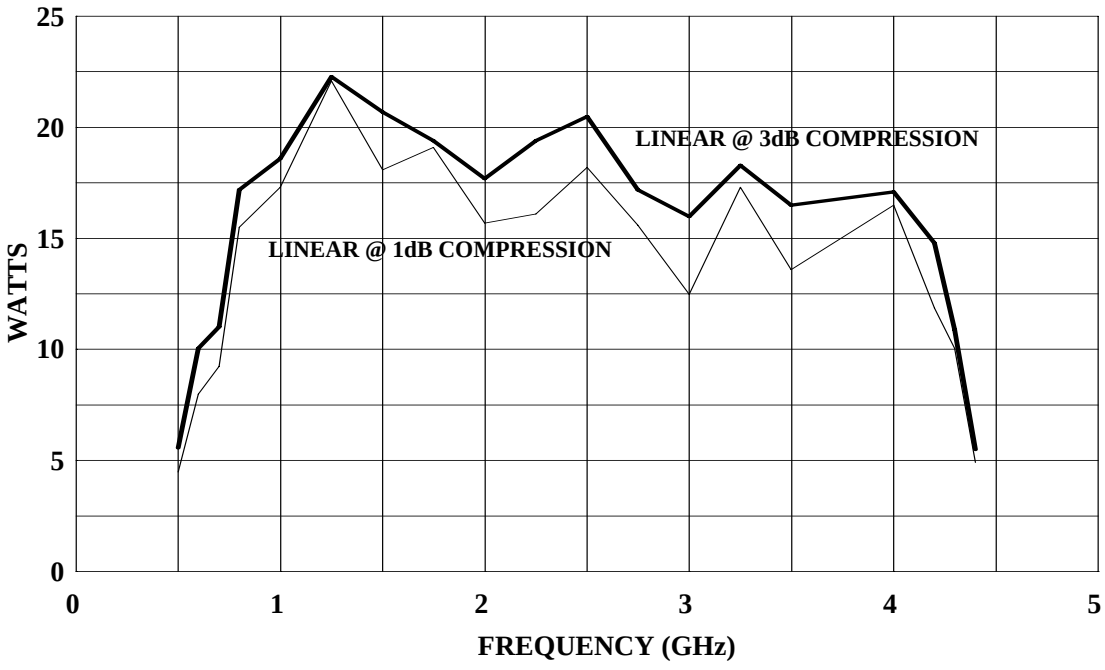
Model 10S1G4A
M1 through M6
10 Watts CW
0.8GHz–4.2GHz

The Model 10S1G4A 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 10S1G4A, when used with a sweep generator, will provide a minimum of 10 watts of RF power. Included is a front panel gain control which permits the operator to conveniently set the desired output level. The 10S1G4A 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 10S1G4A includes digital control for both local and remote control of the amplifier. This 8-bit RISC microprocessor controlled board provides both IEEE-488 (GPIB) and asynchronous, full duplex RS-232 control of all amplifier functions.

10S1G4A TYPICAL POWER OUTPUT



SPECIFICATIONS, MODEL 10S1G4A

POWER OUTPUT @ 3dB COMPRESSION
- Nominal ..... 18 watts
- Minimum ..... 13 watts

POWER OUTPUT @ 1dB COMPRESSION
- Nominal ..... 16 watts
- Minimum ..... 10 watts

FLATNESS ..... ±1.5 dB typical
±2.0 dB maximum

FREQUENCY RESPONSE ..... 0.8 - 4.2GHz instantaneously

INPUT FOR RATED OUTPUT ..... 1.0 milliwatt maximum

GAIN (at maximum setting) ..... 40 dB minimum

GAIN ADJUSTMENT (Continuous Range) ..... 10 dB minimum (4096 steps remote)

INPUT IMPEDANCE ..... 50 ohms, VSWR 2.0:1 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 10 watts

THIRD ORDER INTERCEPT POINT ..... 52 dBm typical

PRIMARY POWER (selected automatically) ..... 90-132, 180-264 VAC
50/60 Hz, single phase
250 watts maximum

REMOTE INTERFACES IEEE-488, RS-232

CONNECTORS
- RF ..... Type N female
- REMOTE CONTROL
  - IEEE-488 ..... 24 pin female
  - RS-232 ..... 9 pin Subminiature D (female)

REMOTE INTERLOCK ..... 15 Pin Subminiature D

COOLING ..... Forced air (self contained fans)

* See Application Note #27

OPTIONAL CONFIGURATIONS

MODEL	RF INPUT	RF OUTPUT	WEIGHT	SIZE (W x H x D)
10S1G4A	Type N female on front panel	Type N female on front panel	20.5 kg (45.0 lb)	50.3 x 15.5 x 37.6 cm 19.8 x 6.1 x 14.8 in
10S1G4AM1	Type N female on rear panel	Type N female on rear panel	20.5 kg (45.0 lb)	50.3 x 15.5 x 37.6 cm 19.8 x 6.1 x 14.8 in
10S1G4AM2	Same as 10S1G4A with enclosure removed for rack mounting		15.0 kg (33.0 lb)	48.3 x 12.7 x 37.6 cm 19.0 x 5.0 x 14.8 in
10S1G4AM3	Same as 10S1G4AM1 with enclosure removed for rack mounting		15.0 kg (33.0 lb)	48.3 x 12.7 x 37.6 cm 19.0 x 5.0 x 14.8 in
10S1G4AM4	Same as 10S1G4A with the addition of a lo pass filter which can be connected to output. With filter, harmonics >50 dBc at 2.1 GHz, 10 watt power out.			
10S1G4AM5	Same as 10S1G4AM1 with a internal 40 dB Directional Coupler. The forward and reflected output sample ports are Type N connectors located on the Rear Panel. The RF input and output connectors are also located on the rear panel.			
10S1G4AM6	Type N female on front panel	Type N female on rear panel	15.0 kg (33.0 lb)	48.3 x 12.7 x 37.6 cm 19.0 x 5.0 x 14.8 in
	Enclosure removed for rack mounting.			