

# Micro Amp Series



## The Emph'a Sizer

EM1000



**AUDIO  
TECHNOLOGIES  
INCORPORATED**

Dedicated to sound engineering

## a program controlled input signal gate

The INPUT GATE reduces undesirable background or crowd noise, microphone crossfeed and reverberation pickup by reducing the Emph' a Sizer gain during pauses in the program. When input signal levels drop below a threshold point set by the SENSITIVITY control, the GATE starts a PRE-FADE DELAY interval. If input does not return before the DELAY times out, a controlled fade is initiated, at a pre-adjusted RATE to a pre-set DEPTH.

Upon return of normal input levels, the GATE restores control of the Emph' a Sizer gain to the compressor, returning directly to the previous operating compression level in less than 10 mSec.

Gate input is provided by either an active balanced, unity gain line input or a transformer coupled, low noise mike preamp. Rear panel input switching, a switched low cut mike filter, XLR mike and three way line input connectors are included.

## controls

SENSITIVITY is adjustable upward from minimum inputs of -90 dBm (mike) or -55 dBm (line in). The GATE is latched open or closed at the control limits.

DELAY time before the fade begins may be set from .1 to 10 seconds. The longer DELAY settings allow effective use of higher input drop-out thresholds (low SENSITIVITY settings).

LEDs indicate program drop-out (\*), the progression of the pre-fade DELAY (\*\*\*) and the start of FADE (\*\*\*\*).

DEPTH OF FADE may be screwdriver or thumbnail adjusted to just duck the background by a few db or to completely cut off the channel by more than 80 db.

RATE OF FADE is easily set for an unobtrusive 6 db/sec slow fade or an instantaneous chop at more than 60 db/sec.

# Emph' a Sizer



## a four band preset parametric equalizer

The Emph' a Sizer incorporates a powerful PARAMETRIC EQUALIZER system along with the facilities to position the equalizers ahead of (PRE), following (POST) or into the COMPRESSOR feedback path (SIDE).

The four separate equalizer sections may be used individually or in any combination. Each equalizer has readily accessible (but adequately protected) internal adjustments for FREQUENCY (50 to 1500 Hz and 500 to 15000 Hz in two bands), BANDWIDTH (.16 to 2 octaves) and up to 20 db of BOOST or CUT. The equalizers are designed with a slight interaction between the BANDWIDTH and the BOOST/CUT controls to compensate for the perceived increase in loudness as filter bandwidth increases.

PRE position allows spectral modification of the signal while maintaining tight control of overall level in the compressor.

POST is used to brighten or add presence to the compressed signal. This is particularly useful in mike processing when the compressor is functioning primarily as an automatic level control and extremely tight control of peak level is not a major requirement.

SIDE chain equalization creates a frequency sensitive compressor particularly useful for de-essing and for controlling HF energy content in cassette mastering, disc cutting and FM broadcast use. Notching out a frequency band in the SIDE chain reduces its effect on the compressor and can eliminate modulation effects or compressor pumping from LF signals such as bass guitar or drums.

## a unique low distortion compressor-limiter

The Emph' a Sizer COMPRESSOR is designed around a pro-audio, monolithic, 100 db range, low noise VCA. High headroom capability allows the VCA to handle maximum inputs without input attenuation and thereby achieve maximum signal to noise performance on low level inputs.

The COMPRESSOR normally operates in a relatively slow acting, minimum distortion mode. Fast rising or decaying signals independently trigger either FAST ATTACK or FAST RELEASE operation only when the signal excursions exceed adjustable dynamic thresholds set around the operating level. The fast time constant networks are immediately switched off as soon as the output signal is brought within the allowable pre-set dynamic range. This unique approach to compressor-limiter design gives tight control of peaks while minimizing the distortion generation due to LF signal modulation which is characteristic of all fast acting AGC systems.

## controls

COMPRESSOR threshold is adjustable upward from minimum inputs of -55 dBm (mike) or -15 dBm (line).

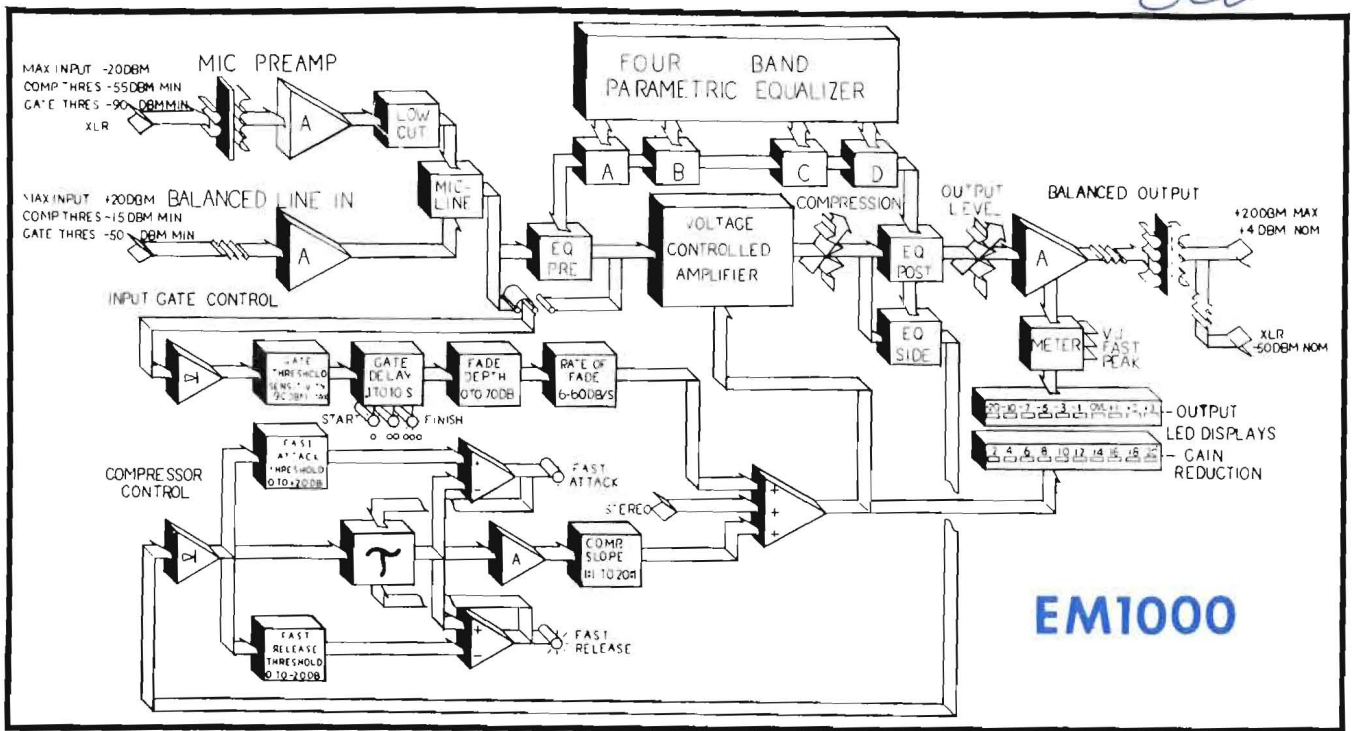
OUTPUT level is adjustable. LED bargraphs display OUTPUT and GAIN REDUCTION levels. 0 VU is internally set from 0 to +8 dBm. Peak, fast or VU ballistics with internal switching. Typical output clipping +24 dBm.

FAST ATTACK and FAST RELEASE THRESHOLDS are calibrated in db above and below the operating compression level. They set the switching points for actuation of the fast 1 mSec attack network or the 100 mSec recovery time constant. Normal compressor time constants are 100 mSec attack and 2.0 Sec release. Fast modes are indicated by LEDs and are inhibited at full CCW pot rotation.

SLOPE of the compressor is continuously adjustable from 1:1 (no compression) through low ratios which preserve a reasonable dynamic range to high ratios of 10 or 20:1 which maintain tight control of program levels.

# a powerful tool for broadcast, recording and sound reinforcement

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**EM1000**

## Emph'a Sizer Applications

### BROADCAST

**DJ MIKE PROCESSOR** Switchable preset equalizers tailor the EMPH'a SIZER for each announcer...create the special production effects that give your station its own unique sound.

**REMOTES** Take it to the ballgame as a crowd noise ducker, compressor, line limiter and equalizer.

**STUDIO & TELEPHONE TALK SHOWS** Compressor rides gain, gate controls unused inputs and the equalizers add punch to your program.

### RECORDING STUDIOS

**MASTERING** Control H.F. energy in cassette and disc mastering...sibilance control.

**RECORDING** Create unusual effects on both vocal and instrumental tracks.

### SOUND REINFORCEMENT

**MICROPHONE CONTROL** Automatic level control and gating prevent overloads. Equalizers notch out critical room and speaker resonances. Side chain equalization controls energy at feedback frequencies to allow higher overall levels.

## Emph'a Sizer Specifications

MIC. INPUT.....Transformer coupled, female XLR, 40 db gain, -20 dBm maximum level, -124 dBm E.I.N. in 20 kHz band. 150 Hz switchable high pass filter.

LINE INPUT.....10 Kohm active balanced, dual banana jacks. Unity gain, +20 dBm maximum level, -110 dBm E.I.N. in 20 kHz band.

LINE OUTPUT.....Transformer (EM1000-1) or active balanced (EM1000-2) 0 VU is +4 dBm (adjustable 0 to +8 dBm) Clipping...+24 dBm, Dual banana jacks.

MIC. OUTPUT.....Attenuated Line Output, Male XLR -50 dBm nominal level, balanced, 150 ohms.

SYSTEM RESPONSE.....EQ out, 30 to 20000 Hz,  $\pm$  .25 db.

SYSTEM NOISE.....EQ out, 80 db S/N ratio min at 10 db gain reduction.

DISTORTION.....+22 dBm output, 30 to 20000 Hz T.H.D. .2% maximum.

STEREO MATCHING..... $\pm$  1 db over 20 db gain reduction.

POWER.....110/220 Vac  $\pm$  10%, 50/60 Hz.

SIZE.....3 1/2" H by 8 1/2" W by 10 3/4" D

MOUNTING.....Free standing desk mounting Standard Single rack mount (centered) P/N 20104-501 Dual side by side mount P/N 20105-501

3 year limited warranty. *Technical specifications are subject to change at the discretion of the manufacturer.*



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