The Model 175S1G4 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 175S1G4, when used with a sweep generator, will provide a minimum of 175 watts of RF power.

The Model 175S1G4 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 and RF output level protection.

All amplifier control functions and status indications are available remotely in GPIB/IEEE-488 format, RS232 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 low level of spurious signals and linearity of the Model 175S1G4 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.

Model 175S1G4

<table>
<thead>
<tr>
<th>Power (Watts)</th>
<th>Freq. (GHz)</th>
</tr>
</thead>
<tbody>
<tr>
<td>P1dB</td>
<td>1.0</td>
</tr>
<tr>
<td>P3dB</td>
<td>2.0</td>
</tr>
<tr>
<td>Psat</td>
<td>3.0</td>
</tr>
</tbody>
</table>

![Model 175S1G4 Power and Frequency Chart]
SPECIFICATIONS, 175S1G4

RATED POWER OUTPUT ............................................... 175 watts minimum

INPUT FOR RATED OUTPUT .............................................. 1.0 milliwatt maximum

POWER OUTPUT @ 3dB COMPRESSSION
  Nominal ..................................................... 190 watts
  Minimum ..................................................... 160 watts

POWER OUTPUT @ 1dB COMPRESSION
  Nominal ..................................................... 165 watts
  Minimum ..................................................... 135 watts

FLATNESS .......................................................... ±1.5 dB typical
  ±2.0 dB maximum

FREQUENCY RESPONSE ............................................... 0.8 – 4.2 GHz instantaneously

GAIN (at maximum setting) ........................................... 52.5 dB minimum

GAIN ADJUSTMENT .................................................... (Continuous Range), 15 dB minimum, (4096 steps remote)

INPUT IMPEDANCE ..................................................... 50 ohms, VSWR 2.0:1 maximum

RF POWER DISPLAY .................................................... 0–200 Watts

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

THIRD ORDER INTERCEPT ............................................ 61 dBm typical

HARMONIC DISTORTION .............................................. Minus 20 dBc, maximum at 160 watts

SPURIOUS .............................................................. Minus 73 dBc typical.

PHASE LINEARITY ...................................................... ± 1.0 deg/100 MHz, Typ

PRIMARY POWER (Selected Automatically) ...................... 90-132, 180-264 VAC, 50/60 Hz, single phase, 1050 watts maximum

CONNECTORS

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

REMOTE INTERFACES

IEEE-488 ......................................................... 24 pin

RS-232 ........................................................... 9 pin Subminiature D

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)

MODEL CONFIGURATIONS

<table>
<thead>
<tr>
<th>MODEL NUMBER</th>
<th>RF INPUT</th>
<th>RF OUTPUT</th>
<th>INSTRUMENT CASE</th>
<th>WEIGHT</th>
<th>SIZE</th>
<th>OTHER</th>
</tr>
</thead>
<tbody>
<tr>
<td>175S1G4</td>
<td>N FEM</td>
<td>N FEM</td>
<td>FRONT</td>
<td>YES</td>
<td>45.4kg (100lbs)</td>
<td>50.3 x 30 x 61cm</td>
</tr>
<tr>
<td>175S1G4M1</td>
<td>N FEM</td>
<td>N FEM</td>
<td>REAR</td>
<td>YES</td>
<td>45.4kg (100lbs)</td>
<td>50.3 x 30 x 61cm</td>
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<tr>
<td>175S1G4M2</td>
<td>N FEM</td>
<td>N FEM</td>
<td>FRONT</td>
<td>NO, (Rack Mount)</td>
<td>34.5kg (76lbs)</td>
<td>48.3 x 26.7 x 61cm</td>
</tr>
<tr>
<td>175S1G4M3</td>
<td>N FEM</td>
<td>N FEM</td>
<td>REAR</td>
<td>NO, (Rack Mount)</td>
<td>34.5kg (76lbs)</td>
<td>48.3 x 26.7 x 61cm</td>
</tr>
</tbody>
</table>

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