

IN DESIGNING THE 425 DUAL COMPRESSOR/LIMITER/EXPANDER, Symetrix engineers aimed for audio control that would work for a variety of audio applications. Providing you with the right combination of tools is what IDP (Integrated Dynamics Processing) is all about. IDP makes all three processing modes (compression, limiting, and downward expansion) available all the time: no switching between sections, no patching in extra boxes.

If background noise, tape hiss, or pickup hum is the problem, eliminate them with the downward expander. The 425 uses a true downward expander, not a so-called “soft gate”. A downward expander won’t chop off the transients and decays like a gate would, yet it can work just as effectively for reducing those noises between sounds. A noise gate works like an on/off switch while a true downward expander works like an engineer riding a fader, following the signal as it decays.

While the downward expander is taking care of the noise, the 425’s compressor section allows you to apply the right amount of compression from a gentle squeeze to a hard squash without “pumping” or “breathing”. And because the separate limiter section is guarding against peaks that would cause problems, it frees the compressor section to be set for the job of compression and not protection. Trying to set a typical compressor for multiple jobs like this usually results in settings that aren’t optimized for either application. The limiter protects

against problems and the compressor smooths signals out for a silky, listenable finish.

Symetrix uses powerful, streamlined controls that make the 425 easy to set up and operate. Appropriate parameter adjustments allow you to match the settings to the situation. You decide the way you want the 425 to react to the signals, not some predetermined ratios or thresholds.

The 425 is easy to install, providing both XLR balanced and ¼" line level connectors. The UL approval means that it can fit into any installation with confidence.

In the final analysis, Integrated Dynamics Processing means clean, quiet sound that meets professional demands in any situation. High-quality components and “minimal signal path” circuitry make the 425 exceptionally transparent. The Symetrix name on the front panel guarantees it all. •

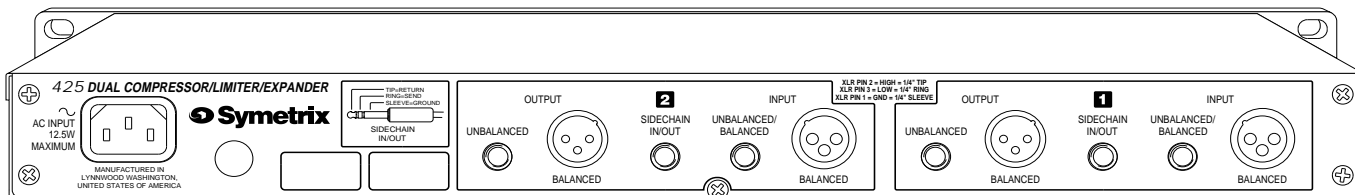
APPLICATIONS

- Recording
- Sound Reinforcement
- Broadcast
- Special Effects

FEATURES

- Integrated Dynamics Processing includes downward expander, compressor and limiter
- Stereo-coupled or two-channel operation
- Individual LED meters for each processing section and output
- Separate threshold controls for expander, compressor and limiter
- Sidechain input/output
- Balanced XLR and unbalanced ¼" line level connections

425



SPECIFICATIONS

Specifications subject to change without notice.

Input/Output

Maximum Input Level	+20 dBu Balanced, +20 dBu Unbalanced
Maximum Output Level	+25 dBu Balanced, +23 dBu Balanced (600 Ohms) +20 dBu Unbalanced, +18 dBu Unbalanced (600 Ohms) at onset of clipping (1% THD)
Input Impedance	43k Ohms Balanced, 30k Ohms Unbalanced
Output Impedance	300 Ohms Balanced, 150 Ohms Unbalanced
Load Impedance	600 Ohms minimum Balanced/Unbalanced
CMRR	Greater than 40 dB

Performance Data

Frequency Response	10 Hz to 60 kHz +0, -3 dB
Dynamic Range	115 dB (difference of max output and noise floor)
THD+Noise	.02%, 4 dBu in, +18 dBu out, 0 dB gain reduction, 20 Hz to 20 kHz, 30 kHz low-pass filter .04%, 4 dBu in, +4 dBu out, 10 dB gain reduction, 1 kHz, 30 kHz low-pass filter
Maximum Gain Reduction	40 dB
Output Noise	-90 dBu measured at balanced output, input terminated in 600 Ohms, 20 kHz rolloff in analyzer
Crosstalk	-95 dB 1k, -95 @ 10k, +4 dBu in, remaining channel terminated in 600 Ohms, 20 kHz rolloff in analyzer
Sidechain	100 Ohms source impedance, 800 Ohms input impedance, TRS jack, tip is return

Compressor

Type	RMS responding
Attack Time	2 mS
Release Time	180 mS to 2.5 S long-term
Auto Release	20 mS to 1 sec. (20 mS burst)
Threshold	-40 dBu to +20 dBu (bypass)
Ratio	1:1 to 10:1

Limiter

Attack Time	200 μ S
Release Time	100 mS
Threshold	-10 dBu to +20 dBu
Ratio	20:1

Expander

Attack Time	4 mS
Release Time	250 mS to 5 S
Threshold	0 dBu to -40 dBu (bypass)
Ratio	1:1.5

Connections

Input	XLR, ¼" TRS
Output	XLR, ¼" TRS
Sidechain	¼" TRS (one)
Polarity	pin 2 of XLR is hot, tip of TRS jack is hot

Physical

Size (hwd)	1.72 x 19 x 5.75 inches, 4.37 x 48.26 x 14.605 centimeters
Shipping Weight	8 lbs (3.63kg) net

Electrical

Power Requirements	120V AC nominal, 60 Hz, 10 watts 220V AC nominal, 50 Hz, 10 watts
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425 ARCHITECTS AND ENGINEERS SPECIFICATIONS

The Compressor/Limiter/Expander shall be a dual channel model that controls the dynamic range of wide range, wideband audio signals, providing compression, peak limiting, and downward expansion simultaneously. The unit shall occupy one rack space (1U).

The threshold of the compressor section shall be adjustable over a range of -40 dBu to +20 dBu via a front panel control. When the control is fully clockwise the section will be in bypass mode. The input-to-output ratio will be adjustable from 1:1 to 10:1. Control of the compressor release time shall be program dependent within a range set by the front panel release

control. The compressor section will have a dedicated eight segment LED ladder that will display the gain reduction amount.

The Compressor/Limiter/Expander shall contain an integral peak limiter having a 20:1 ratio and adjustable threshold level. A green LED indicator shall be provided to indicate peak limiter activity.

A front panel switch, with LED indicator, shall select between dual mono and stereo master/slave operation. Each channel shall have a bypass switch which defeats all front panel controls for that channel.

The Compressor/Limiter/Expander shall also contain a downward expander having a 1:1.5 expansion ratio with threshold, and release time controls. A four segment LED display shall be provided to indicate the amount of downward expansion.

The inputs shall be active balanced bridging designs terminated with 3-pin XLR (AES/IEC standard wiring), and ¼"

TRS female. The input circuitry shall incorporate RFI filters. The outputs shall be active balanced designs having equal source impedances and terminated with 3-pin XLR (AES/IEC standard wiring), and ¼" TRS female.

The balanced inputs shall accommodate +20 dBu signals without distortion, and the balanced outputs shall be capable of delivering +23 dBm into a 600-ohm load.

Overall frequency response shall be 10 Hz to 60 kHz (+0 dB, -3 dB). THD+N shall be 0.02% measured under the following conditions: +4 dBu input, +18 dBu output, BYPASS switch out, 20 Hz to 20 kHz, 30 kHz low-pass filter, 0 dB gain reduction. Residual noise output shall be no greater than -90 dBu, measured with a 20 kHz noise bandwidth, input terminated in 600 ohms.

When the unit is inoperative (either by loss of power, or via the BYPASS switch), the

inputs and outputs shall be wired together. There shall be no transients transmitted to the output terminals during either turn-on, turn-off, or bypass operation.

Access to each channel's sidechain shall be provided via a single 1/4" TRS female connector. The ring connection shall be the sidechain output and the tip connection shall be the sidechain return.

The unit shall be capable of operating by means of its own built-in power supply connected to 117V nominal ac (105 to 130V) 50/60 Hz (230V nominal, 207 to 253V ac, 50 Hz where applicable). The AGC shall be Listed by Underwriters Laboratories, Inc. (UL) or other equivalent nationally recognized safety testing agency.

The unit shall be a Symetrix Incorporated model 425 Dual Compressor/Limiter/Expander.

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