



PTS50 Bench Type Distribution Amplifier



Key Features

- 10 MHz Main Input
- AGC Level Controlled
- 5 sinewave outputs plus a slave
- 1 switchable squarewave output
- High channel isolation
- Low Phase Noise
- Available in other frequencies from 1 to 20 MHz.
- Very Reliable.

General Description

The PTS50 can be used to synchronize up to seven instruments (five sinewave, one squarewave and one slave output) to a frequency reference input. The reference input frequency is 10 MHz and the output frequency is exactly the same as the input. The PTS50 incorporates AGC (automatic gain control) so that a 10 MHz input can be varied from -10 dBm to +20 dBm without the outputs changing by more than 0.4 dB. AGC is ideal to remove AM or noise that may be on the input. Inputs as low as -30 dBm still produce a useable output. The pure sinewave output (harmonics are typically 70 dB down) enables the PTS50 to work in the most demanding applications.

Outputs

There are five 10 MHz, sinewave outputs. Each 10 MHz output is isolated from the input and each other. Therefore, the reference oscillator connected to the PTS50 is protected against load variations, short circuits etc. that may be applied to the outputs. The additional squarewave output can be switched in frequency from 10 MHz, 5MHz, 2 MHz, 1 MHz, 100 kHz and 1 pps. This output is ideal for instruments that do not use a 10 MHz timebase. A rear slave output can be connected to a second PTS50 (or more) to give additional outputs. See "Applications" below.

Applications

The PTS50 10 MHz Distribution Amplifier is ideal for use in calibration or standard laboratories, radio repair workshops or production facilities. By using the rear slave output, many PTS50's can be connected together to give multiple outputs. Over 1000 outputs can be derived from one reference input.

Other Models in the range

Precision Test Systems manufactures an entire range of distribution amplifiers with many options and features. Contact us for further details or visit our web site www.ptsyst.com

Miscellaneous Information

The PTS50 is a highly reliable unit with an MTBF of over 60 years. The PTS50 is housed in a steel case and operates from a 115 VAC / 230 VAC or 12 V DC. The PTS50 is CE marked for sale within the EEC.

Specification Parameter	PTS50 Specification	Comments
Input		
Frequency / Bandwidth (3 dB)	10.000000 MHz / 250 kHz	50 Ω BNC Connector on front panel
Input Impedance / VSWR	50 Ω / < 1.15 @ 10 MHz (0 dBm input)	< 1.30 @ 10 MHz for option 03
Input Level	+20 dBm to -10 dBm	Output Changes by < 0.4 dB
Sinewave Outputs (5)		
Output Waveform	Sinewave	50 Ω BNC Connector on front panel
Number of Outputs	Five	
Output Frequency	Exactly the same as the input frequency	Subject to the PTS50 jitter spec
Output VSWR	< 1.5: 1 @ 10 MHz	
Output level	From 0 dBm to > +13 dBm Factory default setting is +10 dBm	Each output factory adjustable. Specify output level when ordering
Harmonic Distortion at 10 MHz	-65 dBc (typically -70 dBc)	Output set to +10 dBm
Jitter (1 second, Allan Deviation)	< 5 x 10E-13	Typically < 3 x10E-13 / 1second
Channel to channel isolation	> 40 dB	Typical 45 dB to 60 dB
Input to Output Isolation	> 85 dB	Typical 86 dB to 105 dB
Squarewave Outputs (1)		
Output Waveform	Squarewave	50 Ω BNC Connector on front panel
Level	0 - 5V (open circuit) 0 - 2.7 V (50 Ω)	TTL Compatible
Frequency	10, 5, 2, 1, 0.1 MHz, and 1 pps	1 pps = 1 pulse per second (1 Hz)
Risetime	< 50 ns	At 1 MHz
Slave Output (1)		
Output Waveform	Sinewave @ > -3 dBm	50 Ω BNC Connector on rear panel
Phase Noise (Typical)		
At 1/10 / 100 /1k/ 10k / 100k Hz Offsets	-90 / -115 / -142 / -142 / 147 / -152	Lower phase noise option available
General		
Power: AC ($\pm$ 10%) / DC	115 or 230 VAC / 11-13 VDC @ 1.4 A	50 Watts max / 0.5 Amps
Size and weight	215 x 265 x 35mm and 2.8 kg	Width x Depth x Height
Ambient Operating Temperature	-10°C to +50 °C	
Precision Test System Contact Details		
Precision Test Systems LTD The Studio, Whitehouse Farm New Hall Lane, Mundon Maldon, Essex, CM9 6PJ, UK Tel: +44 (0) 870 368 9608 Fax: +44 (0) 1245 330030 Email: sales@ptsyst.com Web: www.ptsyst.com	Precision Test Systems cc Randburg Gauteng South Africa Fax: 08651 58198 Email: sasales@ptsyst.com Web: www.ptsyst.com	Precision Test Systems 304 S Jones Blvd, Suite # 807 Las Vegas Nevada, 89107, USA Tel: 1 888 876 4804 Fax: 1 832 201 6564 Email: usasales@ptsyst.com Web: www.ptsyst.com

Full specifications available from www.ptsyst.com. Specifications and features subject to change without notice (090816)