

# PTS PRECISION TEST SYSTEMS

## PTS50-15 15 MHz Distribution Amplifier



### Key Features

- 15 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 PTS50-15 can be used to synchronize up to six instruments to a 15 MHz reference input. The PTS50-15 incorporates AGC (automatic gain control) so that a 15 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 PTS50-15 to work in the most demanding applications. The output frequency accuracy is exactly the same as the input frequency accuracy.

### Outputs

There are five, 15 MHz, sinewave outputs. Each 15 MHz output is isolated from the input and each other. Therefore the reference oscillator connected to the PTS50-15 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 15 MHz, 7.5 MHz, 3 MHz, 1.5 MHz, 150 kHz and 1.5 Hz. This output is ideal for instruments that do not use a 15 MHz timebase. A rear slave output can be connected to a second PTS50-15 (or more) to give up to twelve outputs (or more). See "Applications" below.

### Applications

The PTS50-15 15 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 PTS50-15's can be connected together to give multiple outputs

### Miscellaneous Information

The PTS50-15 is a highly reliable unit with a MTBF (based on real data) of over 30 years. The PTS50-15 is housed in a fully screened steel case and operates from a 115 VAC or 230 VAC supply or external 12 V DC. The PTS50-15 is CE marked for sale within the EEC.

## Options

The PTS50-15 series can be modified upon special request to work at different frequencies than 15 MHz. For example the PTS50-5 accepts a 5 MHz input and has 5 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).

### PTS50-15 SPECIFICATIONS

| Specification Parameter            | Specification                           | Comments                                |
|------------------------------------|---|---|
| <b>Input</b>                       |   |   |
| Frequency                          | 15.000 MHz                              |   |
| Bandwidth (-3 dB)                  | > ± 250 kHz                             |   |
| Impedance                          | 50 Ω                                    |   |
| Input VSWR                         | < 1.20 @ 15 MHz                         |   |
| Input Level Range (15 MHz input)   | +20 dBm to -10 dBm                      | Output Changes by < 0.4 dB              |
| <b>Outputs 1 to 5</b>              |   |   |
| Output Waveform                    | Sinewave                                | 50 Ω BNC Connector                      |
| Output Frequency                   | Same as the input frequency             |   |
| Output VSWR (50 Ω)                 | < 1.7:1 @ 15 MHz                        |   |
| Output level (15 MHz input)        | From 0 dBm to +12 dBm                   | Each output internal adjustable         |
| Harmonic Distortion at 15 MHz      | -70 dBc                                 | Output set to +10 dBm                   |
| Jitter                             | < 2 ps rms                              |   |
| Input to Output Isolation          | > 100 dB                                | Typical                                 |
| <b>Output 6</b>                    |   |   |
| Output Waveform                    | Squarewave                              | Front Panel BNC Connector               |
| Level                              | 0 - 5V (open circuit) 0 - 2.7 V (50 Ω)  | TTL Compatible                          |
| Frequency                          | 15, 7.5, 3, 1.5 MHz, 150 kHz and 1.5 Hz |   |
| Risetime                           | < 25 ns                                 | At 1.5 MHz                              |
| Jitter (1 second, Allan Deviation) | < 2 ps rms                              |   |
| <b>Output 7 (Slave Output)</b>     |   |   |
| Output Waveform                    | Sinewave                                | Rear Panel BNC Connector                |
| <b>Phase Noise (Typical)</b>       |   |   |
| At 10 Hz Offset                    | -130 dBc/Hz                             | Measurement uncertainty ± 4 dB          |
| <b>General</b>                     |   |   |
| 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                         |   |
| <b>Options</b>                     |   |   |
| 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 |

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Full specifications available from [www.ptsyst.com](http://www.ptsyst.com). Specifications and features subject to change without notice (101221)