

CPS-2T

Commercial Stereo Power Amplifier



COMMERCIAL

General Product Description

The Electro-Voice CPS-2T amplifier is a very high-quality power amplifier designed to elicit excellent performance from any speaker system as well as 25V, 70.7V and 100V lines. Its low distortion and substantial headroom ensure that program material will be accurately amplified.

Each channel of the CPS-2T delivers more than 330-watts continuous average power into 8 ohms and 600 watts into 4 ohms. In its transformer-isolated dual mode, it can deliver more than 580 watts into 25, 70.7 or 100-volt lines. In the bridged mode at 1 kHz, the amplifier can deliver more than 1,200 watts into 8 ohms at less than 1% THD. Both direct and transformer-isolated outputs may be used simultaneously. The power supply with its large toroidal transformer gives the amplifier impressive headroom and current-output.

The CPS-2T contains 20 high-power output devices with 5,000 watts of dissipation capability. These devices are protected from overheating by two, three-speed temperature-sensitive fans. The fans are quiet enough to permit use of the CPS-2T in noise-sensitive applications such as recording studios and houses of worship.

The CPS-2T has sophisticated protection circuits that guard it and the load from problems. Protection circuits guard against overload, over-temperature, shorted outputs, radio-frequency interference and dc faults. The output devices are protected against damage from the reverse feeding of electrical energy (back EMF) from the load and are switched on via relays to avoid transients which could damage speakers. There is also a Transformer Saturation Protection (TSP) circuit that monitors the current demands of the transformer and can activate the limiters when the input signal reaches +20 dBu at any frequency.

The CPS-2T has built-in limiters to protect speakers from the deleterious effects of amplifier clipping. The limiter's action is controlled by very sophisticated input/output comparators which are designed to preserve the sonic integrity of the source.

The CPS-2T has electronically-balanced XLR type and removable Phoenix Contact "Euro-style" input connectors in parallel that allow easy, problem-free connections and signal routing. The amplifier has an input routing switch that allows selection of either normal dual-channel operation or parallel mono operation, which routes an input to both channels but still allows independent level control. Optional input transformers may be added to the amplifier to provide for even greater immunity from interference.

The CPS-2T Phoenix Contact "Euro-style" removable output connectors provide sturdy, reliable connections and allow use of heavy wire for loss-free signal transmission. There are easily identifiable connections for the direct outputs and for the transformer-isolated 25, 70.7 and 100-volt outputs which may be used simultaneously.

To prevent ground loops from occurring, the CPS-2T is equipped with a ground-lift switch. When the amplifier is operated in a rack with units of different ground potential, the switch may be adjusted to eliminate hum.

Separate dB-scaled potentiometers on the rear panel of the CPS-2T allow easy regulation of gain. There is easily readable nomenclature to ensure repeatable control settings.

The Electro-Voice CPS-2T is an excellent choice for high-quality professional sound system applications which require excellent sound quality, speaker protection and the highest level of construction quality and long-term reliability.



Architects' and Engineers' Specifications

The power amplifier shall be a dual-channel model of solid-state design employing high-power output devices capable of driving normal speakers and 25 – 100 volt lines. It shall be capable of operating from a 120/230/240-V, 50/60 Hz ac line. The power amplifier shall meet many worldwide product safety requirements including Underwriter's Laboratories UL-813 standard, Canadian Standards and CE standards.

The power amplifier shall contain a limiter circuit driven by a high-quality input/output comparator to protect the load from damage by amplifier clipping. The amplifier shall contain sensing circuitry to provide protection for the output transistors against over temperature, excessive output voltage, shorted loads, excessive phase shift and back-EMF current. The load shall be similarly protected against start-up/shutdown transients, low ac line voltage and dc.

Rear-mounted controls shall include detented dB-scaled level potentiometers for each channel, an input routing switch for selecting dual/stereo or parallel mono operation, a switch for selecting dual/stereo or bridged operation and a chassis ground-lift switch. Rear-mounted input connectors shall include a 3-pin female XLR-type connector wired in parallel with a male 3-pin XLR-type output connector for signal routing. Output connector shall be a "Euro-style" Phoenix Contact 12-pin #KGS-MSTB2.5/12 connector.

Front-panel indicators shall include power on, a protection indicator and separate signal present and limiter indicators for each channel. Front-panel controls shall include a power on switch.

The power amplifier shall meet the following performance specifications: rated output power from 20-20,000 Hz at less than 0.2% THD, each channel 330 watts into 8 ohms, 600 watts into 4 ohms as well as 25, 70 or 100 volt lines; In bridged mode at 1 kHz, the amplifier shall deliver 1,200 watts into 8 ohms; THD (total harmonic distortion) shall be less than 0.05% at 1 kHz at rated output power at 8 and 4 ohms, 0.1% at 100 volts, 0.2% at 70 volts and 0.3% at 25 volts; transient intermodulation distortion (DIM 30), shall be less than 0.03% at 8 and 4 ohms, 0.1% at 100 volts, 0.3% at 70 volts and 0.5% at 25 volts. Dimensions shall be 132.5 mm (5.25 in) high x 483 mm (19.0 in) width x 385.5 mm (15.7 in) deep. Net weight shall be 22.5 kg (49.6 lb). Color shall be light gray.

The power amplifier shall be the Electro-Voice CPS-2T.

Specifications:

Conditions:

1. 0 dBu = 0.775 V rms.
2. Dual-mode ratings are for each channel both operating, unless noted.
3. Rated ac line voltage maintained throughout testing.

Continuous Rated Output Power (45 - 20,000 Hz at less than 0.2% THD, both channels driven per EIA RS-490),

Dual Mode, 4 Ohms: 500 watts

Bridged Mode, 8 Ohms: 1,000 watts

Dual Mode, 8 Ohms: 300 watts

Transformer-Isolated Outputs, Dual Mode:

500 watts at 25 V, 70 V, or 100V

Continuous Rated Output Power (1 kHz, 1% THD, both channels driven per EIA RS-490),

Dual Mode, 4 Ohms: 600 watts

Bridged Mode, 8 Ohms: 1,200 watts

Dual Mode, 8 Ohms: 330 watts

Transformer-Isolated Outputs, Dual Mode:

590 watts at 100 V

580 watts at 70 V

570 watts at 25 V

Transformer-isolated Outputs, Bridged Mode:

1,180 watts at 200 V

1,160 watts at 140 V

1,140 watts at 50 V

Maximum RMS Voltage Swing (reference 1 kHz, 1 % THD),

Direct Outputs:

52 Volts

Transformer-Isolated Outputs:

121 Volts at 100 V

88 Volts at 70 V

32 Volts at 25 V

Frequency Response (+0, - 3 dB, reference 1 kHz/1 watt):

45 - 30,000 Hz at direct outputs

45 - 22,000 Hz at transformer-isolated outputs

Voltage Gain (reference 1 kHz),

30 dB at direct outputs

42 dB at 100 V

39 dB at 70 V

30. dB at 25 V

Input Sensitivity, 1 kHz, Dual Mode for 500 watts into 4 Ohms:

0 dBu (775 mV)

Maximum Input Level (reference 1 kHz):

+20 dBu (7.75 V)

Input Impedance (per channel, 20 -20,000 Hz), **Balanced:**

20,000 ohms

Total Harmonic Distortion (at rated output power, measurement

bandwidth 80 kHz, reference 1 kHz):

<0.05% at direct outputs

<0.1% at 100 V

<0.2% at 70 V

<0.3% at 25 V

IMD (SMPTE) (60 Hz/7 kHz, typical, rated power):

<0.08% at direct outputs

<0.1% at 100 V

<0.3% at 70 V

<0.5% at 25 V

Slew Rate, (at 1 kHz):

30 V/microsecond

Damping Factor, Any Mode, (at 100 Hz /1 kHz): >300 / >200

Signal to Noise Ratio: > 100 dB

Amplifier Protection:

TSP (Transformer Saturation Protection); Audio limiters; over-temperature; dc, excessive hf, excessive back-EMF; inrush current limiters; shorted loads; peak current limiters

Load Protection:

Start-up/shutdown transients; dc fault; infrasonic and ultrasonic filters; Low ac line voltage; nonlinear signal limiters; transformer saturation protection

Cooling System:

Front-to-rear airflow with two 3-speed fans

Controls and Switches,

Rear: Two calibrated level controls; input routing (Dual/Parallel); chassis ground switch (Grounded/Ungrounded); bridged mode switch (Bridged/ Normal); Power Switch (On/Off)

Front: Power switch (On/Off)

Front-Panel Indicators:

Two LED's per channel (4 total) for signal present -and limiter on, protect indicator and power on

Connections,

Input:

3-pin female XLR-type connectors for each channel in parallel with a removable 3-pin Phoenix Contact "Euro-style" terminal block connector for easy signal routing. The XLR connectors are wired according to the EEC 268 standard: pin 1 shield, pin 2 positive, pin 3 negative

Output:

Phoenix Contact "Euro-style" terminal block connector #KGS-MSTB 2.5/12 for direct-coupled and transformer isolated outputs for AWG 12-24 wire.

Power:

16-gauge 3-wire IEC standard removable power cable Remote Power "On" at pin 2 of Phoenix Connector.

Operating Voltage: 120, 230 V, 50/60 Hz ac

Power Consumption (both channels operating in dual mode at 1/8 maximum output power at 4 ohms):

..... 870 watts

Dimensions,

Height: 5.25 in (132.5 mm)

Width: 19.0 in (483 mm)

Depth: 15.17 in (385.5 mm)

Color: Gray

Net Weight: 49.6 lb (22.5 kg)

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Electro-Voice®

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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 866/78AUDIO

Please refer to the Engineering Data Sheet for warranty information.

Specifications subject to change without notice.