



# 16 CHANNEL STEREO MIXER

# MX-16

Thank you for purchasing this **KAWAI MX-16** 16 Channel Stereo Mixer. This Owner's Manual contains valuable information that will help you make full use of this instrument's many capabilities. Read it carefully and keep it handy for future reference.

## FEATURES

- Dynamic Noise Reduction (DNR) to reduce noise of source.
- High signal-to-noise ratio, suitable for any mixing application.
- 2 band equalizer for each channel.
- Three EFFECT loops (EFFECT 1~3) for flexible sound processing.
- Jacks on the upper side of the panel for convenient operation.

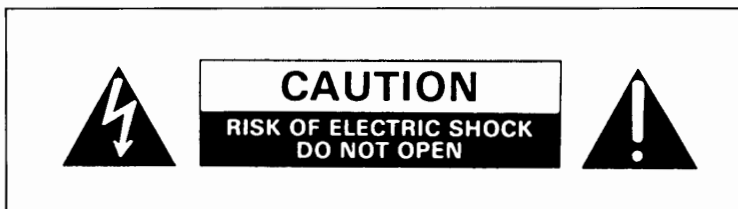
## IMPORTANT NOTES

- Always connect the mixer to the proper power supply.
- Use separate circuits for equipment that consumes a lot of power or generates line noise.
- Protect the mixer from dust, heat, humidity, and direct sunlight.
- Turn all power switches off before connecting or disconnecting equipment.
- Set the amplifier volume to its minimum setting before turning on the mixer.
- Clean the mixer with a clean dry cloth.
- Do not use benzene, paint thinner, or other solvents.

# IMPORTANT SAFETY INSTRUCTIONS

**WARNING** — When using electric products, basic precautions should always be followed, including the following:

1. Read all the instructions before using the product.
2. Do not use this product near water — for example, near a bathtub, washbowl, kitchen sink, in a wet basement, or near a swimming pool, or the like.
3. This product, either alone or in combination with an amplifier and headphones or speakers, may be capable of producing sound levels that could cause permanent hearing loss. Do not operate for a long period of time at a high volume level or at a level that is uncomfortable. If you experience any hearing loss or ringing in the ears, you should consult an audiologist.
4. The product should be located so that its location or position does not interfere with its proper ventilation.
5. The product should be located away from heat sources such as radiators, heat registers, or other products that produce heat.
6. The product should be connected to a power supply only of the type described in the operating instructions or as marked on the product.
7. Always turn the power off when the instrument is not in use. The power-supply cord of the product should be unplugged from the outlet when left unused for a long period of time.
8. During an electrical storm, turn off the power and unplug.
9. Care should be taken so that objects do not fall and liquids are not spilled into the enclosure through openings.
10. The product should be serviced by qualified service personnel when:
  - A. The power-supply cord or the plug has been damaged; or
  - B. Objects have fallen, or liquid has been spilled into the product; or
  - C. The product has been exposed to rain; or
  - D. The product does not appear to operate normally or exhibits a marked change in performance; or
  - E. The product has been dropped, or the enclosure damaged.
11. Do not attempt to service the product beyond that described in the user-maintenance instructions. All other servicing should be referred to qualified service personnel.



**WARNING**  
TO REDUCE THE RISK  
OF FIRE OR ELECTRIC  
SHOCK.  
DO NOT EXPOSE  
THIS PRODUCT TO  
RAIN OR MOISTURE.

**AVIS: RISQUE DE CHOC ELECTRIQUE** -NE PAS OUVRIR.

TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK).  
NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

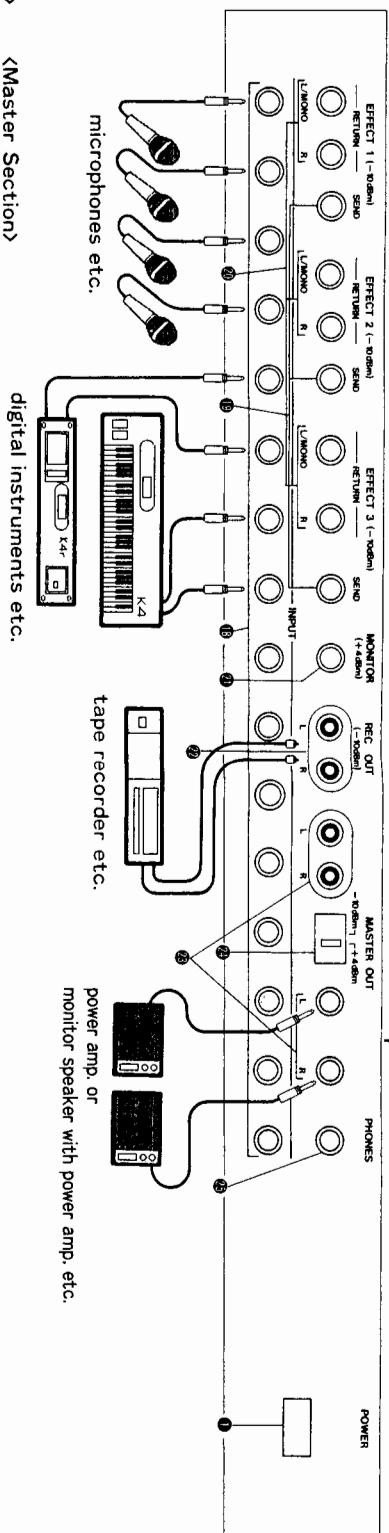


The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



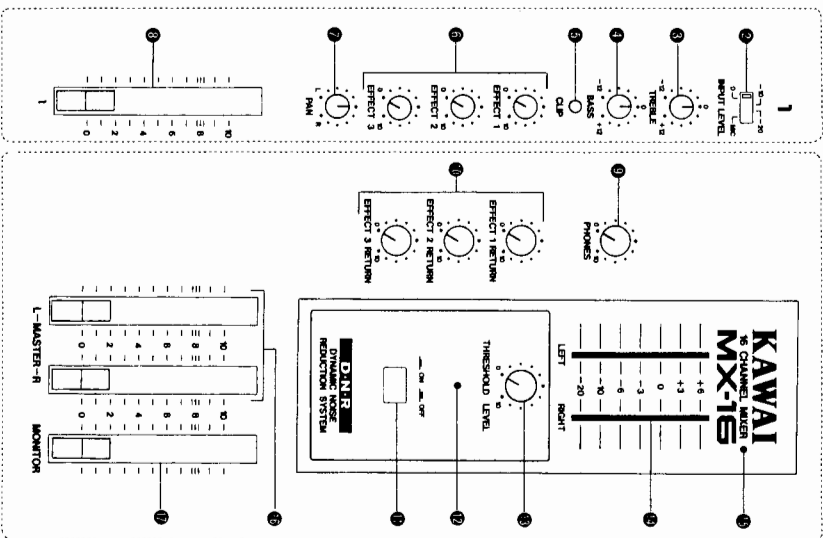
The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance(servicing) instructions in the literature accompanying the product.

## <Jacks and Connection Example>



<Channel Section>

<Master Section>



digital instruments etc.

tape recorder etc.

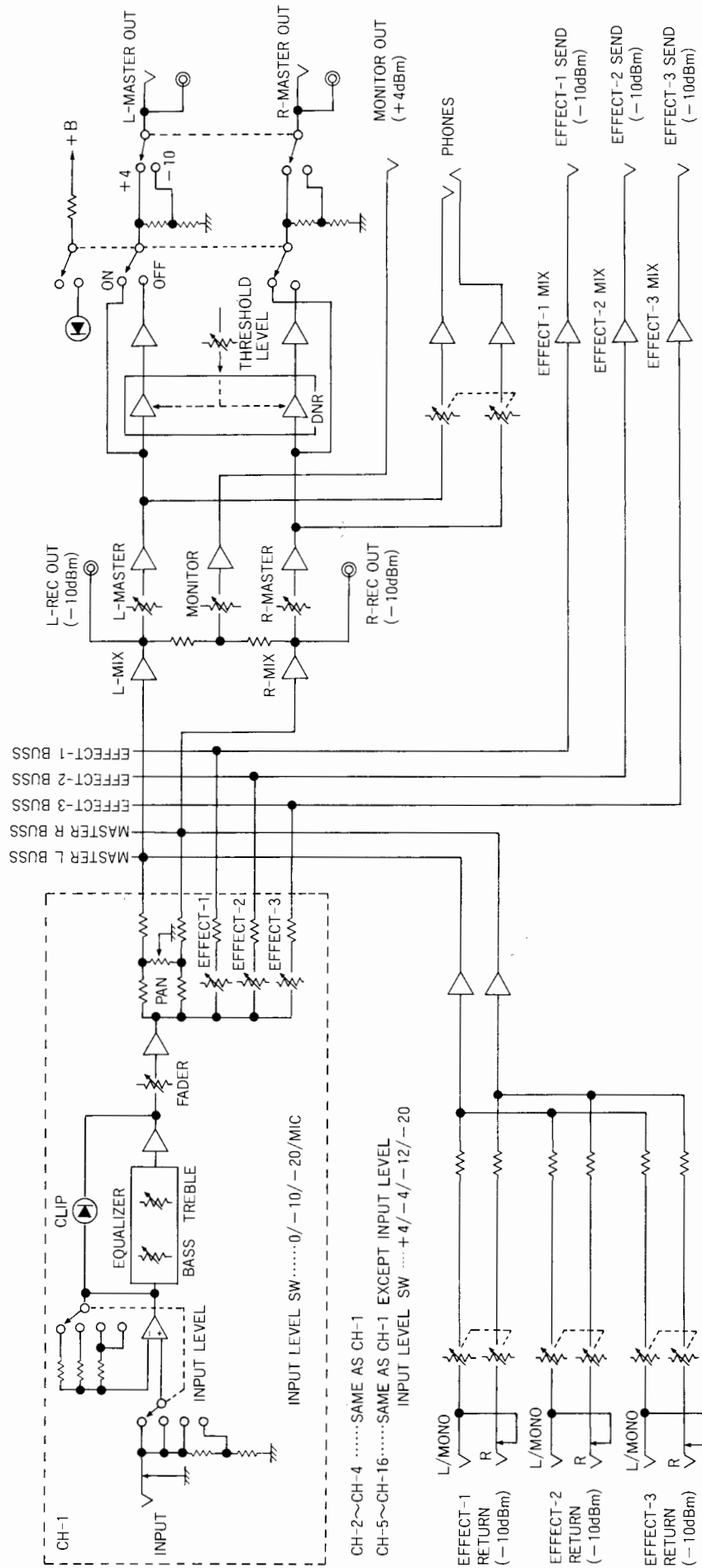
power amp. or  
monitor speaker with power amp. etc.

### CONTROLS

- **POWER SWITCH**  
: Turns on and off power to the mixer. Make sure that the MASTER FADER controls are at their minimum levels before turning this switch on or off.
- **INPUT LEVEL SWITCH**  
: adjusts the channel gain to match the input level. Input channels 1 through 4 substitute a special microphone (MIC) position for the highest gain.
- **BASS**  
: controls the relative volume of low frequencies.
- **TREBLE**  
: controls the relative volume of high frequencies.
- **CLIPPING INDICATOR**  
: lights when the input level exceeds the maximum, resulting in clipping distortion. The gain switches can be used to eliminate clipping.
- **EFFECT 1, 2, 3 SEND VOLUMES**  
: control the amount of the signal sent to the EFFECT mixing buses. (Post Fader)
- **BANPOT**  
: controls the stereo balance.
- **CHANNEL FADER**  
: controls the volume of the headphone output.
- **HEADPHONE VOLUME**  
: control the volume of signals from effect devices.
- **EFFECT 1, 2, 3 RETURN VOLUMES**  
: turns the Dynamic Noise Reduction (DNR) ON or OFF.
- **DNR ON/OFF**  
: lights when DNR is on.
- **DNR INDICATOR**  
: controls the level below which the DNR circuit takes effect.
- **THRESHOLD LEVEL**  
: monitors the final output levels.
- **POWER INDICATOR**  
: lights when the power is on.
- **MASTER FADERS**  
: control the volume of the main output channels.
- **MONITOR FADER**  
: controls the volume of the MONITOR OUT. This output is independent of the MASTER OUT.
- **INPUTS 1 - 16**  
: accept inputs from instruments and -for channels 1 to 4 only- microphones.
- **EFFECT 1, 2, 3 SENDS**  
: are the output of the EFFECT 1, 2, 3 buses. Connect these to the inputs of your effect devices.
- **EFFECT 1, 2, 3 RETURNS**  
: are the effect inputs to the master mixed output. Connect the return signals from your effect devices to these inputs. If a device's output is monaural, connect it to the L/MONO terminal. These inputs can also be used as aux inputs.
- **MONITOR OUT**  
: The master mixed output appears here in monaural. The monitor out is useful for monaural mixing or for use with a compact monitor.
- **REC OUT**  
: The master mixed output before the master faders appears here. Use these jacks for recording a live performance. (RCA PIN type)
- **MASTER OUT**  
: The master mixed output appears here. The master faders will affect the level of these outputs. (Select the connector according to the connected equipment.)
- **MASTER OUT LEVEL SWITCH**  
: changes the MASTER OUT level according to the connected equipment. -10 for home equipment, +4 for professional equipment.
- **HEADPHONE JACK**  
: accepts a standard stereo headphone jack.

### How to use Dynamic Noise Reduction (DNR)

Microphones or electronic musical instruments have their own background noise. Usually, the noise is almost inaudible when the equipment is used independently. But when many pieces of electronic equipment are connected to the mixer, the sum of the background noise may become noticeable. By using DNR, you can reduce this noise without changing the nuances of the original sound source. Set the THRESHOLD so that the background noise just disappears when no sound is playing.



# SPECIFICATIONS

Inputs		*1 Input Sensitivity	*2 Input level Rating	Maximum Input Level	Input Impedance	Suitable Source Impedance
CH INPUT	LEVEL SW					
	O(CH1-4)	-6dBm	0dBm	+24dBm	11kΩ	Less than 1kΩ
	-10(CH1-4)	-16dBm	-10dBm	+14dBm	11kΩ	Less than 1kΩ
	-20(CH1-4)	-26dBm	-20dBm	+4dBm	11kΩ	Less than 1kΩ
	MIC(CH1-4)	-51dBm	-45dBm	-21dBm	11kΩ	Less than 1kΩ
	+4(CH5-16)	-2dBm	+4dBm	+28dBm	11kΩ	Less than 1kΩ
	-4(CH5-16)	-10dBm	-4dBm	+20dBm	11kΩ	Less than 1kΩ
	-12(CH5-16)	-18dBm	-12dBm	+12dBm	11kΩ	Less than 1kΩ
	-20(CH5-16)	-26dBm	-20dBm	+4dBm	11kΩ	Less than 1kΩ
EFFECT RETURN	-16dBm	-10dBm	+30dBm	10kΩ	Less than 1kΩ	

Outputs		Output Level Rating	Maximum Input Level	Output Impedance	Suitable Source Impedance
MASTER OUT (PHONE)	LEVEL SW				
	+4dBm	+4dBm	+19dBm	600Ω	More than 5kΩ
(RCA PIN)					
	-10dBm	-10dBm	+5dBm	900Ω	More than 5kΩ
REC OUT		-10dBm	+13dBm	1kΩ	More than 5kΩ
MONITOR OUT		+4dBm	+20dBm	1kΩ	More than 5kΩ
HEADPHONES		-	*3 200mW+200mW	47Ω	More than 8kΩ

\*3 load 100Ω

\*1 CH FADER, MASTER FADAR, EFFECT RETURN VOLUME...MAX

\*2 CH FADER, ..."B", MASTER FADER...MAX, EFFECT RETURN VOLUME... "B"

## Connectors

INPUT JACK (PHONE)	16
MASTER OUT JACK (PHONE)	2
(RCA PIN)	2
REC OUT JACK (RCA PIN)	2
MONITOR OUT JACK (PHONE)	1
EFFECT 1 * POST FADER (PHONE)	SEND 1, RETURN 2
EFFECT 2 * POST FADER (PHONE)	SEND 1, RETURN 2
EFFECT 3 * POST FADER (PHONE)	SEND 1, RETURN 2
HEADPHONE JACK (STEREO PHONE)	1

## Controls

CH LEVEL SW (0/-10/-20/MIC)	4
CH LEVEL SW (+4/-4/-12/-20)	12
EQUALIZER TREBLE (±12dB, at 10KHz)	16
EQUALIZER BASS (±12dB, at 100Hz)	16
EFFECT 1 VOLUME	16
EFFECT 2 VOLUME	16
EFFECT 3 VOLUME	16
PANPOT	16
CH FADER	16
MASTER FADER	2
MONITOR FADER * PRE MASTER FADER	1
EFFECT RETRUN VOLUME	3
HEADPHONE VOLUME	1
DNR THRESHOLD VOLUME	1
DNR SW	1
POWER SW	1

## Indicators

CLIP INDICATOR	16
LEVEL INDICATOR	2
DNR INDICATOR	1
POWER INDICATOR	1
CH LEVEL SW ... MIC	40 Hz~50 KHz $\pm\frac{0}{-3}^5$ dB
CH LEVEL SW ... except for MIC	20 Hz~55 KHz $\pm\frac{0}{-3}^5$ dB

## Frequency Response

## Signal-to-Noise Ratio (IHF-A curve, input terminals short-circuited)

<b>Equivalent Input Noise</b>	
CH1~4 LEVEL SW (MIC)	-124 dBm
<b>Residual Noise</b>	
MASTER FADER (MIN)	Less than -100 dBm
MASTER FADER (MAX), ALL CH FADER (MIN)	Less than -78 dBm
MASTER FADER (MAX), ALL CH FADER (MAX)	Less than -72 dBm
CH1~4 LEVEL SW (-10)	
CH5~16 LEVEL SW (-12)	
MASTER FADAR (MAX), 1 CH FADER (MAX)	Less than -76 dBm
CH1 LEVEL SW (-20)	

## Total Harmonic Distortion

## Crosstalk

## Dimensions

## Weight

## Power Consumption

between L & R, between Channels	0.05%(100 Hz~10 KHz, +4 dBm)
	Less than 70 dB (at 1KHz)
	484(W) × 320(D) × 83(H)mm
	4 kg
	12W