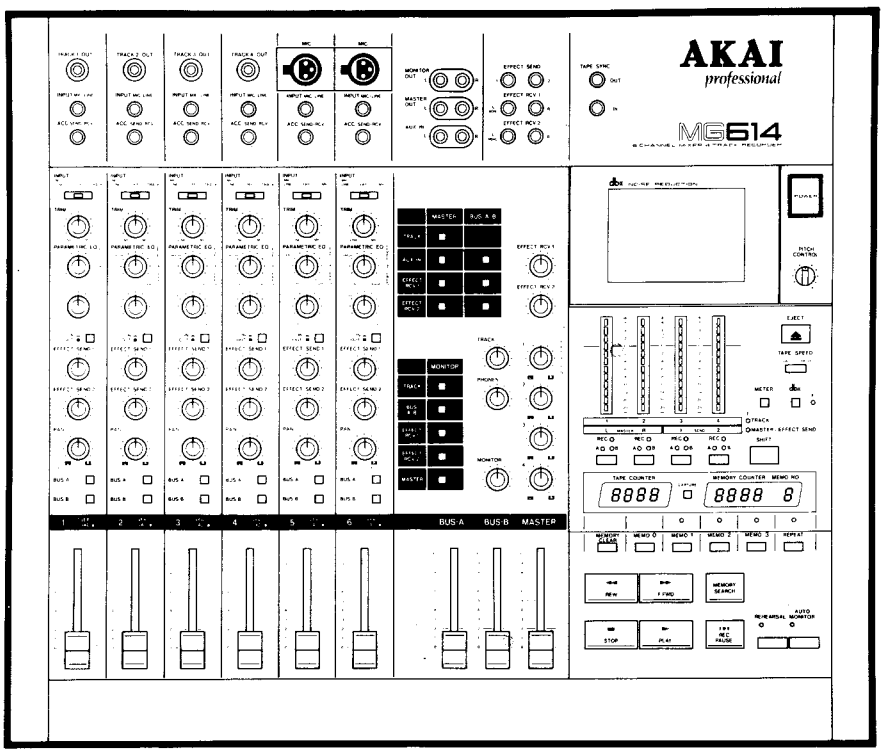
AKAI
professional

MG614

6 CHANNEL MIXER
4 TRACK RECORDER



WARNING

To prevent fire or shock hazard, do not expose this appliance to rain or moisture.

Operator's Manual

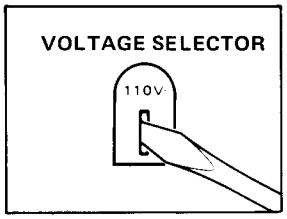
Warning

Power requirements

Power requirements for electrical equipment differ from area to area.
The operating voltage of this machine is preset at the factory according to it's intended destination. However, some models are equipped with a voltage selector. If your machine is so equipped, before connecting, check to see that the VOLTAGE SELECTOR on the rear panel is set to the voltage for your area.
If not, please set it correctly before plugging in the power cord.
220V, 50Hz for Europe except the UK.
240V, 50Hz for UK and Australia.
120V, 60Hz for USA and Canada.

If the VOLTAGE SELECTOR is not set for your area:

Confirm that the power cord is disconnected.
Move the VOLTAGE SELECTOR with a screwdriver so that the marker is above the voltage for your area.



What you should know to protect yourself and the Akai MG614

Watch out! You might get an electric shock.

- Never touch the plug with wet hands.
- Always pull out by the plug and never the cord.
- Only let a qualified professional repair or reassemble the equipment. An unauthorized person might touch the internal parts and receive a serious electric shock.
- Never allow a child to put anything, especially metal, into the equipment.

Let's protect the Akai MG614 too.

- Use only a household AC power source. Never use a DC power source.
- If water is spilled on the equipment, disconnect the power and call your dealer.
- Make sure that the equipment is well ventilated and away from direct sunlight.
- To avoid damage to the internal circuits and the external surface, keep away from heat (stoves, etc.)
- Avoid using spray type insecticide near the equipment. It can damage the finish and might ignite suddenly.
- To avoid damaging the finish, never use denaturated alcohol, paint thinner or other similar chemicals to clean the equipment.
- Place the equipment on a flat and solid surface.

To enjoy the Akai MG614 for a long time, please read this operator's manual thoroughly.

Should a problem persist, write down the model and serial numbers and all pertinent data regarding warranty coverage as well as a clear description of the existing trouble. Then, contact your nearest authorized Akai Service Station, or the Service Department of Akai Electric Company, Tokyo, Japan.

Precautions

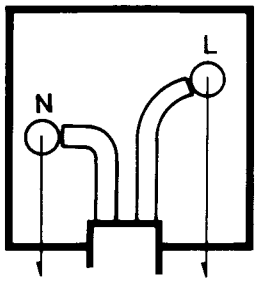
FOR CUSTOMERS IN THE UK

IMPORTANT FOR YOUR SAFETY

The flex supplied with your machine will have two wires as shown in the illustration.

TWO CORE FLEX IMPORTANT

The wires in this mains lead are coloured in accordance with the following code:
Blue: Neutral
Brown: Live
As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured markings indentifying the terminals in your plug, proceed as follows: The wire which is coloured blue must be connected to the terminal which is marked with the letter N or coloured black.



Blue (Neutral) Brown (Live)

The wire which is coloured brown must be connected to the terminal which is marked with the letter L or coloured red.
* Do not connect any wire to the larger pin marked E or ⏚ when wiring a plug. Ensure that all terminals are securely tightened and that no loose strands of wire exist.



CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN



CAUTION: 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 the arrowhead symbol superimposed across a graphical representation of a person, 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.



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

Features

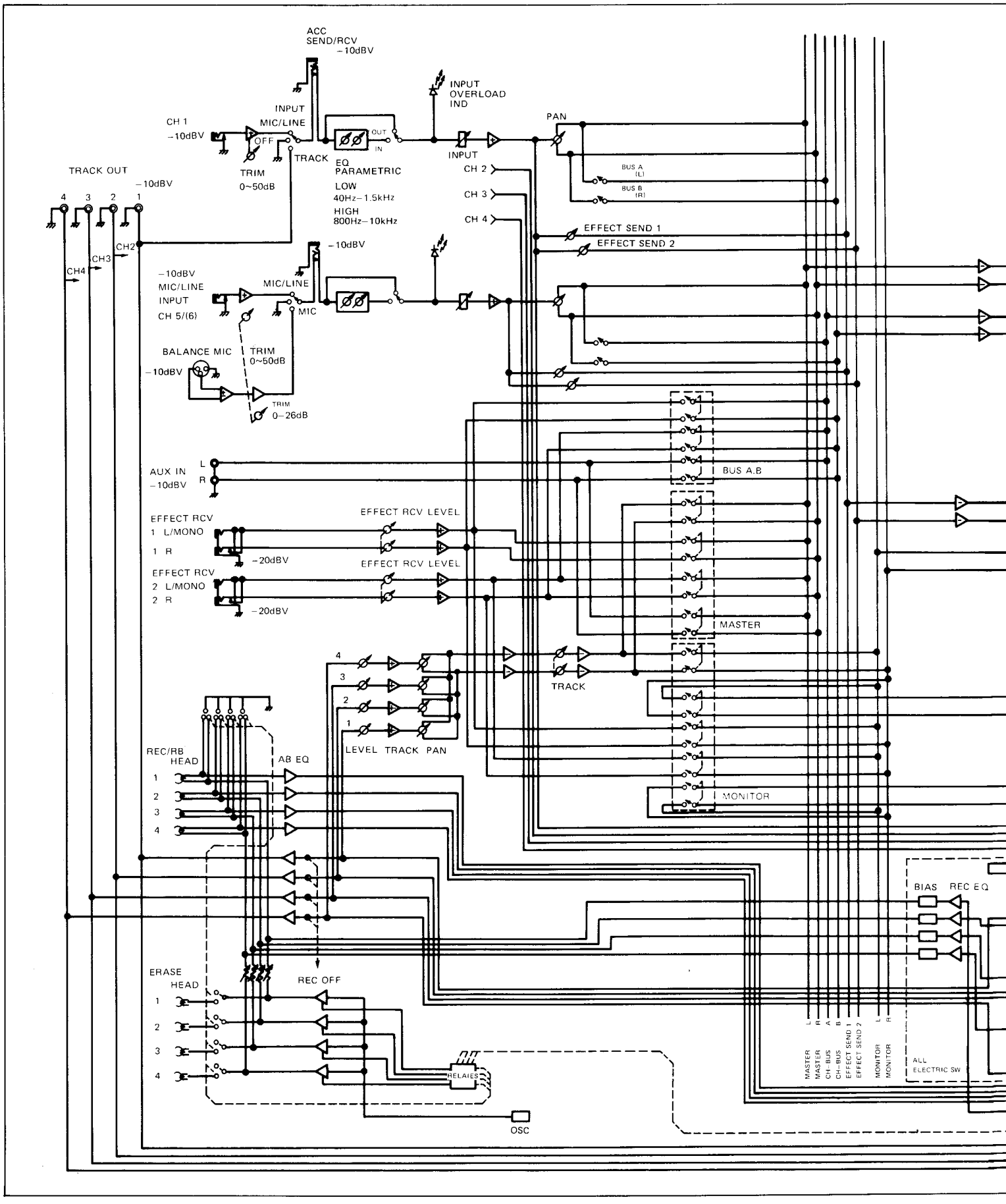
The MG614 is a 6 channel mixer combined in a compact design with a 4 track/multi-track recorder using compact cassette tapes.

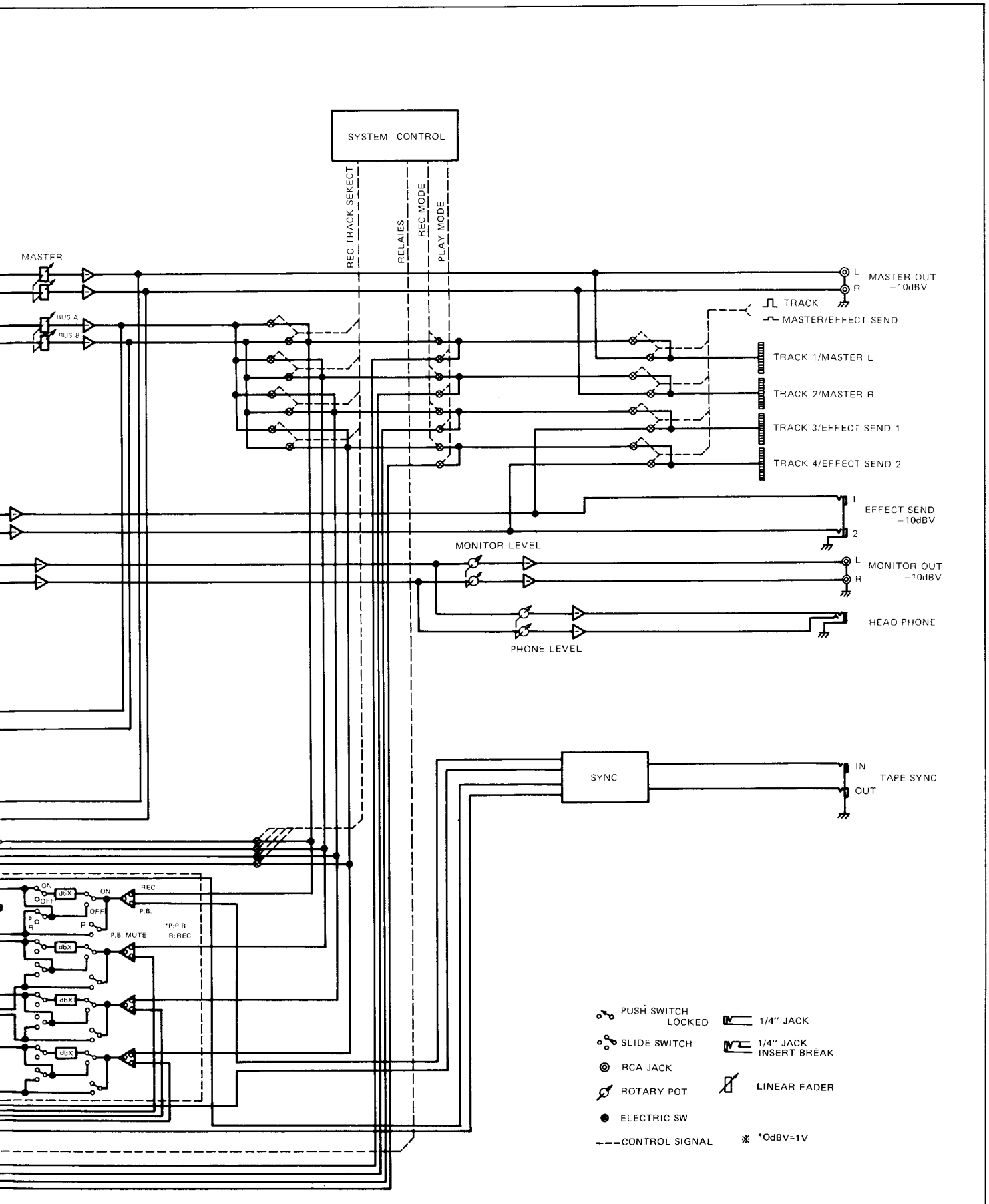
- There is no need to connect the mixer and the recorder.
- The REC TRACK/BUS selector function makes it possible to connect any mixer channel output to any track and record. Ping-pong recording between tracks is also possible with simple button operation.
- FM recording and playback of tape synchro signals is possible using a sequencer or rhythm machine. The signals are recorded on track 1 along with the audio signals, so the full four tracks can be used for recording and playback of audio signals, making synchronized operation with a sequencer or rhythm machine possible.
- dbx noise reduction. This system provides an extremely high reduction effect (30 ~ 40dB), and can be used for either regular recording or ping-pong recording between tracks without losing the dynamic range of the recording source.
- Two speeds: HIGH (9.5cm/sec) and LOW (4.75cm/sec). Pitch control function for varying the tape speed by ±10%.
- Auto memory system for increased operability of the search and repeat playback functions.
- Handy functions for improved multi-layer recording operability, including rehearsal mode and auto monitor.
- Input modules for channels 5 and 6 equipped with transformerless balanced mike inputs using XLR-type cannon plugs.
- Each input module is equipped for accessory send/receive, so effectors can be used for each channel and track.
- Double total effect send/receive for monaural, stereo, or multiple effect loop configurations.
- Monitor selector making it possible to easily monitor the track, bus, total effect receive, and master level separately.
- Track monitor mixer with pan-pot for stereo-image track monitoring. The mixer output can also be connected to the master line.
- AUX inputs (stereo) can be connected to the master and bus lines.
- 4 track direct playback output.
- Punch-in/punch-out is possible using a foot switch.

Table of Contents

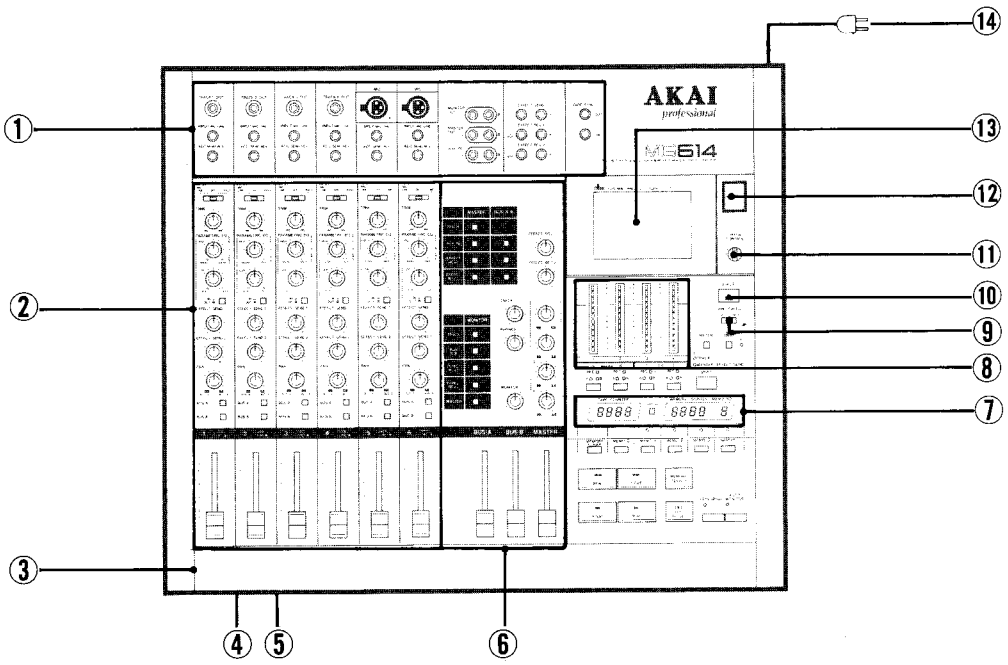
Warning and Precautions 1
Features 2
Block Diagram 3
Controls 5
  Input Modules (1 - 6) 6
  Bus/Master/Monitor Modules 7
  Jack Panel 8
  Recorder/Meter Section 9
Connections 11
Multi-Layer Recording 12
  Track-to-Track Ping-Pong Multi-Layer Recording 13
  Monitor System 15
  Recording and Playback 16
  Basic Playback 18
  Tracking Down 19
  Ping-Pong Recording 20
  Applications of Tracking Out 21
Connection of Effectors 22
Memory System 23
Punch-In/Punch-Out Recording 26
Tape Synchronization 27
Maintenance/Troubleshooting 28
Level Diagram 29
Specifications 30

3
Block Diagram




SYSTEM CONTROL
REC TRACK SEKECT
RELAIES
REC MODE
PLAY MODE
MASTER
BUS A
BUS B
L
R
MASTER OUT
-10dBV
TRACK
MASTER/EFFECT SEND
TRACK 1/MASTER L
TRACK 2/MASTER R
TRACK 3/EFFECT SEND 1
TRACK 4/EFFECT SEND 2
1
2
EFFECT SEND
-10dBV
MONITOR LEVEL
L
R
MONITOR OUT
-10dBV
HEAD PHONE
PHONE LEVEL
SYNC
IN
OUT
TAPE SYNC
ON
OFF
dbX
REC
P.B.
P.B. MUTE
*P.P.B.
R.REC
PUSH SWITCH
LOCKED
SLIDE SWITCH
RCA JACK
ROTARY POT
ELECTRIC SW
CONTROL SIGNAL
1/4" JACK
1/4" JACK
INSERT BREAK
LINEAR FADER
※ *OdBV=1V

5
Controls



1 Jack Panel (see P. 8)

2 Input Modules (see P. 6)

3 Arm rest

4 PHONES Jack
Connect stereo headphones here.

5 PUNCH IN/OUT Jack
Use this jack for connection of a foot switch (for example, the AKAI PS-X80) for punch-in/punch-out recording.

6 Bus/Master/Monitor Modules (see P. 7)

7 Counter display

8 Peak Level Meter
Use this meter to monitor the recorder's recording/playback level, the master level, or the total effect send level, chosen by the meter selector.

9 TAPE SPEED Selector
Use this selector to switch the tape speed for recording and playback. There are two speeds: HIGH (9.5cm/sec) and LOW (4.75cm/sec). For C-60 tapes, recording or playback takes 15 minutes when in HIGH and 30 minutes when in LOW.

10 Eject Button

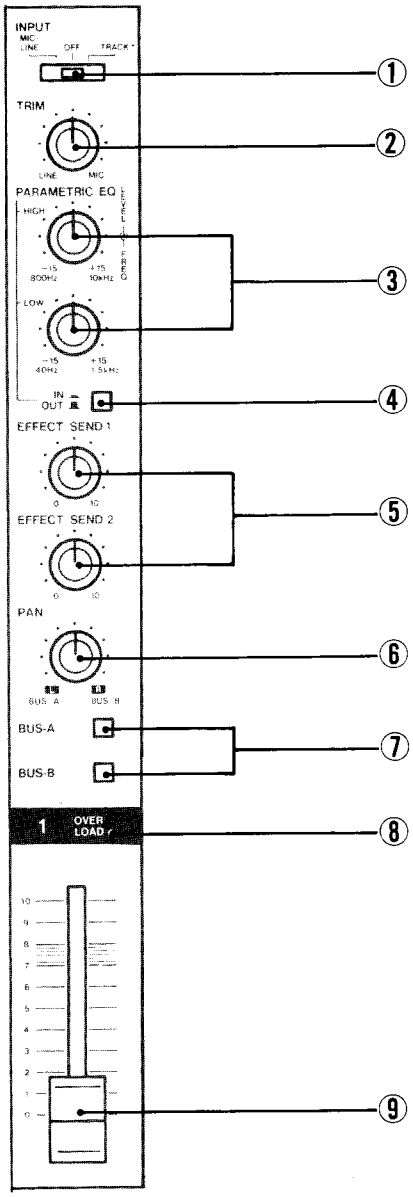
11 PITCH CONTROL Knob
Use this knob to vary the tape speed during recording or playback by a maximum of +10%. Usually keep the knob in the center click position (0).

12 POWER Switch

13 Cassette Lid and Cassette Holder
Insert a chrome position type compact cassette tape. Turn the power on, press the EJECT (▲) button to open, and press the STOP (■) button to close. Do not open and close by hand, as this will damage the mechanism. Opening and closing is not possible when the power is turned off.

14 Power Cord and Plug

Input Modules (1 ~ 6)



1 INPUT Selector (MIC/LINE, OFF, TRACK)

Use this to select the input source.

MIC/LINE : When the input signal from the microphone or from a line level source is used.

OFF : Cuts the input.

TRACK : When the playback signals from the recorder section are used.

NOTE: The input modules (1 ~ 4) correspond to the tracks (1 ~ 4) in the recorder section.

MIC : This position is only for input modules 5 and 6. Use this position to input from balanced mike inputs using XLR-type cannon connectors.

2 TRIM Control

Use this to adjust the level of the signals for the MIC/LINE and MIC (balanced) inputs. The adjustment range is from -50dB to 0dB for the MIC/LINE, or -26dB to 0dB for MIC (balanced) positions. This knob cannot be used to adjust the signal level when the input selector is set to the TRACK position.

3 PARAMETRIC EQ (HIGH/LOW) Control

Use this control to adjust the tone of the input source by boosting or cutting the level for specific frequency ranges.

LEVEL control : Boosts or cuts by a maximum of ± 15dB.

FREQ control : Sets the center frequency for equalization between the following frequency ranges:
HIGH: 800Hz ~ 10kHz
LOW: 40Hz ~ 1.5kHz

4 PARAMETRIC EQ IN/OUT Switch

Used to turn the parametric equalizer on (▂) or off (▀).

5 EFFECT SEND Level Controls

Used to adjust the output level to the echo, reverb, or other external effectors. The level for either EFFECT SEND 1 or 2 can be monitored on the peak level meter.

6 PAN Control

Adjusts the stereo imaging of the master output and the level of the bus line (the circuit which sends signals to the tracks in the recorder section. Changing the image between the left and right channels is called "panning" (PAN).)

7 BUS Assign Switches

Connects the input module output to the bus lines (BUS-A or BUS-B). Each of these can be connected individually or simultaneously. When connected simultaneously, the PAN control can be used to adjust the imaging between BUS-A and BUS-B.

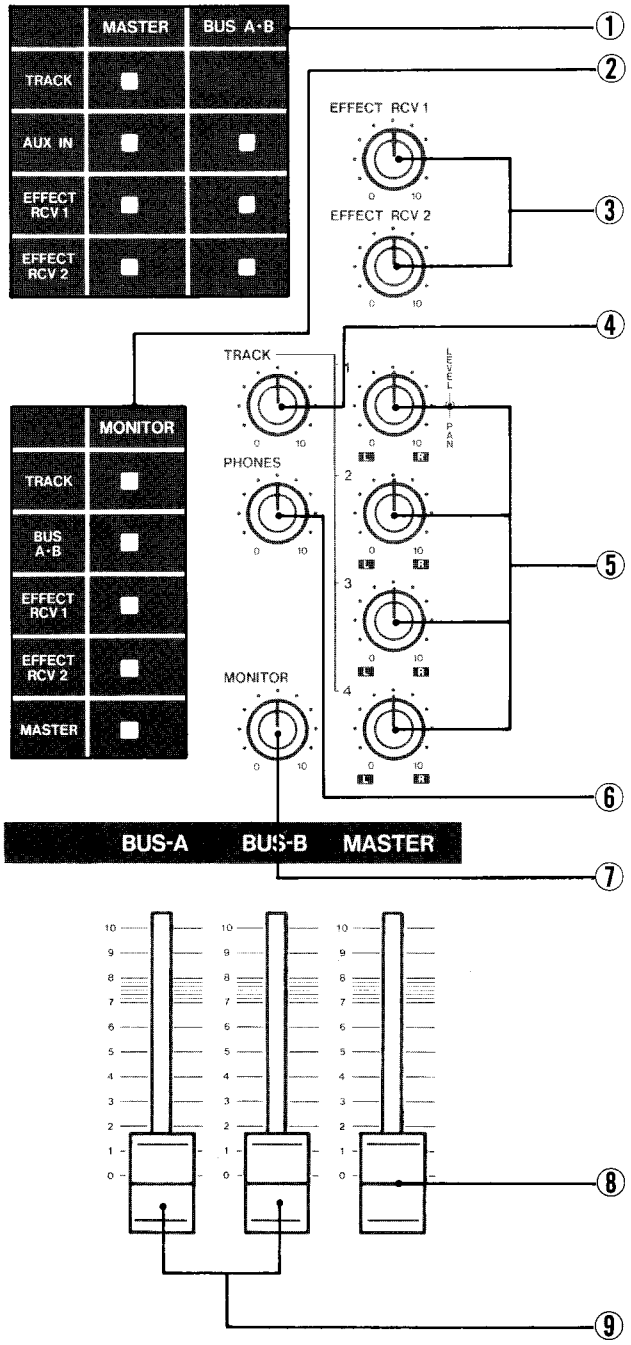
8 OVERLOAD Indicator

This lights brightly when the input level of the input module is too high, regardless of the input fader level. Use the TRIM control to adjust to the best level. The best level is when the indicator lights dimly at the highest input level.

9 Input Fader

Used to adjust the input modules's output level. Also use this fader to adjust the recording level for the recorder section.

Bus/Master/Monitor Modules



1 MASTER/BUS Line Assign Switch

MASTER : The recorder's TRACK MONITOR output, AUX IN, and EFFECT RCV 1-2 can each be connected individually or simultaneously to the master line.

BUS A-B : The output, AUX IN, and EFFECT RCV 1-2 can each be connected individually or simultaneously to bus lines A and B, which send the input sources to the recorder's tracks.

Connections to both the master and bus A-B lines can also be made simultaneously.

2 Monitor Selector

The recorder's TRACK MONITOR MIXER output, BUS A-B, and EFFECT RCV 1-2 can each be monitored individually.

The signals are output to the MONITOR OUT jacks and PHONES jack.

3 Effect Receive Level Controls

Used to adjust the input level of the signals sent from the echo, reverb, or other external effectors. Both EFFECT RCV 1 and 2 are stereo compatible.

4 TRACK MONITOR MIXER/ Master Level Control

5 TRACK MONITOR MIXER/ LEVEL & PAN (1-4)

These are the recording and playback monitor mixers. They are equipped with PAN controls, so it is possible to adjust the imaging while mixing.

LEVEL (1 ~ 4) : Adjusts the monitor level for each track.

PAN (1 ~ 4) : Adjusts the left/right stereo imaging for each track.

6 PHONES Level Control

Adjusts the volume of the stereo headphones for monitoring, regardless of the MONITOR level.

7 MONITOR Level Control

Adjusts the output level of the MONITOR OUT jacks when monitoring with speakers through an amplifier.

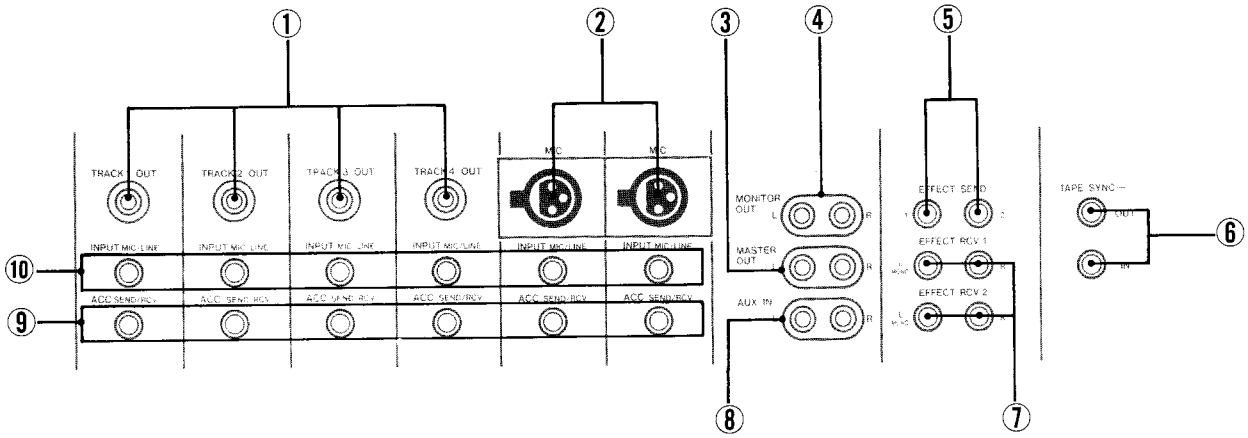
8 MASTER Fader

This is the master volume control. It adjusts the output level of the MASTER OUTPUT jacks.

9 BUS-A and BUS-B Faders

These adjust the level of the signals sent as the recording source to the recorder's tracks. The recording level is displayed when the peak level meter is set to the TRACK mode. (See P. 13)

Jack Panel



1 TRACK OUT (1 ~ 4) Jacks
Output the recorder's playback signals directly. Connect these jacks to other mixers or effectors using RCA pin plug cables.

2 MIC jacks (balanced input)
These are transformerless balanced mike inputs using XLR-type cannon connectors. They correspond to the MIC position on the INPUT selectors for input modules 5 and 6.

3 MASTER OUT (L/R) Jacks
Connect these jacks to the line input jacks on a master tape deck, another mixer, or an amplifier using RCA pin plug cables.

4 MONITOR OUT (L/R) Jacks
Connect these jacks to the line input jacks on a monitor amplifier using RCA pin plug cables.

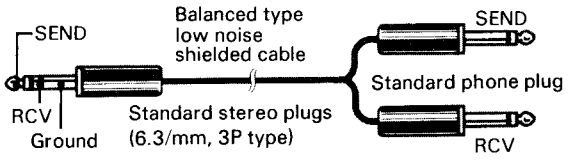
5 EFFECT SEND (1/2) Jacks
Connect these jacks to the line input jacks on an effector using standard phone plug cables.

6 TAPE SYNC (IN/OUT) Jacks
Used for recording or playing back the tape sync signals of a sequencer or rhythm machine. The signals are converted to FM signals and record onto track 1 along with the audio source signals.
Be sure remove the plugs from these jacks when not using synchronization.
Always use this mode with the tape speed set at HIGH (9.5cm/s).

7 EFFECT RCV (1/2) Jacks
Used for connection to the effector output jacks. Both sets are stereo, but if input to the L channel only, the monaural effector output is divided between the L and R channels. Use standard phone plug cables for connection.

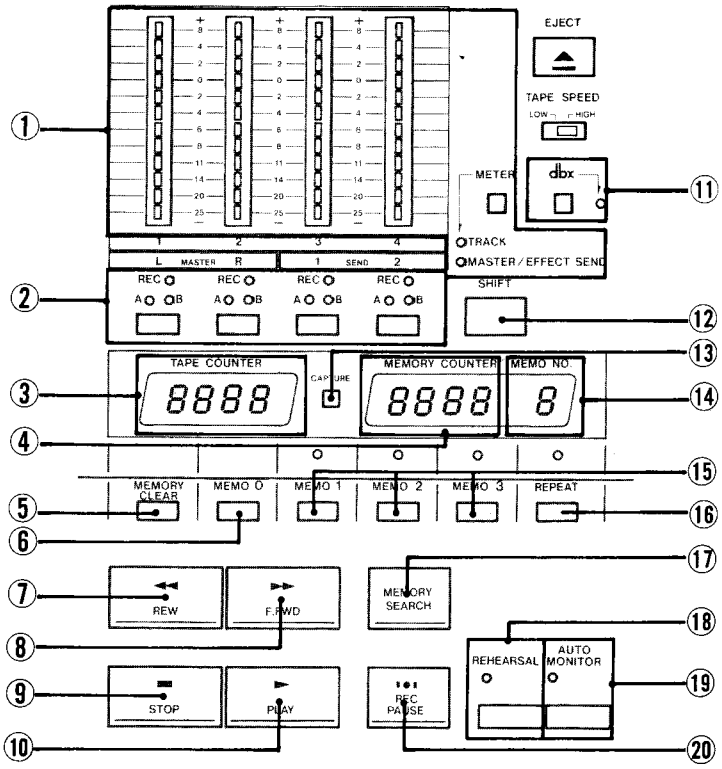
8 AUX IN (L/R) Jacks
Used to input the output of other mixers or the playback output of tape recorders, CD players, etc. As there is no input level control for these jacks, adjust the output level of the auxiliary equipment. Use RCA pin plug cables for connection.

9 ACC SEND/RCV (1 ~ 6) Jacks
An effector can be connected to each input module using these jacks. Use standard stereo plug cables for connection. Prepare cables as shown in the figure to make connections simple.



10 INPUT MIC/LIN (1 ~ 6) Jacks
These are input jacks for the microphone and line level source. Use standard phone plug cables for connection. Control the MIC/LINE levels with the TRIM controls.

Recorder/Meter Section



1 Peak Level Meter

Use the METER select button to monitor the recording/playback level, master level (L/R), and effect send level (1/2).

TRACK : To monitor the recorder's recording/playback level.

MASTER/EFFECT SEND : To monitor the master and effect send levels.

Red LEDs indicate the operation modes.

2 REC TRACK/BUS Select Buttons

Normally used to select the tracks for recording.

When the button is pressed, the "REC" LED for the corresponding track flashes. Now press the REC PAUSE (I●I) button then the PLAY (►) button, and recording will start. When recording starts, the "REC" LED stops flashing and remains lit.

If the REC TRACK/BUS select button is pressed again, the "REC" LED turns off and that track will be set to the playback mode.

These buttons are also used as switches to connect BUS-A and BUS-B to the various tracks when performing ping-pong recording using the bus lines.

3 TAPE COUNTER

Displays the amount of tape transport from "0000" to "9999". The counter is reset to "0000" when the tape is ejected and when the power is turned off.

4 MEMORY COUNTER

Displays the TAPE COUNTER value at the point at which the memory buttons (MEMO 1 ~ MEMO 3) and CAPTURE button are pressed. When the MEMO 0 button is pressed, "0000" is displayed.

5 MEMORY CLEAR Button

Clears the TAPE COUNTER values set by pressing the MEMO 1 - MEMO 3 and CAPTURE buttons. When this button is pressed, "CLr" is displayed on the MEMORY COUNTER and all values stored in the memory are cleared.

6 MEMO 0 Button

The value of "0000" is preset in the memory for this button, and the TAPE COUNTER value cannot be stored. In other words, this button is used exclusively for recall, to search for the TAPE COUNTER's "0000" position or to recall the position for repeat playback.

7 REW (◄◄) Button

Used to rewind the tape.

8 F-FWD (►►) Button

Used to fast-forward the tape.

9 STOP (■) Button

Used to stop playback.

Also use this button to close the cassette holder.

10 PLAY (►) Button

Normally used for tape playback.

Also used with the REC PAUSE (I●I) button to start the tape during recording and punch-in/punch-out recording.

11 dbx IN/OUT Button

IN when the green LED is lit.

Provides playback sound with noiseless and with no loss in the source's dynamic range.

Always use this dbx IN mode with the tape speed set at HIGH (9.5cm/s).

12 SHIFT Button
When the REC TRACK/BUS select buttons are pressed while this button is depressed, the "REC" LED for the corresponding track lights and the "A" or "B" LED lights. ("A" lights after the first time, "B" after the second, and "REC" and "A" or "B" turn off after the third.)

When A is lit: BUS-A is connected to the corresponding track.

When B is lit: BUS-B is connected to the corresponding track.

When both A and B are off, all tracks are connected to the corresponding input modules.

13 CAPTURE Button
The TAPE COUNTER value at the point at which this button is pressed is stored in the memory and displayed on the MEMORY COUTNER. Each time this button is pressed the stored TAPE COUNTER value is renewed.

14 MEMO NO. Display
Displays the number from 0 to 3 of the memory button which has been pressed. When the CAPTURE button is pressed, "C" is displayed.

15 MEMO 1 ~ MEMO 3 Buttons
These buttons can be used for memorising the tape location where you wish to re-locate again.
When one of these buttons is pressed while the tape is moving after the memory has been cleared, the number of that button is displayed on the MEMO NO. display. The TAPE COUNTER value at that point is displayed on the MEMORY COUNTER, and that value is stored in the memory. The values stored at MEMO 1 through MEMO 3 can be cleared individually by using the MEMO buttons with the MEMORY CLEAR button.
This button is also used for the repeat playback and search functions.

16 REPEAT Button
Press this button for repeat playback. With the MG614, it is possible to repeat the sections between two MEMO button values or one MEMO button value and the CAPTURE button value.

17 MEMORY SEARCH Button
Press this button to search backward or forward for the TAPE COUNTER positions stored with the memory buttons and the CAPTURE button. When searching is completed, the unit is set to the stop mode and tape transport stops.

18 REHEARSAL Button
When this button is pressed, the red LED lights and the unit is set to the rehearsal mode. In this mode, the tape moves in the recording mode but is actually not recorded. Use this especially for rehearsal for punch-in/punch-out recording. When pressed again, the red LED turns off and the rehearsal mode is cleared.

19 AUTO MONITOR Button
This is a function for monitoring recording or playback on the recorder. When on, the red LED is lit.

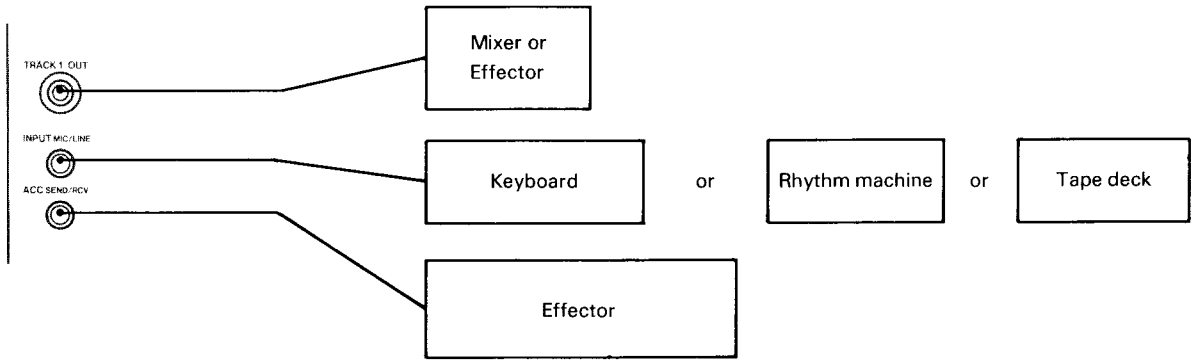
ON : All tracks are set to the playback mode and playback monitor is possible if the PLAY (►) button is pressed, even if the "REC" LED are flashing for all tracks.
Also, during recording, recording is monitored only for the track or tracks whose "REC" LED is flashing, and playback is monitored on the other tracks.

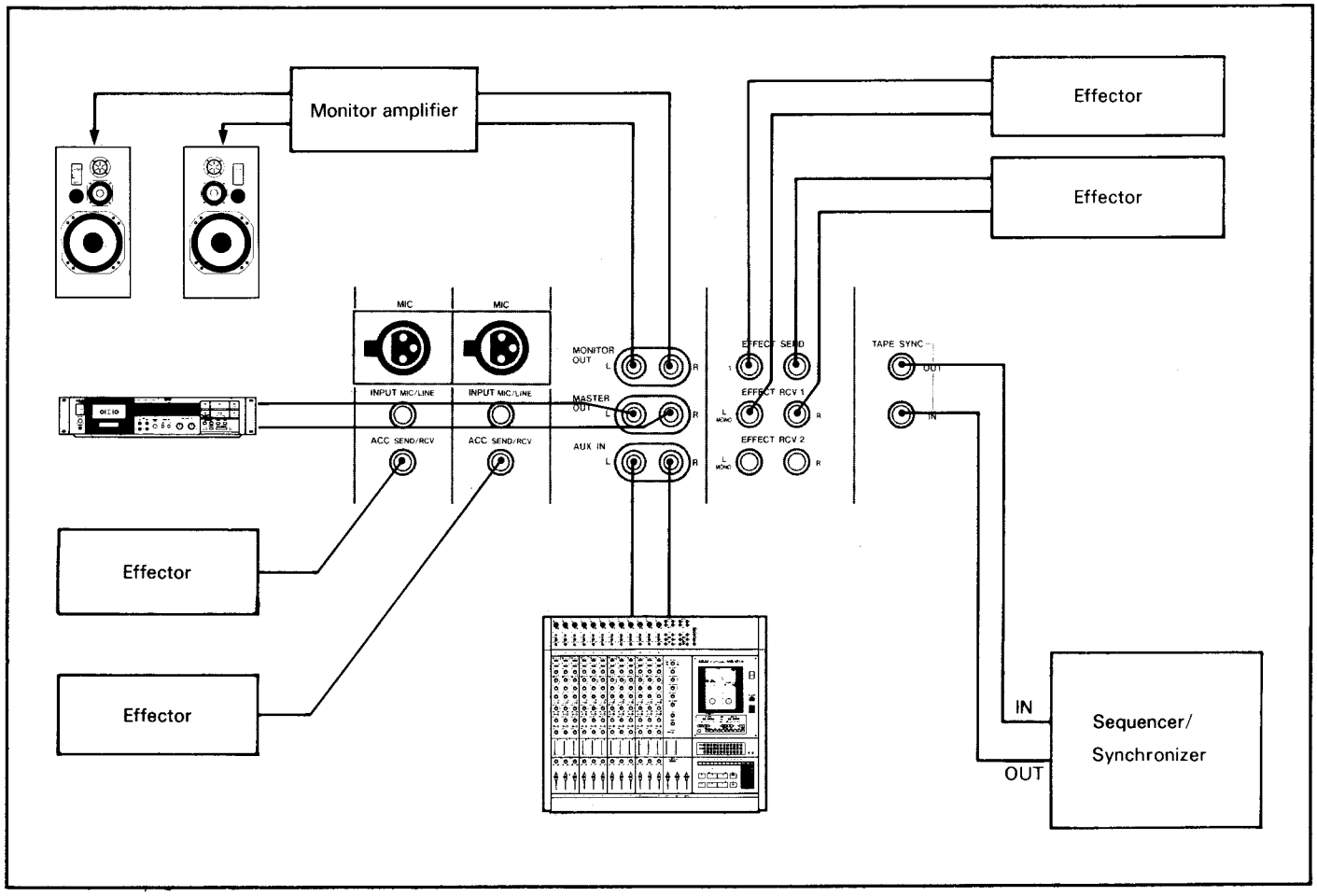
OFF: Recording is monitored only for the track or tracks whose "REC" LED is flashing, and playback is monitored on the other tracks, even during playback.

20 REC PAUSE (⏸) Button
Normally press this button during recording. When pressed, the red LED will light and the green LED for the PLAY (►) button will flash. The unit is now in the record pause mode and the tape will not move. (For instructions on recording, see P. 16.)

11
Connections

- Make all of the connections only when the power of the MG614 and the power of the units connected to it are off. (The power cords should be connected only after all other connections have been made.)
- Take care regarding the phase of the microphone output when multiple microphones are used for recording.
- Use only the specified plugs and be sure that they are inserted fully into their respective jacks.
- Clean the plugs and jacks periodically. Dirty plugs and jacks can cause poor connections, distortion, and noise.



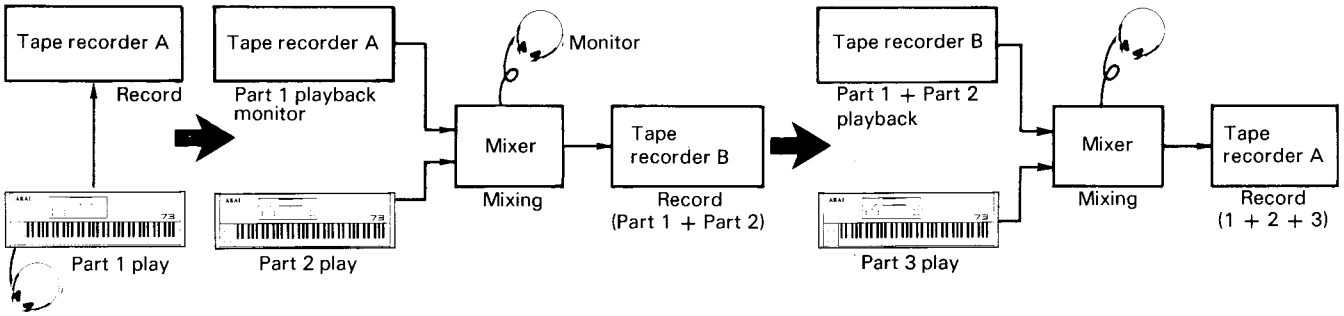


Multi-Layer Recording

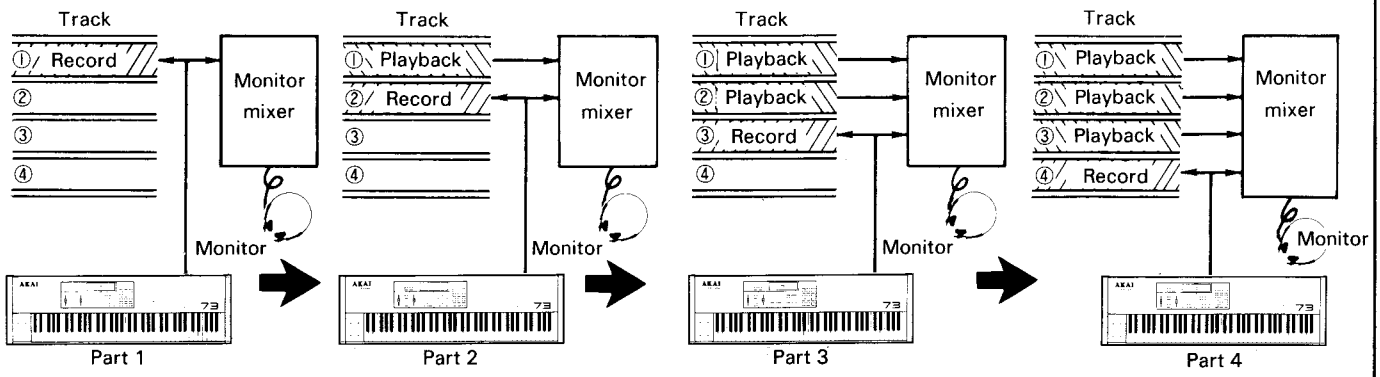
The MG614 is a mixer/recorder on which multi-layer music can be made. There are two methods of multi-layer recording: the "ping-pong" method in which two or more tape recorders are used to combine sounds, and the "multi-track" method on which a tape recorder with 4 or more recording/playback tracks is used.

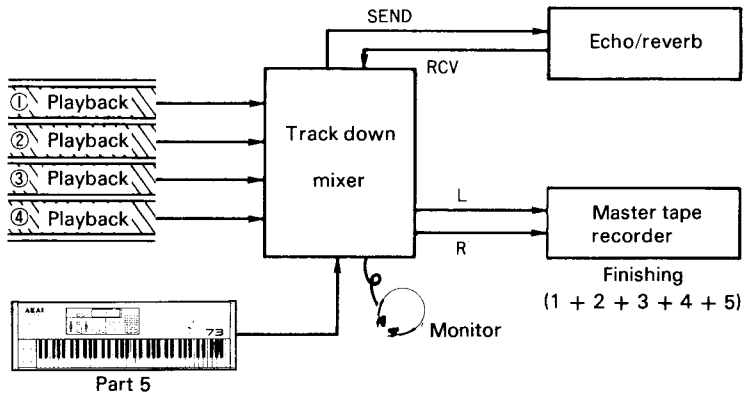
There is also a multi-layer recording method combining these two methods, called the "track-to-track ping-pong" method. This method can be used to combine many different parts.

Ping-Pong Recording



Multi-Track Recording

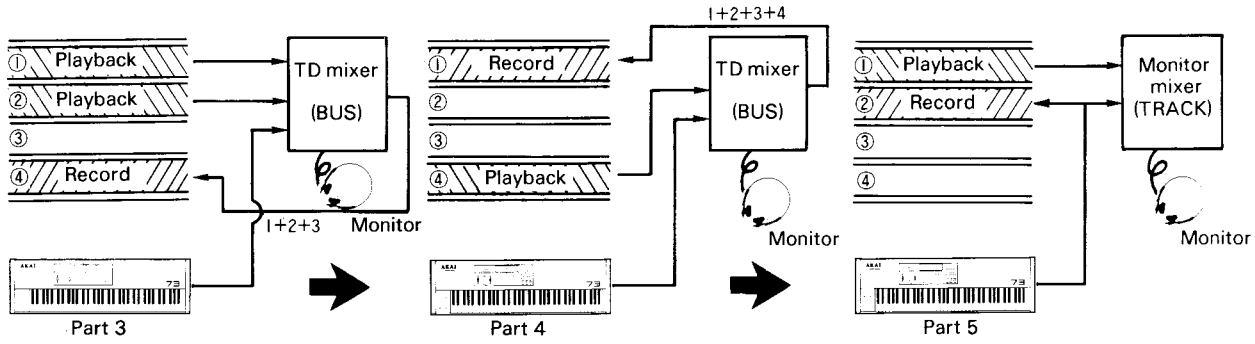




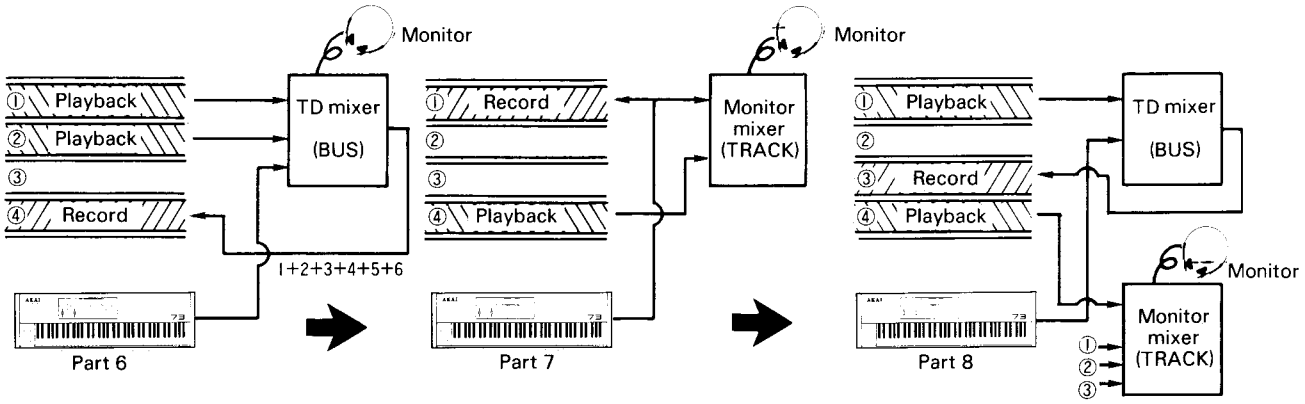
Track-to-Track Ping-Pong Multi-Layer Recording

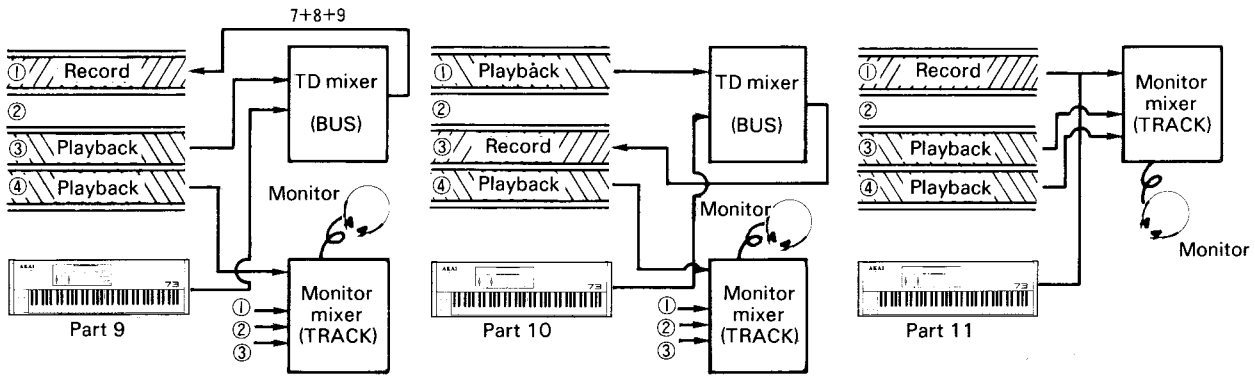
With the track-to-track ping-pong method, vibration may occur when a track is played back and recorded on an adjacent track, so always leave one track between the playback and recording track, as shown in the figures. In this example, a single sequencer/keyboard is used to record a total of 13 parts. Theoretically, any number of parts can be combined, but as this results in an increase in noise and a decrease in the frequency response for high frequencies, there are limits. Musically speaking, it is possible to achieve good sound quality by using the track-to-track ping-pong method for the backing parts then adding the solo or melody parts last.
Other ways of making music using electronic instruments include "synchronized multi-track recording" in which the automatic playback of a rhythm machine or sequencer is synchronized. (See P. 27, "Tape Synchronization")

Track-to-Track Ping-Pong Multi-Layer Recording

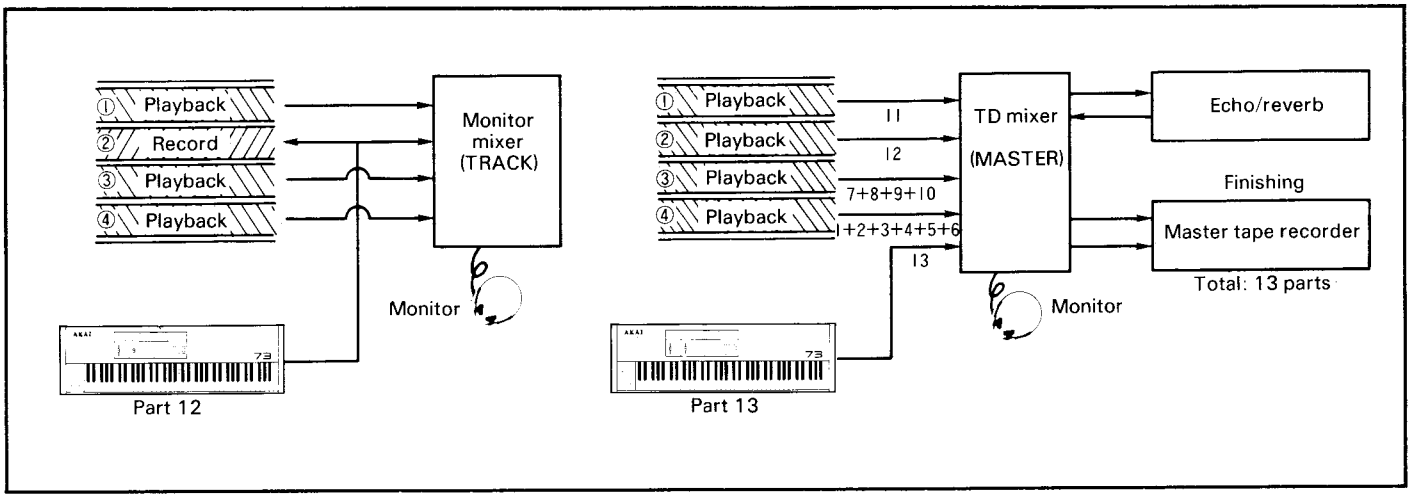


▲Pre-record Part 1 and 2 on tracks 1 and 2.





▲Track 4 is now completed and not mixed to other parts.

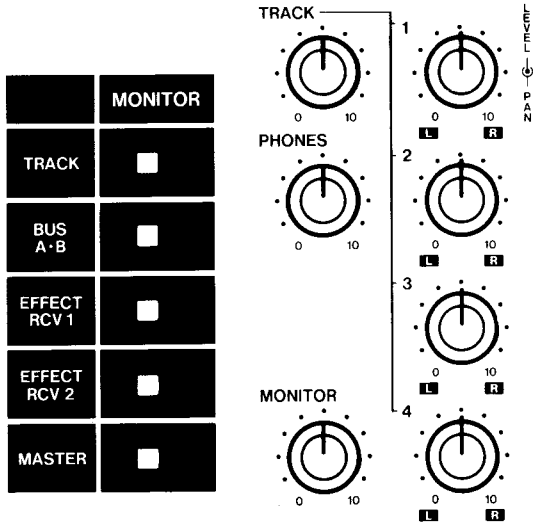

① Playback
② Record
③ Playback
④ Playback
Monitor mixer (TRACK)
Monitor
Part 12
① Playback
② Playback
③ Playback
④ Playback
11
12
7+8+9+10
1+2+3+4+5+6
13
TD mixer (MASTER)
Echo/reverb
Finishing
Master tape recorder
Total: 13 parts
Monitor
Part 13

Monitor System

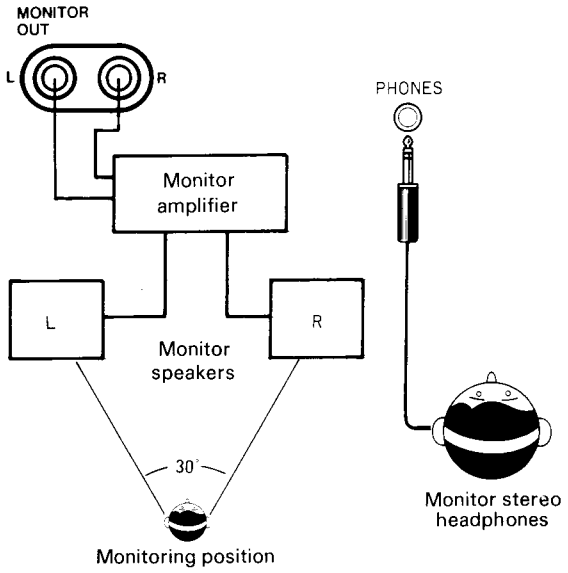
Monitoring is extremely important for multi-layer recording. The MG614 equipped with a MONITOR selector with excellent operability and a TRACK MONITOR MIXER, making monitoring for multi-layer recording simple.
Normally, use the MONITOR selector in the "TRACK" position for multi-track recording.
For track-to-track ping-pong recording, use the "BUS A-B" position.
For overall finishing by tracking down, use the "MASTER" position.
Monitoring is usually performed through speakers by connecting a monitor amplifier to the MONITOR OUT jacks, but direct monitoring is also possible using the PHONES jack with stereo headphones.

Use the "MONITOR" and "PHONES" volume controls to adjust the volume while monitoring.
The MONITOR selector "EFFECT RCV" 1 and 2 positions are used to monitor the total effect loop input with echo or reverb effectors.
When using a microphone, howling may occur if speakers are used to monitor. (Howling vibration noise caused when the sound of the speakers comes back in through the microphone.) We suggest using headphones to monitor when recording with a microphone indoors.

MG614 Monitor System

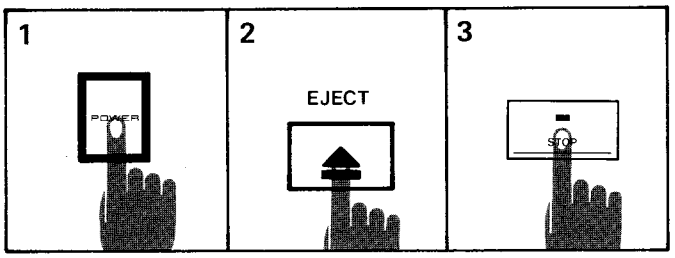


Monitoring



Recording and Playback

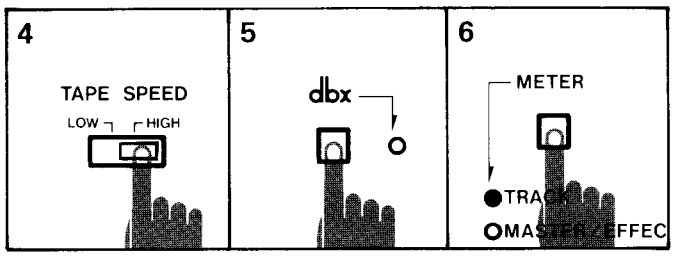
Recording



1 Press the POWER switch to turn the power on.

2 Press the EJECT (▲) button to open the cassette holder. Insert the cassette tape into the holder. Be sure to use "chrome position type" cassettes.

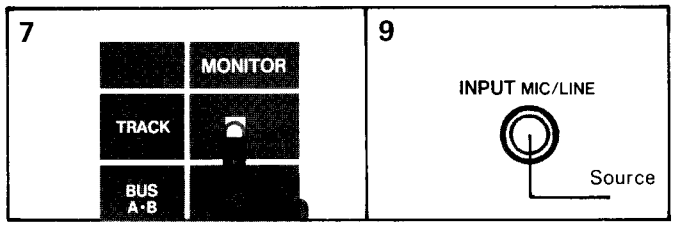
3 Press the STOP (■) button to close the cassette holder. Do not close by hand, as this will exert excessive force on the opening/closing mechanism and damage the holder. Always use the EJECT (▲) and STOP (■) buttons.



4 Set the tape speed. For multi-layer recording, the HIGH (9.5cm/sec) position is usually preferable for the frequency response, dynamic range, and wow & flutter.
Also, keep the PITCH CONTROL in the center click position (0).

5 To use dbx noise reduction, press the dbx button to turn the green LED on.

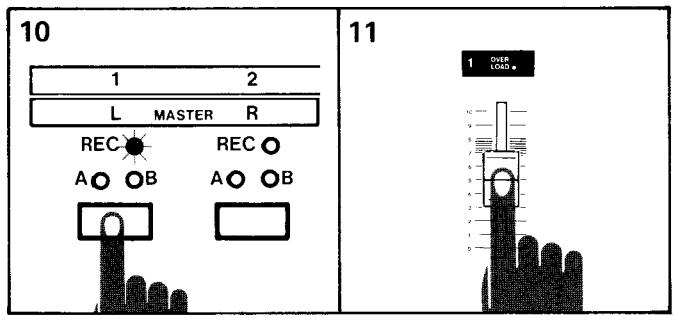
6 Set the METER select button to the TRACK position.



7 Set the MONITOR select buttons to the TRACK position.

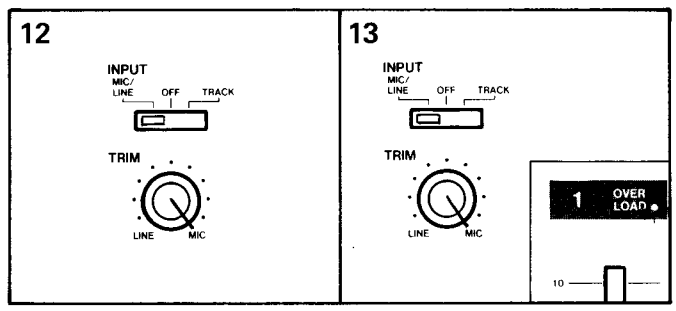
8 Set the input faders, bus faders, master fader, and monitor volume controls to "0".

9 Connect the source to be recorded (microphone recording or line level recording for electronic instruments) to the INPUT MIC/LINE jack for input module 1.



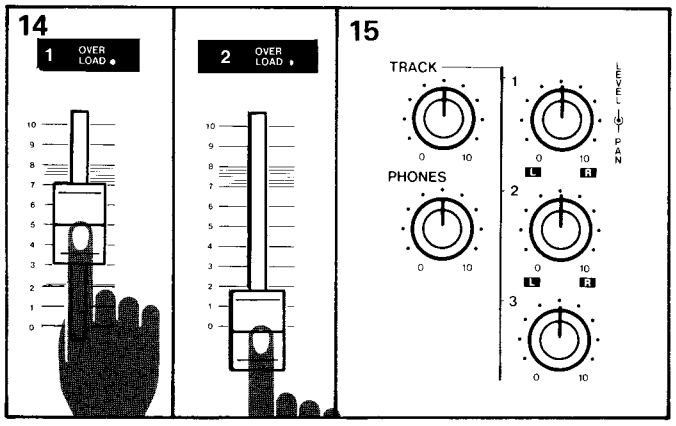
10 Press the track 1 REC TRACK/BUS select button and check that the track 1 "REC" LED is flashing.

11 Set the input fader to near the "5" position for the time being.



12 When using a microphone, set the TRIM control to the MIC side, and when using a line level source, set the control to the LINE side.

13 Input the source you wish to record. If the OVERLOAD indicator lights brightly, the input level is too high. When using a microphone, set the TRIM control so that the OVERLOAD indicator lights dimly for the loudest sound, and when using a line level source, adjust the output level of the electronic instrument.

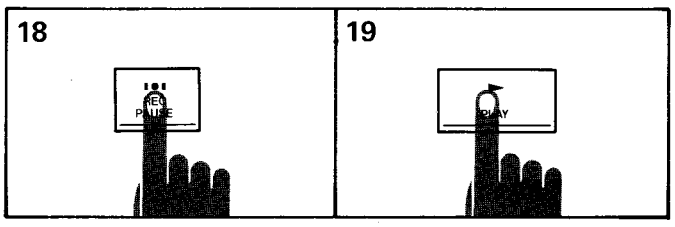


14 While inputting the source to be recorded, adjust the recording level using the input fader so that the peak level meter reaches near the "0" mark for the loudest sound.

15 Next adjust the monitoring system. Set the TRACK MONITOR MIXER's master control "TRACK" to the "5" position for the time being. Next, set the track 1 "PAN" to the center click position. Finally, set the "LEVEL" to the "5" position.

16 Gradually increase the volume of the monitor amplifier and the MONITOR control until the optimum monitoring volume is reached.
When using stereo headphones, adjust the volume with the PHONES control.

17 Once the optimum recording and monitoring levels have been set, you are ready to record the first part.



18 Press the REC PAUSE (I●I) button to set to the record pause mode. The green LED on the PLAY (►) button will be flashing.

19 Once the source to be recorded (an instrument, etc.) has been prepared, press the PLAY (►) button to start recording. The red "REC" LED and the green LED on the PLAY (►) button will stop flashing and remain lit.

20 Once recording is completed, either press the STOP (■) button to stop the tape, or press the REW (.◄◄) button to rewind the tape.
Recording of the first part is now completed.

21 If that part is satisfactory, press the REC TRACK/BUS select button for track 1. The "REC" LED will turn off, and that track will be set to the playback mode.

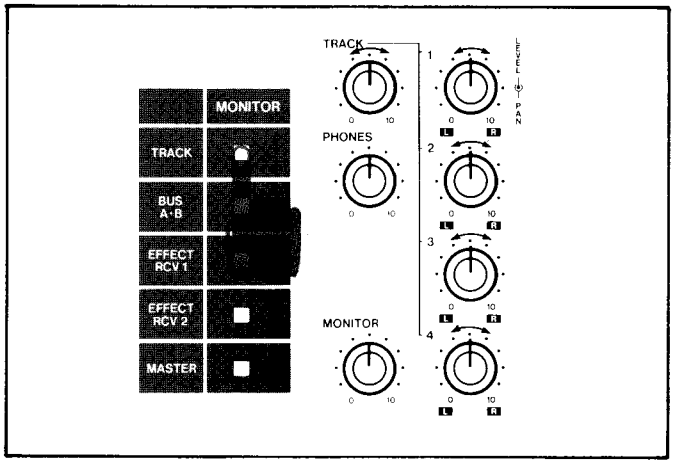
Repeat steps 9 through 21 above for multi-layer recording on all four tracks. These are the basics of "multi-track multi-layer recording".

NOTE: Be careful not to erase recorded tracks. Also, if the red REHEARSAL LED is lit, the unit is in the rehearsal mode and recording is not possible.

Basic Playback

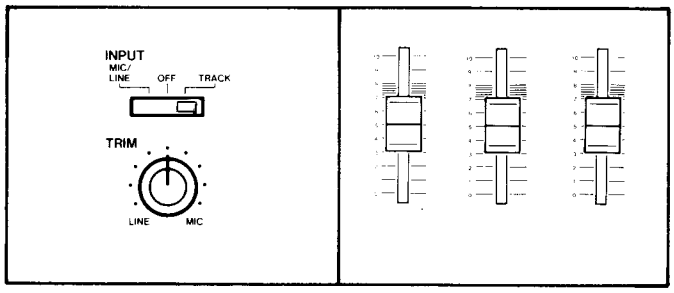
There are two methods for performing playback: either with the TRACK MONITOR MIXER, or by setting the input module to "TRACK" and sending the signals over the MASTER or BUS A or B circuits.

TRACK MONITOR Playback



1 Press the MONITOR selector TRACK button.
2 Press the REW (◄◄) button to rewind the tape.
3 Press the PLAY (►) button, and adjust the TRACK MONITOR level and PAN controls for each track.

Input Module Playback



1 Set the INPUT selector for the track or tracks to be played back to the TRACK position.
2 Press the MONITOR selector MASTER button.
3 Press the REW (◄◄) button to rewind the tape.
4 Press the PLAY (►) button, and adjust the input faders and MASTER fader.

Tracking Down

1 Connect the master tape deck to the MASTER OUT jacks.

2 Set the INPUT selectors to the TRACK position, in the same way as for basic playback.

3 Press the MONITOR selector MASTER button.

4 Set the MASTER fader to 7 or 8.

5 Set the MONITOR volume control to the center position.

6 Turn the AUTO MONITOR switch on.

7 Press the METER select button to set to MASTER/EFFECT SEND.

8 Press the REW (◄◄) button to rewind the tape.

9 Press the PLAY (►) button to start playback.

10 Gradually increase the input faders for each track so that the meter is near the "0" position.

11 To adjust the tone, press the PARAMETRIC EQ switches and adjust the FREQ and LEVEL for both HIGH and LOW.

12 Adjust the stereo imaging for each channel using the PAN controls.

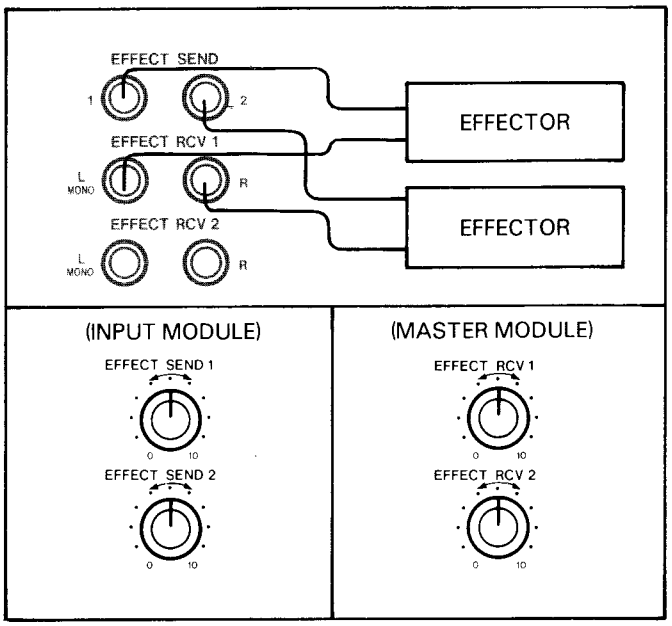
13 Once all adjustments are completed, rewind the tape and set the master tape recorder to the recording mode.

14 Press the PLAY (►) button on the MG614.

15 Once the playback is completed, set the MASTER fader to the "0" position and press the STOP (■) button. Also stop the tape in the master deck.

These are the basics of tracking down, a fundamental mixing process in which the playback sound is sent to the MASTER OUT jacks to create a final master tape.

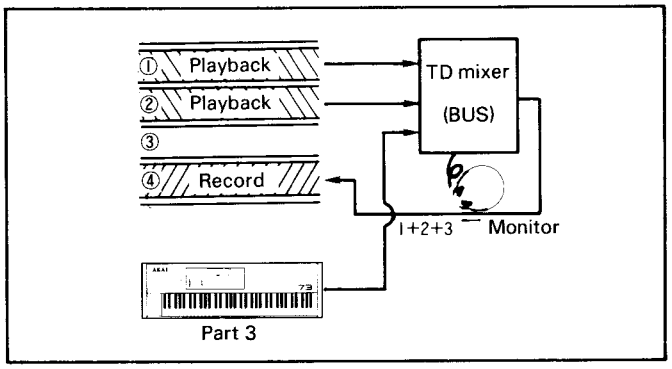
To add echo, reverb, or other effects to this sound, connect the effector to the EFFECT SEND and EFFECT RCV jacks, then adjust the EFFECT SEND 1 and 2 controls (Input module) to the optimam sending level. To check the level, use SEND 1 and 2 on the peak level meter. Adjust the level returning from the effectors with the EFFECT RCV 1 and 2 controls.



Ping-Pong Recording

The input modules, MONITOR selector, SHIFT button, REC TRACK/BUS selector, and the BUS A/B faders, etc. are used to perform track-to-track ping-pong recording on the MG614.

Example:
To mix other parts with the parts recorded on track 1 and 2 and record the result on track 4.



1 Record part 1 and 2 on track 1 and 2 respectively.

2 Turn the AUTO MONITOR function off.

3 Turn the REC indicators for track 1 and 2 off so that playback is possible.

4 Set the INPUT selector for the input modules for channel 1 and channel 2 to the TRACK position.

5 Connect the source for part 3 to the input module used for channel 3 (3 ~ 6).

6 Set the MONITOR selector to BUS A-B.

7 With the SHIFT button depressed, press the track 4 REC TRACK/BUS select button so that "A" and "REC" LEDs are flashing.

8 Set the master fader and BUS B fader to "0" and the BUS A fader to 7 or 8.

9 Press the BUS A button for channels 1, 2, and channel 3 (at which part 3 is to be input).

10 Set the PAN control for channels 1 ~ 3 to BUS A.

11 Check that the tape has been rewound.

12 Set the peak level meter to TRACK.

13 Press the PLAY button (►) and playback tracks 1 and 2.

14 Watching the track 4 peak level meter, operate the channel 1 and 2 input faders to balance the mixing of parts 1 and 2.

15 Once mixing for channels 1 and 2 is set, set channel 3.

16 Rewind the tape.

17 Operate the channel 3 input fader and temporarily adjust the part 3 level, tone, etc.

18 Press the PLAY (►) button.

19 Monitoring the playback of parts 1 and 2, play back part 3. Check that parts 1 ~ 3 are well balanced and adjust and rehearse as necessary.

20 Rewind the tape.

21 Press the REC PAUSE (●I) and PLAY (►) buttons to start recording and play back part 3.

22 When the recording is completed, rewind the tape.

Part 3 has now been mixed with tracks 1 and 2 and the result has been recorded on track 4.
These are the basics of track-to-track ping-pong recording.

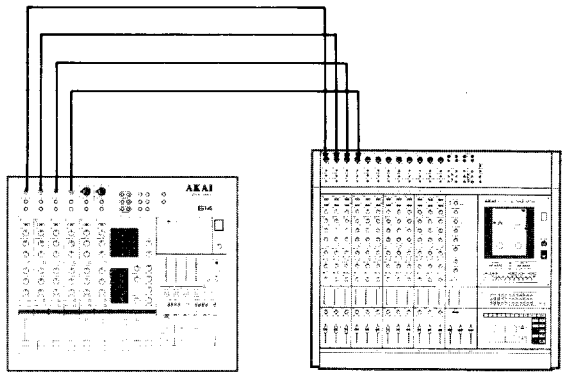
NOTE: During track-to-track ping-pong recording, the sound quality of the first recorded part decreases. For practical purposes, it is best to repeat track-to-track ping-pong recording no more than 3 times.

Applications of Tracking Out

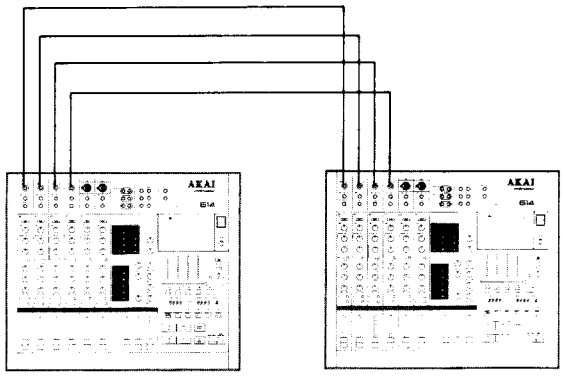
The MG614 is equipped with TRACK OUT (direct playback output) jacks for all four tracks.
These output jacks are normally used for tracking down on other mixers or for copying on other multi-track recorders without mixing the four tracks.
They can also be used for multiple sound field recording or playback using four discrete channels. This provides the so-called surround sound field playback.
This function is effective for recording and playback of live concerts or natural sounds (environmental sounds).

NOTE: The TRACK OUT jacks are not equipped with output level controls. Adjust the level on the equipment used to input the signals to the MG614.

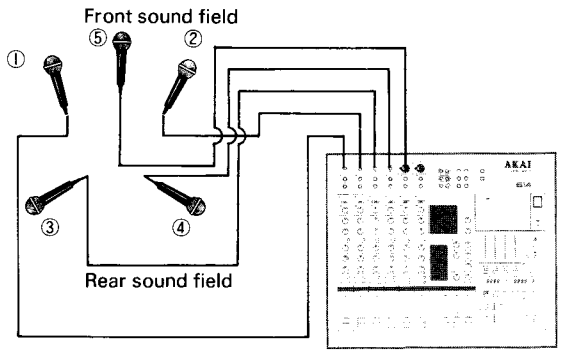
Mixing



Dubbing/copy



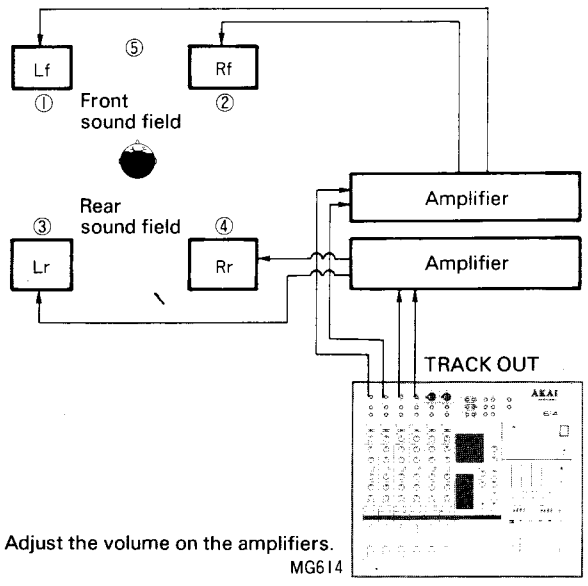
Surround recording



MIC①→CHANNEL/1→BUS-A→TRACK/1
MIC②→CHANNEL/2→BUS-A→TRACK/2
MIC⑤→CHANNEL/5→BUS-A→TRACK/1・2
MIC③→CHANNEL/3→TRACK/3
MIC④→CHANNEL/4→TRACK/4

Front: record the performance on stage
Rear: record the audience sounds, applause, etc.

Surround playback



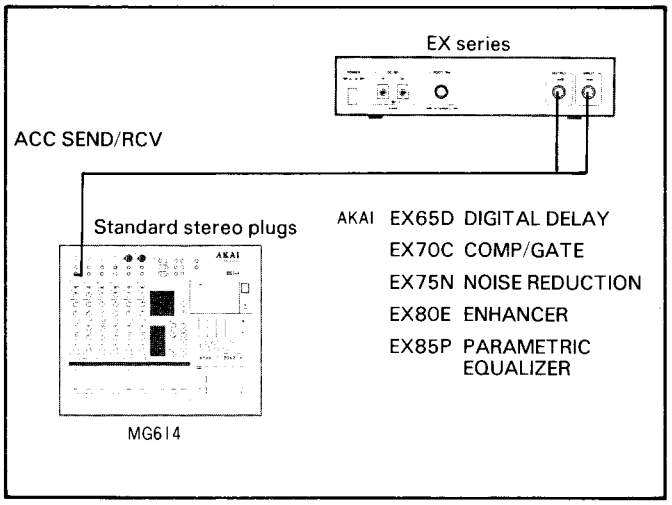
Adjust the volume on the amplifiers.

Connection of Effectors

Each input module on the MG614 is equipped with ACC SEND/RVC (accessory send/receive) jacks for connections of delay comp/limiter units, enhancer units, noise gate units, or other effectors, as well as EFFECT SEND and EFFECT RCV jacks for creating echo, reverberation, or other total effect loops.

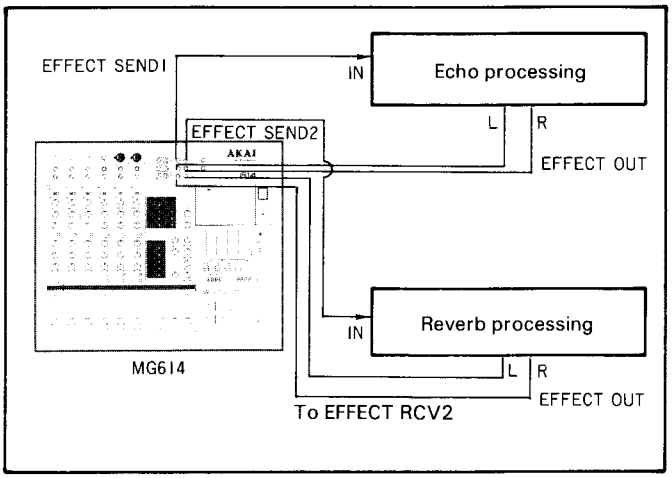
Connections to ACC SEND/RCV Jacks

Use standard stereo plug cables for connections with effectors. (See P. 8) The ACC SEND/RCV circuit is located between the input selector and parametric equalizer circuits.



Effect Looping Using the EFFECT SEND and RCV1 and 2 Jacks

Two stereo total effect loops can be created.
The effected sound input to the EFFECT RCV jacks can be monitored using the MONITOR selector.
By assigning the master and bus lines, the effected sound input to the EFFECT RCV 1 and 2 jacks can be connected to the MASTER and BUS A-B circuits. Press the button, and set to the on mode to connect.
The EFFECT RCV 1 and 2 input levels are both stereo.
The EFFECT RCV 1 and 2 input jacks are also stereo, but if only the left channel is connected, the input effected sound is internally distributed to the right channel as well. If the effector output is monaural, connect the effector to the L side of the EFFECT RCV 1 and 2 jacks.



NOTE: There is no effect loop function for the TRACK MONITOR MIXER in the recorder section. To monitor the echo/reverb effects, connect a stereo echo/reverb effector between the MONITOR OUT jacks and a monitor amplifier. To monitor with stereo headphones, use the headphones output jack on the monitor amplifier.

Memory Systems

The MG614 is equipped with an auto memory system for searching and repeat playback between up to 5 parts.

Resetting

To reset the tape counter to "0000", either turn off the power switch then turn it back on or use the MEMORY CLEAR and MEMO 0 buttons.
Also, the counter is reset if the cassette is ejected.

Setting the Memory

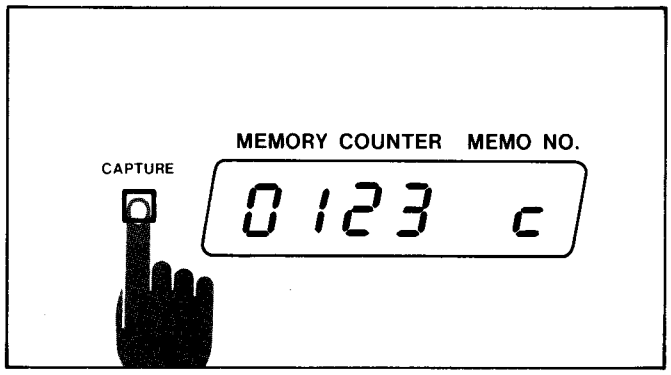
With the MG614 auto memory system, the values of the tape counter indicating the amount of tape transport are stored for searching and for repeat playback.
The tape counter values can be stored either by using the CAPTURE button or by using the MEMO 1 through MEMO 3 buttons.

Using the CAPTURE Button

1 Set the tape to the record or playback mode.

2 When the value you wish to store in the memory is reached, press the CAPTURE button. The value at the point at which the CAPTURE button was pressed is displayed on the memory counter and "C" is displayed at MEMO NO.

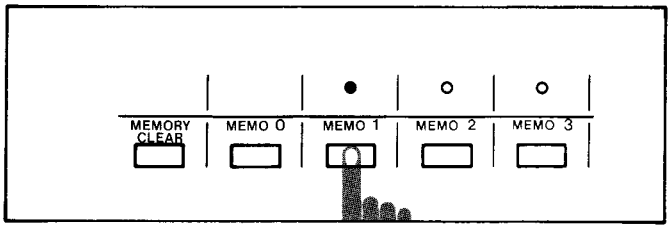
3 The stored value is renewed and the first value is cleared each time the CAPTURE button is pressed.



Using the MEMO 1 ~ 3 Buttons

1 Set the tape to the record or playback mode.

2 When the first value you wish to store in the memory is reached, press the MEMO 1 button. The value at the point at which the button was pressed is displayed on the memory counter and "1" is displayed at MEMO NO.



3 When the second value you wish to store in the memory is reached, press the MEMO 2 button. The value at the point at which the button was pressed is displayed on the memory counter and "2" is displayed at MEMO NO.

4 When the third value you wish to store in the memory is reached, press the MEMO 3 button. The value at the point at which the button was pressed is displayed on the memory counter and "3" is displayed at MEMO NO.

NOTE: It is not possible to store values in the memory using the MEMO 0 button. This is exclusively for recalling the preset "0000" value.

Clearing the Memory

Use the following procedure to clear/renew the values stored at MEMO 1 through MEMO 3.

To clear all values, press the MEMORY CLEAR button then the MEMO 1 through 3 buttons in order, and finally press the MEMORY CLEAR button once again.

To renew the values:

1 Press the MEMORY CLEAR button. "CLr" will be displayed on the memory counter and the MEMO 1 - MEMO 3 LEDs will flash.

2 Press the memory button you wish to clear. The LED for that button will turn off.

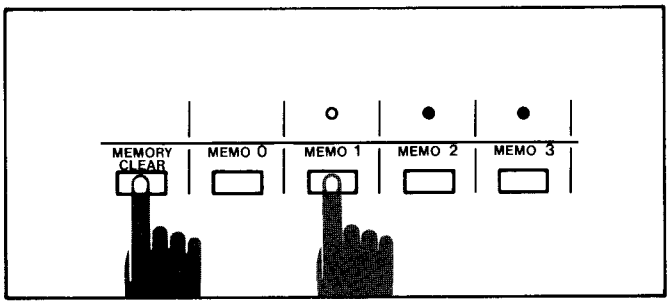
3 Press the MEMORY CLEAR button again. The memory counter will display "0000", and that memory is cleared.

4 Rewind the tape to the "0000" position.

5 Set the tape to the record or playback mode.

6 When the value you wish to replace in the memory is reached, press the memory button whose red LED is off. The value at the point at which the button was pressed is displayed on the memory counter and the new value has been stored in the memory.

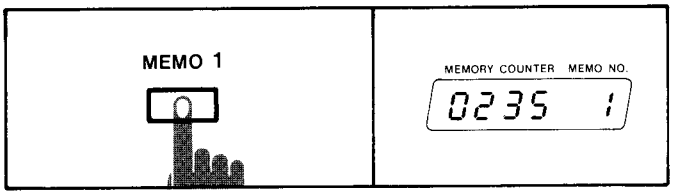
NOTE: If the MEMO 0 button is pressed after the MEMORY CLEAR button has been pressed, the tape counter will be reset to "0000". Conversely, this function can be used to return the counter to "0000" at any desired position.



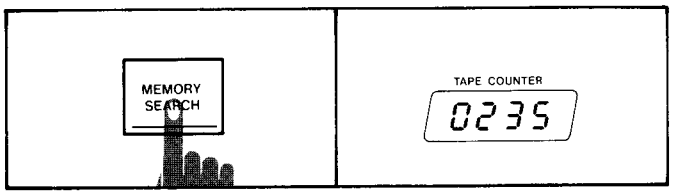
Memory Searching

The memory search function operates simply by pressing the MEMORY SEARCH button.

1 Press the memory button (MEMO 0 ~ 3) for which you wish to search. The value stored in the memory will be displayed on the MEMORY COUNTER and the memory button number at MEMO NO.



2 Press the MEMORY SEARCH button. The tape will fast-forward or rewind and stop at the position stored in the memory.

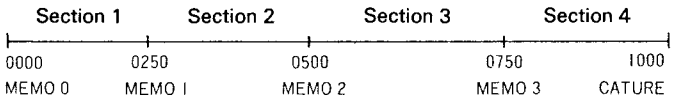


3 If the PLAY button is pressed after the MEMORY SEARCH button has been pressed, the tape will automatically begin playback after it is fast-forwarded or rewound.

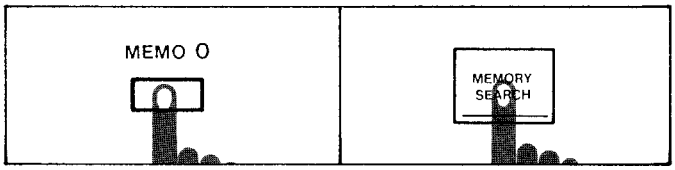
Repeat Playback

The MG614 is equipped with a repeat function for continuous playback between any two points.

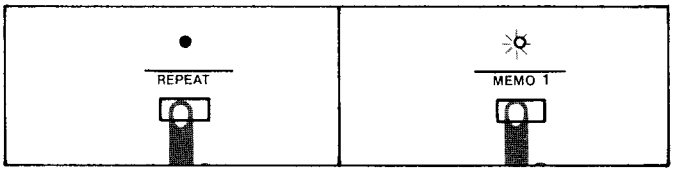
1 Use the MEMO 1 through MEMO 3 buttons to specify the sections you wish to repeat.



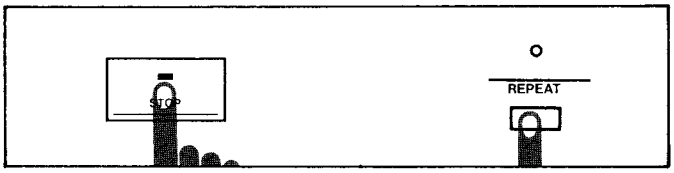
2 To repeat between "0000" and "0250", press the MEMORY SEARCH button and wind the tape to the point at which the repeat will begin.



3 Press the REPEAT button. The tape will start moving in the playback mode. When the MEMO 1 button is pressed, the LED flashes and section 1 is played back repeatedly.



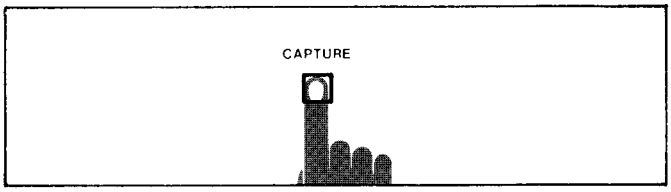
4 To cancel repeat playback, press either the STOP or the REPEAT button.



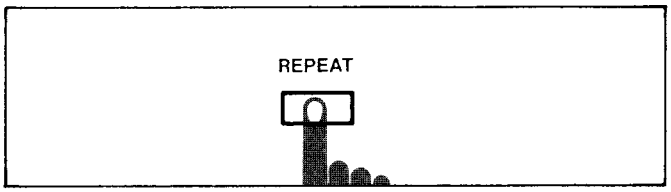
Repeat playback is also possible between any two points stored at the MEMO 0 ~ MEMO 3 and CAPTURE buttons. When using the CAPTURE button, be sure to set the desired values for the MEMO 1 ~ MEMO 3 buttons first.

1 Set the tape to the playback mode.

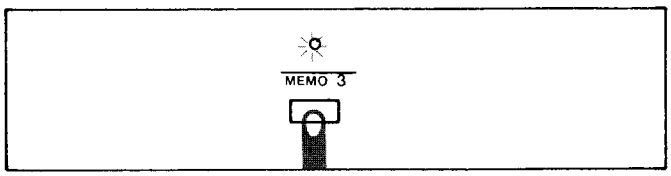
2 When the point at which you wish to begin or end repeat playback is reached, press the CAPTURE button.



3 Press the REPEAT button. The tape will automatically wind to the position stored in the memory with the CAPTURE button then resume playback.



4 Press one of the memory buttons (MEMO 0 ~ MEMO 3). The LED for that button will flash, and repeat playback will begin.



Punch-In/Punch-Out Recording

The MG614 is equipped for the following punch-in/punch-out operations:

I. Punch-in/out using the REC/PLAY button
II. Punch-in/out using a foot switch

I. Punch-In/Out Using the REC/PLAY Button

1 Connect the source to the input module corresponding to the track on which you wish to perform punch-in/punch-out recording.

2 Set the MONITOR selector to TRACK.

3 Turn the AUTO MONITOR on (the red LED will light).

4 Press the REC TRACK/BUS select button for the track on which you wish to perform punch-in/punch-out recording so that the "REC" LED is flashing.

5 Set the METER selector to TRACK.

6 Press the PLAY (►) button to start the tape. Use the AUTO MONITOR function to monitor the playback of the track whose "REC" LED is flashing.
To adjust the volume or tone of the new source, turn the AUTO MONITOR off. Only the track whose "REC" LED is flashing will be the source monitor, and the playback on the tape is monitored for the other tracks.
Once the source has been prepared, turn the AUTO MONITOR back on.

7 After rewinding the tape, press the PLAY (►) button again.

8 To rehearse the timing for punch-in/punch-out recording, press the REHEARSAL button.

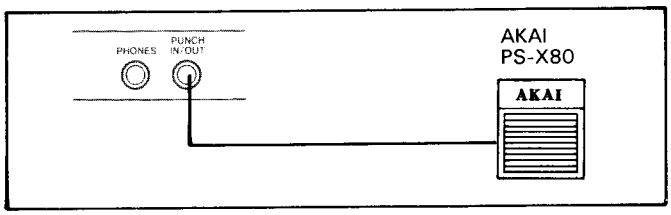
9 When the position at which you want to punch in is reached, press the REC PAUSE (I●I) button with the PLAY (►) button depressed. The sound for the other tracks and for the punch-in source can be monitored. If in the rehearsal mode, the sound will not be recorded.

10 When the position at which you want to punch out is reached, press the PLAY (►) button, making sure that the timing is precise. When punch-in/punch-out recording is completed, press the REC TRACK/BUS selector button whose "REC" LED is flashing to clear the recording mode.

II. Punch-In/Out Using a Foot Switch

1 Connect the AKAI PS-X80 or other foot switch to the PUNCH IN/OUT jack.

2 Follow steps 1 through 8 above.



3 Press the foot switch when the position at which you want to punch in is reached.

4 Press the foot switch again when the position at which you want to punch out is reached.

When punch-in/punch-out recording is completed, press the REC TRACK/BUS selector to turn the "REC" LED off.

Tape Sync

"Tape Sync" is important for multi-layer recording of the automatic playback of rhythm machines, sequencers, or other electronic instruments.
This MG614 is equipped with revolutionary TAPE SYNC IN/OUT jacks.
Tape sync consists of converting the "tape sync signals" sent from a rhythm machine or sequencer into recording signals with a center frequency of 23kHz, recording these signals onto track 1 along with the audio signals, returning these signals to tape sync signals upon synchronized playback, and sending them to the tape sync input of the rhythm machine or sequencer.
When plugs are inserted into the TAPE SYNC IN/OUT jacks, the unit is automatically set to the tape sync mode. Always use this mode with the tape speed set at HIGH (9.5cm/sec).

Recording Tape Sync Signals

1 Input the tape sync signals from a rhythm machine or sequencer to the TAPE SYNC IN jacks.

2 Connect the source you wish to record to input module channel 1. As tape sync signals are used, all frequencies above 9kHz are filtered out, so use a source with frequencies as low as possible (a bass part for example).

3 dbx can be set to either in or out.

4 The recording level for the tape sync signals is set automatically.

5 Make sure the recording level of the source to be recorded is not above the red zone on the peak level meter.
If recorded at a higher level, the tape sync signals will also be distorted, resulting in miscounts upon synchronized playback.
Be especially careful when recording in dbx.

NOTES:
When playing back a tape on which a sync signal has been recorded, the TAPE SYNC IN/OUT jacks must remain connected.

Playback of Tape Sync Signals

1 Connect the TAPE SYNC OUT jack to the tape sync signal input jack on the rhythm machine or sequencer.

2 The MG614 TAPE SYNC OUT level is of 1.4Vp-p.
The levels may not match depending on the type of rhythm machine or sequencer. If this is the case, consult with the manufacturer.

NOTES:
1 When not using tape sync signals, be sure to disconnect the plugs from the TAPE SYNC IN/OUT jacks. If the plugs are inserted, the high frequencies for track 1 will be filtered out as if they were tape sync signals.

2 When using tape sync signals, always set the tape speed to HIGH (9.5cm/sec).

3 Use as high a quality tape as possible.

4 If the heads are dirty, problems in synchronization may occur. Make sure to clean the heads before recording and playback.

5 Problems in synchronization may occur if the tape sync signals are copied, so do not perform track-to-track ping-pong recording for track 1 on which the tape sync signals are recorded.

6 Notify an AKAI office if there are problems in the synchronization using the TAPE SYNC IN/OUT jacks with a rhythm machine or sequencer . Also, if this should happen, connect the tape sync signals to the input module channel 1 and record and playback on track 1.

7 Set the recording level for recording tape sync signals from the input module onto track 1 so that the bar on the peak level meter reaches $-14 \sim -8$. (The optimum level depends on the rhythm machine or sequencer you are using.) In this case, a slight amount of crosstalk may be produced when track 2 is played back. If this should happen, the only thing to do is to not record anything on track 2 and only use tracks 3 and 4. Thus, we recommend using the TAPE SYNC IN/OUT jacks.

Maintenance

The following maintenance procedure should be carried out each time before the MG614 is used in order to keep it in optimum operating condition.
The places where the tape comes into contact with (heads, capstan, pinch roller, loading roller, tape guide and tension arm) become dirty with magnetic particles from the tape and fine dust. Magnetization is also liable to occur after extended use. This is caused by small amounts of residual magnetism which remain in the core of the heads. Magnetization causes a decrease in the signal level at high ranges and increases noise. Magnetization is also liable to occur on other metallic parts such as the capstan, tape guide and tension arm.

Cleaning

Be sure to remove the cassette tape before opening the maintenance cover.
Soak the cotton swabs of the tape deck with cleaning liquids of the CK-310 cleaning kit (sold separately). Carefully clean the heads, pinch roller, loading roller, tape guide, and capstan.
Note:
Use the cleaning liquid specified for the respective parts. The pinch roller and loading roller are cleaned with the cleaning liquid specified for rubber parts.

Demagnetization

Be sure to turn off the power of the MG614.
We recommend separately sold head demagnetezers.
Bring the head demagnetizer about 50 to 60 cm from the heads and turn on the power of the demagnetizer. Bring the demagnetizer near the parts to be demagnetized and slowly raise and lower it while gradually increasing the distance of the demagnetizer from the unit. Turn the power of the demagnetizer off when it is about 50 to 60 cm away from the heads.

Cleaning the panels

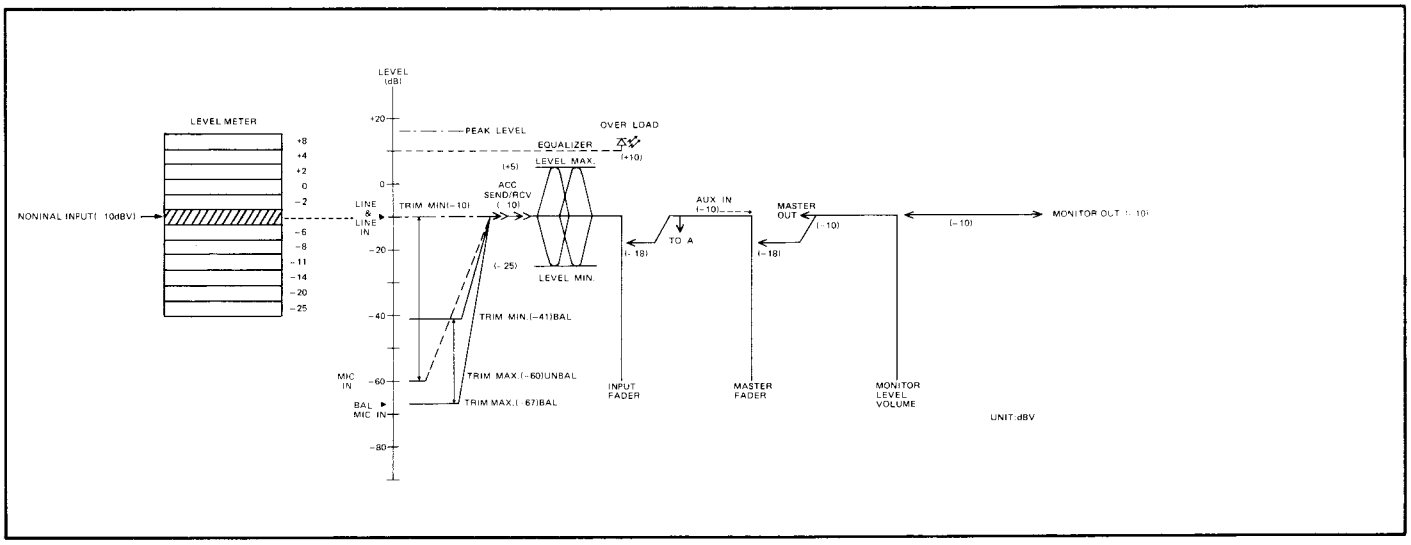
Dust and dirt can be wiped off with a soft dry cloth. If the panels are very dirty, a soft cloth moistened with a dish washing liquid or neutral cleanser can be used. Never use volatile liquids such as thinners, benzine, or chemically treated cleaning cloths, as these will damage the clear acrylic surface of the FL display and the cabinet finish.

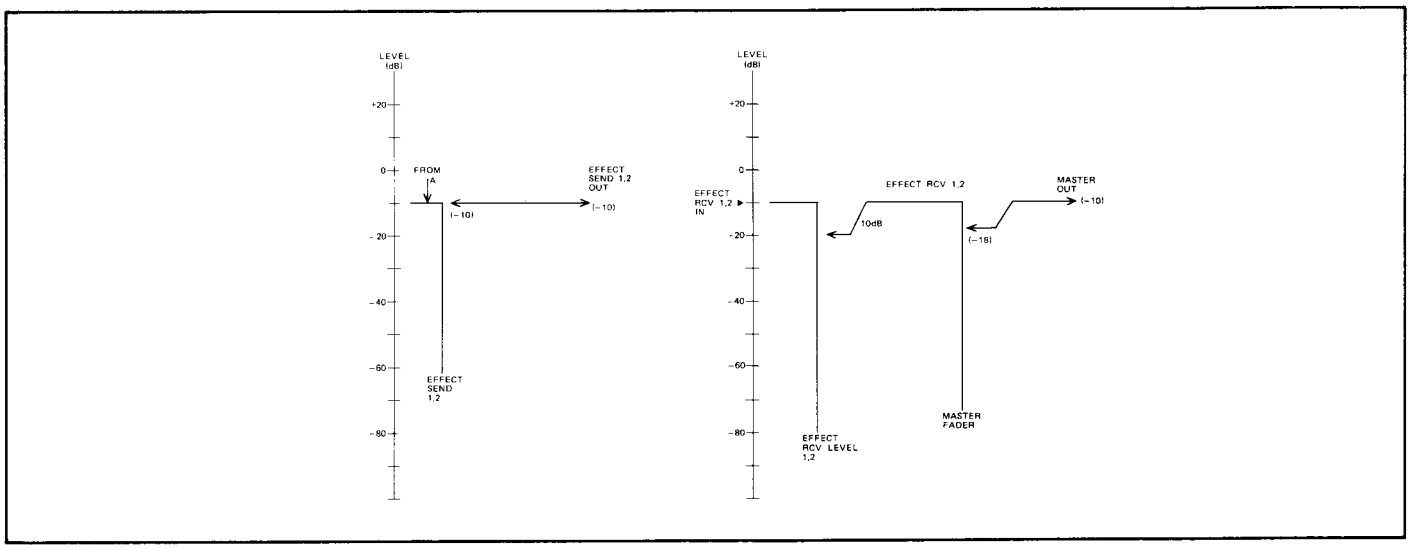
Cleaning of jacks and plugs

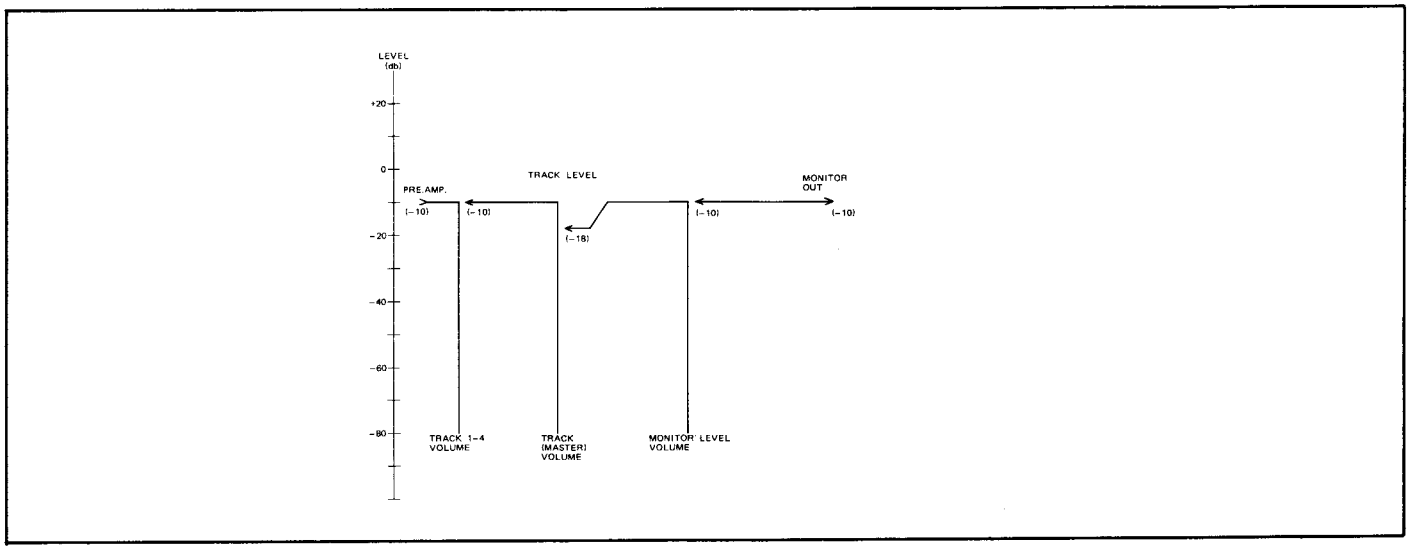
Dirty plugs and jacks lead to increased resistance, noise, and distortion. Periodically use electric contact cleaner to clean the plugs and jacks.

29

Level Diagram







Specifications

MIXER SECTION (NOTE : 0 dBV = 1 V)

MIC/LINE INPUT - UNBALANDED- (x6)
- SOUCE IMPEDANCE..... 10k ohms or less
- INPUT IMPEDANCE..... 100k ohms
- NOMINAL INPUT LEVEL..... −60 dBV ~ −10 dBV
- MAXIMUM INPUT LEVEL..... +15 dBV (trim minimum)

MIC INPUT -BALANCED- (x2)
- INPUT IMPEDANCE..... 1k ohms
- NOMINAL INPUT LEVEL..... −67 dBV
- MAXIMUM INPUT LEVEL..... −16 dBV (trim minimum)

AUX INPUT (STEREO) (x1)
- INPUT IMPEDANCE..... 22k ohms
- NOMINAL INPUT LEVEL..... −10 dBV
- MAXIMUM INPUT LEVEL..... +15 dBV

EFFECT RCV (STEREO) (x2)
- INPUT IMPEDANCE..... 22k ohms
- NOMINAL INPUT LEVEL..... −20 dBV
- MAXIMUM INPUT LEVEL..... +5 dBV (volume maximum)

ACC. SEND/RCV (x6)

SEND
- OUTPUT IMPEDANCE ..... 100 ohms
- OUTPUT LOAD IMPEDANCE .. 10k ohms or more
- NOMINAL OUTPUT LEVEL .... −10 dBV
- MAXIMUM OUTPUT LEVEL ... +15 dBV

RCV
- INPUT IMPEDANCE..... 68k ohms
- NOMINAL INPUT LEVEL..... −10 dBV
- MAXIMUM INPUT LEVEL..... +15 dBV

MONITOR OUTPUT (STEREO) (x1)
- OUTPUT IMPEDANCE ..... 100 ohms
- OUTPUT LOAD IMPEDANCE .. 10k ohms or more
- NOMINAL OUTPUT LEVEL .... −10 dBV

MASTER OUTPUT (STEREO) (x1)
- OUTPUT IMPEDANCE ..... 100 ohms
- OUTPUT LOAD IMPEDANCE .. 10k ohms or more
- NOMINAL OUTPUT LEVEL .... −10 dBV

EFFECT SEND OUTPUT (x2) 1/2
- OUTPUT IMPEDANCE ..... 100 ohms
- OUTPUT LOAD IMPEDANCE .. 10k ohms or more
- NOMINAL OUTPUT LEVEL .... −10 dBV

TRACK OUTPUT (x4)
- OUTPUT IMPEDANCE ..... 100 ohms
- OUTPUT LOAD IMPEDANCE .. 10k ohms or more
- NOMINAL OUTPUT LEVEL .... −10 dBV

PARAMETRIC EQ
- HIGH..... 800 Hz ~ 10 kHz ±15 dB
- LOW..... 40 Hz ~ 1.5 kHz ±15 dB

FREQ. RESPONES
- LINE..... 20 Hz ~ 20 kHz ±1 dB
- MIC..... 20 Hz ~ 18 kHz ±2 dB

S/N RATIO
- 1 MIC INPUT TO LINE OUTPUT..... 65 dB
- 1 LINE INPUT TO LINE OUTPUT..... 80 dB

DISTORTION..... 0.08 % (1 kHz, nominal level)

CROSS TALK..... 60 dB (1 kHz)

INPUT OVER LOAD INDICATOR
- INDICATION LEVEL..... 20 dB more than nominal input level

RECORDER SECTION

TRACK SYSTEM..... 4 TRACK (ONE WAY)

PLAY BACK CHANNEL..... 4 CHANNEL + SYNC

RECORDING CHANNEL..... 4 CHANNEL + SYNC

NOISE REDUCTION..... dbx TYPE I (SWITCHABLE)

TRACK OUTPUT
- OUTPUT LOAD IMPEDANCE .. MORE THAN 10k ohms
- MAXIMUM OUTPUT LEVEL ... +12 dBV

FREQ. RESPONSE..... 30 Hz ~ 20 kHz (+2/−3 dB, −20VU, 9.5cm/s)
40 Hz ~ 13 kHz (+2/−3 dB, −20VU, 4.75cm/s)

DISTORTION..... 1.0 % (1 kHz 0VU)

S/N RATIO..... 60 dB (EIAJ)
90 dB (EIAJ dbx ON)

CROSS TALK..... 70 dB (1 kHz, dbx ON)

ERASURE RATIO..... 70 dB (1 kHz)

TAPE..... C-cassette CHROME TAPE

HEADS..... 4 TRACK REC/PB x 1
4 TRACK ERASE x 1

MOTOR..... CAPSTAN
(FG SERVO DD MOTOR)
REEL DRIVE (DC MOTOR)
CAM DRIVE (DC MOTOR)

TAPE SPEED..... 9.5 cm/s ±0.5 %
4.75 cm/s ±1.0 %

PITCH CONTROL..... ±10 %

WOW/FLUTTER..... 0.04 % (PEAK WTD)

RECORDING TIME..... 15 MINIUTES
(C-60 TAPE, 9.5cm/s)

FAST WINDING TIME..... APPROXIMATELY 90 SECONDS (C-60)

POWER REQUIREMENTS..... 120V, 60Hz for USA & Canada 220V, 50Hz for Europe except UK
240V, 50Hz for UK & Australia
110V/120V/220V/240V, 50Hz/60Hz convertible for other countries

DIMENSIONS..... 470(W) x 157(H) x 556(D) mm

WEIGHT..... 14.5 kg

* For improvement purposes, specifications and design are subject to change without notice.

Please read the following insert to the MG 614 Operator's Manual concerning tape synchronization.

Tape synchronization is important for multitrack recording using the autoplay functions of rhythm machines, sequencers, and other electronic musical devices. However, the MG 614 is equipped with a revolutionary Tape Sync IN/OUT function that converts the tape sync signals output by the abovementioned types of electronic musical devices into an FM signal centered on 23 kHz. This signal is recorded with the track 1 audio signal (up to 10 kHz) and, during synchronized performance, converts the signal back to the tape sync signal originally output by the electronic musical instrument and sends this signal to the instrument's tape sync input.
The MG 614 automatically sets the optimum recording level for the tape sync signal. However, because this signal is added to the tape recording of the audio signal, distortion can occur in the recording when the audio signal's input level is high. Furthermore, the normal tape sync function can fail to operate due to the presence of distortion elements when the adjacent track's input level is high.
The FM signal uses a frequency band higher than that used by the audio signal, so please use a high-quality tape to minimize dropouts and other undesirable effects.
The MG 614 automatically switches to tape sync mode whenever the TAPE SYNC IN/OUT plug is inserted. Low-pass filters are connected (at 10 kHz for track 1, 13 kHz for track 2, 3 and 4) to ensure reliable tape sync operation. Always set the tape speed to HIGH (9.5 cm/s) and be sure to set dbx to IN for noise prevention.

How to Record Tape Sync Signals

1. Input the tape sync signal from the rhythm machine, sequencer or other electronic musical device to the MG614's TAPE SYNC IN jack.
2. Connect the source you wish to record to the input module's CHANNEL 1 jack. All signals above 10 kHz are cut in order to handle the tape sync signal, so the source signal for this channel must be in the middle or lower ranges (for example, the bass part).
3. Set dbx to IN.
4. Be sure to set the source's recording level so that the peak level meter's 0 dB level (the lowest point on the red LED) does not light up.
   Recording over the proper level can cause distortion in the tape sync signal and miscounts during synchronized play.

How to Play Back Tape Sync Signal

1. Connect the TAPE SYNC OUT jack to the input jack for the tape sync signal being produced by the rhythm machine, sequencer, or other electronic musical device.
2. The MG 614's TAPE SYNC OUT level is (1.4 Vp-p).

CAUTIONS

1. During playback and recording in which no tape sync signal is used, be sure to remove the plug from the TAPE SYNC IN/OUT jack. If the plug is left in, the low pass filter for each track will automatically cut out all of the higher sounds.
2. If the synchronization is not accurate, please check the following points.
   a. Are the heads dirty?
   b. Are there any tape dropouts? Are you using a high-quality tape?
   c. Is the recording level for track 1 too high?
   d. Try lowering the track 2 recording level a bit.
   If your rhythm machine, sequencer, or other electronic musical device still produces inaccurate synchronization, please contact Akai's Electronic Musical Instruments division. In such cases, please connect the tape sync signal to CHANNEL 1 of the input module and record and playback the signal on track 1.
3. When recording or playing back a tape sync signal on track 1 while using CHANNEL 1 on the input module, try to record syne signal in as low a range as possible in order to avoid tape sync signal cross talk (leakage) from the next track. (Note: the optimum level differs depending on the peak level meter reading within the −14 to −8 range and the type of rhythm machine, or other electronic musical device used.)
   In such cases as this, some small amount of crosstalk may occur on track 2. Nothing is recorded as a guard band on track 2 and nothing can be done for recording on tracks other than tracks 3 and 4.
4. If the tape sync signal is dubbed or copied, the syncronization will not be accurate. Therefore, please do intertrack ping pong recording for track 1 when track 1 receives the tape sync signal. (It is possible to do ping pong from track 1 to other tracks.)
5. Before playing back tapes upon which sync signals have been recorded, be sure not to remove the plug from the TAPE SYNC IN/OUT jack. (You may hear the FM carrier as noise during playback.)

AKAI

AKAI ELECTRIC CO., LTD.
12-14, 2-chome, Higashi-Kojiya,
Ohta-ku, Tokyo, Japan



Printed in Japan
Ⓓ610927D1 611006–01