



LF GENERATOR & AMPLIFIER

FEATURING

- 10 kHz to 6 MHz, up to 600 W
- Low distortion Output @ 300W, $h_3 \leq -20$ dBc up to 750 kHz. Better than -20 dBc for other harmonics up to 6 MHz
- Digital Meter, measures forward, reflected and load power simultaneously
- 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
- Pulse and Sweep of Internal RF oscillator

Model AG 1014 Amplifier/Generator is a robust source of RF power for ultrasonic, laser modulation, RFI/EMI, plasma generation, general laboratory and industrial applications. Featuring solid state design in all RF amplifier stages and a built-in DDS signal source, it provides everything for a complete and reliable, finely controlled RF power delivery system.

The AG 1014 produces up to 600W of RF Power over a frequency range from 10 kHz to higher than 6 MHz. It operates without band switching or other adjustments.

Front Panel offers a LCD display of Forward, Reflected and Load Power readings, RF Status, MGC/AGC setups and operating frequency in Generator Mode.

When used as an amplifier, the AG 1014 is compatible with most signal and function generators, computer synthesizer cards and it accurately reproduces all waveforms within its output and bandwidth limits.

The internal power supply is designed to permit operation over a wide range of temperature and global AC line conditions.

AG 1014 is protected by its internal monitoring system for greater than 600 Watts Forward Power, 80 Watts of Reflected Power. This is intended to protect the amplifier output stage from accidental overdrive at the input and an extreme mismatch at the Output.



For more information visit TCPOWERCONVERSION.com

or email us at: info@tcpowerconversion.com

For quote, contact us at sales@tcpowerconversion.com or call (585) 482 - 5551

AG 1014 SPECIFICATIONS

Class Of Operation

Class "A/B"

Frequency Of Operation

10 kHz to 6 MHz

RF Power Output

50 Ohm load:

Up to 300W for 10 kHz to 13 kHz

Up to 450W for 13 kHz to 15 kHz

Up to 600 W for 15 kHz to 6 MHz

Any load:

Up to 300W, continuous operation for 15 kHz to 6 MHz, any load.

Mismatch Power Output

Continuous Load Power at 20C:

2:1 VSWR (25 Ohm) 210W minimum

3:1 VSWR (15 Ohm) 145W minimum

Limited by heat protection circuit!

Burst and Pulse mode Load Power:

3:1 VSWR, 300W minimum

Limited by Reverse Power Limiter!

Gain

58 dB @ 600W / 0.5 MHz

±1 dB 20 kHz to 4 MHz (@ 300 W)

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 1 Vp-p @ 50 Ohm

Input range: -30 to 0 dBm typical, +5 dBm maximum

Internal RF Source

DDS oscillator: 10 kHz to 6 MHz, 1 kHz resolution,

Input and Output Impedance

50 Ohm

2:1 max INPUT VSWR

3:1 max OUTPUT VSWR

Output VSWR Protection

80 W max reflected power limit for Load Impedance > 50 Ohm. Current level protection for Load Impedance < 50 Ohm.

Harmonic Level @ 300W

H3 (3rd) - better than -20dBc from 10 kHz to 750 kHz.

Any other, better than -20 dBc

Harmonic Level @ 500W

H3 (3rd) - better than -20dBc from 10 kHz to 500 kHz.

H3 (3rd) - better than -15dBc from 500 kHz to 2500 kHz.

Any other, better than -18 dBc

Spurious Output

- 50 dBc equivalent noise level generated by internal circuits

Output Settings & Control

- Front Panel EDITOR and function switches for manual control,
- RS232 port for GUI or other computer communication. Rear Panel.

- SubD 25 Analog and Digital I/O .
Port power scale 1V=100W. Rear Panel

BURST operation

Pulse range: 1 to 500 usec

Period: 1 to 50 milliseconds

User settings via GUI and RS232

BURST - external

DC to > 200 kHz. User defined BURST scheme via SubD-25.

See analog port description for more details.

SWEEP operation

0.01 to 6 MHz. Min time 10 ms, max 10s. Settings and activation from GUI only.

Output Blanking

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

RF Connectors

BNC Female: Back Panel

AC Power Connection

IEC Standard Power Entry followed by RFI filter.

Filter range 0.1 to 30 MHz minimum

AC Input Current (RMS)

120 V ac, +/-10%, 50 - 60 Hz, 14.4A

230 - 240 V ac, +/-10% 50 - 60 Hz, 9A

Cooling

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

Acoustic level:

45dBa @ Max Fan Speed @ temp.

Case

Designed to meet EMI and RFI shielding requirements AL chassis, yellow conductive finish.

Front Panel: T&C off-white.

Cover: T&C black.

Dimensions

135mm x 254 mm x 385 mm

(H 5.25" x W 10" x L 15")

Weight:

12 kg, 26 lbs.

Mounting

Table top, stand alone unit.

Optional: Rack Mount Kit.

Environmental conditions

Temp.: 10° to 30° C ambient

Humidity: 80%

Equipment intended for ISM applications in laboratory and light industrial environment.

