The Model 30W1000B is a portable, self-contained, air-cooled, broadband, solid state amplifier designed for applications where instantaneous bandwidth and high gain are required. Push-pull circuitry is utilized in the high power stages to lower distortion and improve stability. The 30W1000B, when used with an RF sweep generator, will provide a minimum of 30 watts of swept power. Included is a front panel gain control which permits the operator to conveniently set the desired output level. The 30W1000B is protected from RF input overdrive by limiting diodes and 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 over temperature, power supply, or amplifier fault has occurred. The unit can be returned to operate when the condition has been cleared. The 30W1000B includes digital control for both local and remote control of the amplifier. This 8-bit RISC microprocessor controlled board provides both IEEE-488 (GPIB) and asynchronous, full duplex RS-232 control of all amplifier functions.

![30W1000B Typical Power Output](chart)

**30W1000B Typical Power Output**

- Linear @ 1dB Compression
- Linear @ 3dB Compression

---

**Model 30W1000B**

M1 through M5
30 Watts CW
1MHz–1000MHz
SPECIFICATIONS, MODEL 30W1000B

RATED OUTPUT POWER............................... 30 watts minimum
INPUT FOR RATED OUTPUT.......................... 1.0 milliwatt maximum

POWER OUTPUT @ 3dB COMPRESSION
Nominal................................................. 36 watts
Minimum................................................ 30 watts

POWER OUTPUT @ 1dB COMPRESSION
Nominal................................................. 27 watts
Minimum................................................ 20 watts

FLATNESS ............................................... ±1.0 dB typical
                                             ±1.5 dB maximum

FREQUENCY RESPONSE.............................. 1-1000 MHz instantaneously

GAIN (at maximum setting)........................... 45 dB minimum

GAIN ADJUSTMENT (Continuous Range)............ 20 dB minimum (4096 steps remote)

INPUT IMPEDANCE...................................... 50 ohms, VSWR 2.0:1 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 25 watts

THIRD ORDER INTERCEPT POINT.................... 52 dBm typical

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

REMOTE INTERFACES................................. IEEE-488, RS-232

CONNECTORS
RF ......................................................... Type N female
REMOTE CONTROL
IEEE-488 .............................................. 24 pin female
RS-232 .................................................. 9 pin Subminiature D female
REMOTE INTERLOCK................................... 15 Pin Subminiature D

COOLING .................................................. Forced air (self contained fans)

WEIGHT .................................................. See Model Configurations
SIZE (WxHxD)........................................... See Model Configurations

* See Application Note #27

MODEL CONFIGURATIONS

<table>
<thead>
<tr>
<th>MODEL</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>30W1000B</td>
<td>Type N female on front panel</td>
<td>Type N female on front panel</td>
<td>20.5 kg</td>
<td>50.3 x 15.5 x 37.6 cm</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(45.0 lb)</td>
<td>19.8 x 6.1 x 14.8 in</td>
</tr>
<tr>
<td>30W1000BM1</td>
<td>Type N female on rear panel</td>
<td>Type N female on rear panel</td>
<td>20.5 kg</td>
<td>50.3 x 15.5 x 37.6 cm</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(45.0 lb)</td>
<td>19.8 x 6.1 x 14.8 in</td>
</tr>
<tr>
<td>30W1000BM2</td>
<td>Same as 30W1000B with enclosure removed for rack mounting</td>
<td></td>
<td>16.0 kg</td>
<td>48.3 x 12.7 x 37.6 cm</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(35.0 lb)</td>
<td>19.0 x 5.0 x 14.8 in</td>
</tr>
<tr>
<td>30W1000BM3</td>
<td>Same as 30W1000BM1 with enclosure removed for rack mounting</td>
<td></td>
<td>16.0 kg</td>
<td>48.3 x 12.7 x 37.6 cm</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(35.0 lb)</td>
<td>19.0 x 5.0 x 14.8 in</td>
</tr>
<tr>
<td>30W1000BM4</td>
<td>Same as 30W1000B – modified to operate when AC input applied Local/Remote Switch from toggle to rocker switch</td>
<td></td>
<td>20.5 kg</td>
<td>50.3 x 15.5 x 37.6 cm</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(45.0 lb)</td>
<td>19.8 x 6.1 x 14.8 in</td>
</tr>
<tr>
<td>30W1000BM5</td>
<td>Type N female on front panel</td>
<td>Type N female on front panel</td>
<td>16.0 kg</td>
<td>48.3 x 12.7 x 37.6 cm</td>
</tr>
<tr>
<td></td>
<td>Enclosure removed for rack mounting</td>
<td></td>
<td>(35.0 lb)</td>
<td>19.0 x 5.0 x 14.8 in</td>
</tr>
</tbody>
</table>