

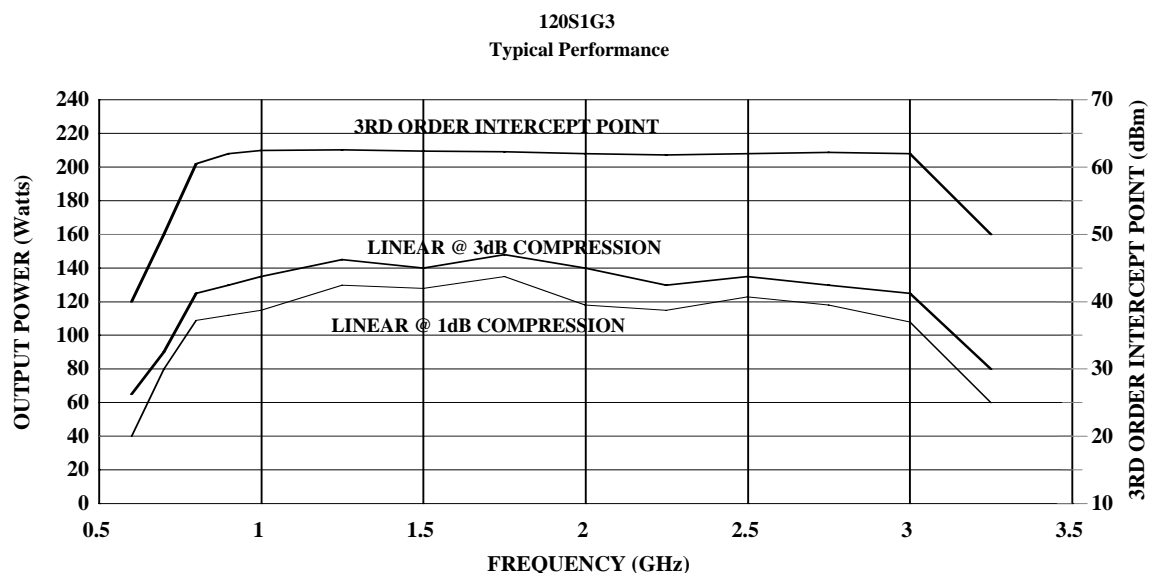
**Model 120S1G3,  
M1 through M9  
120 Watts CW  
0.8–3.0GHz**

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.



## SPECIFICATIONS

RATED POWER OUTPUT .....	120 watts minimum
INPUT FOR RATED OUTPUT .....	1.0 milliwatt maximum
POWER OUTPUT @ 3dB COMPRESSION	
Nominal .....	140 watts
Minimum .....	120 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 NUMBER	RF INPUT	MODEL CONFIGURATIONS RF OUTPUT	WIEGHT	SIZE (W x H x D)
120S1G3	Type N female on front panel	Type N female on front panel	86.2kg (190 lbs)	50.3 x 47.0 x 61.0cm 19.8 x 18.5 x 24.0in
120S1G3M1	Type N female on rear panel	Type N female on rear panel	86.2 kg (190 lbs)	50.3 x 47.0 x 61.0cm 19.8 x 18.5 x 24.0in
120S1G3M2	Same as 120S1G3 with enclosure removed for rack mounting		68.0kg (150 lbs)	48.3 x 44.5 x 61.0cm 19.0 x 17.5 x 24.0in
120S1G3M3	Same as 120S1G3M1 with enclosure removed for rack mounting		68.0kg (150 lbs)	48.3 x 44.5 x 61.0cm 19.0 x 17.5 x 24.0in
120S1G3M4	Type N on front panel.	Type N on rear panel.	86.2kg (190lbs)	50.3 x 47 x 61cm 19.8 x 18.5 x 24in
120S1G3M5	See Individual Specification Sheet			
120S1G3M6	See Individual Specification Sheet			
120S1G3M7	Same as 120S1G3 except frequency range is 0.8 to 3.1 GHz.		86.2kg (190 lbs)	50.3 x 47.0 x 61.0cm 19.8 x 18.5 x 24.0in
120S1G3M8	Same as 120S1G3 with higher operating temperature range of 50°C		86.2kg (190 lbs)	50.3 x 47.0 x 61.0cm 19.8 x 18.5 x 24.0in
120S1G3M9	See Individual Specification Sheet			