



# 581E DISTRIBUTION AMPLIFIER (4X4)



## The 581E Distribution Amplifier from Symetrix.

**T**his flexible, compact distribution amplifier has four inputs and sixteen outputs. In a typical configuration, the 581E accepts four input signals and distributes each input to four independent outputs. Each of the sixteen outputs can be individually attenuated via its front panel potentiometer. Similarly, the level of each of the four inputs can be controlled independently. Each input has a four-LED level meter to assist the user in setting optimum operating levels. The balanced input stages are designed for high common mode rejection and RF immunity. Output line drivers are short-circuit protected and designed around industry standard 5532 type op amps. The 581E operates from an internal power supply built around a low magnetic field toroidal transformer, resulting very low noise and high performance. The 581E 4x4 architecture allows the greatest possible number of configurations. Each one-input, four-output module is independent of the others. Wiring the 581E's inputs to four separate audio sources provides four mono distribution channels with four outputs each, or two stereo audio feeds.

Simple re-wiring – strapping the inputs together in pairs – produces alternate 2x8 configuration that distributes stereo audio to eight outputs. Left channel audio is wired to inputs #1 and #2, while the right channel connects to inputs #3 and #4. With all inputs strapped together, the 581E distributes a single mono audio source to all 16 outputs. Meet all your audio distribution requirements with minimum cost and no wasted outputs using the 581E Distribution Amplifier from Symetrix, the engineering-driven company of signal processing specialists.

### 581E Features

- Single rack space distribution amplifier. Applications: Broadcast, Installed Sound.
- Four (4) balanced inputs and sixteen (16) balanced outputs.
- Can be configured as a 4x4, 2x8, or 1x16.
- Four (4) LED input level meters.
- Master input level plus four individual output level controls.

## Specifications

### Input/Output

Maximum Input Level	+26 dBu Balanced
Maximum Output Level	+26 dBu Balanced (20k Ohm load) +22 dBm (600 Ohm load)

Input Impedance	20k Ohms Balanced, 10k Ohms Unbalanced
Output Impedance	200 Ohms Balanced, 100 Ohms Unbalanced

### Performance Data

Frequency Response	±½ dB, 20 Hz - 20 kHz
THD+Noise	<.009%, unity gain input to output, 30kHz measurement bandwidth

Signal to Noise Ratio	>100 dB, A-weighted, ref. to +4 dBu
Dynamic Range	>125 dB, A-weighted
Common Mode Rejection	>40 dB, 20 Hz - 20 kHz
Input Gain Range	±15 dB
Output Gain Range	0 to -20 dB

### Physical

Size (hwd)	1.72 x 19 x 6 in., (4.37 x 48.26 x 15.24 cm.)
Shipping Weight	8 lbs

### Electrical

Power Requirements	115 VAC nominal, 95-130 VAC, 50-60 Hz 230 VAC nominal, 207-253 VAC, 50 Hz
Power Consumption	18 watts maximum

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

# Engineered by Symetrix™

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## Architects and Engineers Specifications

The audio distribution amplifier shall be a four channel unit with each channel consisting of one electronically balanced input amplifier and four electronically balanced output amplifiers. Associated with each channel shall be a master gain adjustment circuit capable of up to 15 dB of gain or 15 dB of loss for the purpose of optimally matching incoming signal level(s). Also associated with each channel shall be a four LED array for the indication of the signal levels applied to the output drive circuits. The LED's shall be labelled CLIP, +10, 0, and -10 corresponding to internal signal levels of +18 dBu, +10 dBu, 0 dBu, and -10 dBu.

Each output shall be capable of driving a 600 Ohm balanced load to a level of +22 dBm. The maximum output level into a balanced bridging load (20k Ohms) shall be +26 dBu. Each output will offer an individual attenuator with a range of 0 to -20 dB.

Frequency response through the amplifier shall be  $\pm 1/2$  dB, measured between 20 Hz and 20 kHz. THD+Noise shall be less than 0.009% measured at unity gain with a bandwidth of 30 kHz. Residual noise will be >100 dB below a +4 dBu input signal when measured with an A-weighting filter.

The unit shall occupy one rack space (1U). The physical dimensions shall be 1.72" H x 19" W x 6" D; 4.45cm H x 43.7cm W x 15.24cm D.

The distribution amplifier shall operate by means of its built-in power supply connected to 115 VAC, nominal, 95-130 VAC, 50-60 Hz; or 230 VAC nominal, 207-253 VAC, 50 Hz. Power consumption shall be 18 watts, maximum. There shall be a rear panel receptacle for an IEC type detachable power cord. The distribution amplifier shall carry the CE mark.

The distribution amplifier shall be a Symetrix, Inc. model **581E Distribution Amplifier (4x4)**.

## 581E Block Diagram

