

# 2.4-2.5 GHZ SOLID-STATE DESKTOP MICROWAVE GENERATOR

# PTS-1

## Frequency Range

- Frequency range: full 2.4–2.5 GHz ISM band
- Frequency resolution: 1 kHz
- Absolute frequency accuracy: +/- 2.5 ppm
- Frequency stability: +/- 0.5 ppm
- Phase adjustment: 0–360°, 1° resolution
- Operating modes: fixed single frequency, full/partial band sweep, or optimized frequency hopping
- Frequency sweep step speed: 1 Hz to 10 kHz adjustable
- Frequency change response time: <1 msec

## Microwave Power

- Power output: based on NXP's MRF24300N
- Power output: 1.2 kW maximum, 1 kW minimum at band edges
- Power set resolution: 1 Watt at full power
- Forward and reflected power (S11 and S21) real-time display
- Power control accuracy: 0.1%
- Power measurement accuracy: forward power 0.1%, reflected power 0.5%
- Maximum mismatch for full power output: 6 dB return loss = 3:1 VSWR
- Integral isolators protect against severe load mismatch
- Proportional power fold back under excessive load mismatch
- Automatic load-tuning
- Automatic return loss mapping across the band
- Power switching speed < 1msec

## Modulation

- Modes: CW, pulse width modulation, or user-defined waveform
- PWM pulse mode: 10 kHz maximum pulse rate, 0–100% duty cycle
- Exciter output and RF input connectors permit multiple generators to be phase-coherent



## Control System

- Windows-based interactive user control software
- USB 2.0 interface to Windows PC
- Manual or automatic operation
- Built-in test features
- LabView™ instrument driver available

## Wired Control Interface

- Digital outputs (0–24 V sinking): ready, RF-on, fault
- Digital inputs (5–24 V sinking): RF-on/off, emergency stop loop, arc detect
- Arc detect input to RF power-off delay: < 10 µsec
- Analog output (4–20 mA): RF power output
- Analog input (4–20 mA): RF power control

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## External Connectors

- RF output: 7/16 DIN coaxial
- External RF input: SMA, 0 dBm nominal
- External exciter output: SMA, 0 dBm nominal
- External control: 12-pin 16 mm DIN connector

## Power

- AC mains power input: 100–120 or 200–240 VAC single-phase, 25/30 A, 50/60 Hz
- Power supply: high-efficiency 32 VDC switch mode
- Inrush current: 40 A max
- Line-to-RF power conversion efficiency: >50%
- Transient over-voltage: 15% greater than voltage rating max
- EN60950-1, IEC60950-1, CE

## Environmental

- Air-cooled
- Ambient environmental temperature: 0°–50° C
- Humidity: non-condensing
- Electromagnetic susceptibility: designed to meet EN61000-4; -2, -3, -4, -5, -6, -8, -11 Level 3

## Dimensions and Weight

- Dimensions: 5.2" H x 21.26" L x 17.58" W (height is 5.63" with optional rubber feet, designed to fit in 19" racking)
- Weight: 55 lb



PrecisePower Control Screen

# PrecisePower™



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