

**O**VER A DECADE AGO SYMETRIX INTRODUCED THE VOICE PROCESSOR to the audio industry. Now Symetrix unveils the 628 Digital Voice Processor, our latest design to meet the needs of vocalists and voice talent. The 628 rolls a premium quality microphone preamplifier, 20 bit A/D and D/A converters, de-esser, expander/gate, compressor and parametric equalizer into a single rack space unit. The 628 combines proven digital signal processing and an easy to use analog-like interface with the power of factory and user programmable presets.

Top notch voice professionals now demand personalized signal processing. The Symetrix 628 gives you the ability to create and store in memory 119 custom presets. You can get on the air instantly by selecting from 8 finely tuned factory presets.

Need to provide a quick way for talent or producer to change presets? Using a generic programmable MIDI remote, you can recall any of the 628's 127 presets (plus the bypass preset) via MIDI's SysEx load program protocol.

The 628's first stage is a proprietary transformerless and capacitorless mic preamp incorporating filters to destroy radio frequency interference. A switchable 15 dB pad prevents overloading by hot condenser microphones. A front panel LED indicates when phantom power is on. If you're into high end tube preamps then you can select line level input from the 628's front panel and bypass the 628's preamp.

Tuning the 628's de-esser to the offending frequency minimizes overly bright sibilance without resorting to brute force equalization to solve the problem. The THRESHOLD control lets you precisely apply this frequency selective gain reduction. LED metering displays the degree of de-esser action.

The 628's Expander/Gate affords more control than its analog precursor. Independent RATIO and RELEASE controls allow tuning of the expander/gate to fit any studio noise or performer isolation requirements. An LED meter shows the amount of downward expansion or gating taking place.

Most compressor designs use a "one size fits all" approach to compression; the design of the 628 reflects the realization that voice and mixed music require different design philosophies. While the control complement is simple (Threshold, Ratio and Release), each has been highly optimized for voice work. The result is a compressor that can tightly control gain (from hard compression to gentle level control) with minimal or no side effects.

Three overlapping bands of digital parametric equalization round out the processing power of the 628. The equalizer can notch out interference, boost low frequency energy, cut mid-range grunge and brighten a muddy, dull voice simultaneously. The 628's parametric approach to equalization allows cuts and boosts exactly where needed to make every voice sound outstanding.

Three seven segment LEDs display all parameter values and preset numbers. An output level meter continuously monitors the 628's output. Digital sample rates of 48, 44.1 and 32 kHz are selected by a rear panel switch. Balanced and unbalanced analog outputs as well as AES3 and S/PDIF digital outputs are provided.

All voices are different, but the right tool box gives you all the functions you need to make anyone sound their best. With its processing power, programmable presets and digital output, the Symetrix 628 Digital Voice Processor is the complete voice processing tool box.

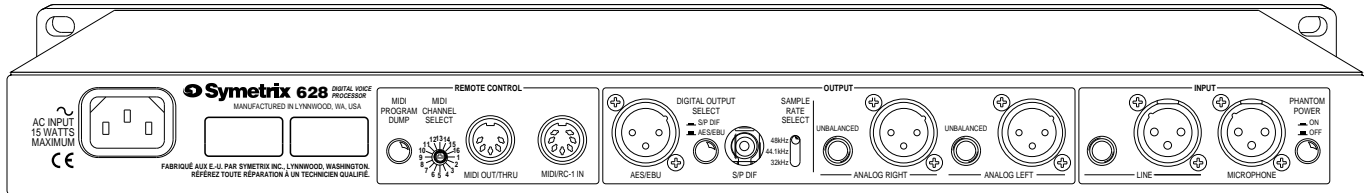
## APPLICATIONS

- On-Air microphone processing
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- Broadcast production
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- Video and film post production audio sweetening
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- Live performance voice processing
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- Analog to digital conversion
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## FEATURES

- Easy, intuitive operation - No menus to step through
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- Precise parameter adjustment with rotary knobs
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- 128 processing presets
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- Plug & Play operation with 8 factory presets
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- Independent metering of processing functions
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- AES3 or S/P DIF digital output
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- Microphone and line level inputs
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# 628



## SPECIFICATIONS

Specifications subject to change without notice.

<b>Inputs</b>			
Microphone Input Circuit	Balanced Transformerless, Low Z (150 Ohms)	<b>Analog Output</b>	
Phantom Power (DIN 45 596)	+48 Volts, Nominal	Type	Balanced Transformerless
Microphone Pad	15 dB ( $\pm 3$ dB)	Output Level at 0 dBFS	+22 dBu Balanced, Jumperable
Microphone Preamp Gain	15 dB (min.) to 75 dB (max.)	Minimum Load Impedance	to +16 dBu or -20 dBu for mic level input
Microphone Equivalent Input Noise	<120 dBV (20 Hz to 20 kHz)		600 Ohms Balanced or Unbalanced
Microphone Preamp CMRR	>-60 dB (60 dB Gain, 20 Hz to 20 kHz)	<b>Digital Output</b>	
Line Input Circuit	10k Ohm, Transformerless Balanced Bridging	Type	AES3 and S/P DIF
Line Input Level at 0 dBFS	-10 dBu to +21 dBu	Sample Rates	32 kHz, 44.1 kHz, 48 kHz
Line Input CMRR	>-40 dB (+20 dBu, 20 Hz to 20 kHz)	A/D & D/A Converters	20 bit, Delta-Sigma
		Internal Delay	<5 mS.
<b>Dynamic Range Processor</b>		<b>Overall Performance</b>	
Type	Digital Compressor/Limiter/Expander/Gate	Frequency Response	$\pm 1.0$ dB (20 Hz to 20 kHz)
Compressor Ratio Range	1:1 - 15:1	THD+Noise	0.05% (20 Hz to 20 kHz, +4 dBm Output)
Compressor Release Time Range	250 mS. to 5.0 Sec.	<b>MIDI Implementation</b>	
Compressor Threshold Range	-60 dBFS to 0 dBFS	Access	MIDI Program Change, MIDI Program Dump
Expander Ratio Range	1:1 - 10:1	Programs	8 Factory Presets, 1 Bypass, 119 User Presets, 128 Total
Expander Release Time Range	250 mS. to 5.0 Sec.	<b>Physical</b>	
Expander Threshold Range	-60 dBFS to 0 dBFS	Size (hwd)	1.72 x 19 x 6.25 inches, 4.37 x 48.26 x 15.875 centimeters
De-esser Type	Digital Frequency Selective Compressor	Weight	5.5 lbs (2.5 kg) net, 10 lbs (4.6) shipping
De-esser Frequency Range	800 Hz to 12 kHz	<b>Electrical</b>	
De-esser Threshold Range	-60 dBFS to 0 dBFS	Power requirements	117V nominal, 105 to 125V AC, 50 to 60 Hz, 15 watts 230V nominal, 205 to 253V AC, 50 Hz, 15 watts
<b>Equalizer</b>			
Type	Digital Three-Band Parametric		
Bands	20 to 500 Hz, 160 to 6300 Hz, 680 to 20 kHz		
Bandwidth Range	.3 to 4 Octaves		
Maximum Cut/Boost	$\pm 15$ dB		

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