

Mike-E Product Description

The Mike-E™ from Empirical Labs is a modern digitally controlled Microphone Preamplifier chocked with unusual features to warm and soften the source, along with an excellent compressor/limiter. Mike-E offers an incredible performance transformer-coupled mic preamp, whose noise floor is far below any microphone's self noise.

The one-of-a-kind 'CompSat' section is an uncompromising compressor and saturator circuit that offers versatile 'coloring', and classic knee compression.



Mic Preamp Section – This is a super low noise transformer input amplifier section, with the gain digitally controlled. This section comes standard with a shielded Lundahl transformer, but provides for a Jensen transformer also.

The signal to noise far exceeds any microphone in existence, typically over 130 dB with the input shorted and 40dB of gain. Having used many mic preamps over the years, we have implemented a unique stepped gain control that should be impervious to the normal flakiness that age causes to pots and detented switches.

Counting the output gain of 14 dB, a total 74 dB of gain is available to the user with the CompSat section bypassed.

A 48 Volt Phantom power is provided for condenser mikes.

Exclusive CompSat™ Section - This unique circuitry sets the Mike-E apart from all other mic preamplifiers. It has four sections:

1) Saturator – This is a multi-stage soft clipping circuit. At lower levels, a triode type saturation affects the signal. As the level increases, a second unique clip circuit that includes Germanium semiconductors starts to more severely flatten out the peaks. An LED named "BAD!" indicates harder un-musical clipping.

2) Compressor – This is an uncompromising compressor/limiter circuit that allows detented control of attack and release for easy repeatability. You adjust the amount of compression with the DRIVE knob, which adjusts the level going into the compressor. In ways it is Distressor-like, but has other differing characteristics including a much longer available attack time, and additional circuitry. Four ratios are provided, 2:1 being the gentlest with a long 20dB knee, good for subtle compression such as while tracking or on the Buss. Ratios 4:1 and 8:1 are steeper but still very smooth with long knees. Nuke is very steep (limiter like) and has a different attack & release shape.

3) Emphasis - The Emphasis is actually two circuits that surround the compressor and saturator, as shown in the block diagram. The Pre-emphasis boosts the high frequencies before the compressor and saturator (CompSat), soft clipping them sooner than normal, while a de-emphasis cuts the frequencies complementary after the CompSat. Emphasis has the added perk of improving signal to noise, and is the reason analog tape decks used emphasis to begin with.

Mike-E's Seven circuits

1. Mic Preamplifier with super low noise & stepped gain switching.
2. Built in 'Direct Box', called the 'Inst In', offers unparalleled distortion, noise, and frequency response when pre-amping instruments.
3. 'Colored' 80Hz High pass filter emulates the warm low frequency cut of our favorite vintage equalizers.
4. Phase Switch to invert the audio signal 180 degrees.
5. CompSat offers both a musical Compressor/Limiter and a unique tape-like saturation circuit.
6. Emphasis high-frequency emphasis system softens high frequency 'pile-ups' and further the creamy color of the Mike-E.
7. Mix Control allows the blending of the Compressed/Saturated signal with the clean unprocessed "Dry" signal.

Specifications

- Freq. Response is 3 Hz to 200 kHz on (No CompSat). CompSat is 3Hz – 150Khz. Optional Transformer output is 6Hz–80kHz.
- Signal to Noise - 130 dB signal to Noise.at 40dB gain. Maximum output is +28dBu.
- Distortion Ranges between .0006% and 15% depending on mode and settings.
- Transformer coupled Input, Active and Transformer Outputs available. High quality audio caps used internally.
- Input Impedance is 600 Ohms. Output impedance is less

4) Mix Control - The modern recording engineer often employs the technique of mixing between the compressed and the dry (or uncompressed) signal. This can often help maintain transients and a sense of dynamic range while enhancing the low level nuances. Mike-E has a built in mix control to submix in the uncompressed signal to the compressed signal. As the user rotates the MIX control from full right to full left, he goes from the full compressed signal to the full dry signal (absent of any compression or saturation).

than 38 ohms.

- Attack/Decay Ranges - .9 – 100mS attack. .15 – 1 Sec.
- Power Consumption – 15 Watts Max.