Model 15S4G8A, M1, M2, M3
15 watts CW
4.0 GHz–8.0 GHz

The Model 15S4G8A is a solid state, self-contained, air-cooled, broadband amplifier designed for applications where instantaneous bandwidth and high gain are required. Housed in a stylish contemporary cabinet, the unit is designed for benchtop use, but can be removed from the cabinet for immediate equipment rack mounting. The 15S4G8A, when used with a sweep generator, will provide a minimum of 15 watts of RF power. Included is a front panel gain control which permits the operator to conveniently set the desired output level. The 15S4G8A is protected from RF input overdrive by an RF input leveling circuit which controls the RF input level to the RF amplifier first stage when the RF input level is increased above 0 dBm. The RF amplifier stages are protected from over temperature by removing the DC voltage to them if an over temperature condition occurs due to cooling blockage or fan failure. There is a digital display on the front panel to indicate the operate status and fault conditions when an overtemperature or power supply fault has occurred. The unit can be returned to operate when the condition has been cleared. The 15S4G8A includes digital control for both local and remote control of the amplifier. The control system is composed of a 16-bit RISC microcontroller board which handles primary functions of the amplifier and interprets commands sent to it from an 8-bit remote interface board. This 8-bit microprocessor controlled board provides both IEEE-488 (GPIB) and asynchronous, full duplex RS-232 control of all amplifier functions.

The Model 15S4G8A has the ability to be upgraded at a later date to the Model 35S4G8A 35-watt amplifier. Upgrading to the 35S4G8A allows for future upgrades by utilizing our Expandable Power Technology.

**15S4G8A TYPICAL POWER OUTPUT**

![Power Output Graph](image-url)
SPECIFICATIONS, MODEL 15S4G8A

RATED POWER OUTPUT .................................15 watts minimum

POWER OUTPUT @ 3dB COMPRESSION
  Nominal .............................................19 watts
  Minimum ............................................16 watts

POWER OUTPUT @ 1dB COMPRESSION
  Nominal .............................................16 watts
  Minimum ............................................14 watts

FLATNESS ...........................................±1.0 dB typical
                      ±2.0 dB maximum

FREQUENCY RESPONSE ...............................4.0–8.0 GHz instantaneously

INPUT FOR RATE OUTPUT ..............................1.0 milli watt maximum, 0 dBm

GAIN (at maximum setting) ..........................42 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 15 watts

THIRD ORDER INTERCEPT POINT ......................51 dBm typical

PRIMARY POWER (selected automatically) ...........90–132, 180–264 VAC
                      50/60 Hz, single phase
                      <300 watts maximum

CONNECTORS
  RF ..................................................See Model Configurations
  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

<table>
<thead>
<tr>
<th>MODEL NUMBER</th>
<th>RF INPUT</th>
<th>RF OUTPUT</th>
<th>WEIGHT</th>
<th>SIZE (W x H x D)</th>
</tr>
</thead>
<tbody>
<tr>
<td>15S4G8A</td>
<td>Type N female on front panel</td>
<td>Type N female on front panel</td>
<td>31.3 kg</td>
<td>50.3 x 24.9 x 54.6 cm</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>19.8 x 9.8 x 21.5 in</td>
</tr>
<tr>
<td>15S4G8AM1</td>
<td>Type N female on rear panel</td>
<td>Type N female on rear panel</td>
<td>31.3 kg</td>
<td>50.3 x 24.9 x 54.6 cm</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>19.8 x 9.8 x 21.5 in</td>
</tr>
<tr>
<td>15S4G8AM2</td>
<td>Same as 15S4G8A with enclosure removed for rack mounting</td>
<td>Same as 15S4G8A with enclosure removed for rack mounting</td>
<td>18.2 kg</td>
<td>48.3 x 22.2 x 54.6 cm</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>19 x 8.75 x 21.5 in</td>
</tr>
<tr>
<td>15S4G8AM3</td>
<td>Same as 15S4G8AM1 with enclosure removed for rack mounting</td>
<td>Same as 15S4G8AM1 with enclosure removed for rack mounting</td>
<td>18.2 kg</td>
<td>48.3 x 22.2 x 54.6 cm</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
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