

THE SYMETRIX 527E TRACES ITS HERITAGE back to the Symetrix 528, the first signal processor specifically designed for voice applications. Revered as the rackmount equivalent of a studio console strip, the classic 528E is still the most widely-used voice processor in the broadcast industry. To this benchmark design, we added new controls and connections, and we refined it according to the needs of installed sound applications. The result: an ideal product for installations requiring great sounding key microphones. When used on announcement mics in stadiums and gymnasiums, wireless and lapel mics in church systems, and paging mics in acoustically challenging environments, the 527E provides voice-optimized processing from the company that invented it.

Simply stated, the 527E consists of a high-quality microphone preamp coupled to a three-band parametric equalizer, high and low pass filters, and a dynamic range processor.

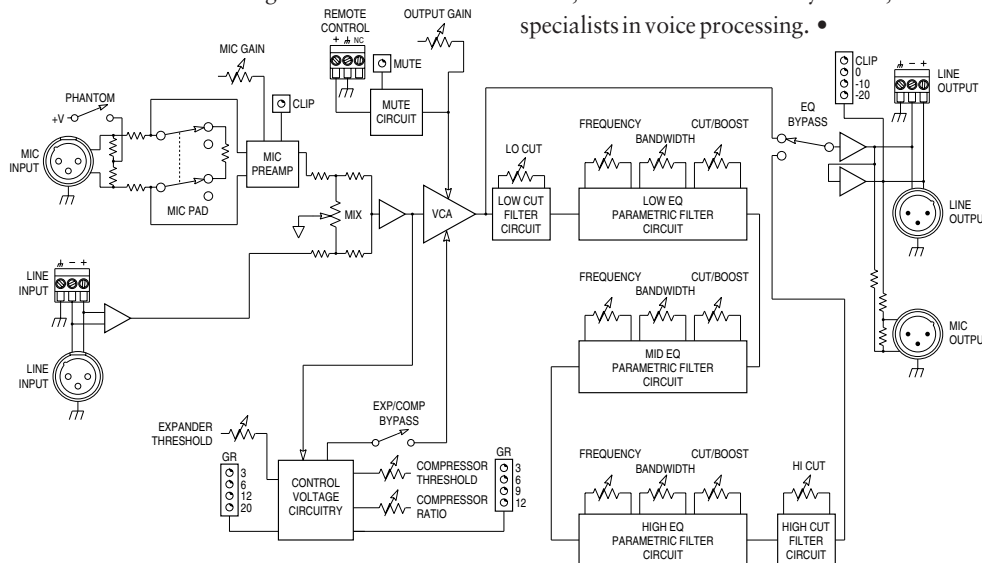
The dynamic range processor combines an interactive compressor/limiter and a downward expander. Typically, the downward expander helps reduce background noise as well as the artifacts of close miking. The compressor/limiter gives you overall control over the dynamic range of the output signal and helps maintain a high overall signal level.

The filter section of the 527E features tunable low cut and high cut filters. These 12 db per octave filters allow the user to remove objectionable low frequency noises, such as rumble and muddiness, and high frequency noises, such as sibilance and air conditioning noise.

The three-band parametric equalizer is a reciprocal-curve design. Each band is connected in series with the next to ensure that each filter band sums with its neighbors smoothly.

The 527E accepts both mic and line inputs. The microphone input uses a balanced transformerless design. It works with any phantom-powered condenser microphone or any low-impedance microphone having a balanced, floating output. The line input also uses a balanced transformerless design and its matched resistors permit the 527E to attain a high, wideband, CMRR (common-mode rejection ratio). Multistage RFI filters prevent radio frequency interference problems. The 527E's output section can drive balanced loads at line or mic levels.

When the client's sound system concentrates on voice, choose the 527E from Symetrix, the specialists in voice processing. •



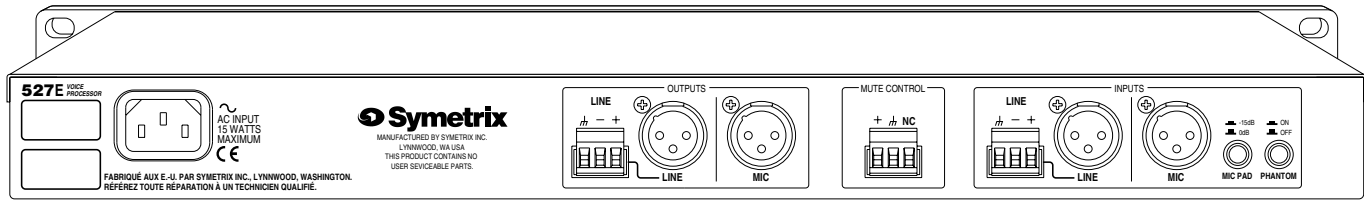
APPLICATIONS

- Stadiums & Arenas
- Theme Parks
- Houses of Worship
- Public Address/Paging Systems
- Themed Retail/Restaurants

FEATURES

- Classic Symetrix 528E design adapted for installed sound systems
- Studio-quality mic preamp plus high and low cut filters, comp/limiter, downward expander and 3-band parametric EQ
- Multistage RFI filters to prevent radio frequency interference
- Mic muting port for "cough switch" control via external contact closure
- Balanced mic or line level I/O on XLR and Euroblock connectors

527E



SPECIFICATIONS

Specifications subject to change without notice.

Inputs		Overall Performance Data	
Microphone Input Clip LED	Fires at 1 dB below clipping of mic preamp	Frequency Response	20 Hz to 20 kHz (+0, -0.5 dB), EQ out compressor out, downward expander out
Microphone Input Type	Balanced Transformerless, Low Impedance	THD+Noise	<0.08%, 20 Hz to 20 kHz, +4 dBm output
Phantom Power	+48V nominal	Noise Floor	-89 dBu (all functions enabled)
Microphone Preamp Gain	20 to 60 dB (pad out), 5 to 45 dB (pad in)		-95 dBu (with EQ function bypassed)
Microphone Input Maximum Input Level	0 dBu (pad out)	Dynamic Range Processor	
Equivalent Input Noise (EIN)	-126 dBu (60 dB gain, 20 kHz noise bandwidth)	Type	Interactive Comp/Limiter-Downward Expander
THD+Noise (Preamp only)	0.02% (1 kHz, 50 dB gain, +10 dBu output)	Comp/Limiter Ratio	1:1 to 10:1
Microphone Preamp CMRR	> 60 dB (40 dB gain, 20 Hz to 20 kHz)	Downward Expansion Ratio (max)	1:1.8
Line Input Type and Impedance	10k Ohms Transformerless, Balanced Bridging	Outputs	
Line Input Maximum Input Level	+20 dBu	Output Section Type	Balanced, Transformerless
Line Input Nominal Input Level	+4 dBu	Maximum Output Level	+21 dBu Balanced
Line Input CMRR	> 50 dB (0 dBu, 20 Hz to 20 kHz)	Output Clip LED	Fires 3 dB below clipping
		Output Source Impedance	200 Ohms, Balanced
		Minimum Load Impedance	600 Ohms Balanced or Unbalanced
		Output Gain	±15 dB
Parametric Equalizer		Physical	
Type	Three-band Parametric Equalizer	Size (hwd)	1.72 x 19 x 6 inches, 4.37 x 48.26 x 15.24 centimeters
Frequency Ranges of Bands	Low: 16 to 500 Hz, Mid: 160 to 6300 Hz High: 680 Hz to 22 kHz	Weight	5.1 lbs (2.3 kg) net
Peak/Dip Bandwidth	0.3 to 4 octaves, measured at maximum boost	Electrical	
Maximum Boost/Cut	±15 dB	Power Requirements	115V nominal, 105 to 125V AC, 50 to 60 Hz, 15 watts maximum 230V nominal, 205 to 253V AC, 50 to 60 Hz, 15 watts maximum
Filters			
Low Cut Filter Slope	12 dB/octave		
Cutoff Frequency Range	6 Hz to 260 Hz @ -3dB		
High Cut Filter Slope	12 dB/octave		
Cutoff Frequency Range	3 kHz to 65 kHz @ -3dB		
Metering			
Type	Multi-segment LED bar graph		
Output Level	-20, -10, 0, Clip (0 VU = +4 dBu), VU calibrated, peak responding		
Expander Gain Reduction	3, 6, 12, 20 dB		
Compressor Gain Reduction	3, 6, 9, 12 dB		

527E ARCHITECTS AND ENGINEERS SPECIFICATIONS

The voice processor shall be capable of microphone signal preamplification, line input buffering, downward expansion, compression/limiting, filtering and parametric equalization.

The unit shall have a low-noise, low distortion microphone preamplifier with variable gain (20 dB to 60 dB) and switchable (on/off) +48V phantom power. A 15 dB pad shall be provided to accommodate high output microphone signals. A balanced-bridging line input suitable for +4 dBu input signals shall also be provided along with a mix control to select either the microphone or line inputs, or a combination of both inputs.

The dynamics processing section shall contain an interactive compressor/limiter and downward expander. There shall be front panel controls for compression ratio (1:1 to 10:1), compressor threshold (-50 dBm to +20 dBm), expander threshold (-30 dBm to 0 dBm), and a bypass switch.

There shall be a 12 dB/Oct high-pass filter with a user-adjustable cutoff frequency range 3 kHz to 65 kHz, and a 12 dB/Oct low-pass filter with a cutoff frequency range from 6 Hz to 260 kHz.

There shall be a three-band parametric equalizer. Each band shall have ±15 dB maximum boost/cut, and continuously variable bandwidth (.3 octaves to 4 octaves). The equalizer bands shall have substantially overlapping frequency ranges, with a combined range of 16 Hz to 22 kHz. There shall be a front panel bypass switch.

The voice processor shall be equipped with the following LED displays: A four-segment LED display that monitors the overall output level, a four-segment LED display that monitors the compressor/limiter, and a four-segment LED display that monitors the downward expander. All displays shall be independent. There shall also be a single LED clip indicator to indicate clipping within the mic preamplifiers.

The microphone input shall be an active balanced bridging design terminated with 3-pin XLR-female connector (AES/IEC standard wiring). The microphone preamp shall be capable of an equivalent input noise specification of at least -126 dBu (60 dB gain, 20 kHz noise bandwidth). The line input shall be a balanced, transformerless design using a 3-pin XLR-female connector (AES/IEC standard wiring) and a Euroblock terminal

connector. All input circuitry shall incorporate RFI filters of the LC or RC low-pass type.

The line output shall be an active balanced design terminated with a 3-pin XLR-male connector (AES/IEC standard wiring) and a Euroblock terminal connector. The mic output shall terminate with a 3-pin XLR-male connector (AES/IEC standard wiring).

The voice processor shall be capable of operating by means of its own built-in power supply connected to 115V AC nominal (105 to 130V), 50 to 60 Hz or 230V AC nominal (207 to 253V), 50 to 60 Hz.

The unit shall be a Symetrix Incorporated model 527E Voice Processor.

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