



FMX-42a FMX-42u

INSTRUCTIONS



4 CHANNEL PORTABLE MIXER

INTRODUCTION

Congratulations on your purchase of Azden's FMX-42a/FMX-42u, 4 channel portable mixer. Both the FMX-42a and FMX-42u were designed to work with low-impedance XLR microphones and/or line-level devices. Their output can be connected to virtually any video camera or audio recorder which has XLR or mini-connector mic/line inputs.

The FMX-42a model is equipped with a camera return input/output to allow the user to simultaneously send and receive an audio signal to/from a camera. This same output may also be used as an auxiliary output to send to a second camera or audio recorder. Specialty cables (sold separately) are required for these applications. See more details about using the camera return on page 5.

The FMX-42u model is equipped with a USB Digital Signal Output, allowing the user to send a stereo digital audio signal to a computer, smartphone or tablet device for recording. A separate USB cable will be required (not included) to use the mixer for this application. See more details about using the USB Output on pages 6 & 7.

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

Numbers ① - ⑳ refer to illustrations of the mixer located on pages 3, 4 and 6.

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 the OFF position.
- Before turning the PHANTOM DC48V switch ON, make sure your microphone is designed to handle 48V DC 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 ⑯ 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 ① in the front panel will turn green.

CAUTION

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

*An optional AC adapter is available. Contact Azden or an Azden dealer for details.

BALLISTIC NYLON CASE

The mixer 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.

FRONT CONTROL PANEL

① POWER Indicator

When the POWER switch ⑩ 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.

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

Each knob controls the input volume of the microphone connected to the corresponding INPUT ⑬. 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 ⑧ peaks at 0 dB.

③ Channel 1, 2, 3 & 4 PAN Controls

Each channel of the mixer has an adjustable PAN control (the outer-ring at the base of the Input LEVEL control ②). When the PAN Control is in the center position, an equal amount of sound will come from OUTPUT L ⑰ and OUTPUT R ⑱ for any microphone or line level device connected to the corresponding INPUT ⑬. Turning the PAN control counter-clockwise will decrease the sound output in the Right channel. Turning the PAN control clockwise will decrease the sound output in the Left channel.

④ 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 ⑧ at the 0 dB range with the input LEVEL controls ②.

⑤ Channel 1, 2, 3 & 4 LIMITER Switch

Each INPUT channel ⑬ has a switchable LIMITER. After setting the input LEVEL ②, 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.

⑥ Channel 1, 2, 3 & 4 HPF (High Pass Filter) Switch

Each INPUT channel ⑬ has a switchable High Pass (= Low Cut) Filter. When turned on, it will cut input frequencies lower than 100Hz. This filter is useful for removing unwanted low frequencies, such as wind and air-conditioning noise. For most noisy recording environments, engaging the High Pass Filter will improve overall sound quality.

⑦ Input PEAK Level Indicators

Each INPUT channel has 2 PEAK Level Indicators on the left side of the LEVEL control knob ②. 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 ⑬ has a signal that is too high and should be reduced either by changing the INPUT LEVEL switch ⑭ setting or at the device itself. The upper LED should only light RED occasionally. If this LED stays lit continuously, lower the input LEVEL ② and/or change your INPUT LEVEL ⑭ settings. These LEDs help reduce signal overload and distortion.

⑧ VU Meters L and R

The VU Meters will show either the output volume level of LINE OUT ⑰ & ⑱ or input volume level of CAMERA RETURN ⑳, whichever is selected by the Monitor SELECT switch ㉑.

When the LINE OUT is selected, while keeping the MASTER control (4) at its midpoint, increase or decrease each channel's LEVEL control (2) 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 noise. 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 (9) 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.

9) OUTPUT PEAK Indicators

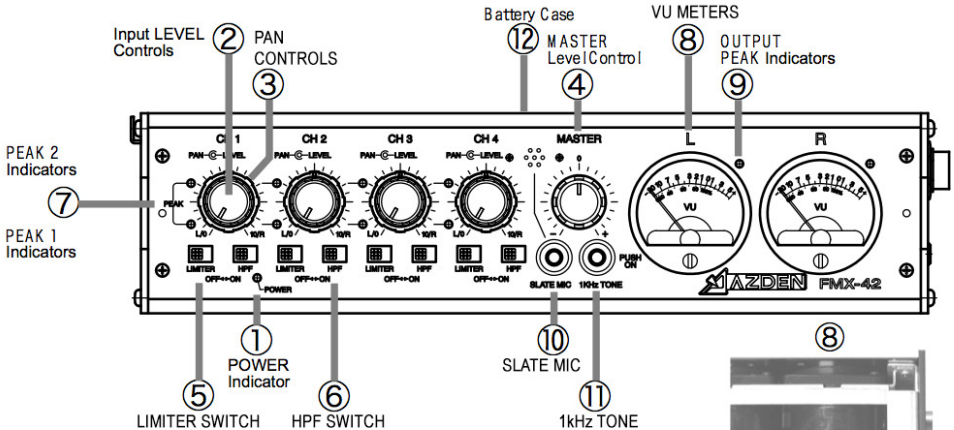
These indicators monitor the LINE OUT outputs. When the overall levels are set too high, the LEDs will light RED. Adjust the INPUT LEVEL controls (2) and/or the MASTER level control (4) accordingly.

10) 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.

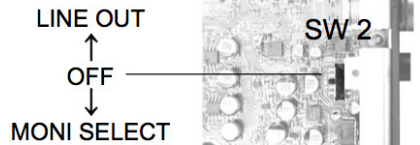
11) 1 kHz TONE

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 of your equipment. The signal is generated at +4 dBu.



12) 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

⑬ 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.

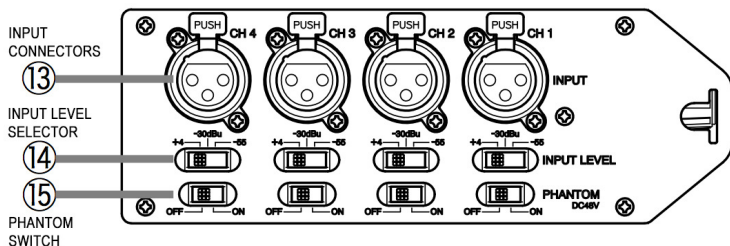
⑭ INPUT LEVEL Selector

The following 3 different settings are available depending on the source connected to the INPUT connectors ⑬:

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

⑮ PHANTOM DC48V Switch

Each channel of the mixer 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 on the -30 dBu or -55 dBu INPUT LEVEL setting ⑭.



RIGHT-SIDE OUTPUT/CONTROL PANEL (Refer to the illustrations on page 6)

⑯ POWER Switch

⑰ & ⑱ 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.

⑲ 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 mixer 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.

⑳ LEVEL Selector

Select the OUTPUT ⑰ & ⑱ and/or CAMERA RTN ㉑ 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.

㉑ Monitor PHONES Output Jack

A 6.3mm (1/4") jack for headphones.

22 Monitor SELECT Switch

To SELECT either LINE OUT 17 & 18 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 8.

25 DC IN Connector

For external powering of the mixer, connect a 12V AC adapter with a 4-pin Hirose connector to this input. This AC adapter is available for purchase separately. Contact Azden or an Azden dealer 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 (FMX-42a only)

This Hirose 10-pin connector allows you to connect your video camera to the mixer and send LINE OUT output signals and receive 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 17 & 18. The LINE OUT output level can be set at +4 dBu (LINE output) or -36 dBu (MIC output) by the LEVEL selector 20.

AUX OUTPUT

Additionally, it is possible to utilize the CAMERA(RTN) 26 as an auxiliary stereo output for recording to a second camera or external audio recorder. To use the CAMERA(RTN) 26 in this way, a cable with a Hirose 10-pin male connector to dual, 3-pin XLR male connectors must be used (sold separately).*

*When using the 10-pin camera return as an aux output and the XLR outputs (L&R 17&18) simultaneously, it is recommended that external recorders / cameras with high input impedance (>15kΩ) be used. External recorders / cameras with low impedance may not assure optimal performance.

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 (FMX-42a only)

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 (FMX-42a only)

Controls the volume LEVEL of the RETURN input.

29 USB OUT mini-B (female) Digital Signal Output (FMX-42u only)

The USB output allows you to connect the FMX-42u to a computer, smartphone or tablet with USB compatibility. This output provides a line level, stereo (Left & Right) digital audio signal.

USB CABLE (Not Included)

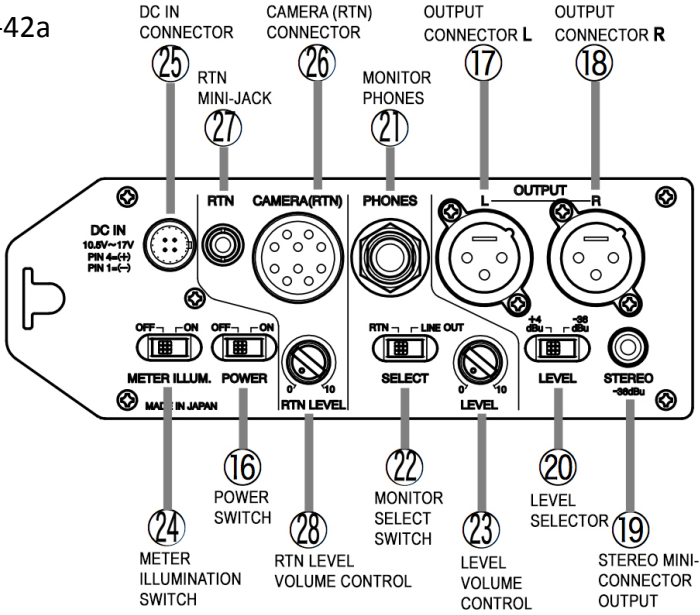
The recommended cable to use will need to be USB 2.0 compatible and have the following connectors: USB mini-B male (to be connected to the FMX-42u) and USB A male (to connect to a computer). For use with smartphones and tablets, the user may also purchase USB adapters to convert the Type-A Male connector to the type that is compatible with their device.

USB Adapters:

For most Android devices: USB A female to USB micro-B male adapter.

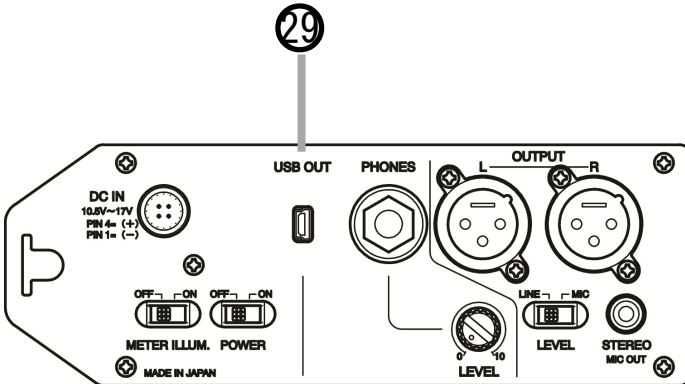
For iOS devices: USB A female to Apple® 30-pin or Lightning Connector (Sold by Apple® as a "camera connector")

FMX-42a



FMX-42u

USB Digital Signal Output



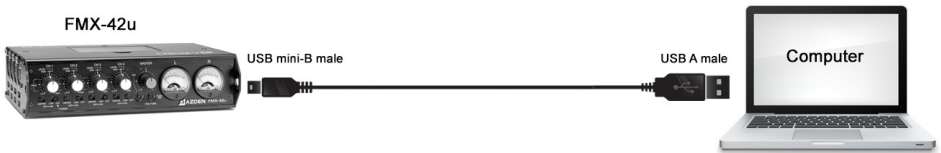
FMX-42u CONNECTING TO USB DEVICES

The USB output allows you to connect the FMX-42u to a computer, smartphone or tablet with USB compatibility. This output provides a line level, stereo (Left & Right) digital audio signal.

NOTICE: In order to use a device with the FMX-42u's USB output, it must be USB OTG (On The Go) compatible. The installation of additional software or apps may also be required in order to record and edit audio. The FMX-42u can only be used as a digital output; monitoring playback from your external recording device will not be possible through the mixer. The user should also be aware that connecting USB devices to the mixer will significantly reduce battery life. It is recommended that the mixer be turned off or USB devices be unplugged when not in use to preserve battery life. An optional AC power adapter is also available for purchase.

Recording On A Computer

- 1) With the mixer still OFF, connect the USB Output (20) to your computer's USB port using a mini-B male to A male cable.
- 2) For Windows: Open the Control Panel and under "Sound," click and open "Manage audio devices."
For Mac: Open the System Settings and click on "Sound."
- 3) Turn ON the FMX-42u
- 4) The mixer will appear as a device named "USB AUDIO CODEC." Select it as an Input Device.
- 5) Open recording software on your computer and begin recording. It may be necessary to also edit the settings in your recording software and choose the FMX-42u as an input device before you can record.



Recording On A Smartphone or Tablet*

Android

- 1) With the mixer still OFF, connect the USB Output (20) to your mobile device's USB port using a mini-B male to A male cable and an A female to micro-B male adapter.
- 2) Turn ON the FMX-42u
- 3) Open your recording app of choice and begin recording. Many apps will automatically detect and use the FMX-42u as a digital audio device. If no audio is passing from the FMX-42u to the device check your app's settings to see if the mixer must be set as an input device. Remember that the FMX-42u will be displayed as "USB AUDIO CODEC" or in some cases as "USB audio device."



iOS Devices (iPhone / iPad)

- 1) With the mixer still OFF, connect the USB Output (20) to your mobile device's USB port using a mini-B male to A male cable and an A female to an Apple® Lightning or 30-pin adapter.
- 2) Turn ON the FMX-42u
- 3) Open your recording app of choice and begin recording. Many apps will automatically detect and use the FMX-42u as a digital audio device. If no audio is passing from the FMX-42u to the device check your app's settings to see if the mixer must be set as an input device. Remember that the FMX-42u will be displayed as "USB AUDIO CODEC" or in some cases as "USB audio device."



*Compatibility and performance may vary depending on your device's OS and the recording App being used.

FMX-42a/FMX-42u SPECIFICATIONS

GENERAL

Frequency Response
Balanced or Unbalanced Output: 20 Hz - 30 kHz (+0/-1.5 dB)
Monitor Output: 30 Hz - 30 kHz (+0/-2 dB)
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 ($\pm 1.5V$)
Sample Tone Frequency: 1 kHz
Battery Requirement: 6 Alkaline "AA"
External Power: 10.5 ~ 17V DC @ 200mA
Dimensions: 220mmW x 160mmD x 56mmH (without protrusions)
9"W x 6 1/2" D x 2 1/4"H (without protrusions)
Weight: 1.3 kg / 2.9 lbs (without batteries)

INPUT

Balanced Input Level: LINE
MIC HI
MIC LO
High Pass Filter (HPF): 100Hz - 6dB/oct

Return Inputs (FMX-42a): Hirose 10-pin Female for Hirose Plug Part #RM15TD-10P
3.5mm (1/8") Stereo Mini-Jack
Input Level: -20 dBu - +19 dBu (unbalanced)
Impedance: 11k Ω

OUTPUT

Balanced Outputs: XLR 3-pin Male x 2 (Output L & R)
Hirose 10-pin Female for Hirose Plug (FMX-42a only)
3.5mm (1/8") Stereo Mini-Jack
6.3mm (1/4") Stereo Jack
USB mini-B connector (female)
Standard: +4 dBu (electronically balanced, 5k Ω load)
Maximum: +20 dBu (electronically balanced, 5k Ω load)
Impedance: 600 Ω
Standard: -36 dBu (electronically balanced, 5k Ω load)
Maximum: -20 dBu (electronically balanced, 5k Ω load)
Impedance: 600 Ω
Balanced Level Output: LINE
Unbalanced Output Level Standard: -36 dBu (electronically balanced, 2k Ω load)
Maximum: -20 dBu (electronically balanced, 2k Ω load)
Impedance: 120 Ω
Monitor Output: Max Output: +1 dBu (32 Ω load at 9V)
16-100 Ω load recommended
Meters: Standard Output Level: 0 VU (+4 dBu)

DIGITAL SIGNAL OUTPUT (FMX-42u Only)

Interface Format: USB 2.0 Full Speed
Audio Data Format: Isochronous Data Format
Sampling Frequencies: 16 / 22.05 / 32 / 44.1 / 48 kHz Compatible
Bit Depth: 8 / 16 bit Compatible
Channels: 2
Device Name: USB AUDIO CODEC

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 sole discretion), within two years from the date of purchase. The cost to ship a failed product to and from Azden or to its dealer shall not be covered by this warranty. A dated receipt acts to establish the date of purchase and no registration is necessary to receive warranty service.

This warranty is the sole and exclusive express warranty given with respect to the product and all other warranties, expressed or implied, 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, act of God, faulty hookup, unauthorized modification, connecting this product to equipment for which this product is not intended or defective associated equipment. **Please read your owner's manual carefully.**

North/South America and EU customers go to www.azden.com/warranty for more information on warranty and service.

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

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