



160 School House Road, Souderton, PA 18964-9990 USA  
Phone 215-723-8181 • FAX 215-723-5688

MODEL 450S1G3  
450 WATTS CW  
0.8-3GHz

The Model 450S1G3 is a self-contained, air-cooled, broadband, completely solid-state amplifier designed for applications where instantaneous bandwidth, high gain and linearity are required. Quadrature coupled circuitry is utilized in all high power stages in the interest of lowering distortion and improving stability. The Model 450S1G3, when used with a sweep generator, will provide a minimum of 450 watts of RF power.

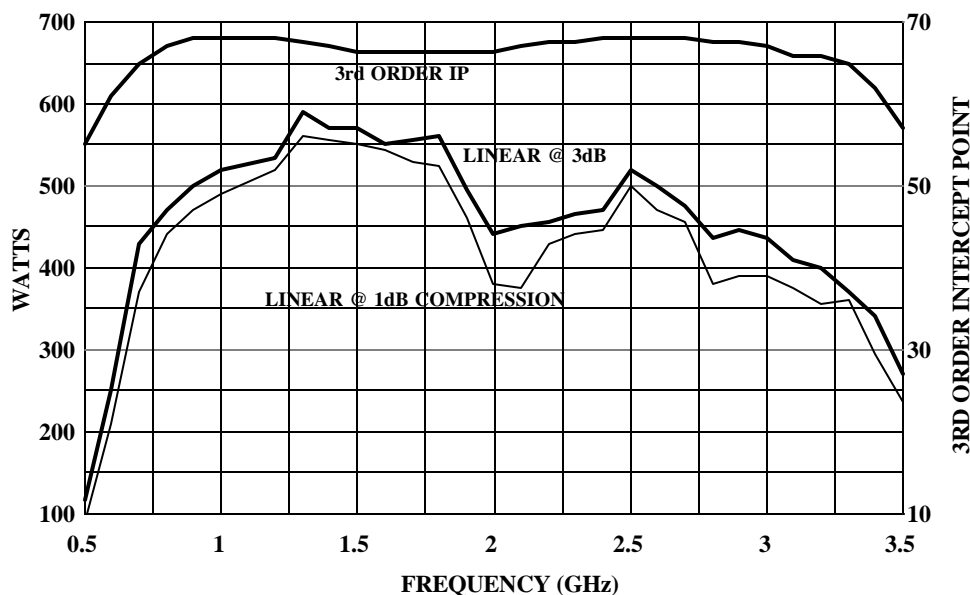
The Model 450S1G3 is equipped with a Digital Control Panel (DCP) which provides both local and remote control of the amplifier. The DCP uses a digital display, menu assigned softkeys, a single rotary knob, and four dedicated switches (POWER, STANDBY, OPERATE and FAULT/RESET) to offer extensive control and status reporting capability. The display provides operational presentation of Forward Power and Reflected Power plus control status and reports of internal amplifier status. Special features include a gain control, internal/external automatic level control (ALC) with front panel control of the ALC threshold, pulse input capability and RF output level protection. Also included is an internal RF detector which provides an output for use in self-testing or operational modes.

All amplifier control functions and status indications are available remotely in GPIB / IEEE-488 format and RS-232 hardware and fiber optic. The buss interface connector is located on the back panel and positive control of local or remote operation is assured by a keylock on the front panel of the amplifier.

The low level of spurious signals and linearity of the Model 450S1G3 make it ideal for use as a driver amplifier in testing wireless and communication components and subsystems. It can be used as a test instrument covering multiple frequency bands and is suitable for a variety of communication technologies such as CDMA, W-CDMA, TDMA, GSM etc. It is also suitable for EMC Test applications where undistorted modulation envelopes are desired.

The controller and the 240S1G3 Sub Amplifier can each be used as 240 watt amplifiers when 450S1G3 power output is not required.

450S1G3 TYPICAL POWER OUTPUT



## SPECIFICATIONS

### Model 450S1G3

<b>RATED OUTPUT POWER</b> .....	<i>0.8 – 1GHz: 430 watts minimum 1 – 3GHz: 450 watts minimum</i>
<b>INPUT FOR RATED OUTPUT</b> .....	<i>1.0 milliwatt maximum</i>
<b>POWER OUTPUT @ 3dB COMPRESSION</b>	
<i>Nominal</i> .....	<i>470 watts</i>
<i>Minimum</i> .....	<i>370 watts</i>
<b>POWER OUTPUT @ 1dB COMPRESSION</b>	
<i>Nominal</i> .....	<i>430 watts</i>
<i>Minimum</i> .....	<i>340 watts</i>
<b>FLATNESS</b> .....	<i>±3.5 dB maximum ±1.0 dB with internal leveling</i>
<b>FREQUENCY RESPONSE</b> .....	<i>0.8-3.0GHz instantaneously</i>
<b>GAIN (at maximum setting)</b> .....	<i>57 dB minimum</i>
<b>GAIN ADJUSTMENT</b> .....	<i>15 dB minimum</i>
<b>INPUT IMPEDANCE</b> .....	<i>50 ohms, VSWR 2.0:1 maximum</i>
<b>OUTPUT IMPEDANCE</b> .....	<i>50 ohms, VSWR 2.5:1 maximum</i>
<b>MISMATCH TOLERANCE *</b> .....	<i>100% of rated power without foldback. Will operate without damage or oscillation with any magnitude and phase of source and load impedance.</i>
<b>MODULATION CAPABILITY</b> .....	<i>Will faithfully reproduce AM, FM, or pulse modulation appearing on the input signal</i>
<b>HARMONIC DISTORTION</b> .....	<i>Minus 20 dBc maximum at 380 watts</i>
<b>THIRD ORDER INTERCEPT POINT</b> .....	<i>67 dBm typical</i>
<b>RF POWER DISPLAY</b> .....	<i>Digital, forward and reflected</i>
<b>PRIMARY POWER</b> .....	<i>200-240VAC 50/60 Hz, single phase 5000 watts</i>
<b>CONNECTORS</b>	
<i>RF input</i> .....	<i>Type N female on front panel</i>
<i>RF output</i> .....	<i>Type 7-16 on rear</i>
<i>External leveling inputs</i> .....	<i>Type BNC female on front panel</i>
<i>Pulse modulation input</i> .....	<i>Type BNC female on front panel</i>
<i>Detected RF output</i> .....	<i>Type BNC female on front panel</i>
<i>Safety Interlock</i> .....	<i>15 pin female subminiature D on rear panel</i>
<i>Remote computer interface</i> .....	<i>24 pin female IEEE-488.2 (GPIB) connector on rear panel</i>
<i>Remote computer interface (fiber optic)</i> .....	<i>ST Conn Tx and Rx RS-232</i>
<b>IEEE-488 (GPIB) INTERFACE &amp; RS-232</b> .....	<i>Allows control and monitoring of all front panel controls except keylock position control</i>
<b>COOLING</b> .....	<i>Forced air (self contained fans) enters front and bottom</i>
<b>WEIGHT (approximate)</b> .....	<i>435kg (960lbs)</i>
<b>SIZE (WxHxD) (2 cabinets)</b>	
<i>Cabinet 1</i> .....	<i>56.1 x 109 x 67.1 cm 22.1 x 43.0 x 26.4 in</i>
<i>Cabinet 2</i> .....	<i>56.1 x 152.5 x 82.5 cm 22.1 x 60.0 x 32.5 in</i>

**NOTE:** Allow approximately 61 cm, 24 in depth behind cabinet for interconnect cable

\*See Application Note #27