Programmed Test Sources PTS 040 Frequency Synthesizer



Limited Availability
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Programmed Test Sources Inc.

PTS Frequency Synthesizers...
Fast Switching, Low Noise RF & LO Sources

PTS Synthesizer Specifications -

PTS 040 FREQUENCY SYNTHESIZER



- 0.1 MHz to 40 MHz
- +3 to +13 dBm output
- choice of resolution
- very low phase noise
- fast switching, 5-20 µs
- fully programmable, BCD or GPIB
- modular flexibility, remote-only versions
- low power consumption, high reliability
- 7 decades of DDS resolution available (with phase-continuous switching)

NOTE: PTS 040 shown for illustration in "M" and "R" cabinets. Consult catalog for full cabinet style listing and mechanical specifications.

SPECIFICATIONS

Frequency Range: 0.100 000 0 MHz to 39.999 99 9 MHz
Resolution: 0.1 Hz to 100 KHz, optional in decades

Accuracy: same as frequency standard
Control: manual by 10-position dial;

remote by TTL-level parallel entry BCD or GPIB (optional)

Switching Time (to within 0.1 radian at new frequency)

10 MHz digit: 20 μseconds1 MHz - 0.1 Hz digit: 5 μseconds

Output Level: +3 to +13 dBm (1V max, 50 W), metered in dBm and volts(rms)

Flatness: $\pm 0.4 \text{ dB}$ Impedance: 50 W

Control: manual by front panel control; remote by analog voltage

Spurious (at full power output, +13 dBm)

Outputs Discrete: -75 dBc

Harmonics: -35 dBc at full output (-40 dBc at lower level)

Phase Noise: -75 dBc (0.5 Hz to 15 KHz) including effects of internal standard £ (1Hz): 100 Hz/-125 dBc, 1 KHz/-135 dBc, 10 KHz/-135 dBc, 10 KHz/-135 dBc, 10 KHz/-137 dBc

Noise Floor: -138 dBc/Hz

Frequency Internal: OCXO or TCXO
Standard

3x10⁻⁹/day 1x10⁻⁸/day ± 1x10⁻⁸/0-50° C ± 1x10⁻⁶/0-50° C 1x10⁻⁶/year 2x10⁻⁶/year

External Drive: 10 MHz, 0.4 Vrms into 300 W; 5 MHz, 0.5 Vrms into 300 W

Aux. Output: 10.000 MHz, 0.4 Vrms into 50 W

(Note: internal or external standard required for operation)

General Operating Ambient: 0 - 55° C, 95% R.H.

Power: 105 - 125V, 50 - 400 Hz, 40W (100, 220, 240V optional)

Dimensions: 19 x 5.25 x 18 inches (relay rack or bench cabinet)

Weight: 35 lbs

For units equipped with a **DDS-TLU option**, specifications are modified as follows:

 DDS Option:
 H
 K
 K

 Phase-Continuous
 100 KHz thru 0.1 Hz digits
 10 KHz thru 0.1 Hz digits

 Switching Range
 (~1 MHz bandwidth)
 (~100 KHz bandwidth)

 Frequency Resolution:
 0.1 Hz
 0.1 Hz

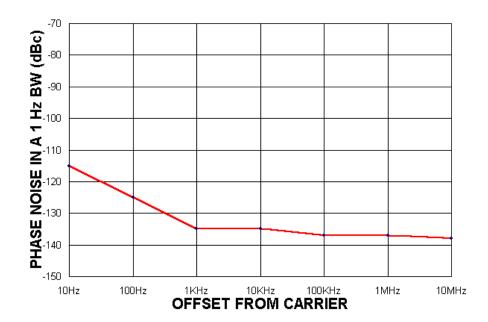
 Optional Phase Rotation:
 0 - 360° in .36° steps
 N/A

 $\textbf{Switching Time} \qquad \qquad \text{(within phase-continuous range)} < 1 \ \mu \text{s transient, 2} \ \mu \text{s delay}$

 Spurious Discrete:
 -65 dBc
 -75 dBc

 Outputs Phase Noise:
 -65 dBc
 -70 dBc

Pricing (USA domestic) \$3,720 (100 KHz resolution) to \$5,565 (0.1 Hz resolution) plus any other options.



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