

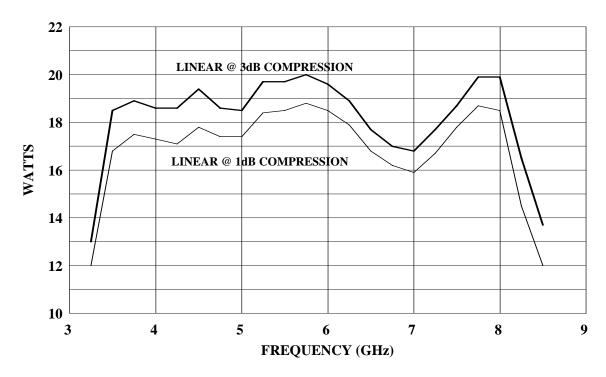
rf/microwave instrumentation

Model 15S4G8A, M1, M2, M3 15 watts CW 4.0 GHz-8.0 GHz

The Model 15S4G8A is a solid state, self-contained, air-cooled, broadband amplifier designed for applications where instantaneous bandwidth and high gain are required. Housed in a stylish contemporary cabinet, the unit is designed for benchtop use, but can be removed from the cabinet for immediate equipment rack mounting. The 15S4G8A, when used with a sweep generator, will provide a minimum of 15 watts of RF power. Included is a front panel gain control which permits the operator to conveniently set the desired output level. The 15S4G8A is protected from RF input overdrive by an RF input leveling circuit which controls the RF input level to the RF amplifier first stage when the RF input level is increased above 0 dBm. The RF amplifier stages are protected from over temperature by removing the DC voltage to them if an over temperature condition occurs due to cooling blockage or fan failure. There is a digital display on the front panel to indicate the operate status and fault conditions when an overtemperature or power supply fault has occurred. The unit can be returned to operate when the condition has been cleared. The 15S4G8A includes digital control for both local and remote control of the amplifier. The control system is composed of a 16-bit RISC microcontroller board which handles primary functions of the amplifier and interprets commands sent to it from an 8-bit remote interface board. This 8-bit microprocessor controlled board provides both IEEE-488 (GPIB) and asynchronous, full duplex RS-232 control of all amplifier functions.

The Model 15S4G8A has the ability to be upgraded at a later date to the Model 35S4G8A 35-watt amplifier. Upgrading to the 35S4G8A allows for future upgrades by utilizing our Expandable Power Technology.

15S4G8A TYPICAL POWER OUTPUT



SPECIFICATIONS, MODEL 15S4G8A

RATED POWER OUTPUT	15 watts minimum
POWER OUTPUT @ 3dB COMPRESSION Nominal	
POWER OUTPUT @ 1dB COMPRESSION Nominal	
FLATNESS	±1.0 dB typical ±2.0 dB maximum
FREQUENCY RESPONSE	4.0–8.0 GHz instantaneously
INPUT FOR RATE OUTPUT	1.0 milliwatt maximum, 0 dBm
GAIN (at maximum setting)	42 dB minimum
GAIN ADJUSTMENT (Continuous Range)	10 dB minimum
INPUT IMPEDANCE	50 ohms, VSWR 2.5:1 maximum
OUTPUT IMPEDANCE	50 ohms, nominal
MISMATCH TOLERANCE *	100% of rated power without foldback. Will operate without damage or oscillation with any magnitude and phase of source and load impedance.
MODULATION CAPABILITY	Will faithfully reproduce AM, FM, or pulse modulation appearing on the input signal
HARMONIC DISTORTION	Minus 20 dBc maximum at 15 watts
THIRD ORDER INTERCEPT POINT	51 dBm typical
PRIMARY POWER (selected automatically)	90–132, 180–264 VAC 50/60 Hz, single phase <300 watts maximum
CONNECTORS RF	24 pin female 9 pin subminiature D (female) Type ST Type B
SAFETY INTERLOCK	
COOLING	•

^{*}See Application Note #27.

MODEL CONFIGURATIONS

MODEL NUMBER	RF INPUT	RF OUTPUT	WEIGHT	SIZE (W x H x D)
15\$4G8A	Type N female on front panel	Type N female on front panel	31.3 kg (69 lbs)	50.3 x 24.9 x 54.6 cm
				19.8 x 9.8 x 21.5 in
15S4G8AM1	Type N female on rear panel	Type N female on rear panel	31.3 kg (69 lbs)	50.3 x 24.9 x 54.6 cm
				19.8 x 9.8 x 21.5 in
15S4G8AM2 Same as 15S4G8A with enclosure removed for rack mounting		18.2 kg (40 lbs)	48.3 x 22.2 x 54.6 cm	
				19 x 8.75 x 21.5 in
15S4G8AM3 Same as 15S4G8AM1 with enclosure removed for rack mounting		18.2 kg (40 lbs)	48.3 x 22.2 x 54.6 cm	
				19 x 8.75 x 21.5 in