



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

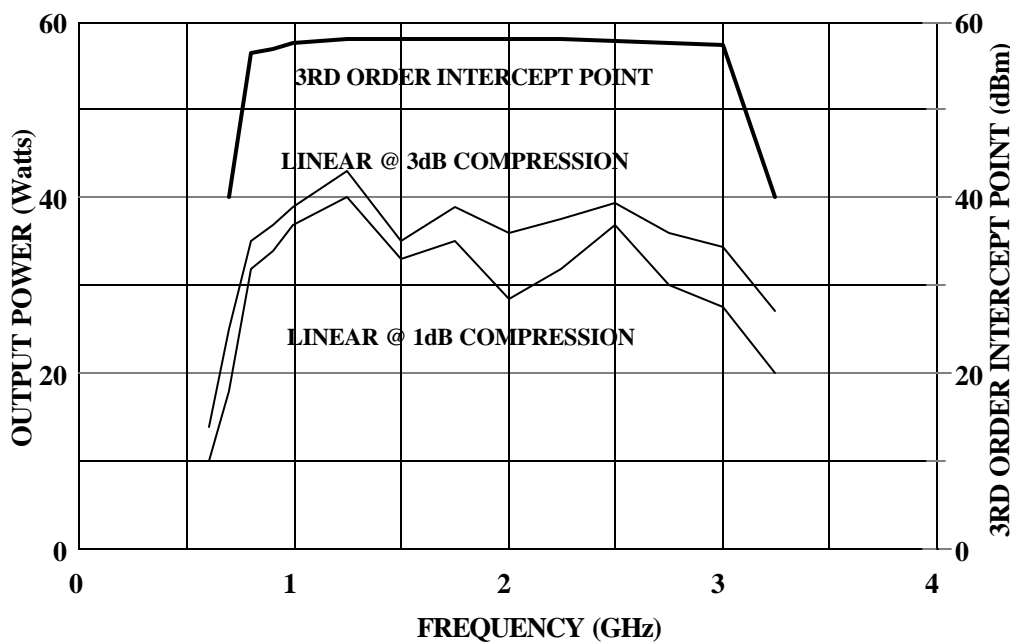
MODEL 30S1G3  
M1, M2, M3  
30 WATTS CW  
0.8 - 3.0 GHz

The Model 30S1G3 is a solid state, self-contained, air-cooled, broadband amplifier designed for applications where instantaneous bandwidth, high gain and linearity 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 30S1G3, when used with a sweep generator, will provide a minimum of 30 watts of RF power. Included is a front panel gain control which permits the operator to conveniently set the desired output level. The 30S1G3 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 if an over-temperature or power supply fault has occurred. The unit can be returned to operate when the condition has been cleared. The 30S1G3 digital panel provides control of all amplifier functions both locally and remotely via IEEE-488 (GPIB) or RS-232 interfaces.

The low level of spurious signals and linearity of the Model 30S1G3 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.

**MODEL 30S1G3  
Typical Performance**



**SPECIFICATIONS**  
**Model 30S1G3**

**RATED POWER OUTPUT** ..... 30 WATTS MINIMUM

**INPUT FOR RATED OUTPUT** ..... 1.0 MILLIWATT  
MAXIMUM

**POWER OUTPUT @ 3dB COMPRESSSION**

Nominal ..... 37 watts  
Minimum ..... 30 watts

**POWER OUTPUT @ 1dB COMPRESSION**

Nominal ..... 32 watts  
Minimum ..... 25 watts

**FLATNESS** .....  $\pm 1.5$  dB typical  
.....  $\pm 2.0$  dB maximum

**FREQUENCY RESPONSE** ..... 0.8 - 3.0 GHz  
..... instantaneously

**GAIN (at maximum setting)** ..... 45 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. (See Application Note #27)

**MODULATION CAPABILITY**

Will faithfully reproduce AM, FM, or pulse Modulation appearing on the input signal

**THIRD ORDER INTERCEPT**

See chart. The third order intercept points for this chart have been determined using two tones spaced 1 MHz apart. This is typical for W-CDMA systems. Closer tone spacing such as 60 kHz generally provides about a 1db to 3db improvement in the IP.

**HARMONIC DISTORTION** ..... Minus 20 dbc  
..... max at 25 watts

**SPURIOUS** ..... Minus 73 dbc Typ.

**PHASE LINEARITY** .....  $\pm 1.0$  deg/100 MHz, Typ

**PRIMARY POWER** ..... (Selected Automatically)  
..... 90-132, 180-264 VAC  
..... 50/60 Hz, single phase  
..... 340 watts maximum

**CONNECTORS**

RF ..... Type N female

**REMOTE INTERFACES**

IEEE-488 ..... 24 pin male

RS-232 ..... 9 pin Subminiature D (male)

**SAFETY INTERLOCK** ..... 15 pin Subminiature D

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

**MODEL CONFIGURATIONS**

| MODEL NUMBER | RF INPUT   | RF OUTPUT                    | WEIGHT            | SIZE (W x H x D)                              |
|--------------|--|------------------------------|-------------------|---|
| 30S1G3       | Type N female on front panel                               | Type N female on front panel | 35.0 kg (77.0 lb) | 50.3 x 20.3 x 54.6 cm<br>19.8 x 8.0 x 21.5 in |
| 30S1G3M1     | Type N female on rear panel                                | Type N female on rear panel  | 35.0 kg (77.0 lb) | 50.3 x 20.3 x 54.6 cm<br>19.8 x 8.0 x 21.5 in |
| 30S1G3M2     | Same as 30S1G3 with enclosure removed for rack mounting    |                              | 25.6 kg (57.0 lb) | 48.3 x 17.8 x 54.6 cm<br>19.0 x 7.0 x 21.5 in |
| 30S1G3M3     | Same as 30S1G3M1 with enclosure removed for rack mounting. |                              | 25.6 kg (57.0 lb) | 48.3 x 17.8 x 54.6 cm<br>19.0 x 7.0 x 21.5 in |