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Data Sheet

August 14, 2026

AMPLIFIER RESEARCH

Amplifier Research 500A100A

Amplifier Research 500A100A Broadband RF Amplifier The Amplifier Research 500A100A is a high-power solid-state air-cooled broadband amplifier providing 500 W CW minimum from 10 kHz to 100 MHz. OEM A100A family documentation lists Class A push-pull stages with digital local/remote control for demanding EMC and laboratory RF applications. High-field RF susceptibility testing below 100 MHz, antenna and component testing, and wattmeter calibration. High power solid state 10 kHz to 100 MHz design The Amplifier Research 500A100A is a high-power solid-state air-cooled broadband amplifier providing 500 W CW minimum from 10 kHz to 100 MHz. OEM A100A family documentation lists Class A push-pull stages with digital local/remote control for demanding EMC and laboratory RF applications. High-field RF susceptibility testing below 100 MHz, antenna and component testing, and wattmeter calibration. High power solid state 10 kHz to 100 MHz design Digital local and remote amplifier control



MODEL

**Amplifier Research
500A100A**

CALIBRATION

**Available on
request**

CONDITION

Used

STATUS

In stock

RFQ / SKU

500A100A

LISTING

<https://aumictechlabs.com/products/500a100a-3/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 • 811210 • 541380

This unit

The Amplifier Research 500A100A is a solid-state RF amplifier delivering minimum 500 watts of continuous wave power across 10 kHz to 100 MHz. Built on push-pull MOSFET circuitry in high-power stages, this air-cooled unit combines broad instantaneous bandwidth with high gain for

EMC testing, laboratory research, and communication system applications. The Digital Control Panel provides local operation via menu-assigned softkeys and a 4-line vacuum fluorescent display, while GPIB/IEEE-488 and RS-232 interfaces enable remote control and status monitoring. Adjustable gain spans a minimum 25 dB range with maximum setting reaching 57 dB minimum. Output flatness holds to ± 1.5 dB maximum, or ± 0.5 dB with internal leveling. The amplifier includes automatic level control with adjustable threshold, pulse input capability, RF output level protection, and an internal RF detector for forward and reflected power measurement. Gain control is continuous. Universal input power supplies feature power factor correction, consuming 2000 watts typical at 0.99 power factor. Input requirements: 180–264 VAC, 47–440 Hz. RF impedance is 50 ohms with Type N female connectors for input and output. A keylock switch controls local/remote operation modes and places the unit in standby via the INHIBIT position. The amplifier is rated for unconditional stability with any source and load impedance.

Technical Specifications

Frequency range:	10 kHz to 100 MHz
Output power (CW):	617 W nominal, 500 W minimum
Output power (linear @ 1 dB compression):	300 W minimum
Gain:	57 dB minimum (maximum setting), 25 dB minimum adjustable range
Flatness:	± 1.5 dB max (± 0.5 dB with internal leveling)
Impedance:	50 ohms
Maximum input power:	1.0 mW
Input voltage:	180–264 VAC, 47–440 Hz
Power consumption:	2000 W typical @ 0.99 power factor
RF connectors:	Type N female (input and output)

Key Features

- Push-pull MOSFET high-power stages for linearity and stability
- Digital Control Panel with 4-line VFD display and rotary control
- Automatic level control with adjustable threshold
- Pulse input and RF output level protection
- Internal RF detector for power monitoring
- GPIB/IEEE-488 and RS-232 remote control
- Keylock switch for operation mode selection and standby
- Dual regulated power supplies (± 15 VDC, +5 VDC)

Typical Applications

- EMC and immunity testing
- RF susceptibility testing
- Antenna and component testing
- Wattmeter calibration
- Particle accelerators
- Plasma generation
- Laboratory research and signal amplification

Compatibility & Integration

50 ohm system integration via Type N connectors. Local control through Digital Control Panel; remote operation via GPIB/IEEE-488 or RS-232 interface.

Features & description

From manufacturer datasheet

High power solid state 10 kHz to 100 MHz design

Digital local and remote amplifier control Push pull MOSFET mismatch tolerant stages Forced air self contained cooling Safety interlock support class Technical Specifications Rated Output Power: 500 watts minimum Frequency Response: 10 kHz to 100 MHz instantaneously Gain At Maximum Setting Class: 57 dB minimum class Input For Rated Output Class: 1.0 milliwatt maximum Flatness Maximum Class: plus or minus 1.5 dB class Gain Adjustment Range Class: 18 dB minimum class Input Impedance Class: 50 ohms VSWR 1.5:1 maximum Output Impedance Class: 50 ohms VSWR 2.0:1 maximum Mismatch Tolerance Class: 100 percent of rated power without foldback Harmonic Distortion Class: minus 20 dBc maximum near rated power Modulation Capability Class: AM FM pulse faithful reproduction Remote Interfaces Class: IEEE 488 and RS 232 Cooling: Forced air self contained fans RF Connector Class: TypeNfemale Form Factor: Large benchtop or floor standing air cooled cabinet Series Family: Amplifier Research A100A 10 kHz to 100 MHz Power Class Sibling 150A100A: 150 W minimum Primary Power Class: Universal AC mains multi kilowatt class Export Classification Class: EAR99 family class Circuit Topology: Push pull MOSFET broadband stages

500A100A Characteristics / Specifications

PARAMETER	VALUE
Rated Output Power	500 watts minimum
Frequency Response	10 kHz to 100 MHz instantaneously
Gain At Maximum Setting Class	57 dB minimum class
Input For Rated Output Class	1.0 milliwatt maximum
Flatness Maximum Class	plus or minus 1.5 dB class
Gain Adjustment Range Class	18 dB minimum class
Input Impedance Class	50 ohms VSWR 1.5:1 maximum
Output Impedance Class	50 ohms VSWR 2.0:1 maximum
Mismatch Tolerance Class	100 percent of rated power without foldback
Harmonic Distortion Class	minus 20 dBc maximum near rated power
Modulation Capability Class	AM FM pulse faithful reproduction
Remote Interfaces Class	IEEE 488 and RS 232
Cooling	Forced air self contained fans
RF Connector Class	TypeNfemale
Form Factor	Large benchtop or floor standing air cooled cabinet
Series Family	Amplifier Research A100A 10 kHz to 100 MHz
Power Class Sibling 150A100A	150 W minimum
Primary Power Class	Universal AC mains multi kilowatt class
Export Classification Class	EAR99 family class
Circuit Topology	Push pull MOSFET broadband stages
Third Order Intercept Class Typical	63 dBm class
Forward Reflected Metering Class	Digital forward reflected power display class

500A100A Specifications

PARAMETER	VALUE
Amplifier Research 500A100A Broadband RF Amplifier	Overview
Applications	High-field RF susceptibility testing below 100 MHz, antenna and component testing, and wattmeter calibration.
Key Features	High power solid state 10 kHz to 100 MHz design
Technical Specifications	Rated Output Power: 500 watts minimum

Full OEM specifications

Complete technical content extracted from the manufacturer datasheet. Sparse OEM tables are reconstructed as tables below; other text is preserved as paragraphs.

Specifications	
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PARAMETER	VALUE
Rated Output Power	500 watts minimum
Frequency Response	10 kHz to 100 MHz instantaneously
Gain At Maximum Setting Class	57 dB minimum class
Input For Rated Output Class	1.0 milliwatt maximum
Flatness Maximum Class	plus or minus 1.5 dB class
Gain Adjustment Range Class	18 dB minimum class
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Output Impedance Class	50 ohms VSWR 2.0:1 maximum
Mismatch Tolerance Class	100 percent of rated power without foldback
Harmonic Distortion Class	minus 20 dBc maximum near rated power
Modulation Capability Class	AM FM pulse faithful reproduction
Remote Interfaces Class	IEEE 488 and RS 232
Cooling	Forced air self contained fans
RF Connector Class	TypeNfemale
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Series Family	Amplifier Research A100A 10 kHz to 100 MHz
Power Class Sibling 150A100A	150 W minimum
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Circuit Topology	Push pull MOSFET broadband stages
Third Order Intercept Class Typical	63 dBm class
Forward Reflected Metering Class	Digital forward reflected power display class
Notes	
Rated power and frequency from Amplifier Research 500A100A OEM/rental A100A family documentation. Confirm compression and mass on the unit datasheet.	

Available from Aumictech

Used and refurbished unit evaluated in-house. Calibration: Available on request. Used · In stock.

Request a quote: sales@aumictech.com · +1 (484) 841-9341

Aumictech

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NIST-traceable calibration · SAM registered ·
30-day returns
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Generated August 14, 2026

Technical content from manufacturer specifications. Unit photo/stock from Aumictech listing when available. Specifications subject to OEM documentation and unit condition.