

300 MHz Preamplifier

SR445 — 300 MHz, 4-channel preamplifier



The Model SR445 300 MHz Preamplifier contains four wide-bandwidth, DC-coupled amplifiers, each with a gain of 5. The four channels may be used independently, or up to three may be cascaded to provide a total gain of 125. The fast rise time, low noise and excellent DC accuracy of the SR445 make it an ideal instrument for amplifying the outputs of fast photomultiplier tubes and photodiodes. The SR445 can be used to improve the sensitivity of oscilloscopes, photon counters, boxcar averagers, spectrum analyzers and other high frequency test equipment.

Each channel has an input and output impedance of 50 Ω . The input impedance of channel 1 can be increased to approximately 500 Ω by a front-panel switch. This can improve the sensitivity of signals from current and charge output devices, such as photomultiplier tubes. Each channel has a separate offset adjustment allowing you to quickly null DC errors.

SR445 Specifications

- **DC to 300 MHz bandwidth**
- **1.2 ns rise and fall time**
- **Four independent channels**
- **2.8 nV/ $\sqrt{\text{Hz}}$ input noise**
- **Voltage gain to 125**
- **50 Ω input and output impedance**
- **Fast overload recovery**

Input	50 Ω , DC coupled (channel 1: 50 Ω or 500 Ω)
Outputs	50 Ω , DC coupled
Operating range	Inputs: ± 200 mV, outputs: ± 1.0 V
Voltage gain	5 per channel. Up to 3 channels can be cascaded.
Bandwidth	DC to 300 MHz (-3 dB)
Noise	< 50 μVrms referenced to input (2.8 nV/ $\sqrt{\text{Hz}}$)
Stability	10 $\mu\text{V}/^\circ\text{C}$ referenced to input (0 to 50 $^\circ\text{C}$)
Input offset	± 50 μV (adjustable)
Propagation delay	2.2 ns per channel
Rise/fall time	1.2 ns (single channel)
Recovery time	< 4 ns for a 20 \times overload
Protection	± 3.5 VDC, ± 50 V transient
Dimensions	7.7" \times 2" \times 6.7" (WHD)
Power	16 W, 100/120/220/240 VAC, 50/60 Hz
Warranty	One year parts and labor on defects in materials and workmanship

• **SR445 ... \$1100 (U.S. list)**

Ordering Information

SR445 300 MHz preamplifier \$1100