



RHK Technology
Imaging the Future of Nanoscience

SPM Preamps

IVP-100 IVP-200
IVP-300 IVP-PGA

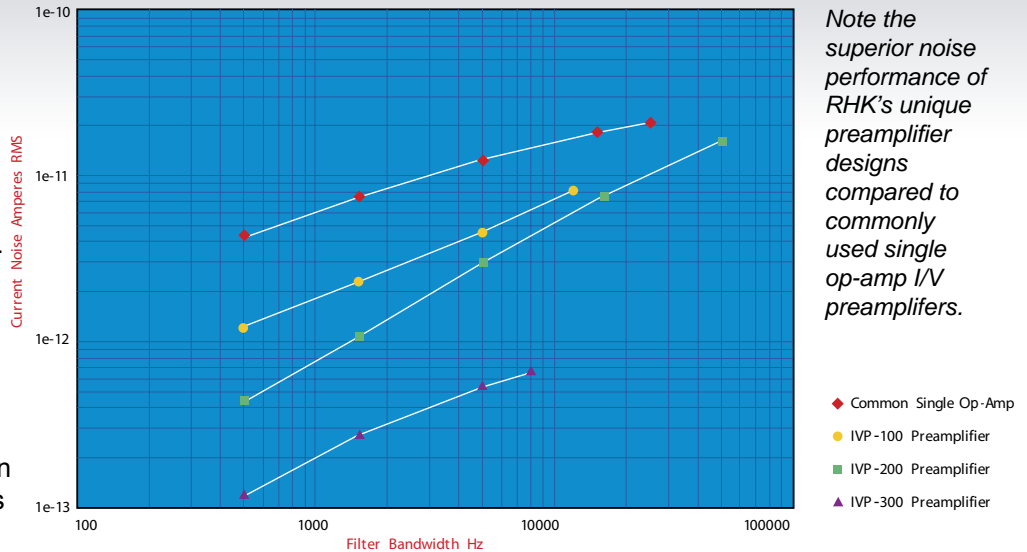
Low Current, Low Noise, Multi-Gain Preamps for STM Performance

RHK has developed a series of state-of-the-art multi-gain preamplifiers specifically designed for optimum low-noise STM performance. The IVP series of preamplifiers provides a unique combination of low noise and wide bandwidth operation. Using simple BNC connections, these preamps easily interface to any scanhead design.

RHK Pre-amplifier Specifications

These amplifiers exhibit an extremely flat frequency response over the entire bandwidth and provide uncommonly stable operation over a wide range of operating conditions, including input capacities of up to 100 pF.

RHK's preamplifiers are two-stage optimum performance devices. Each first stage preamplifier is equipped with RHK's unique I/V converter design and provides a fixed gain amplifier. The first stage models provide gains from 10^7 to 10^9 . The second stage provides an additional programmable gain stage with a selectable low pass filter.



Note the superior noise performance of RHK's unique preamplifier designs compared to commonly used single op-amp I/V preamplifiers.

Additional Specifications

IVP-100

Gain: 10^7 (10 mV/nA)
 Bandwidth: 250 kHz
 RMS Noise: 2 pA (2.2 pA) at 1.5 kHz bandwidth and 0 pF (100 pF) input capacitance
 Max Measurable Current: 1 μ A

IVP-200

Gain: 10^8 (100 mV/nA)
 Bandwidth: 30 kHz (50 kHz) at 0 pF (100 pF) input capacitance
 RMS noise: <2 pA (<3 pA) at 1.5 kHz bandwidth and 0 pF (100 pF) input capacitance
 Max Measurable Current: 100 nA

IVP-300

Gain: 10^9 (1 V/nA)
 Bandwidth: 5 kHz at 100pF input capacitance
 RMS noise: 0.3pA (0.65pA) at 1.5 kHz bandwidth and 0pF (100pF) input capacitance
 Max Measurable Current: 10 nA

IVP-PGA

Gain: x1, x10, x100 (selected by jumpers)
 Bandwidth: 500 Hz, 1.5 kHz, 5 kHz, 15 kHz, 50 kHz, 150 kHz, None (selected by jumper)
 Inverting or non-inverting outputs (selected by jumpers)
 User-accessible gain and offset adjustments.



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