



Model 40S4G11, M2
40 Watts CW
4.0 GHz–10.6 GHz

The Model 40S4G11 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 40S4G11, when used with a sweep generator, will provide a minimum of 40 watts of RF power instantaneously from 4 to 10.6 GHz.

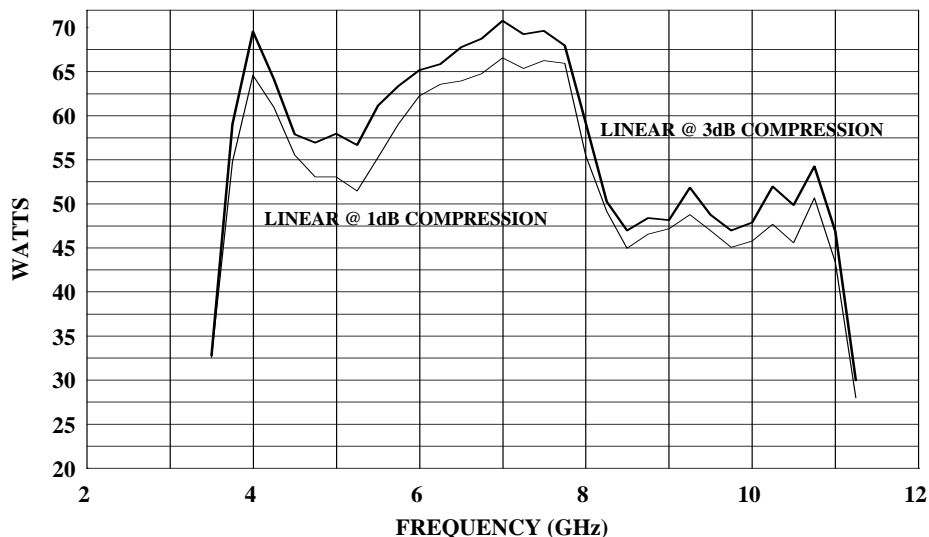
The Model 40S4G11 is equipped with a Digital Control Panel (DCP) which provides both local and remote control of the amplifier. The DCP uses a graphic Liquid Crystal Display, menu assigned softkeys, a single rotary knob, and a dedicated power on/off switch to offer extensive control and status reporting 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 40S4G11 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 40S4G11 is part of AR's *Expandable Power* concept, which gives the amplifier much more versatility. The 40S4G11 consists of two 20S4G11A sub-amplifiers housed in a single equipment rack with a controller. The 40S4G11 can function as one amplifier or be separated and operate as two separate 20S4G11A amplifiers which can be easily removed and used independently. The 40S4G11 can be upgraded in the future to a 60S4G11 or an 80S4G11 by simply adding more 20S4G11A sub-amplifiers, upgrading the controller and performing minor tuning.

40S4G11 TYPICAL POWER OUTPUT



SPECIFICATIONS, MODEL 40S4G11

| | |
|---|---|
| RATED POWER OUTPUT | 40 watts minimum |
| POWER OUTPUT @ 3dB COMPRESSION | |
| Nominal | 45 watts |
| Minimum | 40 watts |
| POWER OUTPUT @ 1dB COMPRESSION | |
| Nominal | 40 watts |
| Minimum | 36 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) | 46 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 40 watts |
| THIRD ORDER INTERCEPT POINT | 52 dBm typical |
| RF POWER DISPLAY | Digital, forward, and reflected |
| PRIMARY POWER (selected automatically)..... | 90-132, 180-264 VAC 50/60 Hz, single phase <1300 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) |

*See Application Note #27.

MODEL CONFIGURATIONS

| Model | RF Input Connector | Weight | Size |
|-----------|-------------------------|-----------------------|--|
| 40S4G11 | N female on front panel | 113.4 kg (250 lbs) | 56.1 x 90.2 x 67.1 cm (22.1 x 35.5 x 26.4 in) |
| 40S4G11M2 | N female on rear panel | 113.4 kg (250 lbs) | 56.1 x 90.2 x 67.1 cm (22.1 x 35.5 x 26.4 in) |