MA3 Microphone Amplifier

Hardware Reference

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MA3 Overview

The MA3 is a two-channel microphone amplifier for auditory scientists. This high-quality low-cost system is designed for use with both ¼" audio jack microphones and balanced XLR inputs for optimum impedance and noise characteristics. The MA3 can provide a bias voltage for microphones that require it. Two BNC connectors provide analog output. A variable gain knob provides amplification from 10 dB to 55 dB in 5 dB steps. A toggle switch provides 20 dB of additional gain for over 5000x total amplification.

Power

The MA3 Microphone Amplifier is powered via the System 3 zBus (ZB1PS). No PC interface is required.

MA3 Features

Inputs

The MA3 comes with three inputs: an XLR microphone input and two ¼" TRS connector inputs. Signals from two microphones can be amplified simultaneously.

Bias

The Bias switch produces a bias voltage for microphones that require it.

Gain Control

The gain control amplifies the microphone input in 5 dB steps from 10-55 dB (~3x - ~560x). The Gain Switch adds an additional 20 dB (10x) of gain for a maximum amplification of ~5600x.

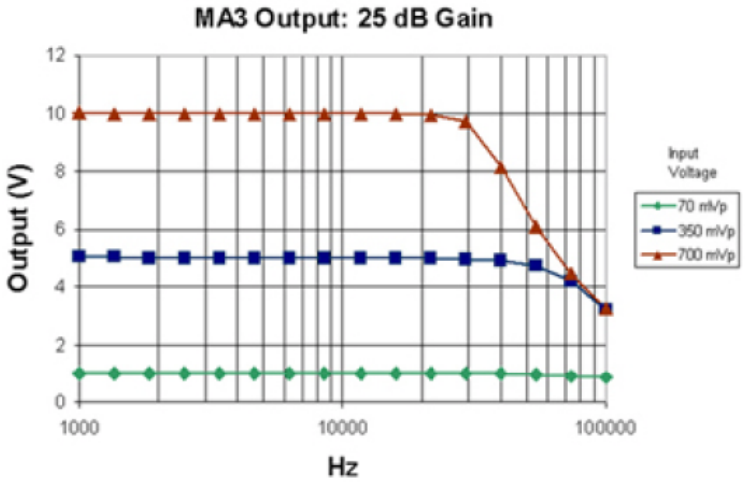
Outputs

Two BNC outputs give easy connection to any TDT System 3 device. The maximum voltage output is ±10 Volts. Clip lights indicate and overvoltage on the signal output.

MA3 Technical Specification

Input Signal Range	±10 V peak
-3 dB Bandwidth	200 kHz @ 40 dB gain
Gain Accuracy	±1 dB
Spectral Variation	1 dB from 20 Hz to 20 kHz
Signal/Noise	110 dB (20 Hz to 30 kHz at 9.9 V)
Noise Floor	9.2 uVrms
THD	<0.002% (1 kHz tone, ±7 V peak)
Input Impedance	600 Ohm
Output Signal Range	±10 V peak
Bias Voltage	10 V, 150 mA max, superimposed onto microphone
Output Impedance	5 Ohm

MA3 Output



MA3 Frequency Response