



AG 1024

LF AMPLIFIER & GENERATOR

Up to 2,000 Watts RF Power for Industrial, Laboratory and Medical Applications.

FEATURING:

- **20 kHz to 1 MHz at greater than 2,000 Watts**
- **Digital Meter, measures forward and reflected power**
- **Front Panel Control of Amplifier and Generator functions**
- **Data acquisition: Status Monitoring & Power Measurement at Analog Port**
- **RS232 communication: Full Control Of Amplifier & Generator Functions**
- **AGC or Power Leveling: Gain Control to better than ± 0.5 dB**
- **Controllable internal DDS signal source**
- **Pulse and Sweep of RF internal signal generator**



Model AG 1024 is a robust source of RF power for ultrasonic, laser modulation, RFI/EMI, plasma generation, laboratory and general industrial applications.

Featuring state-of-the-art design of all amplifier stages and a built-in DDS signal source, it provides everything for a complete and reliable, controlled RF power delivery system. It reflects the T&C ongoing commitment to provide RF power products of the highest quality, incorporating the latest standard for remote control and data acquisition.

OPERATION

The AG 1024 produces 2,000 Watts of linear power over a frequency range from lower than 20 kHz to over 1 MHz, with low harmonic and intermodulation distortion. It operates without band switching or adjustment. Extended range to over 2 MHz is possible at reduced power. Gain is rated at 63 dB with a typical gain flatness of ± 1.5 dB. The Front Panel offers a LCD display of Forward, Reflected and Load Power readings, RF Status, MGC/AGC setups and operating frequency when in Generator Mode.

Power meters are calibrated into

50 Ohms and are accurate when operated into a matched load. Outside of matched condition, the model AG 1024's measurement system provides an accurate reading of VSWR.

When used as an amplifier, the AG 1024 is compatible with most signal and function generators, computer synthesizer cards and accurately reproduces all waveforms within its limits.

The Forced-air cooling system and the internal power supply are designed to support operation over most temperature and AC conditions.

The unit amplifies the inputs of AM, FM, SSB, pulse and other complex modulations with < -20 dBc (h3) harmonic distortion and output power stability.

OUTPUT PROTECTION

AG 1024 is protected by its internal control system for 2,000 Watts Forward and 400 Watts Reflected Power. This protects the amplifier output stage from overdrive at the input and extreme mismatch at the Output.

OPERATION

T&C amplifiers and generators are designed to be reliable, compact and light in weight. The use of conservatively rated components ensures high reliability and eliminates the need for periodic calibration.

AG 1024 LF Power Specifications

Class Of Operation

Class B to 2,000 Watts

Frequency Of Operation

20 kHz to 1 MHz

RF Power Output

2,000W from 20 kHz to 1 MHz
1000W from 1 MHz to 2 MHz,
<400W from 2 MHz to 3 MHz

Gain

63 dB @ 2,000W / .5 MHz

RF Input Drive

Typical range -20 dBm to 5 dBm
Input limit +13 dBm

RF Input Drive for AGC

Recommended -5 dBm to 0 dBm for
 ± 0.5 dB gain flatness

Input Drive Source

Signal or function generator, analog
computer input capable of up to 2
Vp-p @ 50 Ohm

Input and Output Impedance

50 Ohm

Input VSWR

2:1 max

Output VSWR

3:1 max

Output VSWR Protection

400 W max reflected power limit

Harmonic Level @ 1,750W

Better than -13 dBc for 3rd
harmonic, any other > -20 dBc

Spurious Output

-76 dBm equivalent noise level
generated by internal circuits
-26 dBm continuous level noise
present at the amplifier output in
70 kHz to 150 kHz band

Output Blanking

For pulsed applications, T&C
amplifiers and generators offer
blanking of the output signal for
minimum RF spectrum noise.

Pulse Specifications

Pulse Duration: 1 to 500 usec
Period: 1 to 50 milliseconds

RF Connectors

IN: BNC Female, Rear Panel
OUT: HN Female, Rear Panel

External Communication

SubD 25 Analog and Digital I/O
SubD 9 RS232 I/O for Graphic
User Interface or other computer
communication. Rear Panel.

AC Power Source

190 - 240 VAC, 47 - 63 Hz
Back Panel

AC Power Connection

Terminal Block Power Entry

Cooling

Forced air, temperature
controlled, heatsink
temperature monitored via
RS232 GUI interface.

Dimensions

(H 405 x W 520 x L 470) mm
(16" x 20.5" x 18.5")

Weight

59 kg, 130 lbs.

Mounting

Stand alone unit.

Operating Temperature

0° to 35° C ambient air

AG 1024 Performance Chart

