

Behringer MDX1600

Behringer AUTOCOM PRO-XL MDX1600 User Manual

Reference-Class 2 Channel Expander/Gate/Compressor/Peak Limiter

1. INTRODUCTION

This manual provides comprehensive instructions for the operation, setup, and maintenance of the Behringer AUTOCOM PRO-XL MDX1600. The MDX1600 is a professional-grade 2-channel expander/gate/compressor/peak limiter designed to enhance audio signals in various applications, including studio recording, live sound, and broadcast.

It integrates advanced dynamic processing features such as a dynamic enhancer, de-esser, and low contour filter, offering precise control over your audio dynamics.

2. KEY FEATURES

- **Switchable IKA (Interactive Knee Adaptation)** program-adaptive compression circuitry, combining advantages of hard-knee and soft-knee characteristics.
- **Adjustable Dynamic Enhancer** with level meter for brilliant, lively audio even with heavy compression.
- **IGC (Interactive Gain Control)** peak limiting circuitry, combining clipper and program limiter for reliable and inaudible protection against signal peaks.
- **Switchable De-esser** to remove excessive sibilance from vocal tracks.
- **IRC (Interactive Ratio Control)** expander/gate circuitry for virtually inaudible noise suppression.
- Automatically or manually adjustable attack and release times.
- Switchable Low contour filter to prevent "pumping" due to low-frequency dominated compression.
- Stereo couple function with independent output level settings.
- Switchable side chain input with monitor function.
- Separate 12-segment LED meters for input/output levels and gain reduction.
- Dedicated "traffic light" Threshold and Enhancer level displays.
- Servo-balanced inputs and outputs with 1/4" TRS and gold-plated XLR connectors.
- Ultra low-noise 4580 operational amplifiers and state-of-the-art VCAs.

3. SETUP AND CONNECTIONS

Before connecting the MDX1600, ensure all audio equipment is powered off to prevent damage. The unit features both XLR and 1/4" TRS connectors for inputs and outputs, providing flexible connectivity options.

3.1 Front Panel Overview



Figure 3.1: Front panel of the MDX1600, showing controls for Expander/Gate, Compressor/Limiter, Dynamic Enhancer, and Peak Limiter for two channels, along with LED meters and power switch.

The front panel provides access to all control parameters for both channels, including Expander/Gate, Compressor/Limiter, Dynamic Enhancer, and Peak Limiter sections. Each section has dedicated knobs and switches for precise adjustment. LED meters display input/output levels and gain reduction.

3.2 Rear Panel Connections



Figure 3.2: Rear panel of the MDX1600, featuring balanced XLR and 1/4" TRS inputs and outputs, sidechain send/return jacks, and the AC power inlet.

The rear panel houses the audio input and output connectors (XLR and 1/4" TRS), sidechain send and return jacks for external processing, and the AC power input. Ensure proper cable connections for balanced audio signals to minimize noise.

3.3 Basic Audio Connection

1. Connect the audio source (e.g., mixer output, microphone preamplifier) to the **INPUTS** (XLR or 1/4" TRS) on the rear panel of the MDX1600.
2. Connect the **OUTPUTS** (XLR or 1/4" TRS) of the MDX1600 to the input of your next audio device (e.g., power amplifier, recording interface).
3. For stereo operation, ensure both channels are connected and the "STEREO COUPLE" function is engaged on the front panel.
4. Connect the power cable to the AC inlet and then to a suitable power outlet.

4. OPERATING THE MDX1600

The MDX1600 offers a wide range of dynamic processing capabilities. Understanding each section is key to achieving desired audio results.

4.1 Expander/Gate Section

This section is used to suppress unwanted noise and control signal dynamics. The **THRESHOLD** knob sets the level below which the gate will close. The **RELEASE** knob controls how quickly the gate opens after the signal drops below the threshold. The **RATIO** knob adjusts the amount of expansion.

4.2 Compressor/Limiter Section

The compressor reduces the dynamic range of a signal. The **THRESHOLD** knob determines the level at which compression begins. The **RATIO** knob sets the amount of compression. **ATTACK** and **RELEASE** knobs control how quickly the compressor reacts to signal changes. The **OUTPUT** knob adjusts the overall output level.

The **IKA (Interactive Knee Adaptation)** switch provides a smooth transition between uncompressed and compressed signals, offering a more natural sound.

4.3 Dynamic Enhancer and De-esser

The **DYNAMIC ENHANCER** restores high frequencies lost during heavy compression, adding brilliance and clarity to the audio. The **DE-ESSER** specifically targets and reduces harsh sibilant sounds (e.g., "s" and "sh" sounds) in vocals.

4.4 Peak Limiter

The peak limiter prevents signal peaks from exceeding a set maximum level, protecting subsequent equipment from overload and preventing digital clipping. The **LEVEL** knob sets the maximum output level.

5. MAINTENANCE

The Behringer MDX1600 is designed for reliable operation with minimal maintenance. Follow these guidelines to ensure longevity:

- **Cleaning:** Use a soft, dry cloth to clean the exterior. Avoid abrasive cleaners or solvents.
- **Ventilation:** Ensure adequate airflow around the unit, especially if rack-mounted, to prevent overheating.
- **Storage:** Store the unit in a cool, dry environment away from direct sunlight and extreme temperatures.
- **Power:** Always disconnect the power cable before cleaning or moving the unit.

6. TROUBLESHOOTING

Problem	Possible Cause	Solution
No audio output	Incorrect cabling; unit not powered; gain reduction too high; output level too low.	Check all cable connections; ensure unit is powered on; adjust compressor/gate settings; increase output level.
Distorted audio	Input signal too hot; output signal too hot; incorrect settings.	Reduce input level; reduce output level; review and adjust all dynamic processing settings.
Gate not opening/closing properly	Threshold set incorrectly; attack/release times inappropriate.	Adjust THRESHOLD, ATTACK, and RELEASE knobs in the Expander/Gate section.
Excessive sibilance remains	De-esser not engaged or set incorrectly.	Engage the DE-ESSER and adjust its settings.

7. TECHNICAL SPECIFICATIONS

Parameter	Value
Model	MDX1600

Parameter	Value
Channels	2
Item Weight	5.26 pounds (2.38 kg)
Product Dimensions (L x W x H)	20.87 x 4.21 x 12.01 inches (53 x 10.7 x 30.5 cm)
Hardware Interface	1/4-inch Audio, XLR
Signal Format	Analog
Power Source	Corded Electric
Voltage	9 Volts (Internal operating voltage)
Color	Silver

8. WARRANTY AND SUPPORT

For detailed warranty information and technical support, please refer to the official Behringer website or contact their customer service. Keep your purchase receipt as proof of purchase for warranty claims.

Online Support: www.behringer.com/support

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Question

Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

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