

# PTS SERIES 2400-2500 MHZ SOLID-STATE HIGH-POWER MICROWAVE GENERATOR

# PrecisePower™

## 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 protect from severe load mismatch
- Built in real-time scalar network analyzer (S11,S21)
- Power utilization measurement
- Real-time adaptive power control
- RF power transistors have 500,000+ hour MTBF
- Distributed high-speed multi-processor control architecture
- Waveguide or independent coaxial outputs

## Frequency Range

- Entire 2400-2500 MHz ISM band
- Sweep Frequency Step Size: 100 kHz
- Absolute Frequency Accuracy: +/- 2.5 ppm
- Frequency Stability: +/- 0.5 ppm
- Phase adjustment 0-360°, 1.4° resolution
- Operating Modes: fixed, single frequency, full/partial 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
PTS-4	4 kW
PTS-8	8 kW
PTS-12	12 kW

- Power set resolution: 1 watt at full power
- Power Amplifiers: Rugged NXP LDMOS transistors
- 3 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 dB RL/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: 10 Hz to 1 kHz pulse rate, 0–100% duty cycle
- Gas plasma ignition feature
- Low level RF input and output connectors permit multiple generators to be phaselocked.

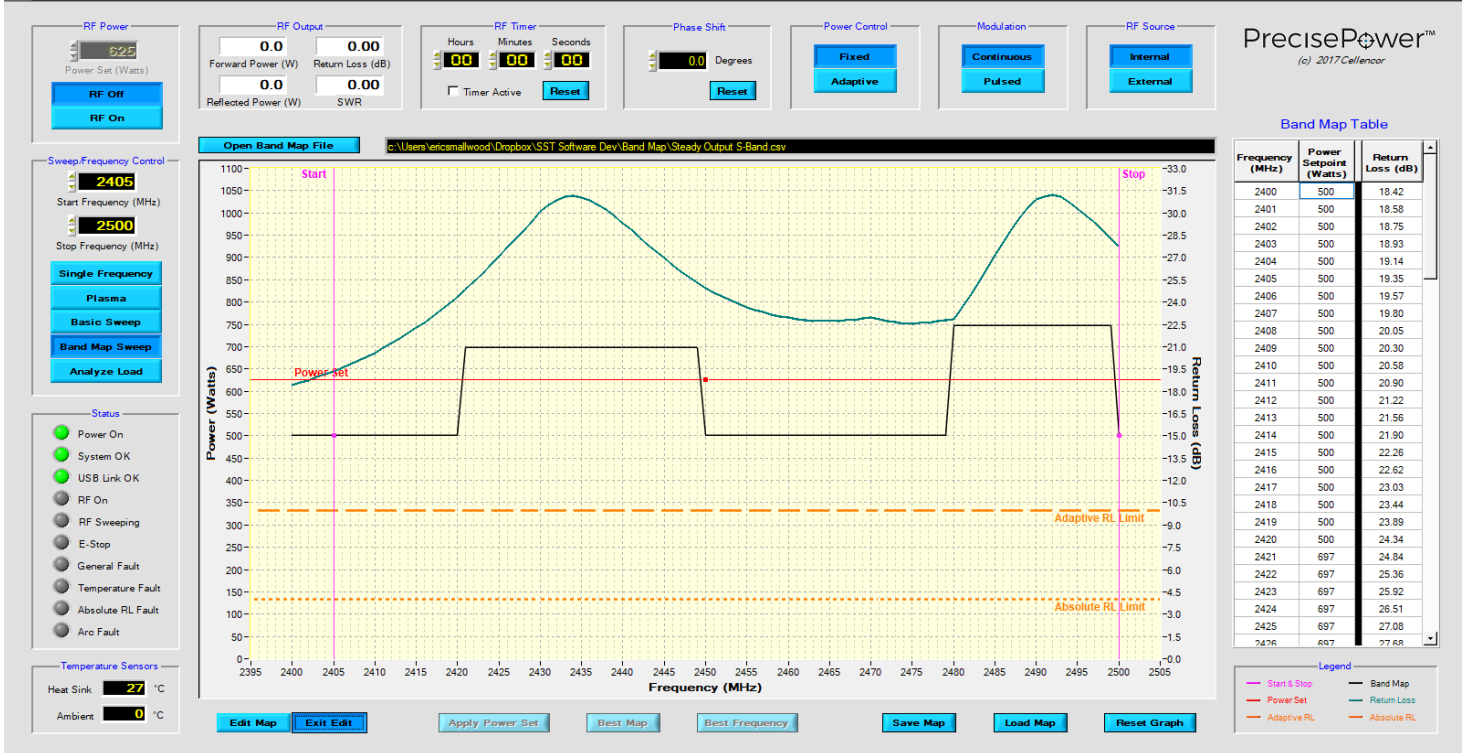
## Control System

- 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

# Cellencor

High Power Microwave Solutions





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

- Option 1: WR-340 waveguide
- Option 2: PTS-4 and PTS-8 available with multiple 1 kW 7/16 DIN coaxial connectors, each independently power, phase and frequency controllable.

## Power Supply

- AC mains: 180-264 or 342 to 528 VAC three phase 50/60 Hz
- High efficiency 32 volt switch mode power supply
- Line-to-RF-conversion efficiency: 55%
- Water Cooled
- Ambient environment temperature: 0<sup>0</sup> - 50<sup>0</sup> C

## Dimensions and Weight:

- PTS-4 and PTS-8: 57”H x 48”D x 27”W Weight: 800 – 1200 lbs.
- PTS-12: 72”H x 60”D x 50”W Weight: 2700 lbs.

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