400 MHz Preamplifier

SR446 — 400 MHz preamplifier

The SR446 is a single-channel, 400MHz bandwidth voltage preamplifier with 21 programmable gains from 1 to 100 (+0 dB to +40 dB with 2 dB steps). It also includes four programmable low-pass filters, with settings of full bandwidth, 200 MHz, 100 MHz and 20 MHz. There are two output channels which offer complimentary outputs (inverting and non-inverting) that can be used separately, or together as a differential output.

The front panel displays all the setup and the state of the instrument. Users can perform all the configurations from the front panel or remotely through the USB interface (in serial port emulation).

- DC to 400 MHz bandwidth
- 0.3 dB gain flatness
- Differential output
- 3.3 nV/√Hz input noise
- Voltage gain from 1× to 100×
- 50 Ω input and output impedance
- USB computer interface

SR446 Specifications

Input channels	1
Input configuration	50 Ω, 500 Ω, AC /DC coupling, ground
Operating range	Max. input: ±0.5 V Max. output: ±0.65 V (or ±1.3 V differential)
Output channels	2 (+OUT and –OUT)
Output impedance	50 Ω
Bandwidth	DC to 400 MHz (–3 dB)
Bandwidth limit	Full BW, 200 MHz, 100 Hz, 20 kHz
Rise/fall time	<1 ns
Voltage gain	1 to 100 (0 dB to 40 dB in 2 dB steps)
Gain flatness	0.3 dB (DC to 100 MHz)
Gain accuracy	±0.5dB (at 1 MHz)
Input noise	3.3 nV/√Hz at 1 MHz (max.gain)
Skew (typ.)	20 ns between +OUT and –OUT
Propogation delay	4.5 ns (typ.)
Overload recovery	12 ns (typ.)
Input clamp	±1.5 V (typ.)
Output overload	±0.7 V (typ.) into 50 Ω load
Computer interface	USB
Operatng temperature	0 °C to 40 °C, non-condensing
Dimensions	8.3" × 1.5" × 8" (WHD)
Power	5 W, 100 to 240 VAC, 50/60 Hz
Warranty	One year parts and labor on defects in materials and workmanship

SRS Stanford Research Systems

Distribution in the UK & Ireland

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