AKAI professional

S01

MIDI DIGITAL SAMPLER

Operator's Manual

AKAI
professional

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MIDI DIGITAL SAMPLER
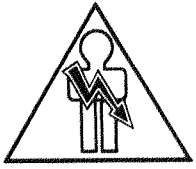
Operator's Manual

To show our support for the protection of the earth's environment, this manual has been printed on recycled paper.

Congratulations...

We would like to thank you for purchasing the Akai S01 8 voice polyphonic MIDI digital sampler. Your S01 comes from a long line of highly reputable Akai S series digital s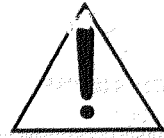amplers. A variety of functions, high quality sound, and simple and consistent ways of operations makes the S01 easy to use, and optimal for live performance, recording, or any other musical activities. To completely understand and fully utilize the S01, please read through this manual before use. Also remember to keep this manual in a safe place for future reference.

Features

- 8 polyphonic voice MIDI digital sampler

- Guarantees high-quality sampled sound using 16 bit sampling technique and 32 kHz sampling frequency.

- Supplies easy operation with matrixed panel keys and a data entry knob. You can edit samples monitoring them at any time.

- Offers sampling of 15.6 seconds (max.) using selectable 2 sampling methods — Auto-trigger or Manual. With an optional memory expansion board EXM01 installed, the total sampling time can be expanded up to 31.2 seconds.

- Samples can be divided into up to 8 banks, individually edited, saved as individual programs.

- 8 banks applied to 8 point multi-sampling technique to obtain a natural sound variation.

- Operates as a multi-timbral sound module when 8 banks are assigned to individual MIDI channels.

- Foot switch can be used for sampling or playback control.

- Equipped with a 3.5 inch 2DD/2HD micro floppy disk drive.

- Enables you to load samples from the sound library for Akai S1000 series.

- Provided with 2 MIDI input connectors switchable by the front panel control.

Contents

1. *Remember to always make backup of necessary data because floppy disks are NO PERMANENT media for data storage.*

2. *Use 2DD or 2HD 3.5 inch micro floppy disks for the S01.*

3. *While the disk drive LED is lit, DO NOT turn off the S01 nor try to remove the floppy disk. This may destroy not only the disk but also the disk drive as well.*

◆ Write Protection

A 3.5 inch floppy disk has a "write-protect" switch to prevent you from carelessly erasing, deleting, or overwriting the stored data. As seen in the diagram below, when the switch is moved to open a window, the stored data on the disk is protected. The data, of course, can be loaded in write-protect status.

3.5 inch 2HD disk

write-protect ON

front

back
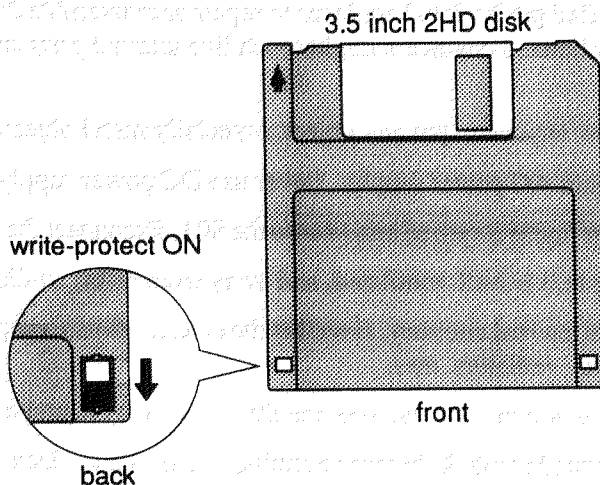
* When using the supplied disks (mentioned later), always set them to write-protect ON.

◆ Formatting Floppy Disks

Generally, disk formatting enables a specific system to read (load) or write (save) data from/onto the disk. Therefore before using a disk on the S01, it is necessary to format it to the S01 system. For a detailed explanation of disk formatting, refer to page 40.

◆ Supplied Floppy Disks

Your S01 has been shipped with 4 data floppy disks:

Operation guide disk   1 (#01)
Sound library disks   3 (#2~#4)

This manual has written for you to learn operations of the S01 utilizing those supplied disks. So remember to keep those disks. For detailed information of supplied disks, see page 48~52.

WARNING

Power requirements for electrical equipment vary from area to area. Please ensure that your S01 meets the power requirements in your area. If in doubt, consult a qualified electrician.

120V   @60Hz for USA and Canada

220V~230V   @50Hz for Europe (excluding UK)

240V   @50Hz for UK and Australia

Protecting yourself and the S01

- Never touch the plug with wet hands.

- Always disconnect the S01 from the power supply by pulling on the plug, not the cord.

- Allow only a qualified professional engineer to repair or reassemble the S01. Apart from voiding the warranty, unauthorized engineers might touch live internal parts and receive a serious electric shock.

- Do not put, or allow anyone to put any object, especially metal objects, into the S01.

- Use only a household AC power supply. Never use DC power supply.

- If water or any other liquid is spilled into or onto the S01, 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 S01 away from sources of direct hert (stoves, radiators, etc).

- Avoid using aerosol insecticides, etc. near the S01. They may damage the surface, and may ignite.

- Do not use denaturated alcohol, thinner or similar chemicals to clean the S01. They will damage the finish.

- Make sure that the S01 is always well-supported when in use (either in a specially-designed equipment rack, or a firm level surface).

- When installing the S01 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.

◆ Handling Floppy Disks

The S01 is equipped with a disk drive that can accommodate a 3.5 inch 2DD or 2HD floppy disk. As usual with personal computers, the S01 has no backup memory for data. Thus, every time when using the S01, you have to load any data into the S01 internal RAM and, if necessary, save it again onto a floppy disk before turning off the S01. First of all operations you should learn on the S01 is loading/ saving data using the disk drive so that you should adhere to the cautions listed below concerning the floppy disk.

1. The disk should be inserted horizontally into the disk drive, as it held the labelled side up, the shutter facing the drive. Make sure the disk is set properly with a click.

2. Do not bend the disk, nor put pressure on it.

3. Do not put the disk near speakers, a television or close to any device that produces a magnetic field. It may cause data destruction.

4. Prevent any other objects than a disk from intruding the disk drive.

5. Do not smoke, eat, or drink around the disks. Also do not leave them in dusty areas.

6. Do not leave disks in areas of direct sunlight, heat, humidity, etc. They should be kept in proper temperature: 5°C~45°C. Also care for the room temperature when carrying disks by car.

7. Do not touch the disk shutter or inner magnetic disk itself. Also never leave disks around any chemical solvents such as alcohol or paint thinner. It may lead to data destruction.

3

UK customers

Important safety notice: The flex supplied with this machine has three wires, as shown in the illustration.

### WARNING: THIS APPLIANCE MUST BE EARTHED

IMPORTANT

The wires in this mains lead are coloured in accordance with the following cord:

Green-and-yellow: earth
Blue: neutral
Brown: live

As the colours of the wires in the flex may not correspond to the colour markings in your plug, make sure that wires are connect in the following way. The green-and-yellow wire should be connected to the terminal marked "E" or marked with the safety earth symbol (⏚); the blue wire is connected to the terminal marked "N", or coloured black. The brown wire should be connected to the terminal marked "L", or coloured red. Make sure all terminal screws are tightened and there are no loose strands of wire.

Green/Yellow (Earth)

N E L

Blue (Neutral)   Brown (Live)
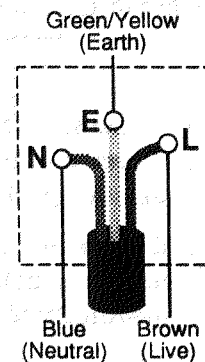
FCC warning

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.

Avis pour les acheteurs canadiens du S01

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.

FÜR KUNDEN IN DER BUNDESREPUBLIK DEUTSCHLAND

Bescheinigung von AKAI
Hiermit wird bescheinigt, daß das Gerät AKAI
S01
in Übereinstimmung mit den Bestimmungen der
Amtsblattverfügung 1046/1984
funkentstört ist.
Der Deutschen Bundespost wurde das Inverkehrbringen dieses Gerätes angezeigt und die Berichtigung zur Überprüfung der Serie auf Einhaltung der Bestimmungen eingeräumt.
AKAI ELECTRIC CO., LTD.

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

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

WARRANTY

AKAI Electric Co., Ltd. warrants its products, when purchased from an authorized AKAI 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 purchaser 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 Warrantry Registration has been returned to the "AKAI professional" service representative for your country.

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 the 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 the 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 or 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 and expenses involved in transporting the product to and from an AKAI Authorized Service Center or Authorized Dealer.

AKAI will not cover under warranty an apparent malfunction that is determined to be user error, or the 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.

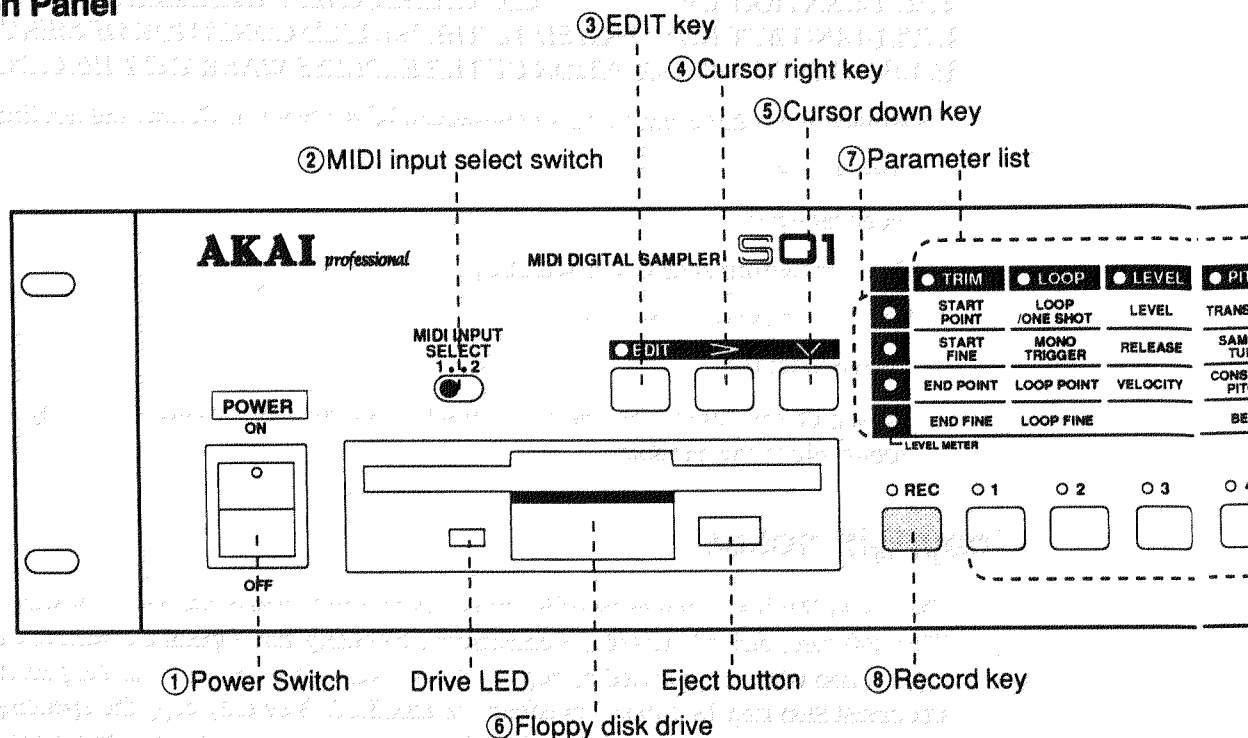AKAI hereby excludes incidental or consequential damages, including but not limited to:

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

Copyright notice

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Nomenclature

◆ Operation Panel

③EDIT key
④Cursor right key
⑤Cursor down key
②MIDI input select switch
⑦Parameter list

①Power Switch   Drive LED   Eject button   ⑧Record key
                 ⑥Floppy disk drive

① **Power Switch**
Turns the power ON/OFF. When the power is tuned on, the Bank 1 LED will light. When no disk is inserted, the S01 loads the default program (while the PROG. NO./DATA display showing rapid movement, the drive LED lit) and goes into Play mode.

② **MIDI input select switch**
Switches to either of two MIDI IN jacks on the rear panel.

③ **EDIT key**
When this key is pressed, the EDIT LED will light, the S01 goes into Edit mode, and two LEDs in combination shows available parameter.

④ **Cursor right key**
⑤ **Cursor down key**
These two cursor keys are used in Edit mode to select a parameter. Also in Play mode, pressing either key shows remaining sampling time in the PROG. NO/DATA display.
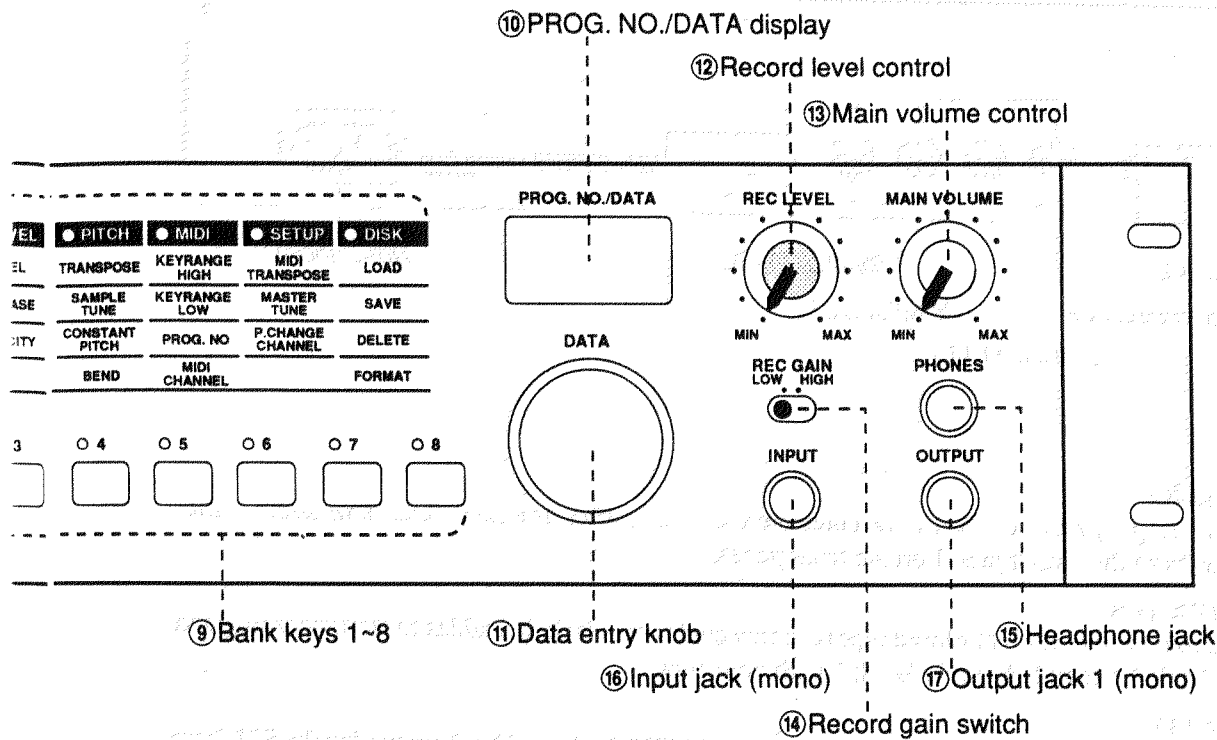
⑥ **Floppy disk drive & Eject button**
3.5 inch 2DD/2HD disk drive. The drive LED will light in yellow while saving/loading data. To eject the disk, push the Eject button.

⑦ **Parameter list**
List of all parameters of the S01. In Edit mode the selected parameter will be recognized with two LEDs in vertical and horizontal lines.

⑧ **Record key**
Initiates recording (sampling) with this key.

⑩PROG. NO./DATA display

⑫Record level control

⑬Main volume control

| PROG. NO./DATA | REC LEVEL | MAIN VOLUME |

TRANSPOSE | KEYRANGE HIGH | MIDI TRANSPOSE | LOAD

SAMPLE TUNE | KEYRANGE LOW | MASTER TUNE | SAVE

CONSTANT PITCH | PROG. NO | P.CHANGE CHANNEL | DELETE

BEND | MIDI CHANNEL | FORMAT

⑨Bank keys 1~8   ⑪Data entry knob   ⑮Headphone jack

⑯Input jack (mono)   ⑰Output jack 1 (mono)

⑭Record gain switch

⑨ **Bank keys 1~8**
Selects the corresponding bank to record or edit. Also as a Bank key is pressed, sampled sound contained in the bank can be played back.

⑩ **PROG. NO./DATA display**
7 segment three digit LED displays the program number in Play mode, while in Edit mode, the parameter value and other information.

⑪ **Data entry knob**
Selects the program number and adjusts the parameter value.

⑫ **Record level control**
Adjusts the recording level during sampling.

⑬ **Main volume control**
Adjusts the headphone jack and the audio level at the output jacks 1&2.

⑭ **Record gain switch**
Adjusts the input level sensitivity at the input jack. (HIGH: –52dBm, LOW: –12dBm)

⑮ **Headphone jack**
An input jack for stereo headphone plug. However, the headphone output signal is not stereo.

⑯ **Input jack (mono)**
An audio input jack for output from a microphone or any other instrument you would like to record.

⑰ **Output jack 1 (mono)**
An audio output jack of the S01 to be connected to an amplifier or mixer. The same audio signal is output from the output jack 2 on the rear panel.

◆ Rear Panel

⑱Output jack 2

⑲Foot switch jack

⑳MIDI IN 1&2

㉒MIDI THRU

㉑MIDI OUT

㉓AC socket
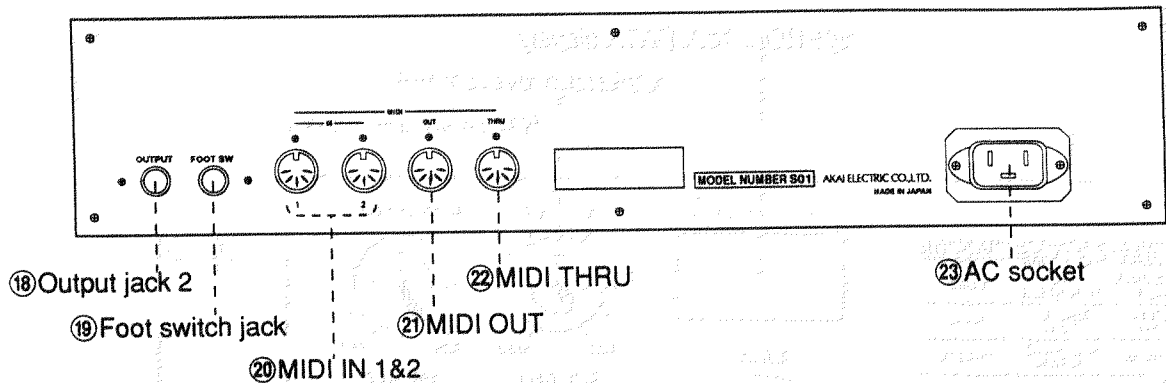
⑱ **Output jack 2**

An audio output jack of the S01 to be connected to an amplifier or mixer. The same audio signal is output from the output jack 1 on the front panel.

⑲ **Foot switch jack**

When a foot switch (normal-closed type) is connected to this jack, it enables to start recording and to play back the sampled data in Bank 1 with your foot.

⑳ **MIDI IN 1&2**

Input connectors to receive MIDI data from external MIDI devices. Use them to play the S01 from an external keyboard or sequencer. Select one of these connectors using the MIDI input select switch on the front panel.

㉑ **MIDI OUT**

An output connector to transmit MIDI data generated on the S01.

㉒ **MIDI THRU**

An output connector to retransmit the same MIDI data as received at MIDI IN.
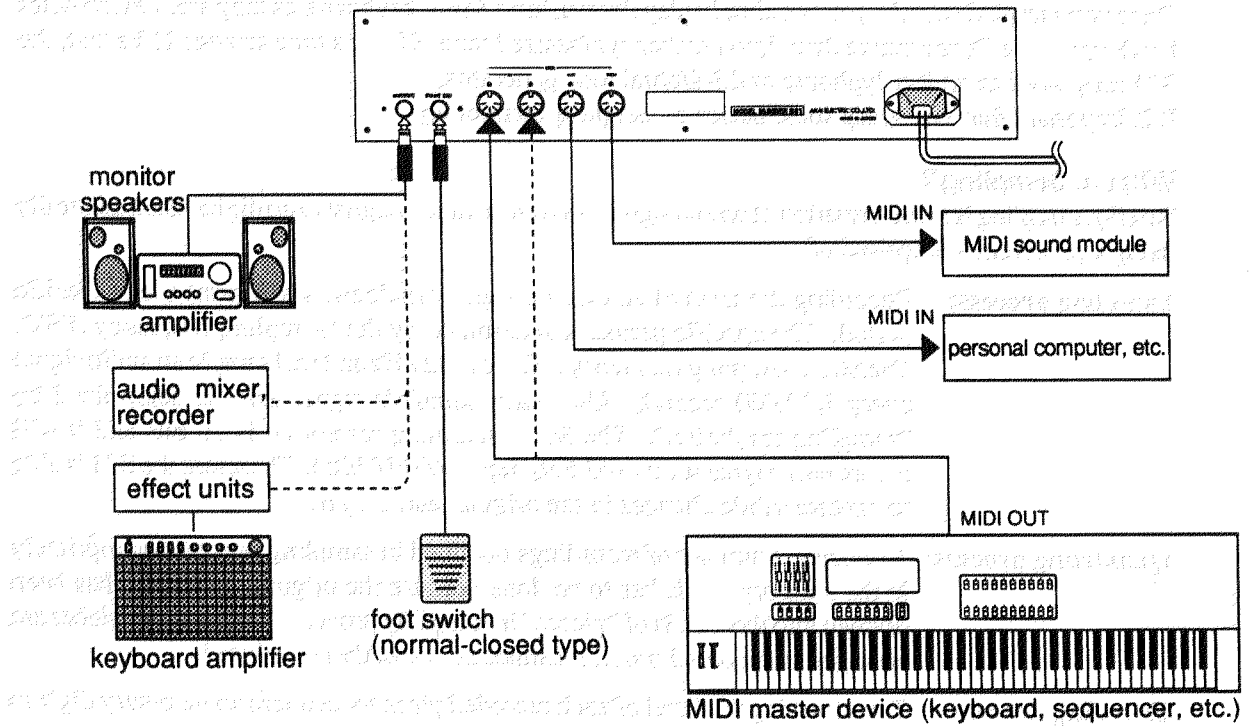
㉓ **AC socket**

Connect the supplied AC cable here.
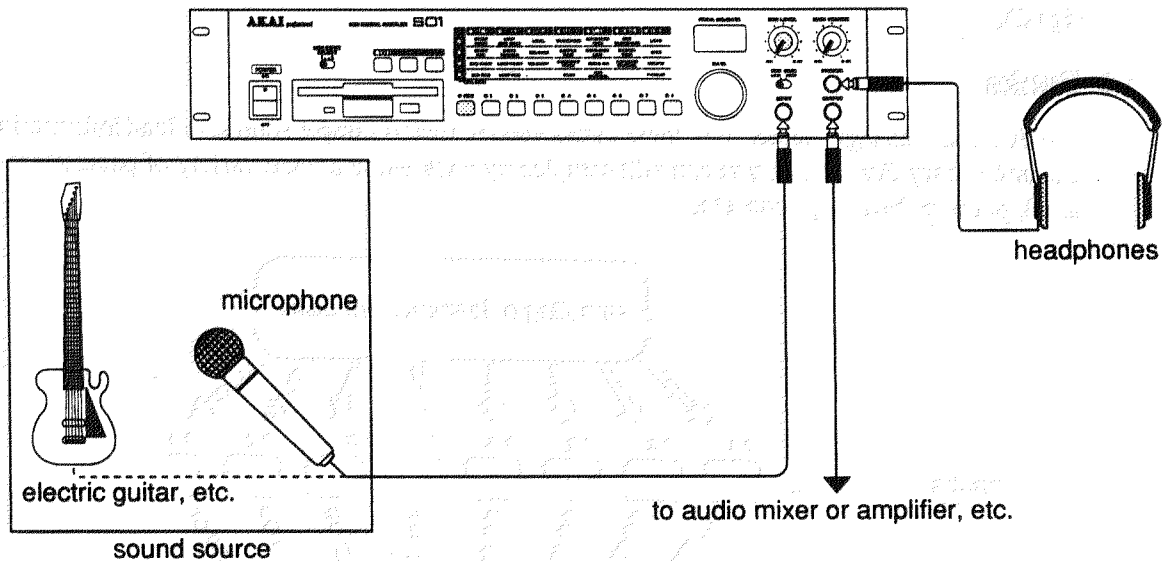
* Each jack is for 1/4 inch phone plug.

Connections

Refer to the diagram below and connect the S01 to your system.

S01 Rear Panel

monitor speakers

amplifier

audio mixer, recorder

effect units

keyboard amplifier

foot switch (normal-closed type)

MIDI IN → MIDI sound module

MIDI IN → personal computer, etc.

MIDI OUT

MIDI master device (keyboard, sequencer, etc.)

S01 Operation Panel

headphones

microphone

electric guitar, etc.

sound source

to audio mixer or amplifier, etc.

* Before connection, remember to turn off all the devices to be connected.

* If you plan to use your S01 in areas other than you purchased it, refer to your "AKAI professional" dealer concerning the area voltage.

Basics of the S01

Through a simple operation, the S01 can digitally record any sounds—pianos, string instruments, percussive instruments and other acoustic instruments, and then clearly play back those sounds. Not only instruments, even noise—wind, rain, machinery, etc., can be recorded and transformed into sound you have never heard. This wonderful technology in a word is sampling.

Once you sampled sounds, you can simply play them using a MIDI keyboard, as they are. On the other hand, you can edit or arrange them into another synthesized tone. Using a tone arranged like that, the S01 may work as an 8 polyphonic multi-timbral tone generator.

It is important that you grasp some basics of sampling technology.

What Is Sampling?

Briefly, sampling is transformation of an analogous waveform (audio signal) into digital data, generally using a procedure comprised of:

Sampling process: Recording the level of an electric signal (analogue waveform) every specific period. The specific period is determined by the "sampling frequency (FS)". The S01's sampling frequency is fixed at 32 kHz and will sample an audio signal every 1/32,000 second. Also, each sample's signal level is determined by "sampling resolution". The S01's sampling resolution is 16 bits and it will record each signal level in 65,536 steps ($=2^8=16$ bits). Therefore the S01 is able to capture subtle changes in the original audio signal.
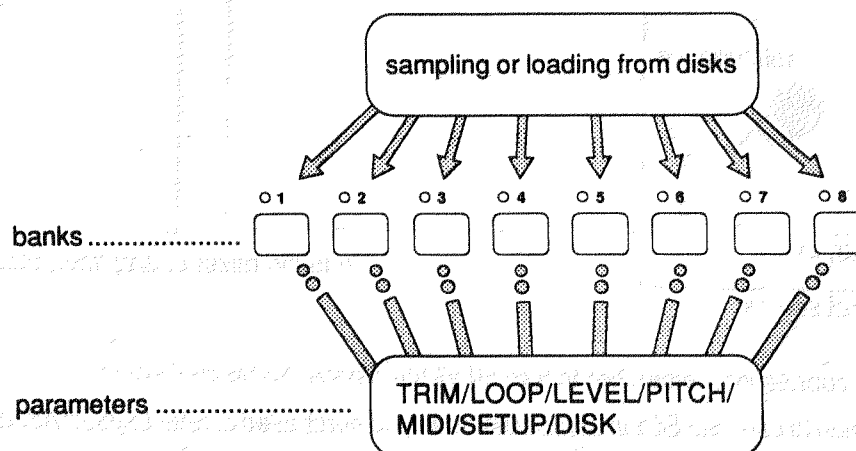
Quantizing process: Arranging a number of recordings obtained in sampling process appropriately in the memory. This has to be done because the original waveform has been divided into thousands of "pieces" in sampling process. Unless those pieces are arranged in recorded order, it cannot be correctly reproduced.

Encoding process: Transforming the level of each recorded piece to an appropriate binary digit so that it can be recognized or handled by the S01.

These processes are tasks of an analogue-to-digital converter (ADC). The encoded waveform data will finally be sent to memory and can be edited or arranged. When the digital waveform is played back, it is processed by digital-to-analogue converter (DAC) and output as an analogous waveform (audio signal).

◆ Banks

The S01 contains eight banks. Into these banks you are free to sample sounds or load information from a sound library disk. Also, you can edit samples by bank using a wide variety of parameters—loop, level, pitch, or MIDI options, etc.

sampling or loading from disks

○1　○2　○3　○4　○5　○6　○7　○8

banks ....

parameters ....
TRIM/LOOP/LEVEL/PITCH/
MIDI/SETUP/DISK

* The SETUP parameters are used for general setup for the S01.

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◆ Original Pitch

In this manual, "original pitch" refers to the pitch without transposition, which an original sound has when it is sampled, and in which the sample is played back when you press its corresponding Bank key or C3 key (: MIDI note number 60) on the MIDI keyboard.

◆ Programs

By assigning each bank an individual MIDI program number, you can make them up to 8 different programs. Also, when the same program number is assigned to several banks, it is applied for multi-sampled programs (programs that contain several samples).

Example: Individual program numbers for banks 1~4, the same program number for banks 5~8

| banks | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |

MIDI program number 5   1   20   22   3
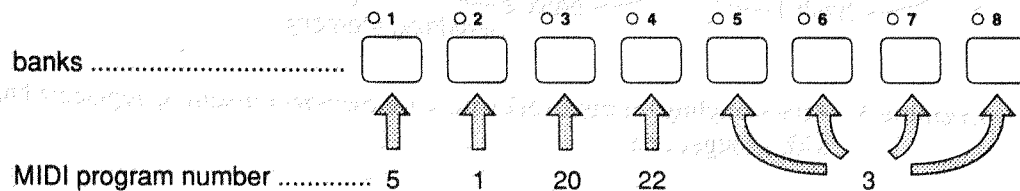
◆ Files

A file is a unit for an amount of data. The S01 offers two basic file types to handle data. "ALL" files are comprised of 8 all bank data (including samples) and all other settings for the S01, whereas "SAMPLE" is comprised of a single bank data (sample and its basic settings).
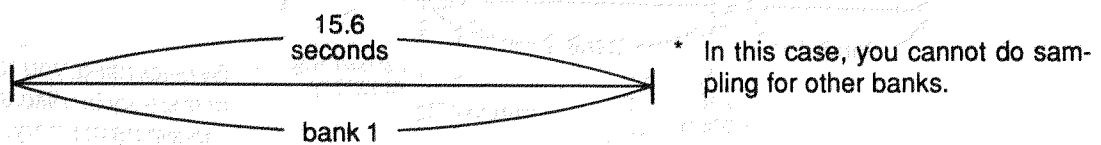Additionally, your S01 can load sample data for Akai S1000/S1100. For further information about this, see page 45.
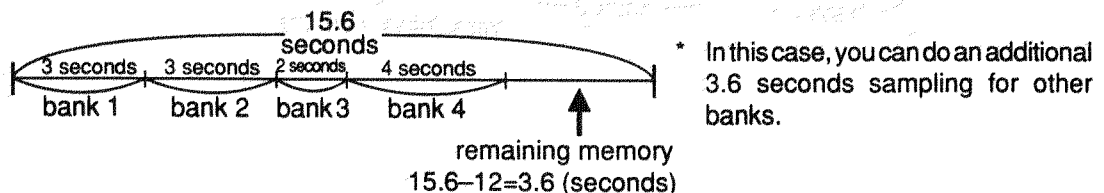
◆ Memory

The S01 has basically 1 megabyte (512 kiloword) internal memory, and the user area is assigned with 500 kiloword (500,000 sample points) of it. This area is used for actual sampling: Sampling time=15.625 seconds(*) (500,000/FS=32,000). You can freely assign this capacity to each of 8 banks. Following diagrams show how to assign amount of memory within the capacity:

(*) The PROG. NO./DATA display shows "15.6" seconds.

Example 1: Using all memory for bank 1

15.6 seconds

bank 1

* In this case, you cannot do sampling for other banks.

Example 2: Assigning to several banks within the capacity

15.6 seconds

3 seconds | 3 seconds | 2 seconds | 4 seconds
bank 1 | bank 2 | bank3 | bank 4

remaining memory
15.6–12=3.6 (seconds)

* In this case, you can do an additional 3.6 seconds sampling for other banks.

Example 3: After using up all memory for bank 1&2, replacing bank 2 sample with a shorter one, to do additional sampling for other banks.

15.6 seconds

bank 1   bank 2

replacing with a shorter sample

bank 1   bank 2
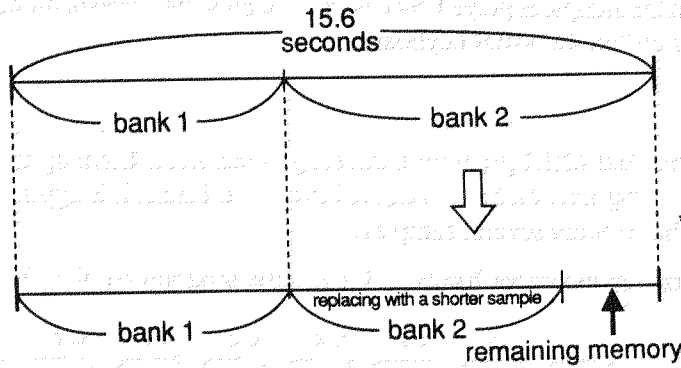
remaining memory

* In this case, you can do additional sampling using remaining memory for other banks.

Example 4: After sampling for bank 1&2 with some memory remaining, replacing bank 2 sample with a longer one.

15.6 seconds

bank 1   bank 2   remaining memory

bank 1   bank 2
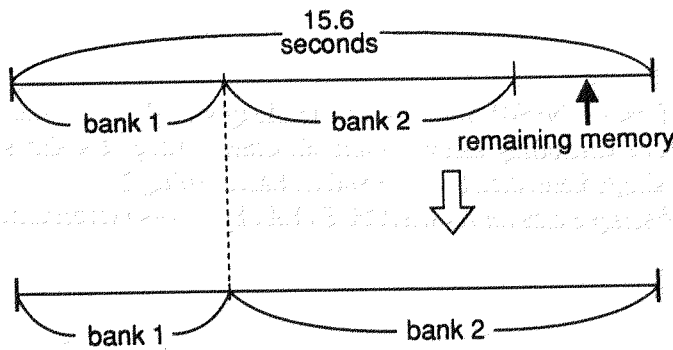
* In this case, you can redo longer sampling for bank 2 using the current bank 2 area and remaining memory.

Example 5: Editing the start & end points of a sample, discarding(*) unnecessary areas to add it to remaining memory.

(*) See page 32 in details.

15.6 seconds

bank 1   bank 2   remaining memory

start point   end point

bank 1   bank 2   remaining memory
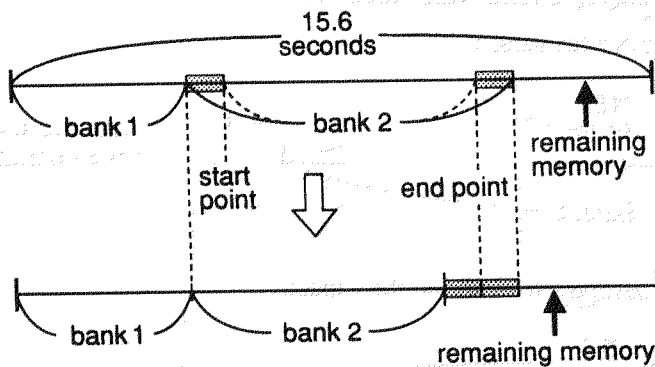
* By discarding, you can add amount of memory for discarded area(s) to remaining memory. It enables you to economically use the memory capacity.
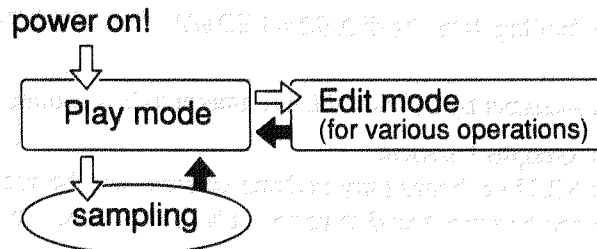
◆ Controls and Signal Flow

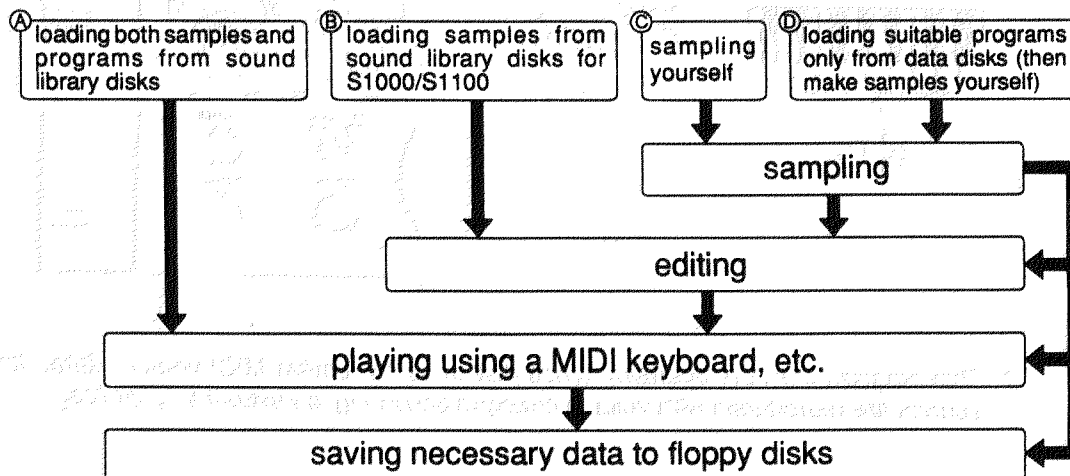The signal flow in the S01 is outlined in the following diagram.
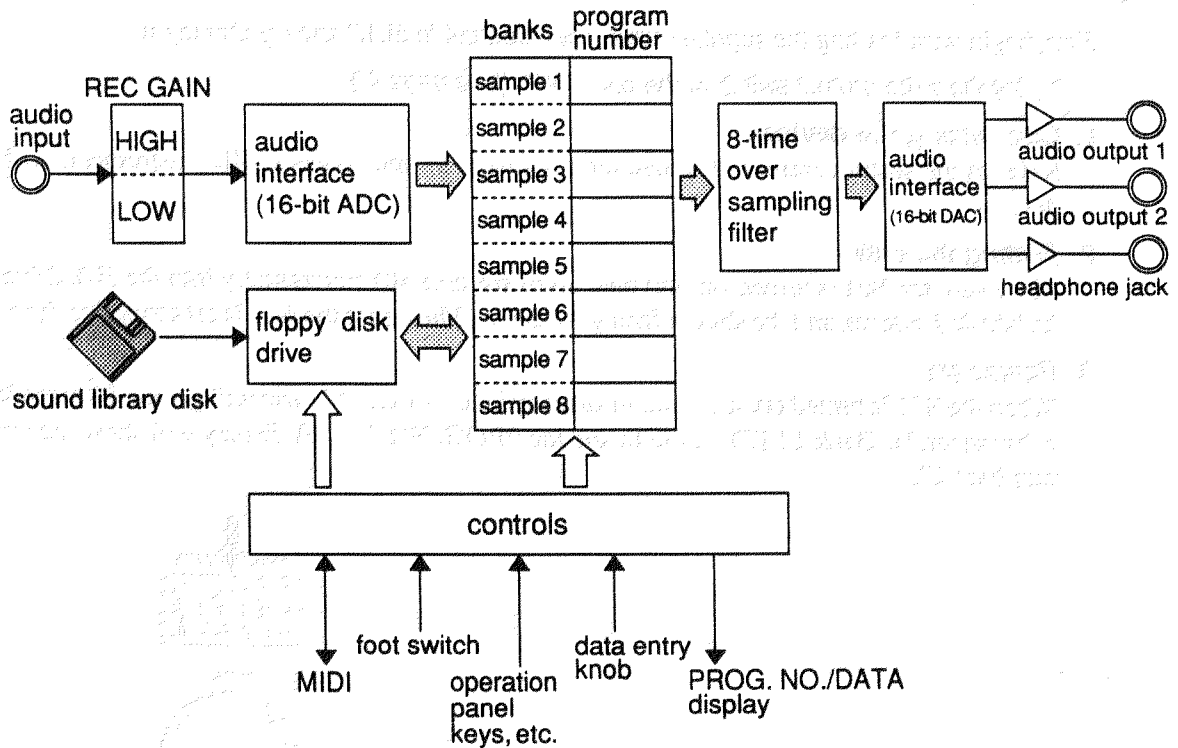
◆ Modes and Operational Flow

The following diagram shows the mode formation of the S01.

The following diagram shows four operational flows (A/B/C/D) of the S01.

Play Mode

◆ Basic Operation

First, begin with loading the supplied "#01 operation guide disk" and try playing it.

* Set the write-protect switch of the disk "ON". (See page 4.)

1. Connecting the devices
Refer to the section entitled "Connections" on page 11 and connect MIDI instruments and other devices.

2. Setting the disk
Make sure the S01 is turned off and then insert the disk #01 horizontally into the disk drive, with its labelled side up, and the shutter facing the drive. Make sure the disk is set properly with a click.

3. Power on
When the S01 is turned on, it will automatically load "ALL1" file and will go into Play mode after a few seconds. Bank 1 LED will light and the PROG. NO./DATA display will show the program number "1".


Play mode
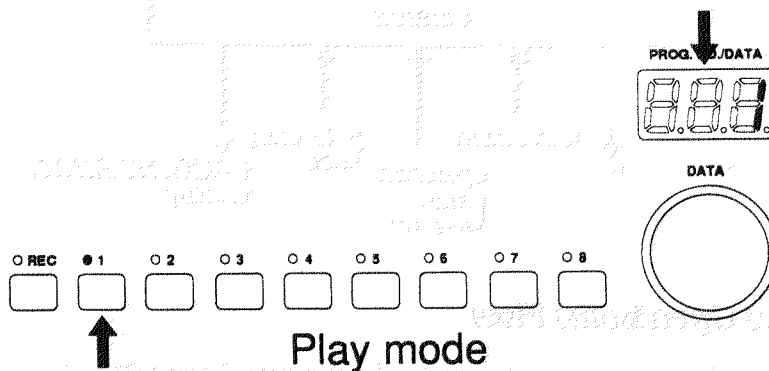
* While the S01 is loading data, the disk drive LED will light and the PROG. NO./DATA display will flicker quickly.

* Data loading is available by DISK/LOAD parameter in Edit mode. See page 38 for details.

4. Playback of the sampled sound
When playing the MIDI keyboard (any transmit channel will be acceptable.), the sampled voice "ONE" in bank 1 can be reproduced at various pitches. Adjust the volume by turning the main volume control.
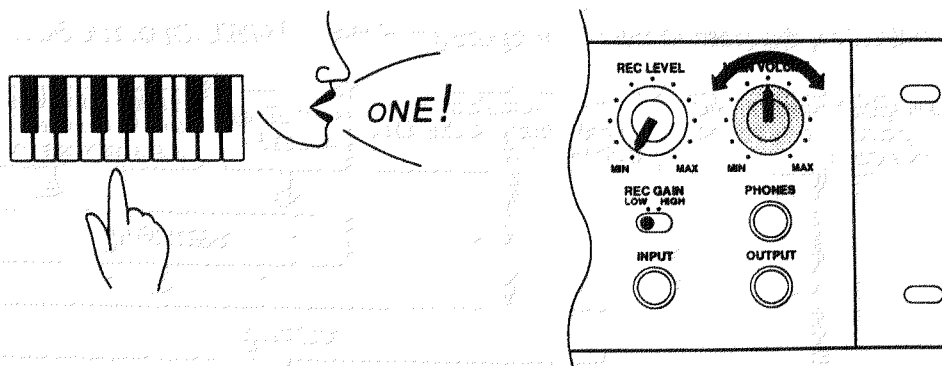

* This program from the operation guide disk is set to receive MIDI velocity data. Its sampled sounds are reproduced with volume changed according to keyboard dynamics.

5. Selecting a Program

In "ALL1" file, banks 1~8 are respectively assigned to MIDI program number 1~8 and each contains a sampled voice: "ONE" for bank 1, "TWO" for bank 2, ..., "EIGHT" for bank 8.

To play another sampled sound, use the data entry knob to select another program. The PROG. NO./DATA display will show the program number selected. Also a bank LED will light indicating the selected program is reproduced from that bank.
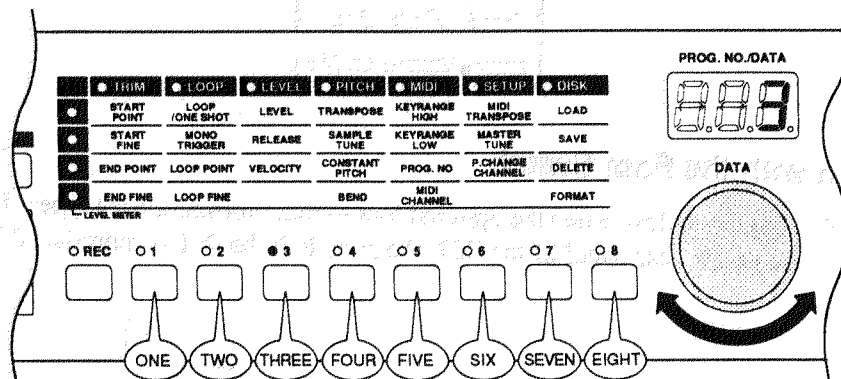
*   If the connected keyboard sends MIDI program change, you can select the desired bank directly from the keyboard, by sending the same MIDI program number that is set to the bank.
    If the S01 receives a program number that is not set to any banks, the PROG. NO./DATA display will blink showing that program number and no sound is reproduced.

6. Playback using Bank keys

Regardless of the bank LED or PROG. NO./DATA display status, every time when a bank key is pressed, the sampled sound contained will be played back in the pitch when the C3 key (: MIDI note number 60) is pressed.
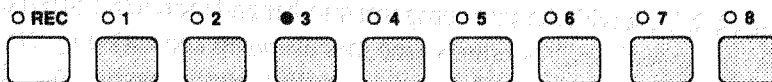
*   With default setting of "ALL1" file, each sample is played back in its original pitch. If transposition or tuning is set to samples, they will be played back at that setting.

Up until now, we have only used disk #01. For those of you interested in the disks #02~04 samples, first refer to the following supplemental explanation. Then go to "Saving and Loading Data" on page 38. It should enable you to master the data loading method.

◆ Play Mode — Supplementary Explanation

● When the S01 is turned on...

*   If a disk has not been inserted, the S01 will load the default program and go into Play mode.

    *   The default program contains the test tone signal and default parameter settings. Test tones will be reproduced only from bank 1. (See page 51.)

*   If a disk is in the disk drive, the S01 will automatically load the "ALL1" file and go into Play mode.

If the disk contains no "ALL1" file or only "SAMPLE" files (including S1000/S1100 sound library disks), the S01 will load the default program and go into Play mode.
In case the default program is loaded, you should load files in Edit mode. See page 26 for details. Additionally, see page 38 on file types when loading or saving them.

● Except when sampling or the EDIT LED is lit, the S01's status is Play mode.

● Every time when the S01 receives MIDI data from an external MIDI device, the left-most dot in the PROG. NO./DATA display will light. This is useful to make sure that the devices have been properly connected.
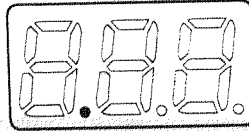
◆ Playback with the Foot Switch

As seen in the diagram below, when the optional foot switch (normal-closed type*) is connected to the foot switch jack on the rear panel of the S01, the sample in bank 1 is reproduced by depressing the switch.
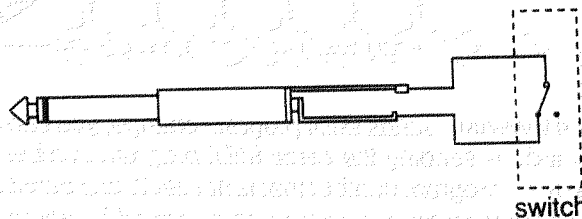
switch

(*)normal-closed type: Opens the circuit when the foot switch is depressed, and closes it when the switch is released.

◆ Using the S01 As A Multi-timbral Sound Module

By assigning each bank with the same program number and individual MIDI channels, the S01 works as an 8 voice polyphonic multi-timbre sound module when controlled by the sequencer, etc.
The supplied "operation guide disk" includes a multi-timbre program prepared. See page 49.

Sampling

◆ Basic Operations

There are two methods for sampling on the S01.

Auto-trigger:
The S01 automatically starts sampling when the input level of a sound source reaches the trigger level set beforehand.

Manual:
You can manually start sampling at the desired point if the trigger level has been set to "100".

Auto-triggered Sampling

Here it is explained how to sample using auto-triggering.

1. Connections
Connect your system and the S01 refering to the diagram on page 11.

2. Power On
Turn the S01 on without any disk inserted — the default program is loaded into the memory and the S01 goes to Play mode.

Adjust the volume using the main volume control by monitoring the test tones contained in bank 1.

3. Selecting the REC GAIN
Select a suitable position of the REC GAIN switch according to the output level of the sound source connected the the S01 input jack. Refer to the list below and set the switch to HIGH or LOW. As in the list, when using a microphone, HIGH should be selected.
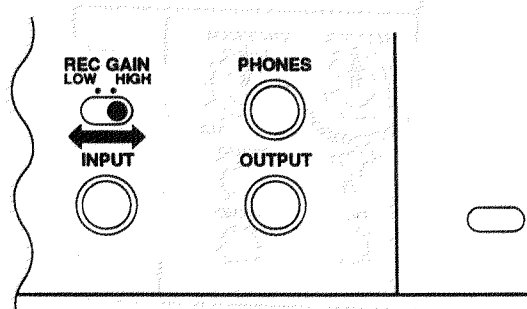
| Sound Source	REC GAIN
Devices such as microphone or electric guitar that have a low output level.	**HIGH** (–52 dBm)
Devices such as TV set, CD player, DAT, tuner, cassette deck, or any other audio machine, and electronic musical instruments such as synthesizers that all have a high output level.	**LOW** (–12 dBm)

4. Standby to Sampling

Press the REC key. The REC LED starts blinking, four LEDs in the parameter list function as the recording level meter, and the PROG. NO./DATA display shows the current trigger level. The S01 is now in standby to sampling. If any key other than the REC key is pressed at this point, the sampler will go to Play mode.

work as the REC LEVEL meter   current trigger level
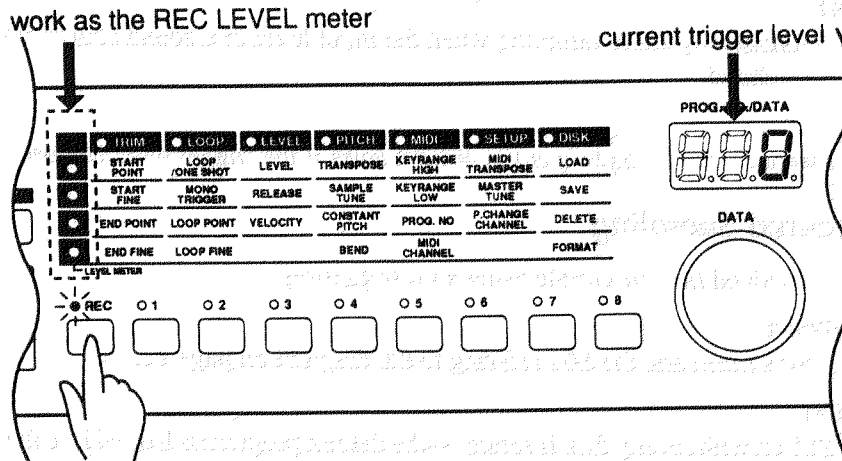
5. Adjusting the Recording Level

Adjust the recording level using the REC LEVEL control by actually talking into the microphone. To get the appropriate recording level, set the level so that the top LED of the recording level meter lightsup occasionally. To record good samples, set it as high as possible without distortion monitoring the sound using headphones.
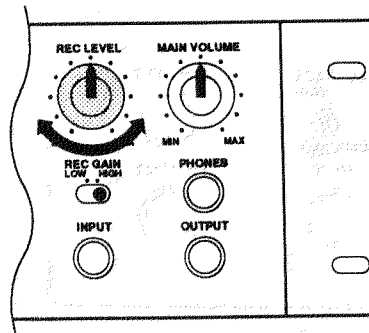

6. Setting the Trigger Level

Set the appropriate trigger level using the data entry knob and display it on the PROG. NO./DATA display. When the input level is over the current trigger level, the PROG. NO./DATA display will blink to indicate that the current level is a suitable one. When sampling by auto-trigger, the trigger level should be set within a range of 0~99. Remember the trigger level "100" is the value for MANUAL sampling (explained later).
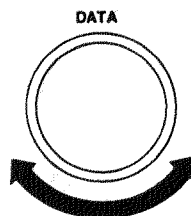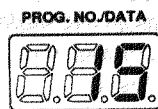
The trigger level determines the start point of the sample (from where the sample is reproduced), so that it should be set "higher" than the noise level but "low" enough to sample the whole sound from the source, as in the diagram below. Remember, especially when using a microphone, it is easy to pick up background noise and difficult for you to keep the constant input level. Please remember this when setting the level.
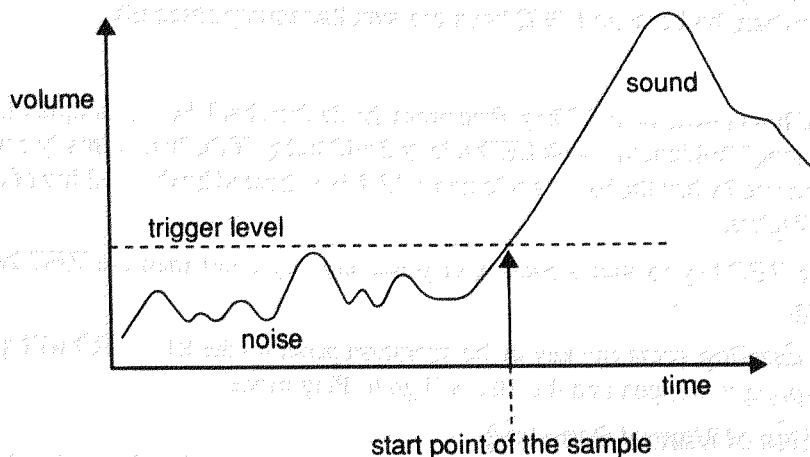
7. Selecting a Bank

Press and hold down the REC key, then press the desired bank key to sample in. The REC LED will continue blinking, the bank LED selected will light, and the S01 is ready to start sampling. If the bank already contains a sample, it will be erased when the bank is selected, which is indicated by the flashing of the PROG. NO./DATA display.
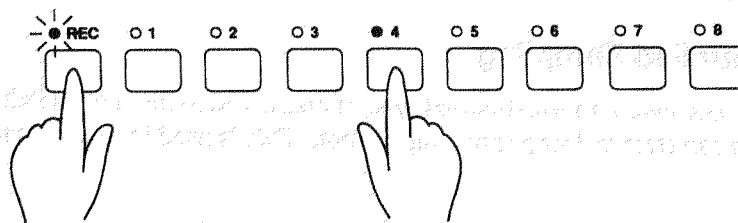
*   AS soon as the bank is selected, all data set contained in the bank will be erased PERMANENTLY. Before sampling, make sure the sample in this bank is not reguired.

*   In case the trigger level has been set to "0", the S01 will start sampling as soon as the bank is selected (when the bank and REC keys are simultaneously pressed).

8. How to Start and Stop Sampling

The S01 automatically starts sampling when the input level is over the trigger level and the REC LED changes to remain lit.
To stop sampling, press any key in the operation panel, the REC LED will go out to indicate that sampling is stopped, and the S01 will go to Play mode.
Check the sound just sampled by pressing the bank key. If you resample the sound, try it again. Consecutive sampling can be done by repeating "7. Selecting a Bank" and later.

*   If the available user memory is used up during sampling, the PROG.NO./DATA display will show "FUL" for a few seconds, and the sampling will finish at that point. Remember that the initially available sampling time is 15.6 seconds.

*   In case the trigger level is set too high and auto-triggered sampling cannot be performed, you can press the REC key to start sampling at that point, or press any key other than the REC key to cancel the sampling.

*   The original tone of the sampled sound is initially assigned to C3 key (: MIDI note number 60) on the keyboard. (original pitch)

◆ Manual Sampling

The operational flow for manual sampling is the same as in auto-triggered sampling—(1) pressing the REC key, (2) adjusting the recording level. Then, as first mentioned in this chapter, if the trigger level is set to "100" in the PROG. NO./DATA display, the S01 will be ready for manual sampling.

* In case the trigger level has been set to "0", the S01 will start sampling as soon as the bank is selected (when the bank and REC keys are simultaneously pressed).

Method:

1. Press and hold down the REC key, then press the desired bank key to sample in. The REC LED will continue blinking, the bank LED selected will light. If the bank already contains a sample, it will be erased when the bank is selected, which is indicated by the flashing of the PROG. NO./DATA display.

2. Press the REC key to start sampling or press any key other than the REC key to cancel the sampling.

3. To stop sampling, press any key in the operation panel — the REC LED will go out to indicate that sampling is stopped and the S01 will go to Play mode.

● Effective Use of Manual Sampling

Sometimes the very first part of a sound is not recorded completely when using the auto-triggered sampling method, for example when recording percussive instruments with fast attacks. This tends to produce sounds which lack intensity. This problem is easily solved by manual sampling. If you start sampling just before the required source sound is input, you can record the whole sound from beginning to end, without losing the attack sound. Of course in this case, you may have some silence at the beginning but this can be removed using the discard function.

* For further information of "discarding", see page 32.

◆ Foot Controlled Sampling

An optional foot switch (normal-closed type) if connected to the foot switch jack on the rear panel of the S01, you can start and stop sampling by foot. This is used in manual sampling.

Method:

1. Press the REC key. The REC LED starts blinking, four LEDs in the parameter list function as the recording level meter, and the PROG. NO./DATA display shows the current trigger level. If the foot switch is depressed at this point, the sampler will go to Play mode.

2. Press and hold down the REC key, then press the desired bank key to sample in. The REC LED will continue blinking, the bank LED selected will light.

3. Depress the foot switch to start sampling, or press any key other than the REC key to cancel the sampling.

4. To stop sampling, depress the foot switch again, the REC LED will go out to indicate that sampling is stopped, and the S01 will go to Play mode.

◆ Remaining Memory Indication

In Play mode, if either of the cursor keys is pressed, the PROG.NO./DATA display will show the remaining memory (i.e. remaining sampling time) in seconds. It is useful to check how long you can sample. For example, in case you have not yet used the memory, as seen in the diagram, "15.6" will be shown. Also, if you have used up the memory, "FUL" will be shown.
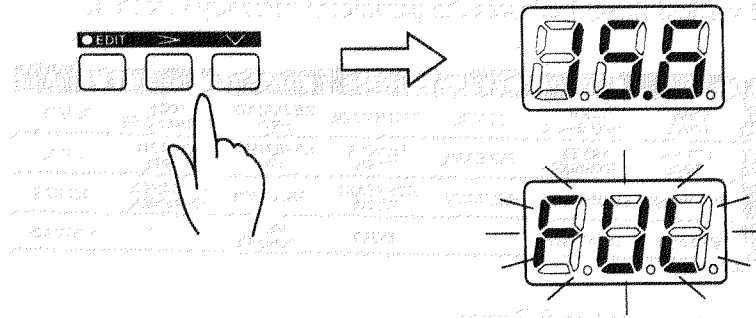
◆ Erasing Samples

As mentioned before in sampling methods, each sample contained in a bank can easily be erased. This can be applied when deleting an unnecessary sample by selecting its bank.

Methods:

1. Set the trigger level at "100" using the data entry knob.

2. Press and hold down the REC key, then press the desired bank key, the PROG. NO./DATA display will flash once, and the sample will be erased.

3. Press any key other than the REC key, and the S01 will go to Play mode.

◆ Multi-sampling

When playing sampled sounds with a MIDI keyboard, if playing them in a much higher or lower key range that is far away from C3 key (original pitch), the sound will be extremely strange or unnatural. This problem is solved by making several samples of different pitches (lower to higher) out of the same sound source (multi-sampling) and assigning them with their respective appropriate key ranges. If that multi-sampled program is played, the reproduction will be more natural in a wider key range.

The S01 enables you to make an 8 point multi-sampled program utilizing 8 banks by assigning each bank with the same program number and MIDI channel, plus an individual key range and transposition. The supplied operation guide disk includes a multi-sampled program prepared. See page 48 for details.

Edit Mode

To more effectively use the sampled sounds, it is often required to edit them or make additional program settings. You might like to use the enclosed library disks to form the basis of your own programs.

All of the parameter are listed in the operation panel as in the diagram below. Across the top are listed the functions and below each are parameter names. A combination of two parameter LEDs (each one in horizontal and vertical lines) indicates the parameter currently selected.

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

LEVEL METER

Each parameter is categorized as follows:

1. Parameters for individual banks (samples)

2. Parameters for all banks (samples)

3. Parameters for disk operations

* For detailed explanation of parameters for disk operations, see page 38.

◆ Basic Operations

1. Entry

When in Play mode, press the EDIT key; the EDIT LED and the two parameter LEDs will light, and the S01 will go into Edit mode. The bank LED that was last selected in Edit mode will light.

light

light

light →

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

LEVEL METER

O EDIT

O REC ● 1 O 2 O 3 O 4 O 5 O 6 O 7 O 8

### 2. Selecting A Bank/Playback of A Sample

When in Edit mode, it is possible at any time by pressing a bank key to select the bank and play back the sample contained in it (the bank LED will light). Thus, you can monitor samples while editing. Also, it is possible to play back samples from an external MIDI keyboard as in Play mode. When external MIDI data is received, the corresponding bank LED will blink and this can be used as a "MIDI monitor". If assigning the same program number to several banks, MIDI monitor will be very useful because you can easily find out the bank containing the sample played back, or the one assigned with the key range you played.

3. Selecting A Parameter

Using two cursor keys (right/down), select the desired parameter by lighting two parameter LEDs corresponding to the desired parameter. Each time the cursor right key is pressed, the LED light will move one step to the right. In the same way, pressing the cursor down key will move the LED light one step down. To move in the opposite direction, holding down either cursor key, press the other key, and the direction of the LED light will reverse. As in the diagram below the LED will return one step at a time.

* The PROG. NO./DATA display will show the current value of the selected parameter.
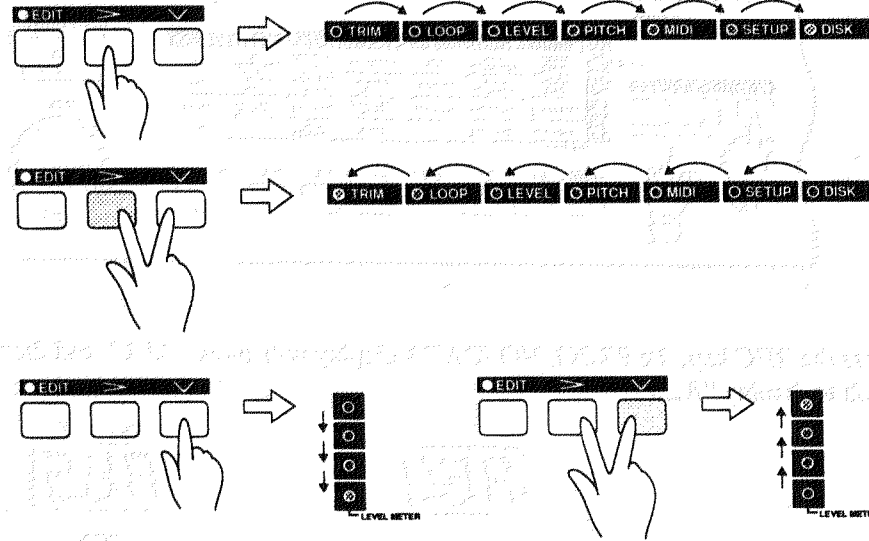
Example: Selecting "PROG. NO." in the MIDI index
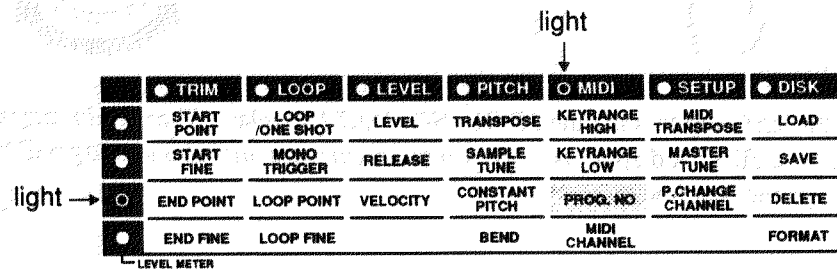
There is also one more method by which the parameters can be selected. As the cursor right key is held down, turn the data entry knob to move to the right or left. Then as the cursor down key is held down, turn the data entry knob to move up and down.

4. Setting the Parameter Values

Set the selected parameter's value using the data entry knob. The value will be shown in the PROG. NO./DATA display.

◆ Parameters

Here we suggest you use the "ALL5" file included in the operation guide disk (disk #01) and actually operate the S01 to fully understand how parameters function. First load the "ALL5" file into the sampler.

1. Turn the S01 on and insert the disk #01 into the disk drive.

2. Press the EDIT key and select the parameter, "LOAD" in the DISK index .
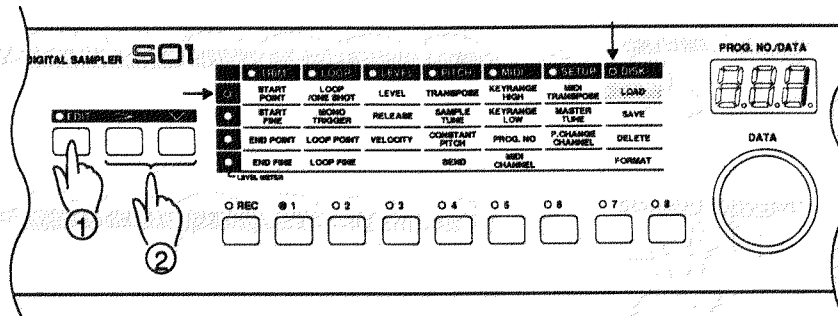
3. Press the REC key, the PROG. NO./DATA display will show "AL1", and then turn the data entry knob to display "AL5".
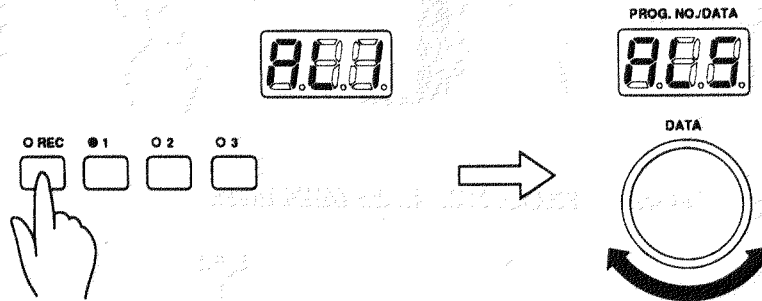
4. Press the REC key to blink the PROG. NO./DATA display. Then again, press the REC key. The PROG. NO./DATA display will show rapid movement and data loading will begin. Loading will be completed in a few seconds.
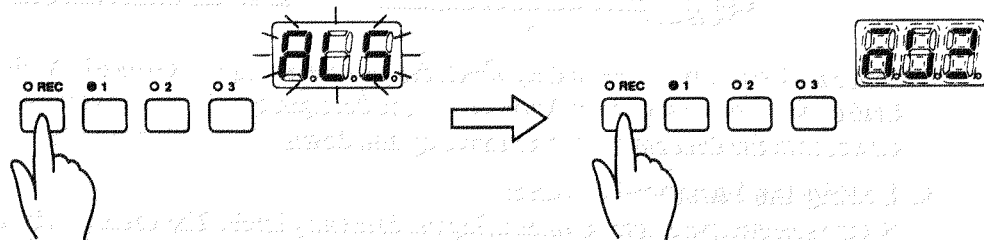
Later, several examples in the following pages are based on the "ALL5" file loaded.

Now let's take a look at the functions located on the left column of the panel list.

(TRIM)

TRIM parameters define a sample's beginning (START POINT) and ending (END POINT). As in the diagram below, the first part of the sample may contain unnecessary silence or noise that can be deleted by setting the start point, or you could set the end point to leave the natural decaying resonance at the end of the sample.
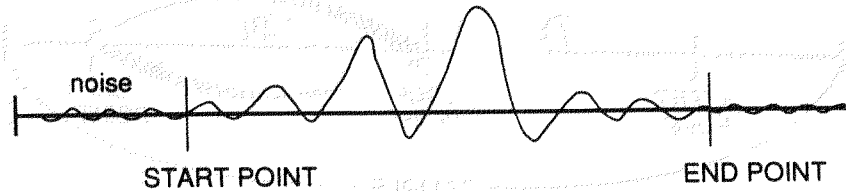
* Trimmed parts of the sample—between its original beginning point and the start point, and between the end point and the original end, can be returned to available memory for another sampling by discarding. See page 32.

* If effectively setting the start and end points, a reversed sample could be obtained. See page 32.

START POINT
Determines the position at which playback will begin. The initial value is "0" (equals the original beginning point).

START FINE
Precisely adjusts the START POINT.

END POINT
Determines the position at which playback will end. The initial value is a maximum (equals the original ending point), depending on the sample's length.

END FINE
Precisely adjusts the END POINT.

Value Range:
   START/END POINT: 0~499 (one unit=1,000)
   START/END FINE: 0~999 (equals the last three digits of the POINT.)

Available value for the start and end points will vary depending on the sample's legth. As in the diagram below, the largest sample could be trimmed within a range of 0~499,999. (FINE determines the last three digits.)
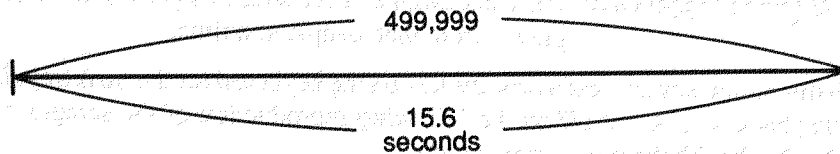
* In "Trial 1" on the following pageyou can find how to actually set these parameters.

(LOOP)

As in the diagram below, if the loop point is set, the sample will be played back first from the start point to the end point and then repeatedly played back from the loop point to the end point. This continuous circular sound is called a loop.
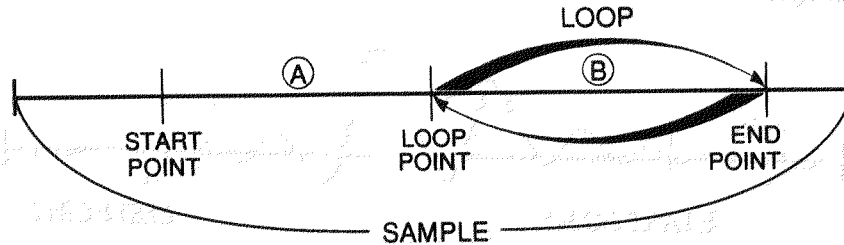
playback order:......... Ⓐ ⟶ Ⓑ ⟶ Ⓑ ⟶ Ⓑ

LOOP/ONE SHOT

Determines the playback method of the sample from the following three ways:

Value Range:

ON (loop ON): While pressing the key on the keyboard (or the bank key), the sample is looped between the current loop and end points.

OFF (loop OFF): While pressing the key on the keyboard (or the bank key), the sample is once played back from the current start point to end point.

O-S (one shot): Even pressing and quickly releasing the key on the keyboard (or the bank key), the sample is played back once from the current start point to end point.

* If the LOOP/ONE SHOT is set to ON and the loop point (on page 29) is set incorrectly, an appropriate loop cannot be obtained.

* When you wish to stop reproduction of samples set to "O-S" or samples with a long release (on page 33), press both cursor keys at the same time.

MONO TRIGGER

Determines the playback method by key triggering (key pressing). The S01 reproduces 8 polyphonic notes simultaneously. However, with this parameter ON, the sample will be effectively played back as using a monophonic sound module.
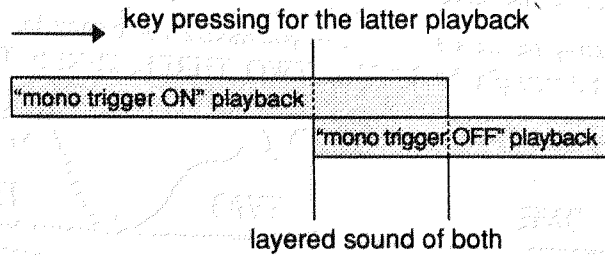
Value Range:

ON (mono trigger ON): If a bank sample is set with this parameter ON, a single note can be played from that sample at a time.
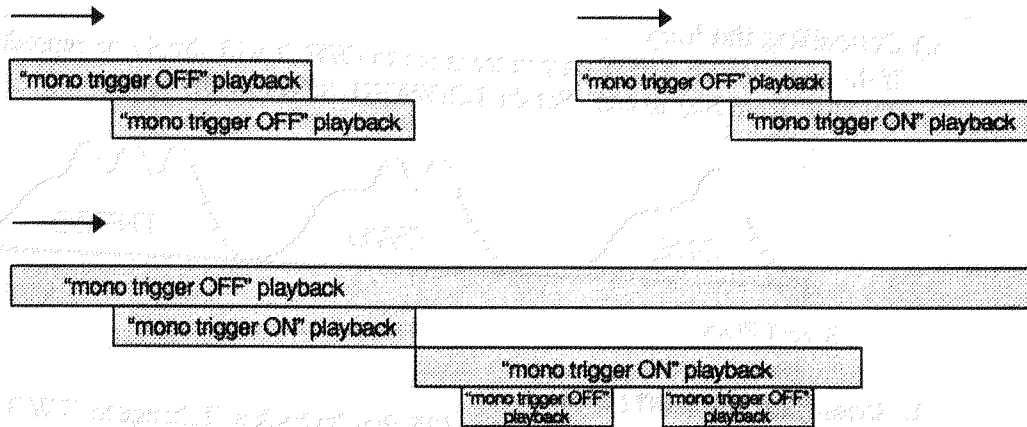
With this parameter ON, each time the key on the keyboard (or the bank key) is pressed (triggered), the playback will be cut off by the following reproduction of the sample, of which the same or another bank with the mono trigger ON.
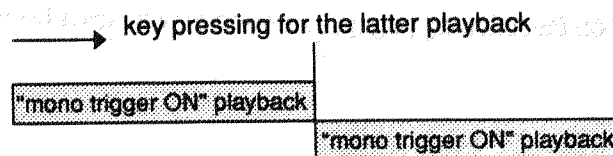
With this parameter set to ON, the playback of the sample will not be affected if another sample, which has been set to "MONO TRIGGER: OFF", is also played. That is, both sounds will be reproduced simultaneously, as illustrated below.

key pressing for the latter playback

"mono trigger ON" playback

"mono trigger OFF" playback

layered sound of both

OFF (mono trigger OFF): The playback of the sample with this parameter OFF, will be normally reproduced regardless of the following reproduction.

"mono trigger OFF" playback
"mono trigger OFF" playback

"mono trigger OFF" playback
"mono trigger ON" playback

"mono trigger OFF" playback
"mono trigger ON" playback
"mono trigger ON" playback
"mono trigger OFF" playback
"mono trigger OFF" playback

LOOP POINT

Determines the loop point where the playback jumps from the end point, with the LOOP parameter ON. The PROG. NO./DATA display shows the loop point as length from the end point. Notice that the end point value shown is always "0".

Value Range:
0~499 (depending on the sample's length, one unit=1,000)

LOOP FINE

Precisely adjusts of the LOOP POINT.

Value Range:
0~999 (the last three digits of the LOOP POINT)

* Even if the LOOP POINT/FINE parameters are appropriately set, a looped playback will not be obtained with the LOOP/ONE SHOT parameter OFF.

(Trial 1: Setting the START/END/LOOP POINT)

Now try actually setting the start point, end point, and loop point using the file "ALL5" that was previously loaded into the S01.

First start by pressing the bank 8 key. Here you have a voice sample. This program is presently set at LOOP ON so that if you playback "ONE, TWO, THREE, THREE, THREE..." will occur.
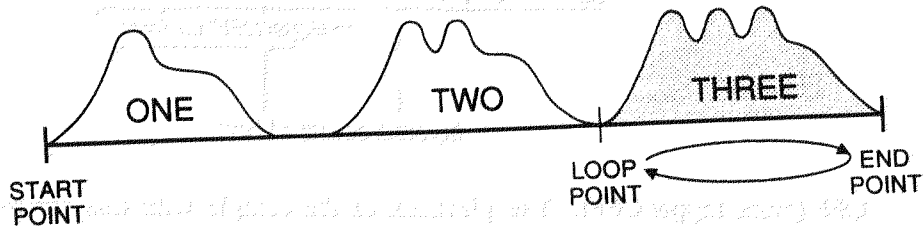
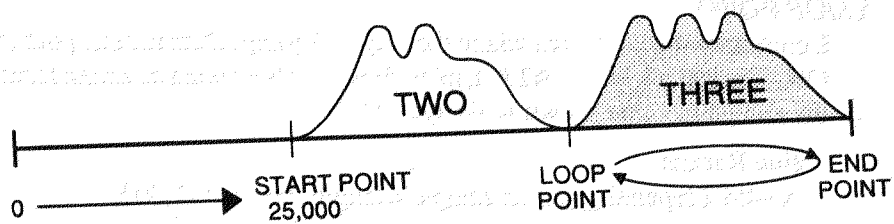For practice, using this sample, try changing some of the parameters.

a) Cancelling the loop

If the LOOP/ONE SHOT parameter is set to OFF, it will simply be reproduced "ONE, TWO, THREE" from start to end. Set the LOOP/ONE SHOT to ON again.
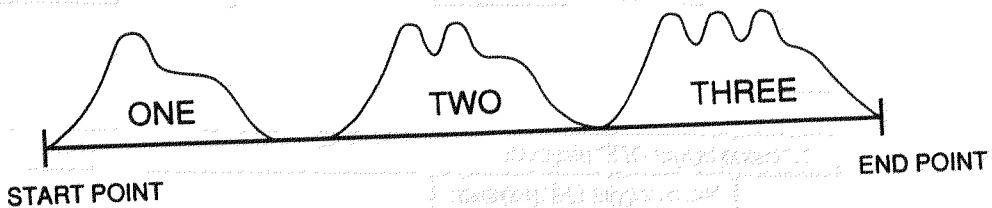
b) Changing the start point

If you set the START POINT to around 25, the playback will change to "TWO, THREE, THREE..." Set the START POINT to 0 again.

c) Changing the end point

If you set the END POINT to around 55, the playback will change to "ONE, TWO, TWO, TWO..." Notice the loop point automatically advances forward by changing the END POINT. Set the END POINT to 73 again.
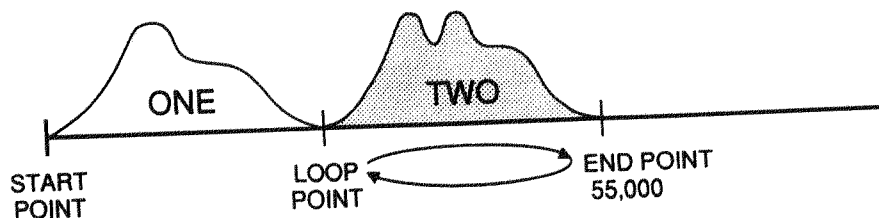
d) Changing the loop point

If you set the LOOP POINT to around 55, the playback will change to "ONE, TWO, THREE, TWO, THREE, TWO, THREE..." Set the START POINT to 0, and END POINT to 73.

* The loop point is relatively set by the length from the end point.


```
START              LOOP                           END
POINT              POINT                          POINT
                   *55,000
```
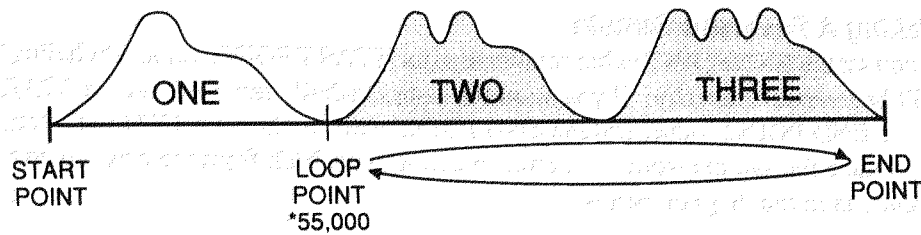
e) Setting the loop point before the start point

If you set the START POINT to around 25, then if you set the LOOP POINT set to around 73—this point is the beginning of the sample, the playback will change to "TWO, THREE, ONE, TWO, THREE, ONE..."


```
LOOP          START                          END
POINT         POINT                          POINT
73,000        25,000
```
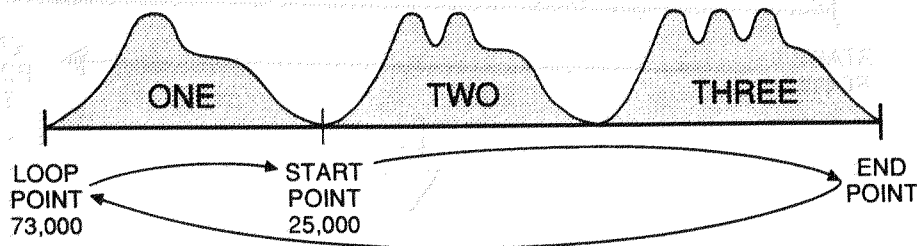
● A Tip for Setting the Point

If playing the MIDI keyboard in the lower range, the sample will be played back slowly far from the original pitch. It may be easier for you to search for a glitch free point for looping, starting, or ending, or editing out unnecessary parts to be discarded (on page 32).

● A Tip for Looping

To make a "well-programmed" loop, first set the LOOP/ONE SHOT to OFF to cancel the current looping, prior to set the END POINT. A good loop is usually made either in a part of the sound where it is in tune or, more importantly, where there are no big differences in level.


amplitude 0

LOOP POINT   END POINT
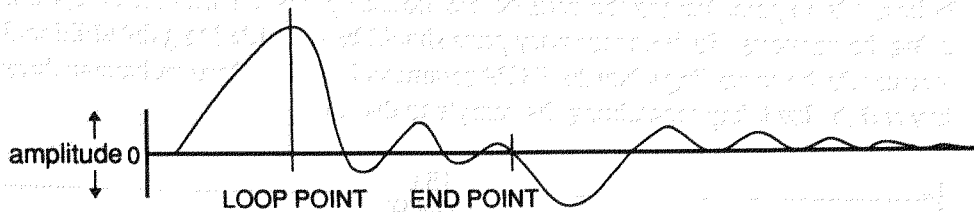
Setting a loop like this will not be successful—there will be "clicks" and "thumps" because of the abrupt level changes.

amplitude 0

LOOP POINT

END POINT

part held in tune or without amplitude

amplitude 0

LOOP POINT

END POINT

matching the length of the loop and that of one cycle
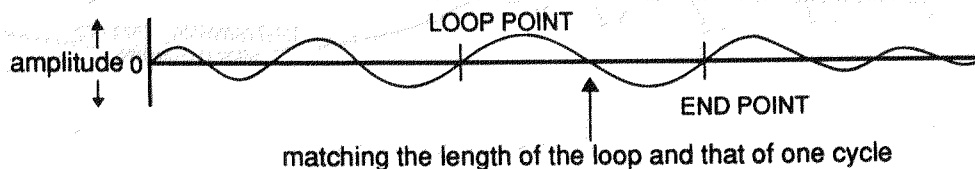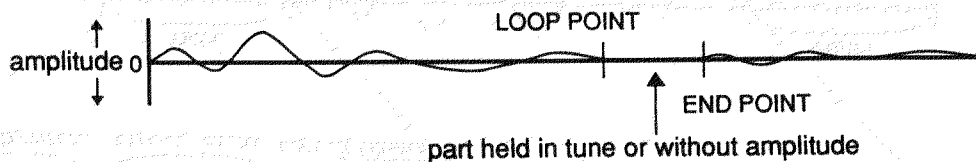
Next set the LOOP/ONE SHOT to ON, and hold the sample by holding the key on the MIDI keyboard or bank key. Make a coarse setting with the LOOP POINT and then determine the best loop point by adjusting the LOOP FINE parameter, until no "clicking" or "popping" sound is reproduced. "Well-programmed" looping may not easily be obtained depending on the type of sampled sound. Try various combinations of END POINT/FINE and LOOP POINT/FINE.
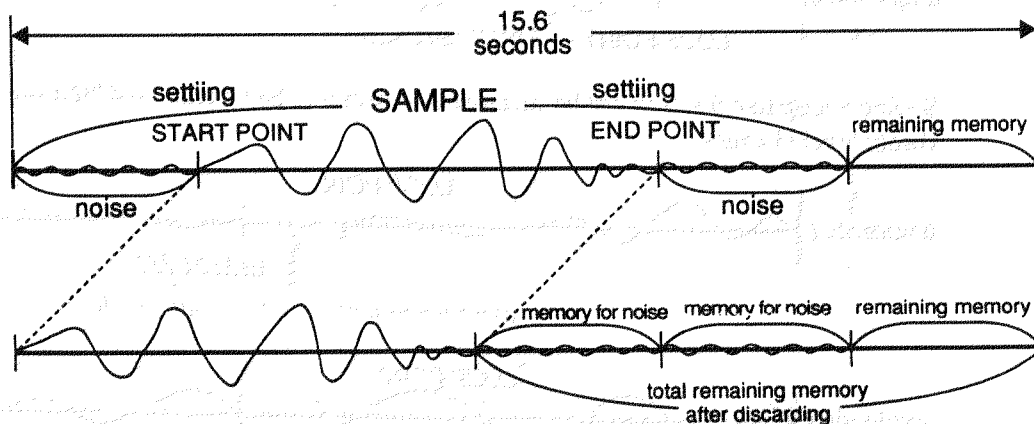
● Making A Reversed Sample

If you set the END POINT value smaller than the START POINT value (excluding "0"), the sample will be reversed partially. If you want the sample wholly reversed, set the START POINT value to the END POINT value, and the END POINT value to the START POINT value. The S01 will reproduce the sample from "0" point, so that it plays back from the original end point (new start point), as in the diagram below.

START
POINT
0

END
POINT
500

START
POINT
500

END
POINT
0
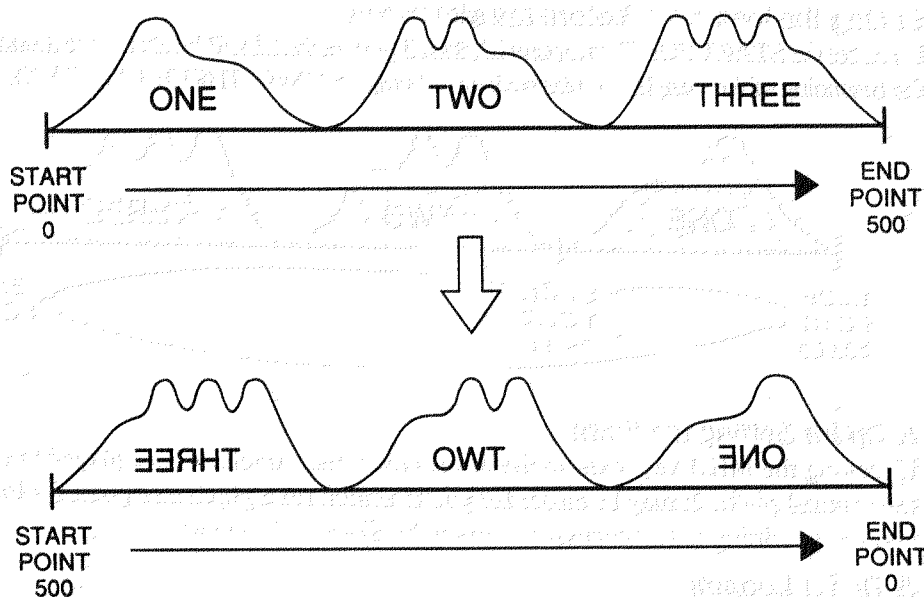
● Discarding Samples (Truncation)

In case a sample is occupied in the memory and the start and end points are set as in the diagram below, it is no point leaving the parts before the start point and after the end point, meaninglessly using the memory. Such unnecessary parts should be discarded to gain additional memory.

You can do the discarding when the TRIM parameter LED is lit, by simultaneously pressing the REC key and the bank key (containing the sample to discard).
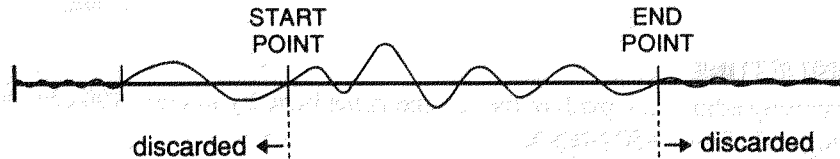
15.6
seconds

settiing   SAMPLE   settiing

START POINT   END POINT   remaining memory

noise   noise

memory for noise   memory for noise   remaining memory

total remaining memory
after discarding

with the LOOP/ONE SHOT parameter ON
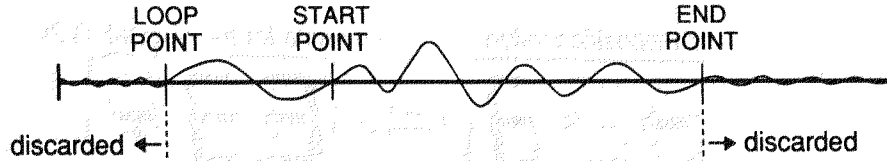
with the LOOP/ONE SHOT parameter OFF

● **Initializing Bank Parameters**

With a bank selected in Edit mode, if you press the REC key and the EDIT key simultaneously, it initializes the following bank parameters into default settings:

- LEVEL (LEVEL, RELEASE, VELOCITY)
- PITCH (TRANSPOSE, SAMPLE TUNE, CONSTANT PITCH, BEND)
- MIDI (KEYRANGE HIGH, KEYRANGE LOW, PROG. NO., MIDI CHANNEL)

(LEVEL)

LEVEL

Determines the volume of the sample (in the bank) within a range of 0~100. It is useful to balance each sample volume especially in dealing with a multi-timbral program.

RELEASE

Determines the release time of the sample (in the bank) within a range of 0~100. The larger value is assigned, the longer the sample's release after releasing the key on the MIDI keyboard or the bank key.

Particularly when the value is set to 100, the release time will be approximately 4 minutes and 30 seconds. Therefore this is very convenient because you can sustain notes without holding down keys or using a sustain pedal. If you would like to stop such sounds, press both cursor keys.

VELOCITY

Determines whether the sample (in the bank) receives MIDI velocity data (ON), or not (OFF). If set to ON the sample can be reproduced with dynamics in response to external MIDI velocity data.

(PITCH)

TRANSPOSE

Transposes the sample up or down in the bank, within the range of –50~0~+50 semitones. When setting transposition, if the REC key is pressed, the PROG. NO./DATA display will show the current key note that the original pitch is assigned to. The diagram below shows the example when the transposition value is set to "–3". In this case, the REC key is pressed, the PROG. NO./DATA display shows "E3–" meaning that the sample is reproduced in its original pitch when the E♭3 key is pressed.

transposition value   key note for the original pitch

♭ (flat)
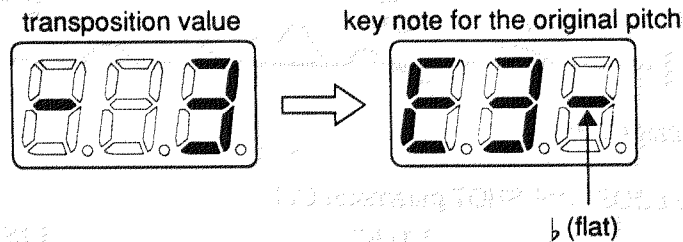
SAMPLE TUNE

Precisely adjusts the pitch of the sample in the bank by 2 cents (100 cents=1 semitone), within the range of –50~0~+50 (steps).

* If the SAMPLE TUNE value reaches 50 steps, the TRANSPOSE value will automatically increase or decrease 1 semitone.

  Also, the TRANSPOSE and TUNE are used for pitch adjustment when making multi-sampled programs (on page 49) or tempo adjustment among "phrase-sampled" rhythms that have individual tempos ("Trial 2" on page 36).

CONSTANT PITCH

Fixes the pitch of the sample (in the bank). With this parameter ON, the sample will be reproduced at a fixed pitch even when receiving various key notes from the keyboard. This parameter is convinient when the sample should be reproduced — at a fixed pitch: i.e. "phrase-sampled" program, percussive instruments, other sound effects, etc. (See "Trial 2" on page 36.)

You can change the sample's fixed pitch using the TRANSPOSE/SAMPLE TUNE parameters.

BEND

Determines the pitch bend range of the sample in the bank within the range of 0~24 (1 step=+/–1 semitone). With the value set to other than "0", the sample's pitch can be controlled by external MIDI pitch bend change.
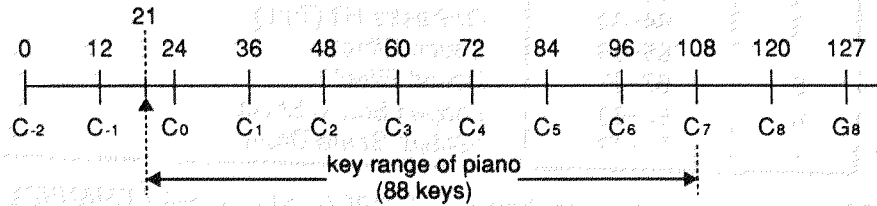
(MIDI)

KEYRANGE HIGH

Determines the upper note limit to which the sample in the bank can be played back, by MIDI note number 0~127.

KEYRANGE LOW

Determines the lower note limit to which the sample in the bank can be reproduced, by MIDI note number 0~127.

```
            21
      0  12  |  24   36   48   60   72   84   96  108  120  127
      |   |  |   |    |    |    |    |    |    |    |    |    |
      +---+--▲---+----+----+----+----+----+----+----+----+---+
      C-2  C-1 | C0   C1   C2   C3   C4   C5   C6   C7   C8   G8
              |            key range of piano
              ◄----------------(88 keys)-------------------►
```

For example, in case a sample in a bank is assigned with the KEYRANGE LOW at 60 and the KEYRANGE HIGH at 72, it will be reproduced only when the external MIDI keyboard is played within the range of C3 (60) to C4 (72).

If you wish the sample to be played only by a specific key, the LOW and HIGH key range value should be set the same. If you set several banks to the same key range and set the same MIDI channel as well as the same program number, you can layer samples on top of each other (but note that this will reduce polyphony).

● Key Range Setting Using A MIDI Keyboard

When the key range parameter is selected, if you hold down the desired bank key and press a key on the keyboard (sending a MIDI note number), you can set the range value using the keyboard. This may be more convenient than using the data entry knob.

PROG. NO.

Determines the program number for the the bank within the range of 1~128. Several banks can be assigned with the same number.

When in Play mode, if the banks receive a MIDI program change including the same program number, the samples in those banks will be selected to be played. Remember to set the P. CHANGE CHANNEL in the SETUP index for the S01 to receive the MIDI program change from the external MIDI master. (See page 37.)

MIDI CHANNEL

Determines the MIDI channel for the bank from ON (OMNI ON), 1~16. Several banks can be assigned the same channel.

* When a bank set to ON (OMNI ON), it receives note on/off (including note number and velocity) and pitch bend change on all channels.

* For how to actually use the parameters in the MIDI index, refer to examples concerning multi-timbral program (on page 49) and multi-sampled program (on page 48).

(Trial 2: Tempo and Pitch)

As stated previously in "Trial 1" we used the sample in bank 8 from "ALL5" file. The other banks 1~7 are set with the same program number to use them as a single program, and individual key ranges to play each sample with the corresponding key.

Bank	Key Range	Sample
1	60~60	One-bar phrase loop at the tempo of 120
2	62~62	One-bar phrase loop at the tempo of 130
3	64~64	Orchestra Hit (Tutti)
4	65~65	Sound Effect
5	67~67	Sound Effect
6	69~69	Looped Sound Effect
7	71~71	"Gated" Snare Drum

* Other parameter settings for banks 1~7: PROG. NO.; 1, MIDI CHANNEL; ON, CONSTANT PITCH; ON. Each bank will receive data on all MIDI channels 1~16 (OMNI ON) so that it is not required to set your MIDI keyboard's channel.

With the above settings, you can use them, for example, by freely playing samples of banks 3~7 during repeated play of a sample of the bank 1 or 2. First try playing back each individual sample.

a) Constant Pitch

In this program all the banks 1~7 have been set to the CONSTANT PITCH: ON. As explained before, when this parameter has been set to ON, the sample will be reproduced at a fixed pitch whatever MIDI note number the bank receives. If you wish the sample reproduced at the original pitch by triggering any key on the keyboard, you can do it by setting that parameter to ON and not setting the key range or transposition, etc.

Try cancelling the constant pitch of a sample in any bank of 1~7. If you play the same key, you can play the sample at different pitches.

One more thing to remember is that with the CONSTANT PITCH set to ON the original pitch can be changed with the TRANSPOSE and SAMPLE TUNE. This modified pitch is reproduced when the bank key is pressed.

b) A Phrase Loop with a Specific Tempo

The sample in bank 1 has made of one-bar rhythm pattern at the tempo of 120 (120 beats per minute) and looped with the LOOP/ONE SHOT ON.

In making this kind of loop, first you must make sure to adjust the length precisely. If this is not done, it is impossible to maintain a constant tempo. For those cases, this manual provides **"Tempo-to-Sample Point Conversion Table"** on page 54, 55.

When making a loop at a tempo of 120, first refer to the table and find the tempo of 120, then the corresponding sample point (=bar length): 64,000. This value is for the loop point. Also, a calculation by adding the start point value to the sample point value (64,000) should be set as the end point value. In other words, the sample from start to end will be exactly 64,000.

Through these operations, you can make a loop at the tempo of 120.

c) Matching Different Tempos of Samples

When playing together several samples with individually specific tempos, it is advisable to use **"Tempo-to-TRANSPOSE/SAMPLE TUNE Conversion Table"** provided on page 56, 57.

For example, the sample in bank 2 is made of one-bar rhythm pattern at a tempo of 130. If you wish it played at a tempo of 120, first refer to that table and find the tempo of 130 across the center. Then down the offset value listed in the left most column, find "–10" (because the required tempo 120 is calculated adding offset value to original tempo: (130–10=120) "–1/–39"). These two values should be respectively assigned to the TRANSPOSE and TUNE parameters. That is, the sample in bank 2 can be reproduced at the tempo of 120, if the TRANSPOSE is set to –1, and the TUNE set to –39.

* After the sample is set at another tempo in this way, of course since the pitch has been altered, there will be a small difference in the tuning from the original one.

(SETUP)

Parameters in the SETUP index are used for general settings for the S01. They are not for individual samples in banks, so it is unnecessary to swich banks when setting the following parameters.

MIDI TRANSPOSE

Shifts the entire pitch of the S01 in semitones regardless of the individual pitch and tuning settings of each bank.

Value Range:

–24~0~+24 (unit: semitone)

* If using the MIDI keyboard with some transpose function that transmits the "shifted" MIDI note number, you should not use that function and the MIDI TRANSPOSE on the S01 at the same time. Otherwise, you may be confused with unexpected reproduction when playing the keyboard.

MASTER TUNE

Precisely adjusts the entire pitch of the S01 in cents regardless of the pitch and tuning settings in individual banks.

Value Range:

–50~0~+50 steps (unit: 2 cents, 100 cents=1 semitone)

With these two parameters, the entire pitch of the S01 can match that of other external instruments.

* If the MASTER TUNE value reaches 50 steps, the MIDI TRANSPOSE value will automatically increase or decrease 1 semitone.

* The MIDI TRANSPOSE is also useful if you make a program that requires a full key range (88 keys or more) to be reproduced using a keyboard with a narrow key range (49 keys, 61 keys or less) because you can shift the key range up or down two octaves for editing the key range of samples. You do not need to have a full-scaled keyboard to make or play a full-scaled program.

To set the MIDI TRANSPOSE to +12 (1 octave up)
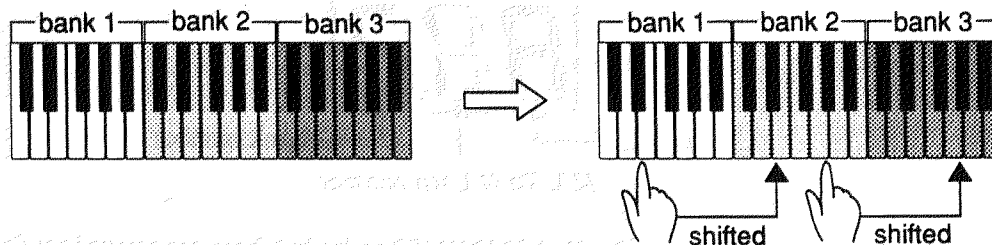
* When using the MASTER TUNE parameter, the tuning of the samples with CONSTANT PITCH set to ON will not be affected.

P. CHANGE CHANNEL

Determines the MIDI channel for reception of external MIDI program change, from ON, 1~16, or OFF.

ON: Receives the external MIDI program change on all channels 1~16.

1~16: Receives the external MIDI program change on selected channel.

OFF: Does not receive the external MIDI program change.

When selecting a program on the S01 from an external MIDI device, transmit the same program number as the desired program has been assigned with the PROG. NO., on the channel specified with this parameter.

Saving and Loading Data

◆ Loading from a Disk

The S01 offers two file types to handle data. First learn about these file types and their corresponding displays shown in the PROG. NO./DATA display.

● File Types

SAMPLE file

Comprised of one sample and its basic settings: start point, end point, and loop settings and displayed as "S 1", "S 2", "S 3", ...
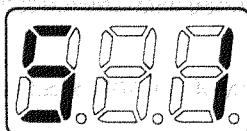
ALL file

Includes all samples and all parameter settings and diplayed as "AL1", "AL2", "AL3", ...
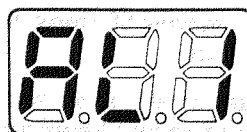
An ALL file allows you to load samples and bank settings individually as a SAMPLE file. If a sample is loaded from an ALL file, it is displayed as "A11", "A12", "A13" ...

ALL file ———— bank number
ALL file ALL file number

* The S01 can also load files for Akai S1000/1100 series but there are several cautions you should notice. For detailed information about this, see page 45.

● Loading procedure

1. Put the disk into the disk drive, press the EDIT key for Edit mode, and select "LOAD" in the DISK index. Then press the REC key. The first file on the disk will be displayed in the PROG. NO./DATA display.

TRIM	LOOP	LEVEL	PITCH	MIDI	SETUP	DISK
START POINT	LOOP /ONE SHOT	LEVEL	TRANSPOSE	KEYRANGE HIGH	MIDI TRANSPOSE	LOAD
START FINE	MONO TRIGGER	RELEASE	SAMPLE TUNE	KEYRANGE LOW	MASTER TUNE	SAVE
END POINT	LOOP POINT	VELOCITY	CONSTANT PITCH	PROG. NO	P.CHANGE CHANNEL	DELETE
END FINE	LOOP FINE		SEND	MIDI CHANNEL		FORMAT

LEVEL METER

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* If the display shows the following, it means an error. Put a correct disk in the disk drive and press the REC key once again.
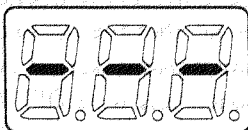
not a single file is present in the disk
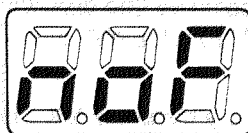
unformatted or incompatible disk

2. Turn the data entry knob to display the desired file.
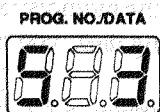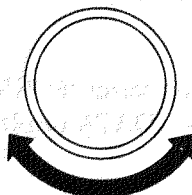
PROG. NO./DATA

DATA

3. When loading a SAMPLE file (diplayed "S**"), or a sample in a ALL file (displayed "A**"), press a bank key to specify the bank that the data will be loaded in.

○ REC   ○ 1   ○ 2   ● 3   ○ 4   ○ 5   ○ 6   ○ 7   ○ 8

* When loading an entire ALL file, you need not select a bank.

4. Press the REC key and the PROG. NO./DATA display will blink showing the file number. At this point make sure you have seleced the desired file.

○ REC   ○ 1   ○ 2   ● 3
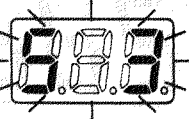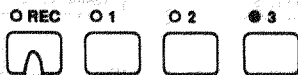
If you cancel loading the current file, press any key other than the REC key. The S01 will return to step 1 and you can reselect another file (on another disk if you change the disk).

5. If you press the REC key again, the PROG. NO./DATA display will show rapid movement, and file loading will begin.
   When that loading is completed, the S01 will return to step 2. If you are intending to load each sample, continue by selecting another file and bank, proceeding with the loading. If that is not the case, you may select another parameter for editing the samples using the two cursor keys. Otherwise, return to Play mode using the EDIT key.

   * The loading time required of course will vary depending on the size of the file.

   * While the disk is being accessed (the disk drive LED will be lit), do not turn off the power or attempt removing the disk from the disk drive. This will damage the disk as well as the disk drive.

   * If during loading the memory becomes full, the PROG. NO./DATA display will blink showing "FUL". If you press any key the blinking will stop.

◆ Disk Formatting and Saving Data

When the S01 is turned off, all data in the memory is lost. Therefore after sampling or editing, the data should be saved onto a disk. For saving data, you need a 3.5 inch floppy disk (2DD/2HD) formatted by the S01.
Take a new disk (or that used on a computer, etc.) and follow the instructions to format it. A disk only needs to be formatted when it is first used by the S01, thereafter the formatting process is unnecessary.

● Formatting Procedure

1. Put a new disk in the disk drive, select "FORMAT" in the DISK index in Edit mode, and press the REC key. The PROG. NO./DATA display will show the following.
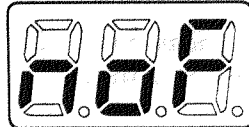
   new disk (for the S01)   formatted by the S1000/S1100, etc.
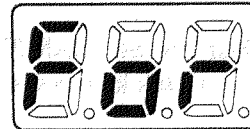
   * If the disk in the disk drive is write-protected, the PROG. NO./DATA display will show "Pro". To format the disk, eject it from the drive, cancel write-protection (See page 4.), and put it again into the drive.

   * If the disk is damaged and the PROG. NO./DATA display shows "--F", exchange the disk for a good one.

2. Press the REC key and the record density type will be displayed. Use the data entry knob to match the disk type that is set in the drive.
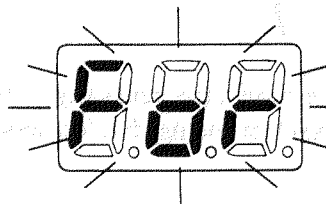
   2DD   2HD
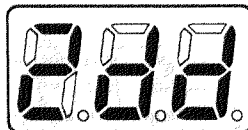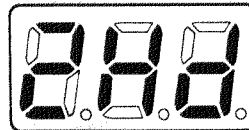
3. Press the REC key and the PROG. NO./DATA display will blink. To cancel formatting, consecutively press any key other than the REC key.

4. If you press the REC key again, the PROG. NO./DATA display will show rapid movement, and formatting will begin.
When formatting is completed, the S01 will return to step 1. You can continue formatting another disk.

* While the disk is being accessed (the disk drive LED will be lit), do not turn off the power or attempt removing the disk from the disk drive. This will damage the disk as well as the disk drive.

* If the disk is damaged and formatting is impossible, the PROG. NO./DATA display will show "--F". In this case, exchange the disk for a good one and retry formatting.

* If formatting is over and the PROG. NO./DATA display shows "bAd", the disk is partially damaged and likely to cause errors when used.

● **Saving Procedure**

1. Place the formatted disk in the drive, select "SAVE" in the DISK index in Edit mode, and press the REC key. The REC LED will start blinking.
The PROG. NO./DATA display will show the file type ("ALL" or "SA") as in the diagrams below. Select either using the data entry knob.
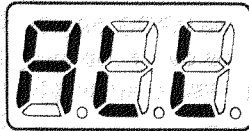
ALL: Saves data in the memory as an ALL file including all samples and all parameter settings.

SA: Saves data in the specified bank as a SAMPLE file including the sample and its basic parameter settings (all parameters in the TRIM and LOOP indexes).

* When saving data as a SAMPLE file, press a bank key to specify the bank that the data will be saved from. The specified bank LED will light.
When saving as an ALL file, all bank LEDs go out, of course no bank can be selected.

* When data is saved onto the disk, each file (ALL or SAMPLE) will be automatically separated by the file type and assigned a specific number in saved order to that disk. The number order will proceed from "1".

* One disk can contain a maximum of 64 files regardless of file types.

2. Press the REC key, and the PROG. NO./DATA display will show the saving method ("CLE" or "Go") as in the diagrams below. Select either using the data entry knob.
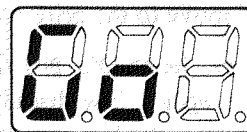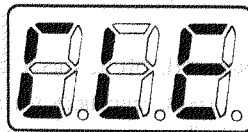
CLE: Saves the current file after erasing the existing files on the disk.

Go: Saves the current file to the remaining area on the disk. This method will not erase the existing files on the disk.

To cancel saving at this point, press the EDIT key or either of the two cursor keys.

3. Press the REC key once more to execute saving. The PROG. NO./DATA display will show rapid movement during saving.

As saving is completed, the saved file will be shown by a number in the PROG. NO./DATA display. The next time you load this data, you specify the data file with that number. For this reason we recommend you to take note of the data contents and the file number.

To continue from this point, press the REC key to save other data. If you want to stop saving here, select another parameter to continue editing using the cursor keys, or return to Play mode using the EDIT key.

* The saving time required will vary depending on the size of the file.

* While the disk is being accessed (the disk drive LED will be lit), do not turn off the power or attempt removing the disk from the disk drive. This will damage the disk as well as the disk drive.

* If the disk in the disk drive is write-protected, the PROG. NO./DATA display will show "Pro". Eject it from the drive, cancel write-protection (See page 4.), put it back into the drive, and then continue.

* If you save data in "Go" method and there is no memory available on the disk, the PROG. NO./ DATA display will blink showing "FUL". In this case, press any key other than the REC key to stop the blinking and retry with another disk.

* If during saving the disk memory is used up, the PROG. NO./DATA display will blink showing "con". This signals that the data saving can be continued using another disk. The following steps are explained in "Saving and Loading Data Spanning Several Disks" below.

* The memory capacity of a newly formatted 2DD disk is equivalent to a sample of approximate 12 seconds whereas that of a 2HD disk is equivalent to a sample of approximately 25 seconds.

◆ Deleting Files in the Disk

1. Insert the disk into the disk drive, select "DELETE" in the DISK index in Edit mode, and press the REC key. The PROG. NO./DATA display will show a file present in the disk.

* When no files are present on the disk, the display shows "---". If the disk is unformatted or incompatible with the S01, the display shows "noF".

2. Use the data entry knob to select the file to be deleted.

* A file can be selected and deleted by file type (ALL or SAMPLE). An individual sample in an ALL file cannot be selected and deleted.

3. Press the REC key, and the PROG. NO./DATA display will blink showing that file. At this time make sure the desired file has been selected.

To cancel the deleting at this point, press any key other than the REC key. When a bank key is pressed you will move to the prior step.

4. Press the REC key, the PROG. NO./DATA display will blink showing "del". To continue, press the REC key once again. The display will show rapid movement during deleting that file. When deleting is completed, the S01 will return to step 1. You can continue deleting another file.

* The deleting time required will vary depending on the size of the file.

* If the disk in the disk drive is write-protected, the PROG. NO./DATA display will show "Pro". Eject it from the drive, cancel write-protection (See page 4.), put it back into the drive, and then continue.

* While the disk is being accessed (the disk drive LED will be lit), do not turn off the power or attempt removing the disk from the disk drive. This will damage the disk as well as the disk drive.

◆ Saving and Loading Data Spanning Several Disks

● Saving Procedure

1. When saving a large amount of data on a disk, the PROG. NO./DATA display may blink showing "con" if the disk memory is used up.
   If you continue saving, proceed to the next step with another disk prepared. Prepare a disk that does not contain any data or contains unnecessary data.

   * If you press any key other than the REC key, "con" will stop blinking, and saving will be ended at this point. You cannot proceed to the next step.

2. Eject the disk and set another one in the drive. Press the REC key, and the PROG. NO./DATA display may blink showing "CLE".

   * As already mentioned, "CLE" means that all the existing data is erased when new data is saved. Therefore you should use a blank disk or one that contains unneeded data.

3. Press the REC key to continue saving the remaining data on the second disk.
   In case data spans more than three disks, the process should be repeated from step 1.

   * The second disk (and any subsequent ones) become "continuous data" disks for that large file and therefore even if they have a certain memory space, other data cannot be saved on them. If other data is saved on this disk, the continuous file will be broken and lost.

   * A continuous data file must be loaded in the same order as saved, so that you should write down the number on each disk that contains the data.

● Loading Procedure

1. To load a large file spanning several disks, start loading in the usual way with the first disk containing the file. When the first disk has loaded, the PROG. NO./DATA display will blink showing "con".

   * If you press any key other than the REC key, "con" will stop blinking, and loading will be ended at this point. You cannot proceed to the next step. In this case, start over from the beginning.

2. Eject the first disk and set the second in the drive. Press the REC key to continue loading.

   * In the case when a wrong second disk is mistakenly used, the first disk data will be connected to the wrong second data. Or if the inserted disk is not a continuous disk, the PROG. NO./DATA display will show "---" and that loading will be ended. In this case, do the loading again from the beginning with the correct disks.

● Additional Notes and Cautions

☞ When loading a **SAMPLE** file spanning several disks, you cannot load the data only in the second (or later) disk. However if you try to load from that disk, the PROG. NO./DATA display will show "con". This indicates that you are using a continuous disk of a SAMPLE file.

☞ If a "spanning" **ALL file** contains samples that do not span other disks and they are on a continuous disk, you can load them individually in the usual way. For example as in the diagram below, the samples A15, A16, A17, A18 on the DISK 2, can be loaded.

ALL1 file

DISK1   DISK2
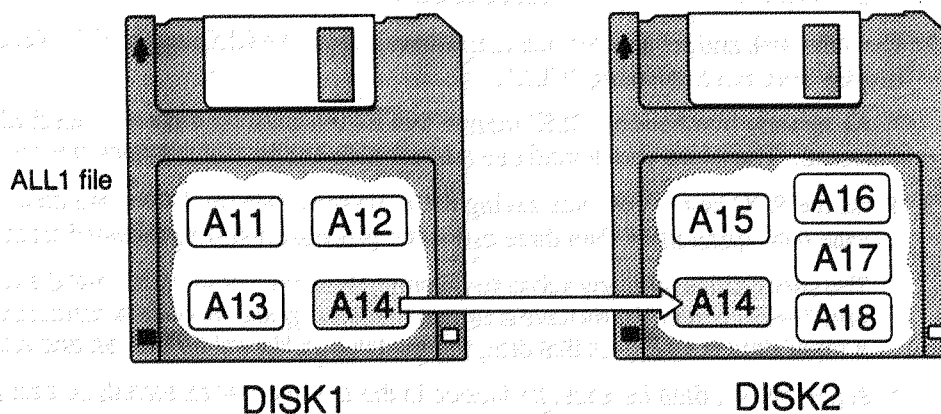
In this case, the PROG. NO./DATA display will show "con" when the desired sample is selected. Of course this indicates that you are using a continuous disk of a SAMPLE file.

* "No spanning" samples on a continuous disk will be loaded without any parameter settings, because they are contained on the first disk (DISK 1). Therefore after loading them, you have to reassign all parameters values needed, from scratch.

☞ When dealing with a "spanning" file (ALL/SAMPLE), if only the first disk is loaded and the continuous ones are not, a sample will be loaded incompletely. Therefore, when it is played back, there will be a noise at the end of reproduction.
This is because the S01 first loads parameter settings (start and end points, etc.) and applies those "full length" settings to the incomplete "short" sample. This problem can be solved by adjusting the end point.

Data Compatibility among the S01 and S1000/S1100

The S01 can load sampled data created for the S1000/S1100. The method for data loading is the same as mentioned previously.

When that sample is loaded, the right dot in the PROG. NO./DATA display will light indicating that you are loading a sample that is not created for the S01. Also, it is possible to load an S01 sample into the S1000/S1100.

However, there are some restrictions in compatibility as follows:

1. Although the S01 can load samples for the S1000/S1100 along with start, end, and loop point data, these samples may be reproduced ending with a noise. This is because an exclusive parameter "at: loop start point" for the S1000/S1100 is incompatible to the S01 and affects the actual end point in reproduction. In this case, after loading samples, edit appropriately and you should be able to solve that problem.

   * Oppositely, if a sample made in the S01 is loaded into an S1000/S1100, a similar problem will occur. You should re-edit it on the S1000/1100 because several S01 parameters are incompatible with the S1000/S1100.

2. Any S01's "spanning"data saved on several disks, cannot be loaded into the S1000/S1100. Even if you attempt to load it, it will result in errors.

3. The S01 has a fixed sampling rate (: FS, sampling frequency) of 32 kHz whereas the S1000/S1100 have several sampling rates and also have a re-sampling function that changes the sampling rate of a sample to another after sampling.

   If a sample that was created at a sampling rate other than 32 kHz is loaded into the S01 and played back, its pitch will be changed and will not correctly sound as wished. To solve this problem, you should edit the sample using the TRANSPOSE and SAMPLE TUNE parameters, referring to **"Sampling Frequency-to-TRANSPOSE/SAMPLE TUNE Conversion Table"** on page 53. For example, in case editing a sample created at a sampling rate of 44.1 kHz, first referring to the table find FS=44.1 (kHz), then its corresponding values: TRANSPOSE=6, SAMPLE TUNE=-45. If you set these parameters to those values, the sample will be played back at the correct pitch.

When Expanding the S01 Internal Memory

When the basic S01 is installed with an optional AKAI EXM01 memory expansion board, the total sampling time will expand to 31.25 seconds (15.625 seconds available with a basic system). This upgrade accordingly changes the value range to 0~999 for the parameters, START POINT, END POINT, and LOOP POINT. (Any point settings can be done within the range of 0~999,999.) Other parameters will not be changed.

For detailed information about the EXM01 memory expansion board, contact your nearest "AKAI professional" dealer.

Transmission and Reception of Bulk Data

The S01 can transmit or receive the internal data using MIDI system exclusive message (bulk data). Therefore if it is connected to another S01, that data can be easily transferred between two units. For example in live performance, if using two units of S01s as main one and sub, you can load programs into the first S01 in a usual way and send them from the first to the second S01 in the method explained below. If programs are spanning several disks, this tip will save you loading the same data into the second S01, exchanging disks.

Data transmission or reception is also available in MIDI sample dump standard format. In this case, the S01 will send or receive only sampled data without any parameter settings. This enables you to make samples on the S01, send them to other samplers compatible to MIDI sample dump standard format, and edit those sampled materials on the other samplers, or vice versa.

When you transfer bulk data, you should make a MIDI "hand shake" connection between the S01 and another MIDI device; i.e. as the S01's MIDI OUT is connected to the device's MIDI IN, and vice versa.

● Transmission

1. Select "PROG. NO." in the MIDI index in Edit mode. If sending a sample data, first press a bank key and select a bank that contains the data.
   While holding down the REC key, turn the data entry knob, and the S01 enters Bulk dump mode.

   * At this time, the PROG. NO./DATA display will show the MIDI channel used for transmission and reception of bulk data. If you use two or more units of the S01s in your MIDI system and you wish to specify the unit that the bulk data is sent to, use this channel as the device number. Otherwise, set it to "1" using the data entry knob.

2. Press the REC key, and the PROG. NO./DATA display will show "STA" or "S01". Select either using the data entry knob.

   STA: Sends the sampled data in the current bank in MIDI sample dump standard format.

   S01: Sends data in S01 exclusive format. When it is selected, press the REC key again to select the data type. The PROG. NO./DATA display will show the data type:

   S: Sends the SAMPLE file; sample and its start point, end point, and loop setting.

   A: Sends any parameter settings other than those included in SAMPLE files.

   (*) The attribute of each parameter is explained on page 51.

3. Press the REC key, and the PROG. NO./DATA display will show "Trn". To execute bulk dumping, press the REC key again. The PROG. NO./DATA display will blink showing "Trn" while bulk data is being sent. When the transmission is finished, the S01 will return to step 1. If you continue, repeat the same operation.

   * If any key other than the REC key is pressed in each step, the S01 will exit Bulk dump mode.

● Reception

To Receive MIDI Sample Dump Standard Format Data

Use the method for manual sampling. First press the REC key in Play mode, and set the trigger level to 100 (manual sampling) using the data entry knob. While holding down the REC key, press a bank key that the data is received in.

Start sending the data from the transmitter, the PROG. NO./DATA display on the S01 will show "rcv" while receiving it.

To Receive S01 Exclusive Format Data

Any special setting is not required. Unless the disk drive is accessing a disk or sampling is being done, the S01 will receive that data. Start sending the data from the transmitter, the PROG. NO./DATA display on the S01 will show "rcv" while receiving it.

* The S01 has a fixed sampling rate (: FS, sampling frequency) of 32 kHz. If a sample data that was created at a sampling rate other than 32 kHz is loaded into the S01, you should edit the sample using the TRANSPOSE and SAMPLE TUNE parameters, referring to "Sampling Frequency-to-TRANSPOSE/SAMPLE TUNE Conversion Table" on page 53. Also, see page 45 for detailed information about this.

● Dump Request

Whenever the S01 receives the dump request message from an external MIDI device, unless the disk drive is accessing a disk or sampling is being done, the S01 will start to send the bulk data according to the message. Additionally, while bulk data is being sent, the PROG. NO./DATA display will show "Trn".

Using the Operation Guide Disk

The operation guide disk provides 5 kinds of ALL files as you can choose a suitable one for what you wish to do. In other words, you need not always to make programs from scratch because those five ALL files are programmed as suited for several applications. If only you load one of them and put new samples into the banks, you can make your original program easily.

In the main explanation of this manual, we have already used ALL1 and ALL5 in trials. Here we will explain the contents of remaining files ALL2~ALL4 and what programs they can be applied to.

● ALL1 File

This contains 8 programs switched to each by the data entry knob or MIDI program change from an external MIDI device. Also each program (sample in a bank) can be played on the entire keyboard.

Bank	PROG. NO.	MIDI Channel	Key Range	Sample
1	1	OMNI ON	0~127	ONE
2	2	OMNI ON	0~127	TWO
3	3	OMNI ON	0~127	THREE
4	4	OMNI ON	0~127	FOUR
5	5	OMNI ON	0~127	FIVE
6	6	OMNI ON	0~127	SIX
7	7	OMNI ON	0~127	SEVEN
8	8	OMNI ON	0~127	EIGHT

● ALL 2 File

This contains a multi-sampled program comprised of 8 samples recorded at 8 different sampling points on the keyboard as shown below. If you make samples of an instrument recorded at those points, you can make a multi-sampled program easily. After all 8 samples are made, try playing them using the keyboard. If there are unnatural sounds, you can correct them by editing the KEYRANGE LOW/HIGH or TRANSPOSE parameter, or depending on the source sound, you may have a good result by changing the sampling points.

Bank	PROG. NO.	MIDI Channel	Key Range	Transpose	Sample	Sampling Points
1	1	OMNI ON	0~39	24	ONE	C1 (36)
2	1	OMNI ON	40~45	17	TWO	G1 (43)
3	1	OMNI ON	46~51	12	THREE	C2 (48)
4	1	OMNI ON	52~57	5	FOUR	G2 (55)
5	1	OMNI ON	58~63	0	FIVE	C3 (60)
6	1	OMNI ON	64~69	-7	SIX	G3 (67)
7	1	OMNI ON	70~75	-12	SEVEN	C4 (72)
8	1	OMNI ON	76~127	-19	EIGHT	G4 (79)

Example: 5-point multi-sampling within 2 octaves, using your voice

1. Connect a MIDI keyboard and microphone appropriately to the S01. Load "ALL2" file into the S01.

2. Sing for example "Ah—" into the microphone and record it in the pitch of C2 into bank 3. Next in the pitch of G2, into bank 4. In the same way, record C3 into bank 5, G3 into bank 6, and C4 into bank 7.

   * Human voice is easily affected with various conditions. Actually, it is one of most difficult sampled materials. To have a good result, be aware of the pitch as well as mouth opening, vibrato, etc. Every voice sample you make should have similar aspect in tone for consistency across the keyboard range.

3. Play with a new "voice tone" program using E1 (46)~E♭4 (75) keys on the keyboard.

    * This example uses 4 banks considering the average tone range of human voice. Next, try recording samples of a wider tone range, using 8 all banks. If you find the difference in the tone range between male and female voices, they are of course possible to be recorded.

    * With "ALL2" file, you can record and immediately play as above. If you create a multi-sampled program from scratch, it requires that various parameter settings—each bank should be assigned with, at least the same program number and MIDI channel, individual key ranges and transpositions.

Transposition for Multi-sample Programs

When a sample is made, its original pitch is automatically assigned to C3 (60). Therefore, for example if you have made a sample at a pitch of C2 and play it using C2 on the keyboard, it will be played at a pitch of C1 (without tranposition). In this case, if the transposition value should be set to +12 so that you can play the sample at C2 using C2 on the keyboard.

In the same way, it is necessary with multi-sampling for each sample to be assigned to the appropriate keyboard position using TRANSPOSE parameter to be played in its original pitch. The TRANSPOSE value can be determined by the difference between the original pitch and the pitch of C3.

● ALL3 File

This contains a multi-timbral program to be controlled by a sequencer, etc. A multi-timbral program is enabled by 8 separate MIDI channels and 8 different samples assigned to individual banks.

If you make a drum part assigning percussion samples to several banks, there may be cases where those banks' MIDI channels should be matched to receive a common drum-part sequence on a specific channel.

Bank	PROG. NO.	MIDI Channel	Key Range	Sample
1	1	1	0~127	ONE
2	1	2	0~127	TWO
3	1	3	0~127	THREE
4	1	4	0~127	FOUR
5	1	5	0~127	FIVE
6	1	6	0~127	SIX
7	1	7	0~127	SEVEN
8	1	8	0~127	EIGHT

Example: Using the S01 as a multi-timbral sound module

When making an ensemble on the S01 using sequence data as follows:

        MIDI channel: 1; piano

                         2; bass

                         3; flute

1. Load "ALL3" file into the S01.

2. Load (or actually record) a "piano" sample into bank 1, a "bass" sample into bank2, and a "flute" sample into bank 3.

3. Start sequencing from the sequencer, and each sample will begin playback receiving the sequence data on the same channel as assigned to its bank.

    * With "ALL3" file, you can immediately play back the sequence if appropriate tone samples have loaded. If you create a multi-timbral program, it is required that each bank should be assigned with, at least the same program number and a separate MIDI channel. When several banks needs to receive the same channel information, of course their MIDI channels should be matched.

● ALL4 File

This contains another type of multi-sampled program different from that in ALL2 file. It is because the pitch of each sample is fixed by the CONSTANT PITCH, and not programmed for playing melodies but for playing different kinds of "fixed-pitch" sounds such as drum kit, etc. If you "trigger" from the keyboard using only white keys within C3 (60)~C4 (72), the corresponding sample will be played out. If you are afraid of not hitting the appropriate key, each key range can be expanded wider. Also, if layering any key ranges, you can of course reproduce layered sounds from layered ranges.

Bank	PROG. NO.	MIDI Channel	Key Range	Constant Pitch	Sample
1	1	OMNI ON	60~60	ON	ONE
2	1	OMNI ON	62~62	ON	TWO
3	1	OMNI ON	64~64	ON	THREE
4	1	OMNI ON	65~65	ON	FOUR
5	1	OMNI ON	67~67	ON	FIVE
6	1	OMNI ON	69~69	ON	SIX
7	1	OMNI ON	71~71	ON	SEVEN
8	1	OMNI ON	72~72	ON	EIGHT

● ALL5 File

This contains two programs: One is a multi-sampled program comprised of banks 1~7 with each sample's pitch fixed, and similar to the one from ALL4 file. (See "Trial 2" on page 36.) With the other, the sample pitch will vary accordingly when played using an entire keyboard. (See "Trial 1" on page 30.)

Bank	PROG. NO.	MIDI Channel	Key Range	Constant Pitch	Sample
1	1	OMNI ON	60~60	ON	One-bar phrase loop at the tempo of 120
2	1	OMNI ON	62~62	ON	One-bar phrase loop at the tempo of 130
3	1	OMNI ON	64~64	ON	Orchestra Hit (Tutti)
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	Looped Sound Effect
7	1	OMNI ON	71~71	ON	"Gated" Snare Drum
8	2	OMNI ON	0~127	OFF	ONE, TWO, THREE

Default Program and Parameter Attributes for Bank 1

When the S01 is turned on, it will automatically load the default program unless any disk is set in the disk drive. The default program includes basic parameter settings for the S01.

Also, each parameter is categorized into three depending on the function: sample setting, bank setting, general setting. Therefore it will be saved or loaded along with associated ones.

Finally we add information concerning the default program and each parameter's attribute for reference.

Index	Parameter	Default Value	Attribute	File Attribute
TRIM	START POINT	0	Sample	ALL/SAMPLE
	START FINE	0	Sample	ALL/SAMPLE
	END POINT	0	Sample	ALL/SAMPLE
	END FINE	366	Sample	ALL/SAMPLE
LOOP	LOOP/ONE SHOT	ON	Sample	ALL/SAMPLE
	MONO TRIGGER	OFF	Bank	ALL
	LOOP POINT	0	Sample	ALL/SAMPLE
	LOOP FINE	366	Sample	ALL/SAMPLE
LEVEL	LEVEL	80	Bank	ALL
	RELEASE	45	Bank	ALL
	VELOCITY	ON	Bank	ALL
PITCH	TRANSPOSE	0	Bank	ALL
	SAMPLE TUNE	0	Bank	ALL
	CONSTANT PITCH	OFF	Bank	ALL
	BEND	2	Bank	ALL
MIDI	KEYRANGE HIGH	127	Bank	ALL
	KEYRANGE LOW	0	Bank	ALL
	PROG. NO.	1	Bank	ALL
	MIDI CHANNEL	ON	Bank	ALL
SETUP	MIDI TRANSPOSE	0	General	ALL
	MASTER TUNE	0	General	ALL
	P. CHANGE CHANNEL	ON	General	ALL
DISK	LOAD	—	—	—
	SAVE	—	—	—
	DELETE	—	—	—
	FORMAT	—	—	—

Attribute: What the parameter affects. "General" parameters are used for the S01 setting. If the default program is loaded, current "Sample" and "General" parameters are not affected whereas "Bank" parameters are overwritten and affected. When a SAMPLE file is loaded, current "Sample" parameters are overwritten and affected. When an ALL file is loaded, all parameters are overwritten and affected.

File Attribute: File format that contains a specific parameter. Parameters marked with "ALL/ SAMPLE" can be loaded as sample data along with a sample (SAMPLE file). Also, each sample data contained in an ALL file can be loaded in extraction as a SAMPLE file. In this case, however, there are some restrictions. See page 44 for detailed information.

Contents of Supplied Sound Library Disks

Supplied sound library disks (#2~#4) provides a variety of samples. Here they are introduced with several parameter settings. Please utilize these samples and make your original programs.

LIBRARY No Supplied Disk #02 TITLE **Sound Effects** ALL1

Bank No	Sample Name	Loop/ O-Shot	Level	Trans- pose	Sample Tune	Const. Pitch	Key Low	Range	High	Prog. No.	MIDI ch.
1	STAB	O-S	85	-4	0	ON	60	~	60	1	ON
2	SPACE 3	OFF	80	-4	0	ON	62	~	62	1	ON
3	SPACE 4	OFF	80	-4	0	ON	64	~	64	1	ON
4	LASER	OFF	90	-4	0	ON	65	~	65	1	ON
5	GUN PLANE	ON	80	4	0	ON	67	~	67	1	ON
6	SPACE GUN	OFF	60	-4	0	ON	69	~	69	1	ON
7	EXPLOSIONS-01	OFF	90	-6	0	ON	71	~	71	1	ON
8	EXPLOSIONS-02	OFF	90	-6	0	ON	72	~	72	1	ON

LIBRARY No Supplied Disk #02 TITLE **Sound Effects** ALL2

Bank No	Sample Name	Loop/ O-Shot	Level	Trans- pose	Sample Tune	Const. Pitch	Key Low	Range	High	Prog. No.	MIDI ch.
1	L-LAUGTHER	ON	80	-12	0	ON	60	~	60	1	ON
2	CLAPPING	ON	80	-6	49	ON	62	~	62	1	ON
3	STINGER	OFF	90	-4	0	ON	64	~	64	1	ON
4	TAXI HORN	OFF	70	-6	49	ON	65	~	65	1	ON
5	LAUGHTER	ON	85	-12	0	ON	67	~	67	1	ON
6	FART 1	OFF	70	-6	49	ON	69	~	69	1	ON
7	JAWS HARP	OFF	85	-6	49	ON	71	~	71	1	ON
8	FLEXITONE	OFF	90	-6	49	ON	72	~	72	1	ON

LIBRARY No Supplied Disk #03 TITLE **Acoustic/Electric Instruments** ALL1

Bank No	Sample Name	Loop/ O-Shot	Level	Trans- pose	Sample Tune	Const. Pitch	Key Low	Range	High	Prog. No.	MIDI ch.
1	CHIFF STR	ON	65	0	0	OFF	0	~	127	1	ON
2	AIRWAYS	ON	72	-12	5	OFF	0	~	127	2	ON
3	ELEGANT STR1	ON	85	-12	1	OFF	0	~	127	3	ON
4	BREATH VOX	ON	80	-12	-10	OFF	0	~	127	4	ON
5	HEAVEN VOX	ON	70	-7	9	OFF	0	~	127	5	ON
6	SOLINA	ON	60	-7	28	OFF	0	~	127	6	ON
7	POP CHORUS	ON	90	-19	9	OFF	0	~	127	7	ON
8	SYNTH VOX	ON	90	-7	-12	OFF	0	~	127	8	ON

LIBRARY No Supplied Disk #04 TITLE **Break Beats** ALL1

Bank No	Sample Name	Loop/ O-Shot	Level	Trans- pose	Sample Tune	Const. Pitch	Key Low	Range	High	Prog. No.	MIDI ch.
1	SWING	ON	85	2	27	ON	60	~	60	1	ON
2	MACHIN16BEAT	ON	60	0	0	ON	62	~	62	1	ON
3	808+HH	ON	85	-1	-46	ON	64	~	64	1	ON
4	SWING2	ON	90	0	0	ON	65	~	65	1	ON
5	RE-GE-E	ON	90	4	-10	ON	67	~	67	1	ON
6	CONGA	ON	70	0	0	ON	69	~	69	1	ON
7	SCRATCH	ON	50	1	-6	ON	71	~	71	1	ON
8	MI HIT	O-S	90	0	0	ON	72	~	72	1	ON

Sampling Frequency-to-TRANSPOSE/SAMPLE TUNE Conversion Table

FS	TRNS	TUNE	FS	TRNS	TUNE	FS	TRNS	TUNE	FS	TRNS	TUNE	FS	TRNS	TUNE	FS	TRNS	TUNE
48	7	2	42.6	5	-5	37.2	3	-39	31.8	0	-11	26.4	-3	-33	21	-7	-29
47.9	7	-2	42.5	5	-9	37.1	3	-44	31.7	0	-16	26.3	-3	-40	20.9	-7	-37
47.8	7	-5	42.4	5	-13	37	3	-49	31.6	0	-22	26.2	-3	-46	20.8	-7	-46
47.7	7	-9	42.3	5	-17	36.9	2	47	31.5	0	-27	26.1	-4	47	20.7	-8	46
47.6	7	-13	42.2	5	-21	36.8	2	42	31.4	0	-33	26	-4	41	20.6	-8	37
47.5	7	-16	42.1	5	-25	36.7	2	37	31.3	0	-38	25.9	-4	34	20.5	-8	29
47.4	7	-20	42	5	-29	36.6	2	33	31.2	0	-44	25.8	-4	27	20.4	-8	21
47.3	7	-23	41.9	5	-33	36.5	2	28	31.1	0	-49	25.7	-4	20	20.3	-8	12
47.2	7	-27	41.8	5	-37	36.4	2	23	31	-1	45	25.6	-4	14	20.2	-8	4
47.1	7	-31	41.7	5	-42	36.3	2	18	30.9	-1	39	25.5	-4	7	20.1	-8	-5
47	7	-34	41.6	5	-46	36.2	2	14	30.8	-1	34	25.4	-4	0	20	-8	-14
46.9	7	-38	41.5	5	-50	36.1	2	9	30.7	-1	28	25.3	-4	-7	19.9	-8	-22
46.8	7	-42	41.4	4	46	36	2	4	30.6	-1	23	25.2	-4	-14	19.8	-8	-31
46.7	7	-46	41.3	4	42	35.9	2	-1	30.5	-1	17	25.1	-4	-20	19.7	-8	-40
46.6	7	-49	41.2	4	37	35.8	2	-6	30.4	-1	11	25	-4	-27	19.6	-8	-49
46.5	6	47	41.1	4	33	35.7	2	-11	30.3	-1	5	24.9	-4	-34	19.5	-9	42
46.4	6	43	41	4	29	35.6	2	-15	30.2	-1	0	24.8	-4	-41	19.4	-9	34
46.3	6	40	40.9	4	25	35.5	2	-20	30.1	-1	-6	24.7	-4	-48	19.3	-9	25
46.2	6	36	40.8	4	21	35.4	2	-25	30	-1	-12	24.6	-5	45	19.2	-9	16
46.1	6	32	40.7	4	16	35.3	2	-30	29.9	-1	-18	24.5	-5	38	19.1	-9	7
46	6	28	40.6	4	12	35.2	2	-35	29.8	-1	-23	24.4	-5	31	19	-9	-2
45.9	6	25	40.5	4	8	35.1	2	-40	29.7	-1	-29	24.3	-5	23	18.9	-9	-12
45.8	6	21	40.4	4	4	35	2	-45	29.6	-1	-35	24.2	-5	16	18.8	-9	-21
45.7	6	17	40.3	4	-1	34.9	2	-50	29.5	-1	-41	24.1	-5	9	18.7	-9	-30
45.6	6	13	40.2	4	-5	34.8	1	45	29.4	-1	-47	24	-5	2	18.6	-9	-39
45.5	6	9	40.1	4	-9	34.7	1	40	29.3	-2	47	23.9	-5	-5	18.5	-9	-49
45.4	6	6	40	4	-14	34.6	1	35	29.2	-2	41	23.8	-5	-13	18.4	-10	42
45.3	6	2	39.9	4	-18	34.5	1	30	29.1	-2	36	23.7	-5	-20	18.3	-10	33
45.2	6	-2	39.8	4	-22	34.4	1	25	29	-2	30	23.6	-5	-27	18.2	-10	23
45.1	6	-6	39.7	4	-27	34.3	1	20	28.9	-2	24	23.5	-5	-34	18.1	-10	14
45	6	-10	39.6	4	-31	34.2	1	15	28.8	-2	18	23.4	-5	-42	18	-10	4
44.9	6	-14	39.5	4	-35	34.1	1	10	28.7	-2	12	23.3	-5	-49	17.9	-10	-6
44.8	6	-17	39.4	4	-40	34	1	5	28.6	-2	6	23.2	-6	43	17.8	-10	-15
44.7	6	-21	39.3	4	-44	33.9	1	0	28.5	-2	-1	23.1	-6	36	17.7	-10	-25
44.6	6	-25	39.2	4	-49	33.8	1	-5	28.4	-2	-7	23	-6	28	17.6	-10	-35
44.5	6	-29	39.1	3	47	33.7	1	-10	28.3	-2	-13	22.9	-6	21	17.5	-10	-45
44.4	6	-33	39	3	42	33.6	1	-16	28.2	-2	-19	22.8	-6	13	17.4	-11	45
44.3	6	-37	38.9	3	38	33.5	1	-21	28.1	-2	-25	22.7	-6	6	17.3	-11	35
44.2	6	-41	38.8	3	34	33.4	1	-26	28	-2	-31	22.6	-6	-2	17.2	-11	25
44.1	6	-45	38.7	3	29	33.3	1	-31	27.9	-2	-37	22.5	-6	-10	17.1	-11	15
44	6	-49	38.6	3	25	33.2	1	-36	27.8	-2	-44	22.4	-6	-17	17	-11	5
43.9	5	47	38.5	3	20	33.1	1	-41	27.7	-2	-50	22.3	-6	-25	16.9	-11	-5
43.8	5	43	38.4	3	16	33	1	-47	27.6	-3	44	22.2	-6	-33	16.8	-11	-16
43.7	5	39	38.3	3	11	32.9	0	48	27.5	-3	38	22.1	-6	-41	16.7	-11	-26
43.6	5	36	38.2	3	7	32.8	0	43	27.4	-3	31	22	-6	-49	16.6	-11	-36
43.5	5	32	38.1	3	2	32.7	0	37	27.3	-3	25	21.9	-7	43	16.5	-11	-47
43.4	5	28	38	3	-2	32.6	0	32	27.2	-3	19	21.8	-7	36	16.4	-12	43
43.3	5	24	37.9	3	-7	32.5	0	27	27.1	-3	12	21.7	-7	28	16.3	-12	32
43.2	5	20	37.8	3	-12	32.4	0	22	27	-3	6	21.6	-7	20	16.2	-12	22
43.1	5	16	37.7	3	-16	32.3	0	16	26.9	-3	-1	21.5	-7	12	16.1	-12	11
43	5	12	37.6	3	-21	32.2	0	11	26.8	-3	-7	21.4	-7	3	16	-12	0
42.9	5	7	37.5	3	-25	32.1	0	5	26.7	-3	-13	21.3	-7	-5	15.9	-12	-11
42.8	5	3	37.4	3	-30	32	0	0	26.6	-3	-20	21.2	-7	-13	15.8	-12	-22
42.7	5	-1	37.3	3	-35	31.9	0	-5	26.5	-3	-26	21.1	-7	-21	15.7	-12	-33

Tempo-to-Sample Point Conversion Table

TEMPO	sec	32000	TEMPO	sec	32000	TEMPO	sec	32000	TEMPO	sec	32000	TEMPO	sec	32000
80	3.000	96000	88	2.727	87273	96	2.500	80000	104	2.308	73846	112	2.143	68571
80.1	2.996	95880	88.1	2.724	87174	96.1	2.497	79917	104.1	2.305	73775	112.1	2.141	68510
80.2	2.993	95761	88.2	2.721	87075	96.2	2.495	79834	104.2	2.303	73704	112.2	2.139	68449
80.3	2.989	95641	88.3	2.718	86976	96.3	2.492	79751	104.3	2.301	73634	112.3	2.137	68388
80.4	2.985	95522	88.4	2.715	86878	96.4	2.490	79668	104.4	2.299	73563	112.4	2.135	68327
80.5	2.981	95404	88.5	2.712	86780	96.5	2.487	79585	104.5	2.297	73493	112.5	2.133	68267
80.6	2.978	95285	88.6	2.709	86682	96.6	2.484	79503	104.6	2.294	73423	112.6	2.131	68206
80.7	2.974	95167	88.7	2.706	66584	96.7	2.482	79421	104.7	2.292	73352	112.7	2.130	68146
80.8	2.970	95050	88.8	2.703	86486	96.8	2.479	79339	104.8	2.290	73282	112.8	2.128	68085
80.9	2.967	94932	88.9	2.700	86389	96.9	2.477	79257	104.9	2.288	73213	112.9	2.126	68025
81	2.963	94815	89	2.697	86292	97	2.474	79175	105	2.286	73143	113	2.124	67965
81.1	2.959	94698	89.1	2.694	86195	97.1	2.472	79094	105.1	2.284	73073	113.1	2.122	67905
81.2	2.956	94581	89.2	2.691	86099	97.2	2.469	79012	105.2	2.281	73004	113.2	2.120	67845
81.3	2.952	94465	89.3	2.688	86002	97.3	2.467	78931	105.3	2.279	72934	113.3	2.118	67785
81.4	2.948	94349	89.4	2.685	85906	97.4	2.464	78850	105.4	2.277	72865	113.4	2.116	67725
81.5	2.945	94233	89.5	2.682	85810	97.5	2.462	78769	105.5	2.275	72796	113.5	2.115	67665
81.6	2.941	94118	89.6	2.679	85714	97.6	2.459	78689	105.6	2.273	72727	113.6	2.113	67606
81.7	2.938	94002	89.7	2.676	85619	97.7	2.456	78608	105.7	2.271	72658	113.7	2.111	67546
81.8	2.934	93888	89.8	2.673	85523	97.8	2.454	78528	105.8	2.268	72590	113.8	2.109	67487
81.9	2.930	93773	89.9	2.670	85428	97.9	2.451	78447	105.9	2.266	72521	113.9	2.107	67428
82	2.927	93659	90	2.667	85333	98	2.449	78367	106	2.264	72453	114	2.105	67368
82.1	2.923	93544	90.1	2.664	85239	98.1	2.446	78287	106.1	2.262	72385	114.1	2.103	67309
82.2	2.920	93431	90.2	2.661	85144	98.2	2.444	78208	106.2	2.260	72316	114.2	2.102	67250
82.3	2.916	93317	90.3	2.658	85050	98.3	2.442	78128	106.3	2.258	72248	114.3	2.100	67192
82.4	2.913	93204	90.4	2.655	84956	98.4	2.439	78049	106.4	2.256	72180	114.4	2.098	67133
82.5	2.909	93091	90.5	2.652	84862	98.5	2.437	77970	106.5	2.254	72113	114.5	2.096	67074
82.6	2.906	92978	90.6	2.649	84768	98.6	2.434	77890	106.6	2.251	72045	114.6	2.094	67016
82.7	2.902	92866	90.7	2.646	84675	98.7	2.432	77812	106.7	2.249	71978	114.7	2.092	66957
82.8	2.899	92754	90.8	2.643	84581	98.8	2.429	77733	106.8	2.247	71910	114.8	2.091	66899
82.9	2.895	92642	90.9	2.640	84488	98.9	2.427	77654	106.9	2.245	71843	114.9	2.089	66841
83	2.892	92530	91	2.637	84396	99	2.424	77576	107	2.243	71776	115	2.087	66783
83.1	2.888	92419	91.1	2.634	84303	99.1	2.422	77497	107.1	2.241	71709	115.1	2.085	66725
83.2	2.885	92308	91.2	2.632	84211	99.2	2.419	77419	107.2	2.239	71642	115.2	2.083	66667
83.3	2.881	92197	91.3	2.629	84118	99.3	2.417	77341	107.3	2.237	71575	115.3	2.082	66609
83.4	2.878	92086	91.4	2.626	84026	99.4	2.414	77264	107.4	2.235	71508	115.4	2.080	66551
83.5	2.874	91976	91.5	2.623	83934	99.5	2.412	77186	107.5	2.233	71442	115.5	2.078	66494
83.6	2.871	91866	91.6	2.620	83843	99.6	2.410	77108	107.6	2.230	71375	115.6	2.076	66436
83.7	2.867	91756	91.7	2.617	83751	99.7	2.407	77031	107.7	2.228	71309	115.7	2.074	66379
83.8	2.864	91647	91.8	2.614	83660	99.8	2.405	76954	107.8	2.226	71243	115.8	2.073	66321
83.9	2.861	91538	91.9	2.612	83569	99.9	2.402	76877	107.9	2.224	71177	115.9	2.071	66264
84	2.857	91429	92	2.609	83478	100	2.400	76800	108	2.222	71111	116	2.069	66207
84.1	2.854	91320	92.1	2.606	83388	100.1	2.398	76723	108.1	2.220	71045	116.1	2.067	66150
84.2	2.850	91211	92.2	2.603	83297	100.2	2.395	76647	108.2	2.218	70980	116.2	2.065	66093
84.3	2.847	91103	92.3	2.600	83207	100.3	2.393	76570	108.3	2.216	70914	116.3	2.064	66036
84.4	2.844	90995	92.4	2.597	83117	100.4	2.390	76494	108.4	2.214	70849	116.4	2.062	65979
84.5	2.840	90888	92.5	2.595	83027	100.5	2.388	76418	108.5	2.212	70783	116.5	2.060	65923
84.6	2.837	90780	92.6	2.592	82937	100.6	2.386	76342	108.6	2.210	70718	116.6	2.058	65866
84.7	2.834	90673	92.7	2.589	82848	100.7	2.383	76266	108.7	2.208	70653	116.7	2.057	65810
84.8	2.830	90566	92.8	2.586	82759	100.8	2.381	76190	108.8	2.206	70588	116.8	2.055	65753
84.9	2.827	90459	92.9	2.583	82670	100.9	2.379	76115	108.9	2.204	70523	116.9	2.053	65697
85	2.824	90353	93	2.581	82581	101	2.376	76040	109	2.202	70459	117	2.051	65641
85.1	2.820	90247	93.1	2.578	82492	101.1	2.374	75964	109.1	2.200	70394	117.1	2.050	65585
85.2	2.817	90141	93.2	2.575	82403	101.2	2.372	75889	109.2	2.198	70330	117.2	2.048	65529
85.3	2.814	90035	93.3	2.572	82315	101.3	2.369	75814	109.3	2.196	70265	117.3	2.046	65473
85.4	2.810	89930	93.4	2.570	82227	101.4	2.367	75740	109.4	2.194	70201	117.4	2.044	65417
85.5	2.807	89825	93.5	2.567	82139	101.5	2.365	75665	109.5	2.192	70137	117.5	2.043	65362
85.6	2.804	89720	93.6	2.564	82051	101.6	2.362	75591	109.6	2.190	70073	117.6	2.041	65306
85.7	2.800	89615	93.7	2.561	81964	101.7	2.360	75516	109.7	2.188	70009	117.7	2.039	65251
85.8	2.797	89510	93.8	2.559	81876	101.8	2.358	75442	109.8	2.186	69945	117.8	2.037	65195
85.9	2.794	89406	93.9	2.556	81789	101.9	2.355	75368	109.9	2.184	69882	117.9	2.036	65140
86	2.791	89302	94	2.553	81702	102	2.353	75294	110	2.182	69818	118	2.034	65085
86.1	2.787	89199	94.1	2.550	81615	102.1	2.351	75220	110.1	2.180	69755	118.1	2.032	65030
86.2	2.784	89095	94.2	2.548	81529	102.2	2.346	75147	110.2	2.178	69691	118.2	2.030	64975
86.3	2.781	88992	94.3	2.545	81442	102.3	2.346	75073	110.3	2.176	69628	118.3	2.029	64920
86.4	2.778	88889	94.4	2.542	81356	102.4	2.344	75000	110.4	2.174	69565	118.4	2.027	64865
86.5	2.775	88786	94.5	2.540	81270	102.5	2.341	74927	110.5	2.172	69502	118.5	2.025	64810
86.6	2.771	88684	94.6	2.537	81184	102.6	2.339	74854	110.6	2.170	69439	118.6	2.024	64755
86.7	2.768	88581	94.7	2.534	81098	102.7	2.337	74781	110.7	2.168	69377	118.7	2.022	64701
86.8	2.765	88479	94.8	2.532	81013	102.8	2.335	74708	110.8	2.166	69314	118.8	2.020	64646
86.9	2.762	88377	94.9	2.529	80927	102.9	2.332	74636	110.9	2.164	69252	118.9	2.019	64592
87	2.759	88276	95	2.526	80842	103	2.330	74563	111	2.162	69189	119	2.017	64538
87.1	2.755	88175	95.1	2.524	80757	103.1	2.328	74491	111.1	2.160	69127	119.1	2.015	64484
87.2	2.752	88073	95.2	2.521	80672	103.2	2.326	74419	111.2	2.158	69065	119.2	2.013	64430
87.3	2.749	87973	95.3	2.518	80588	103.3	2.323	74347	111.3	2.156	69003	119.3	2.012	64376
87.4	2.746	87872	95.4	2.516	80503	103.4	2.321	74275	111.4	2.154	68941	119.4	2.010	64322
87.5	2.743	87771	95.5	2.513	80419	103.5	2.319	74203	111.5	2.152	68879	119.5	2.008	64268
87.6	2.740	87671	95.6	2.510	80335	103.6	2.317	74131	111.6	2.151	68817	119.6	2.007	64214
87.7	2.737	87571	95.7	2.508	80251	103.7	2.314	74060	111.7	2.149	68756	119.7	2.005	64160
87.8	2.733	87472	95.8	2.505	80167	103.8	2.312	73988	111.8	2.147	68694	119.8	2.003	64107
87.9	2.730	87372	95.9	2.503	80083	103.9	2.310	73917	111.9	2.145	68633	119.9	2.002	64053

Tempo-to-Sample Point Conversion Table (cont.)

TEMPO	sec	32000	TEMPO	sec	32000	TEMPO	sec	32000	TEMPO	sec	32000	TEMPO	sec	32000
120	2.000	64000	128	1.875	60000	136	1.765	56471	144	1.667	53333	152	1.579	50526
120.1	1.998	63947	128.1	1.874	59953	136.1	1.763	56429	144.1	1.666	53296	152.1	1.578	50493
120.2	1.997	63894	128.2	1.872	59906	136.2	1.762	56388	144.2	1.664	53259	152.2	1.577	50460
120.3	1.995	63840	128.3	1.871	59860	136.3	1.761	56346	144.3	1.663	53222	152.3	1.576	50427
120.4	1.993	63787	128.4	1.869	59813	136.4	1.760	56305	144.4	1.662	53186	152.4	1.575	50394
120.5	1.992	63734	128.5	1.868	59767	136.5	1.758	56264	144.5	1.661	53149	152.5	1.574	50361
120.6	1.990	63682	128.6	1.866	59720	136.6	1.757	56223	144.6	1.660	53112	152.6	1.573	50328
120.7	1.988	63629	128.7	1.865	59674	136.7	1.756	56181	144.7	1.659	53075	152.7	1.572	50295
120.8	1.987	63576	128.8	1.863	59627	136.8	1.754	56140	144.8	1.657	53039	152.8	1.571	50262
120.9	1.985	63524	128.9	1.862	59581	136.9	1.753	56099	144.9	1.656	53002	152.9	1.570	50229
121	1.983	63471	129	1.860	59535	137	1.752	56058	145	1.655	52966	153	1.569	50196
121.1	1.982	63419	129.1	1.859	59489	137.1	1.751	56018	145.1	1.654	52929	153.1	1.568	50163
121.2	1.980	63366	129.2	1.858	59443	137.2	1.749	55977	145.2	1.653	52893	153.2	1.567	50131
121.3	1.979	63314	129.3	1.856	59397	137.3	1.748	55936	145.3	1.652	52856	153.3	1.566	50098
121.4	1.977	63262	129.4	1.855	59351	137.4	1.747	55895	145.4	1.651	52820	153.4	1.565	50065
121.5	1.975	63210	129.5	1.853	59305	137.5	1.745	55855	145.5	1.649	52784	153.5	1.564	50033
121.6	1.974	63158	129.6	1.852	59259	137.6	1.744	55814	145.6	1.648	52747	153.6	1.563	50000
121.7	1.972	63106	129.7	1.850	59214	137.7	1.743	55773	145.7	1.647	52711	153.7	1.561	49967
121.8	1.970	63054	129.8	1.849	59168	137.8	1.742	55733	145.8	1.646	52675	153.8	1.560	49935
121.9	1.969	63002	129.9	1.848	59122	137.9	1.740	55693	145.9	1.645	52639	153.9	1.559	49903
122	1.967	62951	130	1.846	59077	138	1.739	55652	146	1.644	52603	154	1.558	49870
122.1	1.966	62899	130.1	1.845	59032	138.1	1.738	55612	146.1	1.643	52567	154.1	1.557	49838
122.2	1.964	62848	130.2	1.843	58986	138.2	1.737	55572	146.2	1.642	52531	154.2	1.556	49805
122.3	1.962	62796	130.3	1.842	58941	138.3	1.735	55531	146.3	1.640	52495	154.3	1.555	49773
122.4	1.961	62745	130.4	1.840	58896	138.4	1.734	55491	146.4	1.639	52459	154.4	1.554	49741
122.5	1.959	62694	130.5	1.839	58851	138.5	1.733	55451	146.5	1.638	52423	154.5	1.553	49709
122.6	1.958	62643	130.6	1.838	58806	138.6	1.732	55411	146.6	1.637	52387	154.6	1.552	49677
122.7	1.956	62592	130.7	1.836	58761	138.7	1.730	55371	146.7	1.636	52352	154.7	1.551	49644
122.8	1.954	62541	130.8	1.835	58716	138.8	1.729	55331	146.8	1.635	52316	154.8	1.550	49612
122.9	1.953	62490	130.9	1.833	58671	138.9	1.728	55292	146.9	1.634	52280	154.9	1.549	49580
123	1.951	62439	131	1.832	58626	139	1.727	55252	147	1.633	52245	155	1.548	49548
123.1	1.950	62388	131.1	1.831	58581	139.1	1.725	55212	147.1	1.632	52209	155.1	1.547	49516
123.2	1.948	62338	131.2	1.829	58537	139.2	1.724	55172	147.2	1.630	52174	155.2	1.546	49485
123.3	1.946	62287	131.3	1.828	58492	139.3	1.723	55133	147.3	1.629	52138	155.3	1.545	49453
123.4	1.945	62237	131.4	1.826	58447	139.4	1.722	55093	147.4	1.628	52103	155.4	1.544	49421
123.5	1.943	62186	131.5	1.825	58403	139.5	1.720	55054	147.5	1.627	52068	155.5	1.543	49389
123.6	1.942	62136	131.6	1.824	58359	139.6	1.719	55014	147.6	1.626	52033	155.6	1.542	49357
123.7	1.940	62086	131.7	1.822	58314	139.7	1.718	54975	147.7	1.625	51997	155.7	1.541	49326
123.8	1.939	62036	131.8	1.821	58270	139.8	1.717	54936	147.8	1.624	51962	155.8	1.540	49294
123.9	1.937	61985	131.9	1.820	58226	139.9	1.716	54896	147.9	1.623	51927	155.9	1.539	49262
124	1.935	61935	132	1.818	58182	140	1.714	54857	148	1.622	51892	156	1.538	49231
124.1	1.934	61886	132.1	1.817	58138	140.1	1.713	54818	148.1	1.621	51857	156.1	1.537	49199
124.2	1.932	61836	132.2	1.815	58094	140.2	1.712	54779	148.2	1.619	51822	156.2	1.536	49168
124.3	1.931	61786	132.3	1.814	58050	140.3	1.711	54740	148.3	1.618	51787	156.3	1.536	49136
124.4	1.929	61736	132.4	1.813	58006	140.4	1.709	54701	148.4	1.617	51752	156.4	1.535	49105
124.5	1.928	61687	132.5	1.811	57962	140.5	1.708	54662	148.5	1.616	51717	156.5	1.534	49073
124.6	1.926	61637	132.6	1.810	57919	140.6	1.707	54623	148.6	1.615	51682	156.6	1.533	49042
124.7	1.925	61588	132.7	1.809	57875	140.7	1.706	54584	148.7	1.614	51648	156.7	1.532	49011
124.8	1.923	61538	132.8	1.807	57831	140.8	1.705	54545	148.8	1.613	51613	156.8	1.531	48980
124.9	1.922	61489	132.9	1.806	57788	140.9	1.703	54507	148.9	1.612	51578	156.9	1.530	48948
125	1.920	61440	133	1.805	57744	141	1.702	54468	149	1.611	51544	157	1.529	48917
125.1	1.918	61391	133.1	1.803	57701	141.1	1.701	54429	149.1	1.610	51509	157.1	1.528	48886
125.2	1.917	61342	133.2	1.802	57658	141.2	1.700	54391	149.2	1.609	51475	157.2	1.527	48855
125.3	1.915	61293	133.3	1.800	57614	141.3	1.699	54352	149.3	1.608	51440	157.3	1.526	48824
125.4	1.914	61244	133.4	1.799	57571	141.4	1.697	54314	149.4	1.606	51406	157.4	1.525	48793
125.5	1.912	61195	133.5	1.798	57528	141.5	1.696	54276	149.5	1.605	51371	157.5	1.524	48762
125.6	1.911	61146	133.6	1.796	57485	141.6	1.695	54237	149.6	1.604	51337	157.6	1.523	48731
125.7	1.909	61098	133.7	1.795	57442	141.7	1.694	54199	149.7	1.603	51303	157.7	1.522	48700
125.8	1.908	61049	133.8	1.794	57399	141.8	1.693	54161	149.8	1.602	51268	157.8	1.521	48669
125.9	1.906	61001	133.9	1.792	57356	141.9	1.691	54123	149.9	1.601	51234	157.9	1.520	48638
126	1.905	60952	134	1.791	57313	142	1.690	54085	150	1.600	51200	158	1.519	48608
126.1	1.903	60904	134.1	1.790	57271	142.1	1.689	54046	150.1	1.599	51166	158.1	1.518	48577
126.2	1.902	60856	134.2	1.788	57228	142.2	1.688	54008	150.2	1.598	51132	158.2	1.517	48546
126.3	1.900	60808	134.3	1.787	57185	142.3	1.687	53970	150.3	1.597	51098	158.3	1.516	48515
126.4	1.899	60759	134.4	1.786	57143	142.4	1.685	53933	150.4	1.596	51064	158.4	1.515	48485
126.5	1.897	60711	134.5	1.784	57100	142.5	1.684	53895	150.5	1.595	51030	158.5	1.514	48454
126.6	1.896	60664	134.6	1.783	57058	142.6	1.683	53857	150.6	1.594	50996	158.6	1.513	48424
126.7	1.894	60616	134.7	1.782	57016	142.7	1.682	53819	150.7	1.593	50962	158.7	1.512	48393
126.8	1.893	60568	134.8	1.780	56973	142.8	1.681	53782	150.8	1.592	50928	158.8	1.511	48363
126.9	1.891	60520	134.9	1.779	56931	142.9	1.679	53744	150.9	1.590	50895	158.9	1.510	48332
127	1.890	60472	135	1.778	56889	143	1.678	53706	151	1.589	50861	159	1.509	48302
127.1	1.888	60425	135.1	1.776	56847	143.1	1.677	53669	151.1	1.588	50827	159.1	1.508	48272
127.2	1.887	60377	135.2	1.775	56805	143.2	1.676	53631	151.2	1.587	50794	159.2	1.508	48241
127.3	1.885	60330	135.3	1.774	56763	143.3	1.675	53594	151.3	1.586	50760	159.3	1.507	48211
127.4	1.884	60283	135.4	1.773	56721	143.4	1.674	53556	151.4	1.585	50727	159.4	1.506	48181
127.5	1.882	60235	135.5	1.771	56679	143.5	1.672	53519	151.5	1.584	50693	159.5	1.505	48150
127.6	1.881	60188	135.6	1.770	56637	143.6	1.671	53482	151.6	1.583	50660	159.6	1.504	48120
127.7	1.879	60141	135.7	1.769	56595	143.7	1.670	53445	151.7	1.582	50626	159.7	1.503	48090
127.8	1.878	60094	135.8	1.767	56554	143.8	1.669	53408	151.8	1.581	50593	159.8	1.502	48060
127.9	1.876	60047	135.9	1.766	56512	143.9	1.668	53370	151.9	1.580	50560	159.9	1.501	48030

Tempo-to-TRANSPOSE/SAMPLE TUNE Conversion Table

Tempo-to-TRANSPOSE/SAMPLE TUNE Conversion Table (cont.)

Specifications

Model Name:	MIDI Digital Sampler S01
Sampling Format:	16-bit linear encoding
Total Sampling Time:	15.625 seconds
	(31.25 seconds with an EXM01 memory expansion board)
Polyphony:	8 voices
Filter:	8-time over-sampling filter
Internal Memory:	1 megabyte
Data Storage Media:	3.5 inch micro floppy disks (2DD/2HD)

Parameters:

TRIM (START POINT, START FINE, END POINT, END FINE)
LOOP (LOOP/ONE SHOT, MONO TRIGGER, LOOP POINT, LOOP FINE)
LEVEL (LEVEL, RELEASE, VELOCITY)
PITCH (TRANSPOSE, SAMPLE TUNE, CONSTANT PITCH, BEND)
MIDI (KEYRANGE HIGH, KEYRANGE LOW, PROG. NO., MIDI CHANNEL)
SETUP (MIDI TRANSPOSE, MASTER TUNE, P. CHANGE CHANNEL)
DISK (LOAD, SAVE, DELETE, FORMAT)

Controls:

Data Entry knob
REC key
Bank keys 1~8
Cursor Right key
Cursor Down key
REC LEVEL
REC GAIN (HIGH: –52 dBm, LOW: –12 dBm selectable)
Main Volume
MIDI Input Select switch (1, 2)

Connectors:

Audio Input	1/4 inch phone jack	1
Audio Outputs	1/4 inch phone jack	2
Headphone Output	1/4 inch stereo phone jack	1
Foot Switch Input	1/4 inch phone jack	1
MIDI IN	DIN 5P	2
MIDI OUT	DIN 5P	1
MIDI THRU	DIN 5P	1

Power Requirement:

120V AC 15W @60Hz for U. S. A. and Canada
220~230V AC @50Hz for Europe (excluding U. K.)
240V AC @50Hz for U. K. and Australia

Dimensions: 483 x 88.1 x 431 (WxHxD, unit: mm), EIA 2U rack-mountable

Weight: 6.7 kg

Supplied Accessories:
AC power cable 1
Operation Guide Disk 1
Sound Library Disks 3
Operator's Manual 1

Optional Accessories:
EXM01 memory expansion board (1 megabyte)
Sound Library Disks

* Above specifications are subject to change without prior notice.

S01 MIDI IMPLEMENTATION CHART

Date : SEP. 1992

Function	....	Transmitted	Recognized	Remarks
Basic	Default	X	O 1	Without disk
Channel	Changed	X	O 1 - 16	Memorized (disk)
	Default	X	Mode 1	Without disk
			Mode 1 - 4	Memorized (disk)
Mode	Messages		OMNI ON/OFF, P/M	
	Altered	************	X	
Note		X	0 - 127	
Number :	True Voice	************	0 - 127	
Velocity	Note on	X	O 9n V=1 - 127	
	Note off	X	X 8n V=1 - 127	
After-	Key's	X	X	
touch	Ch's	X	X	
Pitchbend		X	O	0 - 24 semitone steps (Full resolution)
Control	1	X	X	Modulation wheel
Change	7	X	O	Volume
	64	X	O	Sustain pedal
	67	X	X	Soft pedal
Program Change		X	1 - 128	
	True No.	************		by Preset number
				Value
System Exclusive		O	O	AKAI ID : 47H
				S01 ID: 57H (*1)
System :	Song position	X	X	
Common :	Song select	X	X	
	Tune	X	X	
System :	Clock	X	X	
Real time :	Commands	X	X	
Aux :	Local ON/OFF	X	X	
Messages :	All Notes OFF	X	O (123)	
:	Active Sense	X	X	
:	Reset	X	X	

Mode 1 : OMNI ON, POLY   Mode 2 : OMNI ON, MONO   O : Yes
Mode 3 : OMNI OFF, POLY   Mode 4 : OMNI OFF, MONO   X : No

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

S01 SOUND LIBRARY Data Sheet

Please make a copy and write down the notes on your sound libraries.

LIBRARY No _____ TITLE _____

Bank No	Sample Name	Loop/ O-Shot	Level	Trans- pose	Sample Tune	Const. Pitch	Key Range Low ~ High	Prog. No.	MIDI ch.
1							~		
2							~		
3							~		
4							~		
5							~		
6							~		
7							~		
8							~		

LIBRARY No _____ TITLE _____

Bank No	Sample Name	Loop/ O-Shot	Level	Trans- pose	Sample Tune	Const. Pitch	Key Range Low ~ High	Prog. No.	MIDI ch.
1							~		
2							~		
3							~		
4							~		
5							~		
6							~		
7							~		
8							~		

LIBRARY No _____ TITLE _____

Bank No	Sample Name	Loop/ O-Shot	Level	Trans- pose	Sample Tune	Const. Pitch	Key Range Low ~ High	Prog. No.	MIDI ch.
1							~		
2							~		
3							~		
4							~		
5							~		
6							~		
7							~		
8							~		

LIBRARY No _____ TITLE _____

Bank No	Sample Name	Loop/ O-Shot	Level	Trans- pose	Sample Tune	Const. Pitch	Key Range Low ~ High	Prog. No.	MIDI ch.
1							~		
2							~		
3							~		
4							~		
5							~		
6							~		
7							~		
8							~		