



## 50U1000

- 50 Watts CW
- 10kHz-1000MHz
- Class A
- Portable
- Full VSWR-tolerant
- CE & RoHS Compliant
- High Efficiency



## Features

The Model 50U1000 is a solid-state, self-contained, air-cooled, broadband amplifier designed for applications where instantaneous bandwidth, high gain and linearity are required. Available in a stylish, contemporary cabinet for benchtop use or with cabinet removed for rack mounting.

The Model 50U1000, when used with a sweep generator, will provide a minimum of 50 watts of RF power. Included is a front panel gain control which permits the operator to conveniently set the desired output level. The 50U1000 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 0dBm. The RF amplifier stages

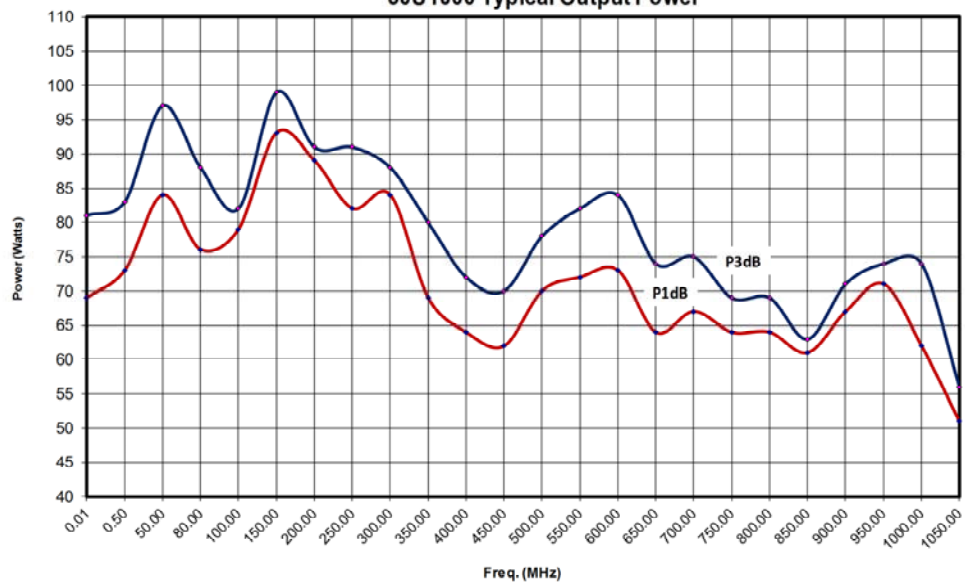
are protected from over-temperature by removing the DC voltage to them if an over-temperature condition occurs due to cooling

blockage or fan failure. The front panel indicates the operate status and fault conditions if an over-temperature or power supply fault has occurred. The unit can be returned to operate when the condition has been cleared.

All amplifier control functions and status indications are available remotely through the optional Remotes Package. The Remotes Package includes GPIB/IEEE-488 format, RS-232 hardwire and fiber optic, USB, and Ethernet. The bus interface connector is located on the back panel and positive control of local or remote operation is assured by a Local/Remote switch on the front panel of the amplifier. Also included with the Remotes Package is a safety interlock circuit for use with external safety switch interlocks. This circuit prevents the amplifier from going into operate mode unless the external connection is made. A jumper plug is provided for cases where this functionality is not needed.

The export classification for this equipment is EAR99.

50U1000 Typical Output Power



AR RF/Microwave  
Instrumentation  
160 School House Rd  
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215-723-8181

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ISO 9001 Certified



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### Specifications

**RATED OUTPUT POWER:** 70 watts typical, 50 watts minimum

**INPUT FOR RATED OUTPUT:** 1.0 mW Max

**POWER OUTPUT @ 3dB COMPRESSION:**  
Typical: 70 watts, Minimum: 50 watts

**POWER OUTPUT @ 1dB COMPRESSION:**  
Typical: 60 watts, Minimum: 45 watts

**FLATNESS:**  $\pm 1.5$  dB typical,  $\pm 2.0$  dB maximum

**FREQUENCY RESPONSE:** 10kHz–1000 MHz instantaneously

**GAIN (at maximum setting):** 47 dB minimum

**GAIN ADJUSTMENT (Continuous Range):** 20 dB minimum

**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. See Application Note #27.

**MODULATION CAPABILITY:** Will faithfully reproduce AM, FM, or Pulse modulation appearing on input signal.

**THIRD ORDER INTERCEPT:** 57 dBm typical

**NOISE FIGURE:** 8 dB typical

**HARMONIC DISTORTION:** Minus 20 dBc maximum at 45 watts; minus 20 dBc typical at 50 watts.

**SPURIOUS:** Minus 73 dBc typical

**PRIMARY POWER (Universal; selected automatically):**  
100-240 VAC, 50/60Hz, 250 watts

#### CONNECTORS:

RF Input: N female

RF Output: N female

#### REMOTES PACKAGE:

IEEE-488: 24-pin female

RS-232: 9-pin subminiature D (female)

Fiber optic: ST Conn Tx and Rx RS-232

USB 2.0: Type B

Ethernet: RJ-45

Safety Interlock: 15-pin subminiature D

**COOLING:** Forced air (self contained fans)

#### WEIGHT:

With Cabinet 17.7 kg (41 lbs)

Without Cabinet 9.5 kg (23 lbs)

#### SIZE (W x H x D):

With cabinet: 50.3 x 15.5 x 55.1 cm (19.8 x 6.1 x 21.7 in)

Without Cabinet: 48.3 x 13.2 x 55.1 cm (19 x 5.2 x 21.7 in)

#### ENVIRONMENTAL:

Operating Temperature: 5°C / +40°C

Operating Altitude: Up to 2000M

Shock and vibration: Normal Truck Transport

#### REGULATORY COMPLIANCE:

EMC EN 61326-1

Safety UL 61010-1

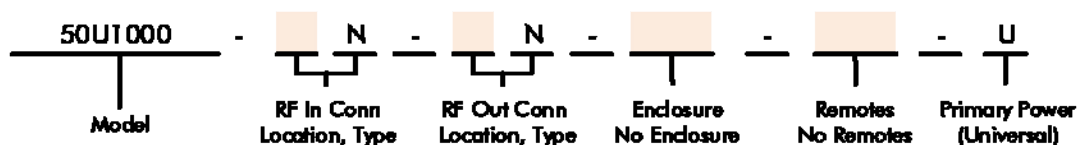
CAN/CSA C22.2 #61010-1

CENELEC EN 61010-1

RoHS DIRECTIVE 2011/65/EU

**EXPORT CLASSIFICATION:** EAR99

### Ordering Options



| CONNECTOR LOCATION |   |
|--------------------|---|
| Front              | F |
| Rear               | R |

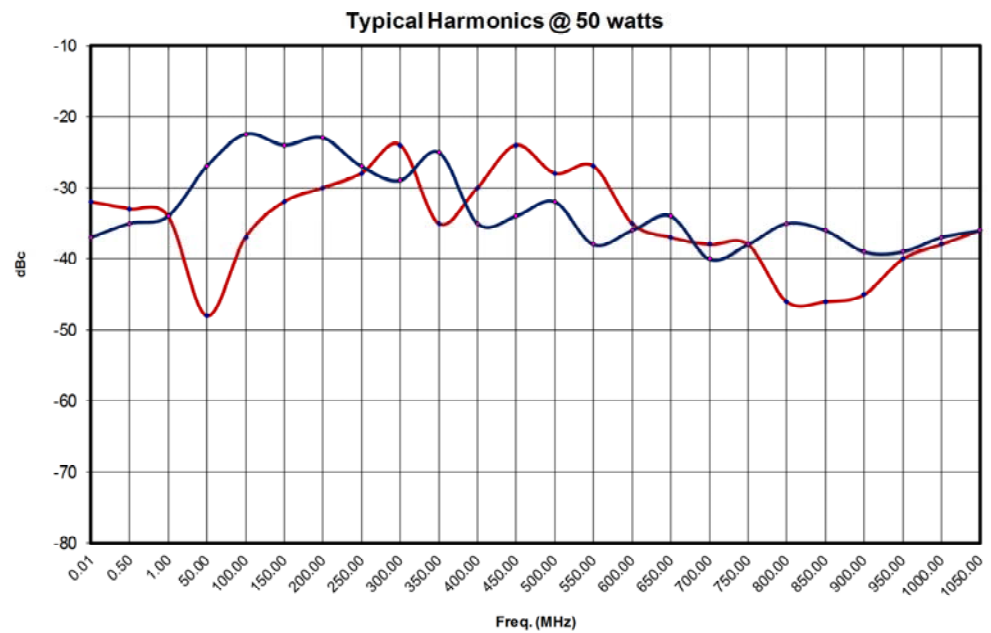
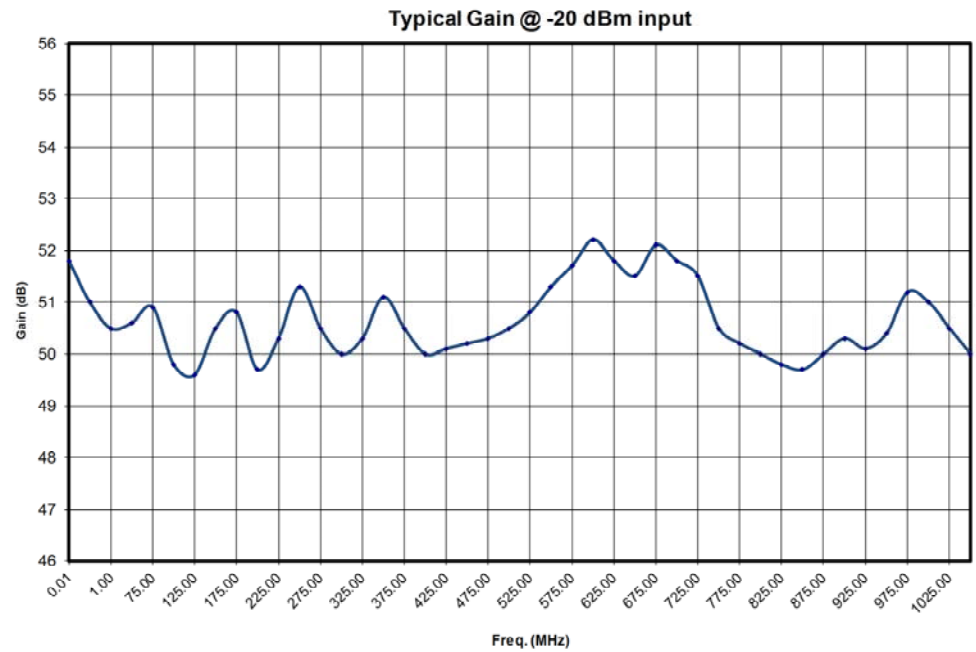
| ENCLOSURE    |    |
|--------------|----|
| Enclosure    | E  |
| No Enclosure | NE |

| REMOTES PKG |    |
|-------------|----|
| Remotes     | R  |
| No Remotes  | NR |

Contact your AR RF/Microwave Instrumentation Sales Associate for specific model configuration pricing.

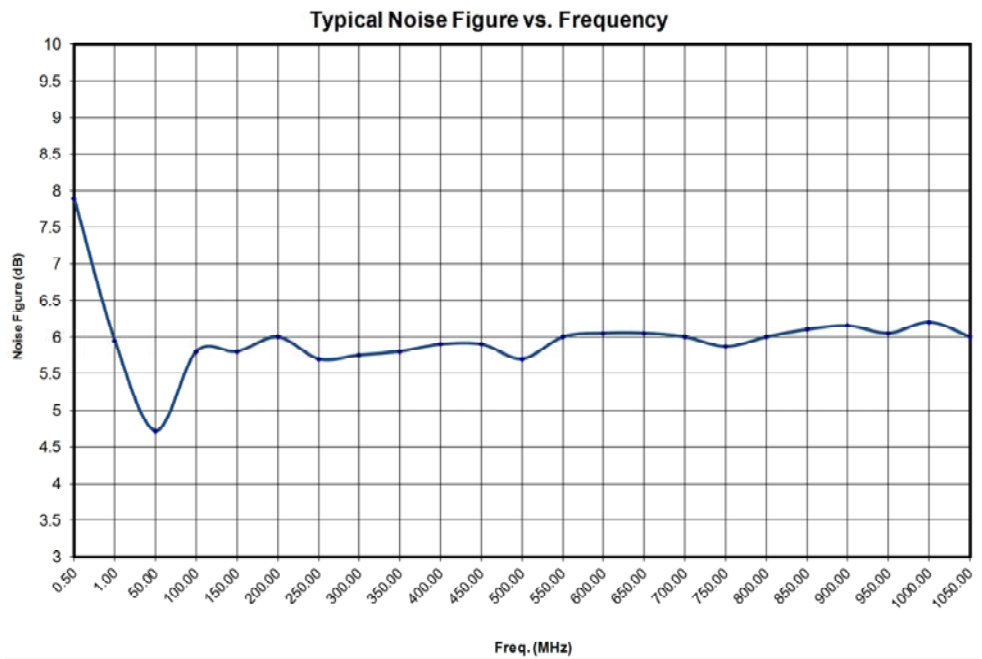
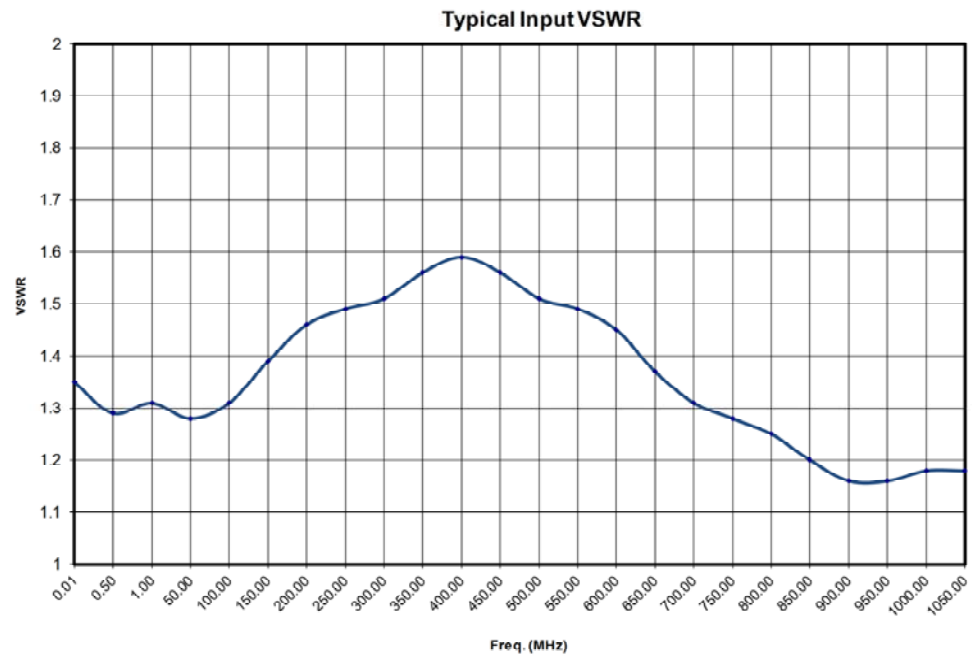
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### Envelope Drawing

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