

**AKAI**  
*professional*

# *REMIX 16*

**STEREO DJ  
PHRASE SAMPLER**

## **WARNING**



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

## **Operator's Manual**

**WARNING!!**

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

1-En

	<p><b>CAUTION</b> RISK OF ELECTRIC SHOCK DO NOT OPEN</p>	
<p>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.</p>		

THE SYMBOLS ARE RULED BY UL STANDARDS (U.S.A.)



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 intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

5A-En

## WARNING

The REMIX16 is designed to be used in a standard household environment.

Power requirements for electrical equipment vary from area to area. Please ensure that your REMIX16 meets the power requirements in your area. If in doubt, consult a qualified electrician or Akai Professional dealer.

120 VAC	@ 60 Hz for USA and Canada
220~230/240 VAC	@ 50 Hz for Europe
240 VAC	@ 50 Hz for Australia

## PROTECTING YOURSELF AND THE REMIX16

- Never touch the AC plug with wet hands.
- Always disconnect the REMIX16 from the power supply by pulling on the plug, not the cord.
- Allow only an Akai Professional dealer or qualified professional engineer to repair or reassemble the REMIX16. Apart from voiding the warranty, unauthorized engineers might touch live internal parts and receive a serious electrical shock.
- Do not put, or allow anyone to put any object, especially metal objects, into the REMIX16.
- Use only a household AC power supply. Never use a DC power supply.
- If water or any other liquid is spilled into or onto the REMIX16, disconnect the power, and call your dealer.
- Make sure that the unit is well-ventilated, and away from direct sunlight.
- To avoid damage to internal circuitry, as well as the external finish, keep the REMIX16 away from sources of direct heat (stoves, radiators, etc.).
- Avoid using aerosol insecticides, etc. near the REMIX16. They may damage the surface, and may ignite.
- Do not use denaturated alcohol, thinner or similar chemicals to clean the REMIX16. They will damage the finish.
- Modification of this equipment is dangerous, and can result in the functions of the REMIX16 being impaired. Never attempt to modify the equipment in any way.
- Make sure that the REMIX16 is always well-supported when in use (either in a specially-designed equipment rack, or a firm level surface).
- When installing the REMIX16 in a 19" rack system, always allow 1U of ventilated free space above it to allow for cooling. Make sure that the back of the rack is unobstructed to allow a clear airflow.
- In order to assure optimum performance of your REMIX16, select the setup location carefully, and make sure the equipment is used properly. Avoid setting up the REMIX16 in the following locations:
  1. In a humid or dusty environment
  2. In a room with poor ventilation
  3. On a surface which is not horizontal
  4. Inside a vehicle such as a car, where it will be subject to vibration
  5. In an extremely hot or cold environment

**CAUTION (Only for the product sold in Canada and U.S.A.)**

To prevent electric shock, do not use this polarized AC power plug with an extension cord, receptacle, or other outlet unless the blades can be fully inserted to prevent blade exposure.

14-En

**ATTENTION**

Afin d'éviter tout risque de décharge électrique, n' utilisez pas cette prise polarisée avec une rallonge, une prise de courant ou autre sortie à moins que les lames puissent être complètement insérées et qu'elles ne soient plus visibles.

14-F

**IMPORTANT**

This equipment is fitted with an approved converter plug.

To change the fuse in this type of plug proceed as follows:

- 1) Remove the fuse cover and old fuse.
- 2) Fit a new fuse which should be a BS1362 5 Amp A.S.T.A. or BSI approved type.
- 3) Refit the fuse cover.

If the AC mains plug fitted to the lead supplied with this equipment is not suitable for your type of AC outlet sockets, it should be changed to an AC mains lead, complete with moulded plug of the appropriate type. If this is not possible, the plug should be cut off and a correct one fitted to suit the AC outlet. This should be fused at 5 Amps.

If a plug without a fuse is used, the fuse at the distribution board should not be greater than 5 Amp.

**PLEASE NOTE: THE SEVERED PLUG MUST BE DESTROYED TO AVOID A POSSIBLE SHOCK HAZARD SHOULD IT BE INSERTED INTO A 13 AMP SOCKET ELSEWHERE.**

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 identifying the terminals in your plug, please 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.

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 PIN MARKED E OR  $\perp$  OR COLOURED GREEN OR YELLOW & GREEN WHEN WIRING THE PLUG.**

Ensure that all the terminals are securely tightened and no loose strands of wire exist.

Before replacing the plug cover, make certain the cord grip is clamped over the outer sheath of the lead and not simply over the wires.

6F-En

**VENTILATION**

Do not prevent the unit's ventilation, especially by placing the unit on the soft carpet, in a narrow space, or by placing objects on the unit's chassis—top, side, or rear panels. Always keep the unit's chassis at least 10 centimeters from any other objects.

31C-En

This equipment conforms to No.82/499/EEC, 87/308 EEC standard.

3A-En

CONFORME AL D.M. 13 APRILE 1989 DIRETTIVA CEE/87/308

3B-It

CHANGES OR MODIFICATIONS NOT EXPRESSLY APPROVED BY THE MANUFACTURER FOR COMPLIANCE COULD VOID THE USER'S AUTHORITY TO OPERATE THE EQUIPMENT.

32-En

### FCC WARNING

This equipment has been tested and found to comply with the limits for a Class B digital device pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

21B-En

### AVIS POUR LES ACHETEURS CANADIENS DU REMIX16

Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de la Class B prescrites dans le Règlement sur le brouillage radioélectrique édicté par le ministère des Communications du Canada.

27-F

This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.

27-En

### FÜR KUNDEN IN DER BUNDESREPUBLIK DEUTSCHLAND

Bescheinigung von AKAI

Hiermit wird bescheinigt, daß das Gerät AKAI

**REMIX16**

in Übereinstimmung mit den Bestimmungen der  
Amtsblattverfügung 1046/1984

funktentstört ist.

Der Deutschen Bundespostwurde das Inverkehrbringen dieses Gerätes angezeigt und die Berechtigung zur Überprüfung der Serie auf Einhaltung der Bestimmungen eingeräumt.

AKAI ELECTRIC CO., LTD.

17B-G

### Copyright Notice

The AKAI REMIX16 is a computer-based instrument and uses software contained in ROMs and floppy disks. Software that is provided with the instrument, including information contained in this manual, is copyrighted by applicable laws. You can use that software or information concerning the instrument only for personal use. You are strictly prohibited to copy or modify any part of the software or manual without written permission from AKAI ELECTRIC CO., LTD. in Japan.

## WARRANTY

AKAI Electric Co. Ltd. warrants its products, when purchased from an authorized "AKAI professional" dealer, to be free from defects in materials and workmanship for a period of 12 (twelve) months from the date of purchase. Warranty service is effective and available to the original purchase only, and only on completion and return of the AKAI Warranty Registration Card within 14 days of purchase.

Warranty coverage is valid for factory-authorized updates to AKAI instruments and their software, when their installation is performed by an authorized AKAI Service Center, and a properly completed Warranty Registration has been returned to your "AKAI professional" dealer.

To obtain service under this warranty, the product must, on discovery of the defect, be properly packed and shipped to the nearest AKAI Service Center. The party requesting warranty service must provide proof of original ownership and date of purchase of the product.

If the warranty is valid, AKAI will, without charge for parts or labor, either repair or replace the defective part(s). Without a valid warranty, the entire cost of the repair (parts and labor) is the responsibility of the product's owner.

AKAI warrants that it will make all necessary adjustments, repairs and replacements at no cost to the original owner within 12 (twelve) months of the purchase date if:

- 1) The product fails to perform its specified functions due to failure of one or more of its components.
- 2) The product fails to perform its specified functions due to defects in workmanship.
- 3) The product has been maintained and operated by the owner in strict accordance with the written instructions for proper maintenance and use as specified in this Operator's Manual.

Before purchase and use, owners should determine the suitability of the product for their intended use, and owner assumes all risk and liability whatsoever in connection therewith. AKAI shall not be liable for any injury, loss or damage, direct or consequential, arising out of use, or inability to use the product.

The warranty provides only those benefits specified, and does not cover defects or repairs needed as a result of acts beyond the control of AKAI, including but not limited to:

- 1) Damage caused by abuse, accident, negligence. AKAI will not cover under warranty any original factory disk damaged or destroyed as a result of the owner's mishandling.
- 2) Damage caused by any tampering, alteration or modification of the product: operating software, mechanical or electronic components.
- 3) Damage caused by failure to maintain and operate the product in strict accordance with the written instructions for proper maintenance and use as specified in this Operator's Manual.
- 4) Damage caused by repairs or attempted repairs by unauthorized persons.
- 5) Damage caused by fire, smoke, falling objects, water or other liquids, or natural events such as rain, floods, earthquakes, lightning, tornadoes, storms, etc.
- 6) Damage caused by operation on improper voltages.

**IMPORTANT NOTE:** *This warranty becomes void if the product or its software is electronically modified, altered or tampered with in any way.*

AKAI shall not be liable for costs involved in packing or preparing the product for shipping, with regard to time, labor, or materials, shipping or freight costs, or time or expense involved in transporting the product to and from AKAI Authorized Service Center or Authorized Dealer.

AKAI will not cover under warranty an apparent malfunction that is determined to be user error, or owner's inability to use the product.

THE DURATION OF ANY OTHER WARRANTIES, WHETHER IMPLIED OR EXPRESS, INCLUDING BUT NOT LIMITED TO THE IMPLIED CONDITION OF MERCHANTABILITY, IS LIMITED TO THE DURATION OF THE EXPRESS WARRANTY HEREIN.

AKAI hereby excludes incidental or consequential damages, including but not limited to:

- 1) Loss of time.
- 2) Inconvenience
- 3) Delay in performance of the Warranty.
- 4) The loss of use of the product.
- 5) Commercial loss.
- 6) Breach of any express or implied warranty, including the Implied Warranty of Merchantability, applicable to this product.

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## Introduction

Thank you for buying an AKAI REMIX16 Stereo DJ Phrase Sampler.

A simple but unique idea to combine an analog disco mixer with a completely digital sampler has produced a new musical gear in front of you. Your new REMIX16 offers an easy operation to make on-the-fly sampling, looping, and playback anytime you wish to, even on a live stage.

Its built-in sequencer records and reproduces your performance using 16 bank keys assigned with samples and function keys for other features. It also offers expandability to make your own DJ system connected with analog turntables or audio CD players.

Of course, it provides usage of an ordinary MIDI compatible sampler with a multi-sampling and multi-timbral features. The REMIX16 is another answer from AKAI that has produced highly acclaimed S-series samplers. It will surely give you many expressions in your musical attitude, we hope.

To fully use the REMIX16, please read this manual thoroughly. Also, please keep this manual in a safe place for future reference.

## Features

- MIDI compatible digital sampler with 8 voice polyphony
- 16-bit stereo sampling feature at 32/16/8 kHz sampling frequency
- Maximum 30 second recording at 32 kHz mono sampling with a standard memory configuration; expandable to maximum 292.1 seconds with an additional 16 Megabyte SIMM installed
- 16 large bank keys for sample assignment and function keys for real time performance on the main panel
- Sequence feature that records and reproduces the main panel operations
- Disco mix feature using the cross fader
- Pitch control slider that tunes up and down the whole pitch of samples that are assigned to the bank keys
- Control sliders that enables pitch bending and scratching
- Tap feature that provides BPM (beats per minute) display according to the manual tapping
- Beat loop function that provides a tempo from a sample loop length or adjusts samples' pitch by a tempo value entry
- Resampling feature that saves memory
- Easy sample editing method using the edit matrix and large data wheel while auditioning samples
- Simple management of samples using 16 banks with edit parameters for individual bank control
- Headphone out with monitor source selection; controlled independently from line output source
- Multi-timbral/multi-sampled sound module that is fully MIDI controlled
- Playback/sampling/MIDI sequencing possible to be foot controlled
- Built-in floppy disk drive that accepts 3.5-inch 2HD/2DD disks
- Possible to load sample data from the sound library disks for almost all AKAI S-series samplers (S900/S1000/S1100/S2800/S3000/S3200/S2000/S01)
- Optional SCSI board that enables external drive connection for large amount of data storage

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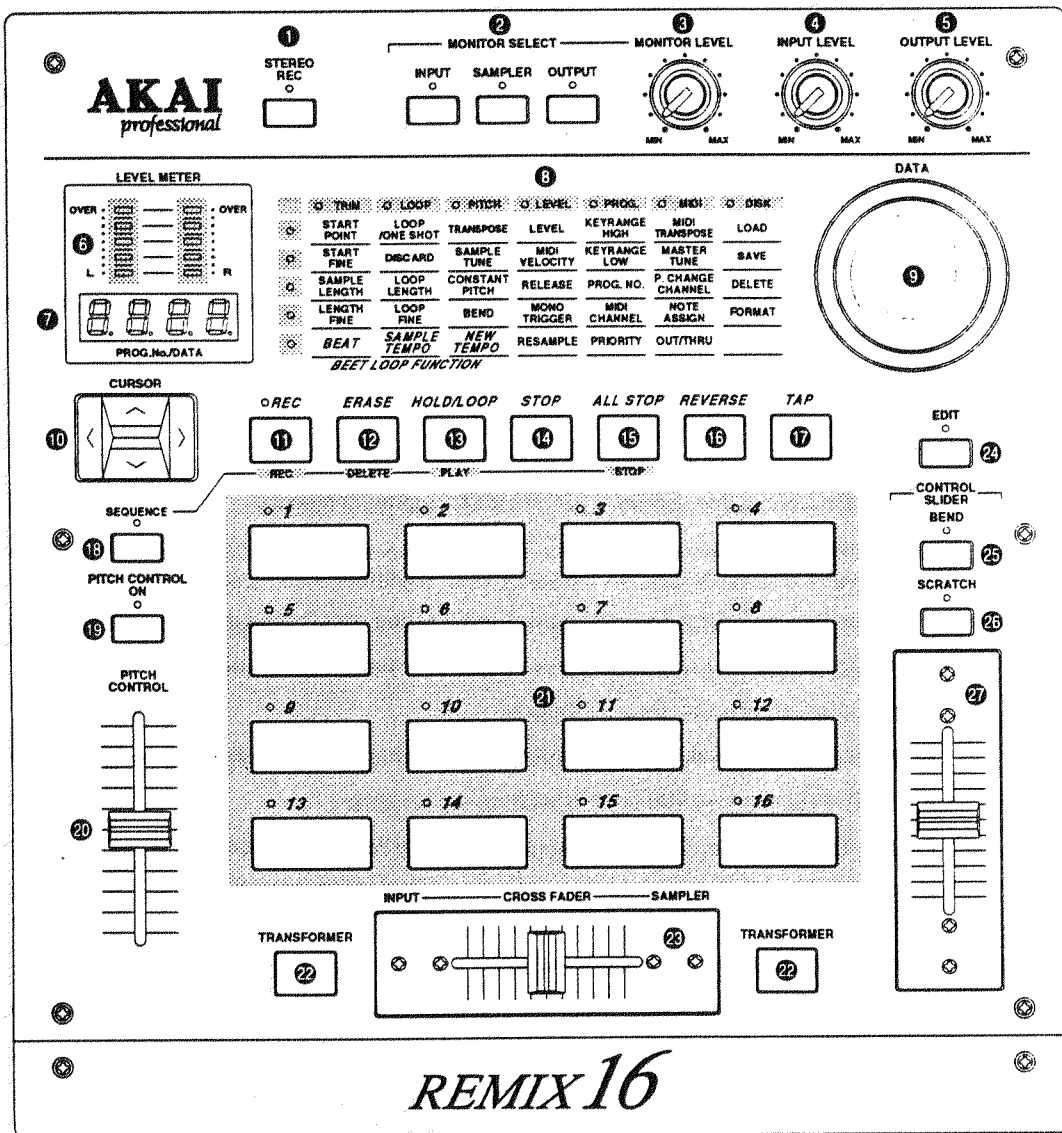
**Note:** The REMIX16 has comprehensive operations. To fully use the REMIX16, however, please read this manual thoroughly before operations.

For a description in this manual, unique names of main panel controllers (keys, etc.) are represented in bold.

---

# Panel Descriptions

## Main Panel



### 1 STEREO REC

Toggles the sampling mode between Stereo and Mono. Each time you press this key, the LED is turned on or off. Stereo sampling is available with the LED turned on. During mono sampling, only the left channel is recorded whereas the left and right channels are both sent to OUTPUT. Use this feature if necessary because stereo sampling requires twice as much memory as mono sampling.

### 2 MONITOR SELECT

Selects the monitor source for HEADPHONE, from the following:

- INPUT : Sounds from INPUT
- SAMPLER : Sampled sounds assigned to 16 banks
- OUTPUT : Sounds to OUTPUT

### 3 MONITOR LEVEL

Adjusts the output level of HEADPHONE.

**④ INPUT LEVEL**

Adjusts the input level at INPUT. A current input level is shown on LEVEL METER.

**⑤ OUTPUT LEVEL**

Adjusts the output level at OUTPUT.

**⑥ LEVEL METER**

Indicates a current input level at INPUT. The current input level is adjusted by INPUT LEVEL. When the OVER LED turns on in red, the sound may get distorted. But too low a input level may make the sound noisier. Adjust it as high as possible but not to turn on the OVER LED.

**⑦ PROG.No./DATA**

The display shows information such as a parameter, symbol, current status, etc., depending on the current mode selection, in its 7-segment LED display.

**⑧ Edit Matrix**

This edit parameter map gives you a fast access to a desired parameter; Move the light of an LED (left/right/up/down) using CURSOR. Notice the lighting LEDs indicate the current parameter at their cross point in the matrix; You can trace in the matrix to know the parameter name printed on the main panel. Also, the current parameter value is shown in PROG.No./DATA.

**⑨ DATA (Jog Dial, Data Wheel)**

The inner Jog Dial and outer Data Wheel are both used for setting data; Use Jog Dial for fine data setting and Data Wheel for coarse setting. The value specified by these controls will be shown in PROG.NO./DATA. In addition, Data Wheel automatically returns to the center position when it is released.

**⑩ CURSOR**

Used to select a parameter in Edit Matrix when you are working in Edit mode; The CURSOR keys are also used to show a total sampling time with up CURSOR (in seconds, at 32 kHz sampling frequency, mono) or remaining sampling time with other CURSOR keys in Play mode and Sequence mode.

**⑪ REC**

Pressing this key starts sampling; Pressing this key puts the REMIX16 in record standby status; Consecutively pressing one of the bank keys starts sampling. REC is also used to execute commands in Edit mode and to start sequence recording in Sequence mode.

**⑫ ERASE**

Pressing this key clears a sample assigned in a bank; Pressing a bank key along with ERASE will clear the sample in that bank. ERASE in Sequence mode is used to clear a track or bank data assigned in a track.

**⑬ HOLD/LOOP**

Pressing this key along with a bank key makes a looped sample playback on hold. You cannot have playback on hold with a sample without a loop setting (one-shot sample).

Pressing this key during sampling stops sampling and starts a looped playback of that sample.

HOLD/LOOP is also used in Sequence mode, to start recording a sequence.

**⑭ STOP**

For looped playback of a sample, pressing this key along with the corresponding bank key stops that playback. Multiple samples on simultaneous playback can individually be stopped by this method.

**⑮ ALL STOP**

Stops all sample playback immediately.

Playback of a sequence in Sequence mode can also be stopped by pressing this key.

**⑯ REVERSE**

Pressing this along with a bank key causes a reversed playback of the corresponding sample; Releasing this with the bank key held down changes to a normal playback of that sample.

**⑰ TAP**

Tapping a tempo on this key indicates a current tempo in the display. NEW TEMPO for BEAT LOOP FUNCTION can be adjusted with this method.

Also, pressing this key along with a bank key will cause repeated playback of the beginning of the corresponding sample; Turning the outer Data Wheel can adjust the playback tempo for that beginning loop.

**⑱ SEQUENCE**

Pressing this key lights its LED up and the REMIX16 enters Sequence mode. Pressing the key a second time returns the unit to Play mode.

**⑲ PITCH CONTROL ON**

Pressing this key lights up its LED making the PITCH CONTROL slider active.

**⑳ PITCH CONTROL**

This slide control changes the whole pitch of the REMIX16 samples with PITCH CONTROL ON LED lit.

Samples with CONSTANT PITCH set to ON will not be affected regardless of the PITCH CONTROL ON setting.

**㉑ Bank 1-16**

Pressing any bank key(s) plays out sample(s) assigned to individual banks.

In play mode, an available bank (that contains a sample and is playable) is indicated with its LED lit.

In Edit mode, you can select any one bank for editing at a time by pressing the corresponding bank key; Its LED lights up indicating that the bank is editable.

**㉒ TRANSFORMER**

These two keys, one for the INPUT sounds and the other for SAMPLER sounds assigned to banks, allow output of the corresponding sounds regardless of the CROSS FADER positions.

For instance, even if OUTPUT only sends out the samples with CROSS FADER set to a rightmost position, you can also output the INPUT sounds while the left TRANSFORMER key is held down.

**㉓ CROSS FADER**

Adjusts the level balance between INPUT and SAMPLER.

Moving the fader to a leftmost position outputs the INPUT sounds only, or a rightmost position outputs the SAMPLER sounds only.

For a normal disco mixer, the cross fader switches two turntable sounds. For the REMIX16, its cross fader switches a turntable (INPUT) to and from the samples (SAMPLE).

**㉔ EDIT**

Pressing this key lights up its LED indicating that the REMIX16 is in Edit mode. Pressing the key a second time turns off the LED and puts again the REMIX16 to Play mode.

**㉕ BEND**

Pressing this key lights up its LED and turns CONTROL SLIDER into a pitch bender.

Pitch bending is available with samples whose bank keys are held down, but not with looped samples on hold.

Each bank is assigned with a pitch bend range that is applied for a containing sample, using BEND in Edit mode.

**㉖ SCRATCH**

Pressing this key lights up its LED and turns CONTROL SLIDER into the scratch control for assigned banks.

While the key is held down, some bank LEDs lights up indicating that those banks are scratch-controlled. To select a scratch-controlled bank, press any bank key along with SCRATCH.

You can perform scratching a sample from that bank by moving CONTROL SLIDER. Moving speed of the slider varies the scratch speed of samples.

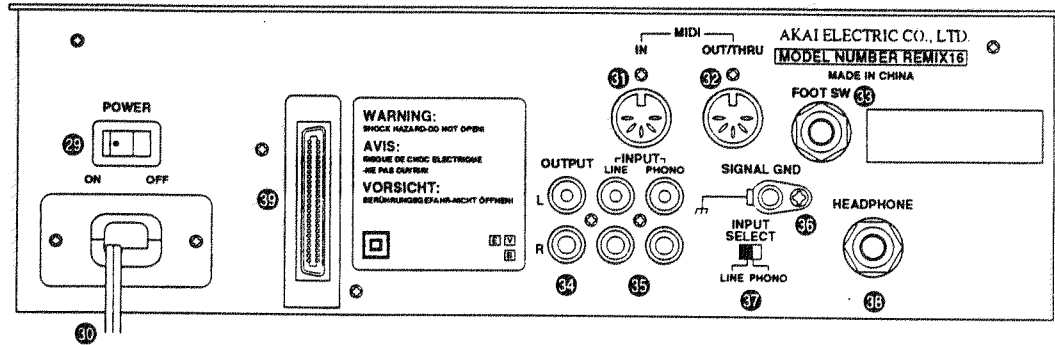
**㉗ CONTROL SLIDER**

Used as either a pitch bender or scratch controller; It has no function with both the BEND and SCRATCH LEDs turned off.

**㉘ Floppy disk drive**

Used for loading or saving sample data from or to a floppy disk. This drive accepts a 2DD or 2HD floppy disk.

## Rear Panel

**29 POWER**

Turns on or off the REMIX16.

**30 Power cable**

Connects to an AC outlet.

**31 MIDI IN**

Connects to MIDI OUT on an external MIDI controller.

**32 MIDI OUT/THRU**

Connects to MIDI IN on an external MIDI device. OUT or THRU is selected in Edit mode.

**33 FOOT SW**

Connects to a normal-closed type foot controller. The foot controller connected can play out a sample from the bank 1 in Play mode, start recording during sample recording, or start recording during sequence recording in Sequence mode.

**34 OUTPUT**

Sends out mixed signals of the INPUT sounds and sample sounds; A mixing level is determined by CROSS FADER.

**35 INPUT**

Input source is selected from the following:

**LINE** : Connects to line outputs of a CD player or tape recorder.

**PHONO** : Connects to the phono terminal of a turntable; A turntable that incorporates phono amplifier must be connected to LINE.

**36 SIGNAL GND**

Connects to the earth terminal of the turntable connected to INPUT.

**37 INPUT SELECT**

Switches between LINE and PHONO at INPUT. Select appropriately according to the source device connected to INPUT.

**38 HEADPHONE**

Connects to a pair of headphones.

A monitored source is selected using MONITOR SELECT on the main panel.

To protect your ears and headphones, turn down MONITOR LEVEL to minimum position before turning on the unit.

**38 SCSI Terminal (Optional)**

An optional IB-16S SCSI interface board is installed here to have an external hard disk drive connected.

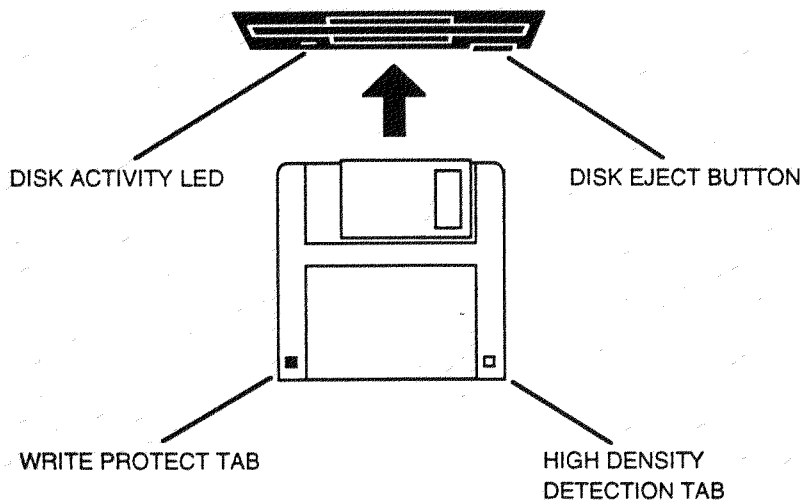
The V1.0 software does not support the SCSI function. It requires the software update.

## Handling Floppy Disks

### THE DISK DRIVE

The 3.5 inch floppy disk drive will accept high density (2HD) and double density (2DD) disks .

Disks are inserted into the drive thus:



The label should be facing upwards when it is inserted (actually, it is physically impossible to insert disks the wrong way round without using an extreme amount of brute force!).

To eject the disk, simply press the DISK EJECT button. While loading, saving or formatting the disk, the DISK ACTIVITY LED will be lit. NEVER to press DISK EJECT button while the LED is lit.

It is important to remember that, unlike a synthesiser, the REMIX16 has no means of storing sounds in an internal memory. As a result, it is vital that you save your work to disk before turning the power off otherwise you will lose your work and, unless previously saved or backed up, it will be gone for ever. In fact, it is a good idea to regularly save your work as you are working. All good computer users do this and it prevents the accidental loss of data should power be accidentally removed from the instrument. This also serves as a form of 'undo' - if you make some kind of mistake in your programming and editing and can't fix it, you can load the last level of editing back into the sampler.

It may be a bit tedious to keep stopping every now and then to save your work but it is better than losing some valuable sounds.

### TAKING CARE OF YOUR DISKS

These floppy disks contain valuable sound data and, as such, should be treated with extreme care. Please observe the following points, therefore:

- Never slide the metal cover back and touch the disk. Finger marks may render the disk unreadable.
- Don't leave the disk in the drive whenever possible. When the disk is in the drive, the metal protective cover slides back exposing the actual disk inside and this makes the disk susceptible to picking up dust which may cause read errors.
- Do not leave your disks in a hot car.

- Do not place your disks next to any magnetic sources such as speakers, amplifiers, televisions, etc. Also, try to avoid X-ray machines but with the added security at airports these days, this may not be possible. At airports, it is sometimes possible to ask for your disks to be inspected by hand at security desks. Always check with the security officer, just in case. Security X-ray machines are generally safe with disks, though. If in doubt, make backup copies which should be left at home.

---

*Note: Some checked-in luggage are X-rayed by quite powerful machines that are not as safe as those that check hand luggage. It is probably best to take your disks as hand luggage.*

---

- Do not leave your disks around drinking liquids - one accidental spillage could ruin a lot of work!
- Always use high quality disks. Whilst cheap ones may be appealing, they are prone to errors more than good ones.
- Try to ensure that the write protect tab is switched on (i.e. the tab not blocking the hole). This will prevent accidental erasure, formatting and loss of data. It may be a nuisance to try to write to the disk and find it write protected but it is less of a nuisance than accidentally over-writing a set of your favourite samples and programs!
- Try to get into the habit of labelling your disks - it will pay dividends in the end when you are searching for something.
- Invest in a sturdy carrying case for your floppies especially if you are a gigging musician. Heavy duty metal camera cases are ideal and some flight case manufacturers now make special heavy duty disk flightcases.
- Even if you are using a hard disk of any sort, please make sure you have backed up your work to floppy disks. It can be time consuming but it will be worth it if you ever have a problem with your hard disk!

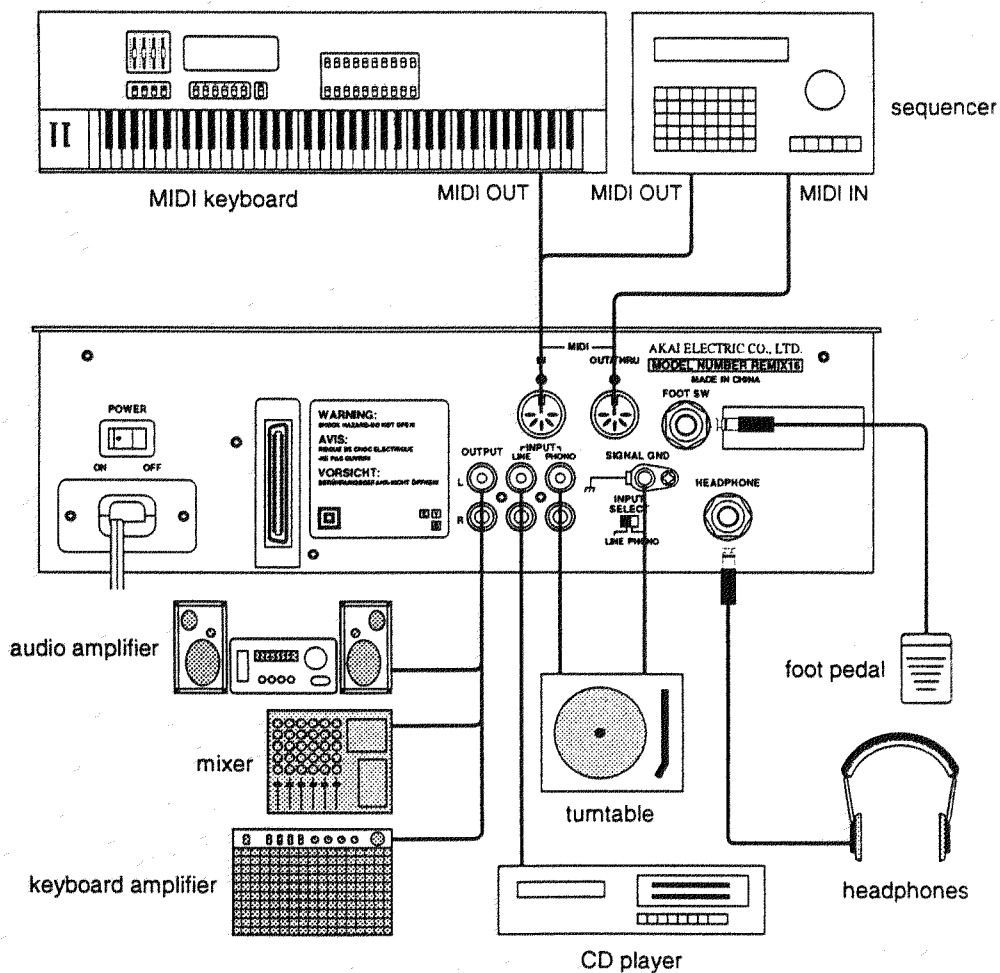
#### ■ Supplied Disks

Your REMIX16 comes with four sound disks. A portion of this manual is described using such disks.



## Connections

- Make sure that the REMIX16 and other equipment to connect are all turned off.
- For an audio device that has line outputs such as CD player, it connects to LINE IN of the REMIX16; A turntable connects to PHONO of the REMIX16 and its earth cable also connects to SIGNAL GND of the REMIX16. If your turntable has a built-in phono amplifier, that turntable must be connected to LINE IN of the REMIX16.
- Select the device type (source) connected using INPUT SELECT.
- If you want the REMIX16 to be MIDI controlled, connect a MIDI controller (master keyboard, sequencer, etc.) MIDI OUT to MIDI IN of the REMIX16.
- If you want to record your performance on the REMIX16 as MIDI data, connect a sequencer MIDI IN to MIDI OUT/THRU of the REMIX16.
- Connect the REMIX16 OUTPUT to line inputs of an external amplifier or mixer; Make an appropriate stereo pan setting on the mixer connected for the REMIX16. Connect headphones if necessary.



- Before turning on the REMIX16, make sure that the amplifier is turned off or the mixer volume is all turned down to protect the speakers. Similarly, to avoid damaging your ears and headphones, turn down MONITOR LEVEL to minimum position.
- Turn on the REMIX16; Its display first blinks, then indicates  $r 0$ . It shows  $r 4$  with 4-Megabyte SIMM installed or  $r 15$  with 16-Megabyte SIMM installed. After a while, the display changes to <1> indicating that the REMIX16 is ready to use.
- Turn on the amplifier or mixer connected; Adjust the volume. If you use headphones for monitoring, select OUTPUT at MONITOR SELECT, then adjust MONITOR LEVEL.
- Set CROSS FADER at the center position and turn up OUTPUT.
- Start playing on the CD player or turntable connected; Turn up INPUT LEVEL to hear the sound from that audio device.
- When you press the bank key 1 on the REMIX16, you can audition the sampler test tone.

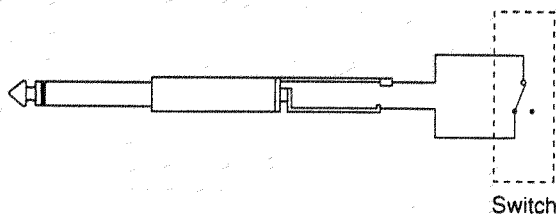
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**Note:** If the sound source connected or sampler test tone is not heard, check the following:

- All equipment is turned on.
  - All cables are properly connected.
  - Volume of the mixer or amplifier is enough; Each level setting on the REMIX16 is enough.
- If either channel of the sound source or sampler is not heard, check the CROSS FADER position or INPUT SELECT position.
- 

#### ■ Foot Control

If you connect a foot pedal of normal-closed type as illustrated below, to the FOOT SW jack located on the REMIX16 rear panel, you can have foot control of playback from the bank 1, sampling start, or start/stop of sequence recording.



## Test Driving of the REMIX16

This section describes on test driving of the REMIX16. It also explains on how to use the sound disks supplied and a basic sampling method with the REMIX16.

For detailed explanations of various playing methods, sample editing, sequence making and so on, refer to the individual descriptions in the subsequent sections.

### Playing Samples from Sound Disks

The following description shows a simple playback method of samples from a floppy disk.

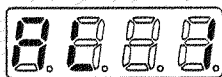
1. Press **EDIT** to light up the EDIT LED.



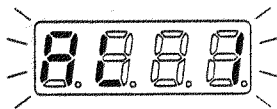
2. Set one of the supplied sound disks appropriately into the drive located on the front panel of the REMIX16.
3. Select **LOAD** in the Edit Matrix by moving the LED light with **CURSOR**; **LOAD** is at the top of the rightmost **DISK** row.

<input type="checkbox"/> TRIM	<input type="checkbox"/> LOOP	<input type="checkbox"/> PITCH	<input type="checkbox"/> LEVEL	<input type="checkbox"/> PROG.	<input type="checkbox"/> MIDI	<input checked="" type="checkbox"/> DISK
<input checked="" type="checkbox"/> START POINT	<input type="checkbox"/> LOOP / ONE SHOT	<input type="checkbox"/> TRANSPOSE	<input type="checkbox"/> LEVEL	<input type="checkbox"/> KEYPHASE HIGH	<input type="checkbox"/> MIDI TRANSPOSE	<input type="checkbox"/> LOAD
<input type="checkbox"/> START FINE	<input type="checkbox"/> DISCARD	<input type="checkbox"/> SAMPLE TUNE	<input type="checkbox"/> MIDI VELOCITY	<input type="checkbox"/> KEYPHASE LOW	<input type="checkbox"/> MASTER TUNE	<input type="checkbox"/> SAVE

4. Press **REC** to show **AL** in the display. If **AL** is not shown, turn the **DATA** wheel counterclockwise to have it.



5. Press **REC** a second time to blink the display.



6. Press **REC** a third time; The display will change to **LoAd** to indicate that sample data is now loading.



7. Press **EDIT** to turn off the EDIT LED; You are now in Play mode.



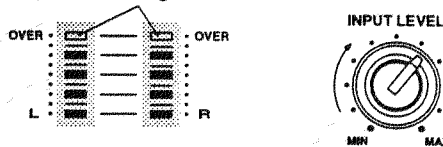
8. When you press any bank key whose LED lights up, you can play a sample assigned to that bank.
- You can play samples along with playback from the CD player or turntable. Level balance between those sounds is adjusted by **CROSS FADER**.
  - You can play multiple samples at a time by pressing several bank keys simultaneously.
  - For a phrase sample that loops, like one from the sound disk, you can have a loop on hold by pressing **HOLD/LOOP** and the corresponding bank key simultaneously; That sample will go on playing in a loop after the keys are released. To stop playing a sample, press the corresponding bank key along with **STOP**, simultaneously. Pressing **ALL STOP** will stop playing all samples currently being played.

## Sampling

The following procedure shows how to make a sample from sounds from the CD player or turntable that is connected to the REMIX16.

1. Make sure that the REMIX16 is in Play mode (with **EDIT** and **SEQUENCE** LEDs both turned off) and start playing on the CD player or turntable.
2. Adjust the source input level that is shown in **LEVEL METER**, using **INPUT LEVEL**; Set the level as high as possible, not to light up the red **OVER** LED.

Adjust, not to light the red LEDs.



3. Press **REC**.



4. Press the bank key of a vacant bank (with its LED turned off) at the point you want to record; Press **STOP** at the point you want to stop sampling.
  - You can have up to 16 samples within the memory capacity of the REMIX16.
  - If you use up the memory, pressing **REC** followed by a bank key will show **FULL** blinking. In this case, you can erase unnecessary samples to have a vacant memory space by pressing the corresponding bank keys along with **ERASE**.
5. The recorded sample from the CD player or turntable can play out each time the corresponding bank key is pressed.

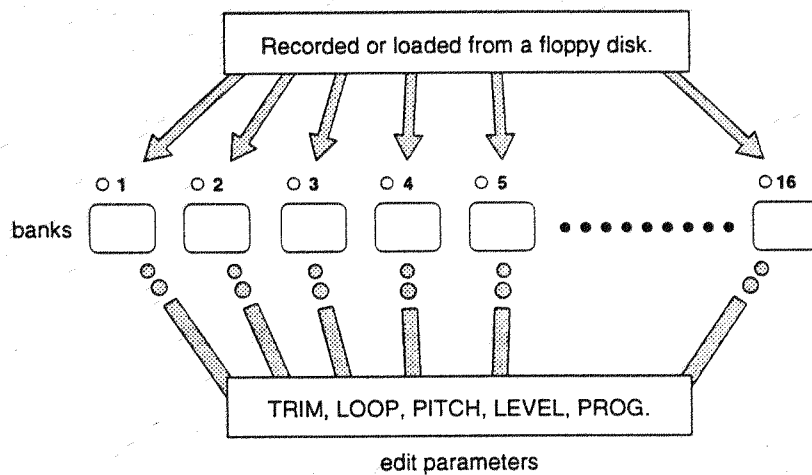
## REMIX16 Basics

Your REMIX16 can easily record any source sounds from a CD or analog disc; It may make sample sounds of acoustic instruments such as piano, strings, percussion, etc., or sound effects such as wind, rain, human voice, etc. These or other sounds can easily be fed to the REMIX16 as long as they are in the form of audio signals that are possible to connect to the REMIX16 INPUT.

Once these sounds have been recorded or sampled, you can freely play with them using 16 bank keys or using an external MIDI keyboard. Also, these samples are possible to be edited using several edit parameters like BEAT LOOP FUNCTION that enables tempo-matched looping, etc.

### Banks

The REMIX16 provides 16 banks, into each of which you can record a sound material or load a sample data from sound library disks. Each bank has edit parameters such as looping, level, pitch, etc.



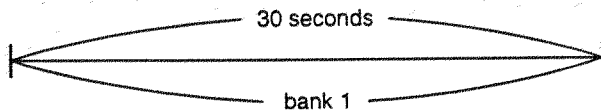
### Memory

Your REMIX16 comes with 2-megabyte RAM installed. The REMIX16 memory is used partially for operating system, and its remaining portion is used as user area where you can record or load sample data with up to 30 seconds at 32 kHz mono sampling in length.

You can have a total sampling time display by pressing the upward CURSOR key in Play mode; Other CURSOR keys bring a free remaining memory display.

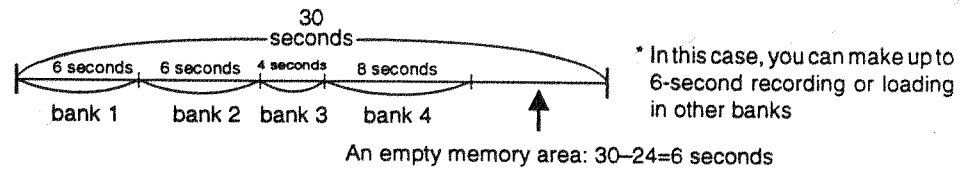
You can use that total sampling time (user area) freely for each of 16 banks; One bank can use up all user memory or several banks can share it, as shown in the following illustrations.

**Example 1: All memory used for bank 1 only.**

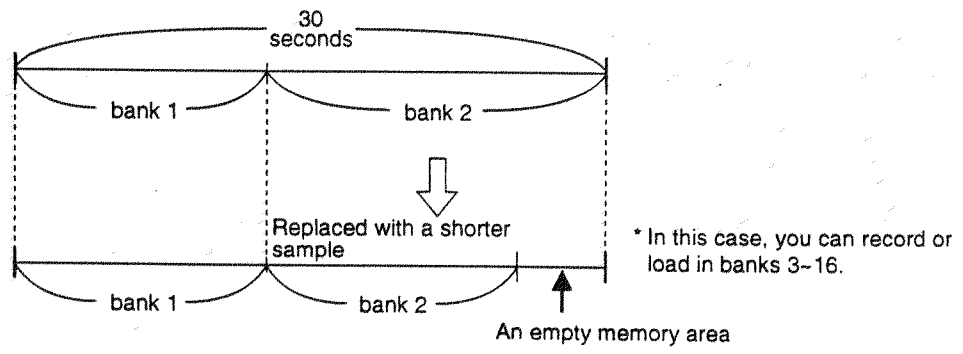


\* In this case, you can no longer record or load in other banks.

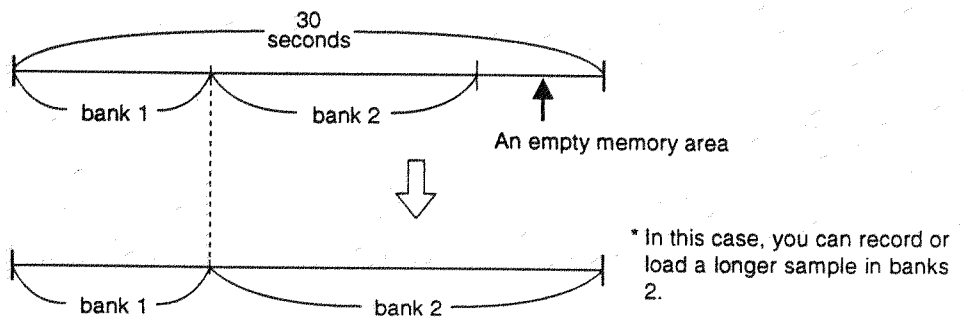
**Example 2: Several banks sharing the memory**



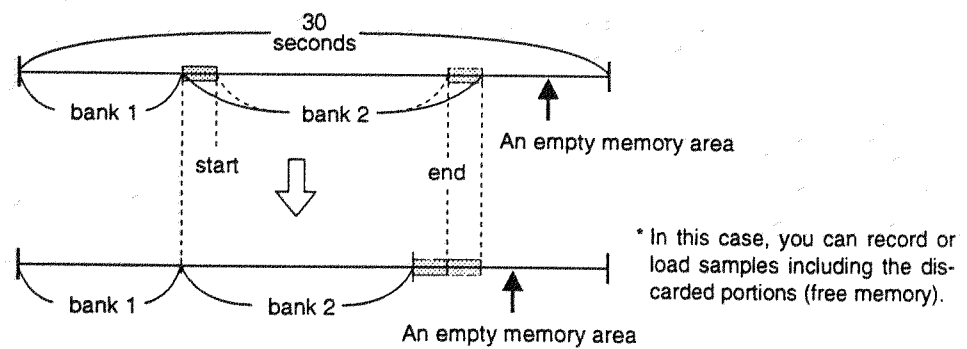
**Example 3: Banks 1 & 2 sharing all memory, bank 2 sample replaced with a shorter one.**



**Example 4: Recorded in banks 1 & 2. Some memory still remains.**



**Example 5: Discarded unnecessary portions at the beginning and end of existing samples**



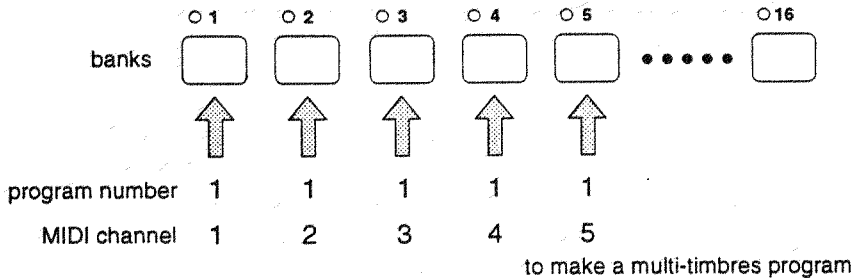
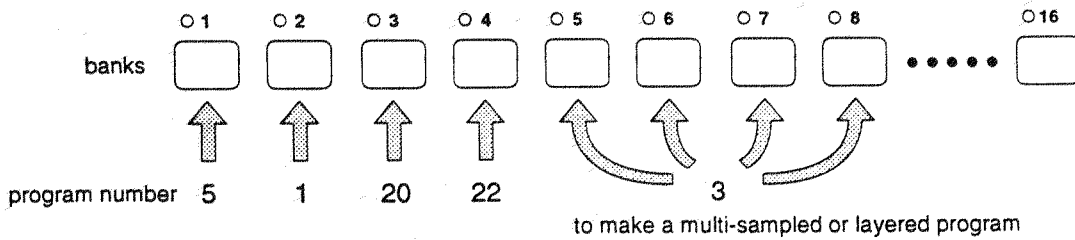
## Files

The REMIX16 handles several types of data as a file. There are three types of REMIX16 files—ALL file that contains all banked samples with edit parameter values and sequence data, sample file that contains one banked sample with edit parameter values, and sequence file. You can determine which file type is used for data transfer. Additionally, the REMIX16 can load sample data from the sample library disks for AKAI S-series sampler. For detailed information, see page 35.

## Programs

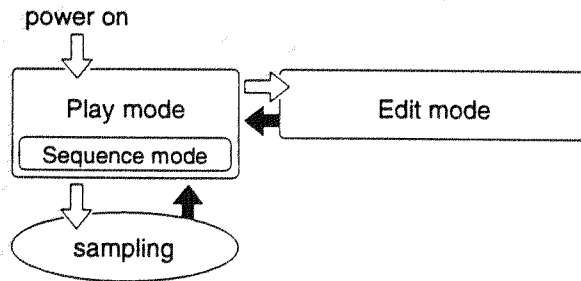
You can use the REMIX16 as a MIDI sound module by assigning a channel number and program number for each bank; This enables you to have 16 banks as up to 16 MIDI-controlled programs.

That is, you can configure sound layers by assigning the same channel number and program number to multiple banks, or you can configure multi-timbres by assigning a different channel number and same program number to each bank.

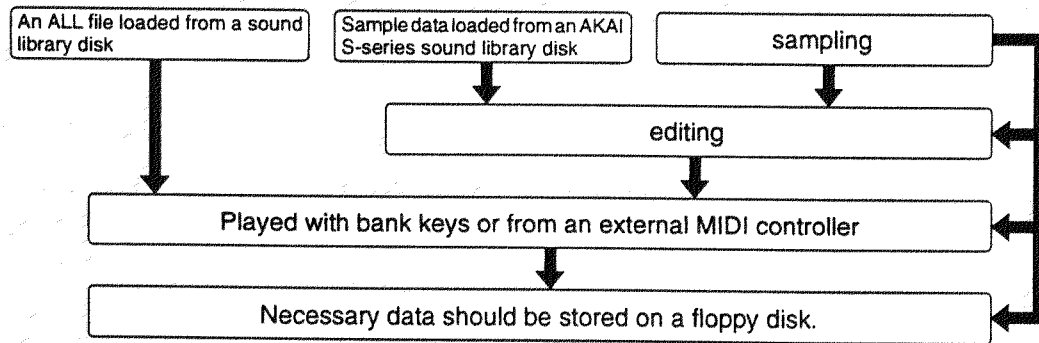


## Modes and Operational Flow

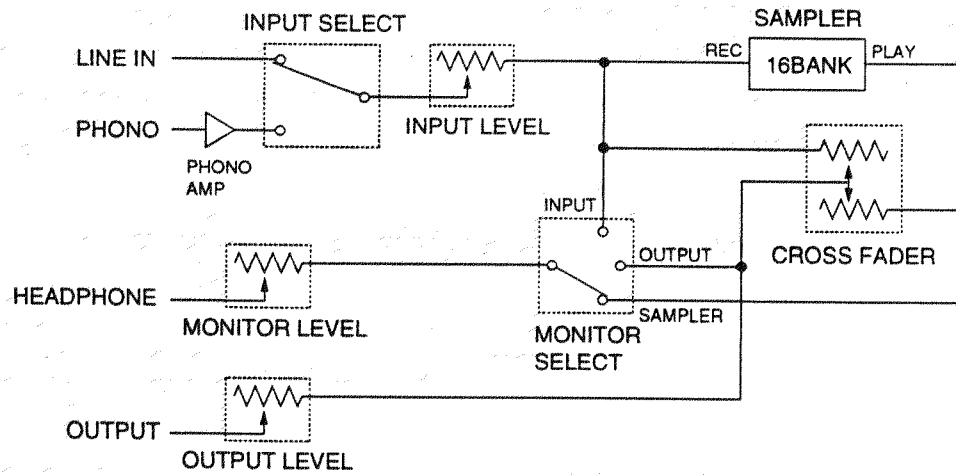
### ■ Modes



### ■ Operational Flow



### Signal Flow



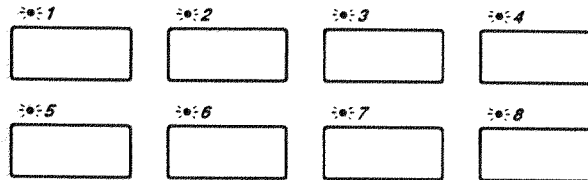


## Play Mode

The REMIX16 automatically enters Play mode when it is turned on. In Play mode you can play 16 banked samples using bank keys or other controls on the main panel, along with sounds or music from the CD player or turntable connected to INPUT. You can also use the unit as a MIDI sound module in this mode.

### Playback with Bank Keys

Try loading the "Sound DISK #1" supplied. See page 35 for data loading. When that data loading is complete, LEDs for banks light up indicating that they containing samples.



Pressing any bank key from those banks plays out the sample assigned.

### Playback with Hold Feature

By using **HOLD/LOOP**, a sample set **LOOP ON** can repeatedly be played after releasing its bank key. Banks that assigned **LOOP OFF (ONE SHOT)** do not produce repeated playback of its containing samples.

As the following description use "Sound DISK #1", load data from that disk beforehand. See page 35 for data loading.

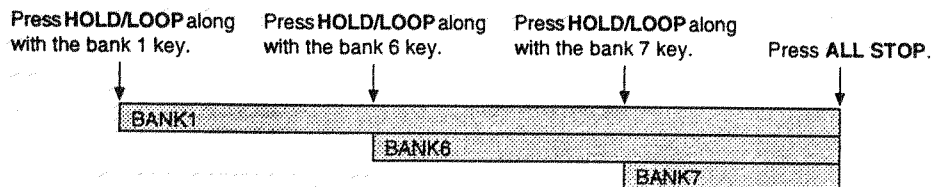
---

**Note:** Banks that assigned **LOOP OFF (ONE SHOT)** do not produce repeated playback of its containing samples when their bank keys and **HOLD/LOOP** are pressed.

---

#### ■ Making a Sound layer

- Press the bank 1 key followed by **HOLD/LOOP** for a drum loop.
- Press the bank 6 key followed by **HOLD/LOOP** for a bass phrase layered on the drum.
- Press the bank 7 key followed by **HOLD/LOOP** for a piano phrase layered on the drum and bass.
- Pressing **ALL STOP** stops all playback that currently loops.



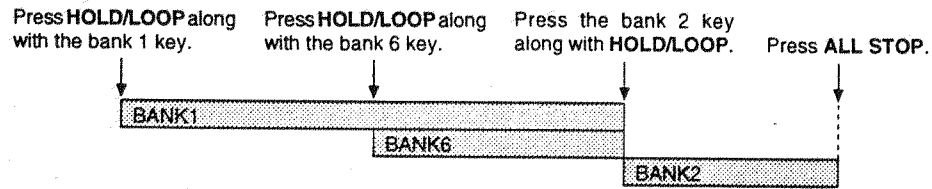

---

**Note:** The REMIX16 can playback up to 8 samples at a time. When you play nine or more samples, samples currently played stop in the order specified with **PRIORITY** (See page 31.).

---

### ■ Switching to Another Loop

- Press the bank 1 key followed by **HOLD/LOOP** for a drum loop. Consecutively press the bank 6 key followed by **HOLD/LOOP** for a bass phrase layered on the drum.
- Press **HOLD/LOOP** followed by the bank 2 key; The bass and drum loops stop and you have only the drum loop from bank 2.
- Pressing **ALL STOP** stops all playback that currently loops.



## Two Ways for Loop Canceling

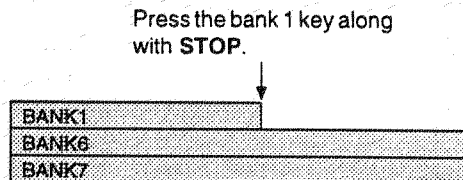
### ■ ALL STOP

Pressing this key stops all current playback regardless of looping or non-looping samples.

### ■ STOP

Pressing this key stops any desired sample selectively.

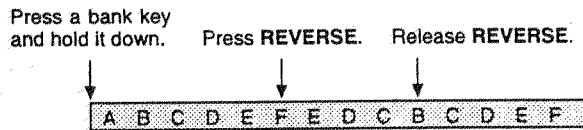
- Press the bank 1 key followed by **HOLD/LOOP** for a drum loop, press the bank 6 key followed by **HOLD/LOOP**, and press the bank 7 key followed by **HOLD/LOOP** for a triple loop of the drum, bass and piano samples.
- Pressing the bank 1 key along with **STOP** stops only the drum loop; The other two samples go on playing in loops.



## Reversing a Sample

Pressing **REVERSE** along with a bank key plays the sample in reverse. When **REVERSE** is released, the playback becomes normal.

In case a sample that normally plays as "A, B, C, D, E, F, G", pressing **REVERSE** at "F" results in "E, D, C, B...". If **REVERSE** is released at "B", the playback becomes normal at that point as "C, D, E, F...".




---

**Hint:** When you reverse a sample with **LOOP OFF**, you have a good result by pressing its bank key with **REVERSE** held down.

---

For a sample with **LOOP ON**, you may press its bank key followed by **HOLD/LOOP**, all the way with **REVERSE** held down; This enables Reverse and Hold effects at a time.

---

**Note:** For loops that currently on hold with their bank keys released, pressing **REVERSE** does not affect those loops.

---

## Using CONTROL SLIDER

### ■ For Pitch Bending

Pressing **BEND** to light up its LED enables you to use **CONTROL SLIDER** as a pitch bender; Moving **CONTROL SLIDER** upward or downward with a bank key held down affects the sample's pitch.

The pitch bend range is assigned individually to each bank using **BEND** (See page 28.).

---

**Note:** For loops that currently on hold, pitch bending does not affect them.

---

### ■ For Scratching

Pressing **SCRATCH** to light up its LED enables you to use **CONTROL SLIDER** to scratch samples.

To select a banked sample for scratch play, press its bank key along with **SCRATCH**:

Moving **CONTROL SLIDER** upward or downward produces a scratch effect over that sample; It is necessary for you to hold down its bank key.

The scratch effect varies depending on moving speed and positions of **CONTROL SLIDER**.

## Playback with Foot Switch

Using a normal-closed type foot switch connected to FOOT SW on the REMIX16 rear panel, you can trigger the sample contained in bank 1, along with the bank samples which are assigned with the same MIDI channel, MIDI program number and key range as bank 1.

## Sampling

Sampling refers to a series of processes transforming an analog waveform into digital data to store into memory; It consists of sampling, quantizing and digitizing. In addition, the analog waveform is audio signals for the REMIX16. Generally, it differs depending on the device type.

In sampling process, many signal levels are extracted from a linear variant audio waveform every specific period. That period is determined by the sampling frequency and it affects the frequency response: The REMIX16 use 32 kHz, 16 kHz and 8 kHz frequency as 1/32,000 second, 1/16,000 second and 1/8,000 second period, respectively. In quantizing and digitizing processes, signal levels extracted in sampling process are measured and represented as countable numbers, then translated into binary numbers. After these process, binary numbers are stored in memory.

Bit number affects quantizing and determines the dynamic range; The REMIX16 uses 16 bits for quantizing and its dynamic range resolution is up to 65,536 levels. Generally, sampling (digitizing) is performed by an analog-to-digital converter (ADC) and digitized signals are transformed into analog signals by a digital-to-analog converter (DAC).

## Sampling Procedure

The REMIX16 provides two ways to start sampling, auto-trigger that starts sampling at a specified trigger level and manual control—you manually starts at any point.

In any case, you should select a source and set an appropriate level for recording beforehand.

Especially, the level setting is important because a too high level makes the recording distorted or a too low level makes it noisy. Try recording in the following steps.

### 1. Connect a source to the REMIX16 INPUT.

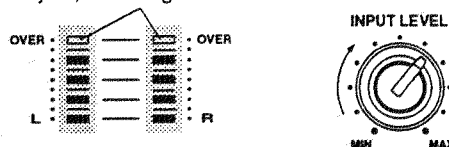
A turntable connects to PHONO; Other sources including a turntable that incorporates a PHONO amplifier connect to LINE IN. Mono sources should connect to the Left channel only.

After connection, select the source using INPUT SELECT.

### 2. Adjust the input level.

During auditioning the source, adjust the level in LEVEL METER using INPUT LEVEL; The Red OVER LEDs indicate a high level that may produce a distorted sound; Adjust the level as high as possible, but not to light the OVER LEDs.

Adjust, not to light the red LEDs.



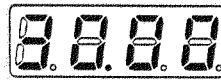
### 3. Select the recording type, stereo or mono.

Pressing STEREO REC turns on its LED and selects a stereo recording; A mono recording is selected with the STEREO REC LED turned off.



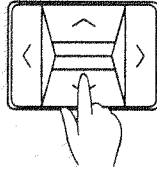
Stereo requires twice as much memory as Mono so that you may select Mono unless a stereophonic effect is required. Mono records the Left channel source only.

Pressing the **CURSOR** keys other than 'upward' shows a possible mono recording time at 32 kHz sampling. If you record in stereo or using another sampling frequency, be sure of an actual time for your recording.



PROG.No./DATA

CURSOR



Recordable up to 30 seconds  
at 32 kHz mono sampling

#### 4. Select the sampling frequency.

Pressing **REC** and holding it down provides a sampling frequency display; Select the frequency using the inner Jog Dial, from 32 kHz, 16 kHz and 8 kHz. A high frequency produces a clear recording, but requires more memory than lower ones. For instance, a certain length of recording at the 32 kHz frequency requires twice as much memory as the 16 kHz frequency, or four times as much memory as the 8 kHz frequency. In addition, hold down **REC** all the way in this step.



PROG.No./DATA

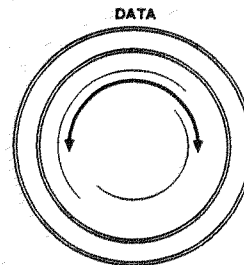


#### 5. Set the trigger level.

(Continued from the step 4) When **REC** is released, its LED blinks and the trigger level is shown in the display; Set a value using the Jog Dial. Notice the displayed level value blink indicating that there is an input signal over that level.

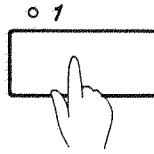


PROG.No./DATA



## 6. Select a bank.

Press the bank key of a bank where you record and store. If you cancel recording at this point, press **STOP** or any **CURSOR** key.



- Recording automatically starts when there is an input signal over the trigger level specified.
- With the trigger level "0", pressing a bank key immediately starts recording; If that bank contains a previous sample, the REMIX16 first erase it, then starts a new recording.
- With the trigger level "100", pressing a bank key stands by recording (after erasing a previous sample in that bank if there has been); Pressing **REC** a second time starts a new recording.

---

*Note: If pressing a bank key shows F U L L in the display, it is out of memory. First erase unnecessary samples, then retry recording.*

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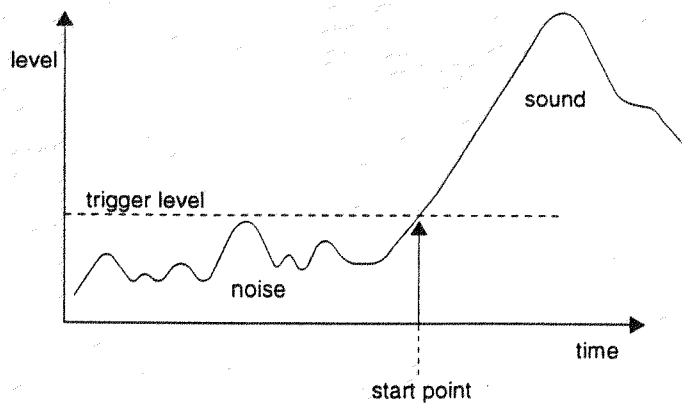
## 7. Stop recording.

Pressing **STOP** immediately stops that recording. If the memory becomes full during recording, it automatically stops at that point.



## ■ Auto-triggered Sampling

Auto-trigger starts recording when there is an input signal over the trigger level specified. It is useful to automatically cut off the silence that may exist before the target sounds.



The trigger level display blinks when there is an input signal over the trigger level specified.

A too high trigger level does not start recording. On the contrary, a too low trigger level starts recording with a slight noise. Set the level appropriately.

In addition, you can manually start recording by pressing **REC** before there is an input signal over the trigger level.

---

*Note: Auto-trigger method may fail with a sound with a fast attack (percussive instrument, etc.); The result sometimes lacks the beginning of that sound. You can solve this problem with manual recording. Even if the result from manual recording includes unnecessary silence at its beginning, you can remove it using DISCARD in Edit mode.*

---

### ■ Manual Sampling

You can manually start recording at any point you like. It is useful to clip out a desired phrase from a long passage, especially for drum loops, etc.

With the trigger level "0", pressing a bank key immediately starts recording. In case that bank contains a previous sample, the REMIX16 first erases it, then starts a new recording; This causes a short delay to that recording. You can avoid it if erasing a previous sample beforehand by pressing the bank key along with **ERASE**. In addition, you can see banks that contain samples by their LED lights.

With the trigger level "100", pressing a bank key stands by recording after erasing a previous sample in that bank. Pressing **REC** a second time starts a new recording.

There are a few points for manual recording; You should set the trigger level "100" to erase existing samples before recording, or you should first erase those by **ERASE**, then set the trigger level "0" for an immediate recording.

### ■ Foot-controlled Sampling

To start sampling, you can also use a normal-closed type foot switch connected to FOOT SW on the REMIX16 rear panel.

Set the trigger level to "100" and select a bank using its bank key. Depress the foot switch at the point you start to record instead of pressing **REC**.

## Tips for Sampling

- To stop recording, pressing **HOLD/LOOP** instead of **STOP** starts immediate playback of that recording; It may loop depending on the bank setting.
- If there is no need to change the sampling frequency or trigger level, you can make subsequent recordings by pressing **REC** and a bank key only.
- In record standby status (after the step 5 described before), pressing a bank key containing a sample, along with **HOLD/LOOP**, starts playback of that sample. You can record a new sample to another bank by consecutively pressing its bank key. It is a performance-oriented way; For instance, you set **CROSS FADER** to the **SAMPLER** position, set the unit in record standby status and start playback of a sample by **HOLD/LOOP** as mentioned above; Select a source track from several CDs or records to sample by monitoring **INPUT** (Notice that the input source is not output because of the cross fader position!); Start recording of the input source. If you stop recording by **HOLD/LOOP**, the current playback will be replaced with the recording you have just made.
- Press **ALL STOP** to stop looped playback on hold.



# Edit Mode

In Edit mode, you can edit a sample itself, set bank parameters, MIDI parameters, etc. In addition, the BEAT LOOP FUNCTION settings, data loading/saving, disk formatting are also available in this mode.

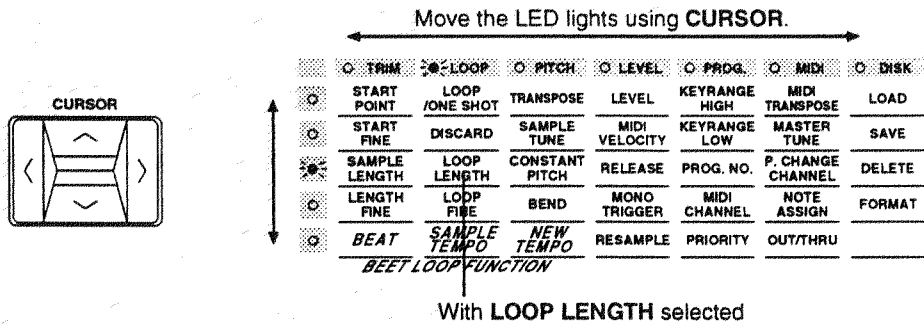
All these edit functions are found in the Edit Matrix located at the left of the DATA Wheels, on the REMIX16 main panel; You can have fast access to editing operations required.

## Operational Procedure in Edit Mode

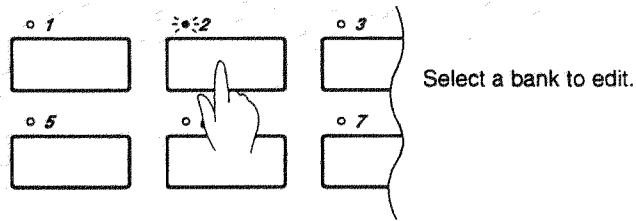
1. Press **EDIT** to turn its LED on. You are now in Edit mode.



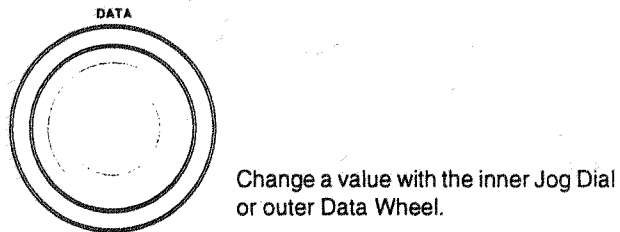
2. Move the LED lights in the Edit Matrix using **CURSOR**, to select an edit parameter; The row and column LED lights indicates the current parameter selection at their cross point in the matrix.



3. Press a bank key to select a banked sample for editing. In Edit mode, you have only one bank LED lit at a time; It is a target for editing.



4. Set a parameter value using the inner **DATA Jog Dial**; Use the outer **DATA Wheel** for a rapid setting of coarse or large value.



When editing the same parameter for multiple samples, select a parameter as in the step 2 and repeat the steps 3 to 4.

When editing several parameters for a single sample, select that sample by pressing its bank key and repeat the steps 2 and 4.

In addition, you can play a sample by pressing its bank key also in Edit mode, as in Play mode.

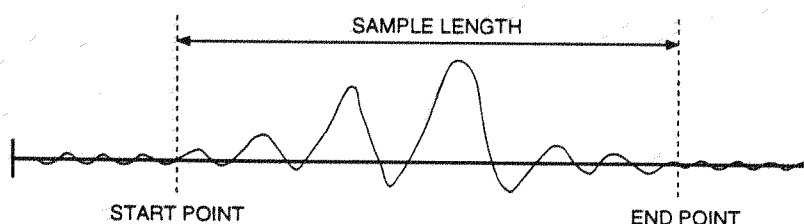
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**Note:** You can easily switch samples using bank keys. So, after you audition a sample to compare with that you are working on, be sure to reselect it to resume editing; Your current selection is indicated by the bank LED.

---

## TRIM

This parameter determines the length of a sample contained in each bank. The length refers to actual playback length when the bank key is pressed.



### ◆ START POINT

### ◆ START FINE

Determines the playback start point of a sample by the sampling point.

START FINE adjusts the lower four digits of the sampling point whereas START POINT adjusts the upper digits. The outer DATA Wheel changes the upper two digits of a current value shown in the PROG.NO./DATA display; The outer DATA Wheel varies its amount of increment/decrement depending on how much it is turned.

165253  

  
 START POINT      START FINE

When you change the start point value with the bank key held down, the sample plays out from a new start point each time the value is changed.

### ◆ SAMPLE LENGTH

### ◆ LENGTH FINE

Determines the sample length (END POINT) for playback from the start point specified by the START POINT and START FINE parameters.

LENGTH FINE adjusts the lower four digits of the sampling point whereas SAMPLE LENGTH adjusts the upper digits. The outer DATA Wheel changes the upper two digits of a current value shown in the PROG.NO./DATA display; The outer Data Wheel varies its amount of increment/decrement depending on how much it is turned.

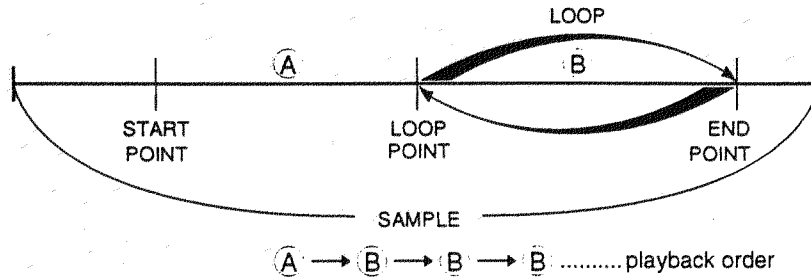
2345678  

  
 SAMPLE LENGTH      LENGTH FINE

When you change the sample length value with the bank key held down, the sample plays out from just before the end point each time the value is changed.

## LOOP

This description uses an example illustrated below, to explain LOOP; You can remove unnecessary portions of a sample using DISCARD as well as copying or reversing the sample, or bank initialization.



### ◆ LOOP/ONE SHOT

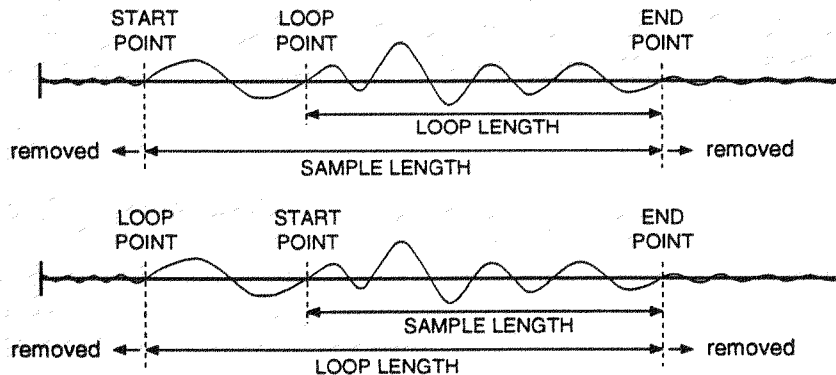
Determines looped playback and its type for a sample in the bank.

- o n**     **ON:** Looped in the length specified with LOOP LENGTH while the bank key is held down.
- o F F**   **OFF:** Not looped. Even while the bank key is held down, the sample plays out once in its length then stops.
- H o L d**   **HOLD:** You can start playback by pressing the bank key; It goes on loop after releasing the key. You can stop the loop by pressing ALL STOP or by pressing the bank key along with STOP.
- o n - 5**   **ONE SHOT:** When the bank key is pressed (and released), a ONE SHOT playback is available in the specified length (Not looped); This option is useful for a drum sound.

### ◆ DISCARD

This section has additional options other than the discarding command. You can select one using the DATA Jog Dial.

- d 15 C**   **DISCARD:** Removes areas other than between the start point and end point (specified with START POINT and SAMPLE LENGTH) to save memory. If LOOP LENGTH is longer than SAMPLE LENGTH, areas other than between LOOP POINT and END POINT are removed. To execute DISCARD, press the bank key along with REC.



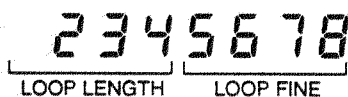
**Note:** Sample portions removed by DISCARD cannot be taken back. Make a backup of that sample on a floppy disk or another bank before executing DISCARD.

- REVERSE:** Reverses the banked sample.  
To execute REVERSE, press the bank key along with **REC**.
- COPY:** Copies a sample in the current bank to another.  
To execute COPY, first make sure the current bank is copy source, then press the bank key for copy destination along with **REC**.
- INITIALIZE:** Initializes the bank settings. You may use this command before loading only sample data from a floppy disk or making a new recording to the current bank.  
To execute INITIALIZE, press the bank key along with **REC**.

◆ **LOOP LENGTH**  
◆ **LOOP FINE**

Determines the length from the end point to the loop start point.

LOOP FINE adjusts the lower four digits of the sampling point whereas LOOP LENGTH adjusts the upper digits. The outer **DATA** Wheel changes the upper two digits of a current value shown in the **PROG.NO./DATA** display; The outer **DATA** Wheel varies its amount of increment/decrement depending on how much it is turned.



When you change the loop start point value with the bank key held down, the sample plays out from just before the end point each time the value is changed.

## PITCH

This parameter determines the pitch of a sample.

◆ **TRANSCOPE**

Determines the pitch of a sample by the semitone.

Pitches are available within a range of -50~0~+50. One octave equals 12 semitones.

◆ **SAMPLE TUNE**

Fine tunes the pitch of a sample by the cent. A hundred cents equals one semitone.

Tuning is available within a range of 0~99. Turning the **DATA** Jog Dial one more step to the right from "99" changes the display to "0". However, the sample pitch is raised one semitone at that point and the **TRANSCOPE** value is increased one step.

◆ **CONSTANT PITCH**

This parameter is valid for incoming MIDI note message data when the **REMIX16** is used as a MIDI sound module. With **CONSTANT PITCH** set to **ON**, the banked sample plays out in a fixed pitch regardless of the MIDI key note received; The fixed pitch is the addition of **TRANSCOPE** and **SAMPLE TUNE** values to the original pitch.

With **CONSTANT PITCH** set to **OFF**, the banked sample plays out according to the MIDI key note received.

You cannot have the effect from the bank key.

**◆ BEND**

Adjusts the pitch bend range when the banked sample is controlled with CONTROL SLIDER used as pitch bender.

Available range is between 0 and 24. "1" is selected for  $\pm 1$  semitone range, "12" for  $\pm 1$  octave range, and so on. "0" produces no pitch bending effect.

**BEAT LOOP FUNCTION**

This function is very effective when applied to recordings such as drum pattern, etc. (phrase sample).

That is, it performs auto-calculation of tempo from the LOOP LENGTH value or auto-synchronizing phrase samples of different tempos.

Applications for this function are described in page 43 in details.

This function is not effective to one-shot samples or sustained tones (such as strings, flute, etc.).

**◆ BEAT**

To obtain a new tempo for a looped sample in NEW TEMPO, this value will be a key; Set the beat count of the loop length. For instance, if the loop length is 4 beat long, set the value to "4". If the loop is 1/2 beat long, set the value to "1/2".

Available value range are 1/64~1/2, 1~64.

**◆ SAMPLE TEMPO**

This is associated with LOOP LENGTH. When the sample's BEAT setting is correct, the SAMPLE TEMPO value equals the tempo of a phrase included in that sample. If you know the tempo of that phrase, you can set it here to obtain the correct LOOP LENGTH value.

Available value range depends on the sample length.

**◆ NEW TEMPO**

Sets a new tempo of the phrase sample. If synchronizing to another sample, set the tempo of that sample.

You can also set a new tempo using TAP; To match the sample tempo and that of a source from LINE IN, select this parameter in Edit mode and tap a tempo on the TAP key while auditioning the line-input source, as both tempos match.

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*Note: If you set a new tempo for the phrase sample, its pitch will be changed because changing a playback tempo also changes its playback speed.*

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## LEVEL

This section determines the sample level settings and changes its sampling frequency.

### ◆ LEVEL

Adjusts the sample level. You can also adjust the level balance among samples from other banks here.

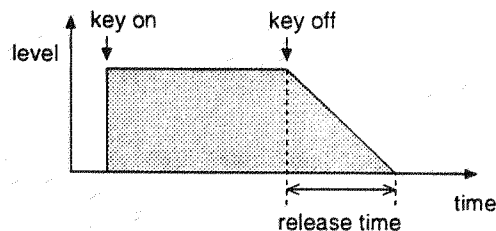
### ◆ MIDI VELOCITY

Determines whether this bank receives the MIDI velocity when the REMIX16 is used as a MIDI sound module; With the ON setting, the banked sample plays out according to the incoming MIDI velocity data; With the OFF setting, it ignores the MIDI velocity.

This parameter is not effective with the bank key.

### ◆ RELEASE

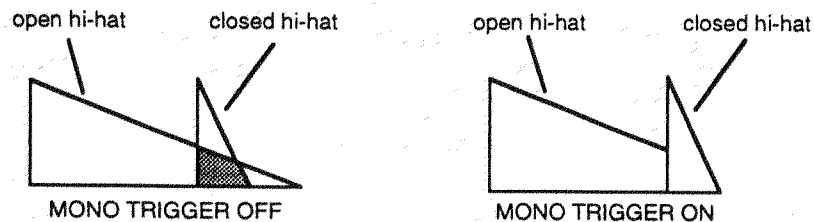
Adjusts the sample's release time. This setting is effective to both releasing the bank key and incoming MIDI note off data.



Available value range is between 0 and 100; "0" produces no release and stops the sample playback immediately after the bank key is released or the MIDI note off data is received; "100" seems to hold the playback even when the bank key is released or the MIDI note off data is received. If you want to stop the playback, press ALL STOP.

### ◆ MONO TRIGGER

Samples with this parameter set to ON affects each other in their playback. For instance, if there are two hi-hat cymbal samples, one for a closed hi-hat sound and the other for an open hi-hat sound, and both of them are with MONO TRIGGER set to ON, you can perform natural hi-hat sounds with bank keys for these two samples because starting playback of the one immediately stops the other.



This parameter is useful for other purposes such as polyphonic limitation among certain banks. etc.

### ◆ RESAMPLE

Applies a half sampling frequency to a sample.

A sampling frequency of the current sample is shown in the display. Each time **REC** is pressed, the displayed value is reduced by half (resampling), down to 4 kHz.



At 32 kHz sampling frequency

Resampling saves the memory that the sample used, but degrades the sound quality because it removes high frequencies of the sample. However, it may be useful to make 'lo-fi' sounds.

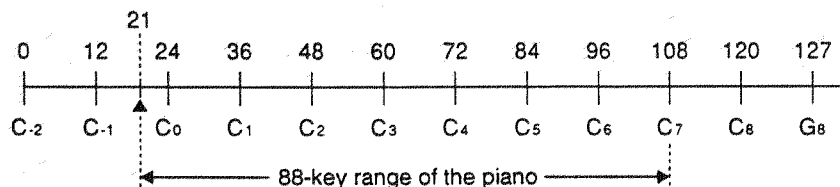
## PROG.

This section determines the bank base MIDI parameters such as key range, program number, MIDI channel, note priority, etc., to use the REMIX16 as a MIDI sound module.

### ◆ KEYRANGE HIGH

### ◆ KEYRANGE LOW

Determines the key range where the banked sample plays out according to incoming MIDI key notes, with the higher limit (HIGH) and lower limit (LOW). These limits are within the MIDI key note range (0~127).



For a bank assigned with "KEYRANGE HIGH=72" and "KEYRANGE LOW=60", the sample contained in that bank will play out only when a MIDI key note within a range of C3 (60) to C4 (72) comes in. If you want a sample to play with a specific key note, set the same value to HIGH and LOW for its bank.

You can also set multiple banks the same key range and MIDI channel, you have a sound layer composed of samples from those banks.

This parameter is not effective on performance by bank keys.

### ◆ PROG.NO.

Determines a MIDI program number for the bank when the REMIX16 is used as a MIDI sound module. The bank is selected for playback by an incoming MIDI program change from an external MIDI controller. See page 45 for more information.

This parameter is not effective on performance by bank keys.

### ◆ MIDI CHANNEL

Determines a MIDI channel for the bank when the REMIX16 is used as a MIDI sound module.

Available values are ON, 1~16: For a bank set to ON, the contained sample accepts all MIDI channel messages.

This parameter is not effective on performance by bank keys.

### ◆ PRIORITY

Note priority is similar to voice reservation for each bank within the 8 polyphonic voices the REMIX16 provides.

It is very useful to give priorities to banks when a performance requires many bank key operations or there are many MIDI note events coming in.

Available values are 0, 1, HIGH; For a bank set to "0", the contained sample is first muted when it exceeds the 8 polyphonic voices. You should set HIGH to a bank that contains a significant sample such as drum loop, etc.; It is a last bank to be muted.

## MIDI

This section determines MIDI global settings or REMIX16 whole settings. You do not need to select any bank because the following parameters determines global operations of the REMIX16.

### ◆ MIDI TRANSPOSE

Transposes the whole pitch of the REMIX16. This does not affect banks with "CONSTANT PITCH=ON". An available value range is within -24-0-+24; "+12" raises the pitch one octave up.

### ◆ MASTER TUNE

Fine tunes the whole pitch of the REMIX16. This parameter is associated with the PITCH CONTROL slider. However, it does not affect banks with "CONSTANT PITCH=ON".

An available value range is within 0 to 99. Turning the DATA Jog Dial one more step to the right from "99" changes the display to "0". However, the MIDI TRANSPOSE value is raised one semitone at that point.

### ◆ P.CHANGE CHANNEL

Determines a MIDI channel for program change reception from an external MIDI controller when the REMIX16 is used as a MIDI sound module.

Available values are ON, 1-16, OFF; With ON, the REMIX16 accepts program changes on all MIDI channels. With OFF, it does not accept any program changes.

### ◆ NOTE ASSIGN

With this parameter, you can control the key operation from an external MIDI controller.

Normally (NOTE ASSIGN=OFF), the REMIX16 is MIDI controlled with MIDI settings for individual banks—program number, MIDI channel, key range, etc. This parameter enables global control of the REMIX16 by assigning its main panel keys to MIDI key notes.

Each main panel key is assigned as in the following table:

Key	MIDI Note Offset	Key	MIDI Note Offset	Key	MIDI Note Offset	Key	MIDI Note Offset
BANK1	0	BANK2	1	BANK3	2	BANK4	3
BANK5	4	BANK6	5	BANK7	6	BANK8	7
BANK9	8	BANK10	9	BANK11	10	BANK12	11
BANK13	12	BANK14	13	BANK15	14	BANK16	15
PITCH CONTROL ON	16	BEND	17	HOLD/LOOP	18	STOP	19
ALL STOP	20	REVERSE	21	SEQUENCE	22	TAP	23



When selecting NOTE ASSIGN and turning the inner DATA Jog Dial, you see the following display.



A coarse value is selected by the outer DATA Wheel.

A right numeric value is the base key note number that is possible to be changed by the outer DATA Wheel. That is, the key note number in an addition of the current base key note number and a MIDI note offset value in the table can control the corresponding key on the REMIX16 main panel.

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*Hint:* You can record the key operations, to an external MIDI sequencer and play it back. In addition, MIDI output channel on the REMIX16 is fixed to "1".  
When doing this, set the following MIDI OUT/THRU parameter value to OUT.

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*Note:* When using the REMIX16 as a MIDI sound module, set the NOTE ASSIGN value to OFF.

---

#### ◆ OUT/THRU

Determines the MIDI function on the REMIX16 rear panel.

In the OUT setting, the terminal works as MIDI OUT; Along with "NOTE ASSIGN=ON", the panel key operations are output as MIDI note events.

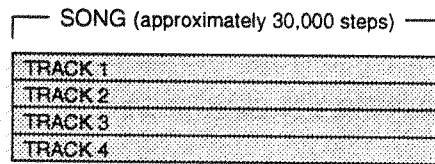
In the THRU setting, the terminal works as MIDI THRU that outputs the same MIDI events received at MIDI IN.

## DISK

This section includes disk related operations. See page 35 for detailed information.

## Sequence Mode

The REMIX16 in Sequence mode memorizes a sequence composed of 4 tracks, in which you can record the main panel key operations up to approximately 30,000 steps in total.



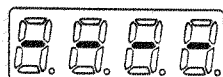
Recordable keys are bank keys, **HOLD/LOOP**, **REVERSE**, **STOP** and **ALL STOP**. However, pressing **ALL STOP** during recording will stop the sequence recording itself.

### Recording Key Operations

- In Play mode, press **SEQUENCE** and move into Sequence mode; The **SEQUENCE** LED lights up, and the display shows a current track with tracks already recorded. If there has been no track recorded, the display shows - - - - .



With tracks 1-2 recorded

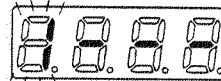


With nothing recorded

- Press **REC**; Recordable tracks blink in the display and the REMIX16 stands by recording. When selecting a recording track, turn the inner **DATA** Jog Dial with **REC** held down.

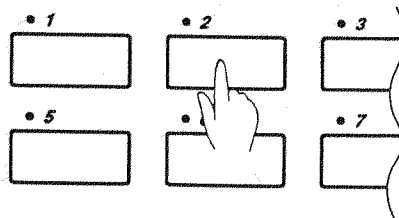


Recording track indication that blinks



In case there is no recordable track with all four tracks shown in the display, pressing **REC** returns **FULL**. You need to first make an empty track by erasing unnecessary contents. For erasing a track, see a subsequent section.

- You can start recording by pressing any bank key. The REMIX16 records the bank key operation with which you start recording.



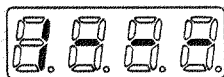
Current recording track is indicated.

If you do not want to record from the first bank key operation, you can start recording by pressing **PLAY**, or by depressing the foot switch connected to **FOOT SW** on the REMIX16 rear panel.

While recording, you can monitor the existing tracks if they have been.

4. To stop recording, press **REC** or **ALL STOP**, or depress the foot switch connected to **FOOT SW** on the **REMIX16** rear panel.

The display shows the 4-track status again.



To record onto another track, repeat the steps 2-4.

## Playback of the Sequence

Playback of the existing sequence is available in Sequence mode. Pressing **PLAY** or depressing the foot switch connected starts the playback.

If you want to play a track selectively, select it by turning the **DATA Jog Dial** with **PLAY** held down. As all four tracks starts playback with this operation, stop the sequence anyway, then press **PLAY** for playback of that single track selected.

## Erasing a Track

### ■ To erase a whole data in a track

Select a destination track by turning the inner **DATA Jog Dial** with **DELETE** held down; The destination track number blinks in the display.

Pressing **REC** along with **DELETE** erases the whole contents in that track.

### ■ To erase a certain bank data contained in a track

Select a destination track by turning the inner **DATA Jog Dial** with **DELETE** held down; The destination track number blinks in the display.

Pressing the bank key to erase along with **DELETE** erases that bank data contained in that track.

### ■ To erase a certain bank data area contained in a track

Select a destination track by turning the inner **DATA Jog Dial** with **DELETE** held down; The destination track number blinks in the display.

During playback of the sequence, pressing the bank key to erase (and hold it down if necessary) along with **DELETE** erases that bank data area contained in that track.

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*Note: In case you failed in erasing, release the **DELETE** key BEFORE releasing the bank key; It undeletes the bank data.*

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## Disk Operations

Sound reference data on the REMIX16 is all temporal while the unit is turned on and is lost the minute the unit is turned off. So, you need to save necessary data onto a floppy disk. Of course, the next time you use that data, you first load it from the disk you saved onto.

This chapter explains about data management with floppy disks and several disk operations—loading or saving necessary data, deleting unnecessary data, initializing a disk, etc.

Such disk operations are available in Edit mode.

### Loading Data

You can load bulk data that fully occupies the REMIX16 user area as an ALL file or single sample data selectively. You can also load sample data from S-series sound library disks.

1. Press **EDIT** to light up the LED and enter Edit mode.



2. Set a data floppy disk appropriately into the floppy disk drive on the REMIX16.
3. Select **LOAD** in the Edit Matrix using **CURSOR**, by positioning the row LED light at rightmost **DISK** and the column LED light at the top.

○ TRIM	○ LOOP	○ PITCH	○ LEVEL	○ PROG.	○ MIDI	○ DISK
START POINT	LOOP / ONE SHOT	TRANSPOSE	LEVEL	KEYRANGE HIGH	MIDI TRANSPOSE	LOAD
○	○	○	○	○	○	○
START FINE	DISCARD	SAMPLE TUNE	MIDI VELOCITY	KEYRANGE LOW	MASTER TUNE	SAVE

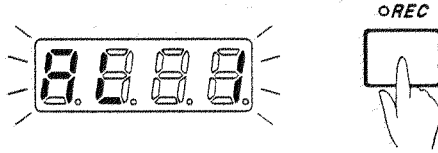
4. Press **REC**.



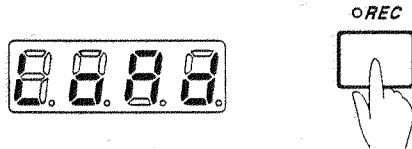
5. Select the data to load, using the inner **DATA** Jog Dial.

- AL 1** | An ALL file that includes 16 samples, bank parameter settings, sequence data etc. fully occupying the user memory area on the REMIX16. If the disk contains multiple ALL files, they are shown in numerical order as AL 1, AL 2, AL 3, etc.
- A 1 1** | Raw sample data contained in bank 1 in the ALL 1 file without edit parameter settings for that bank.
- S 1** | Single sample data. The number given on the right in the display represents the sample data number in that disk.
- A 15 E** | Sequence data included in the ALL file #1.
- S E 1** | Single sequence data. The number given on the right in the display represents the sequence data number in that disk.
- S 9 1** | Sample data for the S900/950 sampler.

- S 1 1 Sample data for the S1000/1100 sampler. Stereo samples are loaded in the same bank.
  - S 3 1 Sample data for the S2800/3000/3200/2000 sampler. Stereo samples are loaded in the same bank.
6. When loading a sample individually to a bank, press the bank key to select it.
  7. Press **REC** a second time; The data type display blink. If you cancel loading at this point, press **EDIT** or **CURSOR**.



8. Press **REC** to start loading; The display changes to **L o R d**. During loading data, the bank LED blinks.




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**Note:** If setting a disk not formatted for the REMIX16 or if setting no disk, you will find **n o F o** in the display. Also, if the disk contains no file, you will find **- - - -** in the display. In either case, you should set a correct disk.

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**Note:** When an ALL file is loaded, it replaces all data on the REMIX16. If necessary, you should save the current data in the REMIX16 before loading an ALL file. Also, when loading a sample, selecting a bank that contains a sample replaces the current sample with a new one you are about to load. Be sure that you erase the current data or select an empty bank.

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**Note:** When loading data that exceeds the current free memory on the REMIX16, the unit shows **F U L L** and loading fails. To load that data, you should erase unnecessary samples or expand physical memory of the REMIX16.

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**Note:** When ALL file on S01 disk is loaded, the level parameter of banks with no sample assigned is set to "0" value. The levels have to be reset when these banks are used.

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**Hint:** If you turn on the REMIX16 with a readable disk in the floppy disk drive, you may load an ALL file automatically. If that disk contains no ALL file or only sample files as an S-series sound library disk, automatic loading will not occur; On startup, it loads a test tone from the unit's ROM to bank 1 as a normal operation.

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## Saving Data

You can save bulk data in the REMIX16 user area as an ALL file or single sample data selectively.

1. Press **EDIT** to light up the LED and enter Edit mode.



2. Set a data floppy disk appropriately into the floppy disk drive on the REMIX16.
3. Select **SAVE** in the Edit Matrix using **CURSOR**, by positioning the row LED light at rightmost **DISK** and the column LED light at the second from the top.

○ TRIM	○ LOOP	○ PITCH	○ LEVEL	○ PROG.	○ MIDI	○ DISK
○ START POINT	○ LOOP /ONE SHOT	○ TRANSPOSE	○ LEVEL	○ KEYRANGE HIGH	○ MIDI TRANSPOSE	○ LOAD
○ START FINE	○ DISCARD	○ SAMPLE TUNE	○ MIDI VELOCITY	○ KEYRANGE LOW	○ MASTER TUNE	○ SAVE

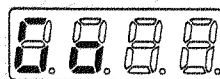
4. Press **REC**.



5. Select the data to save, using the inner **DATA** Jog Dial.

- ALL All data in the user area.
- SR Single sample data in the selected bank.
- SEQ Sequence data (without other data).

6. When saving a sample selectively, press the bank key to select it.
7. Press **REC** a second time; The display shows **U A**.



8. If you save data onto a disk that has some data stored, you have two options to do it. You can add new data by simply pressing **REC** again.  
To erase existing data on the disk before saving new data, select **CLER** using the inner **DATA** Jog Dial then press **REC**.  
In either case, the display shows **SRUE**. If you save a sample, you also see a corresponding bank LED blinking during saving execution.

---

**Note:** If setting a disk not formatted for the REMIX16 or if setting no disk, you will find **noFa** in the display. Set a correct disk.

---

---

**Note:** When the disk is write-protected, the display shows `Pr o t`. Set the write protect off and retry saving.

---

---

**Note:** If you press `REC` according to the `U o` indication and the disk does not have enough memory, the display shows `F U L L`. You should erase the data on the disk or use another blank disk. Also, if there is `F U L L` during saving execution, you can continue saving with another disk. For more information about this, refer to the following section, "Handling Data That Exceeds a Disk Capacity".

---

---

**Hint:** In a saving process, the REMIX16 numbers each file from "1", according to its file type (ALL, sample, sequence), in the saved order. If the disk has some files saved, the REMIX16 gives a subsequent number to new data file.

---

---

**Hint:** A 2DD disk can contain a sample of up to approximately 12 seconds in length, which is mono recorded at 32 kHz sampling frequency. A 2HD disk can contain a sample of up to approximately 25 seconds in length, which is mono recorded at 32 kHz sampling frequency.

---

### ■ Handling Data That Exceeds a Floppy Disk Capacity

If you have large data in the REMIX16 that cannot be saved onto a single disk, you can divide it to save onto several disks.

1. When a disk memory becomes full during a saving process, the REMIX16 display shows `F U L L` blinking.
2. Replace that disk with a new one that has been formatted for the REMIX16; Press `REC`. The REMIX16 display then shows `C L E A` blinking. It means that the REMIX16 erases the contents in the new disk and continues saving onto it.
3. Consecutively press `REC` to resume saving.
4. When the saving process is complete, the REMIX16 shows `c o n` to indicate that the current disk contains data continued from another disk.

---

**Note:** To cancel saving, press any key other than `REC` while `F U L L` or `C L E A` is being shown. However, you have uncompleted storage of that data.

---

---

**Note:** You cannot use a 'continued' disk for other data storage. If you use it to save other data, the 'continued' data will be lost.

---

---

**Note:** 'Continued' data must be loaded onto the REMIX16 in the saved order. For 'continued' disks that divide single large data, you should number them in the saved order.

---

To load 'continued' data that is stored onto several disks, set the first disk and load it as in a usual loading manner.

1. When loading from the first disk is complete, the display shows  `c o n`  blinking.
2. Replace it with the second disk and press **REC**.

If you have a next disk, repeat the steps 1-2 as necessary to complete loading that data.

---

*Note: To cancel loading, press any key other than **REC** while  `c o n`  is being shown. However, you have uncompleted data that cannot play.*

---

---

*Note: If you load 'continued' data and set a same-numbered 'continued' disk for other data, the REMIX16 continues loading from that disk. As a result, you may have 'strange' data. Also, if you attempt to continue loading with a wrong 'non-continued' disk, that loading process will be then aborted.*

---

---

*Note: A 'continued' disk cannot be loaded first; The REMIX16 simply shows  `c o n` . If a 'continued' ALL file contains a sample that has not been divided, you can load it; A divided sample cannot be loaded without other 'continued' disks that complete it, naturally.*

---

#### ■ Notes on Loading Samples for S1000/1100 Samplers

- The REMIX16 can load loop settings along with sample data. However, the loop start point setting is not correctly loaded into the REMIX16; It may cause a noise in looped playback of that sample. In this case, you should redo loop settings on the REMIX16.
- The S01/1000/1100 samplers can load sample data made on the REMIX16. However, they cannot load correctly from 'continued' disks.
- Samples for S1000/1100 samplers are recorded at various sampling frequencies. Samples recorded at 32 kHz sampling frequency has best compatibility to the REMIX16. Samples recorded at other frequencies cause pitch changes if they are loaded onto the REMIX16; You can solve such problem by adjusting the TRANSPOSE or SAMPLE TUNE settings on the REMIX16.



## Deleting a File in a Floppy Disk

You can delete unnecessary files contained in a floppy disk.

1. Press **EDIT** to light up the LED and enter Edit mode.



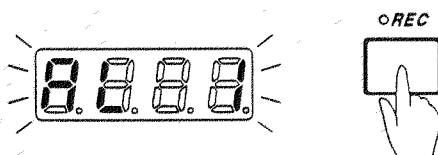
2. Set a data floppy disk appropriately into the floppy disk drive on the REMIX16.
3. Select **DELETE** in the Edit Matrix using **CURSOL**, by positioning the row LED light at rightmost **DISK** and the column LED light at the third from the top.

○ TRIM	○ LOOP	○ PITCH	○ LEVEL	○ PROG.	○ MIDI	○ DISK
○ START POINT	○ LOOP /ONE SHOT	○ TRANSPOSE	○ LEVEL	○ KEYRANGE HIGH	○ MIDI TRANSPOSE	○ LOAD
○ START FINE	○ DISCARD	○ SAMPLE TUNE	○ MIDI VELOCITY	○ KEYRANGE LOW	○ MASTER TUNE	○ SAVE
○ SAMPLE LENGTH	○ LOOP LENGTH	○ CONSTANT PITCH	○ RELEASE	○ PROG. NO.	○ P. CHANGE CHANNEL	○ DELETE
○ LENGTH FINE	○ LOOP FINE	○ BEND	○ MONO TRIGGER	○ MIDI CHANNEL	○ NOTE ASSIGN	○ FORMAT

4. Press **REC**.



5. Select the file to delete, using the inner **DATA** Jog Dial. See page 35 for file types you choose from.
6. Press **REC** a second time; The file display blinks. If you cancel deleting at this point, press **EDIT** or **CURSOL**.



7. Press **REC** to determine it.



8. The REMIX16 finally confirms with the *d E L P* indication. To execute deleting, press **REC**.

---

**Note:** You cannot selectively delete a sample contained in an **ALL** file; Reversely, deleting an **ALL** file includes all samples in it.

---

## Formatting a Floppy Disk

The REMIX16 only accepts a formatted disk to read or write data.

1. Press **EDIT** to light up the LED and enter Edit mode.



2. Set a data floppy disk appropriately into the floppy disk drive on the REMIX16.
3. Select **FORMAT** in the Edit Matrix using **CURSOR**, by positioning the row LED light at rightmost **DISK** and the column LED light at the second to the bottom.

◊	TRIM	◊	LOOP	◊	PITCH	◊	LEVEL	◊	PROG.	◊	MIDI	◊	DISK
◊	START POINT	◊	LOOP /ONE SHOT	◊	TRANSPOSE	◊	LEVEL	◊	KEYRANGE HIGH	◊	MIDI TRANSPOSE	◊	LOAD
◊	START FINE	◊	DISCARD	◊	SAMPLE TUNE	◊	MIDI VELOCITY	◊	KEYRANGE LOW	◊	MASTER TUNE	◊	SAVE
◊	SAMPLE LENGTH	◊	LOOP LENGTH	◊	CONSTANT PITCH	◊	RELEASE	◊	PROG. NO.	◊	P. CHANGE CHANNEL	◊	DELETE
◊	LENGTH FINE	◊	LOOP FINE	◊	BEND	◊	MONO TRIGGER	◊	MIDI CHANNEL	◊	NOTE ASSIGN	◊	<b>FORMAT</b>

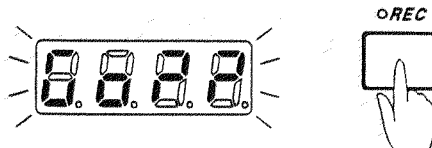
4. Press **REC**.



5. The display shows *For* for disks already formatted or *Unfo* for ones not formatted for the REMIX16.  
It also shows *Prot* if the disk is write-protected. Set the write protect off to continue the process.
6. Press **REC** a second time.



7. Select a format type from *2Hd* and *2dd* using the inner **DATA** Jog Dial, according to the disk you set in the drive.
8. Press **REC** a third time; The display shows *Go??* blinking.  
To cancel formatting at this point, press **EDIT** or **CURSOR**.



9. To execute formatting, press **REC**.  
During formatting, the display shows **F o r H** for a 2HD disk or **F o r d** for a 2DD disk.  
When the display goes out, the formatting is complete.

---

**Note:** *Formatting process permanently erases contents in the disk. So, before formatting process, you should make sure that the disk is completely new or only contains unnecessary data.*

---

## Applications

This chapter describes about effective use of the REMIX16 features as well as detailed explanations of them. Several examples given here will help you fully understand the REMIX16 functions.

### Effective Use of BEAT LOOP FUNCTION

BEATLOOPFUNCTION is provided for synchronized looped playback of several phrase samples with their tempos matched.

If phrase samples with different tempos play simultaneously in loops, those phrases will be slipped off. You can solve such problem by adjusting them in the same tempo with their pitches changed.

---

***Note:** Changing the tempo of a phrase also changes its pitch. Reversely, changing the pitch of a phrase with transposition or tuning function also changes its tempo.*

---

1. Set the beat count of a phrase sample using the BEAT parameter. If the phrase is 4 beat long, set the value to "4".
2. If the beat count is correct, SAMPLE TEMPO shows the original tempo of that phrase.
3. Set a tempo value for NEW TEMPO; The new value may be a tempo to use synchronizing with other phrase samples. When a new tempo is set, the pitch of that phrase is automatically calculated to play at that tempo. If you do not know a tempo value to set or match the tempo of input sources (CDs, records, etc.), you can tap the tempo on the TAP key to set a NEW TEMPO value.
4. You should repeat above steps for all phrase samples you want to play together.

#### ■ Tips for Looping

- To make a precise loop for a phrase sample or rhythm sample, you need to precisely set START POINT. Setting the start point before the correct point produces an unnecessary space or sound. The start point after the correct point results in lack of the beginning.
- LOOPLENGTH is obtained from the phrase tempo. So, if you know it, LOOPLENGTH is automatically calculated by setting START POINT along with a known SAMPLE TEMPO value. Then you can set SAMPLE LENGTH as the same value as LOOP LENGTH to a precise rhythm loop.
- If you have made a precise loop, make sure again that SAMPLE LENGTH and LOOP LENGTH have the same value. If the values do not match, you have a wrong tempo in the first turn of the playback whereas the phrase correctly loop in the second and after. To play several phrases without slipping off, SAMPLE LENGTH and LOOP LENGTH should have the same values.

## Controlling the REMIX16 from MIDI Keyboard

You can use the REMIX16 as a MIDI sound module with MIDI settings for individual banks—program number, MIDI channel, key range, etc. There is another MIDI control of the REMIX16; Setting NOTE ASSIGN to ON in Edit mode assigns a MIDI key note to each panel key on the REMIX16. You can then control the panel key operations from an external MIDI keyboard.

Each main panel key is assigned as in the following table:

Key	MIDI Note Offset	Key	MIDI Note Offset	Key	MIDI Note Offset	Key	MIDI Note Offset
BANK1	0	BANK2	1	BANK3	2	BANK4	3
BANK5	4	BANK6	5	BANK7	6	BANK8	7
BANK9	8	BANK10	9	BANK11	10	BANK12	11
BANK13	12	BANK14	13	BANK15	14	BANK16	15
PITCH CONTROL ON	16	BEND	17	HOLD/LOOP	18	STOP	19
ALL STOP	20	REVERSE	21	SEQUENCE	22	TAP	23

That is, the key note number in an addition of the current base key note number and a MIDI note offset value in the table can control the corresponding key on the REMIX16 main panel.

When you use, for instance, a 60-key MIDI keyboard to control the REMIX16, you may set the base key note to "36" (C1) to control the bank 1 key (MIDI note offset=0=base key note) by the lowest key (C1) on the keyboard. According to a MIDI note offset value for each panel key, you can control other panel keys using about lower 2 octave ranges on the keyboard.

### ■ Recording Panel Key Operations to the Sequencer

With "NOTE ASSIGN=ON", you can record the key operations to an external MIDI sequencer and play it back. In addition, MIDI output channel on the REMIX16 is fixed to "1".

There is an important point for you to do this; Set the same base key note when you record and play the performance. Otherwise, you cannot have a correct playback.

When recording the performance, set the MIDI OUT/THRU parameter value to OUT in Edit mode.

## Using the REMIX16 as a MIDI Sound Module

Similar to a MIDI sound module, the REMIX16 provides various sound programs of multi-sample, multi-timbre, layer, split, etc.

### ■ Single Programs

This is to play one single sample (bank) from the whole keyboard.

You can select a program by the inner DATA Jog Dial or an external MIDI program change, to play it using a whole keyboard.

BANK	PROG.NO.	MIDI CH	KEY RANGE
1	1	OMNI ON	0-127
2	2	OMNI ON	0-127
3	3	OMNI ON	0-127
4	4	OMNI ON	0-127
5	5	OMNI ON	0-127
6	6	OMNI ON	0-127
7	7	OMNI ON	0-127
8	8	OMNI ON	0-127

### ■ Multi-sampled Program

This is to play multiple samples (banks) with their specified key range from the keyboard.

An 8-point multi-sampled program of your own is available if you make a sampling for each bank at the key note (sampling point) specified in the following table. If there is unnaturalness in pitch changes when the sounds are played on the keyboard, set to an appropriate key range or transposition.

The supplied program provides a typical setting so that you may change sampling points depending on a source.

BANK	PROG.NO.	MIDI CH	KEY RANGE	TRANSPOSE	Sampling Point
1	1	OMNI ON	0-39	24	C1 (36)
2	1	OMNI ON	40-45	17	G1 (43)
3	1	OMNI ON	46-51	12	C2 (48)
4	1	OMNI ON	52-57	5	G2 (55)
5	1	OMNI ON	58-63	0	C3 (60)
6	1	OMNI ON	64-69	-7	G3 (67)
7	1	OMNI ON	70-75	-12	C4 (72)
8	1	OMNI ON	76-127	-19	G4 (79)

### ● Example of Multi-sampling

The following steps show an example to make a multi-sampled program. Try making a 5-point sampling in 2 octaves using your voice. '5-point sampling' means 'making samples of 5 different pitches'.

1. Connect a microphone to the Left channel of LINE IN; Set **STEREO REC** to OFF.
2. Using the microphone, record a tone at the pitch of C2, G2, C3, G3, and C4 respectively to banks 3-7. Pitches you sing make the original pitches for individual banks. You do not need banks 1, 2, and 8 for this example.
3. Set the parameters (PROG.NO., MIDI CH, KEY RANGE, TRANSPOSE) of each bank referring to the above table in Edit mode.

---

**Hint:** Because a human voice is so variable in its pitch and tone, you should record it at a time. You would have a good result by recording from a lower pitch to higher, monitoring other instruments to check the pitch you sing.

---

4. Try playing using the keyboard connected. The samples play out within a range of E1 (46) to Eb4 (75).

---

**Note:** If you make a multi-sampled program from scratch, you need to set each bank with the same MIDI program number and channel (matched to the external controller) along with different key ranges and transpositions suitable for the program.

---

### ● Transposition for a Multi-sampled Program

The original pitch of each sample is assigned to C3 (60) as an initial MIDI key note value. This is not a problem if you play samples only using bank keys. However, when C2 pitch sound is sampled and played at C2 note key, the sample is played at C1 pitch. To avoid such a problem, you have to set transposition to the key note for each bank. Transposition value is calculated by subtracting the key note value for the sample's original pitch from the key note value for C3 (60).

### ■ Multi-timbral Program

This is to play the multiple samples (banks) on different MIDI channels simultaneously.

A typical multi-timbral program can accept different MIDI channels assigned to individual banks and plays multiple samples at a time according to incoming MIDI events from the sequencer, etc.

When you edit, for instance, several banks of the supplied program for a drum kit, MIDI channel or key ranges for those banks may be edited.

BANK	PROG.NO.	MIDI CH	KEY RANGE
1	1	1	0~127
2	1	2	0~127
3	1	3	0~127
4	1	4	0~127
5	1	5	0~127
6	1	6	0~127
7	1	7	0~127
8	1	8	0~127

### ● Using the REMIX16 as a Multi-timbral Sound Module

Suppose a sequencer has the following ensemble sequence data:

**MIDI channel 1:** phrase for a piano

**MIDI channel 2:** phrase for strings

**MIDI channel 3:** phrase for a violin

You can play them in the following manner.

1. Connect the sequencer MIDI OUT to the REMIX16 MIDI IN using a MIDI cable.
2. Record or load a piano sample to bank 1 (MIDI channel 1), a string sample to bank 2 (MIDI channel 2) and a violin sample to bank 3 (MIDI channel 3) respectively. You may use existing samples for S-series samplers.
3. Set the parameters (PROG.NO., MIDI CH, KEY RANGE) of each bank referring to the above table in Edit mode.
4. Play that sequence data on the sequencer; Each bank accepts the corresponding MIDI channel data to play out an ensemble of a piano, strings and violin.

**Note:** If you make a multi-timbral program from scratch, you need to set each bank with a different MIDI channel (matched to the external data) along with an appropriate key range. Of course, several banks can accept the same channel data for polyphonic notes. Also, you should set the same MIDI program number to banks that accept the sequence data.

### ■ Using the REMIX16 as a Percussion Sound Module

This is to play samples with their pitch fixed using the keyboard as a drum pad.

The following table shows a variation of multi-sampled setting especially for percussive instruments: Each bank has a fixed pitch with "CONSTANT PITCH=ON" and played only with a single key with a minimum key range. You can play the samples using white keys within an octave from C3 (60) to C4 (72). Record or load phrase a sample to each bank, then play them like a DJ!

BANK	PROG.NO.	MIDI CH	KEY RANGE	CONSTANT PITCH
1	1	OMNI ON	60-60	ON
2	1	OMNI ON	62-62	ON
3	1	OMNI ON	64-64	ON
4	1	OMNI ON	65-65	ON
5	1	OMNI ON	67-67	ON
6	1	OMNI ON	69-69	ON
7	1	OMNI ON	71-71	ON
8	1	OMNI ON	72-72	ON

Set the "CONSTANT PITCH=ON" on each sample (bank) and set its key range not overlapping the other.

### ■ Complex Program

This program shows the REMIX16 flexibility in settings; You can use banks 1-7 as a single program for DJ performance similar to the example shown above. Another program is provided with bank 8 for a whole keyboard performance.

BANK	PROG.NO.	MIDI CH	KEY RANGE	CONSTANT PITCH	SAMPLE
1	1	OMNI ON	60-60	ON	1-Bar Loop at 120 bpm
2	1	OMNI ON	62-62	ON	1-Bar Loop at 130 bpm
3	1	OMNI ON	64-64	ON	Orchestra Hit
4	1	OMNI ON	65-65	ON	Sound Effect
5	1	OMNI ON	67-67	ON	Sound Effect
6	1	OMNI ON	69-69	ON	Sound Effect Loop
7	1	OMNI ON	71-71	ON	Snare Drum w/Gate Reverb
8	2	OMNI ON	0-127	OFF	

If you replace the bank 8 sample with a melodic instrument such as organ, you can play the two programs switching them using MIDI program changes.

The REMIX16 can be programmed with the combination of previous four ways of play (single, multi-sample, multi-timbre, percussion setting).



## Appendix

### General Information about Optional Components

The REMIX16 has several optional components, including the expansion memory, IB-16S SCSI interface board, XF-45 cross fader replacement kit.

For detailed information of those components, contact your "AKAI professional" dealer. Also, ask your dealer for installation of those components to the REMIX16. Self-servicing may cause malfunction or damage to the unit.

#### ■ Memory Expansion

The REMIX16 comes with 2-megabyte memory soldered on the main PC board and one memory expansion slot to install additional 72-pin SIMM (Single Inline Memory Module).

You can expand memory using a 4-megabyte or 16-megabyte SIMM with access time 70 ns (nanosecond) or faster. Please note that the REMIX16 does not accept other types.

At 32 kHz mono sampling, the REMIX16 records up to 30 seconds with standard 2-megabyte memory, up to 95.5 seconds with 4-megabyte memory expansion, and up to 292.1 seconds with 16-megabyte memory expansion.

The REMIX16, when it is turned on, checks memory installation and indicates no memory expansion as  $\square$ , 4-megabyte expansion as  $\square$  4, or 16-megabyte expansion as  $\square$  16. This enables you to know whether memory expansion is properly done.

#### ■ Using the IB-16S SCSI Interface Board

With this board installed to the REMIX16, you can connect an external hard disk drive to manage large sample data with a quick operation.

#### ■ Replacement of the XF-45 Cross Fader

The built-in faders, CONTROL SLIDER and CROSS FADER, may be damaged by intensive use. The XF-45 cross fader is provided for replacement of those faders. The XF-45 can replace either faders.

## Specifications

**Model** : MIDI Stereo DJ Phrase Sampler REMIX16  
**Sampling Method** : 16-bit Linear Encoding  
**Sampling Frequency** : 32 kHz, 16 kHz, 8 kHz

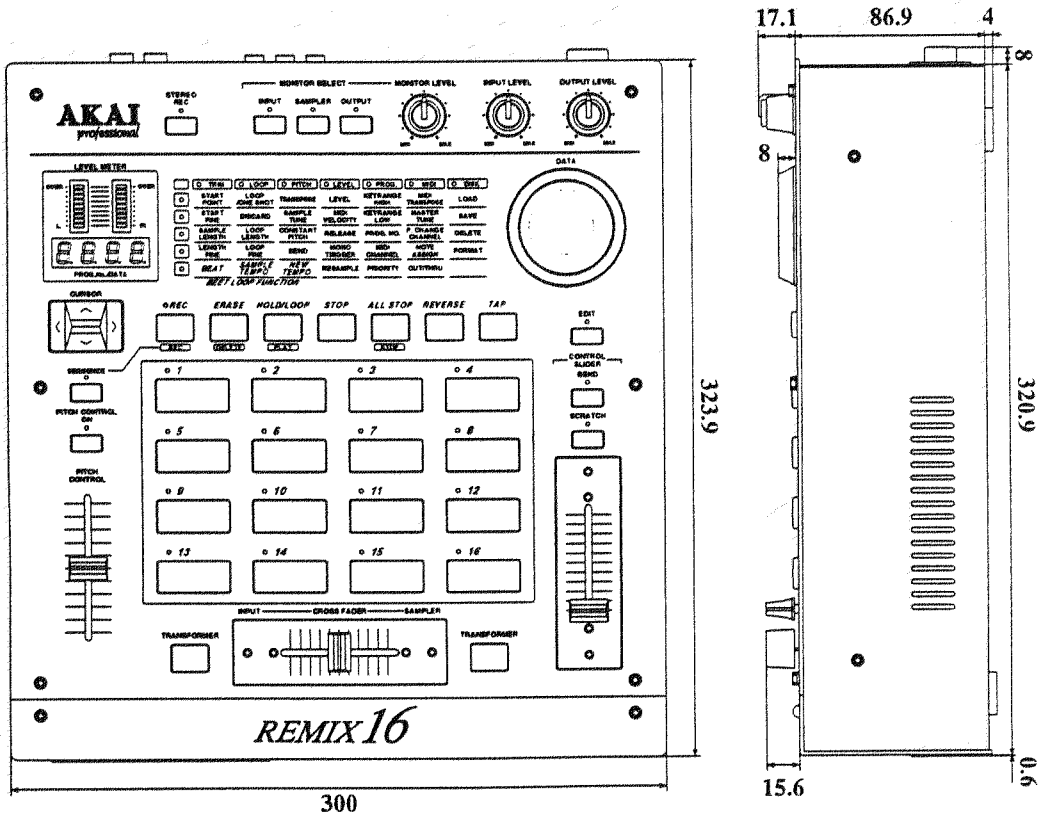
**Total Sampling Time** :

		Stereo	Mono
With 2 MB memory	32 kHz	15 sec.	30 sec.
	16 kHz	30 sec.	60 sec.
	8 kHz	60 sec.	120 sec.
With 18 MB memory	32 kHz	146 sec.	292.1 sec.
	16 kHz	292.1 sec.	584.2 sec.
	8k Hz	584.2 sec.	1168.4 sec.

**Polyphony** : 8 voices  
**ADC** : 4th order  $\Delta\Sigma$  64 times over-sampling  
**DAC** : 4th order  $\Delta\Sigma$  64 times over-sampling, 8 times interpolation filter  
**Internal Memory** : 2 Megabytes (expandable to 4Mb or 16Mb by 72 pin SIMM)  
**Data Storage Device** : 3.5-inch 2DD/2HD Floppy Disk Drive  
**Edit Parameters** :  
**TRIM** ..... START POINT, START FINE, SAMPLE LENGTH, LENGTH FINE  
**LOOP** ..... LOOP/ONE SHOT, DISCARD, LOOP LENGTH, LOOP FINE  
**PITCH** ..... TRANSPOSE, SAMPLE TUNE, CONSTANT PITCH, BEND  
**LEVEL** ..... LEVEL, MIDI VELOCITY, RELEASE, MONO TRIGGER, RESAMPLE  
**PROG** ..... KEYRANGE HIGH, KEYRANGE LOW, PROG.NO., MIDI CHANNEL, PRIORITY  
**MIDI** ..... MIDI TRANSPOSE, MASTER TUNE, P.CHANGE CHANNEL, NOTE ASSIGN, OUT/THRU  
**DISK** ..... LOAD, SAVE, DELETE, FORMAT  
**BEAT LOOP FUNCTION** .. BEAT, SAMPLE TEMPO, NEW TEMPO

**Panel Controls** : STEREO REC  
 INPUT  
 SAMPLER  
 OUTPUT  
 MONITOR LEVEL  
 INPUT LEVEL  
 OUTPUT LEVEL  
 DATA (Jog Dial, Data Wheel)  
 CURSOR  
 REC  
 ERASE  
 HOLD/LOOP  
 STOP  
 ALL STOP  
 REVERSE  
 TAP  
 SEQUENCE  
 PITCH CONTROL ON  
 PITCH CONTROL  
 Bank Keys 1~16  
 TRANSFORMER  
 CROSS FADER  
 EDIT

- Panel Controls** : BEND  
 SCRATCH  
 CONTROL SLIDER  
 INPUT SELECT
- Connectors** : **LINE IN** RCA pin jack/47kΩ ..... 2  
**PHONO** RCA pin jack/47kΩ ..... 2  
**OUTPUT** RCA pin jack/270Ω ..... 2  
**MIDI** DIN5P (IN,OUT/THRU) ..... 2  
**FOOT SW** 1/4" (6.3ø mm) phone jack ..... 1  
**HEADPHONE** 1/4" (6.3ø mm) stereo phone jack/100Ω ..... 1  
**SIGNAL GND** ..... 1
- Power Source** : 120 VAC 60 Hz 18 W for U.S.A. and Canada  
 220 ~ 240 VAC 50 Hz for Europe
- Dimensions** : 300 x 86.9 (108\*) x 323.9 (329.5\*) mm (W x H x D, unit: mm, \*: max.)
- Weight** : 6.0 kg
- Accessories** : AC Power Cord (attached)  
 Sound Disk ..... 4  
 Operator's Manual ..... 1
- Optional Components:** **IB-16S** SCSI Interface Board  
**XF-45** Cross Fader



\* Above Specifications are subject to change without notice.

# REMIX16 MIDI Implementation Chart

Date:AUG.1995

Version 1.00

Function	....	Transmitted	Recognized	Remarks
Basic Channel	Default Changed	O 1 X	O 1 O 1 - 16	Without disk Memorized (disk)
Mode	Default Messages Altered	X  *****	Mode 1 Mode 1 - 4 OMNI ON/OFF, P/M X	Without disk Memorized (disk)
Note Number	: True Voice	X *****	0 - 127 0 - 127	
Velocity	Note on Note off	X X	O 9n V=1 - 127 X 8n V=1 - 127	
After-touch	Key's Ch's	X X	X X	
Pitchbend		X	O	0 - 24 semitone steps (Full resolution)
Control Change	1 7 64 67	X X X X	X O O X	Modulation wheel Volume Sustain pedal Soft pedal
Program Change	True No.	X *****	1 - 128	by Preset number Value
System Exclusive		X	O	(*1)
System Common	: Song position : Song select : Tune	X X X	X X X	
System Real time	: Clock : Commands	X X	X X	
Aux Messages	: Local ON/OFF : All Notes OFF : Active Sense : Reset	X X X X	X O (123) X X	

Mode 1 : OMNI ON, POLY  
Mode 3 : OMNI OFF, POLY

Mode 2 : OMNI ON, MONO  
Mode 4 : OMNI OFF, MONO

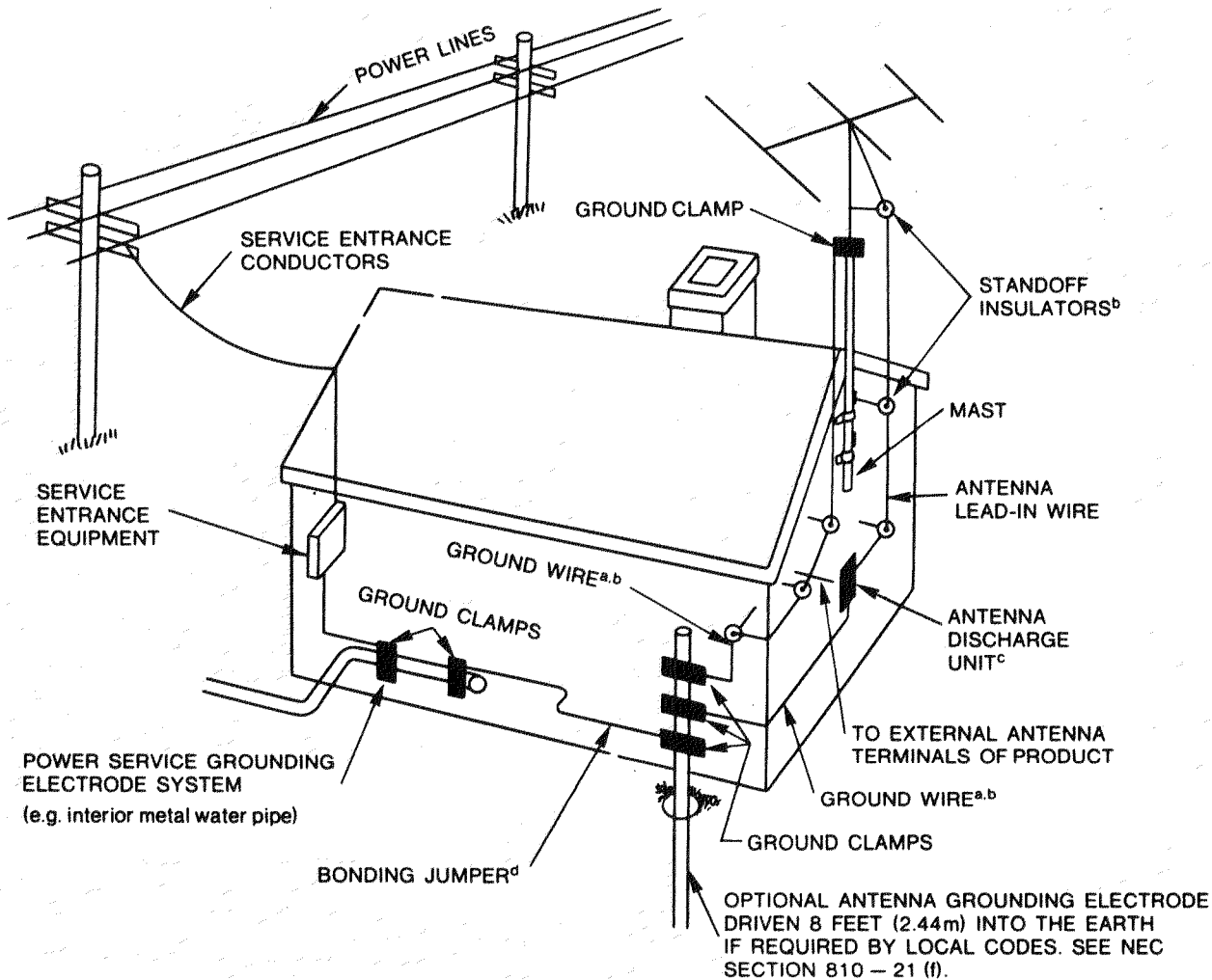
O : Yes  
X : No

(\*1) Full details of System Exclusive data formats can be obtained by contacting your AKAI dealer.



Fig. 1

EXAMPLE OF ANTENNA GROUNDING ACCORDING TO NATIONAL ELECTRICAL CODE INSTRUCTIONS CONTAINED IN ARTICLE 810 — "RADIO AND TELEVISION EQUIPMENT"



a. Use No. 10 AWG (5.3 mm<sup>2</sup>) copper, No. 8 AWG (8.4 mm<sup>2</sup>) aluminum, No. 17 AWG (1.0 mm<sup>2</sup>) copper-clad steel or bronze wire, or larger, as a ground wire.

b. Secure antenna lead-in and ground wires to house with stand-off insulators spaced from 4–6 feet (1.22–1.83 m) apart.

c. Mount antenna discharge unit as close as possible to where lead-in enters house.

d. Use jumper wire not smaller than No. 6 AWG (13.3 mm<sup>2</sup>) copper, or the equivalent, when a separate antenna-grounding electrode is used. See NEC Section 810–21 (j).

# IMPORTANT SAFETY INSTRUCTIONS

## SAVE THESE INSTRUCTIONS

### INSTRUCTIONS PERTAINING TO A RISK OF FIRE, ELECTRIC SHOCK, OR INJURY TO PERSONS

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

- 1. Read instructions** — All the safety and operating instructions should be read before the appliance is operated.
- 2. Retain Instructions** — The safety and operating instructions should be retained for future reference.
- 3. Heed Warnings** — All warnings on this appliance and in the operating instructions should be adhered to.
- 4. Follow instructions** — All operating and use instructions should be followed.
- 5. Water and Moisture** — This appliance should not be used near water — for example, near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement, or near a swimming pool, and the like.
- 6. Carts and Stands** — Do not place this appliance on an unstable cart, stand, tripod, bracket, or table. The appliance may fall, causing serious injury to a child or adult, and serious damage to the appliance. Use only with a cart, stand, tripod, bracket, or table recommended by AKAI, or sold with the appliance. Any mounting of the appliance should follow AKAI's instructions, and should use a mounting accessory recommended by AKAI.
  - a.** An appliance and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the appliance and cart combination to overturn.

#### PORTABLE CART WARNING



S3125A

- 7. Wall or Ceiling Mounting** — AKAI does not recommend mounting this appliance on a wall or from a ceiling.
- 8. Ventilation** — This appliance should be situated so that its location or position does not interfere with its proper ventilation. For example — the appliance should not be situated on a bed, sofa, rug, or similar surface that may block the ventilation openings; or placed in a built-in situation, such as a book case or cabinet that may impede the flow of air through the ventilation openings.
- 9. Heat** — This appliance should be situated away from heat sources such as radiators, heat registers, stoves, or other appliances (including amplifiers) that produce heat.
- 10. Power Sources** — This appliance should be connected to a power supply only of the type described in the operating instructions or as marked on the appliance. If you are not sure of the type of power supply to your home, consult your appliance dealer or local power company. For appliances intended to operate from battery power, or other sources, refer to the operating instructions.
- 11. Polarization** — If the appliance is equipped with a polarized alternating-current line plug (a plug having one blade wider than the other), this plug will fit into the power outlet only one way. This is a safety feature. If you are unable to insert the plug fully into the outlet, try reversing the plug. If the plug should still fail to fit, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the polarized plug.
- 12. Grounding** — If the appliance is equipped with a 3-wire grounding-type plug, a plug having a third (grounding) pin, this plug will only fit into a grounding-type power outlet. This is a safety feature. If you are unable to insert the plug into the plug into outlet, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the grounding-type plug.
- 13. Power Cord Protection** — Power supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the appliance.

- 14. Protective Attachment Plug** — If the appliance is equipped with an attachment plug having overload protection, caution marking will be provided on the appliance or instruction manual. This is a safety feature. See the instruction manual for replacement or resetting of the protective device. If replacement of the plug is required, be sure the service technician has used a replacement plug specified by AKAI, which has the same overload protection as the original plug.
- 15. Cleaning** — Unplug this appliance from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaner. Use a damp cloth for cleaning. The appliance should be cleaned only as recommended by AKAI.
- 16. Power lines** — An outside antenna system should not be located in the vicinity of overhead power lines or other electric light or power circuits, or where it can fall into such power lines or circuits. When installing an outside antenna system, extreme care should be taken to keep from touching such power lines or circuits as contact with them might be fatal.
- 17. Outdoor Antenna Grounding** — If an outside antenna or cable system is connected to this appliance, be sure the antenna or cable system is grounded so as to provide some protection against voltage surges and built-static charges. Section 810 of the National Electrical Code ANSI/NFPA No.70-1984, provides information with respect to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding conductors, location of antenna-discharge unit, connection to grounding electrodes, and requirements for the grounding electrode. See Figure 1.
- 18. Lightning or Nonuse Periods** — For added protection for this appliance during a lightning storm, or when it is left unattached for long periods of time, unplug it from the wall outlet and disconnect the antenna or cable system. This will prevent damage to the appliance due to lightning and power-surges.
- 19. Object and Liquid Entry** — Never push objects of any kind into this appliance through openings as they may touch dangerous voltage points or short-out parts that could result in a fire or electric shock. Never spill liquid of any kind on the appliance.
- 20. Damage Requiring Service** — Unplug this appliance from the wall outlet and refer servicing to qualified service personnel under the following conditions:
  - a.** When the power-supply cord or plug is damaged.
  - b.** If liquid has been spilled, or objects have fallen into the appliance.
  - c.** If the appliance has been exposed to rain or water.
  - d.** If the appliance does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions as an improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the appliance to its normal operation.
  - e.** If the appliance has been dropped or the cabinet has been damaged.
  - f.** When the appliance exhibits a distinct change in performance — this indicates a need for service.
- 21. Servicing** — Do not attempt to service this appliance yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.
- 22. Attachments** — Do not use attachments not recommended by AKAI as they may result in the risk of fire, electric shock, or injury to persons.
- 23. Overloading** — Do not overload wall outlets and extension cords as this can result in a risk of fire or electric shock.
- 24. Replacement Parts** — When replacement parts are required, be sure the service technician has used replacement parts specified by AKAI that have the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock, or injury to persons.
- 25. Safety Check** — Upon completion of any service or repair to this appliance, ask the service technician to perform routine safety checks to determine that the appliance is in safe operating condition.
- 26.** 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.

AKAI ELECTRIC CO., LTD.  
Electronic Musical Instrument Div.