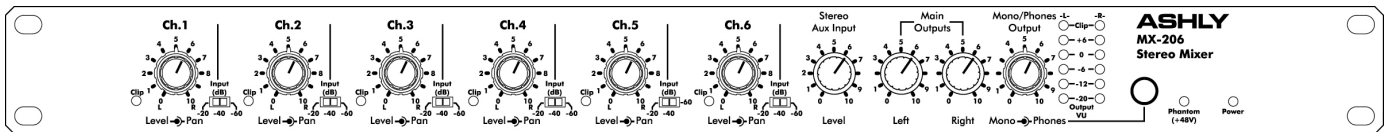


ASHLY

MX-206

Stereo Microphone Mixer

Operating Manual



Ashly Audio Inc.

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www.ashly.com

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Important Safety Instructions

Consignes de sécurité à lire attentivement



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons. The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance instructions in the literature accompanying the device.

Le symbole de la flèche dans un triangle équilatéral symbolisant la foudre est prévu pour sensibiliser l'utilisateur à la présence de tension de voltage non isolée à l'intérieur de l'appareil. Elle pourrait constituer un danger de risque de décharge électrique pour les utilisateurs. Le point d'exclamation dans le triangle équilatérale alerte l'utilisateur de la présence de consignes qu'il doit d'abord consulter avant d'utiliser l'appareil.

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture.
6. Do not use this apparatus near water.
7. Clean only with dry cloth.
8. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
9. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
10. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
11. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
12. Only use attachments/accessories specified by the manufacturer.
13. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
14. Unplug this apparatus during lightning storms or when unused for long periods of time.
15. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

1. Lisez ces instructions.
2. Conservez ces instructions.
3. Observez les avertissements.
4. Suivez ces instructions.
5. Pour réduire le risque de feu ou la décharge électrique, ne pas exposer cet appareil pour pleuvoir ou l'humidité.
6. Ne pas utiliser l'appareil près de l'eau.
7. Le nettoyer à l'aide d'un tissu sec.
8. Ne pas bloquer les ouvertures de ventilation, installer selon les consignes du fabricant.
9. Eloigner des sources de chaleur tel: radiateurs, fourneaux ou autres appareils qui produisent de la chaleur.
10. Ne pas modifier ou amputer le système de la mise à terre. Une prise avec mise à terre comprend deux lames dont une plus large ainsi qu'une mise à terre: ne pas la couper ou la modifier. Si la prise murale n'accepte pas la fiche, consulter un électricien pour qu'il remplace la prise déshuée.
11. Protéger le cordon de secteur contre tous bris ou pincement qui pourraient l'endommager, soit à la fiche murale ou à l'appareil.
12. N'employer que les accessoires recommandés par le fabricant.
13. N'utiliser qu'avec les systèmes de fixation, chariots, trépied ou autres, approuvés par le fabricant ou vendus avec l'appareil.
14. Débrancher l'appareil lors des orages électriques ou si inutilisé pendant une longue période de temps.
15. Un entretien effectué par un centre de service accrédité est exigé si l'appareil a été endommagé de quelque façon: si il a été exposé à la pluie,, l'humidité ou s'il ne fonctionne pas normalement ou qu'il a été échappé.

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This manual uses a *Perpetual Table Of Contents*. Each page has a copy of the manual's contents in a gray box just like this one. The section you are in will always be bold with the other sections "grayed out." The feature allows you to jump directly to another section without having to return to a Table Of Contents page.

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Introduction

Congratulations on your purchase of an Ashly MX-206 stereo mixer. In one compact rack-mount package we have combined features, reliability, and sonic performance you have come to expect from Ashly. Features of this unit include:

- 20dB input pad on each channel
- Up to 60dB of mic preamp gain
- Switchable +48V phantom power
- Concentric level and pan control on each channel
- Ultra low-noise summing amplifiers
- Two 5-segment LED arrays
- Stereo line level outputs on 1/4" connectors
- Tape/CD inputs and outputs on RCA connectors
- Transformer isolated 600 ohm outputs on XLR connectors
- Professional quality 16mm metal shaft potentiometers on all controls

About Ashly

Ashly Audio was founded in 1974 by a group of recording engineers, sound professionals, and electronics designers. The first products were custom consoles for friends and associates, but business quickly grew. The philosophy established from the very beginning holds true today: to offer only the highest quality audio tools at an affordable cost to the professional user – ensuring reliability and long life. More than thirty years later, Ashly remains committed to these principles.

MX-206 Mixer

The MX-206 is a versatile rack-mountable mixer capable of supporting the following applications:

- Small Sound Reinforcement
- Location Recording
- Sub-mixing in a larger system

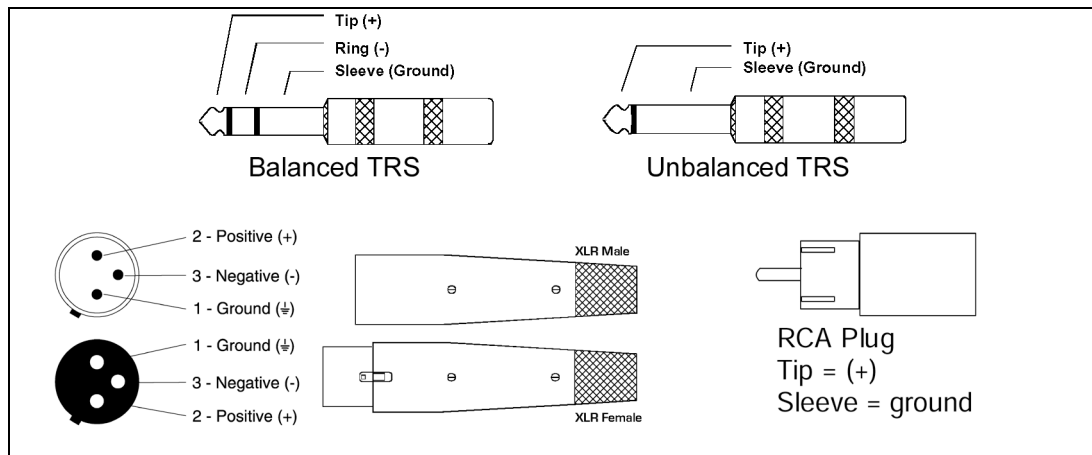
These applications are discussed in detail on Page 8.

Connectors & Cables

Your MX-206 is provided with three different connector types:

1. 1/4 inch stereo phone jacks (TRS)
2. Three pin XLR type connectors
3. RCA Connectors

When possible, balanced connections are recommended between all components in your system, as this eliminates ground-loop induced hum and noise.



MX-206 Connector Polarities

Unbalanced Connections and Grounding

If you must use unbalanced connectors, the negative lead of the connector should be tied to the ground lead. Using unbalanced connections could result in chassis ground-loop noise. Altering the signal/chassis ground relationship in equipment connected to your unit may eliminate the noise.

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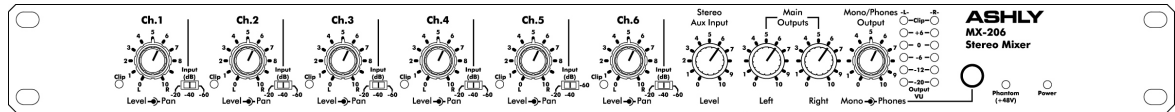
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Physical Description

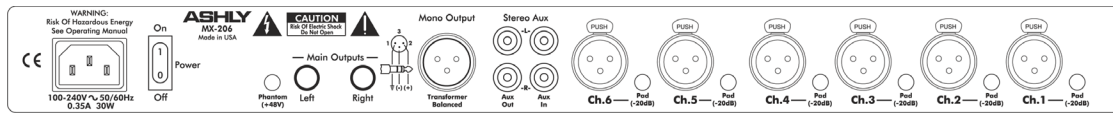
The MX-206 is 1RU, and weighs 10 pounds.

MX-206 Front Panel



- 1. Input dB (Gain)** - This 3-position slide switch sets the operating level of the microphone preamp. The best signal to noise ratio is obtained with higher gain settings, however it is important to leave enough headroom (20dB) to prevent clipping. The numbers -20, -40, and -60 refer to the nominal level of the microphone signal applied to the input. The center position (-40) is a good starting point for most applications.
Note: The Input Gain switch increases or decreases by 20dB increments. To avoid system feedback and possible driver or hearing damage, turn down the channel level control before adjusting the gain, then slowly increase level control to suitable setting
- 2. Input Level** - This inner concentric control determines the mix level of its respective channel. If you have insufficient signal with the level fully turned up, change the Input dB (gain) switch of that channel to a higher setting.
- 3. Input Pan** - This outer concentric control determines the stereo position of the signal.
- 4. Clip** - Each input has a red LED which will illuminate when the mic preamp or input level circuit pass a signal which is 3dB below clipping. If the level control is off and the LED is still flashing, reduce the Input dB (gain) switch.
- 5. Stereo Aux Input** - This control adjusts the level of the stereo signal from the RCA inputs on the back panel. The Tape/CD input should have a nominal level of -10dB.
- 6. Stereo Outputs** - The Left and Right output levels are independently controlled by these two dials. They respectively determine the signal at the 1/4" jack Main outputs.
- 7. Mono Output** - This inner concentric control determines the output level of the transformer-balanced Mono Output XLR connector. Its signal is summed from the right and left mix bus, and is fully independent of the settings of the stereo output level controls.
- 8. Headphones Output Level** - This outer concentric control determines the level of the stereo headphones, and is fully independent of the other outputs.
- 9. Output Meters** - Two 6-segment LED arrays show the current status of the stereo outputs. 0VU is equivalent to +4dBu (1.228Vrms).
- 10. Stereo Headphone Jack** - You can monitor the stereo mix through headphones independent of all other output controls. In other words, the headphones can be used even if all other output controls are turned off.
- 11. Phantom Power Indicator** - This red LED is lit when the phantom power is turned on. The phantom power switch is on the back panel.

MX-206 Rear Panel



- 1. Power Switch** - This switch turns on AC power to the mixer, lighting the blue front panel LED. If the switch is pressed but the LED is still off, check to see that the AC power cord is not detached.
- 2. Microphone Input** - The microphone input is an active balanced type with a nominal impedance of 1200 ohms. Its noise performance is best with a 200 ohm microphone. The Mic input connector is a standard 3-pin XLR female.
- 3. Input Pad** - The Pad is a 20dB attenuation switch on the rear panel for use with each XLR microphone input. It should normally be left in the "out" position for best signal to noise ratio and should only be used when the input is being overdriven with the Input dB (gain) switch at its minimum setting.
- 4. Tape/CD Input - Tape Output** - The stereo inputs on RCA connectors have a nominal operating level of -10dBu to match most tape decks and CD players. The tape outputs are -10dBu "premaster", so they are not affected by the settings of the output controls.
- 5. Mono Transformer Balanced Output** - The mono transformer output uses a male XLR connector and provides total isolation for 600 ohm lines. The output is controlled by the Mono level, with a nominal operating level of +4dBu. Note: The transformer-balanced output is designed to drive up to +24dBu into a 600 ohm load. Because of the nature of an output transformer, the output level increases as the impedance of the terminating load becomes higher than 600 ohms. Whereas a "direct-coupled" output stage like that of the stereo outputs will not change as the load changes, any transformer used in an audio path is affected by its termination impedance. Since line level inputs on audio devices are typically 10K Ω or higher, expect a slight increase (2.5dB) in output level when driving high impedance inputs with the mono. The output meters will reflect the levels present on the stereo outputs, regardless of the load on the transformer output.
- 6. Stereo Outputs** - The Stereo Outputs are controlled by the left and right master. They are 1/4" balanced TRS jacks with a nominal operating level of +4dBu into any load.

Installation

Always switch the unit off before making substantial changes to the settings or connectors. Use four screws and washers when rack mounting. This unit has specific electrical and signal requirements, please take special care to double check all connections and settings and refer to the specifications section of this manual. The unit should be connected to a standard 3-wire grounded electrical outlet supplying 100-240 Volts, 50-60 Hz. To reduce the risk of ground loop hum, connect all audio equipment to the same electrical power source. Removal of the ground pin is both unlawful and dangerous, as a potential shock hazard could result. Overall power consumption is less than 30 watts.

NOTE: The power switch does NOT isolate the appliance from mains. Make sure the mains power socket or an alternative disconnect device is near by and easily accessible. When the product is connected to mains, the line-filter and the input of the fuse are energized.

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Typical Applications

The following information will help you make the most of your new mixer:

Small Sound Reinforcement System

The MX-206 can be used to mix typical sound sources that might be found in a small club, school theater or similar environment. Six input channels are used for microphones for vocal or instrumental pickup. The Tape/CD In and Tape Out provide feeds to and from a cassette deck or other recording/playback device for playback of recorded material, or for making a recording of the mix. The main PA power amplifiers (or any additional equalizers or electronic crossovers which may be used) are fed from the Stereo Output connectors, while a stage or control room monitor is fed from the Mono Output.

Location Recording or Broadcast Mixing

The MX-206 can be used to mix sources typically found in location recording or broadcast situations (mostly microphones). In this case, all six inputs are microphones, as would be used in a roundtable panel discussion. The Tape/CD Input receives the output of a cassette deck or other playback device, and the Tape Out provides a feed to a cassette deck or other recording device for making a recording of the mix. For live remote broadcast applications the transformer-balanced Mono Output connector can feed a suitable video, telephone or press-box interface.

Submixer In Larger Sound System:

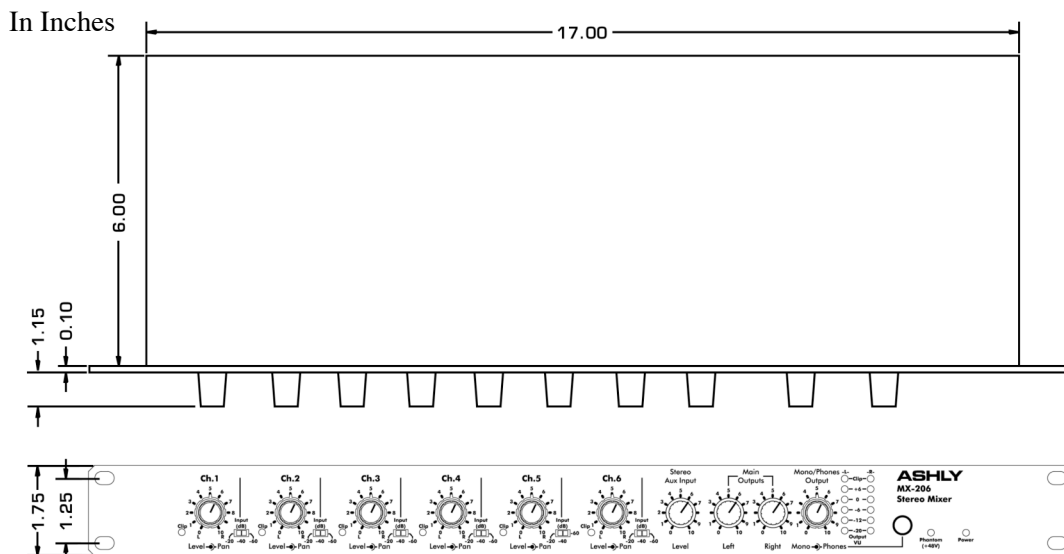
The MX-206 can be used to provide a drum mix to the main mixer without tying channels on the main console. Up to eight mics can be "pre-mixed" in stereo, with all drum-specific gating, compression, and effects controlled directly by the drummer. Either the main OUTPUT or the SUB OUT connectors can be used to feed the mixed drum signal to the main mixer. If there is significant distance between the MX-206 and the "master" mixer, use the pseudo-balanced or transformer-balanced Main outputs for long cable runs.

Troubleshooting

Situation	Action
No Sound	Check the AC power. Is the power switch on and the front-panel LED illuminated? Check the level meters. If they are operating, either the problem is between the mixer and the later components in the system. If there is no meter activity, check to see you really have an input signal and that it is on the desired channel. Check that you have the master gain controls at the desired operating level.
Distorted Sound	Something is being overdriven in the signal path. If the clip indicators are active, reduce the channel gain controls and/or press in the pad switch on the rear panel. If the level meters are constantly in the red, reduce the Master gain and increase the gain of components following the mixer. There are many gain adjustments in the mixer itself and probably several others in other system components which makes it possible to overdrive an input section and then incorrectly try to reduce the gain of the output section. The best way to approach setting gains is to establish the operating level of input stages first by setting their gain as high as possible but leaving about 20dB of headroom for loud peaks, then move on to set the master gain to produce a good meter reading. Proceed to set the gain of equalizers, limiters, crossovers, and amplifiers following the mixer in the same manner, always working toward the later stages of the system.
Excessive Noise	If the noise is in the form of hiss, the problem is usually due to an input stage set up for low gain and then compensating by increasing the master gain. Check that the Pad switch is not enabled unnecessarily. Turn up the channel gain controls and reduce the master gain.
Excessive Hum or Noise	This is usually caused by "ground loops" in the system wiring. A complex sound system with many sources separated by significant distance and using several power outlets has many opportunities for this problem to occur. If possible, feed everything in the system from one power source with a common ground. Use balanced input and output connections between widely separated components.

Note: Unshielded cables, improperly wired connections, and cable with broken strands are the most common problems. Make sure you use good quality cable with connectors soldered firmly on the correct pin. When in doubt, get in touch with your Ashly dealer.

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Specifications

SPECIFICATION	MX-206
DISTORTION	
THD at +20 dBu, 20Hz-20KHz, input switch at -40dB	<0.05%
IMD (SMPTE) at +20dBu, input switch at -40dB	<0.02%
HUM & NOISE (20Hz-20KHz , input switch at -60dB)	
Equivalent input hum and noise	<-127dBu
Residual output noise, TRS outputs, all levels at minimum	<-100dBu
Residual output noise, XLR outputs	<-90dBu
Master Level at nominal, all Ch. Level controls at min	<-84dBu
Master Level and one Ch. Level at nom	<-80dBu
MAXIMUM VOLTAGE GAIN (±2dB)	
Mic Input to Master Output, 600 ohm load	<-84dB
Aux In to Master Output	<-34dB
Frequency Response - 20Hz-20Khz	+0/-0.5dB
Crosstalk - between any inputs or outputs 20Hz-20KHz	<-60dB
VU METERS - Two 6-segment LED meters	0VU = +4dBu
PEAK INDICATORS	Peak Clip indicator on each input channel and left and right outputs, illuminates 3dB below clipping
PHANTOM POWER	+48 VDC applied to all Mic Inputs, switchable on front panel. Maximum total current draw = 80mA. Maximum single channel current draw = 14mA. Gradual power-up and down to eliminate "pops".
SHIPPING WEIGHT	13 lbs. Maximum
POWER REQUIREMENTS	100-240 Volts, 50-60 Hz, 30 watts

Unless otherwise stated, specification conditions are: 150Ω source, Input set at "-40", all other controls set at nominal.

Limited Warranty

Warranty service for this unit will be provided by ASHLY AUDIO INC. in accordance with the following warrant statement.

ASHLY AUDIO INC. warrants to the owner of this product that this product and the components thereof, will be free from defects in workmanship and materials for a period of FIVE years from the date of purchase. ASHLY AUDIO INC. (ASHLY AUDIO) will, without charge, repair or replace, at its option, defective product or component parts upon prepaid delivery to the factory service department or authorized service center, accompanied by proof of purchase date in the form of a valid sales receipt. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

EXCLUSIONS: This warranty does not apply in the event of misuse, neglect or as a result of unauthorized alterations or repairs. This warranty is void if the serial number is altered, defaced, or removed. ASHLY AUDIO reserves the right to make changes in design or make additions to or improvements upon this product without any obligation to install the same on products previously manufactured.

Any implied warranties which may arise under the operation of State law shall be effective only for FIVE years from the date of purchase of the product. Ashly Audio shall be liable only to correct defects in the product itself, and not for any damage or injury which may result from or be incidental to or a consequence of such defect. Some states do not allow either limitations on how long an implied warranty lasts, or the exclusion or limitation of incidental or consequential damages, so the above limitations or exclusions may not apply to you.

Obtaining Warranty Service in the United States

For warranty service in the United States, please follow this procedure:

Return the product to Ashly, freight prepaid, with a written statement describing the defect and application the product is used in. Ashly Audio will examine the product and perform any necessary service, including replacement of defective parts, at no further cost to you.

Ship your product to:

Ashly Audio Inc.
Attn: Service Department
847 Holt Road
Webster, NY 14580-9103

For units purchased outside The United States of America, service will be provided by an authorized distributor of ASHLY AUDIO INC.

Obtaining Warranty Service Outside the United States For units purchased outside The United States of America, service will be provided by an authorized distributor of ASHLY AUDIO INC.

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