



Preamplifier PA-118

Features

Ultra Wideband - 500 MHz - 18 GHz

High Gain - 24 dB minimum

Flat Response - ± 1.25 dB.

Low Noise Figure - 3 dB max.

Power @1 dB Gain Compression - +17 dBm



Description

The model PA-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 PA-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 PA-118 is powered by 18 VDC, 1 Amp wall plug adapter.

Application

The PA-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 PA-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.