

AE Techron's 7794 is a powerful four-quadrant amplifier that offers up to 200 Ap power, DC – 100 kHz bandwidth, and controlled-current or controlled-voltage modes of operation. The 7796 works best into loads of 0.5 ohms or less. For greater voltage or current (up to 800 Ap) units can be combined in parallel or series.

Typically used when large currents are needed to drive very low impedances for long periods of time. Often used as a battery substitute for transient immunity testing requiring a battery as specified in EMC Test Standards for military, aviation and the automotive industries.

### Performance (Controlled Voltage Mode)

*Note: Testing performed at 208V/415V AC. 7796 amplifiers can operate from 400V AC  $\pm 10\%$ . 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

### 8 ohm Power Response:

**DC-50 kHz:**  $\pm 95$  Vpk

**DC-150 kHz:**  $\pm 50$  Vpk

**DC-200 kHz:**  $\pm 25$  Vpk

### Maximum Continuous Output Power:

5000 watts RMS

### Slew Rate:

41 V/ $\mu$ Sec

### Phase Response:

$\pm 8.3$  degrees (10 Hz – 10 kHz)

### Phase Error:

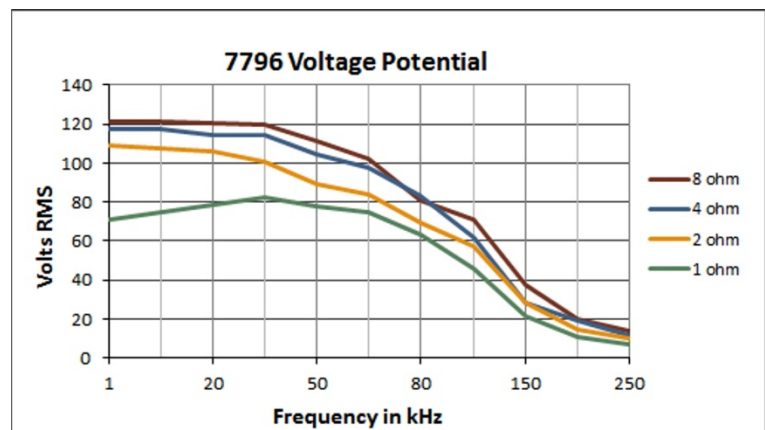
$\pm 0.1$  degrees at 60 Hz



## 7794 SPECIFICATION SHEET

### Features

- Stable when driving a wide range of resistive, inductive or capacitive loads
- 60A continuous at 13.8 VDC
- 200A in-rush current capability
- 150 kHz small signal bandwidth
- $\pm 95$  VDC capable
- 41 V/ $\mu$ S slew rate
- Four-quadrant operation (source and sink)



## AC Specifications

Ohms	PEAK OUTPUT						RMS OUTPUT				
	40mSec Pulse, 30% Duty Cycle		5 Minute, 100% Duty Cycle		1 Hour, 100% Duty Cycle		5 Minute, 100% Duty Cycle		1 Hour, 100% Duty Cycle		
	Volts	Amps	Volts	Amps	Volts	Amps	Volts	Amps	Volts	Amps	Watts
8	98	13	98	13	97	13	69	9	69	9	600
4	95	23	95	23	95	23	66	16	66	16	1000
2	88	44	88	44	88	44	60	30	60	30	1800
1	81	81	81	81	81	81	56	56	56	56	3200
0.5	72	144	72	144	72	144	50	100	50	100	5000
0.25	50	210	32	134	32	134	23	91	23	91	2000
0.125	23	197	23	194	23	191	16	133	16	130	2000

Note: Performance levels typical up to 20 kHz frequency levels. Above 20 kHz, slew rate may affect performance, reducing maximum voltage, current and power output.

### Output Offset:

Less than 5 mV, field adjustable to less than 1 mV

### 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 mA 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):**

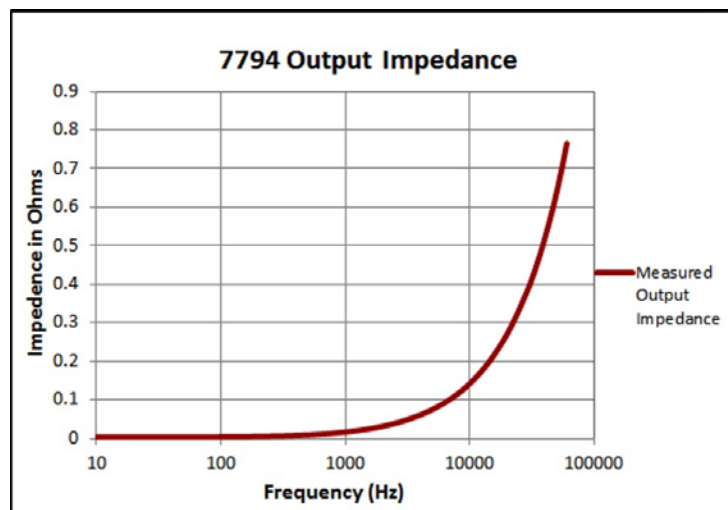
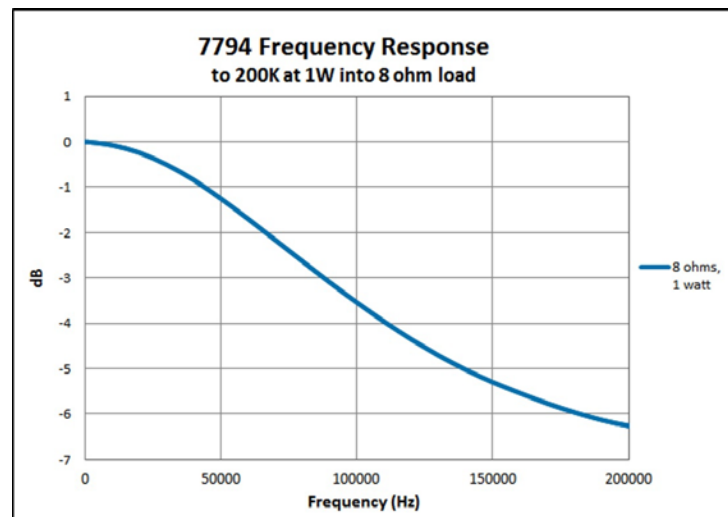
0.1%

#### Max Input Voltage:

±10 V balanced or unbalanced

### 7794 One Hour DC Performance

VOLTAGE DC	DC CURRENT
13.5	60
28	106
32	115
80	70



**Input Impedance:**

20 kOhm differential

**Input Sensitivity:**

3.0V input for 3800W output into 1 ohm (adjustable)

**Common Mode Rejection Range:**

± 11 VDC maximum

**Common Mode Rejection Ratio:**

70 dB

**Display, Control, Status, I/O**

**Front Panel**

**LED Displays indicate:**

Run, Ready, Standby, Stop, and Fault conditions in the output stage

**LCD Display:**

Lists type of fault condition and gives suggested corrective action

**Soft Touch Switches for:**

Run (Enable), Stop, Reset

**User Configurable:**

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

**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:**

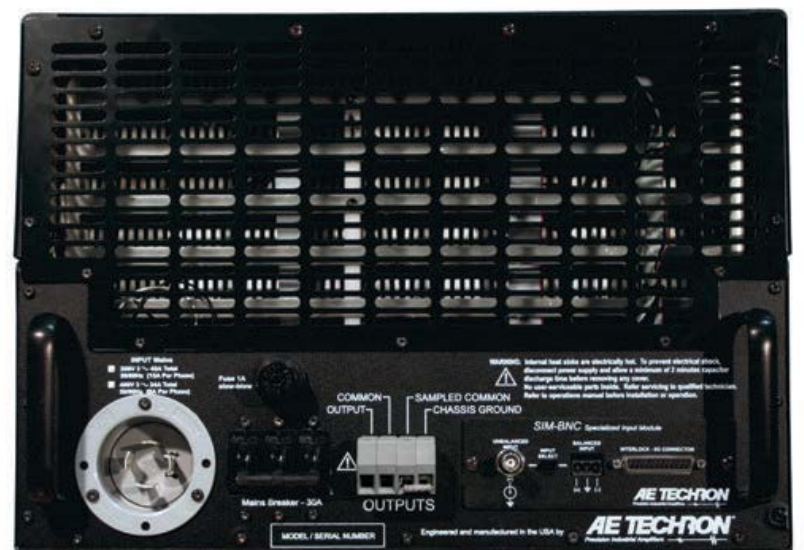
± 10% from specified supply voltage amplifier is forced to Standby

**Over Current:**

Breaker protection on both main power and low voltage supplies

**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 seven EIA 19-inch-wide rack units

### Weight:

153 lbs. (69 kg)

### AC Power:

Three-phase, 208 VAC  $\pm 10\%$ , 47-60 Hz, 30A AC service. (400 VAC  $\pm 10\%$ , 15A version 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 100 ft<sup>3</sup>/min. fans. No space is required between rack-mounted amplifiers. Air filters are removable from the rear via one fastener per side and may be eliminated if cabinet filtration is provided.

### Dimensions:

19 in. x 22.8 in. x 12.25 in. (48.3 cm x 57.9 cm x 31.1 cm). Unite occupies seven EIA 19-inch-wide rack units.

*AE Techron Sales Representative*