

PTL-50 902-928 MHZ SOLID-STATE HIGH-POWER MICROWAVE GENERATOR



Key Features

- Precision frequency and power control
- Revolutionary software control utilizing a Windows™ based GUI
- Versatile frequency sweeping modes
- One button automatic load tuning
- Integral isolators
- Built in real-time load analysis (S11,S21)
- Real-time adaptive powermanagement
- RF power transistors have 500,000+ hour MTBF
- Distributed high-speed multi-processor control architecture
- Waveguide or independent coaxial outputs

Frequency Range

- Entire 902-928 MHz ISM band
- Frequency Step Size: 100 kHz
- Absolute Frequency Accuracy: +/- 2.5 ppm
- Frequency Stability: +/- 0.5 ppm
- Phase adjustment 0-360°, 1.4° resolution
- OperatingModes: fixed, single frequency, band sweep, or optimized frequency hopping
- Sweep Step Time: 10 msec. to 1 second adjustable
- Frequency change response time <1 msec.

Microwave Power Output

Model	Maximum Power
PTL-50	50 KW

- Power set resolution: 1 watt at full power
- Power Amplifiers: Rugged NXP LDMOS transistors
- 2.5 KW modular power blades, fault tolerant
- Harmonic suppression >50dBc
- Power control accuracy:0.1%
- High accuracy timer
- Power measurement accuracy: Forward Power 0.1%, Reflected Power 0.5%.
- Max. mismatch for full power output: 6 dBRL/3:1 VSWR
- Max. mismatch with power fold back; 4 dB RL/4.5:1 VSWR
- Power switching speed: <1 msec.



Modulation

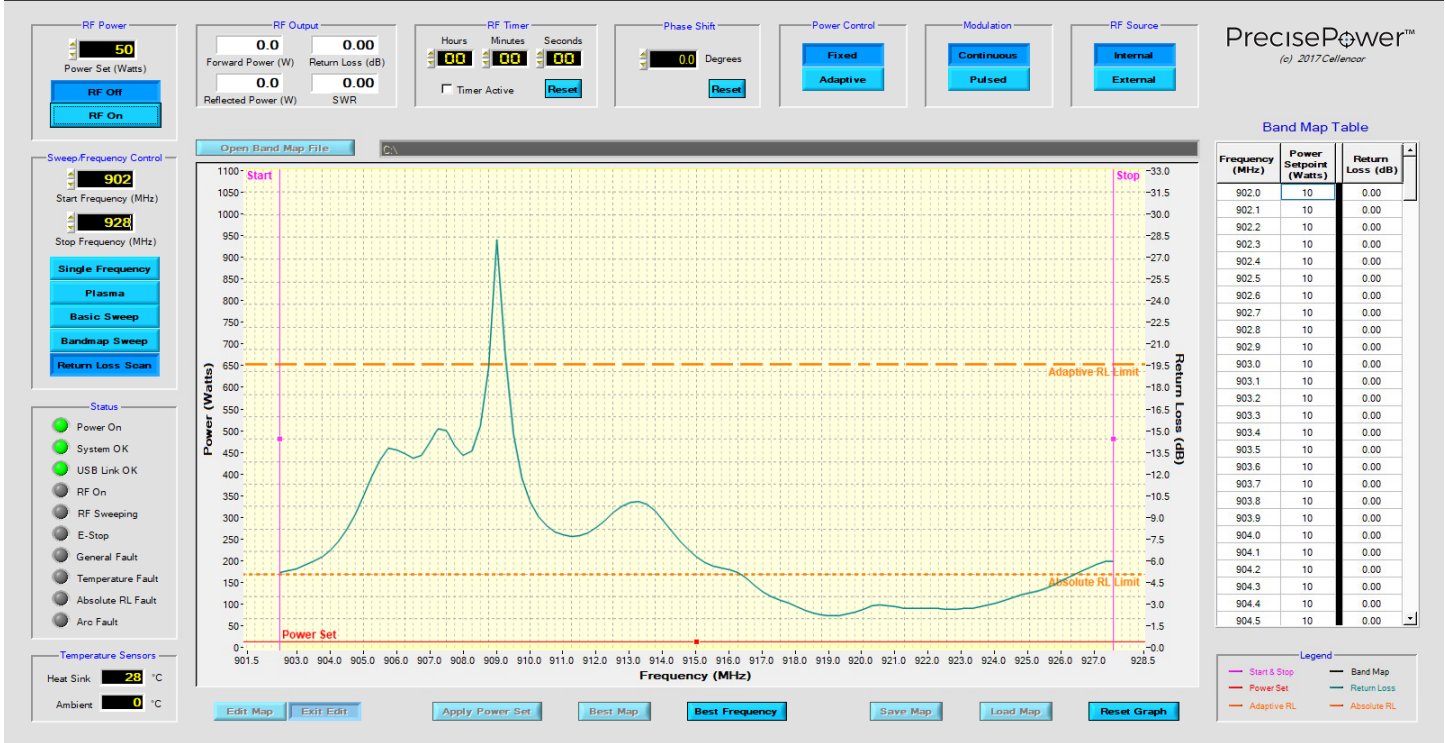
- Modes: CW, pulse width modulation, or external RF input
- PWM Mode: 10Hz to 1 kHz pulse rate, 0–100% duty cycle
- Gas plasma ignition feature
- Low level RF input and output connectors permit multiple generatorstobe phaselocked.

Control System

- Feature-rich Windows™-based interactive control software
- USB 2.0 interface to Windows PC
- Complete LabView™ Support
- Local or remote operation
- Ethernet remote control
- PLC-type hardware control interface with 24 VDC and 20 ma. current loop inputs and outputs
- Arc detection and emergency stop inputs with 1 us. response time



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Main User Interface Screen

Software Highlights

- Point and Click power and frequency setting across the band
- Real time display of forward and reflected power and return loss
- Automatic selection of best single frequency
- Automatic generation of optimal band map for frequency sweeping
- Integral scalar network analyzer
- Band map edit, save, and load
- Programmable ignition pulse for gas plasma

RF Output

- WR-975 waveguide

Power Supply

- AC mains: 360 to 528 VAC three phase 50/60 Hz
- High efficiency 50 volt switch mode power supply
- Line-to-RF-conversion efficiency: 55%
- Water Cooled
- Ambient environment temperature: 0° - 50° C

Dimensions and Weight:

- PTL-50: 52”H x 52”D x 60”W, Weight: 2500 lbs.

These are preliminary specifications and are subject to change. Patents applied for.