

## MODEL 5515

### POWER SUPPLY / AMPLIFIER

# SPECIFICATIONS

TECHRON's 5515 Power Supply/Amplifier delivers accurate high power levels with complete self-protection for dependable operation. At frequencies from DC to 20KHz, 250 watts continuous average output into 8 ohms is typical, with extremely low distortion and noise.

The SPACE Controller (Signal Programmed Automatic Current Executor) circuit acts as a signal-variable current limiter at most frequencies, and as a Voltage/Current limiter at low frequencies and DC, offering comprehensive protection against amplifier damage, no matter what the input or output demands may be.

The Input-Output Comparator (IOC), through constant monitoring of both input and output waveforms, assures precision accuracy. Should any distortion be present at the output, the IOC lights inform the operator while the protection circuitry guards against harm to the amplifier.

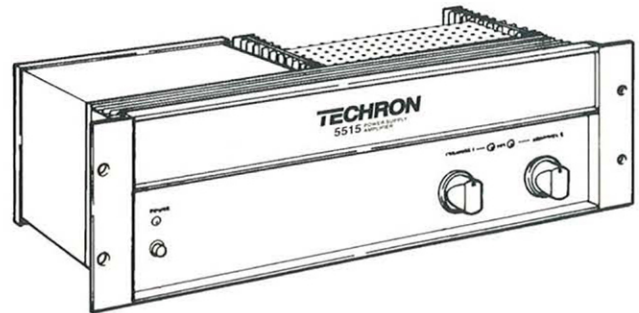
Switchable DUAL/MONO Operation allows independent control of two separate channels, or bridges both channels together to produce a balanced output of even higher power. In either mode, the amplifier fully protects itself while meeting the most stringent demands.

TECHRON engineering supports the 5515 with constant attention to user needs, design assistance for special installations, and a wealth of technical know-how to handle new or unusual applications for the 5515.

The TECHRON 5515 Power Supply/Amplifier is a proven, yet innovative system that's tough enough for industrial environments, dependable enough for medical uses, and accurate to laboratory standards.

## 5515 Dual-Channel Power Amplifier

This dual-channel, variable-gain, controlled-voltage, power amplifier delivers accurate, high-power levels with complete self-protection for dependable operation. It provides up to 142 watts rms output per channel (for short duration into 4 ohms). It can be switched to mono mode for increased voltage on a single channel.



### Features

The 5515 provides precision amplification of electrical signals with frequencies from dc to over 20 kHz. It accomplishes this with extremely low harmonic and intermodulation distortion and low noise. Other important features include the following:

- ❑ The Input-Output Comparator (IOC) constantly monitors both input and output waveforms, assuring precision accuracy. Should distortion be present at the output, the IOC lights inform the operator while the protection circuitry guards against harm to the amplifier.
- ❑ Protection circuits in the amplifier prevent damage due to overtemperature, RF burnouts, input overload, excessive output demand, mismatched loads, shorted loads, and internal malfunction.
- ❑ Independent level controls in both channels allow voltage gain to be varied from 0 to 20.
- ❑ Selectable dual or mono mode allows independent control of two separate channels, or bridges both channels together to produce a balanced output for increased voltage on a single channel.
- ❑ Operates on 50-400 Hz ac with selectable taps for 100, 120, 200, 220, and 240 V  $\pm$  10% operation. Draws 30 watts or less on idle. Maximum current draw is 6.25 A.

### Applications

Versatile Techron amplifiers are useful in numerous industrial and commercial power applications. For example, consider how they have been used in these environments:

**Shaker Devices**—Techron amplifiers supply reliable power to numerous shaker devices such as large and small tables and have even been used to resonate a building at low frequency.

**Positioning**—Techron amplifiers are used to drive actuators and servos for numerous applications. From telescopes to laser beams to medical uses, industry depends on the low distortion levels of our amplifiers for precise positioning.

**Auto industry**—In this industry, Techron amplifiers are used in electromagnetic compatibility testing of sophisticated auto electronics.

**Manufacturing**—Need a 50 Hz power supply to simulate European frequency? Want to test fuses, circuit breakers, even power relays? Want to supply clean power for your processes? Need to do some electroplating? Techron amplifiers have been used in these and many other jobs.

**Tranducers**—Whether under water or under ground, Techron amplifiers drive tranducers, used in such ways as saving fish and finding resources.

And, with a wealth of technical knowledge, our skilled application engineers can show you how to handle new and unusual applications.

	DUAL CHANNEL	SINGLE CHANNEL (Bridged)*
POWER RESPONSE	<p>8 ohm load: DC-20KHz at 80W per channel continuous average output power with no more than .05% THD (Total Harmonic Distortion).</p> <p>4 ohm load: DC-20KHz at 125W per channel continuous average output power with no more than .1% THD (Total Harmonic Distortion).</p>	<p>8 ohm load: DC-35KHz at 260W continuous average output power with no more than .1% THD (Total Harmonic Distortion).</p> <p>16 ohm load: DC-20KHz at 160W continuous average output power with no more than .05% THD (Total Harmonic Distortion).</p>
DC OUTPUT	Typically 8A maximum (supply fuse limited) at 32V or 256VA.	Typically 8A maximum (supply fuse limited) at 64V or 512VA.
FREQUENCY RESPONSE	DC-20KHz: ±.1dB at 1W into 8 ohms. DC-100KHz: ±1dB at 1W into 8 ohms.	DC-20KHz: ±.15dB at 1W into 16 ohms. DC-60KHz: ±1dB at 1W into 16 ohms.
PHASE RESPONSE	+0, -15° DC-15KHz at 1W into 8 ohms.	+0, -15° DC-20KHz at 1W into 8 ohms.
SLEW RATE	6V/usec.	12V/usec.
I.M. DISTORTION (60Hz-7KHz 4:1)	Less than .01% from .25W to 80W (peak equivalent to a single sinusoid, rms) into 8 ohms.	Less than .01% from .25W to 160W (peak equivalent to a single sinusoid, rms) into 16 ohms.
HARMONIC DISTORTION (True RMS Measure)	Less than .001% from 20Hz-400Hz and increasing linearly to .05% at 20KHz at 80W into 8 ohms.	Less than .001% from 20Hz-400Hz and increasing linearly to .05% at 20KHz, 160W into 16 ohms.
OUTPUT IMPEDANCE	15 mohms in series with 3uH.	30 mohms in series with 6uH.
LOAD IMPEDANCE	Rated for 8 ohm usage; safe with all loads. Normally, 4 ohms or greater; maximum continuous sinusoidal output power at 2.7 ohms. Lower impedance affects only maximum power.	Rated for 16 ohm usage; safe with all loads. Primarily used at 8 ohms or greater; maximum continuous sinusoidal output power at 5.4 ohms. Lower impedance affects only maximum power.
INPUT GAIN	20.6 ±2% (26.3dB ±.2dB), input gain control fully CW.	41.2 ±2% (32.3dB ±.2dB) with input gain control fully CW.

Typical Power Output at Clip Point:  
One Channel Measured, Both Channels Driven

