Quantum Opus

NANOWIRE BIAS AND READOUT ELECTRONICS

Key Features:

- High-resolution, low-noise, bias current source for nanowire detectors
- Provides direct, room-temperature amplification of raw detector outputs Latch detection and automated reset
- Low jitter contribution
- Non-volatile memory for storage/recall of bias current value
- Power and serial communication for remote control via Stanford Research Systems SIM900 mainframe
- Versatile front panel control: bias on/off, auto-bias, increase/decrease bias, store/recall bias level

System Specifications

Amplifier Bandwidth	*Gain (Typ.)*	*Jitter Contribution*	*AC Input/Output Impedance*	*DC Bias Impedance*
500 MHz	55.6 dB	< 40 ps	50 Ω	100 kΩ

Bias Current Resolution	*Maximum Bias Current*	*Current Noise f > 10 Hz*	*Current Noise (1−100Hz)*	*Current Noise (1−10 Hz)*
14 bit	25 µA	< 5 pA/rtHz	65 pA_{RMS}	40 pA_{RMS}