

The AE Techron **7782HF** amplifier is a DC-enabled, extended frequency unit best suited for controlled voltage applications that require voltages between 50 kHz to 100 kHz. At frequencies below 20 kHz, the 7782HF can provide 40mSec bursts of 180 amps peak. At frequencies up to 100 kHz, the 7782HF can provide up to 40 volts.

The 7782HF can operate in either voltage or current operation modes. It is ideal for situations like DO-160 testing that require high current from DC to 20 kHz and DC to 150 kHz power bandwidth.

The AE Techron **7782HF/HC** amplifier is a DC-enabled unit optimized for high-power, continuous operation into very-low-impedance loads. A single 7782HF/HC can output a 40 mSec pulse with up to 150 amperes peak current. If more current is needed, up to four amplifiers can be combined in parallel and operate as a single system.\*

The 7782HF/HC can operate in either voltage or current mode. It provides very low noise and fast slew rates, and can safely drive a wide range of resistive, inductive loads.

Typical use includes as a power source for EMC testing in applications that require both continuous AC or DC signals and significant short term (burst) signals (DO-160, MIL 461, and MIL 704).



## 7782HF and 7782HF/HC SPECIFICATION SHEET

### Features

- 7782HF provides over 4,000 watts peak output; 2,858 watts RMS into a 2-ohm load.
- 7782HF/HC delivers 40 mSec pulses of up to 150 amperes peak into a 1-ohm load.
- System output of 800 volts and 70 amperes maximum are possible with multiple, interconnected amplifiers.
- 7782HF provides a frequency bandwidth of DC to 50 kHz at rated power into 8 ohms; DC to 200 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 (±10%) three-phase AC mains. Operation from 400-volt (±10%) AC mains is available on request (7782HF version only).

### 7782HF 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

## AC Specifications

7782HF	PEAK OUTPUT					RMS OUTPUT				
	5 Minute, 100% Duty Cycle		1 Hour, 100% Duty Cycle		5 Minute, 100% Duty Cycle		1 Hour, 100% Duty Cycle			
	Ohms	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	

### Performance

#### 7782HF Maximum Continuous

##### Output Power:

2858 watts RMS

##### Output Offset:

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

7782HF-P/7782HF/HC-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

##### Output Offset Current:

Less than 10 milliamperes DC

##### DC Drift:

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

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

##### 7782HF-P/7782HF/HC-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

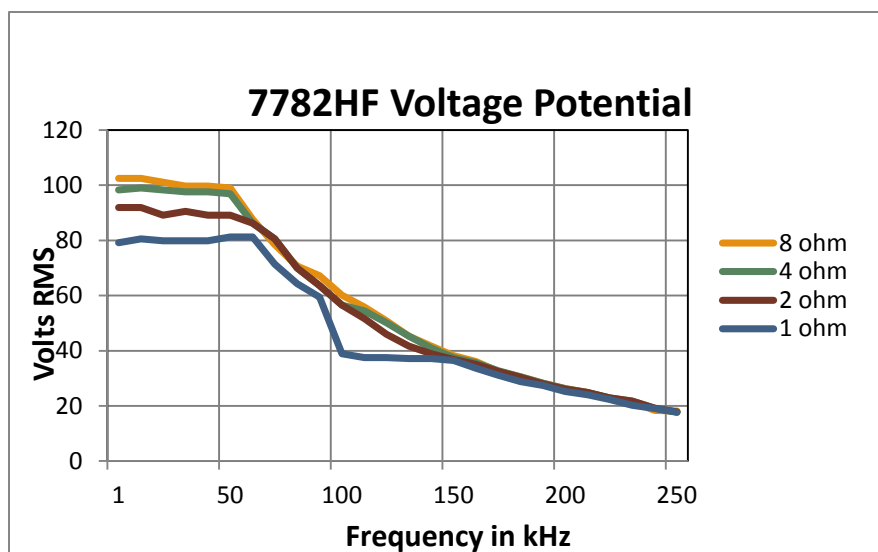
**Current Mode:** 20 amperes/volt

#### Residual Noise:

Less than 1 millivolt RMS

## AC Specifications

7782HF/HC	PEAK OUTPUT				RMS OUTPUT	
	40mSec Pulse, 20% Duty Cycle		5 Minute, 100% Duty Cycle		5 Minute, 100% Duty Cycle	
	Ohms	Volts	Amps	Volts	Amps	Volts
1	56	56	55	55	39	39
0.5	42	84	41	82	29	58
0.1	15	150				



**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

**Physical Characteristics**

**Chassis:**

All aluminum construction designed for stand-alone or rack-mounted operation; with sliver 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 ±10%, 47-60 Hz, 20A AC service; 400 VAC ±10% version available on request (7782HF version only)

**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:**

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:**

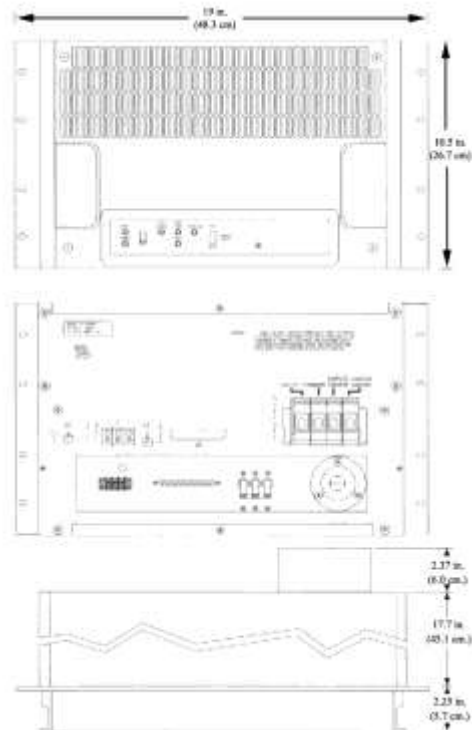
± 10% from specified supply voltage amplifier is forced to Standby

**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