



## 100A400AM20

- 4kHz–400MHz
- Class A
- Portable
- Full VSWR-tolerant
- CE & RoHS compliant
- High Efficiency



## Features

The Model 100A400AM20 is a solid-state, self-contained, air-cooled, broadband amplifier designed for applications requiring RF power down to 4kHz, such as for MIL STD 461 CS114 testing. This amplifier, along with ARI BI00400 current injection probe, or probes of similar insertion loss, offers full compliance to all test curves of CS114, including requirements down to 4kHz. Other advantages of this amplifier include an instantaneous bandwidth, high gain, and linearity. Available in a stylish, contemporary cabinet for benchtop use or with cabinet removed for rack mounting.

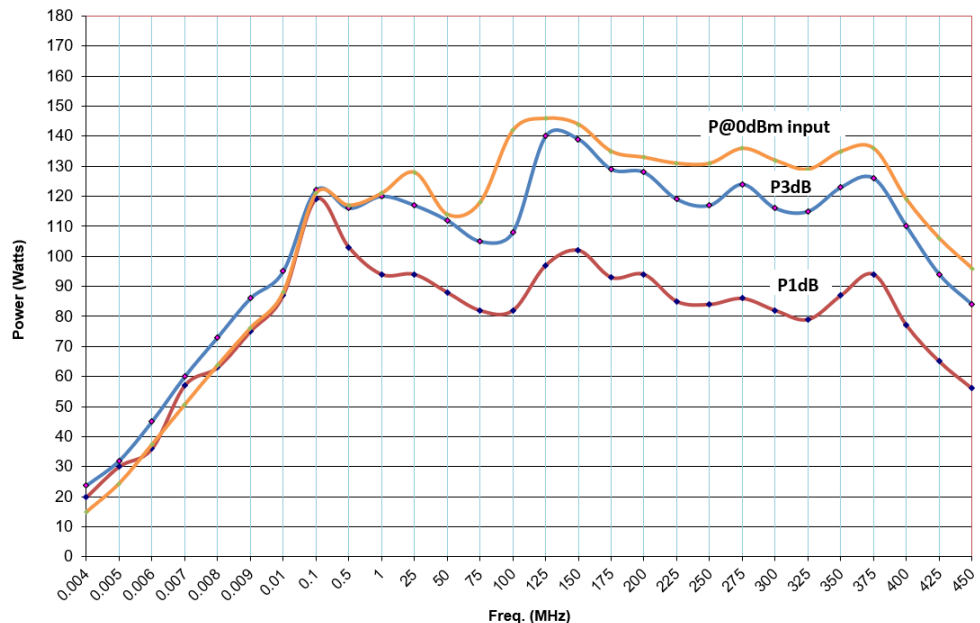
The Model 100A400AM20 includes a front panel gain control which permits the operator to conveniently set the desired output level. The 100A400AM20 is protected from RF input overdrive by a RF input leveling circuit which controls the RF input level to the RF amplifier first stage when the RF input level 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.

100A400AM20 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



# 100A400AM20

- 4kHz-400MHz

## Specifications

### RATED OUTPUT POWER INTO 50Ω:

4kHz-100kHz: 10 watts minimum rising to 100 watts minimum at 100kHz  
 100kHz-400MHz: 125 watts, typical; 100 watts minimum

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

### POWER OUTPUT @ 3dB COMPRESSION INTO 50Ω:

4kHz-100kHz: 10 watts minimum rising to 100 watts at 100kHz  
 100kHz-400MHz: 125 watts, typical; 100 watts minimum

### POWER OUTPUT @ 1dB COMPRESSION INTO 50Ω:

4kHz-100kHz: 10 watts minimum rising to 75 watts at 100kHz  
 100kHz-400MHz: 85 watts, typical; 75 watts minimum

**FLATNESS:** ±1.0 dB typical, ±1.5 dB maximum, 100kHz-400MHz

**FREQUENCY RESPONSE:** 4kHz-400 MHz instantaneously

**GAIN (at maximum setting):** 50 dB minimum, 100kHz-400MHz; <50dB below 100 kHz

**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 (.01-400MHz)

**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:

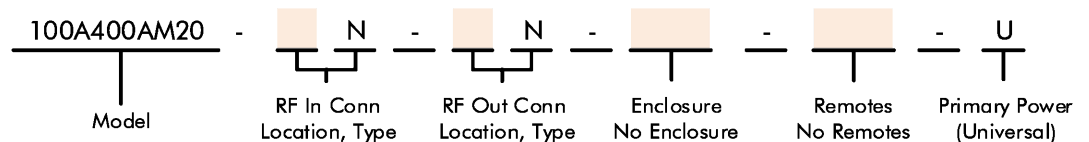
Operating Temperature: 5°C / +40°C  
 Operating Altitude: up to 2000M  
 Shock and vibration: Normal Truck Transport

### 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

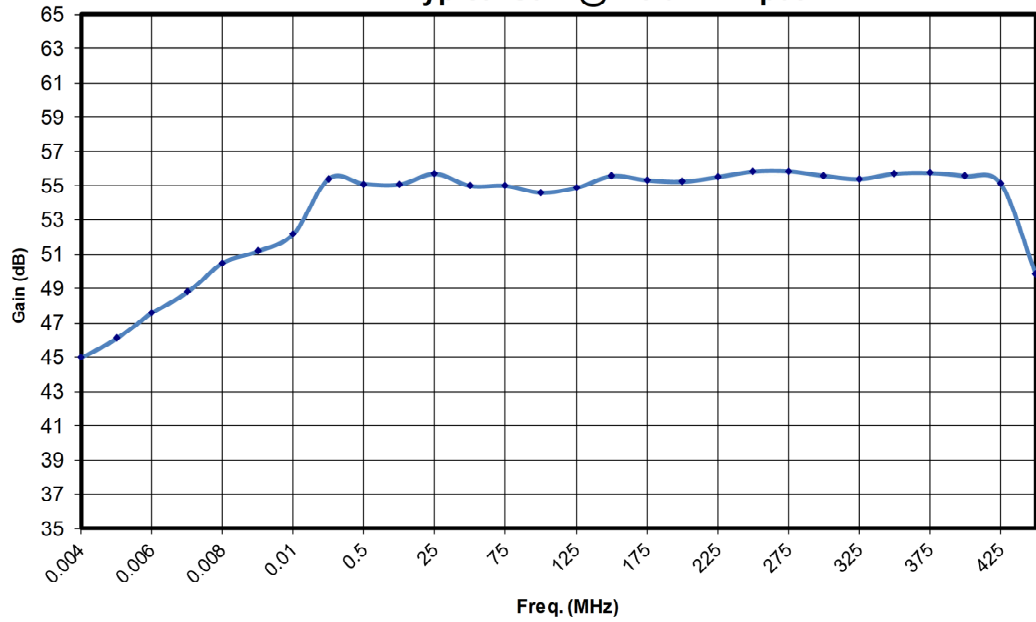
REMOTES PKG	
Remotes	R
No Remotes	NR

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

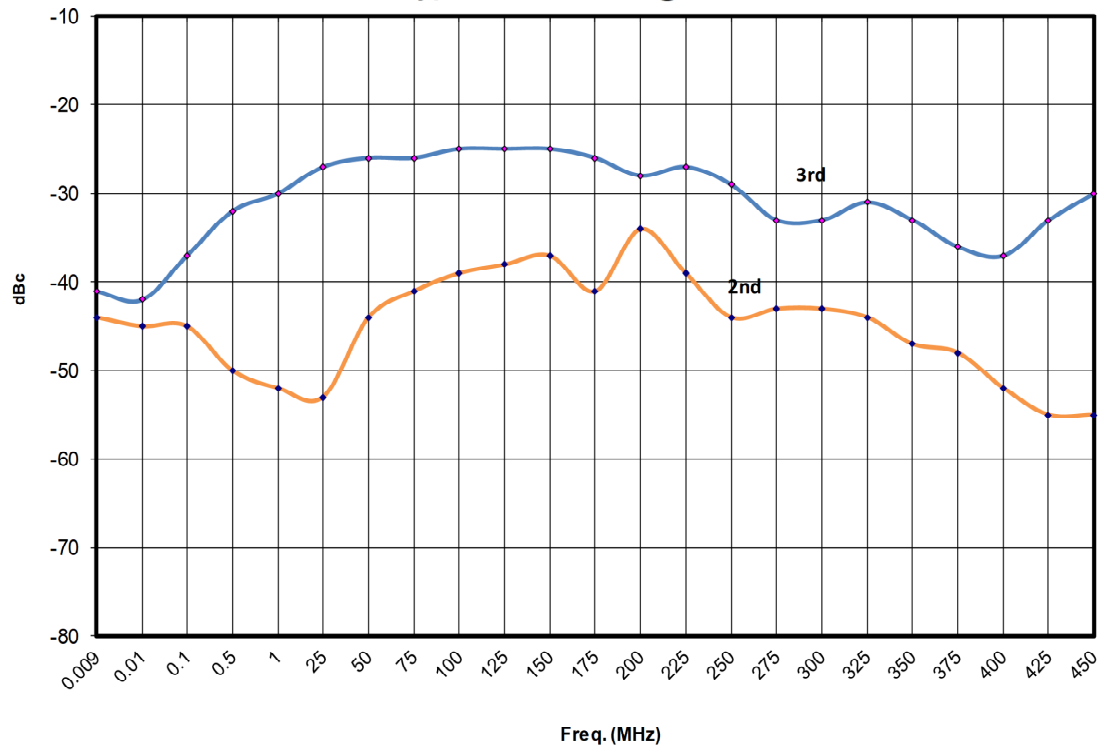
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### Typical Gain @ -20 dBm input



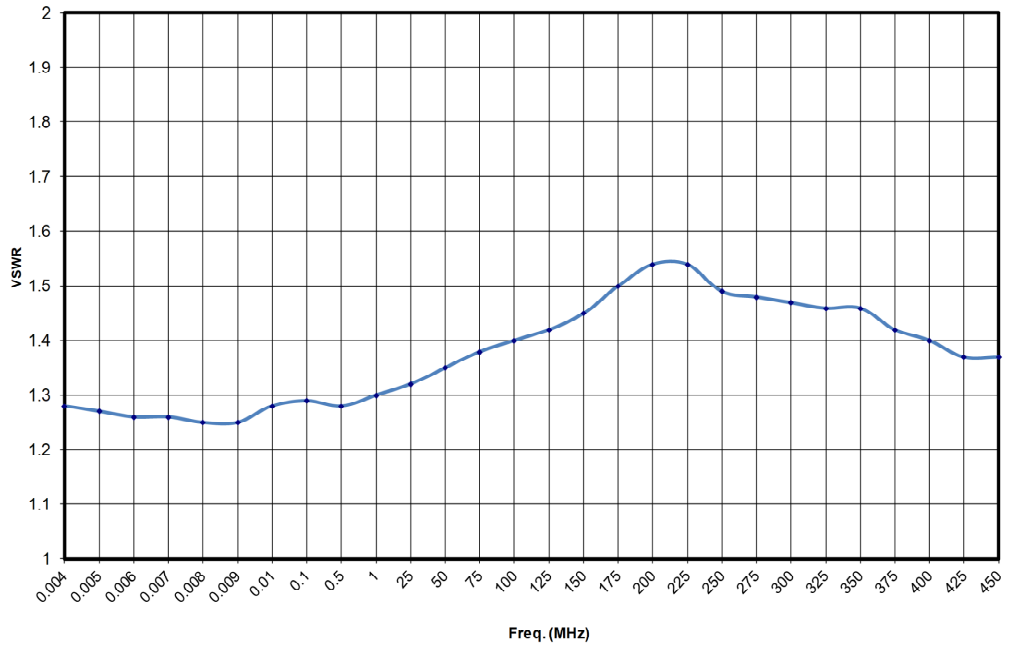
### Typical Harmonics @ 75 watts



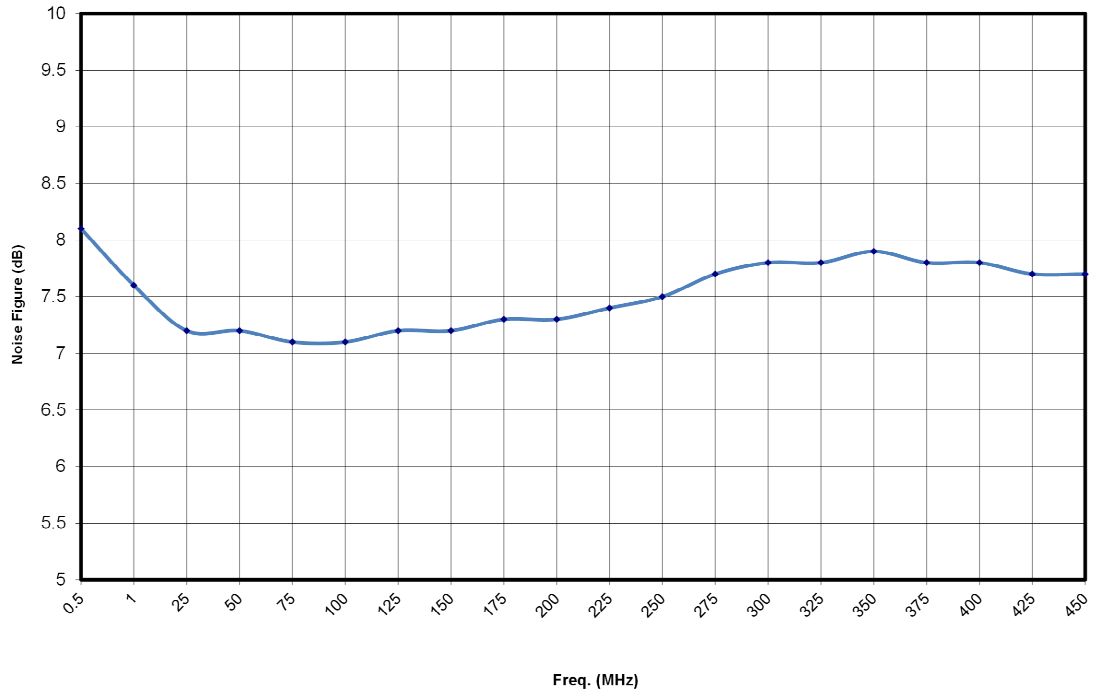
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### Typical Input VSWR



### Typical Noise Figure vs. Frequency



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