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The *AE Techron 7782* is a 3.3 kW power amplifier that has a DC to 50kHz small signal band-width, 150Vpk, and up to 150Apk power. The 7782 is the original member of the 7000 series, offered now as a remanufactured product; it offers a balance of great value, reliability and strong performance.

The 7782 works best into loads of 2 ohms or less. A single 7782 can provide 40mSec bursts up to 150Apk. For greater voltage or current, units can be combined in parallel or series to create arrays of amplifiers capable of pulses in excess of 500Vpk and 600Apk.

The 7782 can operate in either voltage or current operation modes. It is useful for a wide variety of EMC power susceptibility tests, including MIL STD-461 and DO-160. The 7782 is also typically used as a gradient amplifier in small bore, high-gain MRI systems of up to 150Apk per axis.

### Performance

#### Maximum Continuous Output Power:

3305 watts RMS

#### Output Offset:

**7782/7782HC:** Less than 5 mV, field adjustable to less than 1 mV

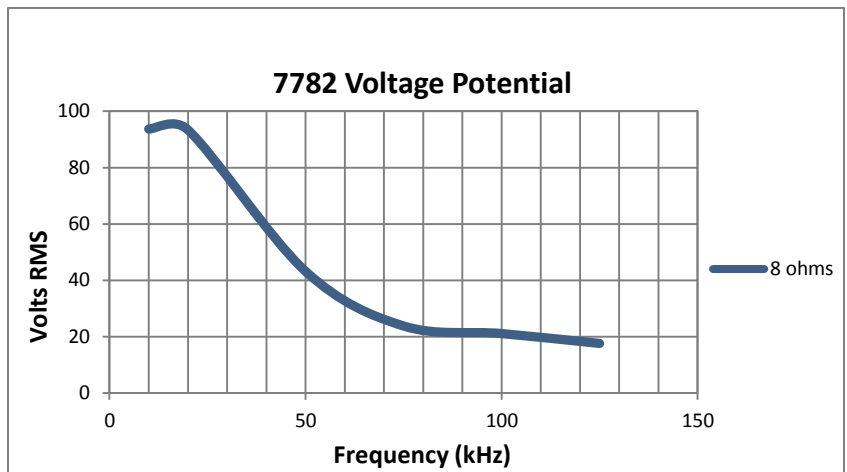
**7782P/7782HC-P:** Less than 200  $\mu$ V, field adjustable to less than 100  $\mu$ V; adjustment via 20-turn precision trim control; DC offset adjustment range is  $\pm 10$  mV with about 0.9 mV per turn



## 7782 and 7782HC SPECIFICATION SHEET

### Features

- Over 3,300 watts RMS into a 2-ohm load.
- 40 mSec pulses of up to 150 amperes peak into a 1-ohm load.
- System output of 500 volts and 200 amperes maximum are possible with multiple, interconnected amplifiers.
- Frequency bandwidth of DC to 50 kHz at rated power into 8 ohms; DC to 100 kHz at reduced power.
- Rugged chassis for stand-alone or rack mounted operation. No additional power supplies are required.
- Protection circuitry protects against input overloads, improper output connection (including shorted and improper loads), over-temperature, over-current, and supply voltages that are too high or low.
- Optional "P" versions offer precision control of output offset, DC drift and gain linearity.
- Shipped ready to operate from 208-volt ( $\pm 10\%$ ) three-phase AC mains. Operation from 400-volt ( $\pm 10\%$ ) AC mains is available on request.



## AC Specifications

Ohms	PEAK OUTPUT				RMS OUTPUT				
	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	Watts
4	120	30	120	30	85	21	85	21	1799
2	120	60	115	58	85	42	81	41	3305
1	80	80	68	68	57	57	48	48	2311
0.5	46	92	44	88	33	65	31	62	1935

### Output Offset Current:

Less than 10 milliamperes DC

### DC Drift:

**7782/7782HC:**  $\pm 1.5$  mV

**7782P/7782HC-P:**  $\pm 200$   $\mu$ V (from cold to maximum operating temperature);  $\pm 75$   $\mu$ V (after 20 minutes of operation)

### 7782P/7782HC-P Gain Linearity

(over input signal, from 0.2 V to 5 V):

**DC:** 0.0125%

**AC:** 0.030%

### Input Characteristics

#### Balanced with Ground:

Three terminal barrier block connector  
20k ohm differential

#### Gain:

**Voltage Mode:** 20 volts/volt

**Current Mode:** 20 amperes/volt

#### Residual Noise:

Less than 1 millivolt RMS

#### Slew Rate:

40 volts per microsecond

### Display, Control, Status

#### Front Panel

##### LED Displays indicate:

Ready, Standby, High AC Mains, High Temperature, Signal Overload, and Fault conditions in the output stage

##### Slide Switches for:

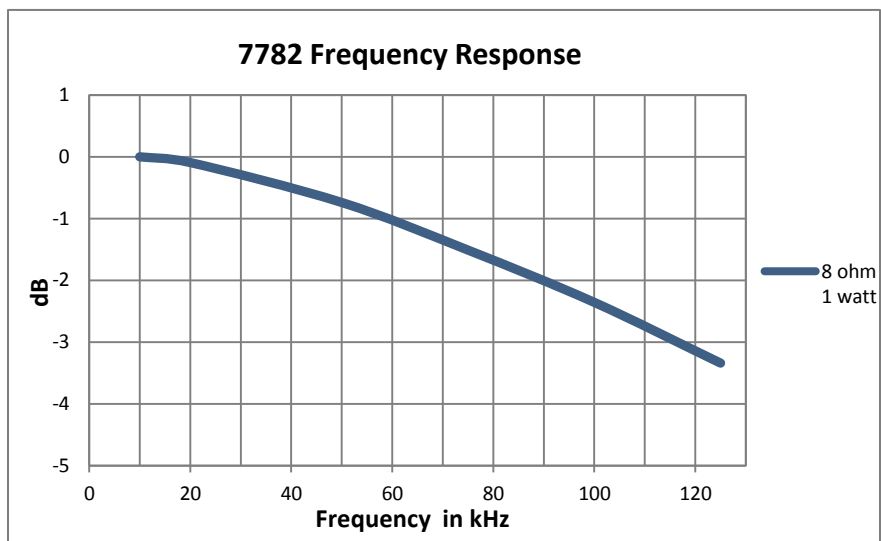
Run/Standby, LED Indicator Reset

## AC Specifications

Ohms	PEAK OUTPUT				RMS OUTPUT	
	40mSec Pulse, 20% Duty Cycle		5 Minute, 100% Duty Cycle		5 Minute, 100% Duty Cycle	
	Volts	Amps	Volts	Amps	Volts	Amps
1	56	56	55	55	39	39
0.5	42	84	41	82	29	58
0.1	15	150				

## 7782 DC Power Over Time Summary

Time in Minutes	Impedance	Volts	Amps
2	1	50	50
2	0.5	30	60
1.5	0.27	19	75
5	1	40	40
5	2	84	42
Continuous	2	42	21



## Physical Characteristics

### Chassis:

All aluminum construction designed for stand-alone or rack-mounted operation; with silver front panel and black chassis; the amplifier occupies six EIA 19-inch-wide rack units

### Weight:

128 lbs. (57.9 kg)

### AC Power:

Three-phase, 208 VAC  $\pm 10\%$ , 47-60 Hz, 20A AC service; 400 VAC  $\pm 10\%$ , 47-60 Hz, 10A AC service version available on request

### 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, 300 cfm

### Dimensions (WxDxH):

19 in. x 22.37 in. x 10.5 in. (48.3 cm x 56.8 cm x 26.7 cm)

## Protection

### Over/Under Voltage:

$\pm 10\%$  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



AE Techron Sales Representative