



OPERATING INSTRUCTIONS FOR THE PAS-0.1-20 PRE-AMPLIFIER

The PAS-0.1-20 pre-amplifier features a high input impedance of approximately 100 K Ω shunted by 20 pF capacitance. The gain of the pre-amplifier is switch selectable for a gain of 20 dB, 30 dB or 40 dB. The output impedance of the pre-amplifier is 50 Ohms.

The first stage of the pre-amplifier consists of a pair of low noise junction-type FET's in a cascode configuration. The second stage is a clamped output, current feedback operational amplifier with extremely fast recovery from overload conditions.

The low frequency 3 dB point is determined by the inductor designated L2 on the attached schematic (470 microHenrys) while the high frequency 3 dB point is determined by the selected gain and the stray capacity of the circuitry in shunt with the FET load resistor R16 of 51 Ohms. The high frequency limit for the bandwidth will decrease in frequency as the gain is increased from 20 dB to 40 dB. The specified bandwidth for the pre-amplifier is 100 kHz to 20 MHz for all three settings of the gain switch. The typical bandwidth is approximately 50 kHz to approximately 75 MHz for gain settings of 20 dB and 30 dB and approximately 50 kHz to approximately 45 MHz for a gain setting of 40 dB.

+18 V and -18 V are required to energize the unit through the power cable supplied. (Usually, this power cable is connected to the "Power Supply Out" connector on the rear panel of the RAM.) (+15V and -15V power supplies are also adequate to power the pre-amplifier.)