

TWO-YEAR WARRANTY

Azden Corporation warrants, to the first purchaser, that the Azden brand product purchased is free from defects in material and workmanship. Azden's sole obligation under this warranty shall be to provide, without charge, repair or replacement (at Azden's option), within two years from the date of purchase. A dated receipt acts to establish the date of purchase.

This warranty is the sole and exclusive express warranty given with respect to the product and all other express warranties are hereby excluded. Neither AZDEN, nor the dealer who sells this product, is responsible for indirect, incidental or consequential damages.

This warranty does not extend to any defect, malfunction or failure caused by misuse, abuse, accident, faulty hookup, unauthorized modification or defective associated equipment for which it is not intended. **Please read your owner's manual carefully.**

To register this product, go to www.azdencorp.com/warranty for North/South America and EU customers.

Asia/Oceania customers contact with Azden distributors listed on www.azden.co.jp/global.html



FMX-42a

INSTRUCTIONS



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4-CHANNEL PORTABLE MIXER

INTRODUCTION

Thank you for purchasing Azden's FMX-42a 4-channel portable mixer. The FMX-42a was designed to work with most microphones that have a low-impedance XLR output or line-level devices. Its output can be connected to virtually any video camera or audio recorder, which has XLR or mini-connector mic/line inputs.

It is very important to read and understand this manual completely before use. Keep this manual for future reference.

SAFETY INSTRUCTIONS

- When connecting/disconnecting cables, and/or changing the PHANTOM power settings or INPUT LEVEL settings, make certain to turn the input LEVEL control knobs to zero or to turn the POWER switch OFF.
- When the PHANTOM DC48V power is not needed, make sure the PHANTOM switch is in OFF position.
- Before turning the PHANTOM DC48V switch ON, make sure your condenser microphone is designed to handle 48VDC or the microphone may be damaged. Check the microphone's user manual or with the manufacturer of your microphone.

INSTALLING BATTERIES

Make sure that the POWER switch is OFF. Remove the battery cover by pressing the clip in and then lifting up the cover. Install 6 fresh "AA" alkaline batteries following the polarity diagram inside the battery compartment. Do not force the batteries. After all 6 batteries are properly installed, replace the battery cover and move the POWER switch to the "ON" position. The POWER indicator LED in the front panel will turn green.

CAUTION

- Do not use other batteries than "AA" alkaline batteries. Do not mix fresh batteries with used batteries.
- Remove the batteries if the mixer will not be used for a long period of time to prevent battery fluid leak.

EXTERNAL POWER

The FMX-42a can be powered from an external power supply using a 12V AC adaptor (not included*). When the FMX-42a is connected to an active 110VAC through an AC adaptor and the POWER switch is turned ON, the batteries will be automatically disconnected.

*An optional AC adaptor, part number BC-27H, is available. Call Azden for details.

BALLISTIC NYLON CASE

The FMX-42a is supplied with a ballistic nylon case. Place the mixer in the case and adjust the neck strap to achieve the most comfortable position. For additional support and comfort, if desired, a back harness (not supplied) can be secured to the metal rings on the case.

FMX-42a SPECIFICATIONS GENERAL

Frequency Response	20 Hz - 30 kHz (+0/-1.5 dB)
Balanced or Unbalanced Output:	30 Hz - 30 kHz (+0/-2 dB)
Monitor Output:	
Signal-to-Noise Balanced Output:	-120 dBu (A weighted, input equivalent level)
T.H.D. Balanced Output:	<0.005% @ 1 kHz (at LINE position +19 dBu output)
Phantom Power Voltage:	48V (+4V)
Sample Tone Frequency:	1 kHz
Battery Requirement:	6 Alkaline "AA"
Battery Runtime:	Approx: 10 hours (Meter Illum & Phantom Power OFF)
External Power:	12V DC @ 200mA
Current Drain:	164mA (Meter Illum & Phantom OFF @ 9V) 192mA (Meter Illum OFF, Phantom ON w/1 MIC @ 9V) 125mA (Meter Illum & Phantom OFF @ 15V)
Dimensions:	220mmW x 160mmD x 56mmH (without protrusions) 9"W x 6 1/2" D x 2 1/4"H (without protrusions)
Weight:	1,350 grams/3 lbs (without batteries)
INPUT	
Balanced Input:	XLR 3-pin Female x 4 (CH1, 2, 3 & 4)
Level +4 dBu (LINE)	Standard: +4 dBu (electronically balanced) Maximum: >+26 dBu Impedance: 20k
-30 dBu (MIC 1)	Standard: -38 dBu (electronically balanced) Maximum: +4 dBu Impedance: 2k
-55 dBu (MIC 2)	Standard: -58 dBu (electronically balanced) Maximum: -15 dBu Impedance: 2k
High Pass Filter (HPF)	100Hz - 6dB/oct

Return Inputs:

Input Level:
Impedance:

Hirose 10-pin Female for Hirose Plug Part #RM15TD-10P
3.5mm (1/8") Stereo Mini-Jack
-20 dBu - +19 dBu (unbalanced)
11k

OUTPUT

Balanced Outputs:

XLR 3-pin Male x 2 (Output L & R)
Hirose 10-pin Female for Hirose Plug Part #RM15TD-10P
3.5mm (1/8") Stereo Mini-Jack
6.3mm (1/4") Stereo Jack

Unbalanced Output:
Monitor Output:
Balanced Output Level
+4 dBu

Standard: +4 dBu (electronically balanced, >10k load)
Maximum: +20 dBu (electronically balanced, >10k load)
Impedance: 600

-36 dBu

Standard: -36 dBu (electronically balanced, >10k load)
Maximum: -20 dBu (electronically balanced, >10k load)
Impedance: 600

Unbalanced Output Level

Standard: -36 dBu (electronically balanced, >10k load)
Maximum: -20 dBu (electronically balanced, >10k load)
Impedance: 120

Monitor Output

Maximum: +1 dBu (32 load at 9V)

Meters

Standard Output Level: 0 VU (+4 dBu)

RIGHT-SIDE OUTPUT/CONTROL PANEL

22. Monitor SELECT Switch

To SELECT either LINE OUT & output signals or CAMERA(RTN) 26 input signals for the monitor PHONES output 21.

23. LEVEL Volume Control

Controls the volume level of the monitor PHONES output 21. Zero is the lowest (quietest) setting and 10 is the highest (loudest).

24. METER ILLUM(ination) Switch / Turn this switch ON to light up the VU Meters

25. DC IN Connector

For external powering of the mixer, connect a 12V AC adaptor to this input. It is a 4-pin Hirose connector and an optional AC adaptor, part number BC-27, is available. Call Azden for details.

Maximum rating of the power supply must not exceed 12 volts DC, 350mA.

*Required connecting plug: Hirose HR10A-7P-4P

26. CAMERA(RTN) Input/Output Connector

This Hirose 10-pin connector allows you to connect your video camera and the mixer to send the LINE OUT output signals and to receive the RETURN input signals simultaneously. It will require the Hirose 10-pin plug (part #RM15TD-10P). Using this connector will not cancel out the OUTPUT L & R &. The LINE OUT output level can be set at +4 dBu (LINE output) or -36 dBu (MIC output) by the LEVEL selector 23.

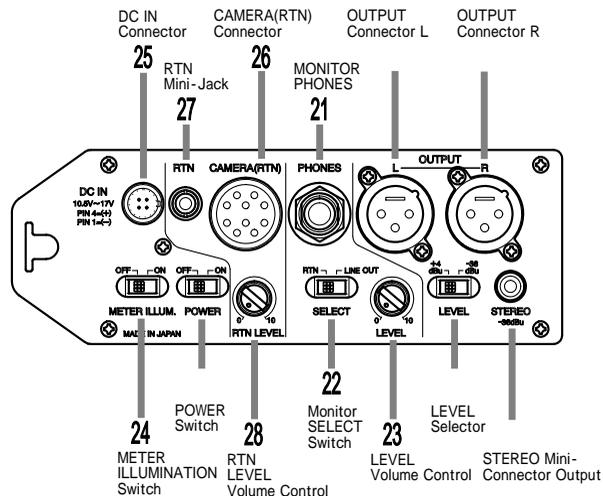
Connector Pin Configuration

Pin # 1	---- LINE OUT L (+)	6	---- NC
2	---- LINE OUT L (-)	7	---- RTN IN L (+)
3	---- LINE OUT R (+)	8	---- NC
4	---- LINE OUT R (-)	9	---- GND
5	---- RTN IN R (+)	10	---- GND

27. RTN Mini-Jack

A 3.5mm unbalanced stereo input jack for return signals. The volume level can be adjusted by the RTN LEVEL volume control 28. Plugging a cable into this jack will cancel out the CAMERA(RTN) 26 input.

28. RTN LEVEL Volume Control / Controls the volume LEVEL of the RETURN input.



FRONT CONTROL PANEL

. POWER Indicator

When the POWER switch is ON, the LED will turn GREEN. When the battery voltage level becomes too low for proper operation, the LED will turn RED. When this happens, replace the batteries with fresh "AA" alkaline batteries.

. Channel 1, 2, 3 & 4 Input LEVEL Controls

Each knob controls the input volume of the microphone connected to the corresponding INPUT. Zero is the lowest (quietest) setting while 10 is the highest (loudest). For the best sound with the lowest possible noise, increase the input level control until the corresponding VU Meter peaks at 0 dB.

. Channel 1, 2, 3 & 4 PAN Controls

Each channel of the FMX-42a has an adjustable PAN control (the outer-rim at the base of the Input LEVEL control). When the PAN Control is in the center position, an equal amount of sound will come from OUTPUT L and OUTPUT R for any microphone or line-level input connected to the corresponding INPUT. Moving the PAN control left will decrease the sound output in the Right channel. Moving the PAN control right will decrease the sound output in the Left channel.

. MASTER Level Control

The MASTER knob controls the overall volume of all connected sources (microphones and/or line-level devices). For the best sound with the lowest possible noise, try to keep this control set at its midpoint while maintaining the VU Meters at the 0 dB range with the input LEVEL controls.

. Channel 1, 2, 3 & 4 LIMITER Switch

Each INPUT channel has a switchable LIMITER. After setting the input LEVEL, turn this switch to ON. The LIMITER circuit acts as a safety and reduces the possibility of overload distortion from very loud sounds without affecting normal sound volume. If you prefer the overall sound quality of the mixer without the LIMITER circuit engaged, leave the switch OFF.

. Channel 1, 2, 3 & 4 HPF (High Pass Filter) Switch

Each INPUT channel has a switchable High Pass (= Low Cut) Filter. When turned on, it will cut input signals lower than 100Hz. This filter is useful for removing unwanted low frequencies, such as wind and air-conditioning noise. For most applications, engaging the High Pass Filter will improve overall sound quality.

. Input PEAK Level Indicators

Each INPUT channel has 2 PEAK Level Indicators on the left side of the LEVEL control knob. These Indicators are provided to help set precise input LEVEL adjustments. The lower LED indicates the level of the input electronically prior to the LEVEL control while the upper LED indicates the level electronically after the LEVEL control. The lower LED lighting RED indicates that the item connected to the mixer's INPUT has a signal that is too high and should be reduced either by changing the INPUT LEVEL switch setting or at the device itself. The upper LED should only light RED occasionally. If this LED stays lit continuously, lower the input LEVEL and/or change your INPUT LEVEL settings. These LEDs help reduce signal overload and distortion.

. VU Meters L and R

The VU Meters will show either the output volume level of LINE OUT & or input volume level of CAMERA RETURN 26, whichever is selected by the Monitor

SELECT switch 22. When the LINE OUT is selected, while keeping the MASTER control at its midpoint, increase or decrease each channel's LEVEL control until the L and/or R VU Meter peaks at 0 dB. If the LEVEL is set too low, sound may be accompanied by background hiss. If the LEVEL is set too high, the sound may be distorted. Monitor the sound with headphones and adjust the LEVEL for the best sound. An OUTPUT PEAK Indicator LED will light RED if your overall levels are set too high. When the CAMERA RTN is selected, adjust the volume level by the RTN LEVEL switch 28. The VU Meters are set to reflect the selection by the Monitor SELECT Switch 22 by the factory. However, if you would prefer, you may change the setting to always show the output volume level of LINE OUT regardless of the Monitor SELECT switch 22 setting. Remove the bottom plate by removing the 2 screws on each side and 3 screws on the bottom. Locate the SW2 switch on the circuit board and change the setting from "MONI" to "LINE". The center position is to disconnect the VU Meters altogether.

. OUTPUT PEAK Indicators

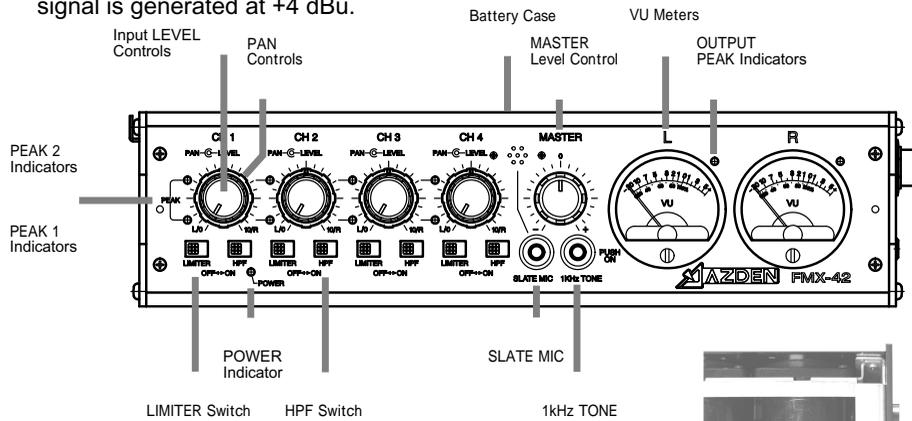
These indicators monitor the LINE OUT outputs. When the overall levels are set too high, the LEDs will light RED. Adjust the INPUT LEVEL controls and/or the MASTER level control accordingly.

.SLATE MIC

Press and hold this button to engage the SLATE MIC. The SLATE MIC is used to pick up audio at the mixer's location and is not intended for serious audio recording. It is however, very useful for notating scenes or other on-location documentation.

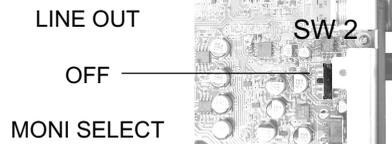
.1 kHz TONE

Press and hold this button to generate the 1 kHz tone. This output tone is used to set the recording levels of your video camera or audio recorder to their optimum level. While generating the 1 kHz tone, set the recording levels of your video camera or audio recorder to the specified level as recommended by the manufacturers. The signal is generated at +4 dBu.



VU Meters LINE OUT SELECT switch

Remove the bottom plate by removing the 2 screws on each side and 3 screws on the bottom. Locate the SW2 switch on the circuit board and change the setting from "MONI" to "LINE". The center position is to disconnect the VU Meters altogether.



LEFT-SIDE INPUT/CONTROL PANEL

.Channel 1, 2, 3 & 4 INPUT Connectors

Connect the 3-pin XLR output of a microphone, wireless receiver or line level audio component to INPUT CH 1 and/or CH 2 and/or CH 3 and/or CH 4. Push the XLR connector into the INPUT jack until it locks. To remove the XLR connector, press the PUSH tab and pull the connector out.

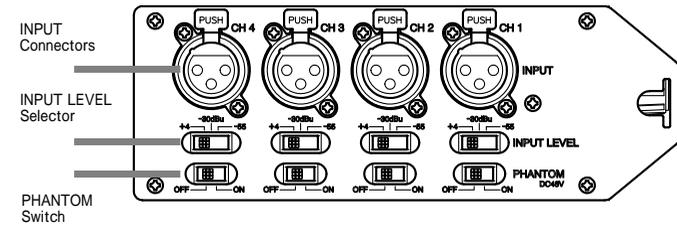
.INPUT LEVEL Selector

The following 3 different settings are available depending on the source connected to the INPUT connectors :

+4 dBu (LINE)	Standard: +4 dBu	Maximum: >26 dBu (20 k)
-30 dBu (MIC 1)	Standard: -38 dBu	Maximum: +4 dBu (2 k)
-55 dBu (MIC 2)	Standard: -58 dBu	Maximum: -15 dBu (2 k)

.PHANTOM DC48V Switch

Each channel of the FMX-42a has its own PHANTOM DC48V power setting. When using a dynamic microphone, be sure to turn the corresponding PHANTOM DC48V switch to the OFF position. When using a condenser microphone that requires 48V DC external power, turn the corresponding PHANTOM DC48V switch to the ON position. The PHANTOM DC48V only operates in the -30 dBu or -55 dBu INPUT LEVEL setting .



RIGHT-SIDE OUTPUT/CONTROL PANEL

POWER Switch

. & .OUTPUT Connector L and R

Connect a cable from OUTPUT L and/or R to the microphone or line input of your video camera or audio recorder. These outputs accept a standard 3-pin female XLR connector. Push the XLR connector into the OUTPUT jack until it locks. To remove, press the release tab on the XLR connector and pull the connector out.

.STEREO Mini-Connector Output

The STEREO mini-connector (3.5mm) output is designed for video cameras or audio recorders with mini-connector microphone-level inputs. This output is stereo(dual-channel) and unbalanced. The standard output level is fixed at -36 dBu. It is recommended to use a stereo-to-stereo mini cable (not supplied) from the STEREO mini-connector output to the input of your video camera or audio recorder. Because the FMX-42a is equipped with low-impedance XLR inputs and a mini-connector output, users of mini DV cameras with mini-connector microphone inputs can now use high-quality microphones with XLR outputs.

.LEVEL Selector

Select the OUTPUT & and/or CAMERA RTN LEVEL that is best suited for your video camera or audio recorder. The +4 dBu setting is for line-level audio inputs and the -36 dBu setting is for a microphone-level audio input.

.Monitor PHONES Output Jack / A 6.3mm (1/4") jack for headphones.