PTS PRECISION TEST SYSTEMS

PTS50 10 MHz Distribution Amplifier

Key Features

- **10 MHz Input**
- **AGC Controlled**
- **5 Sinewave Outputs**
- **1 Squarewave Output**
- **Slave Output**
- **Low Phase Noise**
- **High Isolation**
- **MTBF over 30 years**
- **AC or DC power**
- **CE Marked**

General Description

The PTS50 can be used to synchronize up to six instruments to a 10 MHz reference 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. Inputs as low as -40 dBm still produce a useable output. The pure sinewave output (harmonics are 70 dB down) enables the PTS50 to work in the most demanding applications. The output frequency accuracy is exactly the same as the input frequency accuracy.

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 input is protected against load variations, short circuits etc. that may be applied to the outputs.

A sixth squarewave output can be switched in frequency from 10 MHz, 5 MHz, 2 MHz, 1 MHz, 100 kHz and 1 Hz. 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 up to twelve outputs (or more). 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

Miscellaneous Information

The PTS50 is a highly reliable unit with a MTBF (based on real data) of over 40 years. The PTS50 is housed in a fully screened steel case and operates from a 115 VAC or 230 VAC supply or external 12 V DC. The PTS50 is CE marked for sale within the EEC.

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Options

The PTS50 series can be modified upon special request to work at different frequencies than 10 MHz. For example the PTS50-15 accepts a 15 MHz input and has 15 MHz outputs. Refer to the relevant brochures for more information. Other options include 19" rack mount case and alarm TTL output.

PTS50 SPECIFICATIONS

Specification Parameter	Specification	Comments
Input		
Frequency	10.000 MHz or 5.000 MHz	
Bandwidth (-3 dB)	> ± 250 kHz with a 10 MHz input	> ± 125 kHz with a 5 MHz
Impedance	50 Ω	
Input VSWR	< 1.15 @ 10 MHz	
Input Level Range (10 MHz input)	+20 dBm to -10 dBm	Output Changes by < 0.4 dB
Outputs 1 to 5		
Output Waveform	Sinewave	50 Ω BNC Connector
Output Frequency (5 MHz input)	Exactly twice the input frequency	
Output Frequency (10 MHz input)	Exactly the same as the input frequency	
Output VSWR (50 Ω)	< 1.7:1 @ 10 MHz	
Output level (10 MHz input)	From 0 dBm to +13 dBm	Each output internal adjustable
Harmonic Distortion at 10 MHz	-70 dBc	Output set to +10 dBm
Jitter	< 2 ps rms	
Input to Output Isolation	> 90 dB	Typical
Output 6		
Output Waveform	Squarewave	Front Panel BNC Connector
Level	0 - 5V (open circuit) 0 - 2.7 V (50 Ω)	TTL Compatible
Frequency	10, 5, 2, 1 MHz, 100 kHz and 1 Hz	1 Hz = 1 pulse per second
Risetime	< 25 ns	At 1 MHz
Jitter (1 second, Allan Variance)	< 2 ps rms	
Output 7 (Slave Output)		
Output Waveform	Sinewave	Rear Panel BNC Connector
Phase Noise (Typical)		
At 1, 10, 100, 1k, 10k, 100k Hz Offset	-122, -132, -141, -142, -150, -152 dBc/Hz	Typical
General		
Power (AC)	115 VAC or 230 VAC ± 10%	15 Watts max
Power (DC)	11-13 VDC @ 0.7 Amps	
Size and weight	215 x 265 x 35 mm and 2.8 kg	Width x Depth x Height
Ambient Operating Temperature	-10°C to +50 °C	
Options		
Option 01	19" Rack Mount case	
Option 02	Traceable Calibration Certificate	Traceable to UKAS or NIST
Option 03A	TTL Alarm Output	Activated if input signal is lost

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Full specifications available from www.ptsyst.com. Specifications and features subject to change without notice (271207)

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