# Symetrix™

# 528E VOICE PROCESSOR


## The 528E Voice Processor from Symetrix.

**This complete analog channel strip** performs six separate functions: microphone preamplification, de-essing (sibilance removal), compression/ limiting, downward expansion, parametric EQ, and voice symmetry alignment. All six processes may be used simultaneously. Although we call the 528E a "Voice Processor", it is perfectly suitable for any mic- or line-level source. Revered as the choice for broadcast voices and known as the classic "one channel console" by recording studios, the 528E delivers all the control you need, without the cost or complication of separate units. Each function has a full complement of controls in an easy-to-use layout. The 528E works with any professional microphone. Mic preamp gain is variable up to 60 dB, and 48 volt phantom power is provided for condenser mics. A switchable 15 dB pad reduces gain in front of the mic preamp to prevent distortion in super-close micing situations. A front panel switch selects between microphone or line input. Both inputs are transformerless and are equipped with filters to prevent radio frequency interference (RFI). The de-esser senses and regulates selectable high frequencies to reduce or eliminate annoying sibilance and "lip smacking." Symetrix' program-controlled Integrated Dynamics Processing (IDP) techniques combine the best attributes of compressor/limiters and downward expanders. The compressor/limiter maintains uniform levels while the downward expander eliminates "pumping," "breathing," and noise build up. Because it's program controlled, the 528E's dynamic range processor responds quickly to transients, and gently to smaller level changes. Separate LED meters display mic/input gain and gain reduction, for quick and accurate adjustment of dynamics functions. The three band parametric EQ performs both creative enhancement and corrective (eliminating resonances and interference) operations, with bandwidth variable from 0.3 octave to 4 octaves, 15 dB boost/cut, and overlapping frequency ranges. A unique "leap frog" topology minimizes the number of amplifiers in the signal path while ensuring that each frequency band interacts with its neighbor in a desirable and musical fashion. The Voice Symmetry switch corrects for excessive positive or negative signal peaks of the human voice. Get the same processing power found in an entire recording studio signal chain with the 528E Voice Processor from Symetrix, the engineering-driven company of signal processing specialists.

### 528E Features

- Single rack space classic analog channel strip. Applications: Broadcast, Studio, Podcasting, Installed Sound.
- Add warmth and color to your digital broadcasts & recordings.
- World renowned Symetrix sound quality, reliability and performance.
- Six (6) processes in one box: Mic Preamp, De-esser, Downward Expander, Compressor, 3-band EQ, and Voice Symmetry.
- Rear panel patch points allow re-ordering of processes or external effects inserts.

## Engineered by Symetrix™

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# Symetrix™ 528E VOICE PROCESSOR


## Specifications

### Input/Output

| | |
|---|---|
| **Controls and Switches** | Mic Gain, Phantom Power, Mic/Line |
| **Mic and Line Input Connectors** | XLR-female (2) |
| **Clip LED** | Lights at +17 dBu output level from mic preamp or line input amplifier |
| **Microphone Input Type** | Balanced Transformerless, Low Impedance |
| **Phantom Power (DIN 45 596)** | +48V, nominal |
| **Microphone Preamp Gain** | 22 to 60 dB (pad out)<br>7 to 45 dB (pad in) |
| **Microphone Input Maximum Input Level** | -3 dBu (pad out) |
| **Equivalent Input Noise (EIN)** | -126 dBV (150-0 Ohm source, 20 Hz to 20 kHz) |
| **THD + Noise (Preamp only)** | 0.05% (2 kHz, 50 dB gain, +17 dBu output) |
| **Mic Preamp CMRR** | > 50 dB (40 dB gain, 20 Hz to 20 kHz) |
| **Line Input Type and Impedance** | 10k Ohm Transformerless Balanced Bridging |
| **Line Input Maximum Input Level** | +24 dBu |
| **Line Input Nominal Input Level** | +4 dBu |
| **Line Input CMRR** | > 50 dB (0 dBu, 20 Hz to 20 kHz) |

### Parametric Equalizer

| | |
|---|---|
| **Type** | Three-band Parametric Equalizer |
| **Bands** | Low: 16 to 500 Hz, Mid: 160 to 6300 Hz<br>High: 680 Hz to 22 kHz |
| **Peak/Dip Bandwidth** | 0.3 to 4 octaves, measured at maximum boost |
| **Maximum Boost/Cut** | +/- 15 dB |

### Metering

| | |
|---|---|
| **Type** | Multi-segment LED bar graph |
| **Output Level** | -20 to +3 VU (0 VU = +4 dBu), VU calibrated, peak responding |
| **Gain Reduction** | Separate displays for: de-esser, downward expander, and compressor<br>0 to 20 dB per display |

### Overall Performance Data

| | |
|---|---|
| **Frequency Response** | 20 Hz to 20 kHz (+0, -0.5 dB), EQ out, compressor out, downward expander out, de-esser out |
| **THD + Noise** | 0.05%, 20 Hz to 20 kHz, +4 dBm output |
| **Noise Floor** | Better than -89 dBu, 20 Hz to 20 kHz |

### Dynamic Range Processor

| | |
|---|---|
| **Type** | Interactive Comp/Limiter-Downward Expander |
| **Comp/Limiter Ratio** | 1:1 to 10:1 |
| **Downward Expansion Ratio (max)** | 1:1.8 |
| **De-esser Type** | Program controlled high-cut filter 12 dB/octave |
| **Frequency Range** | 800 Hz to 8000 Hz |
| **Threshold** | -30 to 0 dBu |
| **Output Section Type** | Balanced, Transformerless |
| **Maximum Output Level** | +24 dBm Balanced, +18 dBm Unbalanced |
| **Connector** | XLR-male |
| **Output Clip LED** | Lights 3 dB below clipping |
| **Output Source Impedance** | 200 Ohms, Balanced |
| **Minimum Load Impedance** | 600 Ohms Balanced or Unbalanced |
| **Voice Symmetry Switch** | Improves modulation symmetry of speech signals |
| **Output Gain** | +/- 15 dB |

### Physical

| | |
|---|---|
| **Size (hwd)** | 1.72 x 19 x 7.25", 4.37 x 48.26 x 18.42 cm) |
| **Weight** | 7.6 lbs (3.5 kg) net, 10 lbs (4.6 kg) shipping |

### Electrical

| | |
|---|---|
| **Power Requirements** | 115 VAC nominal, 95 to 130 VAC, 50 to 60 Hz, 15 watts maximum<br>230V nominal, 207 to 253 VAC, 50 Hz 15 watts maximum |

**Note:** The maximum operating ambient temperature is 30° C.



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