



100A400A

- 100 Watts CW
- 10kHz–400MHz
- Class A
- Portable
- Full VSWR–tolerant
- CE & RoHS compliant
- High Efficiency



Features

The Model 100A400A 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 100A400A, when used with a sweep generator, will provide a minimum of 100 watts of RF power. Included is a front panel gain control which permits the operator to conveniently set the desired output level. The 100A400A 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

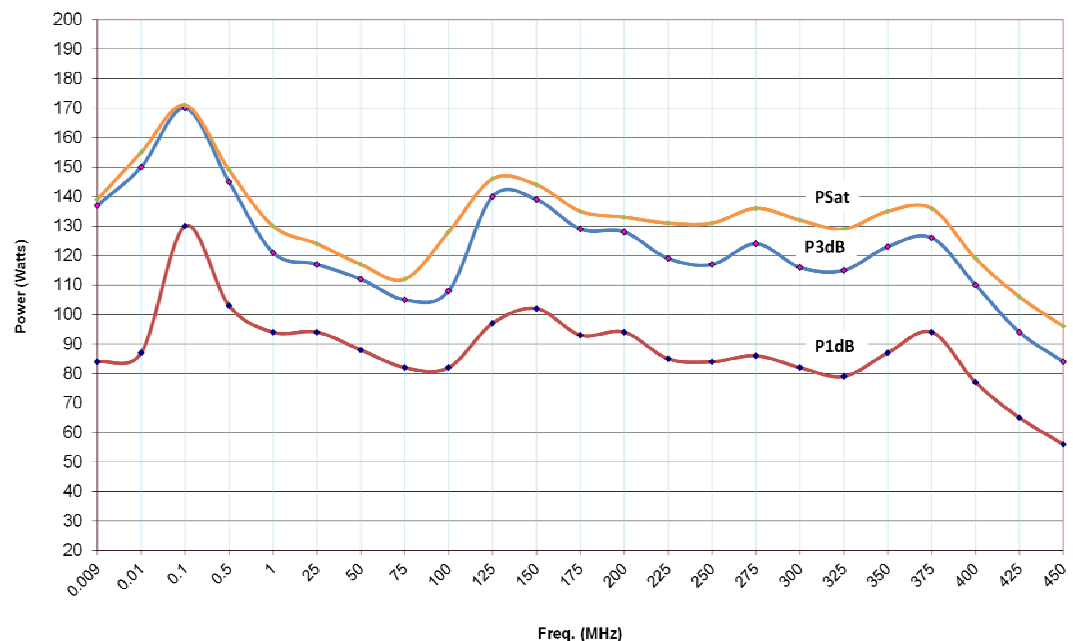
the DC voltage to them if an over-temperature condition occurs due to cooling blockage or

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.

100A400A Typical Output Power



AR RF/Microwave
Instrumentation
160 School House Rd
Souderton, PA 18964
215-723-8181

For an applications engineer call: 800.933.8181

www.arworld.us

ISO 9001 Certified



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Specifications

RATED OUTPUT POWER: 130 watts typical, 100 watts minimum

INPUT FOR RATED OUTPUT: 1.0 mW Max

POWER OUTPUT @ 3dB COMPRESSION:
Typical: 125 watts, Minimum: 100 watts

POWER OUTPUT @ 1dB COMPRESSION:
Typical: 85 watts, Minimum: 75 watts

FLATNESS: ± 1.0 dB typical, ± 1.5 dB maximum

FREQUENCY RESPONSE: 10kHz–400 MHz instantaneously

GAIN (at maximum setting): 50 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: 55 dBm typical

NOISE FIGURE: 8 dB typical

HARMONIC DISTORTION: Minus 20 dBc maximum at 75 watts, -30 dBc typical at 50 watts

SPURIOUS: Minus 73 dBc typical

PRIMARY POWER (Universal; selected automatically):
100–240 VAC, 50/60Hz, 500 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 18.5 kg (41 lbs)

Without Cabinet 10.4 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

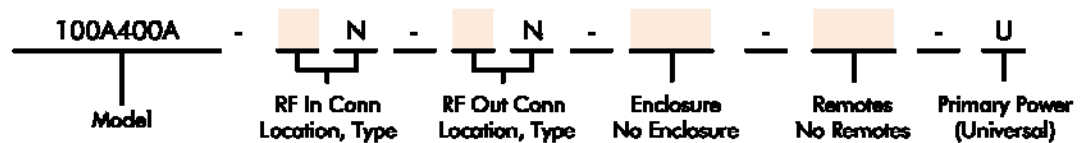
CAN/CSA C22.2 #61010-1

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

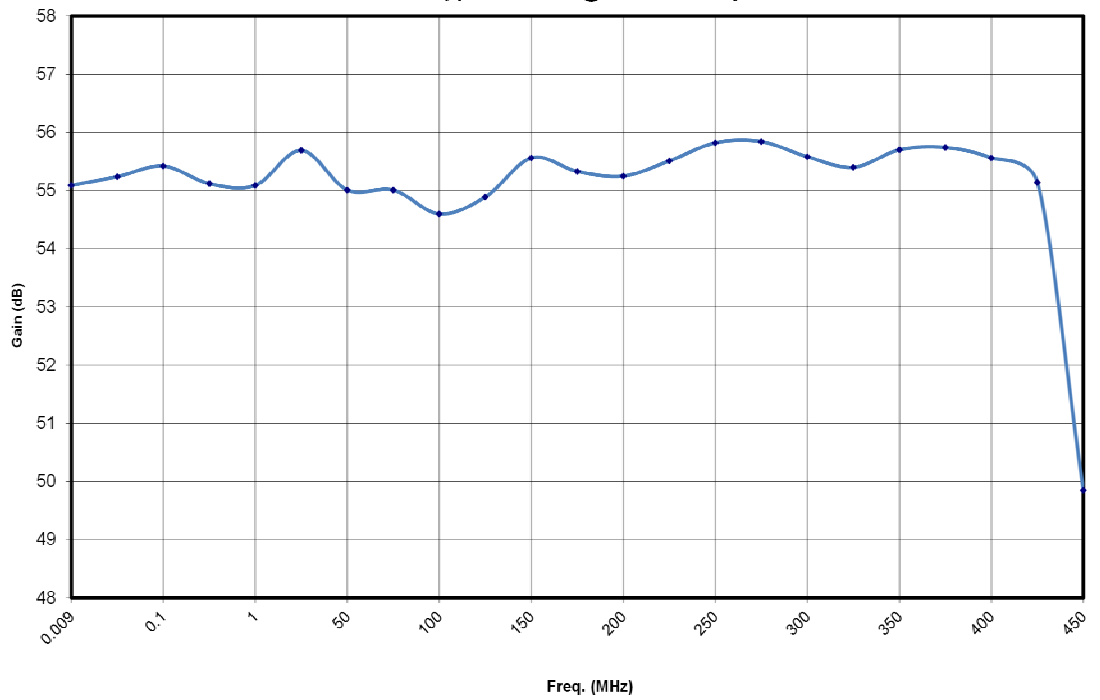
REMOTES PKG	
Remotes	R
No Remotes	NR

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

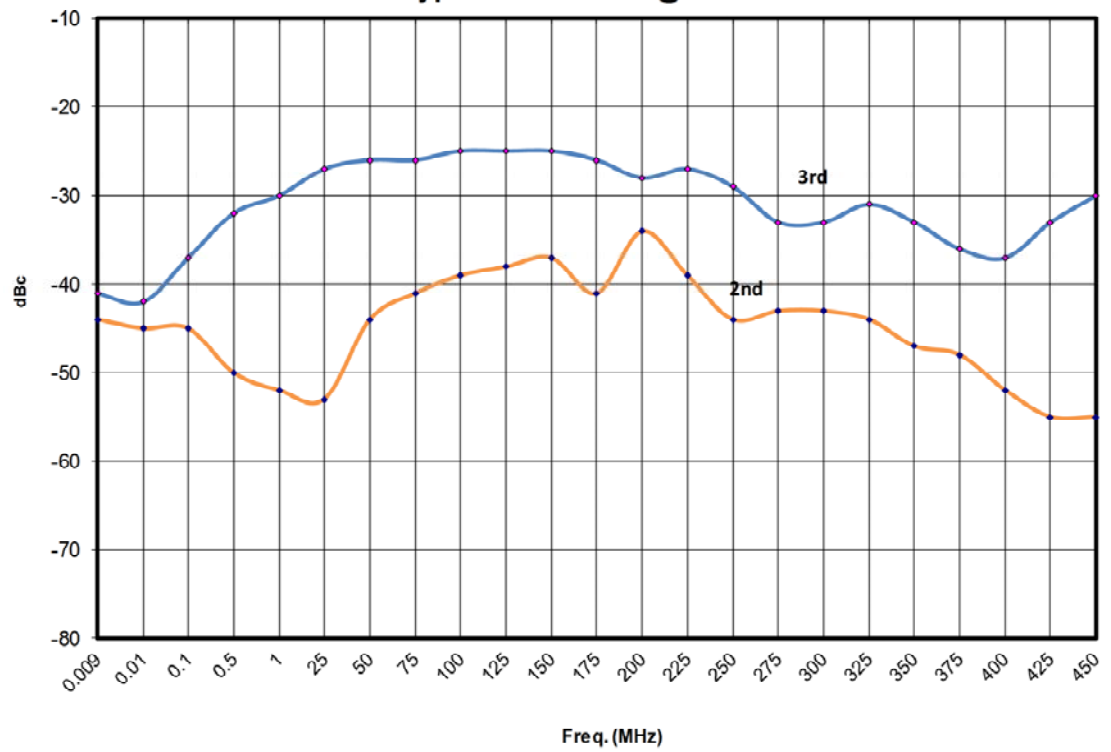
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Typical Gain @ -20 dBm input



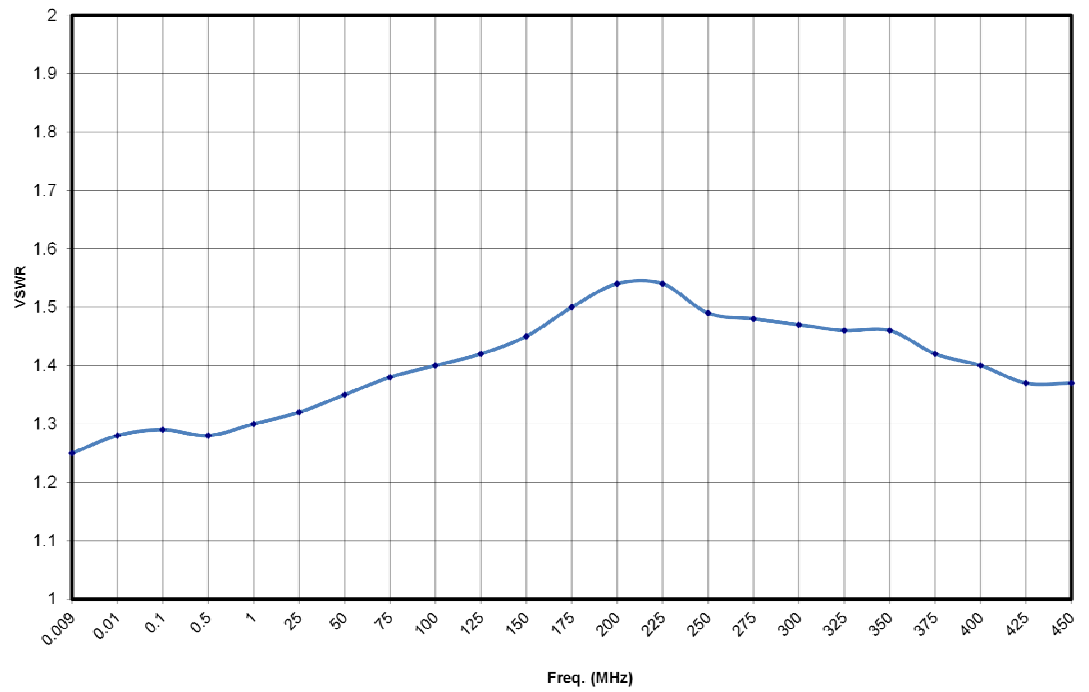
Typical Harmonics @ 75 watts



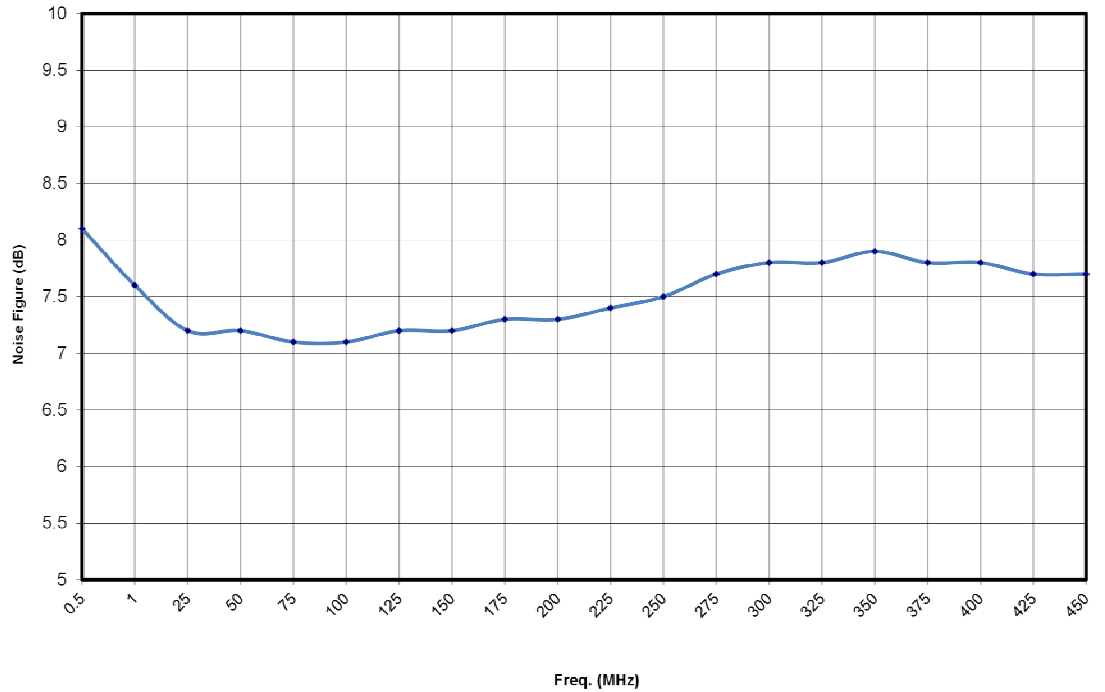
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Typical Input VSWR



Typical Noise Figure vs. Frequency



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Envelope Drawing

