



Model 60S4G11, M1
60 Watts CW
4.0 GHz–10.6 GHz

The Model 60S4G11 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 60S4G11, when used with a sweep generator, will provide a minimum of 60 watts of RF power instantaneously from 4 to 10.6 GHz.

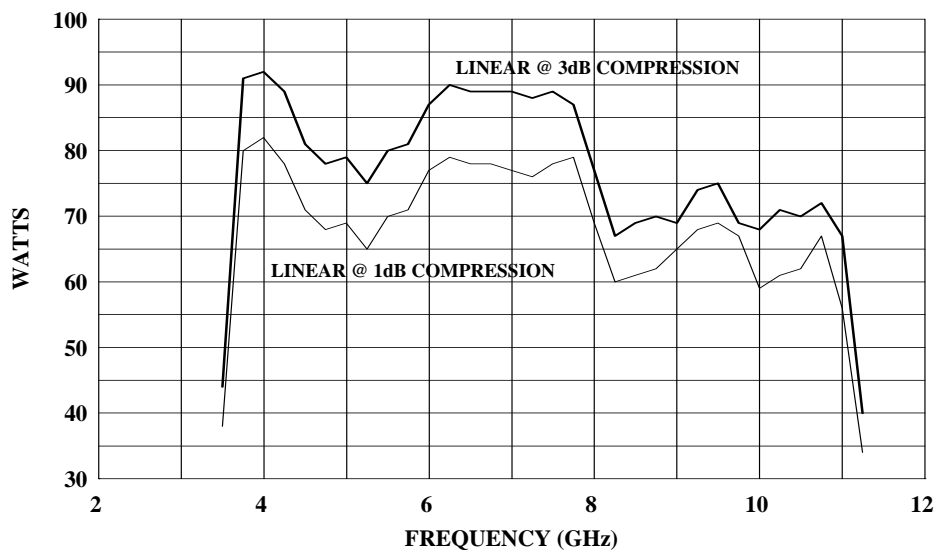
The Model 60S4G11 is equipped with a Digital Control Panel (DCP) which provides both local and remote control of the amplifier. The DCP uses a graphic Liquid Crystal Display, menu assigned softkeys, a single rotary knob, and a dedicated power on/off switch to offer extensive control and status reporting 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 hardwire 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 60S4G11 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, as well as 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 60S4G11 is part of AR's *Expandable Power* concept, which gives the amplifier much more versatility. The 60S4G11 consists of three 20S4G11A sub-amplifiers housed in a single equipment rack with a controller. The 60S4G11 can function as one amplifier or be separated and operate as three separate 20S4G11A amplifiers which can be used independently. The 60S4G11 can be upgraded in the future to an 80S4G11 by simply adding one more 20S4G11A sub-amplifiers, upgrading the controller and performing minor tuning.

60S4G11 TYPICAL POWER OUTPUT



SPECIFICATIONS, MODEL 60S4G11

RATED POWER OUTPUT	60 watts minimum
POWER OUTPUT @ 3dB COMPRESSION	
Nominal	70 watts
Minimum	60 watts
POWER OUTPUT @ 1dB COMPRESSION	
Nominal	60 watts
Minimum	50 watts
FLATNESS.....	±2.0 dB typical ±3.0 dB maximum
FREQUENCY RESPONSE	4.0–10.6 GHz instantaneously
INPUT FOR RATE OUTPUT	1.0 milliwatt maximum, 0 dBm
GAIN (at maximum setting)	47.8 dB minimum
GAIN ADJUSTMENT (Continuous Range)	10 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.
MODULATION CAPABILITY.....	Will faithfully reproduce AM, FM, or pulse modulation appearing on the input signal
HARMONIC DISTORTION.....	Minus 20 dBc maximum at 60 watts
THIRD ORDER INTERCEPT POINT	56 dBm typical
RF POWER DISPLAY	Digital, forward, and reflected
PRIMARY POWER (selected automatically).....	90-132, 180-264 VAC 50/60 Hz, single phase <1800 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)	148kg (325 lbs)
SIZE (W x H x D).....	56.1 x 152.4 x 67.1cm (22.1 x 60.0 x 26.4 in)

*See Application Note #27.

MODEL CONFIGURATIONS

Model	RF Input
60S4G11	N female on front
60S4G11M1	N female on rear