

## Model 7548 DC-Coupled AC Amplifier

### Application

The **Model 7548** is a part of expanding line of new precision linear amplifiers; it combines everything we have learned in over 40 years of building high power linear amplifiers.



The AE Techron 7548 Amplifier is a high powered unit designed to provide very low noise and fast slew rates. The 7548 can safely drive a wide range of resistive, inductive loads. Typical uses include signal amplifier for high gain gradient coils in magnetic resonance imaging systems or a power source EMC testing in applications that require both continuous AC or DC signals and significant short term (burst) signals (DO160, MIL 461, and MIL 704). A single 7548 has an output capability of 100 amperes peak and 200 volts peak when driving typical MRI gradient coil loads\*. If more power is needed, up to four amplifiers can be combined in series or parallel and operate as a single system. The 7548 operates in either voltage or current mode and features DC-coupling, robust output devices and a power range of over 3300 watts RMS.

### Features

- Over 12,000 watts peak for 40 milliseconds into a 1.5 ohm load.
- 40 mSec pulses of up to 72 amperes peak into a 1 ohm load.
- System output of 800 volts and 100 amperes maximum are possible with multiple, interconnected amplifiers.
- Frequency bandwidth of DC to 50kHz at rated power, DC to 100kHz at reduced power.
- Rugged chassis for stand-alone or rack mounted operation. No additional power supplies are required.
- Protection circuitry protects the AE Techron 7548 from input overloads, improper output connection (including shorted and improper loads), over-temperature, over-current, and supply voltages that are too high or low.
- Shipped ready to operate from 208 volt, three-phase AC mains. Operation from 380 or 415 volt AC mains are available on request

### Indicators and Controls

- Front panel LEDs indicate ready, standby and fault conditions in the output stage.
- Front panel display lists type of fault condition and gives suggested corrective action.
- Front panel soft touch switch to places amplifier in run or standby.
- Front Panel is user configurable for up to four simultaneous displays reporting one, two or all four of the following: Voltage Peak, Voltage RMS, Current Peak, Current RMS.



## Performance

### Frequency Response

DC - 30kHz +0.1 - 0.5dB

### Phase Response

+/- 8.3 degrees (10Hz - 10kHz)

### Unit to Unit Phase Error

+/- 0.1 degrees at 60Hz

### Maximum continuous output power

3300 watts rms

### Output offset current

Less than 10 milliamperes dc

### Input

Balanced with ground: three terminal barrier block connector 20k ohm differential.

Unbalanced: BNC connector, 10k ohm single ended.

### Gain

20 volts/volt (voltage mode)

20 amperes/volt (current mode)

### Residual Noise

DC to 30kHz Less than 75 microvolts

DC to 100kHz Less than 1 microvolt

### Slew Rate

41 volts per microsecond

### 40mS Pulse Power Rating

Load	Voltage RMS	Amps RMS	Watts RMS	Voltage Peak	Amps Peak	Watts Peak
None	142			208		
2	103.5	49	5072	150	123	18450
1.5	91	60.4	5496	134	90	12060
1	78.4	72	5645	116	105	12180
0.5	43	77	3311	66	112	7392

### 1 Hour Continuous Power Rating

Load	Voltage RMS	Amps RMS	Watts RMS	Voltage Peak	Amps Peak	Watts Peak
None	140			200		
16	138	8.6	1190	195	12	2340
8	130	16.3	2112	183	23	4209
4	117	29.3	3422	165	41	6765
2	61	30.5	1860	86	43	3698
1	53	53	2809	75	75	5625
0.5	Not recommended					

## Physical Characteristics

### Chassis

All aluminum construction designed for stand alone, or rack mounted, operation with light pearl front panel and black chassis. The Amplifier occupies five EIA 19-inch-wide rack units.

### Weight

103 lbs. (46.7 kg)

### AC Power

Three phase, 208 volts, 47-60 Hz, 30 amperes AC service.

### Cooling

Forced air, 250 cfm

### Dimensions

19 in. x 8.75 in. x 22.8 in (48.3 cm x 31.1 cm x 579.1 Cm)



## Support

When you purchase an AE Techron amplifier, a full complement of technical and factory support personnel join your team. AE Techron inc. provides:

- Applications engineering for your technical questions and customized product needs.
- A one year limited warranty to protect your equipment investment.
- A fully equipped service center to keep your amplifier operating at original performance requirements.