

PTS PRECISION TEST SYSTEMS

PTS50-5 5 MHz Distribution Amplifier



Key Features

- 5 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 PTS50-5 can be used to synchronize up to six instruments to a 5 MHz reference input. The PTS50-5 incorporates AGC (automatic gain control) so that a 5 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 -30 dBm still produce a useable output. The pure sinewave output (harmonics are 70 dB down) enables the PTS50-5 to work in the most demanding applications. The output frequency accuracy is exactly the same as the input frequency accuracy.

Outputs

There are five, 5 MHz, sinewave outputs. Each 5 MHz output is isolated from the input and each other. Therefore the reference oscillator connected to the PTS50-5 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 5 MHz, 1 MHz, 100 kHz and 1 Hz. This output is ideal for instruments that do not use a 5 MHz timebase. A rear slave output can be connected to a second PTS50-5 (or more) to give up to twelve outputs (or more). See "Applications" below.

Applications

The PTS50-5 5 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 PTS50-5's can be connected together to give multiple outputs

Miscellaneous Information

The PTS50-5 is a highly reliable unit with a MTBF (based on real data) of over 30 years. The PTS50-5 is housed in a fully screened steel case and operates from a 115 VAC or 230 VAC supply or external 12 V DC. The PTS50-5 is CE marked for sale within the EEC.

Options

The PTS50-5 series can be modified upon special request to work at different frequencies than 5 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 relay outputs (relay activated on loss of input signal or AC/DC power).

PTS50-5 SPECIFICATIONS

| Specification Parameter | Specification | Comments |
|-----------------------------------|--|---|
| Input | | |
| Frequency | 5.000 MHz | |
| Bandwidth (-3 dB) | > ± 125 kHz | |
| Impedance | 50 Ω | |
| Input VSWR | < 1.30 @ 5 MHz | |
| Input Level Range (5 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 | Same as the input frequency | |
| Output VSWR (50 Ω) | < 1.7:1 @ 5 MHz | |
| Output level (5 MHz input) | From 0 dBm to +12 dBm | Each output internal adjustable |
| Harmonic Distortion at 5 MHz | -70 dBc | Output set to +10 dBm |
| Jitter | < 2 ps rms | |
| Input to Output Isolation | > 100 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 | 5, 1, 0.1 MHz and 1.0 Hz | |
| 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 10 Hz Offset | -130 dBc/Hz | Measurement uncertainty ± 4 dB |
| 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 03 | Alarm Relay Outputs | Activated if input signal/power is lost |

| Precision Test Systems | | | |
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Full specifications available from www.ptsyst.com. Specifications and features subject to change without notice (070406)