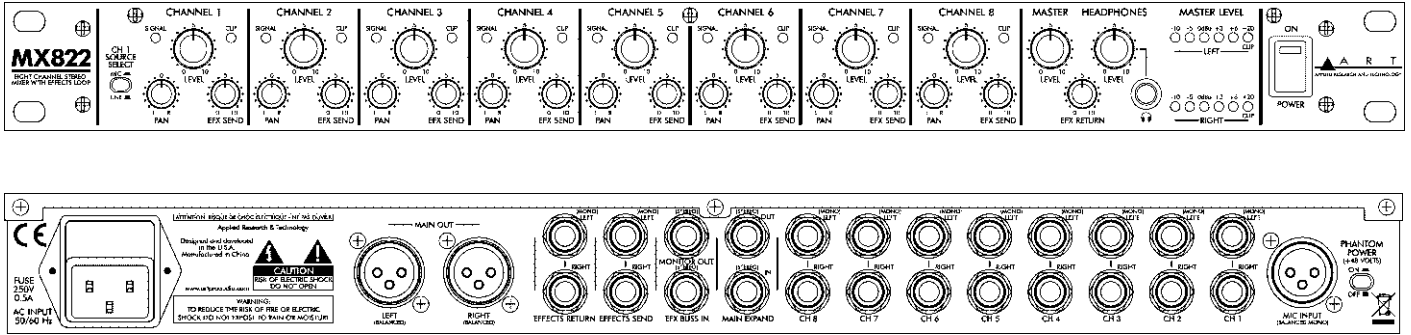


# MX822

## Eight Channel Stereo Mixer with Effects Loop



## USER'S GUIDE



# IMPORTANT SAFETY INSTRUCTIONS - READ FIRST



This symbol, wherever it appears, alerts you to the presence of uninsulated dangerous voltages inside the enclosure that may be sufficient to constitute a risk of shock.



This symbol, wherever it appears, alerts you to important operating and maintenance instructions in the accompanying literature. Please read the manual.

## Read instructions

Retain these safety and operating instructions for future reference. Heed all warnings printed here and on the equipment. Follow the operating instructions printed in this user guide.

## Do not open

There are no user serviceable parts inside. Refer any service work to qualified technical personnel only.

## Power sources

Only connect the unit to mains power of the type described in this user guide or marked on the rear panel. The power source must provide a good ground connection.

## Power cord

Use the power cord with sealed mains plug appropriate for your local main supply as provided with the equipment. If the provided plug does not fit into your outlet consult your service agent. Route the power cord so that it is not likely to be walked on, stretched or pinched by items placed upon or against.

## Grounding

Do not defeat the grounding and polarization means of the power cord plug. Do not remove or tamper with the ground connection on the power cord.

## Moisture

To reduce the risk of fire or electrical shock, do not expose the unit to rain, moisture or use in damp or wet conditions. Do not place container of liquid on it, which may spill into any openings

## Heat

Do not locate the unit in a place close to excessive heat or direct sunlight, as this could be a fire hazard. Locate the unit away from any equipment, which produces heat such as: power supplies, power amplifiers and heaters.

## Environment

Protect from excessive dirt, dust, heat, and vibration when operating and storing. Avoid tobacco ash, drink spillage and smoke especially that associated with smoke machines.

## Handling

Protect the controls from damage during transit. Use adequate padding if you need to ship the unit. To avoid injury to yourself or damage to the equipment take care when lifting, moving or carrying the unit.

## Servicing

Switch off the equipment and unplug the power cord immediately if it is exposed to moisture, spilled liquid or the power cord or plug becomes damaged during a lightning storm or if smoke odor or noise is noted. Refer servicing to qualified technical personnel only.

## Installation

Install the unit in accordance with the instruction printed in the user guide.

## OVERVIEW

The **ART MX822 Eight Channel Stereo Mixer with Effects Loop** is a versatile eight input rack mount mixer for studio, live sound or install use. Each input channel accepts a mono or stereo signal and provides independent level, pan and effects send controls. Convenient signal level monitoring is provided with signal and clip lights for each channel and five level metering with separate clip indicators for the main output channels. Channel 1 includes a switchable mic/line source select and the XLR mic connector provides switchable phantom power.

Multiple MX822s may be chained for additional inputs using common 1/4-inch TRS cables. External effects processors can be linked in and mixed with independent level controls. A front panel headphone jack with separate level control allows you to monitor your sound without changing the main output level.

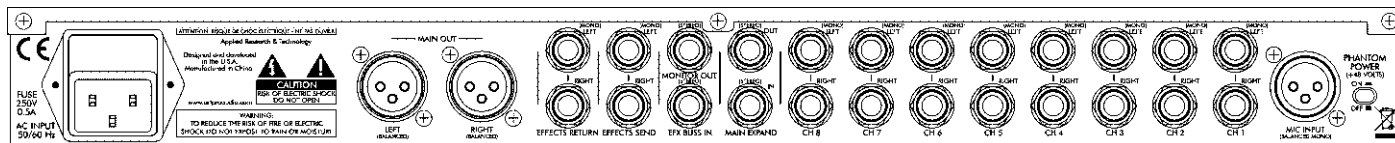
The ART MX822 may be used on stage, in the studio, or for permanent install applications including conference rooms, corporate boardrooms, churches, restaurants, small clubs, health clubs and more. For a band in a live setting, it's ideal for sub-mixing a player using multiple instruments or could serve as the only mixer for a small live setup.

### Features

- Eight stereo/mono input channels with individual level, pan and effects send controls
- Mono input signals plugged into left input are sent to both left and right channels
- Switchable balanced microphone XLR or 1/4-inch TS inputs on Channel 1
- Switchable low noise +48V phantom power for microphone input
- Separate green and red LED signal and clip indicators for each input channel
- Six level left and right main output metering including clip indicators
- Balanced left and right XLR main outputs
- Front panel 1/4-inch stereo (TRS) headphone jack with amplifier and independent level control for output monitoring
- Multiple units may be chained to provide extra inputs using common 1/4-inch TRS cables
- External effects loop with independent send and return controls
- Rugged 1U rack mount steel case
- Three year warranty

# CONNECTIONS

## Rear Panel Connections



### MIC INPUT

Channel 1 may be used with either an unbalanced line level signal or a lower level balanced microphone signal, controlled by the **CH 1 SOURCE SELECT** switch on the front panel. A female XLR connector is provided. If you choose to use a microphone in Channel 1. An additional 40 dB of gain is provided for use with low output level mics. Also, 48V phantom power to operate microphones that contain active electronic circuitry (such as condenser mics) may be supplied by pushing in the adjacent **PHANTOM POWER** switch. This is a mono signal input and is routed to both the left and right channels.

### Channel Inputs (1-8)

These inputs are used with either mono or stereo line level signals. A signal source plugged into the top (**LEFT (MONO)**) jack, with nothing plugged into the bottom (**Right**) jack, will be routed to both left and right stereo channels. Otherwise, these inputs operate as two separate mono signals or one stereo signal. Use cables with 1/4" TS plugs.

### MAIN EXPAND (IN and OUT)

Use these jacks to chain multiple MX822s together. The **MAIN EXPAND OUT** jacks of the first mixer connect to the **MAIN EXPAND IN** jacks of the next mixer in line, and so on. Use a stereo cable with 1/4" TRS plugs to make the connection. The last mixer in the chain will be the "master" of all the previous mixers, meaning its **MASTER LEVEL** control will control the final volume to the output device via its **MAIN OUT** connectors.

Note that the **MAIN EXPAND OUT** connection is brought out from a point in the signal path before the **MASTER LEVEL** control, so this control will have no effect on the "slave" mixers located before the master unit in the chain.

### MONITOR OUT

This is an additional unbalanced version of the main outputs, affected by the **MASTER LEVEL** control. Use a stereo cable with a 1/4" TRS plug to connect to an auxiliary recorder or other device.

## **EFX BUS IN**

This connection provides a means of sharing an external effects processor between two MX822s. In essence, it allows the first mixer to connect directly to the AUX or effects buss of the second mixer. Using a dual 1/4" TS to single 1/4" TRS cable, connect the separate TS plug ends into the **EFFECTS SEND** outputs of the first mixer and connect the TRS plug end into the **EFX BUS IN** of the second mixer (tip is left and ring is right).

Connect your external effects processor as normal to the **EFFECTS SEND** and **EFFECTS RETURN** jacks of the second mixer. The **EFX SEND** controlled signal levels from **both** mixers will now be routed to the effects processor. Control the overall effect level using the **EFX RETURN** knob on the front panel of the second mixer.

## **EFFECTS SEND and EFFECTS RETURN**

These jacks allow you connect an external effects processor (such as a reverb unit or vocal processor) to your MX822 in order to add effects to your mix. Connect the **EFFECTS SEND** outputs to the inputs of your processor and the processor outputs to the **EFFECTS RETURN** inputs. Use cables with 1/4" TS plugs. If the effects processor is mono, connect it to just the **LEFT (MONO)** jacks to route the effect to (and from) both stereo channels. These are unbalanced connections.

The level of each input channel sent to the effects processor is controlled by that channel's **EFX SEND** control. The effects processor's contribution to the total mix is controlled by the **EFX RETURN** control.

## **MAIN OUT**

Two male XLR connectors are provided to connect your MX822 to the destination device, such as an amplifier, powered speakers, or main mixer. These outputs are affected by the **MASTER LEVEL** control. They are balanced connections that may be used to provide excellent noise immunity with long cable runs.

## **Front Panel Connection**

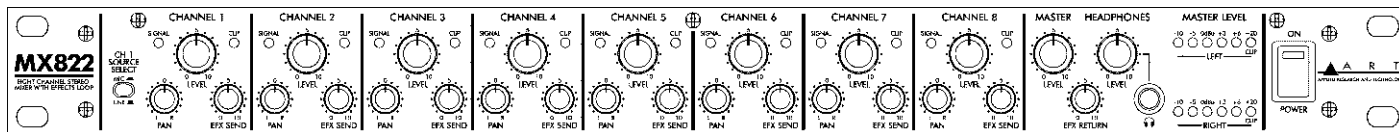
### **Headphone Jack**

This is a 1/4" TRS stereo jack that will drive a standard pair of headphones. Like the **MAIN EXPAND OUT** connection, the signal to the headphone jack is brought out from a point in the signal path before the **MASTER LEVEL** control, so this control will have no effect on the level provided to the headphone jack. The **HEADPHONE LEVEL** control adjacent to the jack controls the headphone level independently from the main outputs.

Refer to the block diagram for more information on how these connections are connected internally.

# OPERATION

## Front Panel Controls



## Channel Controls (1-8)

### CH 1 SOURCE SELECT

This pushbutton switch selects whether the Channel 1 signal comes from the 1/4" line jacks or the XLR microphone jack. In the **LINE** (out) position, the line signal is selected. Pushing the button in (**MIC** position) lights the switch green and selects the microphone signal.

### LEVEL

Each of these controls adjusts the level of the associated input channel and determines its contribution to the overall mix. Normally, for best noise performance and to minimize distortion, you should adjust each control so that its associated green **SIGNAL** LED is on continuously and its red **CLIP** LED never comes on or comes on only very briefly during the loudest audio passages.

### PAN

Each of these controls adjusts the relative position of the associated input channel in the overall left-right panorama. Fully counterclockwise is **Left** and fully clockwise is **Right**. For a stereo signal, this control could also be considered a balance control.

### EFX SEND

Each of these controls adjusts the amount of signal of the associated input channel that is sent to an external effects processor, if connected. Note that this control is located after that channel's **LEVEL** control in the signal path, so that the channel level sent to an external effects processor will also be affected by the setting of the **LEVEL** control.

## Master Controls

### LEVEL

This control adjusts the overall level of the mixed signal output to the **MAIN OUT** jacks. Normally you would adjust this so that the **LEFT** and **RIGHT MASTER LEVEL** meters stay in the green most of the time and the yellow LEDs light only during the loudest audio passages. The red **CLIP (+20)** LEDs come on just before the onset of audible distortion.

## **Headphone LEVEL**

This control adjusts the signal level sent to the headphone jack. Note that the headphone output level is not affected by the setting of the Master **LEVEL** control.

## **EFX RETURN**

This control adjusts the level of the signal sent back from an external effects processor, if connected, and determines its contribution to the overall mix.

## **POWER Switch**

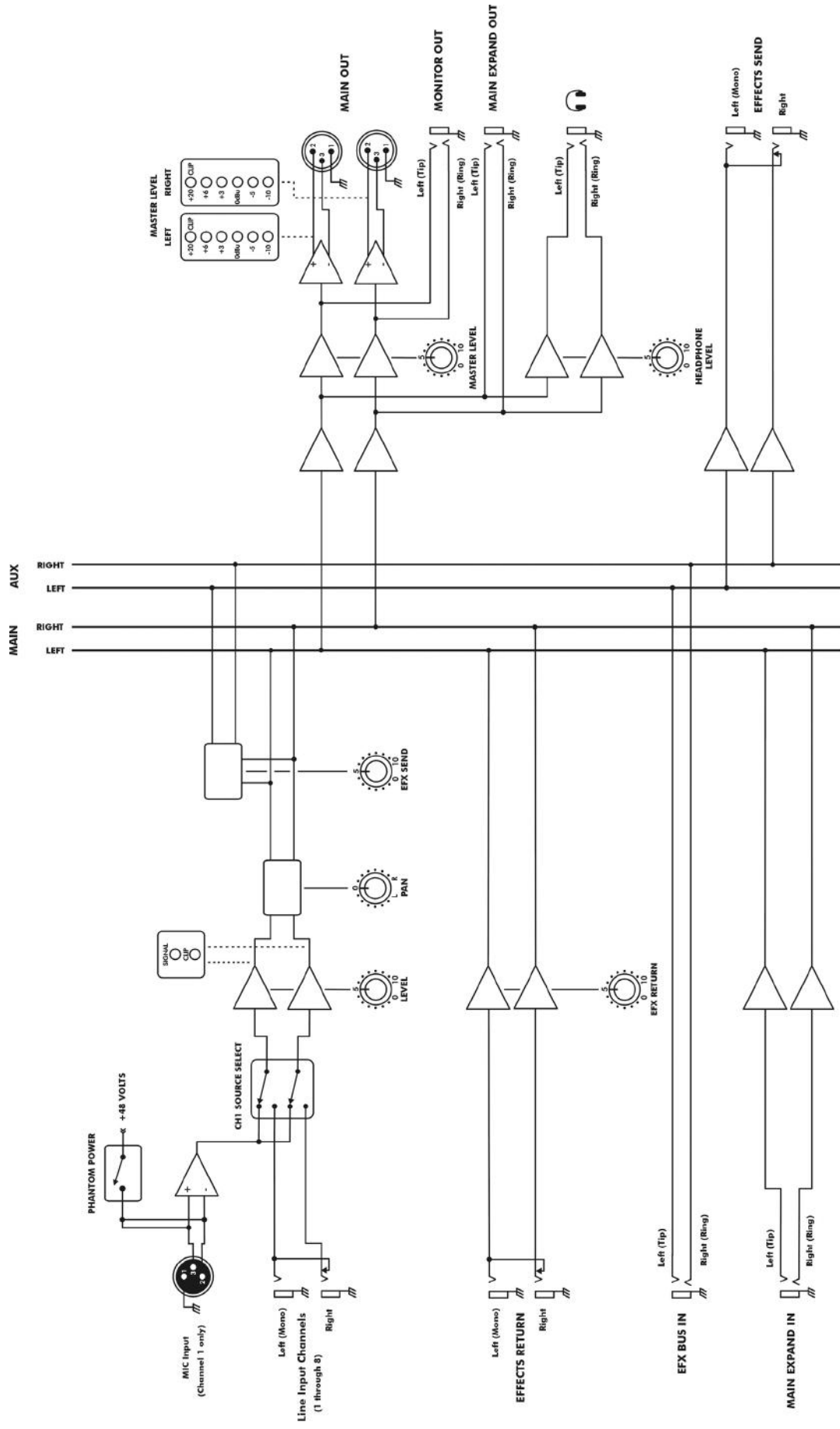
Controls the application of AC power to the MX822. When the switch is pushed in at the top (**ON** position), an indicator lights, showing power is applied.

## **Rear Panel Control**

### **PHANTOM POWER (+48 VOLTS) Switch**

This pushbutton switch controls the application of phantom power to the rear-panel **MIC INPUT** XLR connector. In the **OFF** (out) position, no phantom voltage is applied. Pushing the button in (**ON** position) lights the switch green and applies phantom voltage. Note that when phantom voltage is applied, the current supplied is limited to 7 mA for each leg of the balanced line.

# BLOCK DIAGRAM





## **WARRANTY INFORMATION**

### **Limited Warranty**

Applied Research and Technology will provide warranty and service for this unit in accordance with the following warrants:

Applied Research and Technology, (ART) warrants to the original purchaser that this product and the components thereof will be free from defects in workmanship and materials for a period of **three** years from the date of purchase. Applied Research and Technology 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.

### **Exclusions**

This warranty does not apply in the event of misuse or abuse of the product or as a result of unauthorized alterations or repairs. This warranty is void if the serial number is altered, defaced, or removed.

ART 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.

ART shall not be liable for any consequential damages, including without limitation damages resulting from loss of use. Some states do not allow limitations of incidental or consequential damages, so the above limitation or exclusion may not apply to you. This warranty gives you specific rights and you may have other rights, which vary, from state to state.

For units purchased outside the United States, an authorized distributor of Applied Research and Technology will provide service.

## SERVICE

The following information is provided in the unlikely event that your unit requires service.

1. Be sure that the unit is the cause of the problem. Check to make sure that the unit has power supplied, that all cables are connected correctly, and that the cables themselves are in working condition. You may want to consult with your dealer for assistance in troubleshooting or testing your particular configuration.
2. If you believe that the ART unit is at fault, go to [www.artproaudio.com](http://www.artproaudio.com). You may contact Customer Service for more assistance, or directly request a Return Authorization for service in the “resources” area of the website.
3. If you are returning the unit for service, pack the unit in its original carton or a reasonable substitute. The original packaging may not be suitable as a shipping carton, so consider putting the packaged unit in another box for shipping. Print the RA number clearly on the outside of the shipping box. Print your return shipping address on the outside of the box.
4. Include with your unit: a note with the RA number and your contact information, including a return shipping address (we cannot ship to a P.O. box) and a daytime phone number, and a description of the problem, preferably attached to the top of the unit. Also include a copy of your purchase receipt.

Please fill in the following information for your reference:

Date of purchase: \_\_\_\_\_

Purchased from: \_\_\_\_\_

Serial Number \_\_\_\_\_

## SPECIFICATIONS

Input Connections	XLR female balanced (MIC) 1/4" TS unbalanced (CH 1-8, Effects Return) 1/4" TRS stereo unbalanced (EFX BUS IN, Main Expand)
Output Connections	XLR male balanced (Main) 1/4" TS unbalanced (Effects Send) 1/4" TRS stereo unbalanced (Monitor, Main Expand, Headphone)
Input Impedance	1k Ohms (MIC), 5k Ohms (CH 1-8)
Output Impedance	<1k Ohms (Main, balanced), <25 Ohms (Headphone)
Frequency Response	20 Hz – 20 kHz (+0, -1 dB) (CH 1-8 in, Main out)
THD	<0.01% @ 1 kHz
Phase Response	All connections are phase coherent
Signal to Noise Ratio	>90dB typical (Ref 0dBu)
Equivalent Input Noise	-120dBu typical (XLR balanced, max gain), -100dBu typical (1/4")
Maximum Input Level	-19dBu (MIC), +24dBu (CH 1-8)
Maximum Output Level	+24dBu (Main), +18dBu (Monitor, Effects Send)
Maximum Gain	+60dB (MIC), +14dB (CH 1-8)
Phantom Power	Switch selectable, +48V DC, filtered, current limited
Chassis Type	All steel black finish
Power Requirements	USA: 95-125 VAC, 50-60 Hz, <15W Export units configured for country of destination
Dimensions (HWD)	1.75" x 19" x 6" 44.5mm x 483mm x 152mm
Weight	6.5 lbs. (2.95 kg)

**Note: 0 dBu = 0.775Vrms**

ART maintains a policy of constant product improvement. Therefore, specifications are subject to change without notice.



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