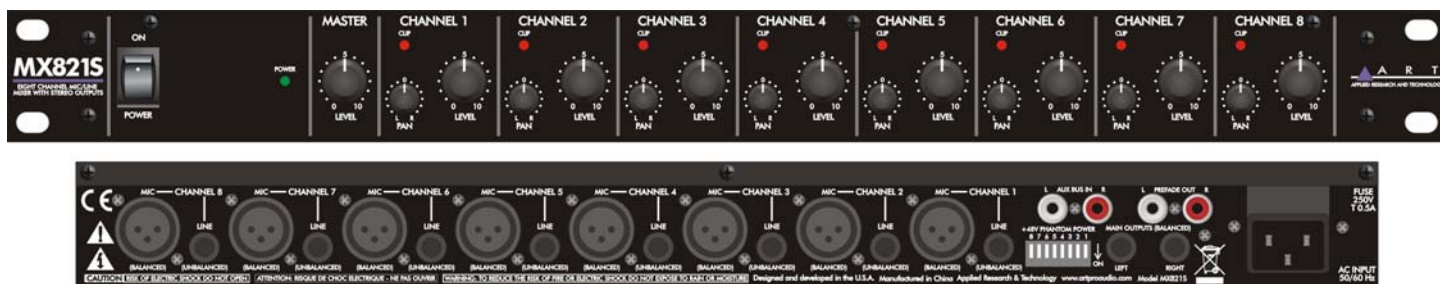


MX821S

EIGHT CHANNEL MIC/LINE MIXER WITH STEREO OUTPUTS



USER'S MANUAL



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 (except to convert the 1/4-inch jacks from inputs to outputs. See page 4.) 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 containers 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 instructions printed in the user guide.

INTRODUCTION

The ART MX821S Eight Channel Mic/Line Mixer with Stereo Outputs is a versatile rack mount mixer combining eight independent input channels into a stereo line-level output. Each input channel accepts a balanced XLR microphone input or unbalanced 1/4-inch TS line-level signal and provides independent level and pan controls. +48 Volt phantom power may be independently selected on each microphone input. A master level control adjusts the signal output to the low-impedance balanced 1/4-inch TRS jacks. Prefade output (not affected by the master level control) and Aux Bus input RCA jacks allow patching of multiple units when more channels are needed.

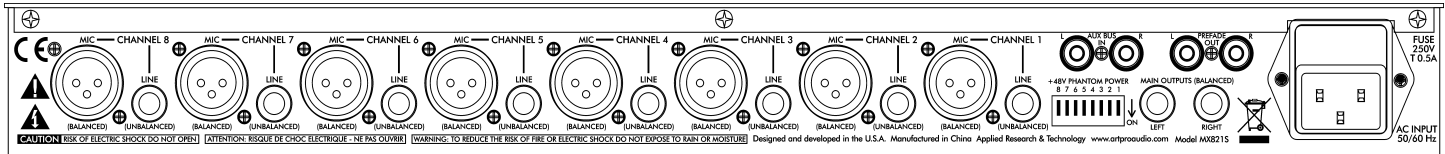
The ART MX821S may be used on stage, in the studio, or for permanent install applications including conference rooms, corporate boardrooms, churches, restaurants, small clubs, health clubs and more. A built-in power supply and single high 19-inch rack mount format allows for easy installation and reliable long-term operation.

Features:

- Eight input channels with individual level and pan controls
- Pan controls place each input mono signal anywhere in the output stereo image
- Balanced microphone XLR or unbalanced 1/4-inch TS inputs on each channel
- Full +48V low noise phantom power switchable for each microphone input
- Balanced left and right 1/4-inch TRS main output jacks with master level control
- Prefade Output jacks and Aux Bus Input jacks allow units to be chained to provide extra inputs
- Each line input jack may be individually converted to a direct line output by means of internal jumpers
- Rugged 1U rack-mount steel chassis with built-in power supply
- Perfect for stage, studio and permanent installations
- Three year warranty

CONNECTIONS

Rear Panel Connections



Mono CHANNEL Inputs (1-8)

MIC

Each of these eight female XLR connectors provides a balanced input for lower level microphone signals. An additional 26 dB of gain is provided for use with low output level mics. 48V phantom power is available to operate microphones that contain active electronic circuitry (such as condenser mics) and may be applied by setting the corresponding +48V PHANTOM POWER switch in the down (ON) position. These switches are located towards the right of the rear panel. Note: Do not apply phantom power unless the microphone is designed to use it.

LINE

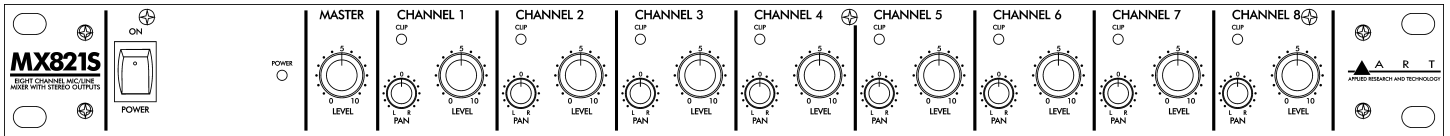
Each of these eight 1/4-inch jacks normally provides an unbalanced input for line level signals. Use shielded cables with 1/4-inch TS plugs to connect to these jacks.

To convert the 1/4-inch line input on any channel to a direct line output for that channel, unplug the MX821S's AC cord from the wall and remove the top cover. Inside you will see a row of jumpers towards the rear of the unit. Move the jumper for the desired channel to the left (when viewed from the front). Now that channel's line input is converted to a direct line output and may be connected to the input of another mixer. A signal from the MIC input on any converted channel is still included in the main output mix as well. Do not connect the output of a mixer or any other signal source to the 1/4-inch jack on this channel now or the channel may sustain damage. Be sure to replace the lid before connecting the unit to AC again.

Both the MIC and LINE inputs accept a mono signal that may be routed to either the left or right channels or a combination of both by means of the corresponding front panel PAN control.

OPERATION

Front Panel Controls



POWER Switch

Controls the application of AC power to the MX821S. When the switch is pushed in at the top (ON position), the green POWER LED lights, showing power is applied.

MASTER LEVEL Control

This control adjusts the overall level of the mixed signal output to the MAIN OUTPUTS (LEFT and RIGHT) jacks.

CHANNEL Controls (1-8)

LEVEL

Each of these controls adjusts the level of the associated input channel and determines its contribution to the overall mix. Each control should be adjusted for the desired level of the associated input in the overall mix. Unused inputs should have their associated level control turned off (0 position or fully counterclockwise) to minimize potential stray noise pickup.

Keep in mind that the best noise performance, while keeping distortion to a minimum, is obtained with each control adjusted to the maximum desired level (towards 10) so that its associated red CLIP LED either does not come on or just comes on very briefly only during the loudest passages. In other words, in general, keep the CHANNEL LEVEL controls turned up and turn the MASTER LEVEL control down to compensate, rather than the opposite.

PAN

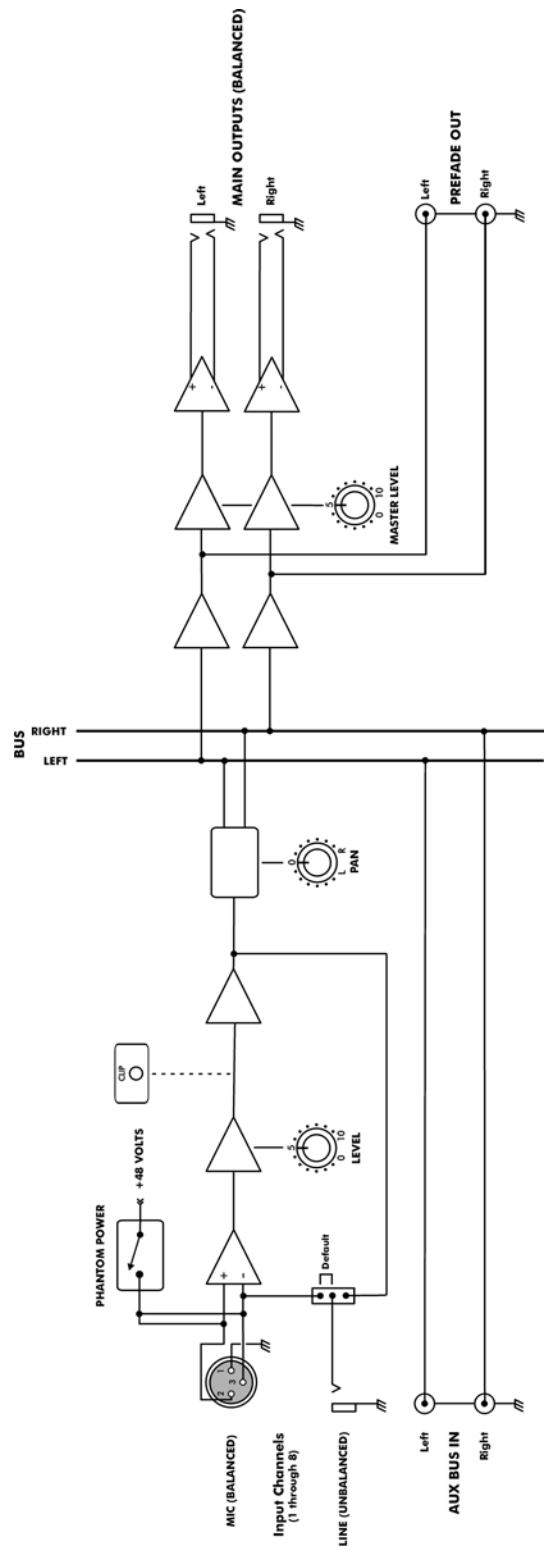
Each of these controls adjusts the relative position of the associated input channel in the overall left-right panorama. Fully counterclockwise is Left and fully clockwise is Right.

Rear Panel Controls

+48V PHANTOM POWER Switches (1-8)

These numbered switches control the application of phantom power to the corresponding numbered rear-panel MIC XLR connectors. In the OFF position (up), no phantom voltage is applied. Moving the switch down (ON position) 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 (USA only)

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.

Online Registration

We recommend that you register your product online to insure prompt warranty repair servicing on any repair issues. Please go to www.artproaudio.com. Select “Support”, then “*Product Registration*”. Then input your information here.

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.

A R T 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.

A R T 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 the unit has power, all cables are connected correctly, and 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.
3. Select "Support", then "Return Authorization Request" to request a return authorization number.
4. 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.
5. 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, channels 1-8) 1/4-inch TS unbalanced (Line, channels 1-8) RCA unbalanced (Aux Bus In, Left and Right)
Output Connections	1/4-inch TRS balanced (Main Outputs, Left and Right) RCA unbalanced (Prefade Out, Left and Right)
Input Impedance	2k Ohms (Mic), 20k Ohms (Line), 51k Ohms (Aux Bus In)
Output Impedance	200 Ohms (Main Outputs, balanced), 100 Ohms (Prefade Out)
Frequency Response	20 Hz – 20 kHz (+0, -1 dB) (CH 1-8 in, Main out)
THD	<0.01% @ 1 kHz, typical
Phase Response	All connections are phase coherent
Signal to Noise Ratio	>99dB typical (Ref 0dBu)
CMRR	>43 dB typical

All PAN controls centered for the following level and gain measurements:

Maximum Input Level	-4 dBu (Mic), +22 dBu (Line)
Maximum Output Level	+24 dBu (balanced), +18 dBu (unbalanced)
Maximum Gain	54 dB (Mic), 29 dB (Line)
Phantom Power	Switch selectable, +48V DC (regulated and filtered), 7 mA current limiting per leg
Power Requirements	USA: 95-125 VAC, 50-60 Hz, <15W Export units configured for country of destination
Dimensions (HWD)	1.75-inch x 19-inch x 6-inch 44.5mm x 483mm x 152mm
Weight	6.3 lbs. (2.9 kg)

Note: 0 dBu = 0.775Vrms

ART maintains a policy of constant product improvement. ART reserves the right to make changes in design, or make additions to, or improvements upon, this product without any obligation to install same on products previously manufactured. Therefore, specifications are subject to change without notice.



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