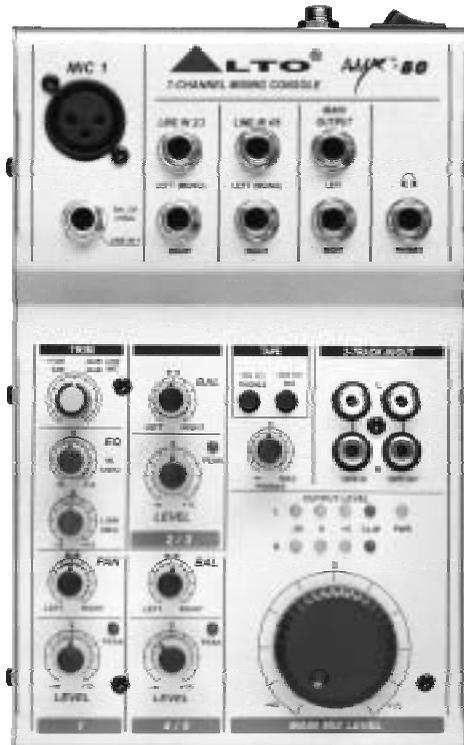




User's Manual

AMX-80

7-CHANNEL MIXING CONSOLE



www.altoproaudio.com
Version 2.0 MARCH 2007
English

IMPORTANT SAFETY INSTRUCTION



TO REDUCE THE RISK OF ELECTRIC SHOCK PLEASE DO NOT REMOVE THE COVER OR THE BACK PANEL OF THIS EQUIPMENT. THERE ARE NO PARTS NEEDED BY USER INSIDE THE EQUIPMENT. FOR SERVICE, PLEASE CONTACT QUALIFIED SERVICE CENTERS.

 This symbol, wherever used, alerts you to the presence of un-insulated and dangerous voltages within the product enclosure. These are voltages that may be sufficient to constitute the risk of electric shock or death.

 This symbol, wherever used, alerts you to important operating and maintenance instructions. Please read.

- ⊕ Protective Ground Terminal
- ~ AC mains (Alternating Current)
- ⚡ Hazardous Live Terminal

ON: Denotes the product is turned on.
OFF: Denotes the product is turned off.

CAUTION

Describes precautions that should be observed to prevent damage to the product.

1. Read this Manual carefully before operation.
2. Keep this Manual in a safe place.
3. Be aware of all warnings reported with this symbol. 
4. Keep this Equipment away from water and moisture.
5. Clean it only with dry cloth. Do not use solvent or other chemicals.
6. Do not damp or cover any cooling opening. Install the equipment only in accordance with the Manufacturer's instructions.
7. Power Cords are designed for your safety. Do not remove Ground connections! If the plug does not fit your AC outlet, seek advice from a qualified electrician. Protect the power cord and plug from any physical stress to avoid risk of electric shock. Do not place heavy objects on the power cord. This could cause electric shock or fire.
8. Unplug this equipment when unused for long periods of time or during a storm.
9. Refer all service to qualified service personnel only. Do not perform any servicing other than those instructions contained within the User's Manual.
10. To prevent fire and damage to the product, use only the recommended fuse type as indicated in this manual. Do not short-circuit the fuse holder. Before replacing the fuse, make sure that the product is OFF and disconnected from the AC outlet.

WARNING

To reduce the risk of electric shock and fire, do not expose this equipment to moisture or rain.



Dispose of this product should not be placed in municipal waste and should be separate collection.

11. Move this Equipment only with a cart, stand, tripod, or bracket, specified by the manufacturer, or sold with the Equipment. When a cart is used, use caution when moving the cart / equipment combination to avoid possible injury from tip-over. 

12. Permanent hearing loss may be caused by exposure to \ extremely high noise levels. The US. Government's Occupational Safety and Health Administration (OSHA) has specified the permissible exposure to noise level. These are shown in the following chart:

HOURS X DAY SPL EXAMPLE

8	90	Small gig
6	92	train
4	95	Subway train
3	97	High level desktop monitors
2	100	Classic music concert
1,5	102	
1	105	
0,5	110	
0,25 or less	115	Rock concert

According to OSHA, an exposure to high SPL in excess of these limits may result in the loss of heat. To avoid the potential damage of heat, it is recommended that Personnel exposed to equipment capable of generating high SPL use hearing protection while such equipment is under operation.

The apparatus shall be connected to a mains socket outlet with a protective earthing connection.

The mains plug or an appliance coupler is used as the disconnect device, the disconnect device shall remain readily operable.

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1. INTRODUCTION

Thank you for your purchasing the ▲LTO AMX-80 compact mixer. It is just one of the many ▲LTO products that a talented, multinational Team of Audio engineers and musicians have developed with their great passion for Music. Your AMX-80 is a remarkable compact mixing desk that doesn't find many equals in the market today. With enough microphone and Line-level inputs for serious, small live performances, The 2TK input usually used for Tape or CD sources even comes with its own volume control and this feature is hard to find in a mixer of this size. Use it for small Gigs, for Computer Audio. AMX-80 is also a flexible tool for your Multimedia presentations.

Enjoy your AMX-80 and make sure to read this Manual carefully before operation!

2. FEATURES

The AMX-80 7-Channel Mixing Console is designed for professional application. It provides the following features:

- ▲ One MIC input channel with gold plated XLR and balanced Line input.
- ▲ Two stereo input channels with balanced TRS jack.
- ▲ Ultra-low noise discrete MIC pre-amps with +15V Phantom power.
- ▲ Extremely high headroom offering extra dynamic range.
- ▲ Balanced inputs for highest signal integrity and low-noise operation.
- ▲ Warm, natural 2-band EQ on mono channel.
- ▲ Peak LEDs on each channel.
- ▲ 2-Track inputs with level control assignable to main mix, Headphone outputs.
- ▲ Highly accurate 4-segment bar graph meters.

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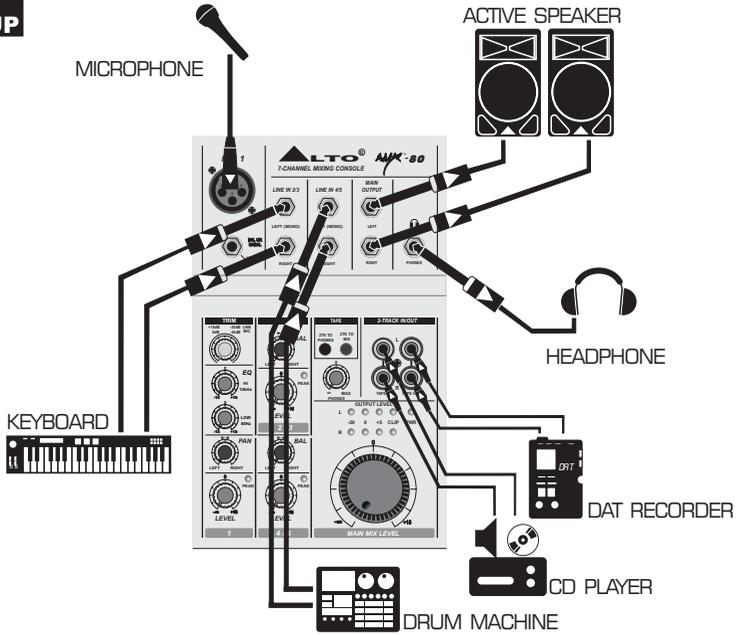
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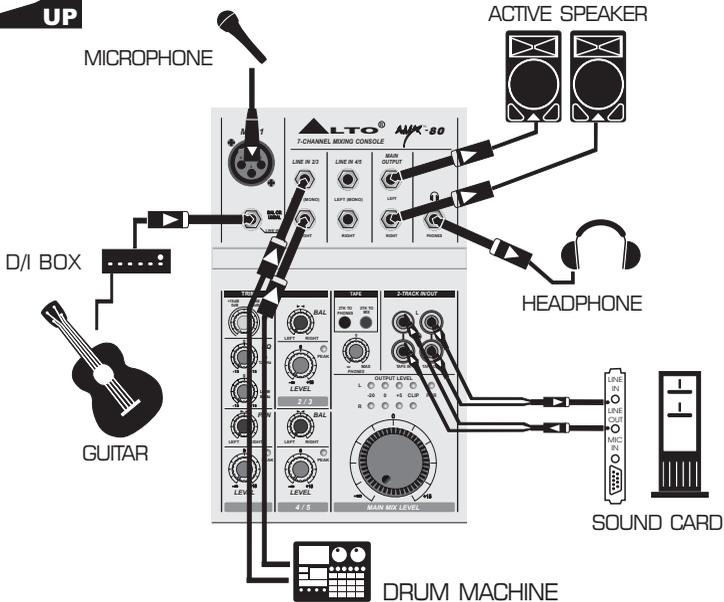
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SMALL GIG HOOKUP DIAGRAM



COMPUTER SET-UP DIAGRAM



3. READY TO START?

Some tips to help you set up your mixer

1. ZERO THE CONTROLS

- At this stage leave the POWER cord disconnected from the mixer.
- Turn down all the GAIN, LEVEL controls.
- Keep EQ and PAN/BAL controls on center position.
- Turn down PHONES and MAIN MIX controls.
- 2TRACK TO MIX and 2TRACK TO PHONE switches should be up.

2. CONNECTIONS

- From the MAIN OUTPUT socket connect your amplifier or powered speakers.
- Connect a dynamic microphone to the MIC 1 input.
- Connect mono or stereo line-level signals to the LINE input jacks.
- Turn down all controls as suggested above.
- Only at this stage connect the supplied AC Adaptor to the mixer and to the AC Outlet. You should also plug in into the AC outlet the other components of your Sound systems such as amplifiers, powered speakers, sound processors, etc. Make sure that the AC outlet are properly grounded and able to deliver enough current.
- Now turn on all the power switches and leave the amplifier switch for last.
- At this point turn up of a quarter the MAIN MIX giant blue knob and you are ready to set the other levels.

3. LEVEL SETTING FOR THE MIC/LINE CHANNEL

- Connect a dynamic microphone or a line-level instrument as described above. Sing in the microphone at normal volume or play the instrument at normal level.
- While singing or playing turn up the relative gain (TRIM) so that the PEAK LED next to the LEVEL control starts blinking.
- Now start to raise the channel LEVEL until you hear your noise comfortably.
- If you like you can use the EQ on the MIC channel to adjust high and low frequencies.
- Now you can turn up the big blue MAIN MIX control for a listening level you are comfortable with.

4. LEVEL SETTING FOR THE STEREO LINE CHANNELS

- Play a mono or stereo instrument connected to the LINE IN jacks.
- Now turn up the instrument output level control until the PEAK LED next to The LEVEL control starts blinking.
- Turn up the LEVEL control until is about equal in volume to the microphone. Connected to Channel 1.



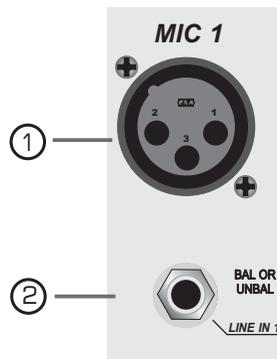
4. CONTROL ELEMENTS

CHANNEL INPUT

1 MIC INPUT

AMX-80 is equipped with one low-noise microphone pre-amplifier with 15V phantom power and 50dB of gain. You can connect almost any type of microphone. Use phantom power only with condenser microphones but please make sure the power switch is turned off before connecting a microphone to the XLR input. Phantom power will not damage your dynamic microphones but it may damage tube or ribbon microphones so make sure to read the microphone instructions manual before using.

NOTE: Never try to connect a line-level signal to the XLR MIC input when the phantom power functions.

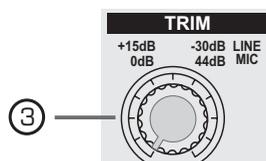


2 LINE INPUT

You can plug in any stereo or mono line-level instrument using balanced or unbalanced plugs. You can also connect sound processors, CD Players, Tape Players and MP3-iPOD Players to these sockets. When connecting a MONO device, just remember to use The LEFT socket. The mono signal will anyway appear on both left and right outputs.

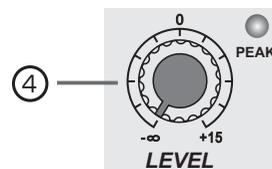
3 TRIM CONTROL

This control adjusts the input sensitivity of the MIC1 channel. A signal applied to this input can be adjusted for an optimal operating level. The TRIM control provides 50dB of gain when raised fully.



4 PEAK LED

Thanks to these little LEDs you know that the signals applied to the mixer are adjusted properly and that they come into the mixer without distortion. Perform a sound-check with a microphone or a line-level instrument such as keyboard and adjust the TRIM control so that the LED blinks occasionally (In case of the line-level channels, you must adjust the output level of the instrument so that the LED blinks occasionally).



✘ A CLOSER LOOK: Unlike other competitors AMX-80 features Peak LEDs both on the MIC channel and on the LINE channels. Most compact mixer of this kind in fact do not present Peak LEDs for the Line channels and it is therefore very difficult to prevent distorted signals coming into the mixer:

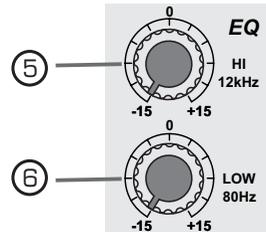
4. CONTROL ELEMENTS

EQUALIZATION

The MIC channel is provided with 2 bands of equalization each one providing for up to 15dB of boost and cut. There will be no signal change with the EQ control in centre position (0).

5 HI EQ

This is a shelving filter operating on frequencies above 12kHz. It means that all the frequencies above this level will be boosted or cut depending on the rotation of this control. If you want to reduce the sibilance of human voice or reduce Tape noise, turn the knob down. You can make cymbals crisper or add transparency to vocals and guitar if you turn the knob up.

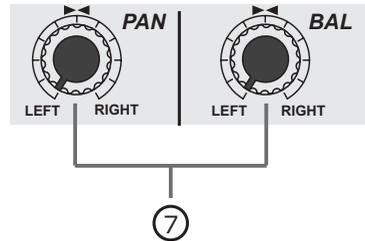


6 LOW EQ

This is also a shelving filter operating on frequencies below 80Hz. Turn the control down to reduce unwanted hum or low frequencies resonance. Turn it up to add more punch to your bass drums and give more body to a Bass Guitar.

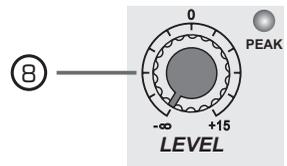
7 PAN/BAL

It stands for Panoramic/Balance. For the MIC channel and with the control on (0) position the signal is sent equally to the Left and to the Right side of the main mix. Turn the Control all to the left and the Signal will be sent only to the left side of the Main Mix and vice versa. In case of the stereo channels the BAL control is pretty much like a balance control in your home stereo. Turn the control left and the right channel will be attenuated and vice versa.



8 LEVEL

This is the master level control for the relative channel. If the MIC TRIM is set correctly, as well as the output level of the instruments plugged into the line-level channels, the LEVEL control will be positioned in between (0) and 3 o'clock. If you have to turn the LEVEL control further up, it means that the TRIM (and the instruments output level) is set too low and vice versa.



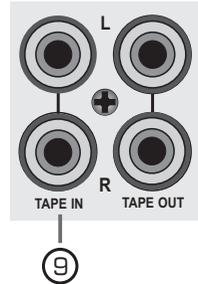


4. CONTROL ELEMENTS

THE TAPE SECTION

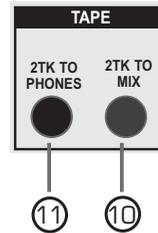
9 TAPE INPUT

Here is where you can connect line-level mono or stereo devices such as DC-DVD Player, Tape Player, TV, MP3, iPOD, etc. The incoming signals will be routed directly into the MAIN MIX when the 2TK to MIX switch is pushed in. But when the 2TK to PHONES is pushed in, the signal will also be routed to the PHONES Output.



10 2TK TO MIX

When you push in this switch, the signal applied to the TAPE IN socket will be sent directly to the Main Mix large blue Control knob. This is usually used in between a gig and another when you stop for a beer (or more...) and you want to give some reproduced music to the Audience.



11 2TK TO PHONES

When pushed in this switch, it will assign the signal applied to the TAPE IN sockets to the PHONES output sockets. You can plug in a pair of stereo headphones to these sockets or a pair of active Studio Monitors such as ▲LTO M3A (You will need a Y type Adapter). If this switch is depressed the MAIN MIX signal will be sent to the PHONES output sockets. You can adjust the PHONES output signal via the PHONES control. Always turn down this control before connecting headphones or active studio monitors.



4. CONTROL ELEMENTS

The MAIN SECTION

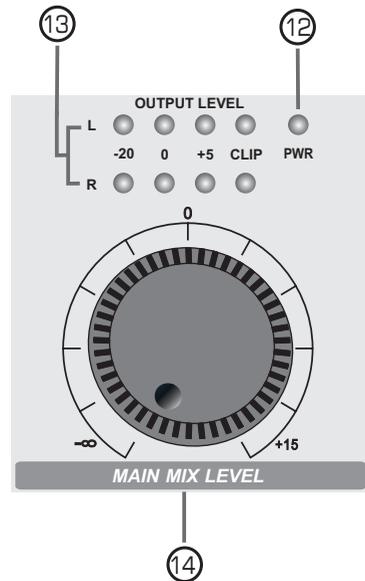
12 PWR LED

This LED will turn on when the AC Adaptor is connected to an AC outlet and the main switch on the back panel is on ON position

13 LED METER

There are four LEDs for each Left and Right channel with thresholds ranging from -20dBu up to +18dBu. The 0dB LED corresponds to an output level of about 0dB. The CLIP LED comes alive when the output is about +18dBu. Actually we have built a safety threshold before actual distortion and clipping occur but please turn down the MAIN MIC control knob so that the CLIP LED only blinks occasionally. In normal operating conditions the LED Meter will display the main mix level after the MAIN MIX control but if the 2TK TO PHONES switch is pressed in the LED Meter will show the level of the signal applied to the TAPE IN sockets.

✳ **A CLOSER LOOK:** The LED Meter is your best friend in adjusting the Mixer audio levels for optimal performance. Usually you get a good mix when the LED Meter flashes in between -20dB and +6dB. If the Meter flashes a lot at PEAK, you will get distortion. If no Meter activity at all, you will get a lot of noise at the output. Once you have adjusted the mixer levels for no noise and no distortion, you can adjust the levels of the external amplifier or powered speakers for the desired overall volume.



14 MAIN MIX LEVEL

This large blue knob controls the final level of the main mix signal sent to the MAIN OUTPUT, TAPE OUT (RCA sockets), PHONES output and the LED Meter. For optimal operation the MAINMIX LEVEL knob should be positioned in between (0) and 3 o'clock.



4. CONTROL ELEMENTS

THE OUTPUT CONNECTIONS

15 MAIN OUT

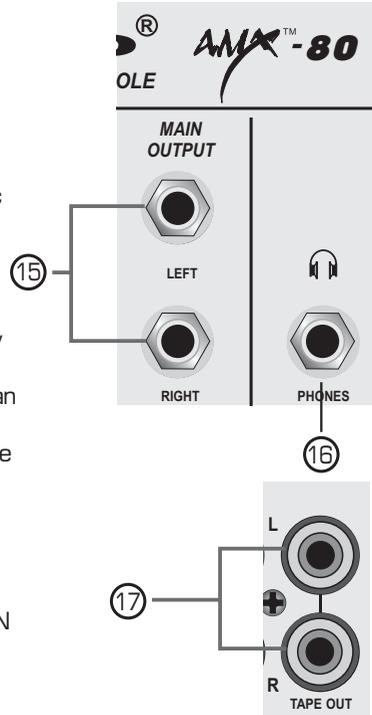
Connecting these Left and Right Output to an amplifier or a pair of powered speakers. You may decide to plug in an equalizer or a dynamic processor in between these outputs and your amplifier/powerd speakers.

16 PHONES OUTPUT

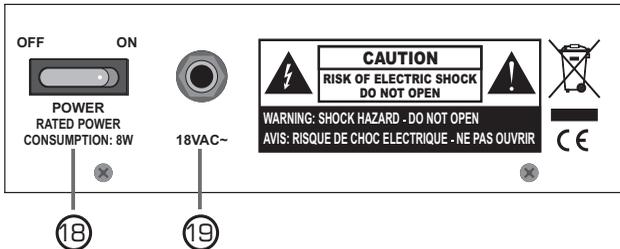
The stereo signal at this output is controlled by the PHONES control. Through this output (via headphones of powered Studio Monitors) you can listen either to the Main Mix or to the signal applied to the TAPE IN sockets depending on the positions of the 2TR to PHONES switch.

17 TAPE OUT

You can record your entire session into a Tape or DAT Recorder connected to these outputs. The level at these sockets will be affected by the MAIN MIX control.



REAR PANEL DESCRIPTION



Connect the supplied AC Adaptor into this socket and then to the AC outlet.

18 POWER ON/OFF SWITCH

This switch is used to turn the main power ON and OFF.

⚠ **A CLOSER LOOK:** some Competitors do not offer a Power switch in similar models. In such case the mixer will be permanently ON (if the AC Adapter is connected to an AC outlet. This may turn out in heat problems, power consumption and damages to the unit in case of lightning).

19 AC INPUT CONNECTOR

This connector is used to connect the 18VAC adapter supplied by ▲LTO Company only.



5. QUICK START AND CONNECTIONS

OK, you have got to this point and you are now in the position to successfully operate your AMX-80. However, we advise you to read carefully the following section to get the best out of your AMX-80.

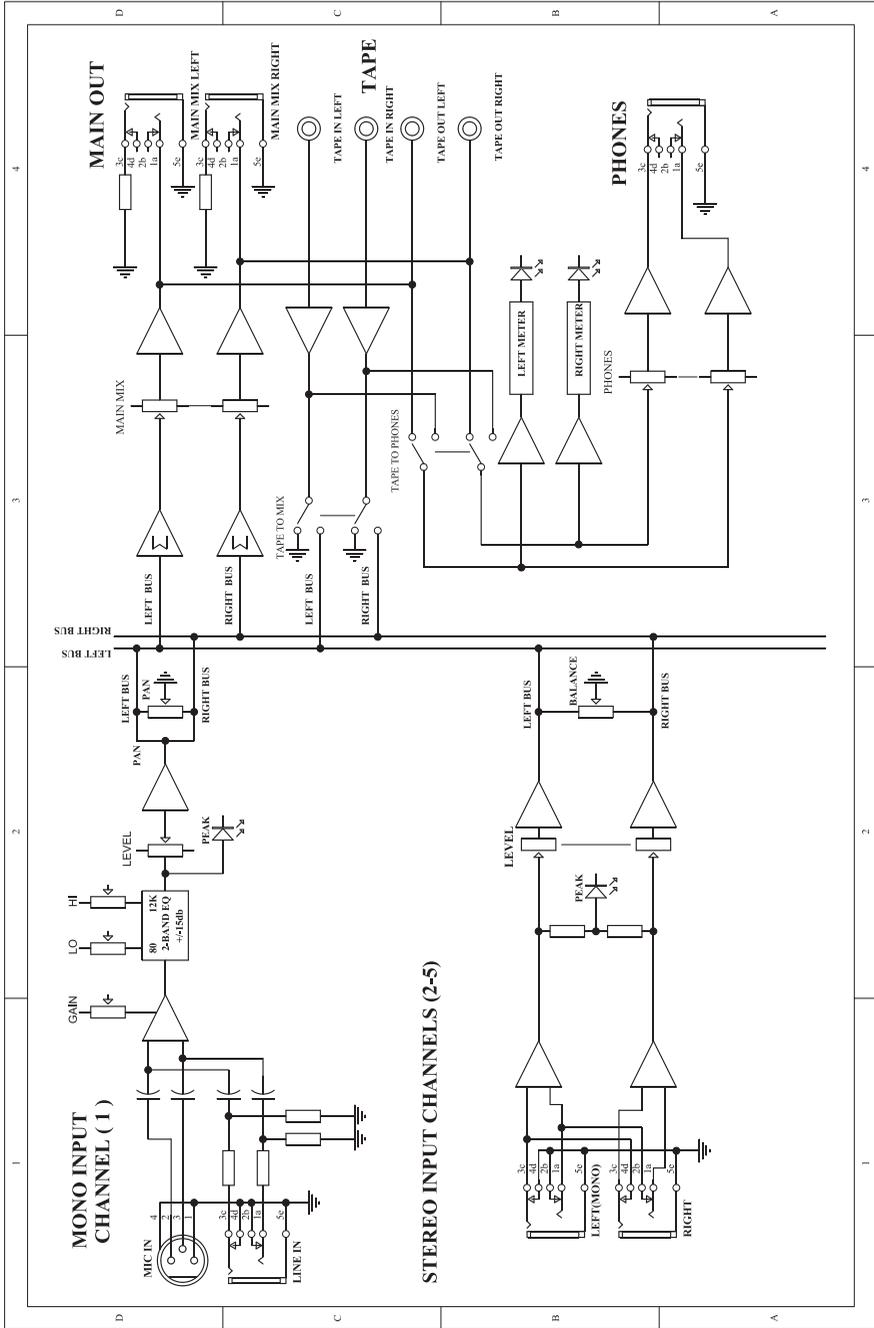
Not paying enough attention to the input signal level, to the routing of the signal and the assignment of the signal will result in unwanted distortion, a corrupted signal or no sound at all. So you should follow these procedures before operation:

1. Before connecting microphones or instruments, make sure that the power of all your systems components including the AMX-80 is turned off. Also, make sure that all input and output controls are turned down. This will avoid damage to your speakers and excessive noise.
2. Properly connect all external equipment such as microphone, power amplifier, speakers etc.
3. Now, turn on the power of any peripheral devices, then connect the 18VAC power supply to your AMX-80 and to the AC socket.

NOTE: The power amplifier or powered monitors shall be turned ON after the AMX-80 and OFF before the AMX-80 is turned OFF.

4. Set the output level of your AMX-80 or the connected power amplifier at no more than 75%.
5. Set the PHONE level at no more than 50%.
6. Set HI, and LOW EQ controls on center position.
7. Set panoramic (PAN / BAL) control on center position.
8. While speaking into the microphone (or playing the instrument) at normal volume, adjust the channel level control so that the input PEAK LED light-up only occasionally; in this way you will maintain good headroom and proper dynamic range.
9. You can shape the tone of each channel by adjusting the equalizer controls as desired.
10. Now repeat the same sequence for all input channels. The Main LED Meter could move up into the red section. In this case you can adjust the overall output level through the MAIN MIX control.

6. BLOCK DIAGRAM



7. TECHNICAL SPECIFICATION

Mono input channels

Microphone input	electronically balanced discrete input configuration
Frequency response	10Hz to 150kHz, +/- 1dB
Distortion (THD & N)	0.005% @ +4dBu, 20Hz-20kHz
Gain range	0dB to 44dB (MIC)
SNR (Signal to Noise Rated)	115dB
Line input	electronically balanced
Frequency response	10Hz to 150kHz, +/- 1dB
Distortion (THD & N)	0.005% @ +4dBu, 20Hz-20kHz
Sensitivity range	+15dBu to -30dBu

Stereo input channels

Line input	Balanced
Frequency response	10Hz to 55kHz, +/- 1dB
Distortion (THD & N)	0.005% @ +4dBu, 20Hz-20kHz

Impedances

Microphone input	2.66kOhm balanced
Line input	20kOhm balanced
Main output	2400hm (balanced) 1200hm (unbalanced)
Phones output	250hm

Equalization

High	+/- 15dB @12kHz
Low	+/- 15dB @80kHz

Main Mix Section

Noise (Bus Noise)	Fader 0dB, all input channels assigned and set to UNITY gain: -106dB
Max output	+22dBu unbalanced, 1/4" jacks

Power supply

(AC/AC Adaptor)

Main voltage	USA/Canada 100~120VAC, 60Hz Europe 210~230VAC, 50Hz UK/Australia 240VAC, 50Hz
Power consumption	8Watts

Physical

Dimension (W×D×H)	204mm×126.5mm×38mm
Net weight	0.74Kg

8. WARRANTY

1. WARRANTY REGISTRATION CARD

To obtain Warranty Service, the buyer should first fill out and return the enclosed Warranty Registration Card within 10 days of the Purchase Date.

All the information presented in this Warranty Registration Card gives the manufacturer a better understanding of the sales status, so as to purport a more effective and efficient after-sales warranty service. Please fill out all the information carefully and genuinely, miswriting or absence of this card will void your warranty service.

2. RETURN NOTICE

- 2.1 In case of return for any warranty service, please make sure that the product is well packed in its original shipping carton, and it can protect your unit from any other extra damage.
- 2.2 Please provide a copy of your sales receipt or other proof of purchase with the returned machine, and give detail information about your return address and contact telephone number.
- 2.3 A brief description of the defect will be appreciated.
- 2.4 Please prepay all the costs involved in the return shipping, handling and insurance.

3. TERMS AND CONDITIONS

- 3.1 ▲LTO warrants that this product will be free from any defects in materials and/or workmanship for a period of 1 year from the purchase date if you have completed the Warranty Registration Card in time.
- 3.2 The warranty service is only available to the original consumer, who purchased this product directly from the retail dealer, and it can not be transferred.
- 3.3 During the warranty service, ▲LTO may repair or replace this product at its own option at no charge to you for parts or for labor in accordance with the right side of this limited warranty.
- 3.4 This warranty does not apply to the damages to this product that occurred as the following conditions:
 - Instead of operating in accordance with the user's manual thoroughly, any abuse or misuse of this product.
 - Normal tear and wear.
 - The product has been altered or modified in any way.
 - Damage which may have been caused either directly or indirectly by another product / force / etc.
 - Abnormal service or repairing by anyone other than the qualified personnel or technician.

And in such cases, all the expenses will be charged to the buyer.

- 3.5 In no event shall ▲LTO be liable for any incidental or consequential damages. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above exclusion or limitation may not apply to you.
- 3.6 This warranty gives you the specific rights, and these rights are compatible with the state laws, you may also have other statutory rights that may vary from state to state.

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