



**Model 120S4G8,
M1, M2
120 Watts CW
4.0 GHz–8.0 GHz**

The Model 120S4G8 is a portable, self-contained, air-cooled, broadband, completely solid-state amplifier designed for applications where instantaneous bandwidth, high gain and linearity are required. The Model 120S4G8, when used with a sweep generator, will provide a minimum of 120 watts of RF power instantaneously from 4 to 8 GHz.

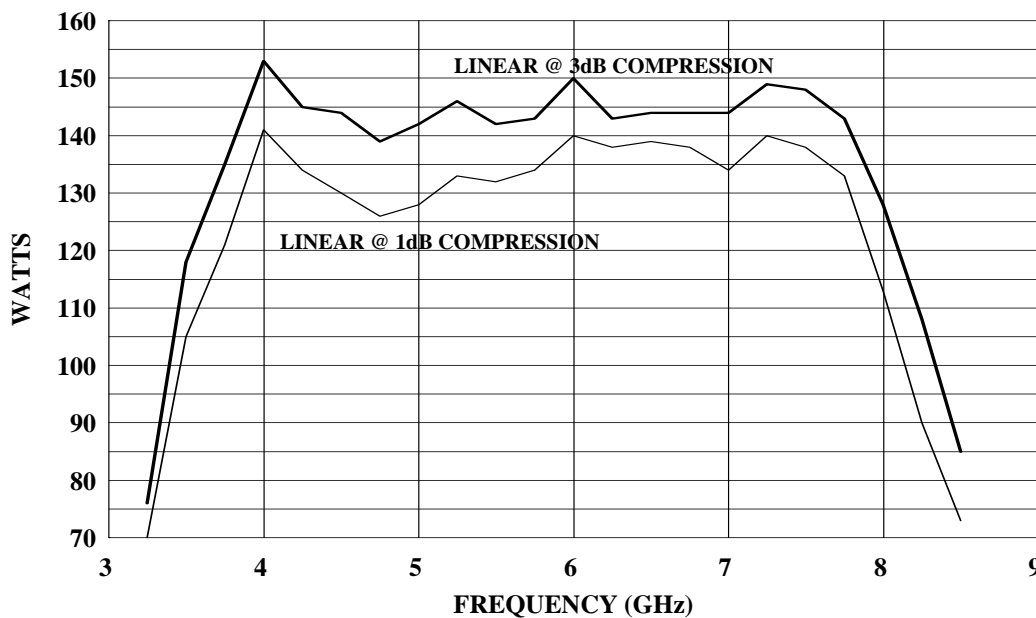
The Model 120S4G8 is equipped with a Digital Control Panel (DCP) which provides both local and remote control of the amplifier. The DCP uses a graphic Liquid Crystal Display, menu assigned softkeys, a single rotary knob, and a dedicated power on/off switch to offer extensive control and status reporting 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 format, RS-232 hardware and fiber optic, USB, and Ethernet. 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 Model 120S4G8 is designed to have low spurious signals, linearity and is extremely load tolerant which enables it to be used in many RF applications such as: RF susceptibility testing, antenna/component testing, and communication technology testing. 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, UWB, WiMAX etc.

The 120S4G8 is part of AR's Expandable Power concept, which gives the amplifier much more versatility. The 120S4G8 consists of four 35S4G8A sub-amplifiers housed in a single equipment rack with a controller. The 120S4G8 can function as one amplifier or be separated and operate as four separate 35S4G8A amplifiers which can be used independently.

120S4G8 TYPICAL POWER OUTPUT



SPECIFICATIONS, MODEL 120S4G8

RATED POWER OUTPUT	120 watts minimum
POWER OUTPUT @ 3dB COMPRESSION	
Nominal	135 watts
Minimum	120 watts
POWER OUTPUT @ 1dB COMPRESSION	
Nominal	120 watts
Minimum	100 watts
FLATNESS.....	±1.5 dB typical ±2.5 dB maximum
FREQUENCY RESPONSE	4.0–8.0 GHz instantaneously
INPUT FOR RATE OUTPUT	1.0 milliwatt maximum, 0 dBm
GAIN (at maximum setting)	50.8 dB minimum
GAIN ADJUSTMENT (Continuous Range)	15 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. *See Application Note #27.
MODULATION CAPABILITY.....	Will faithfully reproduce AM, FM, or pulse modulation appearing on the input signal.
HARMONIC DISTORTION	Minus 20 dBc maximum at 120 watts
THIRD ORDER INTERCEPT POINT	58 dBm typical
RF POWER DISPLAY	Digital, forward, and reflected
PRIMARY POWER (selected automatically).....	90-132, 180-264 VAC 50/60 Hz, single phase <2200 watts maximum
CONNECTORS	
RF Input	See Model Configurations
RF Output	Type N female on rear panel
External Leveling Inputs	Type BNC female on front panel
Pulse Modulation Input	Type BNC female on front panel
Detected RF Output	Type BNC female on front panel
REMOTE INTERFACES	
IEEE-488.....	24 pin female
RS-232	9 pin Subminiature D (female)
RS-232 (Fiber-optic)	Type ST
USB 2.0	Type B
Ethernet	RJ-45
SAFETY INTERLOCK	15 Pin Subminiature D
COOLING.....	Forced air (self contained fans)
WEIGHT (approximate)	172.4 kg (380 lbs)
SIZE (W x H x D).....	56.1 x 152.4 x 67.1cm (22.1 x 60.0 x 26.4 in)

MODEL CONFIGURATIONS

Model	RF Input	RF Output	Fwd/Rev Power Sample Ports (-40dBc)
120S4G8	N female on front	N female on rear	N/A
120S4G8M1	N female on rear	N female on rear	N/A
120S4G8M2	N female on front	N female on front	N female front

The 120S4G8M2 has an internal 40dB directional coupler. The forward and reflected output sample ports are Type N connectors located on the front panel. Output power is reduced due to additional directional coupler loss.

Rated Power	110 watts
Power Output @ 3 dB compression	110 watts
Power Output @ 1 dB compression	90 watts