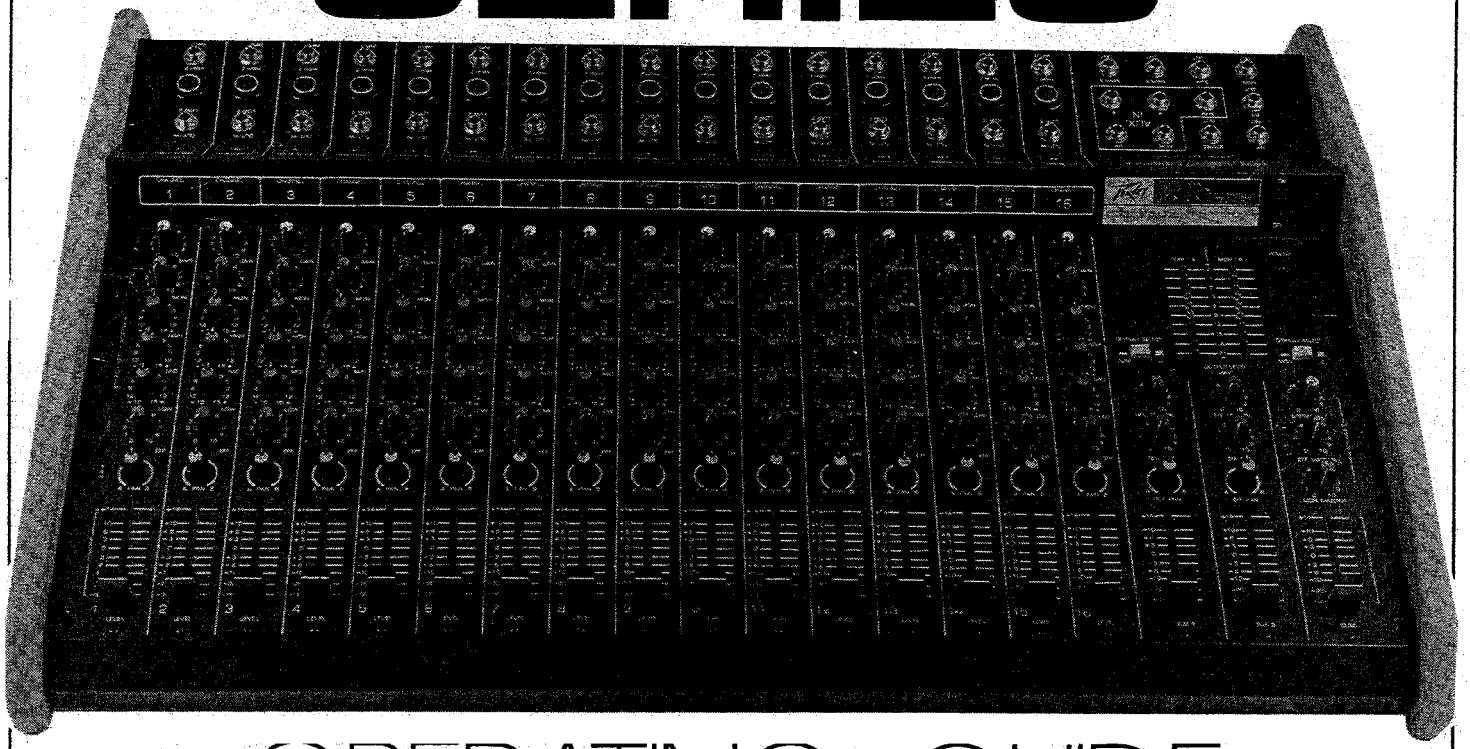
MD MIXER SERIES



OPERATING GUIDE

CAUTION
TO PREVENT ELECTRICAL SHOCK OR FIRE HAZARD, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE. BEFORE USING THIS APPLIANCE, READ BACK COVER FOR FURTHER WARNINGS.

As technology progresses and the majority of equipment manufactured by sound reinforcement companies grows ever more complex, many working musicians and sound technicians are often left in the "dust" trying to keep up with the rapid changes in mixers, power amps, enclosures, and sound reinforcement accessories.

Being the largest manufacturer of sound reinforcement systems in the world, we at Peavey understand that it is **not** always necessary for **everyone** to purchase a mixing board that is loaded with "gingerbread" features that dictate intricate operating procedures. Although we **do** produce sophisticated sound reinforcement systems which exceed the most demanding concert level situations, what is needed is a mixing system flexible in performance related features. Such a system should accurately and efficiently reproduce vocals, instruments (either direct or miked) and allow "in-line" patching of equalizers, delay lines, chorus and flanging devices and/or other outboard equipment.

Once again, we have kept our commitment to working professionals and amateurs by supplying the necessary "tools" they need for the "art-of-making-music" and proudly introduce the MD™ Series of mixing consoles.

GENERAL DESCRIPTION

The eight, twelve and sixteen channel versions of the Peavey MD™ Series Mixers exhibit all the features necessary for the majority of your sound reinforcement requirements. **Each** channel features one low impedance input (XLR-electronically balanced), one high impedance unbalanced (1/4" jack) and a unique send/return stereo jack for "in-line" patching of accessories (see Input Section for instructions). The XLR and 1/4" input connectors route the signal into the input circuitry of each channel. A gain/sensitivity control (trim-pot) is employed allowing the operator to adjust for variances in microphone and other signal source levels to aid in eliminating the possibility of "clipping" the input circuit (see Input Circuitry for instructions). The channel monitor send controls adjust the output of each channel's pre EQ level for the master monitor control allowing complete flexibility of "on-board" monitor mixing (see Monitor Send Controls for instructions).

Each channel also features a 3-band active EQ for maximum tonal flexibility without undue complications.

"Active" equalization allows the operator to "add" or "subtract" the overall blend of low, mid, and high frequencies which, when used properly, can make the difference between merely a "good" sound and a great one. Also employed are individual channel effects level and pan controls. The effects level control determines the **amount** of output required for the **post** EQ effects/signal processing device, while the pan control allows versatile "stereo imaging" and other techniques to be utilized (see Effects Send and Pan Control for instructions). The final control of each channel is the slider (fader) control which determines the level of each channel. The total output signal is then routed into Main A and Main B controls of the MD™ mixer (see Channel Level Slider for instructions).

The master section of the MD™ Mixer contains Sub A, Sub B, and Sum level calibrated sliders which set the overall gain of the system as well as a master monitor gain control for setting the signal level of the external monitor power amp(s). This section also employs input level controls for effects/reverb to the mains and monitors and two extremely effective pan controls allowing the operator to place the effects/reverb functions to **either or both** mains. A unique stereo output jack with its own level control is utilized for connection to tape recorders for recording your performances and rehearsals.

Two tri-colored 10 segment LED ladders give the operator instant visual representation of the output status of Main A, Main B, Monitor and Sum functions through a unique switching system. These LED displays feature a unique "warning system" which automatically shuts down the remaining LED's should the plus 6 dB level be reached.

The master section also features 1/4" outputs from Monitor, Sum, Main A, Main B, effects send/return, and auxiliary inputs from Monitor, Effects, Sum, Main A, and Main B.

We feel that this new series of mixers represents significant advances over contemporary units offered anywhere close to the respective price range of these innovative new products. Peavey's continued dedication to engineering excellence and manufacturing technology have made this new system possible. Proper training on the part of the operator and a basic understanding of sound reinforcement principles will allow superb performance for the average performing musician and/or sound man. We stress that mixers are, of necessity, complex devices that must be "learned" and practiced on to achieve the desired results. The sound man must become as familiar with his mixer as the musician is with his instrument in order to cope in a professional manner with various sound reinforcement situations that can happen suddenly during a live performance. Trained reflexes and a thorough understanding of the various components of the audio chain are just as important to achieve a professional result as is the quality and performance of the components used. As with any equipment, experience, understanding and good operating practice will yield optimum results. **Note: For your benefit we are supplying the following descriptions and functions of each control. A complete understanding of the "hows" and "whys" of this system will aid in achieving satisfactory results for your sound reinforcement requirements.**

1. INPUT CHANNELS FRONT PANEL

A. Input Circuitry

In order for a mixer to be utilized in many different applications, it must have the capability to control the **sensitivity** of the input circuitry of each channel. This requires a gain control, sometimes called "trim pot". Some microphone and signal sources can produce a high output signal that can overdrive or "clip" the input circuitry of a mixer. The gain control allows the operator to reduce the input gain should input clipping occur.

In use, the operator must adjust the input gain in such a manner that clipping is avoided. This can easily be done by setting up the channel with the highest expected input signal level and adjusting the input gain so that no clipping or distortion is heard from the speaker system. After the mixer has been used several times, the operator will have a very good idea of the signal levels encountered and will be able to set up accordingly. Different types of microphones will have different output levels, and different performers will get widly varying signals from microphones depending on the strength of the their voices and/or their basic "microphone techniques".

Generally, the channel gain controls should be operated so as to allow the channel slider to operate in the center of its range. Properly set, it allows maximum gain to be utilized at the input preamp where it is most efficiently obtained. Lower gain control settings require higher settings of the channel sliders and/or master, thus yielding a less than optimum signal-to-noise ratio; high gain settings could produce clipping.

It is important to realize that not all "break-up" is caused by the microphone signal overloading the input stage of the mixer. If the performer's microphone technique includes very close and/or very loud situations, the internal elements of the microphone can "bottom out" or distort just as a loudspeaker can when it is overdriven. Quite a few microphones now used by performers **lack** the dynamic range required to adequately handle the tremendous sound pressure levels encountered in a very loud rock'n'roll situation. It is vital for the professional sound man (and the musicians) be aware of the limitations of the various links in the audio system in order to correctly diagnose and solve problems encountered in a sound reinforcement situation.

Overall the input gain is the first control in the circuit and must be set up properly in order for the remaining circuits to function properly. "Common sense" and experience on several jobs will allow the operator to achieve superb results in virtually any mixing situation.

B. Monitor Send Control

The monitor send control is the channel mixing element for determining the all important monitor mix. Signals for the monitor sends are obtained right after the input preamp and **before** the channel **EQ**. These are referred to as **pre monitor sends**, i.e. they are **before** the the channel equalization and slider level controls. This makes them independent of these controls and any changes made to the EQ or channel level will not affect the monitor system. Having the monitor sends with pre-EQ capability is absolutely vital to avoid feedback of the monitor system when EQ and normal incremental setting variations are made in the channel fader during the course of the performance.

EQUALIZATION CONTROLS

The 3-band equalization circuitry is of the latest active type featuring a shelving-type filter response for the low and high EQ and a peak/notch type resonance for the middle filter. The EQ's "hinge points" and filter slopes have been precisely matched to produce optimum combining capabilities and superb interaction characteristics. Because of the pronounced action of these controls, extreme care should be given to the setting of each EQ control and all set-ups should begin in the straight-up (0) position.

Generally, it is **poor** operating practice to use both high and low equalizer controls in the deep cut (counterclockwise) positions, since this results in substantially lower gain from the channel. It should be remembered that the balance of highs and lows is a relative situation; **cutting overall gain should be done by the channel slider a or input gain control.**

C. Low Frequency Control

The low frequency control is capable of better than 15 dB boost or cut at and 60 Hz with a sloping characteristic exhibited up to the crossover point. The shelving action of this control has proven to yield a much more satisfying and effective equalization characteristic than some of the "wide open" equalization circuits claiming "20 - 25 dB boost and cut". The action of this equalization control is conventional and should present no problem in operation. Boost is obtained in the right-hand (clockwise) position, while cut is obtained in the left- hand (counterclockwise) position. **The vertical (12 o'clock) position yields a flat (no boost or cut) response and is the position from which all tonal balancing should be started!**

D. Mid Frequency Control

The mid frequency control is capable of 15 dB boost or cut at 600 Hz with a peak/notch type of filter response. This middle EQ circuit enables control over the vital mid-range frequencies. The action of this middle filter is somewhat different than the high and low EQ since it is of the peaking and notching type. This type of filter response is necessary to avoid undue interaction with the high and low equalizers.

Caution must be exercised in order to avoid overboosting or overcutting the mid-range. Experience has proven that, for most applications, a very slight mid range cut tends to produce a "tight" and well defined sound. Generally, large amounts of mid range boost are extremely unpleasant and probably will never be used except for special effects or to correct extremely marginal microphones or unusual voice timbres.

E. High Frequency Control

The high frequency control is capable of 15 dB boost or cut at 8 kHz with a shelving characteristic sloping down to the crossover point. The boost or cut action of this control is very similar to the low equalizer with the exception of its high frequency effect. Boost is obtained in the right of the center position while cut is obtained in the left of the center position. Flat response is obtained in the center (12 o'clock) position.

NOTE:

CAUTION SHOULD BE EXERCISED IN USING EXTREME LOW FREQUENCY BOOST TO AVOID OVEREMPHASIZING OBJECTIONABLE WIND NOISES OR RUMBLE FROM THE MICROPHONE AS WELL AS ANY HUM THAT MIGHT ENTER THE MIXER FROM ANY EXTERNAL SOURCES. EXCESSIVE HIGH FREQUENCY BOOST SHOULD BE AVOIDED TO KEEP RESIDUAL NOISE FROM THE AMPLIFICATION CIRCUITRY TO A REASONABLE LEVEL AS WELL AS TO AVOID A STRIDENT OR "SCREECHING" TONALITY IN THE OUTPUT PROGRAM MATERIAL.

In sound reinforcement, there is nothing "magic" about an entirely flat equalization setting. If it is necessary to use moderate amounts of equalization then you should be willing to do so. The "ideal" flat settings are almost never used, even in the recording studio and even less often in most sound reinforcement applications.

F. Effects Send Control

The effects send control is the channel control for determining the amount of signal from each respective channel to be sent to the effects output and simultaneously provides the drive signal for the internal reverb system. The effects send circuit has been designed to provide multiple functions which will be explained further in the master control section.

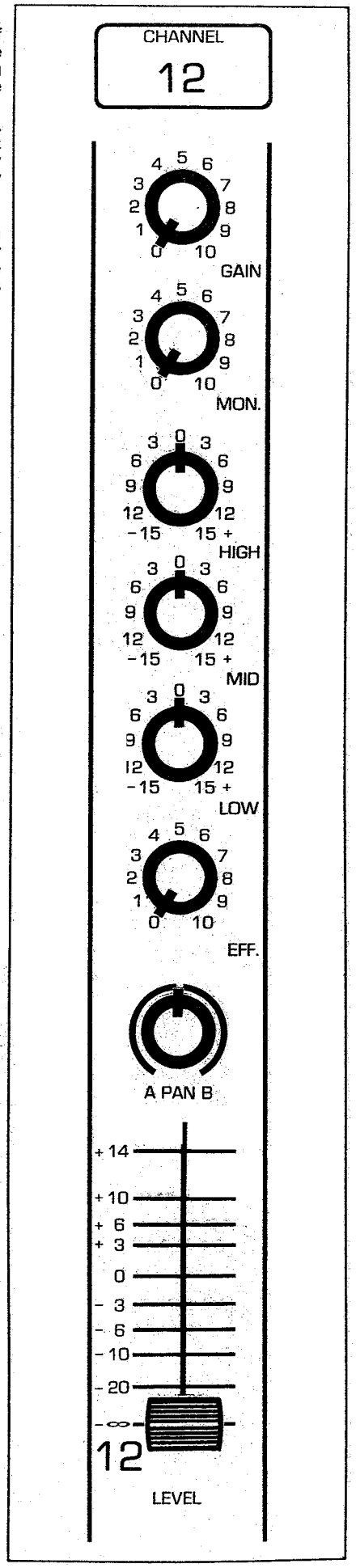
G. Pan Control

The pan control is normally used to assign the channel output signal to the A or B mains or both. For instance, the vocals may be panned to the right, thus creating a vocal sub with main "B". In the 12 o'clock or vertical position, vocals would appear on both "A" and "B" masters. Please note that we have provided a 3 dB reduction in level to each main in the vertical position as is required by standard recording studio practice. Once the "B" master has been established for vocals, the instruments may be assigned to the "A" main for a second submaster. Now both subs feed the sum which provides a monaural mix for the house.

H. Channel Level Slider

The channel level slider is the output control that determines the mix into the main summing buses. Its calibration is in decibels of boost/ attenuation and this is why the numbering sequence goes from infinity (or maximum attenuation) to +14 dB (maximum boost available). Remember that attenuation is the cutting or reduction of the signal level, i.e. the **more attenuation**, the more you have **cut down** the **signal level**. The output fader is calibrated in accordance with standard practice for professional audio equipment.

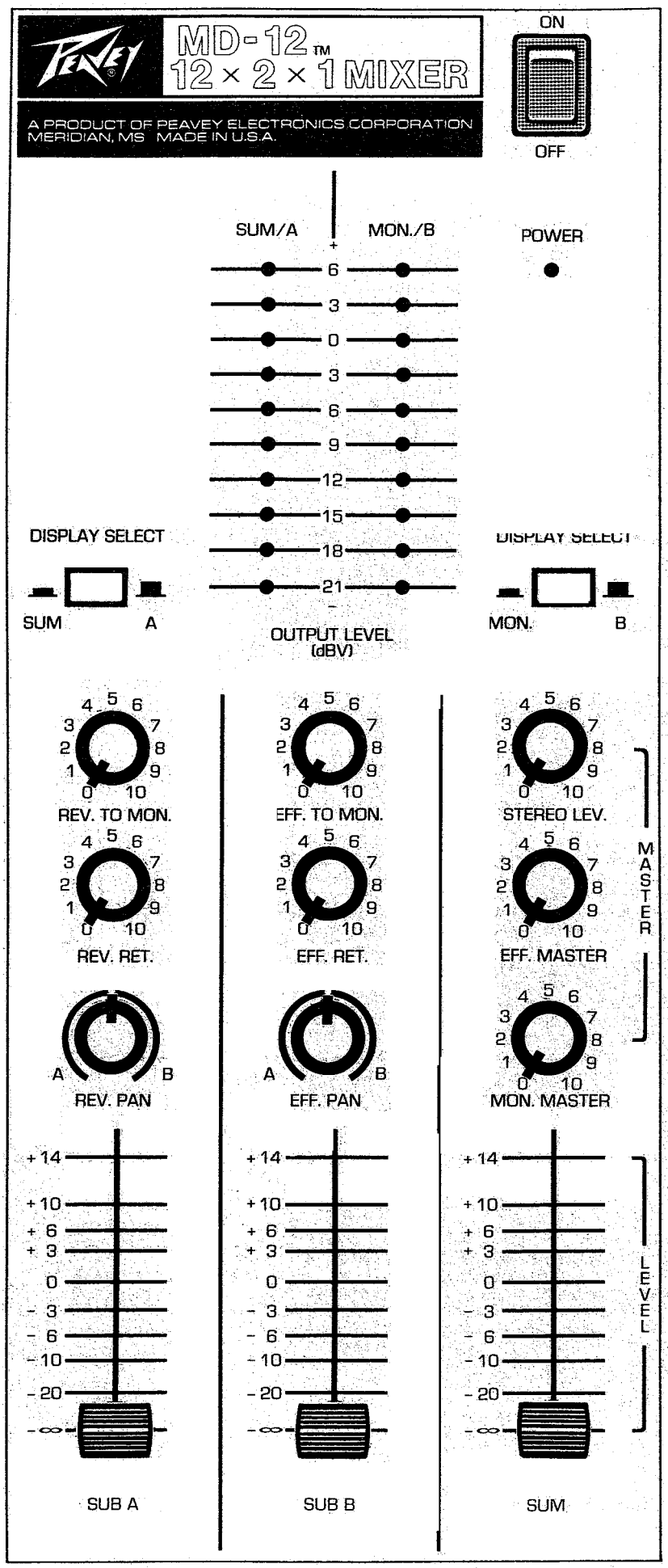
The proper setting of the input gain control should produce adequate gain at the input preamp to allow slider settings approximately in the center of the range (0 dB). You should always remember that the input gain control **definitely** influences proper operation of the entire mixer from any given input signal. The center of the channel slider control is the range that will produce the best compromise between headroom and noise. It is very poor operating practice to use the input gain controls so as to produce setting of the output sliders in a close to maximum position to obtain adequate channel output. This method of operation results in less than optimum signal to noise ratios. Similarly, operation of the output sliders in the close to minimum position, although improving signal to noice ratio, will cause headroom problems. Setting up the level controls in the middle of their travel areas also allows the user maximum control over the signal level during a performance as "conditions" change. As with any system, "common sense" must be combined with operating knowledge to produce satisfactory results. After several hours usage, the operator will have acquired a good feel for the characteristics of the controls and should be able to suitably handle any mix down situation encountered in the field with satisfactory results.



2. MASTER SECTION - FRONT PANEL

As the name implies, the master section of the MD™ Mixers contains all of the controls for the respective mixing buses and supplementary controls to allow other special functions to be achieved. The master level controls should be set in such a manner that they are close to the center of their travel (0 dB) to take advantage of the maximum control action. It is poor practice to set up the input channels at too high a level which will require the user to run the main levels near the low end to achieve the desired result. Operation in this manner will cause the operator to lose his "range" of the control action with all the gain located in one element while the other is in the infinity position. This manner of operation also tends to create headroom problems. Best practice calls for most controls to be operated near the middle of their operating range to allow mixing control margins. Remember that, while mixing, it is important to allow yourself adequate margins within which to operate. By using any of the controls in their extreme positions, you have effectively reduced your operational lattitude.

These master controls allow the operator complete flexibility of functions and should allow almost any mixing situation to be handled. As with any reasonably complex system, experience and operator knowledge of the equipment are essential for satisfactory performance. The mixer, like the musician's instrument, should be practiced on and learned. To properly operate a mixer during a performance requires thorough knowledge and trained reflexes to allow proper responses under the stress of demanding and sometimes sudden situations.



Please note that the master sliders have a 0 dB indication. Operating within these ranges will assure the best combination of signal to noise ratio and headroom.

A. Main Faders (Sliders) A and B

The main faders A and B are the main output faders and control the signal levels being supplied to the main output jack on the rear panel. **Again, under normal usage, these controls should be operated near the 0 dB range to allow optimum performance.**

B. Sum

The unique circuitry of the MD™ Series Mixers derives a signal which is the sum of the A and B outputs in order to make possible operation of the A and B outputs as submasters to the sum. As with the main A and B sliders, the sum should be operated close to its middle (0 dB) range.

C. Master Monitor Control

The master monitor control is a rotary type control and is located just above the sum master slider. Operation of this control is similar to that of any rotary gain control on the mixer and should be set in conjunction with the respective individual channel monitor send controls to achieve operation somewhere within the middle rotation of the master control. The action of this control is conventional and should present no problem. The output signal from the master monitor is available from the output connectors on the rear panel. Again, under normal usage, these controls should also be operated near the center of their range to allow optimum performance.

D. Effects Return Control

The effects return control may be considered an auxiliary input channel with a high impedance input and has been designed to accept a wide range of audio signals. This effects control is coupled to the effects pan, which then feeds into the Main A and B mixing busses.

E. Effect Pan Control

The effects pan control determines the relative balance from the effects level control blended into the main mixing busses.

F. Effects to Monitor Control

The effects to monitor control enables signals from the effects return input to be mixed back into the monitor mixing bus. This unique feature enables external effects such as echo units, flangers, delay lines, etc. to be blended back into the monitor output signal if desired.

G. Reverb Return Control

The reverb return control determines the amount of delay (reverb) signal blended back into the mains.

H. Reverb Pan

The reverb pan control determines the relative balance from the reverb level control blended into the main mixing busses.

I. Reverb to Monitor Control

This unique circuit of the MD™ Mixer allows mixing of reverberation signal back into the monitor mixing buss for those who do not prefer a "dry" monitor sound.

J. Effects Master Control

The effects master control is the final control element determining the output level from the effects send jack on the rear panel, as well as the amount of reverb drive delivered to the internal reverberation system. Please note that no reverberation effect may be achieved unless the individual channel effects send controls **and** the effects level control are adjusted properly.

K. LED Ladder Display

NOTE:
THE TWO, 10-SEGMENT LED LADDERS ON THE FRONT PANEL ARE EXTREMELY IMPORTANT VISUAL "TOOLS" AND THEIR OPERATION MUST BE UNDERSTOOD TO ACHIEVE MAXIMUM BENEFITS FROM THIS MIXING SYSTEM.

The two LED displays have a unique "switching" system allowing each ladder a "dual" function. The switch located to the left of the LED ladders enables the operator to choose either the Sum output (switch in the down position) or Main A (output switch in the up position) levels to be displayed on the left LED ladder. The switch to the right of the LED ladder allows output indication of the Monitor output status (switch in the down position) or Main B (output switch in the up position) on the right LED ladder.

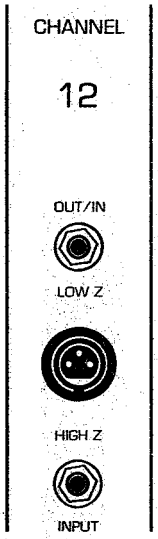
The LED ladders feature an extremely effective "warning system" for all of the above mentioned functions. Should the LED ladders reach the +6 dB LED (top of the ladder reading) the remaining LED's automatically "shut-down" giving the operator an instant visual indication that the possibility of clipping might be present. **Note: Under normal operating conditions the gain/sensitivity controls, EQ, channel sliders, monitor controls (channel and master) and master sliders for main A, B, and Sum should all be operated near their center positions (0 dB where indicated).** This type of operation will ensure that the possibility of clipping (overload) is at a minimum.

L. Power Switch/Pilot LED

The power switch is of the simple 2-position "rocker" type featuring an internal pilot light. Operation of this switch is conventional and should present no problems in operation. The "on" position will be indicated when the internal pilot light glows, signifying power is being delivered to the mixer circuitry.

3. REAR PANEL INPUT SECTION

The rear panel of the MD™ Mixers contains all the interface connection to and from the electronic circuitry. The versatility offered by these connections is unmatched by any competing unit and a thorough understanding of the various features is **essential** in order to fully realize the performance and versatility of this unit.



A. Each channel of the MD™ Series Mixers feature both balanced (symmetrical) low impedance (600 ohms) as well as high impedance (50 K ohms) unbalanced inputs. Each of these inputs feature extremely wide dynamic range and are fully transient protected to ensure durability under road conditions. While these inputs are intended primarily for microphones, they will also work well for many other types of program sources. Note: Do not attempt to connect the output of a magnetic phono cartridge directly to either input since the cartridges require RIAA equalization prior to insertion into units such as this. The preamp circuitry of this unit features sufficient gain to operate with magnetic phono cartridges but does not have the special RIAA equalization so necessary to realize maximum performance. Small "preamp" equalizers are available from most electronic supply houses that perform the RIAA equalization function very inexpensively. We suggest the Shure Model M-64, or Radio Shack Phono Preamp Model #422101 or an equivalent.

B. Out/In Jack

The MD™ Mixers feature a "stereo" out/in jack on each channel to facilitate the use of direct outputs/inputs from the preamps for "patching" various auxiliary units (chorus, flanging, tape/digital/ analog delays, equalizers, etc.) "in-line". To utilize this unique system, a stereo plug (ring/tip/sleeve) to a "Y" cord must be used. The tip portion of the 1/4" stereo jack serves as the channel send (output) while the ring portion will return the processed signal to the channel. The "sleeve" portion serves as the ground.

Since this is a stereo jack configuration, the first "click" on the jack may be used as a "pre-EQ" output with a mono 1/4" plug if desired. This first "click" **will not** disturb the signal flow to the remainder of the channel as it is fed into the master section. NOTE: IF THE SECOND "CLICK" OF THE OUT/IN JACK IS UTILIZED WITHOUT RETURNING ANY SIGNAL TO THE CHANNEL FROM AN EFFECTS DEVICE **THE REMAINING PREAMP FUNCTIONS WILL BE DISABLED.**

4. REAR PANEL MASTER PATCH SECTION

The MD™ Mixers feature a full master section providing access to all internal mixing busses, as well as to the various amplifiers and effects inputs.

A. Main A and B, Monitor, and Sum Outputs

Each main line out features a phone jack (1/4" - low Z unbalanced) output. These line amplifiers are capable of providing more than 8V RMS output, and are fully transient and short-circuit protected from maximum field reliability. The output level presented by these jacks is controlled by the settings of the various master level controls on the front panel.

B. Effects Output

The effects output presents the signal from the effects mixing bus. This jack is of a unique "2-position" type with the first position being the low level output and the second position being the high level output. This unique arrangement enables use of this mixer with line level or instrument level effects devices depending on which "click" of the jack is used. The overall output level from the effects jack is determined by the setting of the master effects level control on the front panel.

C. Effects Return

The effects return input on the rear panel may be considered an auxiliary channel featuring its own level and panning controls located on the front panel. This high impedance (100K) effects return is capable of handling a wide range of input signals. The effects return system feeds both main mixing busses and is intended for use when returning signals from external effects devices to be mixed into the main mixing busses.

D. Stereo Out Jack

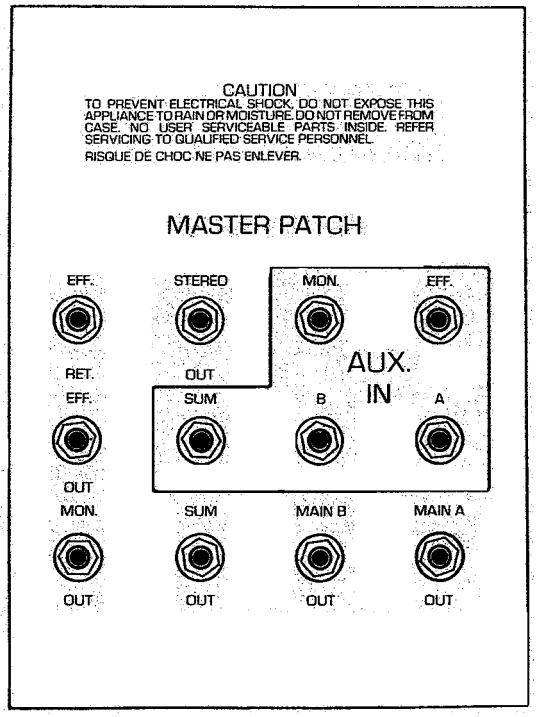
The MD™ Mixers are supplied with a highly usable stereo output jack for connection to recording decks or other outboard equipment. Musicians/ sound personnel will find this line-level stereo output perfect for recording live performances and/or rehearsals.

E. Auxiliary Inputs

The auxiliary inputs are line level access points to the five internal mixing busses. They are the medium impedance type (33K ohms) and are provided to allow parallel mixers or for any other purpose that requires direct signal injection into the internal mixing busses.

F. Line Cord

For your safety, we have incorporated a 3-wire line (mains) cable with proper grounding facilities.



WARNING:

IT IS NOT ADVISABLE UNDER ANY CIRCUMSTANCES TO REMOVE THE GROUND PIN. IF IT IS NECESSARY TO USE THE AMP IN A 2-PIN PLUG SYSTEM WITHOUT PROPER GROUNDING FACILITIES, SUITABLE GROUNDING ADAPTORS SHOULD BE USED. MUCH LESS NOISE AND GREATLY REDUCED SHOCK HAZARD EXISTS WHEN THE UNIT IS OPERATED WITH THE PROPER GROUNDED RECEPTACLES.

MD™ Series Mixer Specifications:

Summary of Functions:
8/12/16 in, A and B out, sum out, one pre monitor out, one post effect out, stereo out, 3-band EQ each channel, dual switchable LED arrays and internal reverb.

Inputs, Each of 8/12/16 channels:
One low Z balanced mic, one high Z unbalanced line, one high Z unbalanced return line.

Inputs, Master:
One unbalanced auxiliary for main A and B, monitor, effect and sum, one unbalanced high Z effects return.

Outputs, Each of 8/12/16 channels:
One low Z unbalanced send.

Outputs, Master:
One low Z unbalanced line for main A and B, monitor and sum, stereo line out, high/low level effects out.

Channel Microphone Inputs:
Mic Impedance: Low Z 600 ohms balanced
Nominal Input Level: -18 dBM, 100 mV RMS
Minimum Input Level: -36 dBM, 12 mV RMS
Maximum Input Level: +22 dBM, 10 V RMS

Channel line inputs:
Line Impedance: 10K ohms unbalanced
Nominal Input Level: 0 dBV, 1 volt RMS
Minimum Input Level: -20 dBV, .1 volt RMS
Maximum Input Level: +30 dBV, 30 volts RMS

Channel Returns And Auxiliary Inputs:
Line Impedance: 20K ohms unbalanced
Designed Input Level: 0 dBV, 1 volt RMS

Effects Return Input:
Line Impedance: High Z, 100K ohms unbalanced
Nominal Input Level: 0 dBV, 1 volt RMS
Minimum Input Level: -14 dBV, .2 volts RMS
Maximum Input Level: +6 dBV, 2 volts RMS

Main A, Main B, Monitor, Sum, Channel Sends and Effects (High Level) Unbalanced Outputs:
Load Impedance: 600 ohms or greater
Nominal Output: 0 dBV, 1 volt RMS
Maximum Output: +18 dBV, 8 volts RMS into 50K ohm load
Maximum Output: +14 dBM, 4 volts RMS into 600 ohm load

Effects (Low Level) and Stereo Unbalanced Outputs:
Load Impedance: 10K ohms or greater
Nominal Output: -12 dBV, .25 volts RMS
Maximum Output Level: +6 dBV, 2 volts RMS

The following specifications are measured with a nominal input gain setting of +14 dB on all channels, all sliders set at 0 dB, all EQ set flat, low Z inputs terminated at 600 ohms, high Z inputs and all outputs terminated at 47K.

Frequency response (any in/out combination with 1 volt RMS):
+0, -2 dB, 20 Hz to 30 KHz

Preamp Hum and Noise (All channels on):
-82 dBV (high Z line inputs)
-80 dBV (low Z mic inputs)

Overall Distortion (any in/out combination):
20 Hz to 20 KHz at 1 volt RMS, less than .05% THD, typically below .01%

Equalization:
+-15 dB at 60 Hz and 8 KHz (shelving)
+-15 dB at 600 Hz (peak/notch)

Crosstalk:
Greater than 50 dB at 1 KHz

LED Readout Range:
-21 to 6 dBV (Sum A, Monitor B)

Power requirements:
120 VAC, 60 Hz, 20 watts

Maximum Available Gain:
+14 dB

Master Slider:
+14 dB

Channel Slider:
+38 dB

Input Control (low Z):
+66 dB total

DANGER

EXPOSURE TO EXTREMELY HIGH NOISE LEVELS MAY CAUSE A PERMANENT HEARING LOSS. INDIVIDUALS VARY CONSIDERABLY IN SUSCEPTIBILITY TO NOISE INDUCED HEARING LOSS, BUT NEARLY EVERYONE WILL LOSE SOME HEARING **IF** EXPOSED TO SUFFICIENTLY INTENSE NOISE FOR A SUFFICIENT TIME.

THE U.S. GOVERNMENT'S OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) HAS SPECIFIED THE FOLLOWING PERMISSIBLE NOISE LEVEL EXPOSURES:

DURATION PER DAY IN HOURS	SOUND LEVEL dBA, SLOW RESPONSE
8	90
6	92
4	95
3	97
2	100
1½	102
1	105
½	110
¼ or less	115

ACCORDING TO OSHA, ANY EXPOSURE IN EXCESS OF THE ABOVE PERMISSIBLE LIMITS **MAY** RESULT IN PERMANENT HEARING LOSS.

EAR PLUGS OR PROTECTORS IN THE EAR CANALS OR OVER THE EARS MUST BE WORN WHEN OPERATING THIS AMPLIFICATION SYSTEM IN ORDER TO PREVENT A PERMANENT HEARING LOSS **IF** EXPOSURE IS IN EXCESS OF THE LIMITS AS SET FORTH ABOVE. TO INSURE AGAINST POTENTIALLY DANGEROUS EXPOSURE TO HIGH SOUND PRESSURE LEVELS, IT IS RECOMMENDED THAT ALL PERSONS EXPOSED TO EQUIPMENT CAPABLE OF PRODUCING HIGH SOUND PRESSURE LEVELS SUCH AS THIS AMPLIFICATION SYSTEM BE PROTECTED BY HEARING PROTECTORS WHILE THIS UNIT IS IN OPERATION.

CAUTION

THIS MIXING CONSOLE/PREAMP HAS BEEN DESIGNED AND CONSTRUCTED TO PROVIDE ADEQUATE SIGNAL (VOLTAGE) FOR PLAYING MODERN MUSIC. IMPROPER USE OF THE GAIN/EQUALIZATION CONTROLS AND/OR IMPROPER USE OF INTERNAL/EXTERNAL BUSSES **MAY** CREATE CLIPPING (SQUARE WAVES) AND POSSIBLY CAUSE SUBSEQUENT DAMAGE TO THE POWER AMP/LOUDSPEAKER SYSTEMS. EXTENDED OPERATION OF THE GAIN/EQUALIZATION CONTROLS IN THEIR MAXIMUM POSITIONS IS, THEREFORE, **NOT** RECOMMENDED. PLEASE BE AWARE THAT **MAXIMUM POWER** CAN BE OBTAINED WITH VERY LOW SETTINGS OF THE **GAIN/EQUALIZATION** CONTROLS IF THE INPUT SIGNAL IS VERY STRONG.

Due to our efforts for constant improvement, features and specifications listed herein are subject to change without notice.

PEAVEY ELECTRONICS CORPORATION
711 A Street / Meridian, MS 39301 / U.S.A.

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