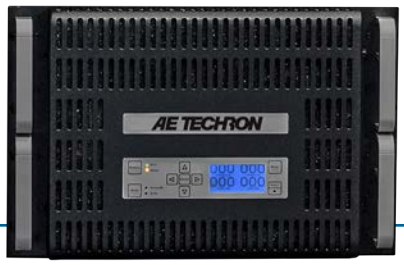
AETECHRON



7796HC

Precision, DC-enabled Linear Power Amplifier

Performance Overview:

AC Power (up to 20 kHz):	2550 watts RMS
Small Signal:	28V p-p to 250 kHz
For High-Power Applications to:	100 kHz
DC Power:	85A at 13.5V DC; 70A at 28V DC
Slew Rate:	>35 V/µs
Output Voltage:	±80 Vp
Output Impedance:	3.2 mΩ in series with 2.2 µH

For testing to these Specifications:

AVIATION
MIL STD 704

AUTOMOTIVE STANDARDS
ISO 7637-2
ISO 11452-8 and -10
ISO 16750-2
SAE J1113-2

AUTOMOTIVE OEM
Chrysler CS-11809 (2009)
Chrysler CS-11979
Chrysler DC-11224 Rev.A
DaimlerChrysler DC-10614
DaimlerChrysler DC-10615
DaimlerChrysler DC-11224
EMC-CS-2010JLR V1.1 (2011-01)
Fiat 9.90110
Ford EMC-CS-2009.1
Ford ES-XW7T-1A278-AC
GLloyd VI-7-2
GMW 3097 (2006)
GMW 3172
MAN 3285
MBN 10284-2
Nissan 28400 NDS 02
PSA B21 7110 Rev.C, Ad. 2010-05
Renault 36.00.808/--G
Renault 36.00.808/--H
Renault 36.00.808/--J
Renault 36.00.808/--K
Renault 36.00.808/--L
Tata TST/TS/WI/257
Volvo STD 515-0003
VW TL 825 66

Features

- Up to 85A continuous at 13.5V DC
- Up to 200A in-rush current capability
- Stable when driving highly capacitive loads
- ±80V DC capable
- Four-quadrant operation (source and sink)
- Field-selectable controlled-voltage or controlled-current modes of operation.
- Can be switched between rail supply modes to optimize for various load impedances
- Protection circuitry protects the amplifier from input overloads, improper output connection (including shorted and improper loads), over-temperature, over-current, and supply voltages that are too high or low.

AE Techron's 7796HC amplifier is a DC plus audio-bandwidth AC amplifier that can be used to simulate ripple noise, drop-outs, surges and ground-shift noise as is required by a variety of standards for DC-powered electronics in the aviation and automotive industries..

A single 7796HC makes a very good choice for 13.5V DC-based power susceptibility test standards for high-current-draw EUTs (up to 85A). With multi-amp configurations capable of up to 600A, a DC-100 kHz+ bandwidth, and the ability to both source and sink, the 7796HC is your best solution for high-current DC Conducted Immunity testing.*

*208V AC version ONLY; 400V AC version not available.

Specifications

Performance

Testing performed at 208V AC. 7796HC amplifiers can operate from 208V AC ±10%. Since these amplifiers have an unregulated power supply, low line conditions may slightly affect the maximum voltage potential.

All testing was performed in Controlled-Voltage (CV) mode. Accuracy was measured when driven into a 10-ohm load with between 0.1V DC and 6V DC or between 0.2V AC and 5V AC presented at its inputs.

Frequency Response, DC–30 kHz (1 watt into 8 ohms): +0.1 to –0.5 dB

Maximum Continuous Output Power: 2550 watts RMS

Slew Rate: >35 V/µs

Phase Response (10 Hz - 10 kHz): ±8.3 degrees

Unit to Unit Phase Error: ±0.1 degrees at 60 Hz

Output Offset: <±200 µV

Output Offset Current: <10 mA, DC

Residual Noise, 10 Hz to 20 kHz: <250 µV (<0.25 mV)

THD (DC - 20 kHz): <0.25%

DC Drift,
- **From Cold to Maximum Operating Temperature:** <±400 µV
- **After 20 Minutes of Operation:** ±200 µV

Output Impedance: 3.2 mΩ in Series with 2.2 µH

Input Characteristics,
- **Balanced with ground:** Three terminal barrier-block connector, 20 kΩ differential
- **Unbalanced:** BNC connector, 10 kΩ single-ended

Gain,
- **Voltage Mode:** 20 volts/volt
- **Current Mode:** 20 amperes/volt

Gain Linearity (over input signal, from 0.2V to 5V),
- **DC:** 0.0125%
- **AC:** 0.030%

Max Input Voltage: ±10V, balanced or unbalanced

Input Impedance: 20 kΩ differential

Common Mode Rejection Range: ±11V DC maximum

Common Mode Rejection Ratio: Better than 70 dB

Status Display, Control, I/O

Front Panel LED Displays indicate: Ready, Standby, Fault

Soft Touch Switches for: Run, Stop, Reset

LCD Display: Can be configured for up to four simultaneous displays reporting one, two, or all four of the following: V_p, V_{RMS}, A_p, A_{RMS}. Also reports any fault conditions that occur and suggests corrective action.

Back Panel Power Connection: NEMA-style locking receptacle; matching AC connector also included

Signal Output: 4-position terminal barrier block (OUTPUT / COMMON / SAMPLED COMMON / CHASSIS GROUND); resistor installed between SAMPLED COMMON AND CHASSIS GROUND is a 2.7-ohm, 2W, 5%, metal-oxide resistor

Signal Input: User-selectable BNC or Barrier Strip, Balanced or Unbalanced

Interlock Connector: 25-pin D-sub connector used for amplifier control and status applications; also used in multi-amplifier applications

Communication Capabilities

Current Monitor: 20A/V ±1%; 10A/V ±1% (differential configuration)

Reporting: System Fault, Over Temp, Over Voltage, Over Load

Remote Control via Interlock Connector: Force to Standby, Reset after a Fault

Protection

Over/Under Voltage: ±10% from specified supply voltage amplifier is forced to Standby

Over Current: Breaker protection on both main power and low-voltage supplies

Over Temperature: Separate output transistor, heat sink, and transformer temperature monitoring and protection

Physical Characteristics

Chassis: The amplifier is designed for stand- alone or rack-mounted operation. The chassis is aluminum with a black powder-coat finish. The unit occupies seven EIA 19-inch-wide units.

Weight: 153 lbs (69 kg), Shipping 168 lbs (76.2 kg)

AC Power: Three-phase, 208V AC (±10%), 47-60 Hz, 30A AC service; (400V AC model NOT available)

Operating Temperature: 10°C to 50°C (50°F to 122°F), maximum output power de-rated above 30°C (86°F).)

Humidity: 70% or less, non-condensing

Cooling: Forced air cooling from front to back through removable filters via six 100ft3/min. fans. No space is required between rack-mounted amplifiers. Air filters are removeable from the rear via one fastener per side and may be eliminated if cabinet filtration is provided.

Dimensions: 19" x 22.8" x 12.25" (48.3 cm x 57.9 cm x 31.1 cm)

DC Output

VDC	OUTPUT (Amperes) 1 Hour, 100% Duty Cycle
13.5	90
24	90
48	80

AC Output

Ohms	Output (RMS) 100 ms Surge	10 Minute 100% Duty Cycle	1 Hour 100% Duty Cycle
1.0	39V, 39A	39V, 39A	39V, 39A
0.5	37V, 74A	37V, 74A	35V, 71A
0.25	28V, 110A	27V, 107A	25V, 98A

Performance