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

7796HC
High Current AC/DC Power Amplifier/ Battery + Ripple Simulator

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

- Stable when driving highly capacitive loads.
- Up to 85A continuous at 13.8 VDC.
- Up to 200A inrush current capability.
- 150+ kHz small signal bandwidth.
- ±80 VDC capable.
- Fast 41 V/µS slew rate.
- Four quadrant operation (source and sink).
- 3 mOhm output impedance.

7796HC DC Specifications

	OUTPUT (Amperes)		
VDC	100 mS Surge	10 Minute, 100% Duty Cycle	1 Hour, 100% Duty Cycle
48	92	80	60
35	138	70	52
28		90	70
13.8	150	90	85

7796HC AC Specifications

	OUTPUT (RMS)		
Ohms	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 (Controlled Voltage Mode)

Note: Testing performed at 208VAC. Since these amplifiers have an unregulated power supply, low line conditions may slightly affect the maximum voltage potential.

Frequency Response:
DC – 30 kHz, +0.1, –0.5 dB

Slew Rate:
41 V/µSec

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

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

Output Offset:
Less than 5 mV, field adjustable to less than 1 mV

Output Offset Current:
Less than 10 milliamperes DC

DC Drift:
±1.5 mV

Residual Noise:
Unfiltered: Less than 75 µV
Filtered (400 Hz – 30 kHz):
Less than 55 µV

THD:
DC - 30 kHz less than 0.1%

Input Characteristics

Balanced with Ground:
Three terminal barrier block connector
20k ohm differential

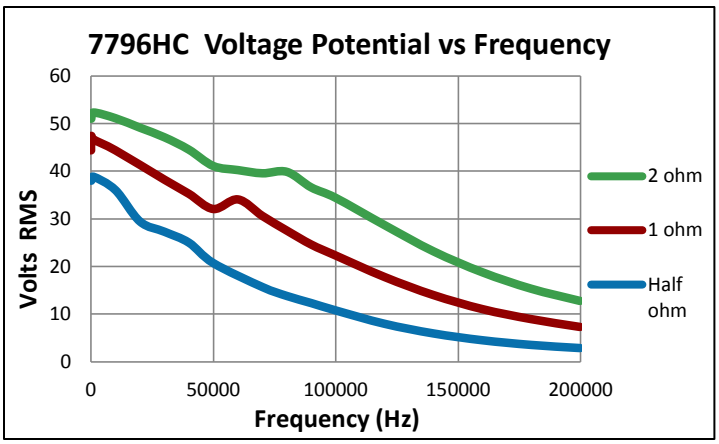
Unbalanced:
BNC connector, 10k ohm single ended

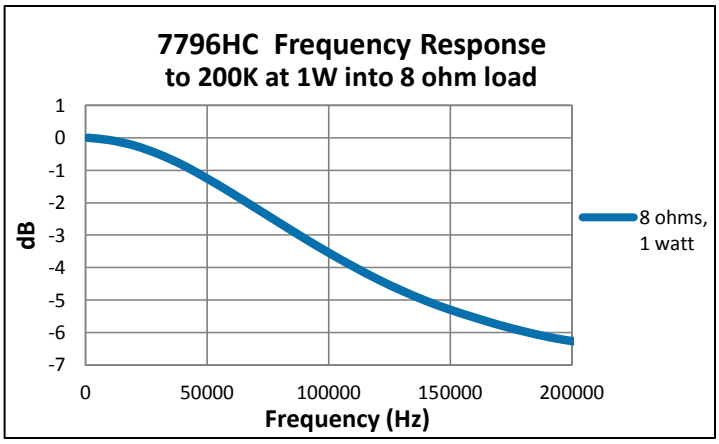
Gain:
Voltage Mode: 20 volts/volt
Current Mode: 20 amperes/volt

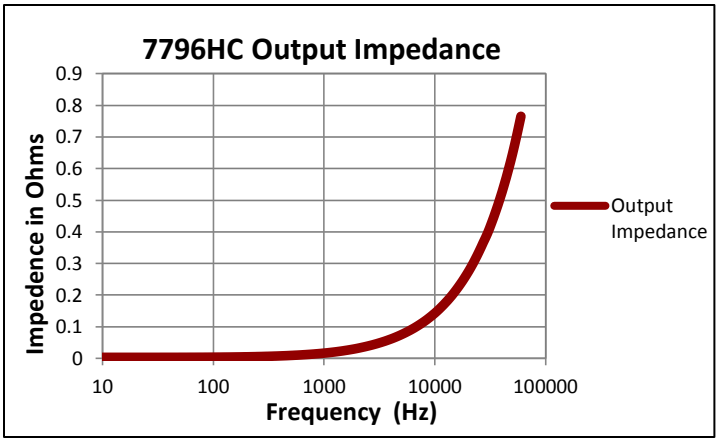
Gain Linearity (over input signal, from 0.2 V to 5 V):
0.1%

Max Input Voltage:
± 10 V balanced or unbalanced

Input Impedance:
20 kOhm differential







Common Mode Rejection Range:
± 11 VDC maximum

Common Mode Rejection Ratio:
70 dB

Display, Control, Status

Front Panel LED Displays indicate:
Ready, Standby and Fault conditions in the output stage

LCD Display:
LCD display can be configured for up to four simultaneous displays reporting one, two or all four of the following: Voltage Peak, Voltage RMS, Current Peak, and Current RMS. The display provides values measured directly from the amplifier output. If a fault condition occurs, the display will provide the type of fault condition and give suggested corrective action.

Soft Touch Switches for:
Enable (Run), Stop (Standby), Reset

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 Unbalanced BNC or Balanced Barrier Strip

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

Communication Capabilities

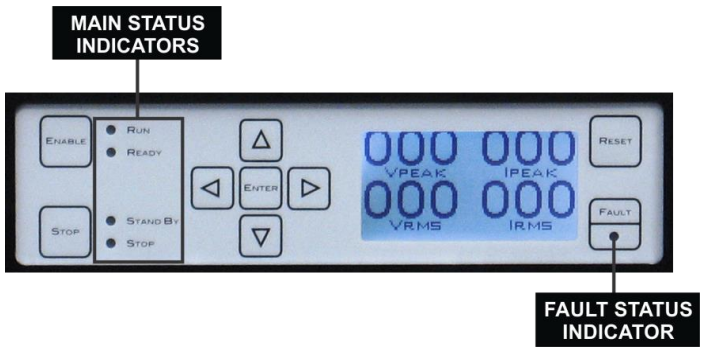
Current Monitor: ± 1V / 20A ±1%
Reporting:
System Fault, OverTemp, Over Voltage, Overload

Control:
Force to Standby; Reset after a fault

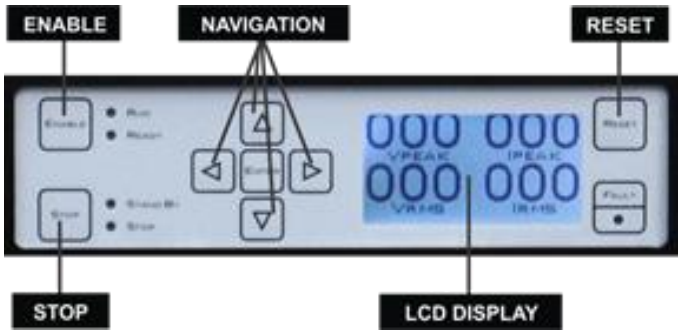
Protection

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

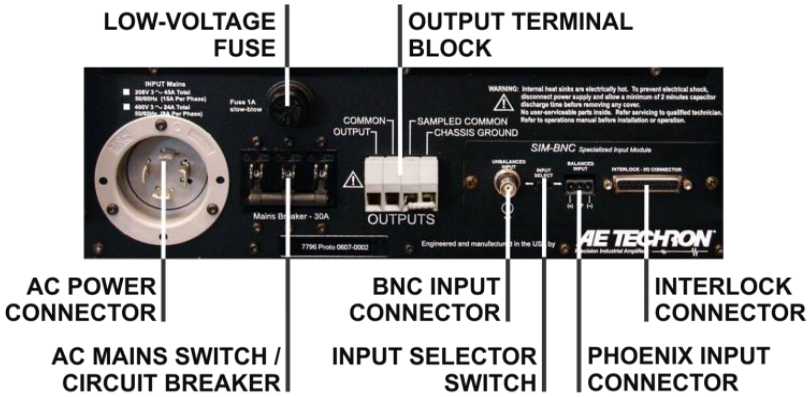
Over Current:
Breaker protection on both main power and low voltage supplies



7796HC Front Panel Indicators



7796HC Front Panel Display and Controls



7796HC Back Panel

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

Physical Characteristics

Chassis:
All aluminum construction designed for stand-alone or rack-mounted operation with black chassis; the amplifier occupies five EIA 19-inch-wide rack units

Weight:
153 lbs. (69 kg)

AC Power:
Three-phase, 208 VAC ±10%, 47-60 Hz, 30A AC service.
NOTE: 400 VAC version 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:
Internal fans forced air, 500 cfm

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

AE Techron Sales Representative