

## Features

**Ultra Wideband** - 500 MHz - 18 GHz

**High Gain** - 24 dB minimum

**Flat Response** -  $\pm 1.25$  dB.

**Low Noise Figure** - 3 dB max.

**Power @1 dB Gain Compression** - +17 dBm



## Description

The model PAM-118 is a broadband, high gain, bench top microwave preamplifier. The PA-118 has a frequency range of 500 MHz to 18 GHz. This preamplifier is primarily intended for EMC applications. However, it can be used for other application that require signal amplification. The PAM-118 reduces floor noise and increases system sensitivity to low level signals during Electromagnetic Interference (EMC) testing.

The simple front panel consists of two 50 Ohm matched SMA connectors for input and output. The preamplifier was designed to have minimal gain variation for the entire frequency range. The consistent gain reduces EMC measurement errors. It also has low VSWR and noise figure.

Each preamplifier is individually calibrated using equipment traceable to National Institute of Standards and Technology. The data and certificate of calibration is shipped with the unit. The PAM-118 is powered by 18 VDC, 1 Amp wall plug adapter.

## Application

The PAM-118 preamplifier increases system sensitivity to low level signals from equipment under test during EMC testing. It also provides input isolation to your spectrum analyzer or receiver.

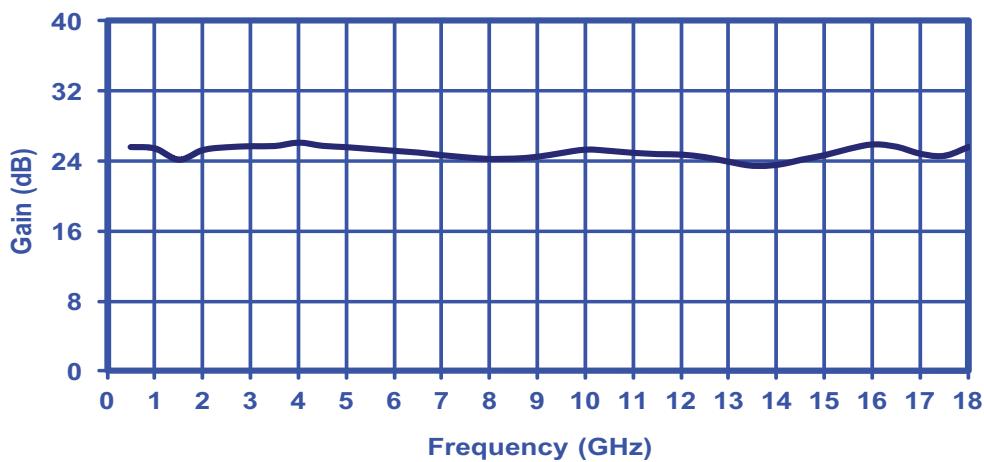
During EMC measurements the antennas are usually placed at a distance of 1 -10 meters from the equipment under test. Most antennas operating above 1 GHz typically have high antenna factors. In addition, long interconnecting cables operating in the microwave frequencies usually have high cable losses. These factors make it difficult to see the radiation from the equipment under test above the floor noise of the spectrum analyzer. The preamplifier improves system sensitivity by amplifying the signals picked by the antenna before it reaches the spectrum analyzer.

The system sensitivity can be further improved by connecting the PAM-118 preamplifier right at the antenna output. Placing the preamplifier close to the receiving antenna will reduce the effects of high cable loss associated with long cables.

# Specifications

Frequency:	500 MHz - 18000 MHz
Gain:	24 dB
Flatness:	$\pm 1.25$ dB
Noise Figure:	3 dB, max.
VSWR (Input / Output):	2.5: 1 / 2.5: 1
$P_{out}$ @1dB Comp:	+17 dBm, minimum
DC Input:	0 VDC, max.
Input power handling:	+10 dBm, CW
Reverse Isolation:	40 dB, typical
Power:	18 VDC, 1 Amp
Impedance:	50 Ohm
Connector type:	SMA
Size:	7.7" x 6.5" x 3.2" (18.4 cm x 15.6 cm x 7.7 cm)
Weight :	2.5 lbs. (5.5 kg)
Operating Temperature	+25° C

## Typical Amplifier Gain



All specifications are subject to change without notice.  
All values are typical, unless specified.