



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

MODEL 120S1G3
M1, M2, M3, M4, M5, M6
120 WATTS CW
0.8 – 3.0 GHz

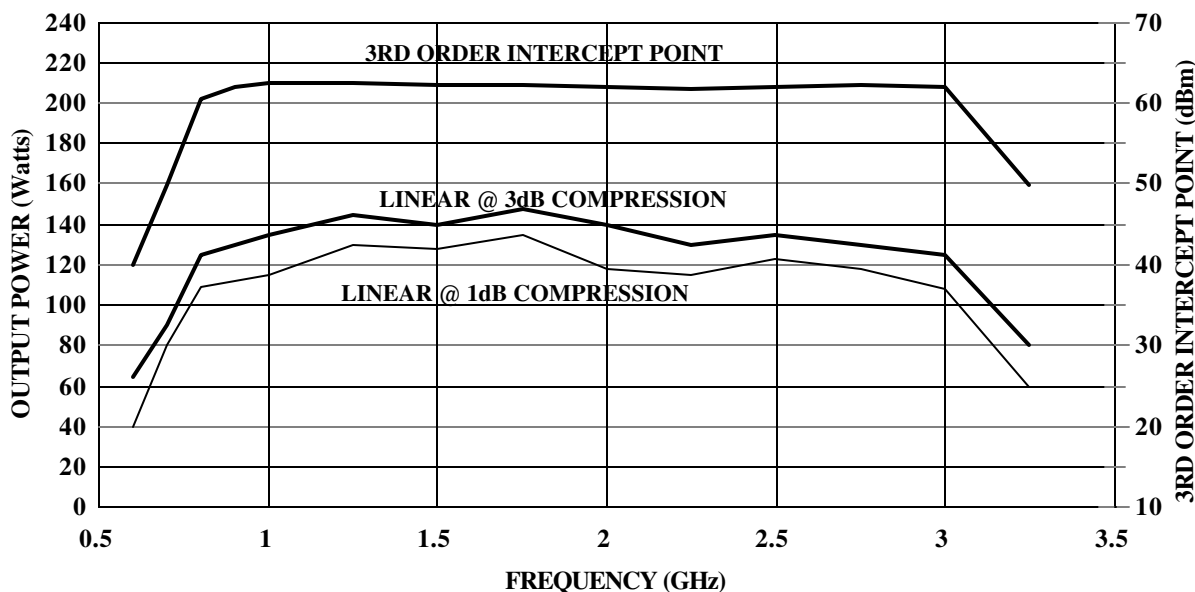
The Model 120S1G3 is a portable, self-contained, air-cooled, broadband, completely solid-state amplifier designed for applications where instantaneous bandwidth, high gain and linearity are required. Push-pull circuitry is utilized in all high power stages in the interest of lowering distortion and improving stability. The Model 120S1G3, when used with a sweep generator, will provide a minimum of 120 watts of RF power.

The Model 120S1G3 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 and RS232 format. 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 120S1G3 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.

120S1G3
Typical Performance



REV082802

SPECIFICATIONS
Model 120SIG3

RATED POWER OUTPUT *120 watts minimum*

INPUT FOR RATED OUTPUT **1.0 MILLIWATT**
MAXIMUM

POWER OUTPUT @ 3dB COMPRESSSION

Nominal..... *140 watts*
Minimum *120 watts*
Minimum 1.0-2.6GHz *125 watts*

POWER OUTPUT @ 1dB COMPRESSION

Nominal..... *122 watts*
Minimum *100 watts*

FLATNESS *±1.5 dB typical*
..... *±2.0 dB maximum*
..... *±1.0 dB Internal Leveling*

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

GAIN (at maximum setting) *51 dB minimum*

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

INPUT IMPEDANCE *50 ohms*
..... *VSWR 2.0:1 maximum*

RF POWER DISPLAY..... *0 – 150 Watts*

OUTPUT IMPEDANCE *50 ohms, nominal*
..... *VSWR 2.5:1 maximum*

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 100 watts*

SPURIOUS *Minus 73 dbc Typ.*

PHASE LINEARITY..... *±1.0 deg/100 MHz, Typ*

PRIMARY POWER *(Selected Automatically)*
..... *90-132, 180-264 VAC*
..... *50/60 Hz, single phase*
..... *1200 watts maximum*

CONNECTORS

RF *See Model Configurations*

REMOTE INTERFACES

IEEE-488 *24 pin female*
RS-232 *9 pin Subminiature D (female)*
ALC & Pulse *Type BNC on front panel*

SAFETY INTERLOCK *15 pin Subminiature D*

COOLING *Forced air (self contained fans)*

MODEL CONFIGURATIONS

MODEL NUMBER	RF INPUT	RF OUTPUT	WIEGHT	SIZE (W x H x D)
<i>120SIG3</i>	<i>Type N female on front panel</i>	<i>Type N female on front panel</i>	<i>86.2kg (190 lbs)</i>	<i>50.3 x 47.0 x 61.0cm 19.8 x 18.5 x 24.0in</i>
<i>120SIG3M1</i>	<i>Type N female on rear panel</i>	<i>Type N female on rear panel</i>	<i>86.2 kg (190 lbs)</i>	<i>50.3 x 47.0 x 61.0cm 19.8 x 18.5 x 24.0in</i>
<i>120SIG3M2</i>	<i>Same as 120SIG3 with enclosure removed for rack mounting</i>		<i>68.0kg (150 lbs)</i>	<i>48.3 x 44.5 x 61.0cm 19.0 x 17.5 x 24.0in</i>
<i>120SIG3M3</i>	<i>Same as 120SIG3M1 with enclosure removed for rack mounting</i>		<i>68.0kg (150 lbs)</i>	<i>48.3 x 44.5 x 61.0cm 19.0 x 17.5 x 24.0in</i>
<i>120SIG3M4</i>	<i>Type N on front panel.</i>	<i>Type N on rear panel.</i>	<i>86.2kg (190lbs)</i>	<i>50.3 x 47 x 61cm 19.8 x 18.5 x 24in</i>
<i>120SIG3M5</i>	<i>See Individual Specification Sheet</i>			
<i>120SIG3M6</i>	<i>See Individual Specification Sheet</i>			