1503ER, or S-1803ER to the 7600 amplifier, wire the 1+/1- (LF) portion of the cable to pins 1+ and 1- of a Speakon NL4FC cable connector.

WARRANTY (Limited)

Electro-Voice products are guaranteed against malfunction due to defects in materials or workmanship for a specified period, as noted in the individual product-line statement(s) below, or in the individual product data sheet or owner's manual, beginning with the date of original purchase. If such malfunction occurs during the specified period, the product will be repaired or replaced (at our option) without charge. The product will be returned to the customer prepaid. Exclusions and Limitations: The Limited Warranty does not apply to: (a) exterior finish or appearance; (b) certain specific items described in the individual product-line statement(s) below, or in the individual product data sheet or owner's manual; (c) malfunction resulting from use or operation of the product other than as specified in the product data sheet or owner's manual; (d) malfunction resulting from misuse

or abuse of the product; or (e) malfunction occurring at any time after repairs have been made to the product by anyone other than Electro-Voice or any of its authorized service representatives. **Obtaining Warranty Service:** To obtain warranty service, a customer must deliver the product, prepaid, to Electro-Voice or any of its authorized service representatives together with proof of purchase of the product in the form of a bill of sale or receipted invoice. A list of authorized service representatives is available from Electro-Voice at 600 Cecil Street, Buchanan, MI 49107 (616/695-6831) and/or Electro-Voice West, at 8234 Doe Avenue, Visalia, CA 93291 (209/651-7777). **Incidental and Consequential Damages Excluded:** Product repair or replacement and return to the customer are only remedies provided to the customer. Electro-Voice shall not be liable for any incidental or consequential damages including, without limitation, injury to persons

or property or loss of use. Some states do not allow the exclusion or limitation of incidental or consequential damages so the above limitation or exclusion may not apply to you. **Other Rights:** This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

Electro-Voice Electronics are guaranteed against malfunction due to defects in materials or workmanship for a period of three (3) years from the date of original purchase. Additional details are included in the Uniform Limited Warranty statement.

Service and repair address for this product: Electro-Voice, Inc., 600 Cecil Street, Buchanan, MI 49107.

Specifications subject to change without notice.