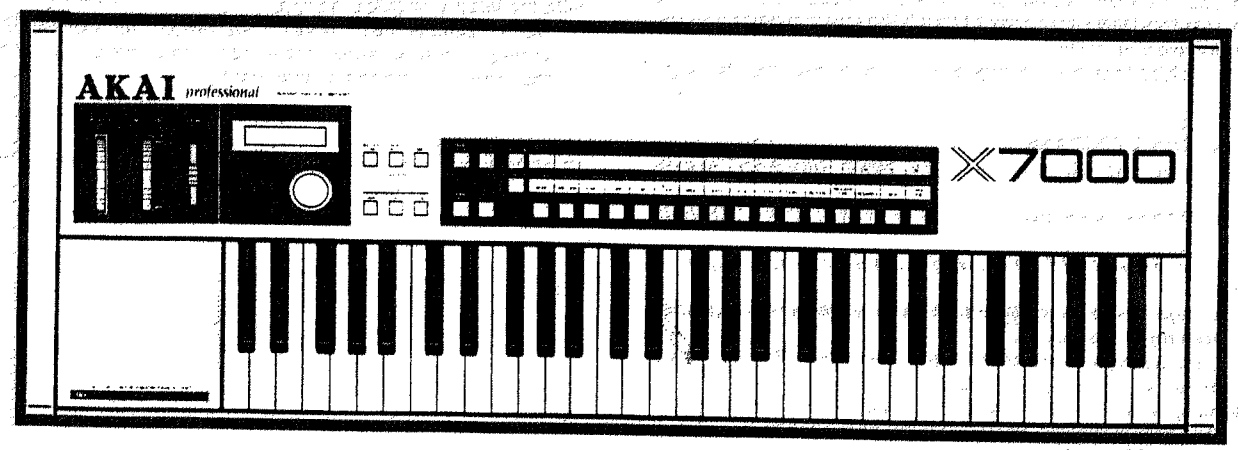
AKAI professional

X7000

SAMPLING KEYBOARD



WARNING

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

Operator's Manual

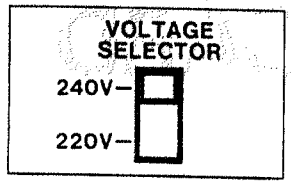
Warning

Power requirements

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

If the VOLTAGE SELECTOR is not set for your area:

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



What you should know to protect yourself and the Akai X7000.

Watch out! You might get an electric shock.
- Never touch the plug with wet hands.
- Always pull out by the plug and never the cord.
- Only let a qualified professional repair or reassemble the Akai X7000. An unauthorized person might touch the internal parts and receive a serious electric shock.
- Never allow a child to put anything, especially metal, into the Akai X7000.

Let's protect the Akai X7000 too.
- Use only a household AC power source. Never use a DC power source.
- If water is spilled on the Akai X7000, disconnect it and call your dealer.
- Make sure that the Akai X7000 is well ventilated and away from direct sunlight.
- To avoid damage to the internal circuits and the external surface, keep away from heat (stoves, etc.).
- Avoid using spray type insecticide near the Akai X7000. It can damage the finish and might ignite suddenly.
- To avoid damaging the finish, never use denaturated alcohol, paint thinner or other similar chemicals to clean the Akai X7000.
- Place the Akai X7000 on a flat and solid surface.

To enjoy the Akai X7000 for long time, please read this operator's manual thoroughly.
Should a problem persist, write down the model and serial numbers and all pertinent data regarding warranty coverage as well as a clear description of the existing trouble. Then, contact your nearest authorized Akai Service Station, or the Service Department of Akai Electric Company, Tokyo, Japan.

Precautions

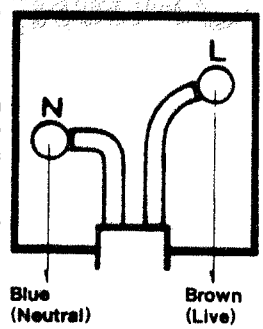
FOR CUSTOMERS IN THE UK

IMPORTANT FOR YOUR SAFETY

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

TWO CORE FLEX IMPORTANT

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



- **Do not connect any wire to the larger pin marked E or ⏚ when wiring a plug. Ensure that all terminals are securely tightened and that no loose strands of wire exist.**

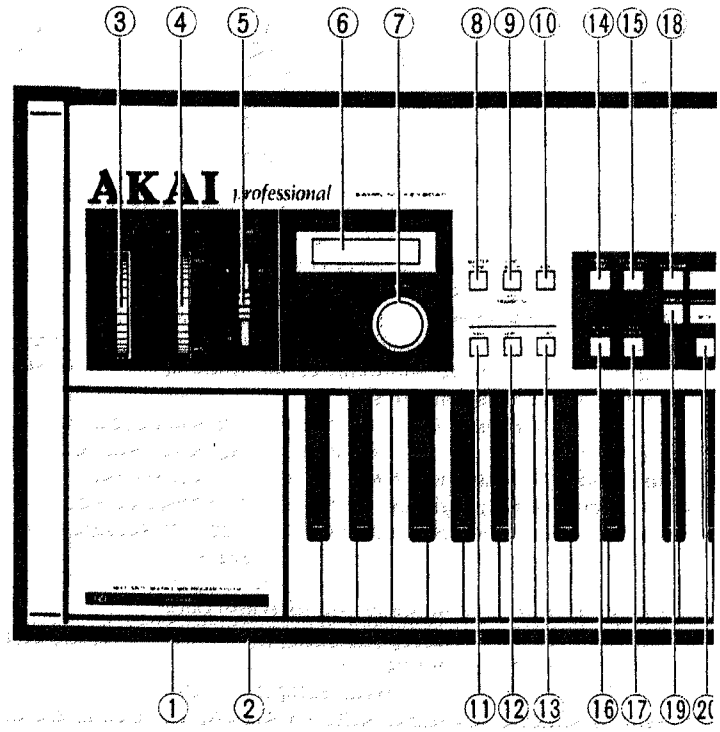
Features

- High quality sound using 12-bit digital sampling technology.
- Built-in front loading disk drive for 2.8-inch disks, permitting speedy data file saving and loading so you can create your own sound source library.
- Random key splitting and assigning of a maximum of 6 sounds (expandable to 16 sounds using the ASK 70 optional board). A maximum of 32 playing programs can be stored in the memory, providing limitless multi-sampling power.
- Maximum sampling time of 8 seconds for each sound.
- Easy operation and verification using a 16-character LCD display system.
- Equipped with advanced scanning modes including looping, alternating, and reversing, making it possible to produce natural sound almost identical to the original and to sustain short sampled sounds smoothly.
- Auto-loop/automatic splicing system automatically selects the best splicing point for looping. The splicing point can also be selected by the operator in the manual splice mode.
- Sampled sound playback start and end points can be set at random so unnecessary portions can be cut. Reverse playback of the sampled sound is also possible.
- Transposing in halftone steps and tuning of ±100 cents make it possible to tune any sound to any pitch.
- Function for overdubbing the sampled sound makes it possible to mix multiple sounds.
- LFO for applying vibrato to the sampled sound.
- Programmable low-pass filter for making the sound milder. Furthermore, the low-pass filter effect can be varied according to the velocity, so natural dynamics can be achieved.
- Audio trigger input. Playback of the sampled sound can be started using such audio signals as pulse sounds or percussion sounds.

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3
Controls



① **Disk Drive**
This disk drive is exclusively for use with 2.8-inch sampler disks.
NOTE: Insert the sampler disk straight into the drive, pushing gently until it stops. Inserting at a slant or handling roughly will reduce the life of the disk.

② **Disk Eject Button**
Press this button to eject the sampler disk.
NOTE: When the disk appears, pull it straight out gently.

③ **Pitch Bend Wheel**

④ **Modulation Wheel**
Use this wheel to vary the vibrato produced by the LFO.

⑤ **Volume Control**
Use this slide control to adjust the output level. The volume of the headphones is also adjusted with this control.

⑥ **Liquid Crystal Display (LCD)**
This is a 16-character LCD which displays various the messages and parameters. It is equipped with a back light, so the display is visible even on dark stages.

⑦ **Control Knob**
Use this knob to increase or decrease the parameter values and to switch the modes on and off. Use it in conjunction with the various mode buttons.

⑧ **Master Tune Button**
Press this button to tune the pitch of the X7000 with other instruments. Tuning by ±100 cents is possible using the control knob.

⑨ **Bend Width/Key Transpose Button**
Press this button to set the variable range for the pitch bend wheel. Setting of a maximum of ±1 octave is possible using the control knob. This mode switch can also be used for the key transpose setting. Use this when you wish to transpose the key for the entire keyboard.

⑩ **MIDI Button**
Press this button to set the MIDI channel or switch the MIDI mode.

⑪ **Save Button**
Press this button to save the X7000 sampled sound data (including edited data and program data) onto the 2.8-inch sampler disk.

⑫ **Verify Button**
Press this button to verify whether the sound data has beer properly saved on the sampler disk.

⑬ **Load Button**
Press this button to load sound data from the sampler disk into the X7000.

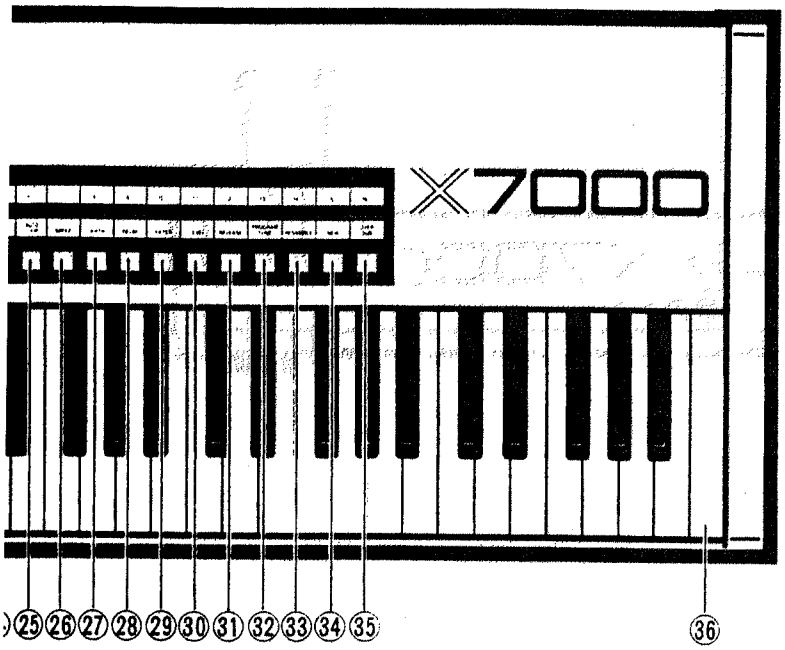
⑭ **Transpose Button**
Press this button to transpose the pitch of the sampled sound

⑮ **Constant Pitch Button**
Press this button to fix the pitch of the sampled sound. This function is useful to keep the pitch from changing due to percussion sound, effected sound, etc.

⑯ **Audio Trigger Button**
Use this button to set the pitch and indicate that you wish t playback the sampled sound by triggering it with externa audio signals, for example from a mike or line. This functior can also be used for triggered playback using a foot switch.

⑰ **Key Range Button**
Use this button to set the key range for the sampled sound With the X7000, a maximum of 6 sounds can be assigned to different key ranges. Also, if the ASK70 expansion memor board is used, it is possible to assign up to 16 sounds to 1 key ranges.

⑱ **Program Button**
Press this button to store combinations of key range assign ments, to switch the program data mode upon loading, and t set or recall program numbers.



⑲ **Sample Number Button**
Press this button to set and recall the sampled sound numbers.

⑳ **Scanning/Mode Button**
The sampled sound can be played back with one of four types of scanning: one shot, looping, alternating, or drum trigger. Select the type of scanning by pressing this button then using the control knob.

㉑ **Scanning/Direction Button**
Sampled sound is usually played back in the forward direction, but of this button is pressed and the control knob is rotated, it can also be played back in the reverse direction.

㉒ **Splice/Start Point Button**
Press this button to set the start point for playback of the sampled sound.

㉓ **Splice/Looping Point Button**
The function in which the sampled sound is played back repeatedly is called "looping". Press this button to set the looping point of the sampled sound.

㉔ **Splice/End Point Button**
Press this button to set the end point for playback of the sampled sound.

㉕ **Splice/Auto Loop Button**
In a looping function, the Automatic splicing system is automatically called out and the optimum splicing point is found by equipped computer.

㉖ **LFO/Speed Button**
Vibrato can be applied to the sampled sound using an LFO (low-frequency oscillator). Press this button to set the LFO speed.

㉗ **LFO/Depth Button**
Press this button to set the depth of the vibrato effect.

㉘ **LFO/Delay Button**
Press this button to adjust the timing at which the vibrato effect starts.

㉙ **OUT/Filter Button**
Press this button to adjust the filter when you wish to make the sampled sound milder or change the tone depending on the key velocity.

㉚ **OUT/Level Button**
Press this button to set the sampled sound level or the amount of change in the dynamics depending on the key velocity.

㉛ **OUT/Release Button**
Press this button to adjust release time.

㉜ **Program Tune Button**
Press this button to adjust the pitch of the sampled sound. Tuning is possible by ±100 cents (in halfnote steps) using the rotary knob.

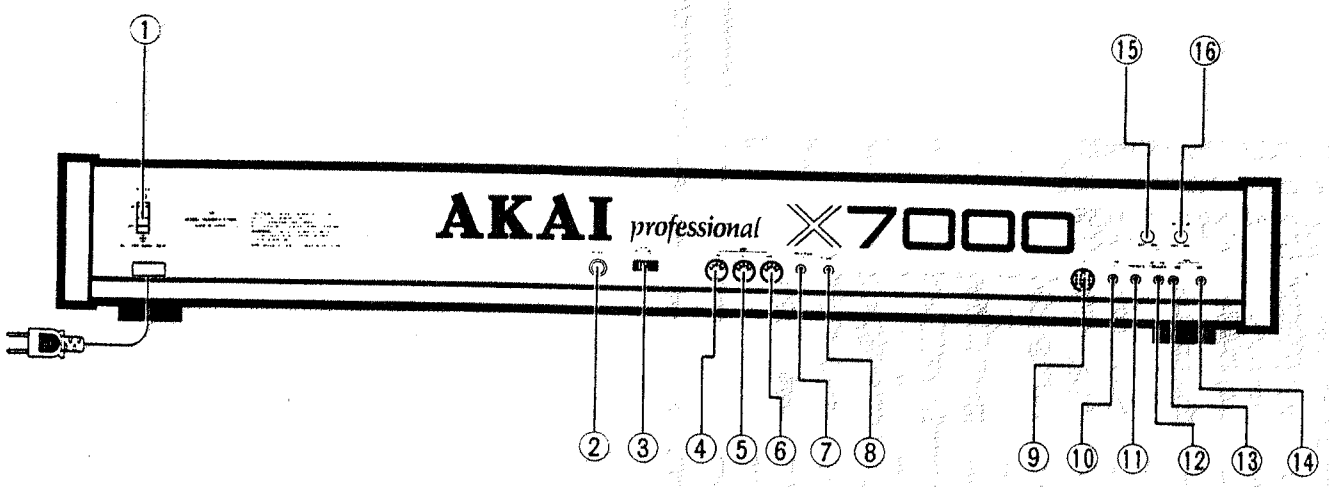
㉝ **Resample Button**
Press this button to compress the sampled sound data by 1/2. (see Page 26)

㉞ **NEW Button**
Press this button to perform a new sampling. When this button is pressed and sampling is performed, the previously sampled sound is erased.

㉟ **Over Dubbing Button**
Press this button to over dub sampled sounds and create sound data which is the combination of various sounds.

㊱ **Keyboard**
This is a 61 key, 5 octave, C scale, key velocity compatible keyboard. It can be split in up to 6 split areas (or 16 split areas when using the ASK70 expansion memory) by setting the key ranges for the sampled sounds.

Rear Panel



①Power Switch
Use this switch to turn the power on and off.
NOTE: Connect MIDI cables and external equipment before turning the power on.

②Contrast Adjustment Knob
Use this knob to adjust the contrast of the liquid crystal display. Adjust according to the lighting conditions under which the X7000 is operated.

③Local Switch (MIDI)
When this switch is at off position, X7000's keyboard and internal sound source are disconnected, so that sounds does not come out even if you play X7000's keyboard. But the only MIDI signal accordingly as you played on X7000's keyboard is output from MIDI OUT jack.
Use this when performing with a sequencer, etc. using the X7000's sound source and X7000's keyboard as a master keyboard to control other MIDI equipped sound modules.

④MIDI IN Jack
Use this jack to receive MIDI signals from other MIDI equipment.

⑤MIDI OUT Jack
Use this jack to send MIDI signals to other MIDI equipment.

⑥MIDI THRU Jack
MIDI signals input to the MIDI IN jack will be output unchanged from this jack.

⑦Program Up Foot Switch Jack
Use this jack to connect a foot switch. The foot switch can be used to switch the memory bank numbers.

⑧Sustain Jack
Use this jack to hold the sound (sustain) with a foot switch.

⑨VOICE OUT Jack
The 6 voice signals are output separately from the DIN 13 pin jack.

⑩LINE OUT Jack
This is an output jack for the sampled and monitor sounds. Connect it for example to an amplifier or mixer. This is a 6.3 mmϕ phone plug jack.

⑪PHONES Jack
Use this jack to listen to the sound with stereo headphones. (The sound is monaural.)

⑫REC/PB TRIGGER Jack
When a foot switch is connected to this jack, it can be used to begin sampling or for playback of the sampled sound.

⑬MIC IN Jack
Use this input jack to sample directly from a mike or guitar. This is a 6.3 mmϕ phone plug jack with an input sensitivity of −60 dB.

⑭LINE IN Jack
Use this jack to perform sampling from the LINE OUT jack of a keyboard or other audio equipment. This is a 6.3 mmϕ phone plug jack with an input sensitivity of −26 dB.
NOTE: When both the MIC and LINE IN jacks are used, the MIC input is given priority.

⑮Record Level Control
Use this control to adjust the sampling recording level.

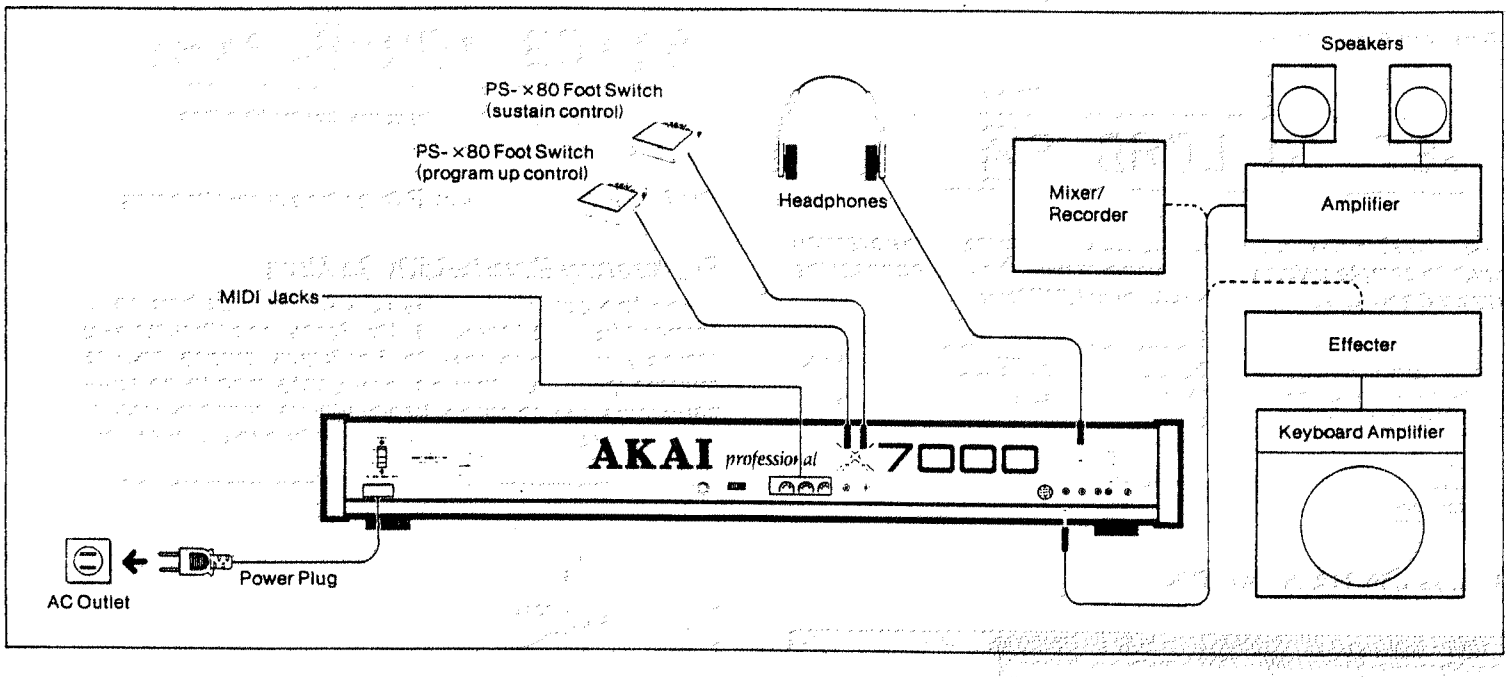
⑯Monitor Level Control
Use this control to adjust the monitor level during sampling.

Connections

The X7000 is not equipped with a built-in amplifier or speaker, so it must be used with another audio amplifier or keyboard amplifier and speakers.

Before Connecting

- Be sure to turn off the power for all equipment to be connected. Only plug in power cords after connections have been made.
- Insert the plugs securely into the jacks. Incomplete connections will result in noise or distortion.
- Hold the plug portion when disconnecting. Pulling on the cord will damage it.



7
Sampling

Basic Procedure

First
Before turning the X7000 power on, check that all connections to MIDI and audio equipment are proper.

POWER ON
When the X7000 power is turned on, the liquid crystal display (LCD) will read:

```
** Akai X7000 **
```

then switch immediately to

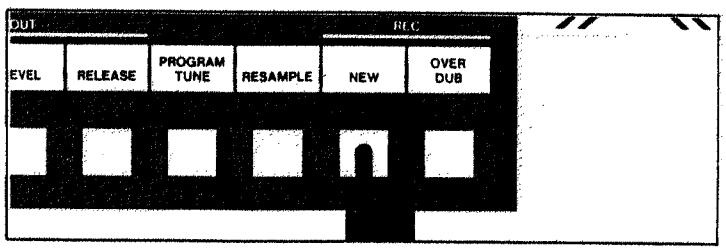
Flashing

```
SET TO LOAD SX
```

The X7000 is now in the disk load standby mode. If however you wish to sample using a microphone or over the line, connect the desired sound source to the MIC IN or LINE IN jack.

Equipment to be connected	Input jack	Input sensitivity
Equipment having a low output level such as a mike, electric guitar, etc.	MIC	−60 dB
Audio equipment such as a TV, cassette deck, CD, tuner, or preamplifier, or a synthesizer or keyboard having a high line output level	LINE	−26 dB

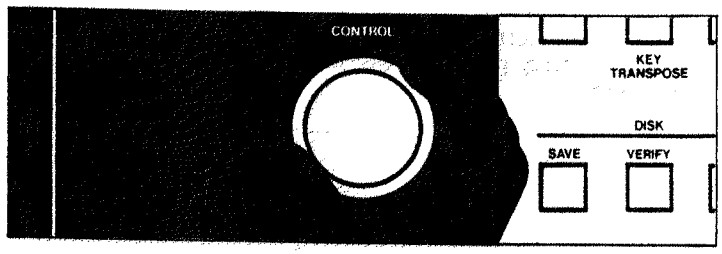
Press the NEW button.



The following will appear on the LCD:

```
S1:C3  :BW=6.3KHz
```

Setting the Pitch
When the control knob is rotated, the reading on the LCD changes from C0 to B5. Set to the basic pitch for the sound you wish to sample. After this is done, press the NEW button.

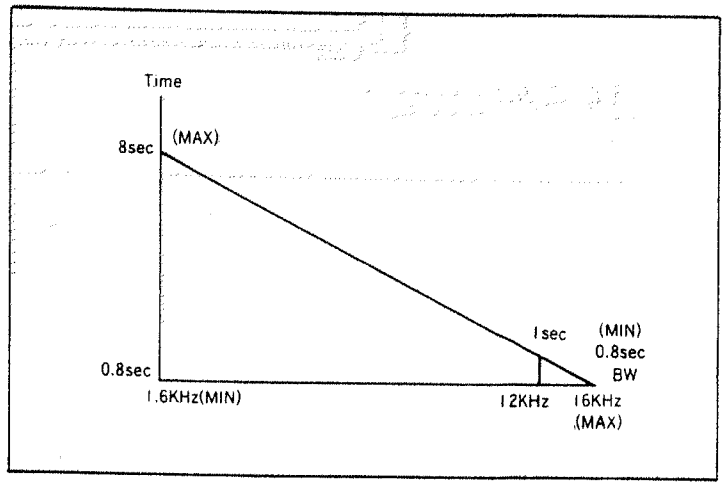



```
S1:C3  :BW=6.3KHz
```

Pitch setting — Frequency bandwidth setting

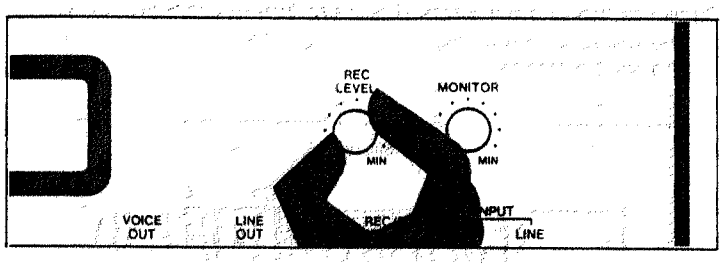
The frequency bandwidth (BW) setting is now flashing.

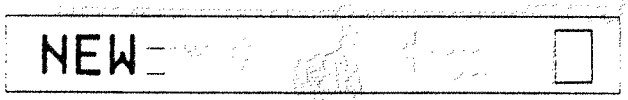
Frequency Bandwidth Setting
When the control knob is rotated, the reading on the LCD changes from 1.6 kHz to 16 kHz. Set to the optimum value for the sound you wish to sample. For brass, strings, sounds which shatter glass, or other sounds containing large amounts of harmonics, set as high a bandwidth as possible. Note however that the possible recording time is linked to the frequency bandwidth.



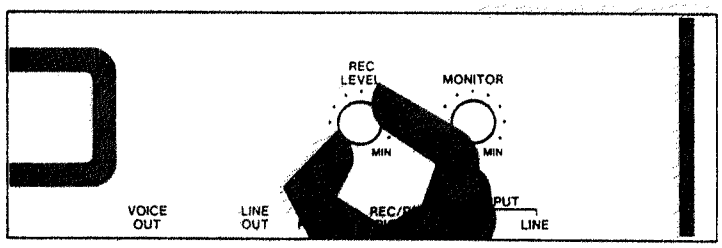
Recording Level Adjustment

After setting the frequency bandwidth, turn the REC LEVEL control on the rear panel to the MIN position and press the NEW button.





The LCD changes to the recording level meter mode. When the source is input from the mike or over the line and the REC LEVEL control is slowly increased, the number of "#" marks on the LCD increases according to the volume.



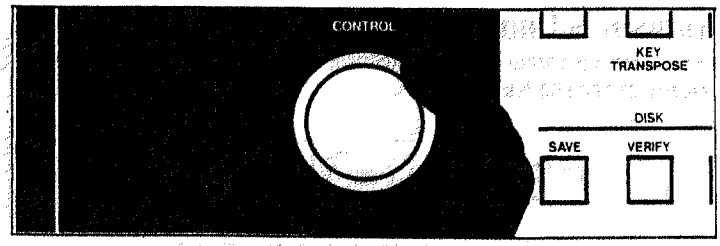


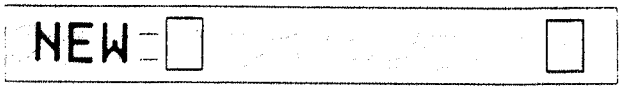
Adjust the REC LEVEL control to the point at which **the sound is loudest and the □ mark (Right side) is slightly flashing**. Note that howling may result if the MONITOR LEVEL control is increased excessively when using a MIC.

Trigger Level Setting

The X7000 is equipped with an auto trigger function in which sampling begins automatically when there is an input source. Set the trigger level using the CONTROL knob so that the auto trigger function will work.

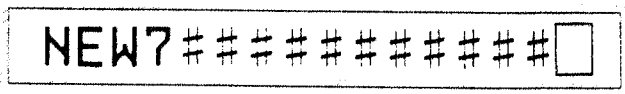
When the LCD is in the recording level meter mode, turning the CONTROL knob will move the □ mark to the right and left. This □ mark indicates the trigger level.





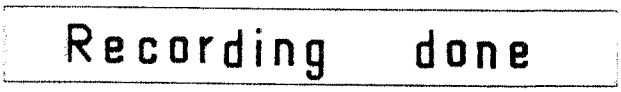
Now start sampling.

After adjusting the recording level, the X7000 is now ready for recording. Press the NEW button once again. The □ mark will switch to the > mark, indicating that recording is possible. Also, when sound is input over the line, sampling will start automatically.



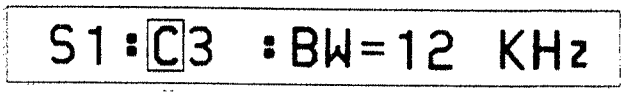
During sampling, the NEW value changes from 7 to 0. This is the sampling memory area monitor. Recording is possible during the time until 0 is reached.

When the determined recording time is up, sampling stops, and the LCD reads:



Correcting pitch Setting

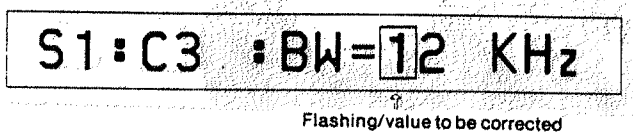
Press the NEW button.



Use the CONTROL knob to set to the desired pitch then press the NEW button. The LCD will switch to the frequency bandwidth mode. If there is no need to correct the bandwidth, press the NEW button once again.

Frequency Bandwidth Correction

If you wish to correct the frequency bandwidth but not the pitch setting, press the NEW button.



Set the LCD to the frequency bandwidth setting mode, use the CONTROL knob to set to the desired frequency, and press the NEW button.

Redoing Sampling

If there was simply a problem in the input source (for example, the mike position with respect to the sound source, the recording level, breathing sound, or noise), press the NEW button again and set the LCD to the recording level meter mode.



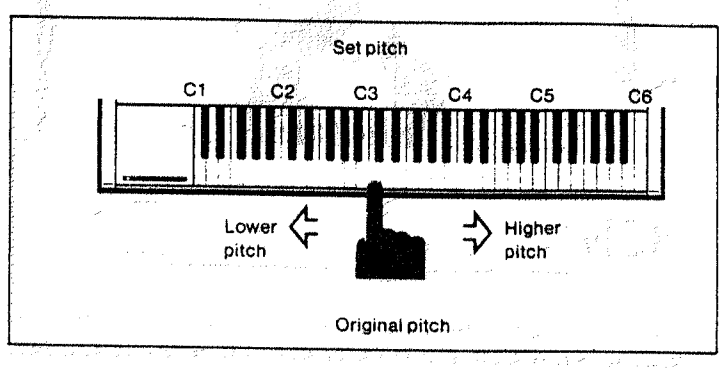
Readjust the recording level, press the NEW button, and input the source.

Playback of Sampled Sound

After sampling is completed, play back the sampled sound.

Playback

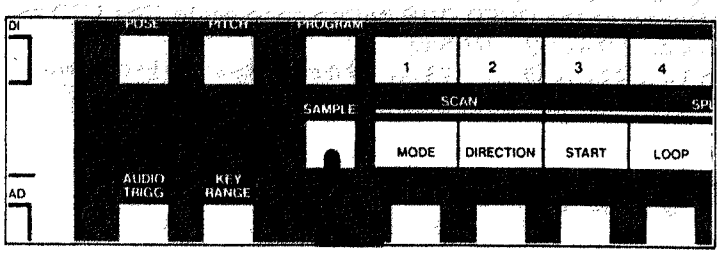
Check that the amplifier, mixer, etc. is correctly connected to the X7000 LINE OUT jack and press a key on the keyboard. The sampled sound should be played back. When the key for the pitch set upon sampling is pressed, the sampled sound is reproduced at the original pitch. If a lower key is pressed, the sound will be lower than the original, and if a higher one is pressed, the sound will be higher.



This is the basic procedure for sampling on the X7000. Now let's see how multiple point sampling, one of the outstanding features of the X7000's works.

Multiple Point sampling

Sampling data for a maximum of 6 sounds (expandable to 16 using options) can be stored in the X7000's memory. For multiple point sampling, sampling is performed in the same way as for basic sampling, and numbers (S1—S6, or with the ASK70 expansion memory, S1—S16) are given to each sampled sound. The SAMPLE button is used to indicate the sample number.



For sample number S1, use the basic sampling procedure. When S1 sampling is completed, the LCD will read:

```
Recording   done
```

To continue on from this point to sample number S2, press the NEW button. The LCD will read:

```
S1:C3  :BW=12  KHz
```

This shows the parameters for sample number S1, which has already been completed. Now press the SAMPLE button.

```
S1:C3  :BW=12  KHz
```

The "1" on the LCD will flash. This is the sample number setting mode. Now rotate the CONTROL knob and set a value between 1 and 6 (or 1 and 16 when using the ASK70).

```
S2:C3  :BW=12  KHz
```

Sample number set at S2

Once the sample number is set, press the NEW button. The LCD will switch to the basic pitch setting mode.

```
S2:C3  :BW=12  KHz
```

Now, using the same procedure as for basic sampling, set the basic pitch and frequency bandwidth and adjust the recording level.

NOTE: It is not possible to file all the data for voices S1—S6 (or S1—S16) on a single sampler disk. File one voice on each side of the disk. For details, refer to the section entitled "**Save/Verify/Load**".

Applications of Multiple Point sampling

When multiple point sampling is used, several different pitch ranges for say a piano, strings, or human voices can be sampled. Use multiple point sampling when you don't want the character of the sound to change because of differences in the pitch. Also use it for sampling sounds of nature, machines or those produced by synthesizers.

When sampling was made with S2, press program button to set P2 for monitoring S2 sampled sound.

S3 all after, press program button to set corresponding program number for monitoring.

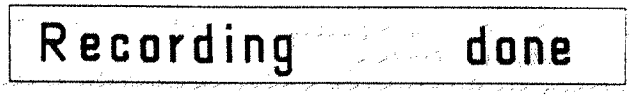
Example S3 → P3, S4 → P4 . . . S16 → P16

Overdubbing

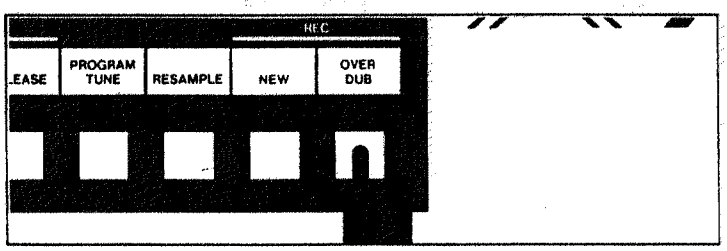
The X7000 is equipped with an overdubbing function for sampled sounds. Sampling is performed in the same way as for basic sampling with overdub button is used. When you want to overdub, first sample the initial sound using the basic sampling procedure, but set the recording level relatively low. When overdubbing is performed, the overdubbed sound or sounds are recorded at the same level as the initial sound, so if the recording level of the initial sound is high, the overall level will be too high. Thus, set the recording level according to the number of sounds to be overdubbed to achieve a well-balanced level.
(Overdubbing is possible any number of times.)

Procedure

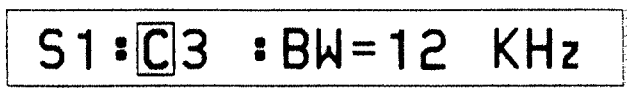
After the initial sound is sampled using the basic sampling procedure, the LCD will read:



Now press the OVER DUB button.



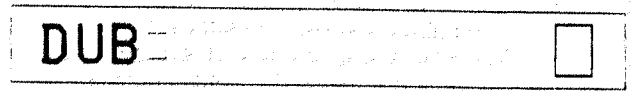
The LCD will now be in the basic pitch setting mode. Use the CONTROL knob to set the basic pitch of the next sound to be overdubbed, then press the OVER DUB button.





Next, use the CONTROL knob to set the frequency bandwidth, and press OVER DUB once again.

If you wish to use the same basic pitch and frequency bandwidth settings for the sound to be overdubbed as for the initial sound, press the OVER DUB button twice after the initial sampling is completed. The LCD will then change to the overdubbing recording level meter mode.

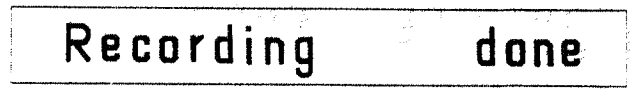


Prepare the input source for the second sample and adjust the REC LEVEL control to the optimum position.
Now press the OVER DUB button once again. The LCD will switch to the DUB > display.
When a source is input using the mike or over the line, overdubbing will start by auto-trigger.



Overdubbing is possible during the time until 0 is reached.

When overdubbing is completed, the LCD will read:



The above procedure can be repeated any number of times, so you can use this function for to create a 1-person choir, drover organ sounds using sine waves, and original special effects.

Should the overdubbing be ruined

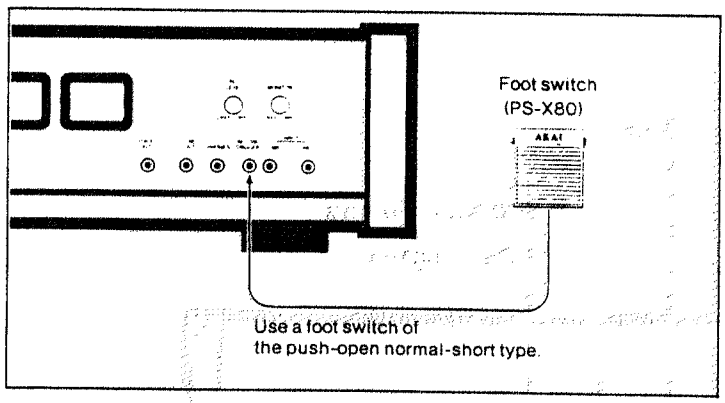
Should the overdubbing be ruined due to some problem with the input source, everything must be repeated from the beginning. Thus, when overdubbing several times, it's a good idea to save the results after each time on the sampler disk.
Also, after one overdubbing is performed, it is no longer possible to play back the initially sampled sound or any of the overdubbed sounds alone, so we recommend you save the initial sound on the sampler disk before beginning overdubbing.

Record Trigger sampling

As previously explained, the X7000 is equipped with a built-in automatic trigger function operated by setting the trigger level. However, when a foot switch is connected to the REC/PB TRIGGER jack on the rear panel, it is possible to start sampling at any time. Of course, this can also be used for multiple point sampling or overdubbing.

Connection of Foot Switch

Connect a foot switch such as the AKAI PS-X80 to the REC/PB TRIGGER jack.



For sampling, use exactly the same procedure as for basic sampling, multiple point sampling, or overdubbing. Once preparations for sampling are completed, prepare the input source, then press the foot switch to start sampling (or overdubbing).

Applications of REC/PB Trigger

Using the foot switch for record triggering comes in very handy when you wish to sample only sections of the sounds of orchestras, choruses, or instruments off records, CDs, or tapes, or when you want to have complete control of the timing to sample nature sounds, noise, or machine sounds.

Starting Playback Using Foot Switch

With the X7000, it is also possible to start playback of sampled sounds using the foot switch connected to the REC/PB TRIGGER jack.
To do so, switch the mode as explained in the section on **audio trigger playback (Page 31)** and set the pitch.
Orchestra hits or sound effects can be played back with great timing using the foot switch.

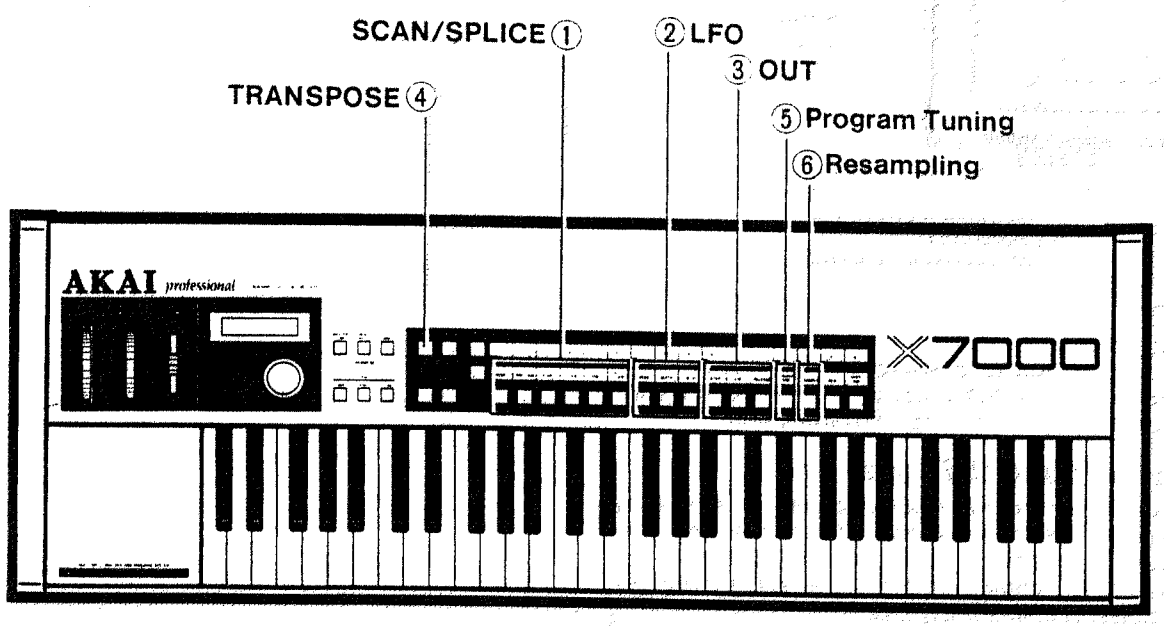
13
Editing

X7000 Editing Functions

The X7000 is equipped with a variety of editing functions to permit more effective musical expression of sampled sounds. The X7000 editing functions include the following:

- **Scanning/Splice**
- **LFO**
- **Output**
- **Transposing**
- **Program tuning**
- **Resampling**

These functions are designed for easy operation using separate modes for each, select buttons, and messages on the LCD.



①Scanning/Splice
This has the function of determining how playback is to be performed, and the unnecessary portion of the sample before the desired start point and after the end point can be cut, loops can be created, and playback can be reversed.

②LFO
Vibrato can be applied to the sampled sound.

③Output
The release time and the low-pass filter can be controlled to make the sound mellower, the volume can be determined, and the amount of filter effect can be determined according to the key velocity.

④Transposing
The pitch of the sampled sound can be set and transposed in halfnote steps.

⑤Program Tuning
The sampled sound can be tuned by ±100 cents.

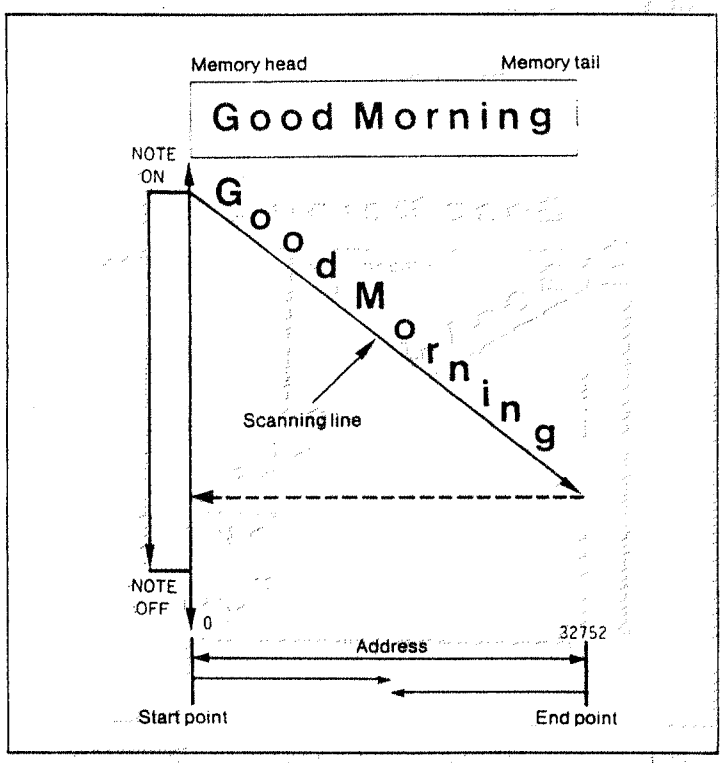
⑥Resampling
The data can be compressed by 1/2. (Page 31)

As the parameters edited using these functions can be stored on sampler disks with the sample data, reproducibility is excellent, and re-editing is possible after loading the data into the X7000.

NOTE: The volume of the OUTPUT level control cannot be programmed.

Scanning

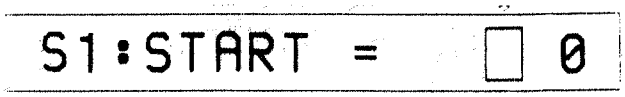
With the X7000, sampled sound is stored in the memory in the form of digital data, and the pitch is produced by changing the speed at which the data is read from the memory. This is the same principle as for a tape recorder—increasing or decreasing the playback speed changes the pitch. With the X7000, however, because data is stored in the memory, read-out can be controlled by computer in a variety of ways. For example, the points at which read-out starts and ends can be specified, loops can be made, and reverse playback is also possible.
This function is called "**scanning**".
There are three mode buttons: START, END, and LOOP. Let us now imagine that the sounds "**Good Morning**" have been sampled and see how scanning works on the X7000.
Suppose that "**Good Morning**" is stored in the X7000's memory as shown below.
When performed in the same form as sampled, sampling will be carried out in a straight line from the memory head to the memory tail, and when a key is depressed (ON), the sounds "**Good Morning**" will be played back once. In this case, no sound will be produced after the phrase "**Good Morning**" is played once, even if the key is still depressed.



Start Point Editing

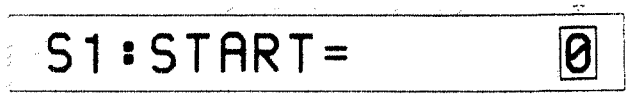
When the START button is pressed, the LCD will switch to the scanning start point edit mode.

Rough adjustment mode

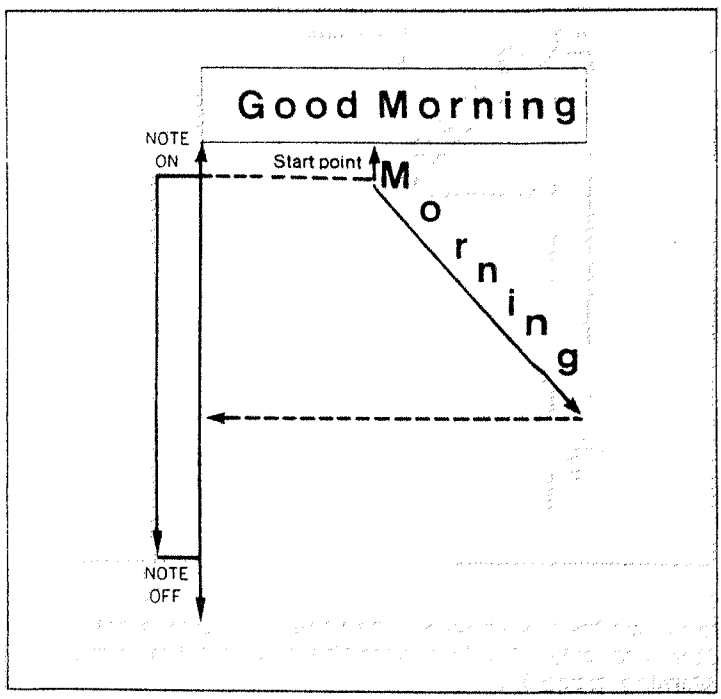


The □ mark flashes at the third digit place. This is the start point (position for playback of memory) rough adjustment mode. Addresses of 100 and above can be set by turning the CONTROL knob.
When the START button is pressed again, the □ mark flashes at the 1st digit place.

Fine adjustment mode



This is the start point fine adjustment mode. Addresses from 0—99 can now be set by turning the CONTROL knob.



As shown by the diagram, when the start point is set to the beginning of "**M**", "**Morning**" is played back when a key is pressed.
By adjusting the start point in this way, it is possible to start playback at the necessary portion.

End Point Editing

When the END button is pressed, the LCD will switch to the scanning end point edit mode.

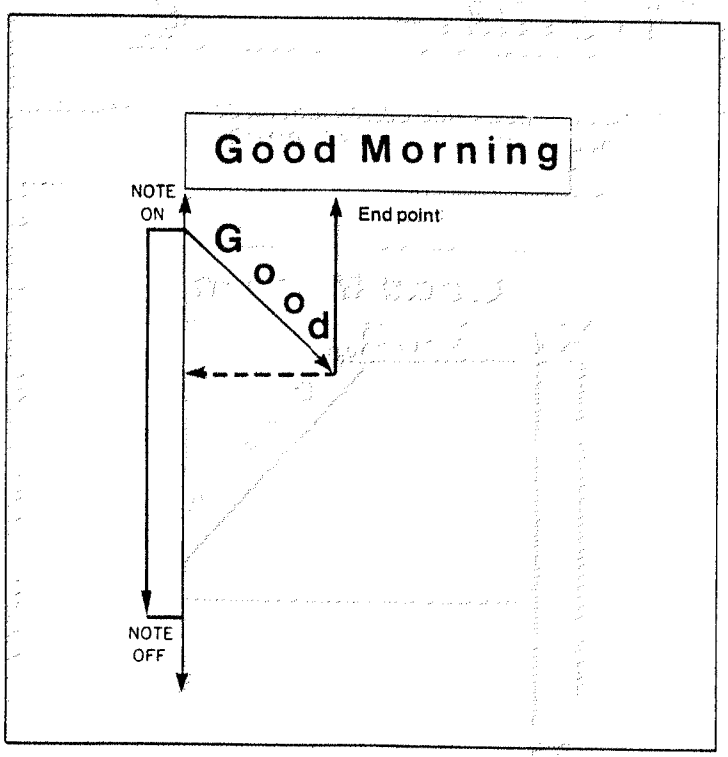
Rough adjustment mode

S1: END = 32752

As for the start point adjustment, the □ mark flashes at the third digit place for the end point rough adjustment mode or at the 1st digit place for the fine adjustment mode.

Fine adjustment mode

S1: END = 32752



As shown by the diagram, when the end point is set before "**Morning**", only "**Good**" is played back when a key is pressed, "**Morning**" being cut.

Looping Editing

Looping refers to the function in which the sampled sound is played back repeatedly while a key is pressed, and can be used for example to obtain continuous string, brass, or chorus sounds.
When the LOOP button is pressed, the LCD will switch to the looping splice point edit mode.

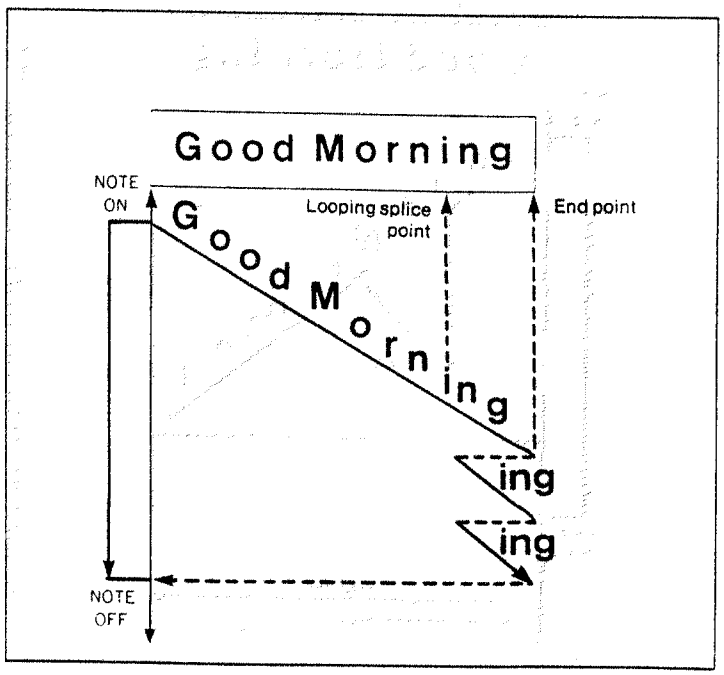
Rough adjustment mode

S1: LOOP = □ 0

The □ mark flashes at the third digit place for the rough adjustment mode or at the 1st digit place for the fine adjustment mode.

Fine adjustment mode

S1: LOOP = 0

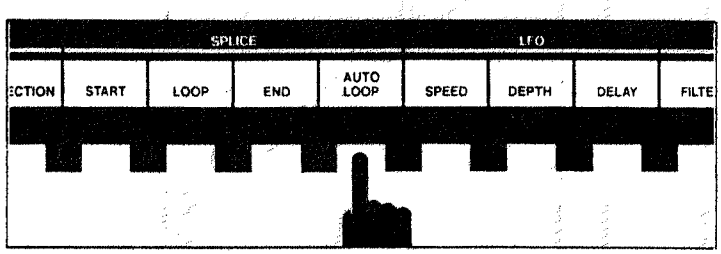


When the looping splice point is set as shown in the diagram, the portion between the looping splice point and the end point will be played back repeatedly.
When a key is turned on, "**Good Morning**" is played back, and if the key is held depressed, a continuous "**ing**" sound will be heard until key-off.

NOTE: As is true for this case, it sometimes happens that the splicing point is hard to set or noise (splicing noise) is produced when using non-musical sounds (spoken words, nature sounds, etc.) or sounds with excessive

Automatic Splicing System

The X7000 is equipped with a function for setting the optimum looping splice point by computer. This is called the "Automatic Splicing System".
Using this function makes it possible to find the desired splicing point immediately and automatically, something which is often difficult manually.



This function can be called out by pressing the AUTO LOOP button.

S1:Do autoloop

Now turn the CONTROL knob clockwise. The LCD will now read:

Crunching.....

Automatic splicing is now performed. When completed, the LCD will return to:

S1:Do autoloop

With this automatic splicing function, the optimum value is found near the end point, providing powerful looping for instrumental sounds.

* Auto looping system is designed to loop as close as possible to the memory end point, so that to obtain good looping sound, adjust end point and do auto loop once again.
(Computer will calculate the looping point from the end point where you edit.)

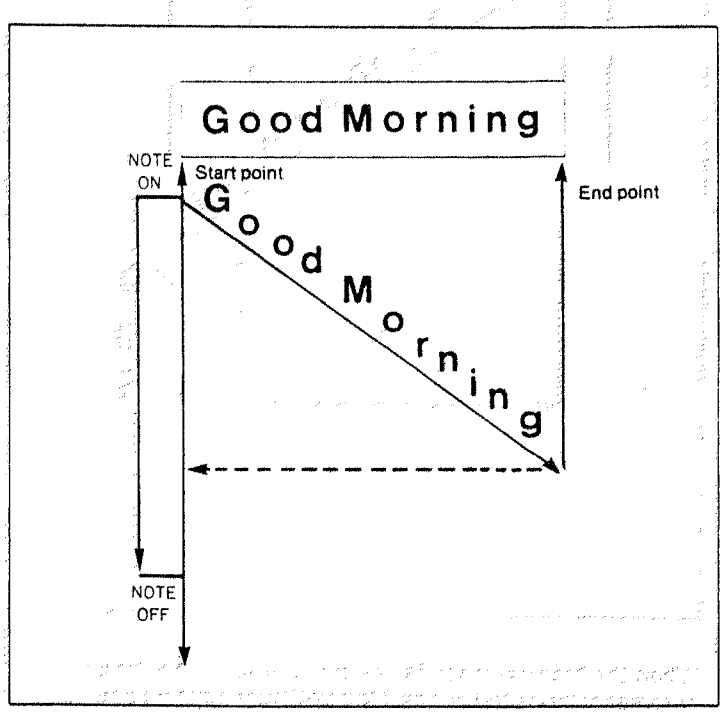
About the Scanning Mode

The X7000 is not simply a sampling machine for playing back the sampled sound as such. Using computer technology, it also includes the following four scanning modes to provide greater possibilities for musical expression:

* **ONE SHOT**
* **LOOPING**
* **ALTERNATING**
* **DRUM TRIGGER**

These modes are called out by pressing the SCAN MODE button and turning the CONTROL knob. Press the SCAN MODE button and recall ONE SHOT mode with the CONTROL knob.

S1:SCAN=one shot

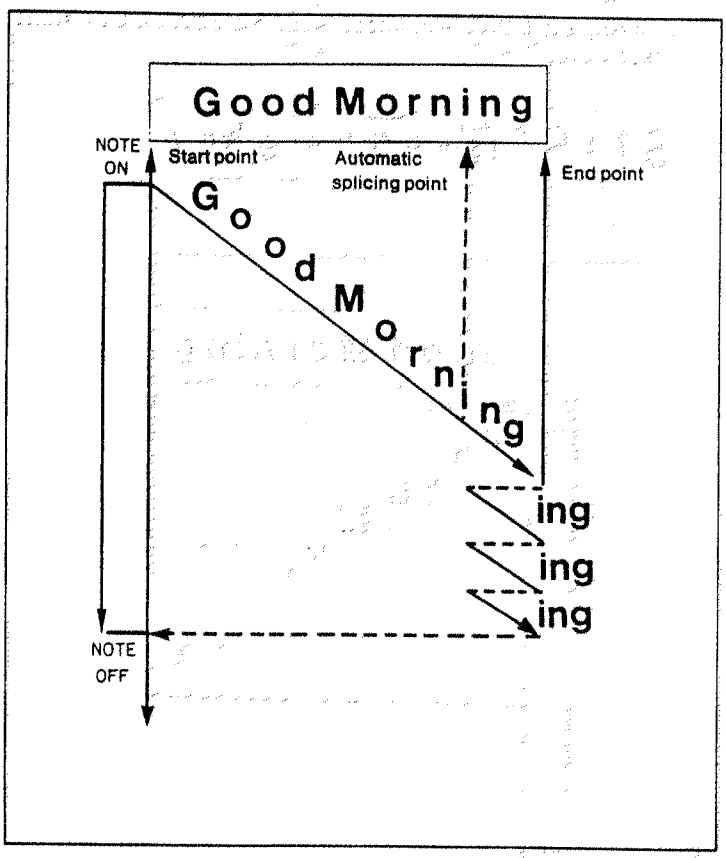


In this mode, the X7000 functions as a normal sampling machine.
the diagram, "**Good Morning**" will be played back when a key is turned on.
In the ONE SHOT mode, scanning is performed in the following order. **Start point → End point.**

Now, rotate the control knob clockwise, and the LCD will switch to the looping mode.

```
S1:SCAN=Looping
```

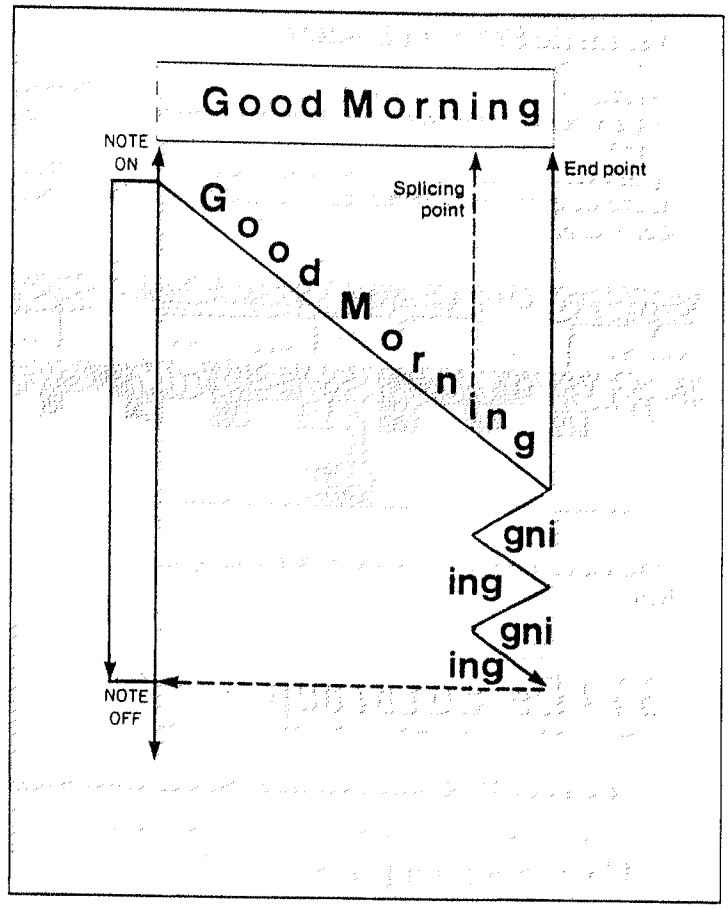
In this mode, it is possible to make loops in the scanning mode and produce continuous sampled sound.



When the looping mode is set, the automatic splicing system is automatically called out and the optimum splicing point is found near the end point to produce continuous sound. The looping mode is perfect for playing strings, brass, or a chorus.
If the CONTROL knob is turned clockwise further, the LCD will switch to the alternating mode.

```
S1:SCAN=Alternat
```

This mode is similar to the looping mode in that loops are produced, but the type of loop is different.



When set as shown in the diagram, the sound "**Good Morning**" is played once, "**gni**" then "**ing**" will be replayed continually between the splicing point and end point until the key is turned off.

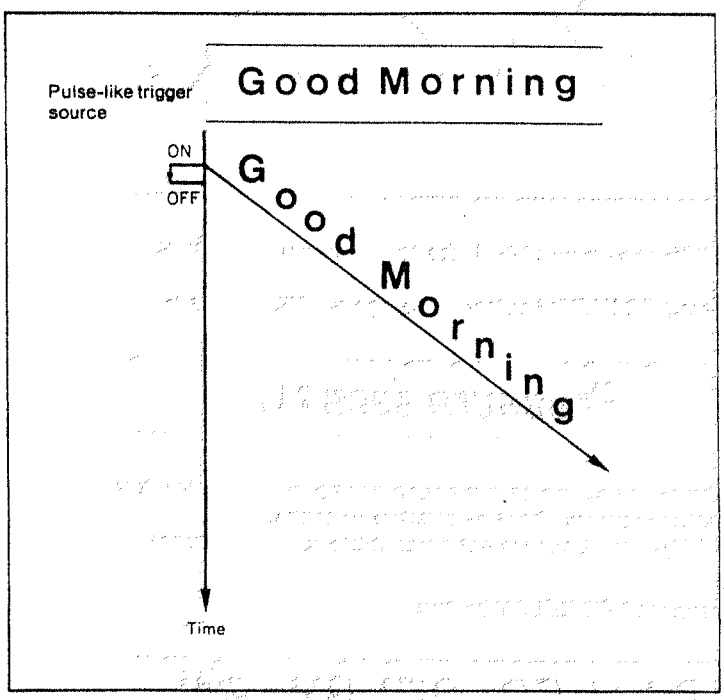
NOTE: The alternating mode is particularly effective for creating continuous string sound, but depending on the sampled sound, the looping mode is sometimes better. Try editing in both the looping mode and alternating mode and select the one which provides the best continuous sound.

Drum Trigger

To use short gate-like trigger sources such as tapping on the mike or rim shot sounds from a rhythm machine or sequenser, press the SCAN button, then turn the CONTROL knob so the LCD reads:

```
S1:SCAN=DRM TRIG
```

In this mode, the complete sampled sound is played back (one shot), even for short, pulse-like trigger sources.



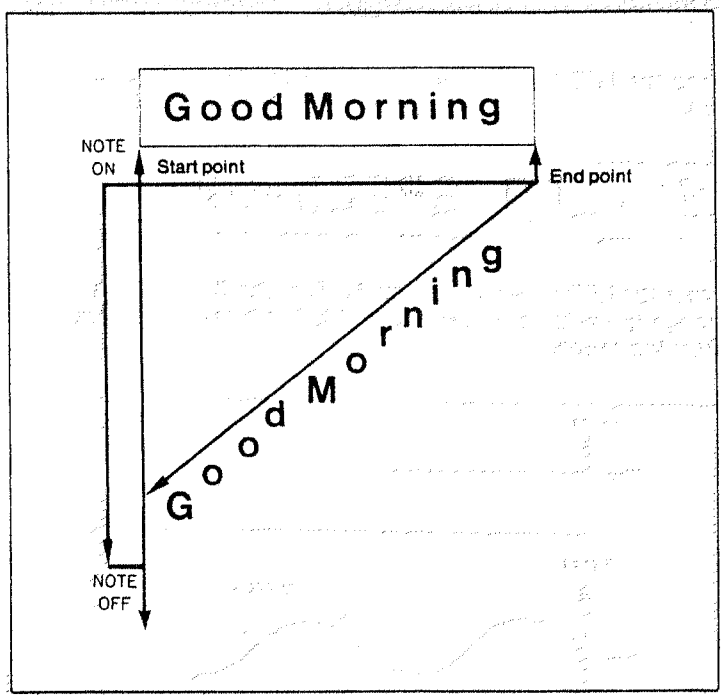
Use this mode for drums, percussion, or sound effects which require precise timing. Of course, this scanning mode can also be used for keyboard performances.

Reverse playback

When the SCAN DIRECTION button is pressed, the LCD switches to:

```
S1:Revers/Forwrd
```

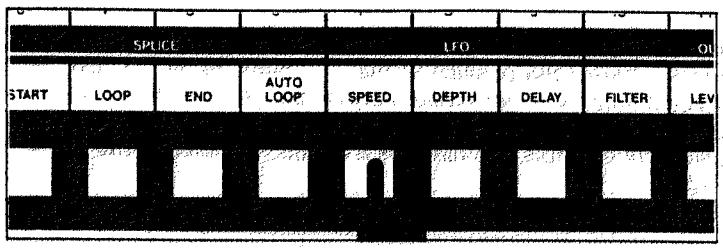
This is the playback mode switching mode. Turn the CONTROL knob to change the position of the ☐ mark, to "R" for reverse playback and to "F" for forward playback. The ☐ mark is normally set at "F". When reverse playback is used for human speech for example, the result is a sound like incomprehensible words.



LFO/Vibrato Effect

The X7000 is equipped with an LFO (Low Frequency Oscillator), making it possible to apply a vibrato effect to the sampled sound.

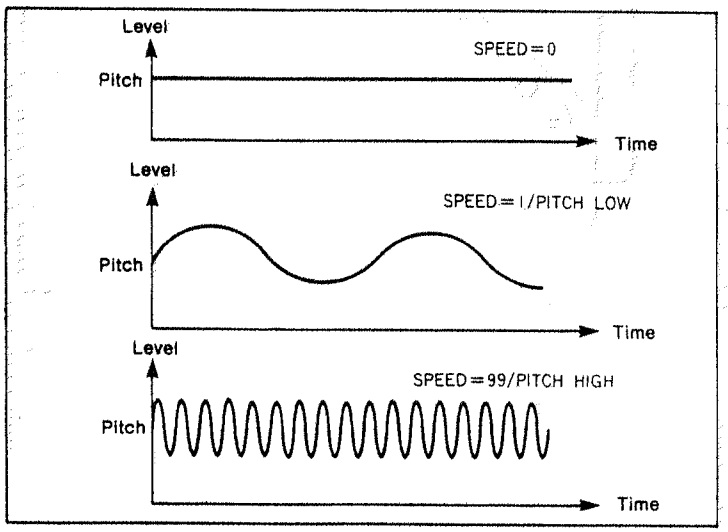
Setting



Press the LFO SPEED button on the front panel. The LCD will read:

```
S1:LFO SPEED=50
```

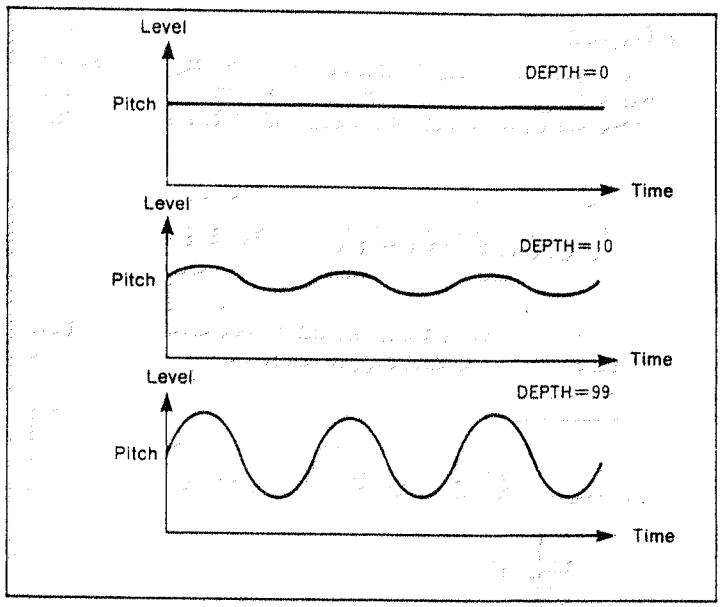
This is the LFO speed setting mode. Turn the CONTROL knob to change the value between 0 and 99. The higher the value, the faster the speed.



Now press the LFO DEPTH button.

```
S1:LFO DEPTH= 0
```

This is the LFO depth (vibrato strength) setting mode. Turn the CONTROL knob to change the value between 0 and 99. The higher the value, the deeper the vibrato becomes.



X7000 can receive MIDI aftertouch data from MIDI IN.

Press LFO DEPTH button once again, LCD will read:

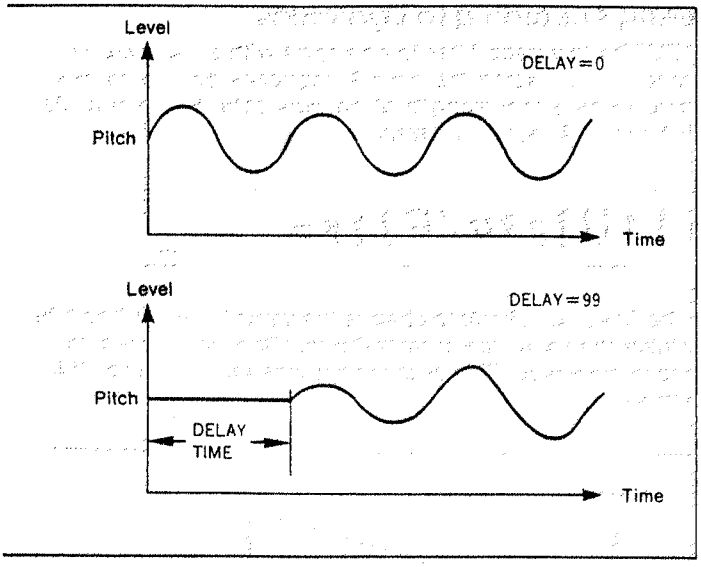
```
Pressure sens:00
```

Adjust the value of pressure sense using control knob to set depth of vibrato effect by aftertouch pressure.
(X7000's keyboard is not compatible with aftertouch)

Press the LFO DELAY button.

```
S1:LFO DELAY=64
```

This is the LFO delay time setting mode. Use delay when you want vibrato with a slight lag after the key is turned on. Turn the CONTROL knob to change the value between 0 and 99. The higher the value, the longer the delay.



/ith the LFO vibrato effect, different parameters can be set for ach voice when performing multiple point sampling. The effect an also be applied by operating the modulation wheel.

OUT/Level/Filter Effects

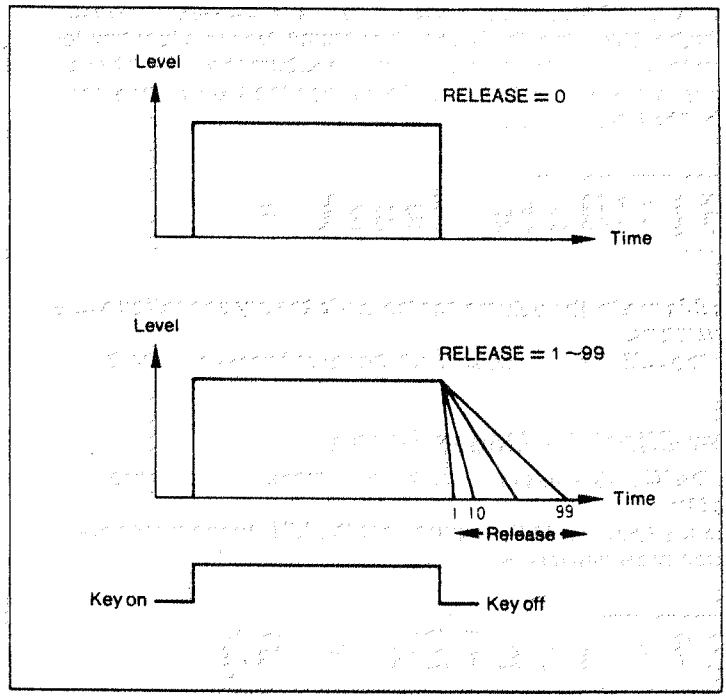
'he X7000 is equipped with an output edit mode for editing the elease time, volume, and tone. This can be called out by press-ıg the OUT button (FILTER, LEVEL, RELEASE).

?elease Time Setting

'ress the OUT/RELEASE button to switch the LCD to the release ime setting mode.

```
S1: RELEASE =30
```

Vhen release is used, the sampled sound gradually decreases ıfter the key is turned off. (This is only for looping or alternating ;ounds).



Turn the CONTROL knob to change the value between 0 and 99. The higher the value, the longer the release time. The sustain/release effect is also possible by receiving sustain pedal data.

Release Time According to Dynamics

The X7000 is equipped with a function for making the release time variable depending on the key velocity.
Press the OUT button. The LCD will read:

```
S1:Vlcty/release=
```

Turn the CONTROL Knob to change the value between 0 and 99. The higher the value, the greater is the reaction of the release time.

Volume Setting

Press the OUT/LEVEL button again to set the sampled sound level (volume) setting mode.

```
S1: LEVEL =
```

Turn the CONTROL knob to change the value between 0 and 99. The higher the value, the higher the volume. Use this function for example for multiple point sampling to adjust the level of each voice and set a good balance. Now press the OUT button once again. The LCD will read:

```
S1:Vlcty/level = □
```

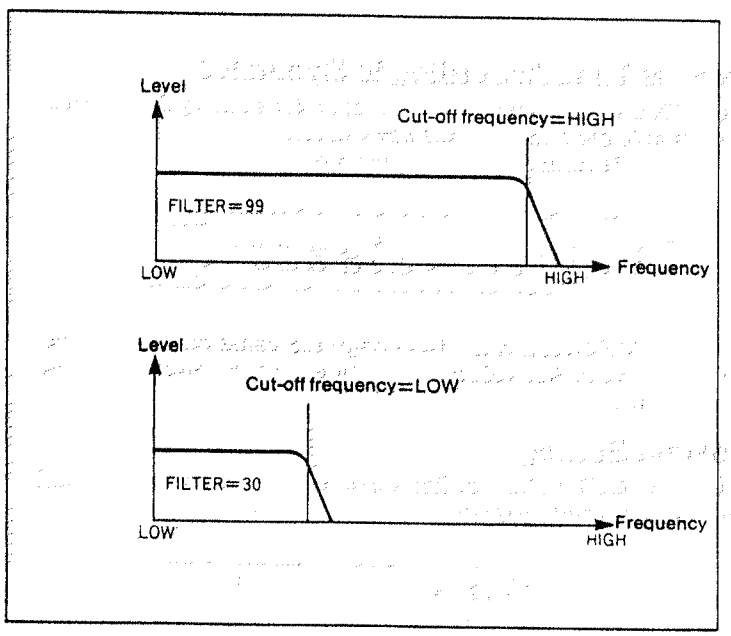
With this mode, the volume can be made to vary according to the key velocity.
Turn the CONTROL knob and set the value between 0 and 99.

Filter Effect for Milder Sound

With the X7000, sampled sound can be made milder using a low-pass filter.
Press the OUT/FILTER button to set the LCD to the filter cut-off frequency setting mode.

```
S1: FILTER = 99
```

Turn the CONTROL knob to change the value between 0 and 99. The lower the value, the lower the cut-off frequency, and the milder the sound.

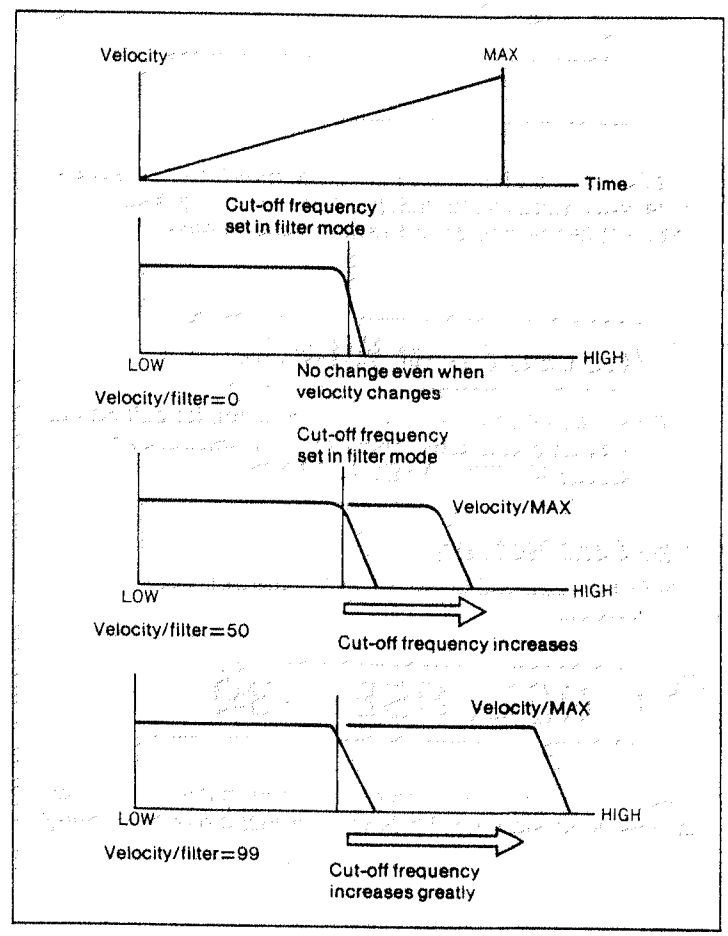


Filtering According to Dynamics

The X7000's low-pass filter is equipped with a function for increasing or decreasing the cut-off frequency according to key velocity (dynamics/strength of sound) data. Press the OUT FILTER button. The LCD will read:

```
S1:Vlcty/Fltr= □
```

Turn the CONTROL knob to change the value between 0 and 99. The higher the value, the greater the reaction with respect to variations in dynamics. This sets the amount which the cut-off frequency rises.



When instruments are played loudly, the harmonics can be heard clearly, resulting in a bright sound. This phenomenon can be recreated on the X7000 using the velocity/filter setting mode. Use it for piano, strings, brass, or percussion instrument voices. These are the basic ways of editing the sampled sound. Transposing and tuning are explained in the Programming section which follows.

Programming

The X7000 is equipped with various programming edit functions, permitting excellent possibilities for use as a multiple point digital sampler. These include the following:

- **Key Range**
- **Transposing**
- **Tuning**
- **Audio Trigger Playback**

A "P" at the left side of the LCD indicates a programming edit mode.

```
P1  :
```

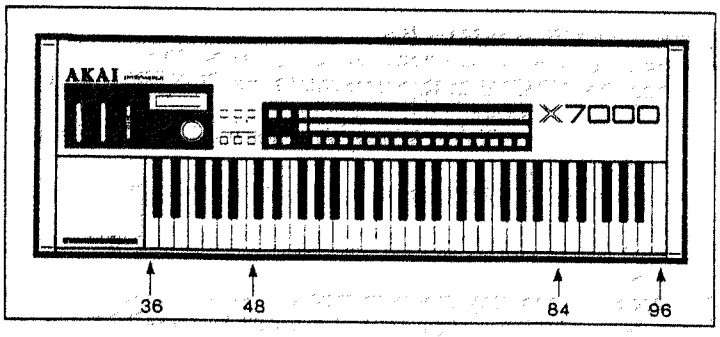
This program data is stored on the disc along with the sampled sound voice data.

Key Range Setting

Press the KEY RANGE button.

```
P1  :S1:L24:H=99
```

This is the low key setting mode for key range setting. Turn the CONTROL knob or input from the keyboard to change the value between 0 and 127. These values correspond to MIDI note numbers. The value of 36 is the lowest note on the X7000's 61-key C-scale keyboard.

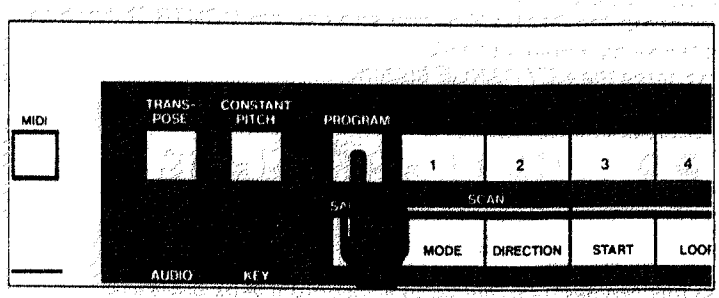


Now press the KEY RANGE button again.

```
P1  :S1:L=36:H=99
```

This is the high key setting mode for key range setting. Turn the CONTROL knob or input from the keyboard to change the value between 0 and 127. The value of 96 is the highest note on the X7000's 61-key C-scale keyboard.
For **MIDI note numbers**, refer to Page 34.

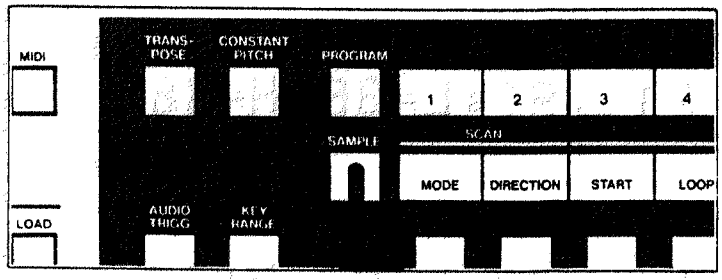
Now press the KEY RANGE button and set the key range setting mode. First set the program number.



Press the PROGRAM button.

```
P1  :S1:L=36:H=96
```

Turn the CONTROL knob to change the value between 0 and 32. Now set the sample number. Press the SAMPLE button.




```
P1  :S1:L=36:H=96
```

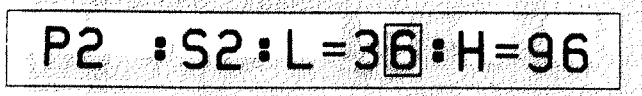
Turn the CONTROL knob to change the value between 1 and 6 (or 16 when using the ASK70).
Now set the key range. If you wish to use the entire scale for one sampled sound, press the KEY RANGE button, call out the key range setting mode, and set L=36, H=96 for the X7000's 61-key C-scale keyboard.

61-key C-scale keyboard

```
P1  :S1:L=36:H=96
```

NOTE: Depending on the sampled sound, it sometimes happens that the character of the original sound is lost when played at a pitch one octave or more above the basic pitch, resulting in a strange sound. For the human voice, in particular, a sound like when a tape is played fast or slow is produced. For this reason, make sure to set the key range in such a way that the character of the sound is not lost.

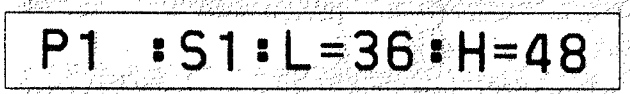
Next, set sample number S2 to program number P2.
Press the PROGRAM button, then use the CONTROL knob to set the program number to P2.
Now press the SAMPLE button and use the CONTROL knob to set the sample number to S2.
Next press the KEY RANGE button.



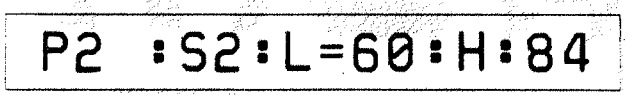
Set the key range.
Use this procedure to set up to a maximum of 32 programs.
Use this to set one voice for each program number then recall and playback in order a maximum of 6 different sounds (or 16 using the ASK70) in rhythm with a song.
NOTE: The key range setting will be ruined if you perform on the keyboard in the key range setting mode.
Be sure to press the PROGRAM button or SAMPLE button before performing.

Program Examples

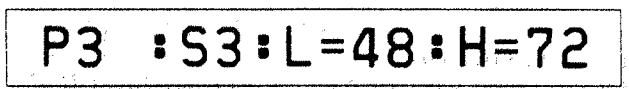
Bass



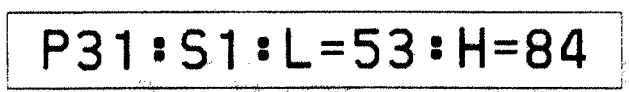
Mixed Chorus



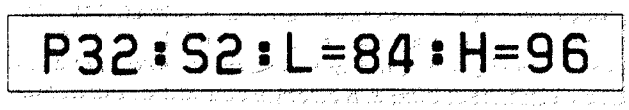
Orchestra Hit



Strings



Sound effect



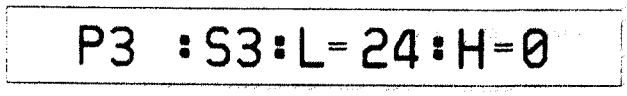
Key split function

Now try using the key split function to assign various sampled sounds to a single program number.
Using the X7000, it is possible to split various sampled sounds onto different areas of the keyboard for a maximum of 6 sounds (16 using the ASK70).

When the X7000 is initialized when the power is turned on, the following sine wave test tones are programmed:

P1:S1:-:-:-:-:-	P4:S-:-:-:4:-:-
P2:S-:2:-:-:-:-	P5:S-:-:-:-:5:-
P3:S-:-:3:-:-:-	P6:S-:-:-:-:-:6

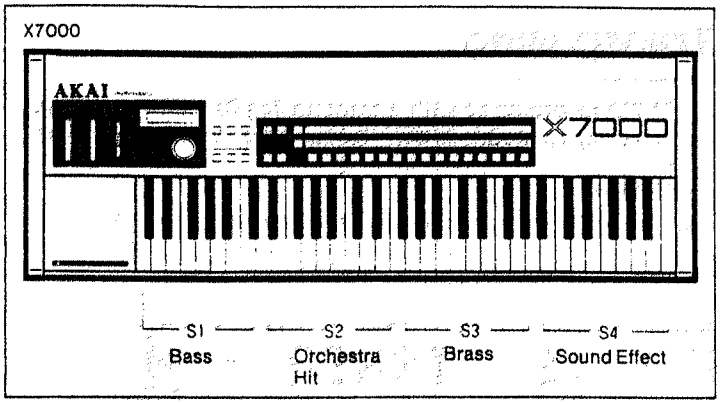
The key range for all of these is L=24, H=99.
The test tones set for each program are cleared when a sampled sound is set for that sample number, but the test tone can be stopped with the key range setting shown below.



When the ASK70 expansion memory is used, test tones are programmed for each program number up to P16.
Upon programming, if the test tone key ranges are not rewritten, the test tone may be mixed with the sampled sound.

For example if P1/S1 is bass, and P2/S2 is mixed chorus, and you want to combine them at P5 with a key split of bass from L=36 to H=60 and mixed chorus from L=61 to H=96:

1. Press the PROGRAM button.
2. Rotate the CONTROL knob to set the program to P5.
3. Press the SAMPLE button and rotate the CONTROL knob to set the sample to S1.
4. Press the KEY RANGE button and set the L range with the CONTROL knob.
5. Press the KEY RANGE button and set the H range with the CONTROL knob.
6. Press the SAMPLE button and repeat the above procedure for sample 2.
7. Before you can play this new program, you must first remove the test tone from program 5. So press the SAMPLE button and adjust the sample number to S5 with the CONTROL knob. Then press the KEY RANGE button twice and set H to "0".
   Now you are ready to Play.



Bass

```
P1  :S1:L=36:H=47
```

Orchestra Hit

```
P1  :S2:L=48:H=59
```

Brass

```
P1  :S3:L=60:H=83
```

Sound Effect

```
P1  :S4:L=84:H=96
```

Now press the KEY RANGE button and set to the key range setting mode. Then press the PROGRAM button and set the program number using the CONTROL knob. Next, press the SAMPLE button and set the sample number using the CONTROL knob. Finally press the KEY RANGE button.

```
P1  :S1:L=24:H=96
```

In this example, program number P1 and sample number S1 are used.
Set the key range for sample number S1. For example,

```
P1  :S1:L=36:H=47
```

This is the same as setting a single sampled sound for one program number.
Now set the key range for sample number S2. Press the SAMPLE button and use the CONTROL knob to set to S2. Then press the KEY RANGE button.

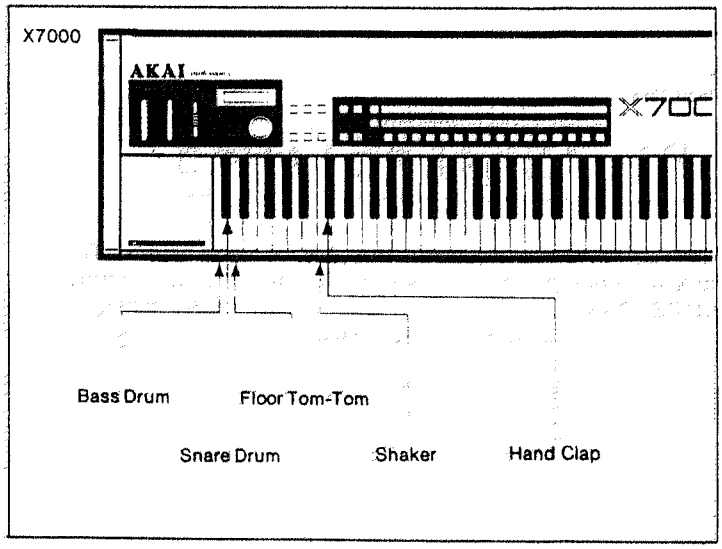
```
P1  :S2:L=36:H=47
```

Set the key range. For example,

```
P1  :S2:L=48:H=59
```

Use this procedure to set various sampled sounds for a single program number.

When Using the ASK70
By mounting separately sold ASK70 expansion memory board onto the X7000, it is possible to store sampled sound data for up to 16 sounds in the memory.



Use the expanded memory size and programming functions to play a variety of different sounds on a single keyboard (drums, percussion, special effects, etc.)
Also, automatic playback is possible using up to 16 sounds when a MIDI sequencer is used.

Bass Drum

```
P1 :S1:L=36:H=36
```

Snare Drum

```
P1 :S2:L=37:H=37
```

Floor Tom-Tom

```
P1 :S3:L=38:H=38
```



Shaker

```
P1 :S15:L=50:H=50
```

Hand Clap

```
P1 :S16:L=51:H=51
```

Furthermore, by using the X7000's MIDI mode and VOICE OUT jack, it is possible to create a stereo sound field. (See page 30)
NOTE: Even when expanded to 16 sounds, only 6 voices (sounds) can be produced at once.

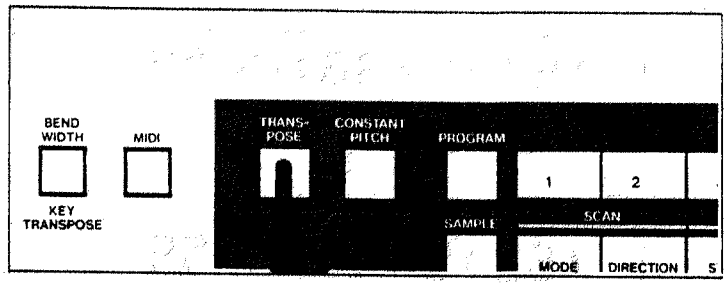
Transposing

The X7000 is equipped with a transposing function in halfnote steps, making it possible to play the sampled sound at any pitch.

Operation

As an example, try transposing the sampled sound one octave up.
Press the TRANSPOSE button. The LCD will read:

```
P1 :S1:TRNSP=+ 0
```



Turn the CONTROL knob to change the value between −60~0~+60. One step corresponds to one halfnote. To transpose one octave up, set the CONTROL knob to:

```
P1 :S1:TRNSP=+12
```

To transpose one octave down, set the CONTROL knob to:

```
P1 :S1:TRNSP=-12
```

It's as simple as that. This data is also stored on the sampler disk along with the sampled sound data.
NOTE: Always check the pitch on the keyboard when transposing.

Handy Function for Fixing the Pitch

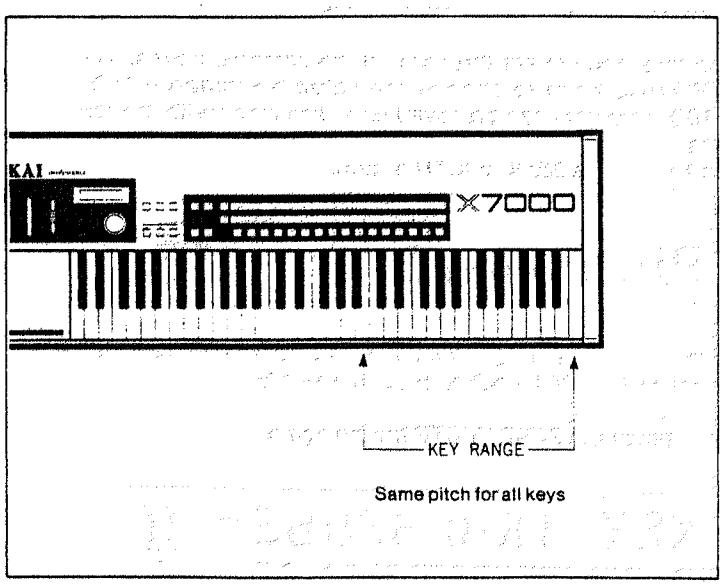
Press the CONSTANT PITCH button. The LCD will read:

```
CONST.PITCH =off
```

This is the normal mode in which the pitch of the sampled sound changes according to the key note. Now turn the CONTROL knob.

```
CONST.PITCH =on
```

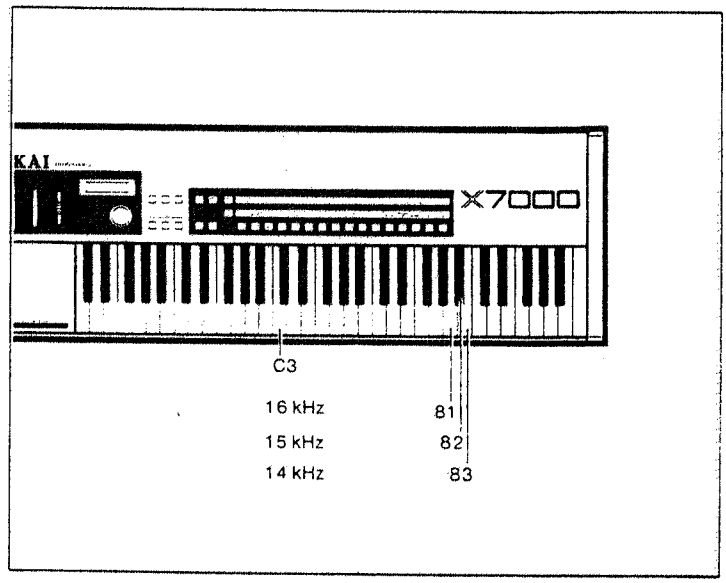
In this mode, the pitch of the sampled sound is fixed to the original pitch, the transposed pitch, or the tuned pitch (explained later). When this mode is set, sound will be produced at the same pitch when any keys in the set key range are pressed.



This function is handy for percussion sound effects in which differences in pitch are not desired.

Advice on Multi-Sampling

1. When playing back a sampled sound, if for example a sound sampled at the C3 position is played back by pressing the C3 key, the same pitch as the original sound will be produced. If however any other key is pressed, the recall speed changes so the pitch will also change.
   With the X7000, the original pitch for a sound sampled at the C3 position with an audio bandwidth of 16 kHz is played back by pressing C3, and pressing up to G4# will produce a pitch higher than the original, but from A4 on this pitch cycle is repeated. Thus the pitch is linked to the audio range of the sampled sound.
   For a sound sampled at C3 with an audio range of 6.3 kHz, the pitch will begin repeating from MIDI note no. 97. If you wish to use the entire upper range of the keyboard, specify a key as high as possible as the sampling key.
   Also, by using the transpose function, repeat of the transposed section only can be set to begin lower.



2. Using the Re
   If such pitch repeating occurs for a sound already saved on a disk or one that has just been sampled, the re-sample function (decreasing the sampling frequencies equivalently) can be used to move the point at which repeating begins to a higher key.

Press the RESAMPLE button and set the resample mode.

```
S1:Resample  1/2
```

In this mode, the sample sound data is compressed by 1/2.

Turn the CONTROL knob. The LCD will read:

```
Crunching•••••
```

The data is now compressed. When compression is completed, the LCD will return to:

```
S1:Resample 1/2
```

NOTE: Since it is not possible to retrieve the original pitch once data is compressed, we recommend you save the original on a sampler disk. Compressed voice data can also be saved on a disk. Also note that when resampling is performed for pitches other than the highest key, the pitch will not increase, the harmonic structure will change, and the sound quality will deteriorate.

Tuning/Pitch Bending

With the X7000's tuning function, it is possible to tune a sampled sound within a range of ±100 cents (one halfnote), and to save the tuning parameters along with the sampled data on a disk.
Press the MASTER TUNE button.

```
MASTER TUNE=+00
```

This is the master tuning mode. Use this mode to tune the pitch to other instruments when performing. Turn the CONTROL knob to change the value between −100~0~+100.
Now press the PROGRAM TUNE button.

```
S1:PRG TUNE=+00
```

Use this mode to set the pitch of the sampled sound. Turn the CONTROL knob to change the value betweeen −100~0~+100. This data can be saved on a disk along with the sampled data.
Next, press the BEND WIDTH button.

```
Pitch wheel      12
```

In this mode, the pitch bend width is variable by one half step. Use the CONTROL knob to adjust it (0−12).

Next, press the BEND WIDTH button again.

```
KEY TRANSPOSE= 0
```

In this mode, the pitch of the entire X7000 keyboard is transposed. Use the CONTROL knob to set between −7~0~+7. (Example: 0=C, +1=C#, +2=D, +3=D#, +4=E...)

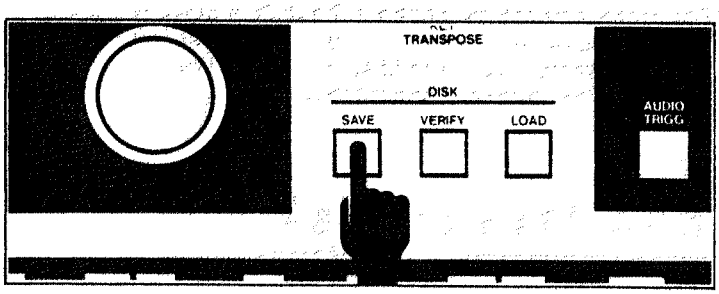
Save, Verify, and Load

With the X7000, the program and sound data for two sampled sounds can be saved on a single 2.8 inch disk, one on each side. Furthermore, it is possible to load data for a maximum of 6 (or 16 when using the ASK70) sampled sounds into the X7000's memory.

Saving

After checking that the disk's erasure prevention tab has not been broken, insert the disk straight into the disk drive, pushing gently until it stops. Inserting the disk at a slant or handling it roughly may damage the disk and drive.

Press the SAVE button.




```
SET TO SAVE S1
```

Use the CONTROL knob to set the sample number.
The X indicates the sample number.

Now press the SAVE button again. The LCD will read:

Pall: including all program data

```
SAVING S1: Pall
```

sample number

The data is now saved on the disk.
If the tab has been broken, the LCD will read:

```
Write protected
```

If this happens, press the disk eject button, gently pull the disk out, and insert a new disk.

Data Saved on Disk

With the X7000, the sampled sound data as well as the edited data and programming data for that sample number are all saved onto the disk at once.
As one full side of the disk is used to store the data for one sound, use one side of the disk for each sample number when sampling or editing two or more sounds.

Content

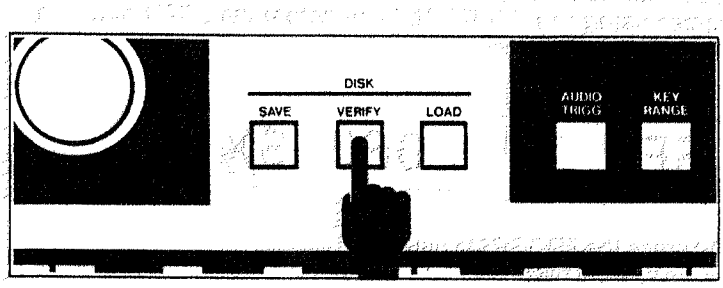
- Sample sound digital data
- Scanning data (ONE SHOT, LOOPING, ALTERNATING, START, END, LOOP/SPLICE POINT)
- Key range
- Transpose
- Tune (PRG TUNE)
- LFO (SPEED, DEPTH, DELAY)
- OUT (FILTER, LEVEL, RELEASE)
- Program number
- Sample number
- Audio trigger playback mode (ON, OFF, NOTE)

Write a memo of the data saved on the disk's label. In particular, we suggest you keep the various disks together when using multiple point sampling and key splitting.

Note: The master tune and pitch bend width parameters are not saved.

Verifying

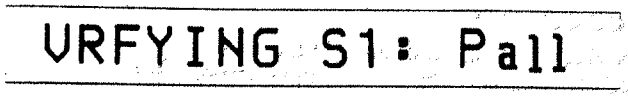
After the save operation has been completed, press the VERIFY button.




```
SET TO VRFY SX
```

There is no need to set this.

This mode is used to check whether the saved data is properly stored on the disk.
Press the VERIFY button once again.



When the operation is completed, the LCD will read:



This indicates that everything is proper.
If the LCD reads:



Perform the save operation once again.
If an error still occurs, use a new disk.
NOTE: Some possible causes for errors are a defective disk or disk pad, or a dirty or worn head. If you think the unit is out of order, contact your nearest Akai dealer or service station.

Loading

Prepare a disk containing sampled sound data.
Insert the disk into the disk drive and press the LOAD button.
When loading the disk which has been made by another X7000 or from the SL700 series sound library, the sample number will be shown automatically on the LCD, if the LOAD button is pressed again when "SX" appears on the LCD.
If you wish to change the sample number, reset the sample number using the CONTROL knob before the LOAD button is pressed the second time.



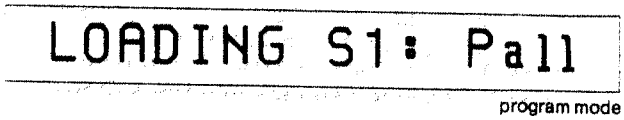
Next press the PROGRAM button.
The display will read:



When the control knob is turned, Pall (Program all) changes from P32, P31 . . . to P1, and finally to P**.

Pall:	All SX key range programs set in P1 through P32 are loaded.
P1—P32:	Only the SX key range program for the specified program number is loaded.
P**:	Information other than program data is loaded.

In the Pall mode, if the LOAD button is pressed again,



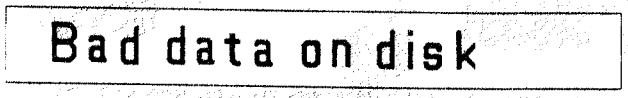
program mode

Loading is now being performed. When it is completed, the LCD will return to:



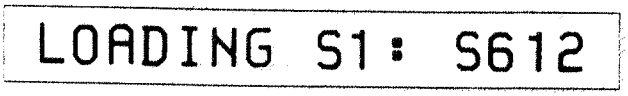
Now remove the disk, insert the next disk, use the CONTROL button to set the sample number, and press the LOAD button after selecting the program mode. The data for up to 6 voices can be loaded into the X7000. (When options are used to expand the memory, up to 16 voices can be loaded.)
NOTE: Data may not be loaded if the disk is defective. Disks may be ruined if subject to strong magnetic forces, high temperatures or humidity, or shock. We recommend making copies of important disks.

If the LCD should read:



the disk is defective.

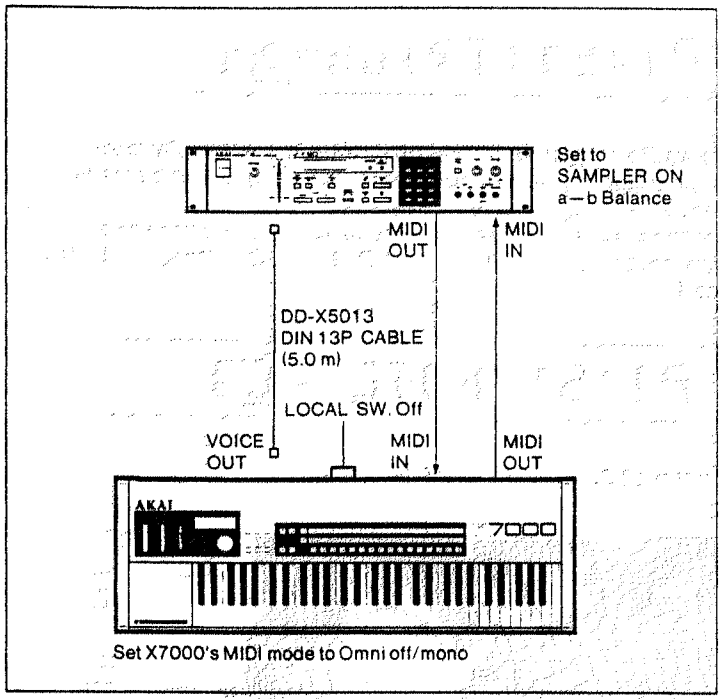
The sound libraries for the AKAI S612 (SL201—SL207, each containing 10 disks/20 sounds) can be loaded in the X7000.
When loading a disk prepared on the S612, be sure to first specify the sample number.
When a disk prepared on the S612 is loaded, the following display will appear:



For disks prepared on the S612 as well, a maximum of 6 sounds can be loaded (or 16 sounds when using the ASK70 expansion memory).
When a disk prepared on the S612 is loaded, the voices will be stored at the same program number as the sample number.
S1 → P1
S6 → P6
S16 → P16
Disks prepared on the S612 are loaded and if verified, the LCD read Verify Error due to no program data in the disk. (This is not a fault of this machine.)
NOTE: **Disks prepared on the S612 do not contain program data, so the key ranges are fully compatible with the X7000 key ranges (L=36, H=96).**
Also, disks prepared on the X7000 cannot be loaded on the S612.

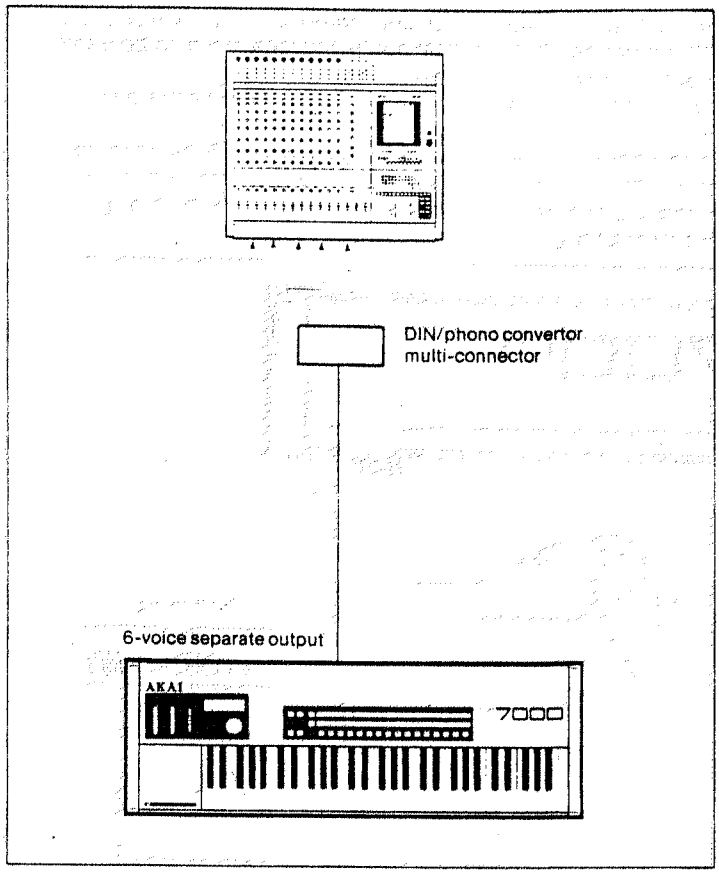
Separate Output

The X7000 is equipped with a 13-pin DIN connector on the back panel, so the 6 voices can be output separately.
This output terminal can be connected to synthesizers such as the Akai AX60, AX73, or VX90, making it possible to process the sampled sounds using the synthesizer edit functions.

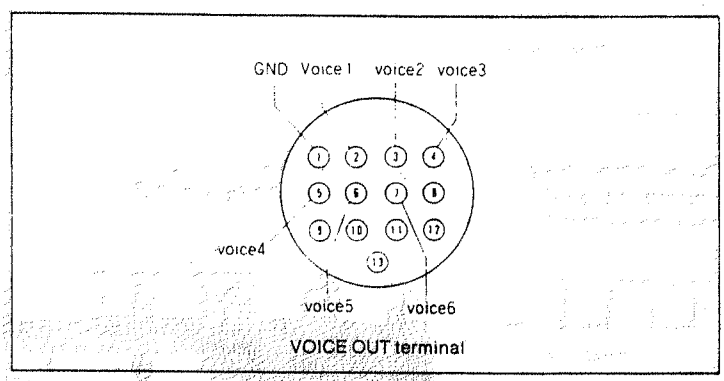


Set X7000's MIDI mode to Omni off/mono

Use the separately sold Akai DD-X5013 13-pin DIN connector cable to connect to the synthesizer.
For directions on editing the sampled sounds using the synthesizer, refer to the synthesizer's manual.
Furthermore, by using a separately sold DIN/phone convertor multi-connector, up to 6 voices (or 16 when using options) can be output separately and distributed to the different channels of a mixer, etc. When the MIDI special mono mode or multi-mono mode is used, keyboard splitting or multi-track sequencing (automatic performing) with a MIDI sequencer can be used to create a stereo effect or to apply effects to each voice separately.

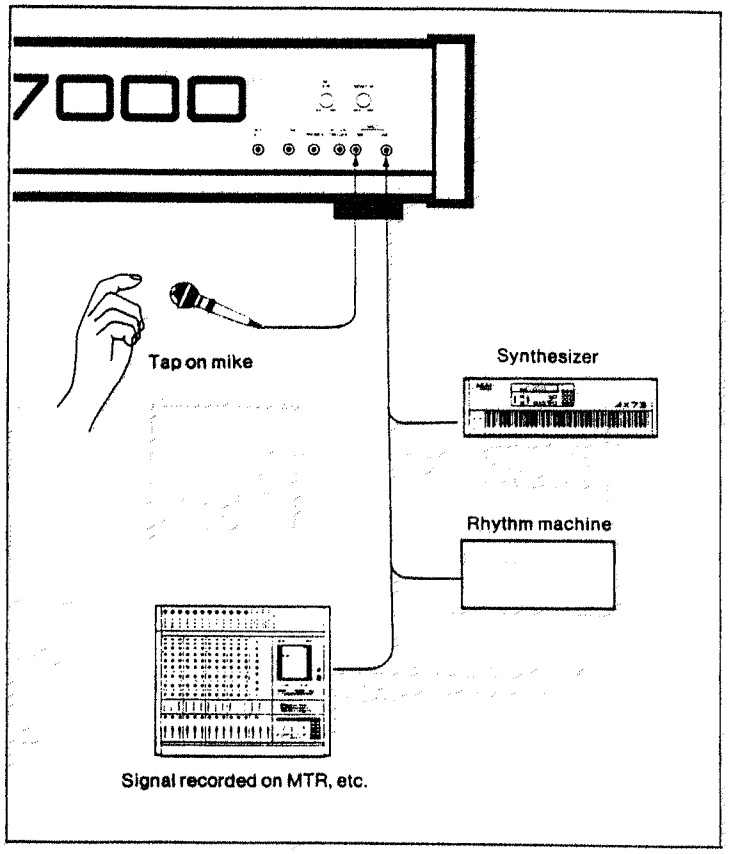


The X7000 6-voice separate output is closely related to the MIDI mode. Refer to the section on MIDI modes.

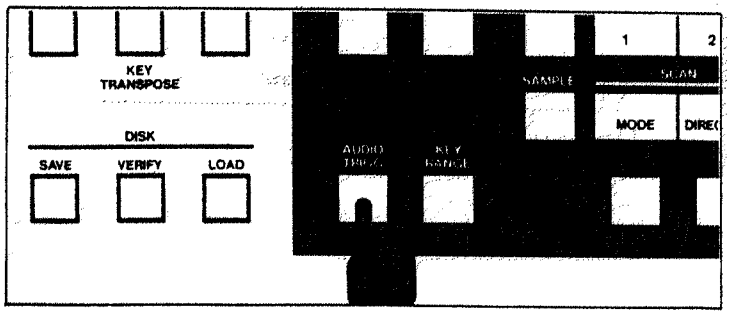


Audio Trigger Playback

The X7000 is designed for performance on the keyboard or a MIDI sequencer, but external audio sources can also be used as triggers to play back sampled sounds.
Use as simple an envelope sound as possible as the audio trigger.
For example, good effects can be obtained by lightly tapping on a mike, producing a test tone intermittently from a synthesizer, or using a rim shot or cow bell sound from a rhythm machine separate output.



To perform playback using auto trigger, connect the trigger source to the MIC or LINE input jack on the rear panel.
Now press the AUDIO TRIGG button.



The LCD will read:



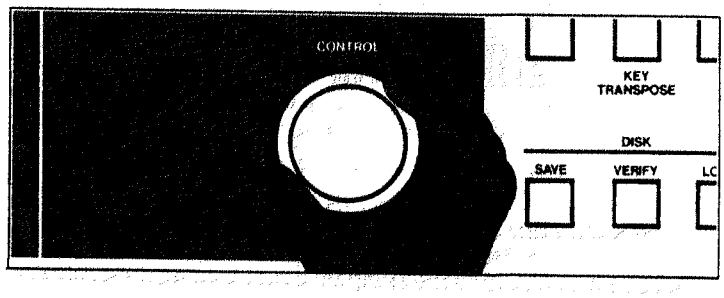
Turn audio trigger on by turning the CONTROL knob.



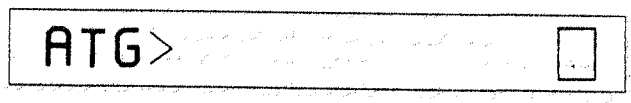
As audio trigger is in the programming area, playback using audio trigger is carried out only for the sample number indicated here when programmed for key split.
Set the sample number using the procedure described earlier.
Now set the pitch. Press the AUDIO TRIGG button. The LCD will read:



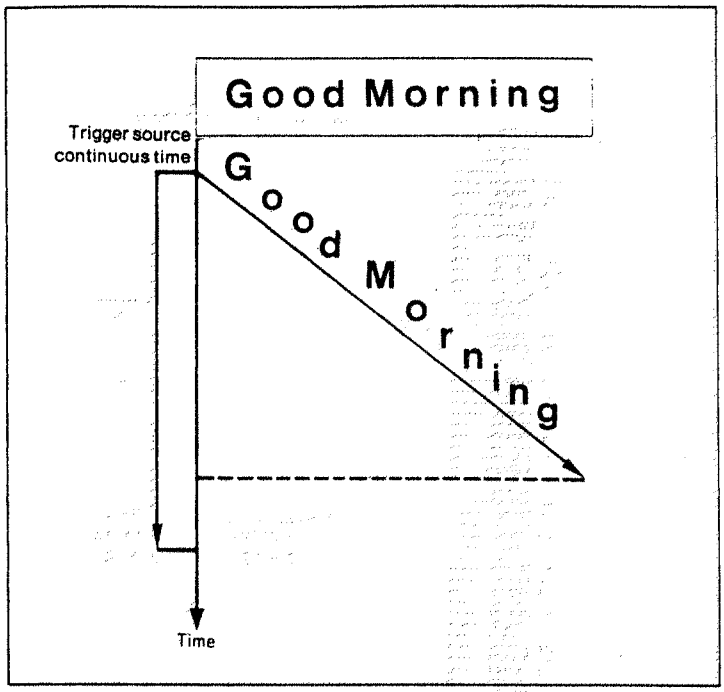
Set the pitch using the CONTROL knob.



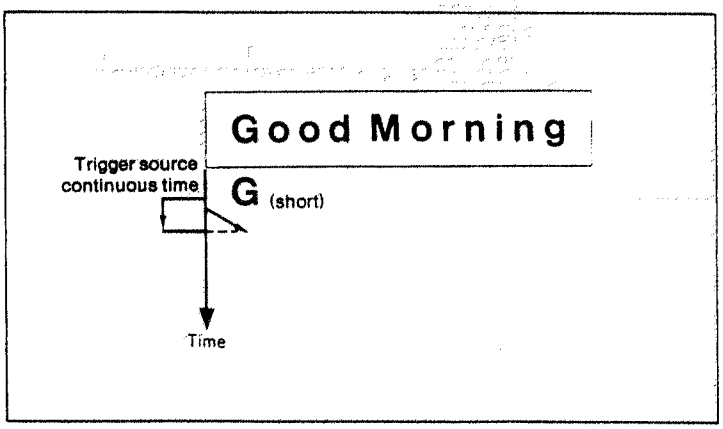
Now press the AUDIO TRIGG button again. The LCD will read:



Use the CONTROL knob to set the desired trigger level.
Now choose a scanning mode suited to the trigger source. The sampled sound is played back fully or partially depending on the continuous time of the trigger source.



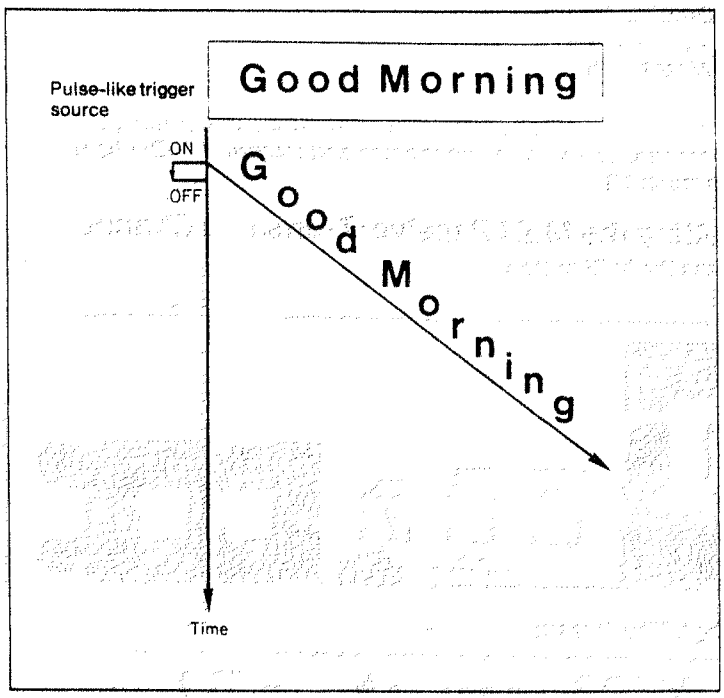
If the trigger source sound is longer than the recording time of the sampled voice data, the "**Good Morning**" will be played back completely. For a very short trigger source sound, only a short "**G**" will be played.



To use short pulse-like trigger sources such as tapping on the mike or rim shot sounds from a rhythm machine, press the SCAN button, then turn the CONTROL knob so the LCD reads:

```
S1:SCAN=DRM TRIG
```

In this mode, the complete sampled sound is played back (one shot), even for short, pulse-like trigger sources.



Use this mode for drums, percussion, or sound effects which require precise timing. Of course, this scanning mode can also be used for keyboard performances.

33
MIDI

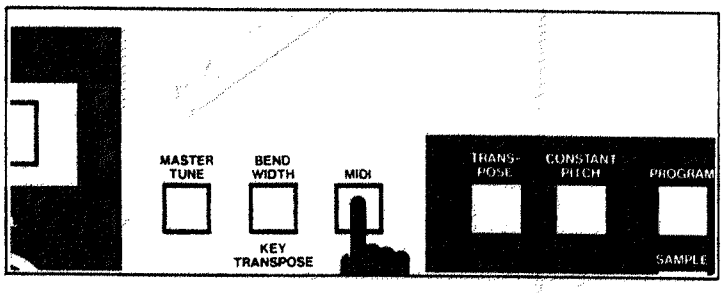
MIDI (Musical Instrument Digital Interface) is the internationally recognized standard for electronic musical instruments. It is possible for MIDI instruments to exchange all kinds of information needed for musical performance by using MIDI cables.
The X7000 is able to receive the following MIDI information through MIDI cables:

- **Key note (pitch), key-on, key-off, and key velocity**
- **Sustain pedal**
- **Pitch bend**
- **Modulation wheel (vibrato)**
- **Mono/Poly mode changes**
- **System exclusive**
- **Omni on/off**
- **Main volume**
- **After touch**

The channel number must be indicated to exchange MIDI messages. The X7000 can receive and transmits MIDI channels 1 through 16.

Setting the MIDI Receive/Transmits Channel

Press the MIDI button.



The LCD will read:

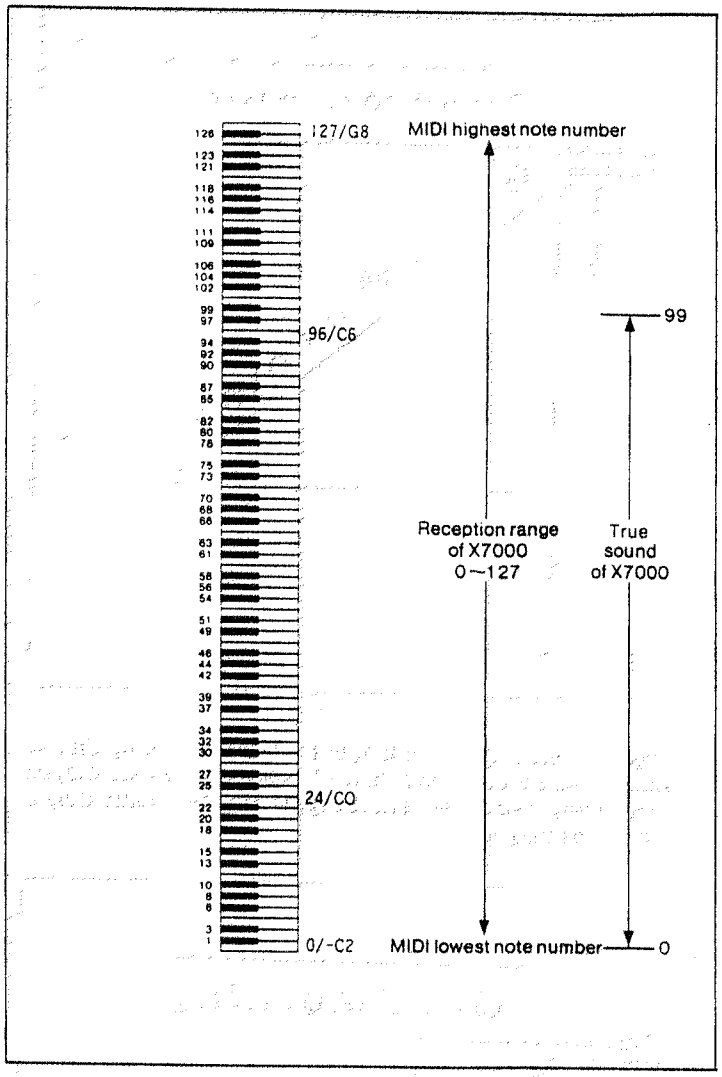
```
MIDI rcv ch  = 1
```

This is the MIDI receive channel setting mode. Turn the CONTROL knob to change the value between 1 and 16 and set to the desired MIDI reception channel.

Press the MIDI button again. The LED will read:

```
MIDI trans ch = 1
```

This is the MIDI transmits channel mode. Turn the CONTROL knob to change the value between 1 and 16 and set to the desired MIDI transmits channel.



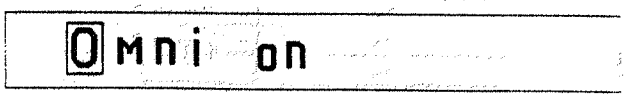
MIDI Modes

The X7000 is equipped for 6 different types of MIDI modes: OMNI ON, OMNI OFF, MULTI PROGRAM, POLYPHONIC, MONOPHONIC, and SPECIAL MONO. These can be combined to create a total of 9 different modes, providing great possibilities for musical expression.

	OMNI ON	OMNI OFF	MULTI
POLYPHONIC	MODE 1	MODE 3 *	MODE 7
MONO PHONIC	MODE 2	MODE 4	MODE 8 *
SPECIAL MONO	MODE 5 *	MODE 6 *	MODE 9 *

☐ Shaded modes are modes only available on the X7000.
* These modes are for the DIN 13 pin separate output.

Mode Setting and Operation
Use the MIDI button and the CONTROL knob to set the MIDI modes.
Press the MIDI button again. The LCD will read:



When the CONTROL knob is turned, the LCD will read:



Turn the CONTROL knob further, and the LCD will read:



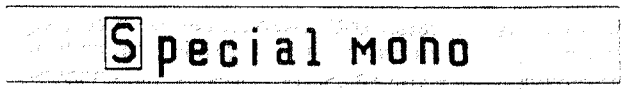
Now press the MIDI button again, and the LCD will read:



Turn the CONTROL knob, and the LCD will read:



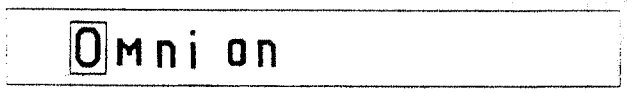
Turn the CONTROL knob further, and the LCD will read:



Now let us explain the operation of the different combinations of these modes.

MODE 1 OMNI ON/POLY Mode

Set the mode as follows:

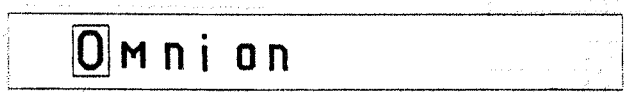


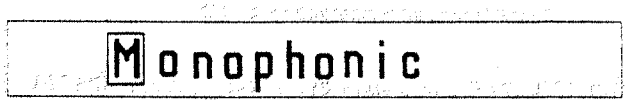


In this mode, all types of MIDI channel information can be received, and a maximum of 6 voices can be performed at once. The X7000's 6 voices can be assigned to a set program number (polyphonic). This is the most commonly used mode.

MODE 2 OMNI ON/MONO Mode

Set the mode as follows:





In this mode, all types of MIDI channel information can be received, but only one sound can be played.
Only one voice can be assigned to a set program number and output from the X7000.

MODE 3 OMNI OFF/POLY Mode

Set the mode as follows:

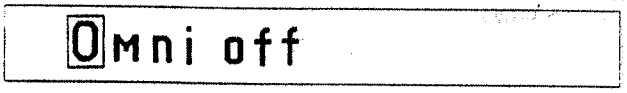




In this mode, only the indicated MIDI channel can be received, and 6 voices can be assigned to a set program number (polyphonic), so maximum of 6 voices can be played simultaneously.

MODE 4 OMNI OFF/MONO Mode

Set the mode as follows:





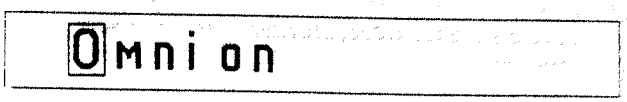
This mode is used to connect the sampler input (VX90, AX73, AX70, etc.) and the X7000 separate output with a DIN 13 pin cable and edit the sampled data on a synthesizer. The 6 MIDI channels are received and each channel is output from a specific terminal, so a single sound is produced for each MIDI channel.

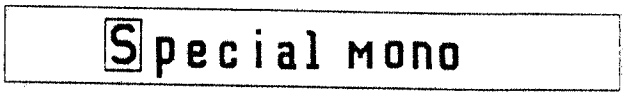
MIDI CH Number	Program Number	Voice Number
Mn	1~32	1
Mn+1		2
Mn+2		3
Mn+3		4
Mn+4		5
Mn+5		6
Mn MIDI channel number setting (1~16)		

By using the X7000's 6 voice separate output function, the MIDI channel and program number can be switched so that each voice can be output and played separately. (Refer to Page 30).

MODE 5 OMNI ON/SPECIAL MONO Mode

Modes 5~9 are MIDI modes which are only available on the X7000.





In this mode, all MIDI channels can be received, and the sample numbers correspond to the voice numbers, so one sound is played for one voice. When the maximum of 6 voices are set using the key split function, each voice can be played separately, one sound per voice.
This mode is great when using the 6 voice separate output function. Use it in particular to split drums, percussion, sound effects, and other voices into small groups.

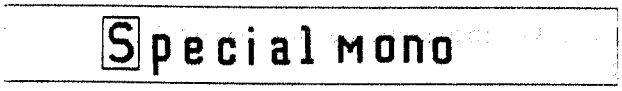
MIDI CH Number	Program Number	Voice Number
ALL (1~16)	1	1
	2	2
	3	3
	4	4
	5	5
	6	6
	* 7	1
	8	2
	9	3
	10	4
	11	5
	12	6
	13	1
	14	2
	15	3
	16	4

* Sample numbers 7~16 are only possible when using the ASK-70.

MODE 6 OMNI OFF/SPECIAL MONO Mode

Set the mode as follows:





This mode operates basically in the same way as mode 5, but only with one specified MIDI channel.

MODE 7 MULTI PROGRAM/POLY Mode

Set the mode as follows:





In this mode, multiple MIDI channels are received. MIDI channels 1~16 correspond to program numbers P1~16 (or P17~32), and the programs are assigned in polyphonic for the 6 voices. It is thus possible to play a maximum of 6 voices for each channel. However, the maximum number of voices which can be produced simultaneously for multiple channels remains 6.
This mode is great for multi-track performance using a MIDI sequencer or the like.

MIDI CH Number	PROGRAM Number	Voice Number
1	1 (17)	Polyphonic Assign
2	2 (18)	
3	3 (19)	
4	4 (20)	
5	5 (21)	
6	6 (22)	
7	7 (23)	
8	8 (24)	
9	9 (25)	
10	10 (26)	
11	11 (27)	
12	12 (28)	
13	13 (29)	
14	14 (30)	
15	15 (31)	
16	16 (32)	

MODE 8 MULTI PROGRAM/MONO Mode

Set the mode as follows:





In this mode, as well, multiple MIDI channels are received. MIDI channels 1~16 correspond to program numbers P1~16 (or P17~32), and the program numbers correspond to the various specified voice numbers.
Thus, a single sound is produced for each MIDI channel. This mode is great for multi-track automatic performance of separate outputs using a MIDI sequencer or the like.

MIDI CH Number	PROGRAM Number	Voice Number
1	1 (17)	1
2	2 (18)	2
3	3 (19)	3
4	4 (20)	4
5	5 (21)	5
6	6 (22)	6
7	7 (23)	1
8	8 (24)	2
9	9 (25)	3
10	10 (26)	4
11	11 (27)	5
12	12 (28)	6
13	13 (29)	1
14	14 (30)	2
15	15 (31)	3
16	16 (32)	4

MODE 9 MULTI PROGRAM/SPECIAL MONO Mode

Set the mode as follows:

Multi program

Special mono

In this mode, as well, multiple MIDI channels are received. MIDI channels 1~16 correspond to program numbers P1~16 (or P17~32), and the sample numbers included in the programs correspond to the various specified voice numbers. Thus, a single sound is produced for each sample. (The maximum number of voices which can be produced simultaneously is 6.) This mode is also great for multi-track automatic performance of separate outputs using a MIDI sequencer or the like.

MIDI CH Number	PROGRAM CH Number		SAMPLE Number	Voice Number
1	1 (17)		1	1
2	2 (18)		2	2
3	3 (19)		3	3
4	4 (20)		4	4
5	5 (21)		5	5
6	6 (22)		6	6
7	7 (23)		* 7	1
8	8 (24)		8	2
9	9 (25)		9	3
10	10 (26)		10	4
11	11 (27)		11	5
12	12 (28)		12	6
13	13 (29)		13	1
14	14 (30)		14	2
15	15 (31)		15	3
16	16 (32)		16	4

* Sample numbers 7—16 are only possible when using options.

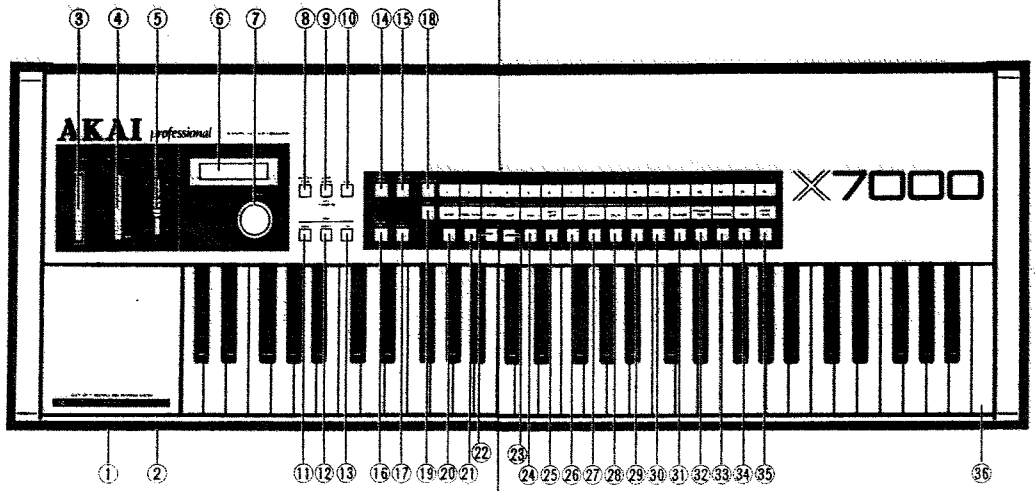
Receiving Program Changes

With the X7000. MIDI program changes information can be received from a keyboard or sequencer to select the X7000's program number.

Prog change on

Use the CONTROL knob to switch between on and off.

Controls



① **Disk Drive**
This disk drive is exclusively for use with 2.8-inch sampler disks.
NOTE: Insert the sampler disk straight into the drive, pushing gently until it stops. Inserting at a slant or handling roughly will reduce the life of the disk.

② **Disk Eject Button**
Press this button to eject the sampler disk.
NOTE: When the disk appears, pull it straight out gently.

③ **Pitch Bend Wheel**

④ **Modulation Wheel**
Use this wheel to vary the vibrato produced by the LFO.

⑤ **Volume Control**
Use this slide control to adjust the output level. The volume of the headphones is also adjusted with this control.

⑥ **Liquid Crystal Display (LCD)**
This is a 16-character LCD which displays various the messages and parameters. It is equipped with a back light, so the display is visible even on dark stages.

⑦ **Control Knob**
Use this knob to increase or decrease the parameter values and to switch the modes on and off. Use it in conjunction with the various mode buttons.

⑧ **Master Tune Button**
Press this button to tune the pitch of the X7000 with other instruments. Tuning by ±100 cents is possible using the control knob.

⑨ **Bend Width/Key Transpose Button**
Press this button to set the variable range for the pitch bend wheel. Setting of a maximum of ±1 octave is possible using the control knob. This mode switch can also be used for the key transpose setting. Use this when you wish to transpose the key for the entire keyboard.

⑩ **MIDI Button**
Press this button to set the MIDI channel or switch the MIDI mode.

⑪ **Save Button**
Press this button to save the X7000 sampled sound data (including edited data and program data) onto the 2.8-inch sampler disk.

⑫ **Verify Button**
Press this button to verify whether the sound data has been properly saved on the sampler disk.

⑬ **Load Button**
Press this button to load sound data from the sampler disk into the X7000.

⑭ **Transpose Button**
Press this button to transpose the pitch of the sampled sound.

⑮ **Constant Pitch Button**
Press this button to fix the pitch of the sampled sound. This function is useful to keep the pitch from changing due to percussion sound, effected sound, etc.

⑯ **Audio Trigger Button**
Use this button to set the pitch and indicate that you wish to playback the sampled sound by triggering it with external audio signals, for example from a mike or line. This function can also be used for triggered playback using a foot switch.

⑰ **Key Range Button**
Use this button to set the key range for the sampled sound. With the X7000, a maximum of 6 sounds can be assigned to 6 different key ranges. Also, if the ASK70 expansion memory board is used, it is possible to assign up to 16 sounds to 16 key ranges.

⑱ **Program Button**
Press this button to store combinations of key range assignments, to switch the program data mode upon loading, and to set or recall program numbers.

⑲ **Sample Number Button**
Press this button to set and recall the sampled sound numbers.

⑳ **Scanning/Mode Button**
The sampled sound can be played back with one of four types of scanning: one shot, looping, alternating, or drum trigger. Select the type of scanning by pressing this button then using the control knob.

㉑ **Scanning/Direction Button**
Sampled sound is usually played back in the forward direction, but of this button is pressed and the control knob is rotated, it can also be played back in the reverse direction.

㉒ **Splice/Start Point Button**
Press this button to set the start point for playback of the sampled sound.

㉓ **Splice/Looping Point Button**
The function in which the sampled sound is played back repeatedly is called "looping". Press this button to set the looping point of the sampled sound.

㉔ **Splice/End Point Button**
Press this button to set the end point for playback of the sampled sound.

㉕ **Splice/Auto Loop Button**
In a looping function, the Automatic splicing system is automatically called out and the optimum splicing point is found by equipped computer.

㉖ **LFO/Speed Button**
Vibrato can be applied to the sampled sound using an LFO (low-frequency oscillator). Press this button to set the LFO speed.

㉗ **LFO/Depth Button**
Press this button to set the depth of the vibrato effect.

㉘ **LFO/Delay Button**
Press this button to adjust the timing at which the vibrato effect starts.

㉙ **OUT/Filter Button**
Press this button to adjust the filter when you wish the sampled sound milder or change the tone depe the key velocity.

㉚ **OUT/Level Button**
Press this button to set the sampled sound leve amount of change in the dynamics depending on velocity.

㉛ **OUT/Release Button**
Press this button to adjust release time.

㉜ **Program Tune Button**
Press this button to adjust the pitch of the sample Tuning is possible by ±100 cents (in halfnote step the rotary knob.

㉝ **Resample Button**
Press this button to compress the sampled sound 1/2. (see Page 26)

㉞ **NEW Button**
Press this button to perform a new sampling. Wh button is pressed and sampling is performed, the pr sampled sound is erased.

㉟ **Over Dubbing Button**
Press this button to over dub sampled sounds an sound data which is the combination of various sound

㊱ **Keyboard**
This is a 61 key, 5 octave, C scale, key velocity co keyboard. It can be split in up to 6 split areas (or areas when using the ASK70 expansion memory) b the key ranges for the sampled sounds.

Specifications

Key:	61 key 5 octave c-c scale/velocity sensitive	
Voice:	6 voice	
Split:	6 split areas (16 split areas with ASK70 memory expansion board)	
System:	12 bit sampling	
	Sampling frequency	: 4 kHz—40 kHz
	Sampling time	: 8 sec—0.8 sec
	Frequency response	: 25 Hz—16 kHz
	Voice	: 6 voice
	Range	: 6 octave
Data storage:	Built-in 2.8 inch disk drive	
	Memory capacity	: 128 k byte (total of side A&B)
	Number of tracks	: 1 track (spiral)
	Memory medium	: 2.8 inch disk
	Longevity (medium)	: 2000 passes
	Internal memory	: 6 sampled sounds (16 sampled with ASK70 memory expansion board)
Functions:	Recording level	: min—max
	Monitor level	: min—max
	Output level	: min—max
	Recording mode	: new, over dub
	Edit section	: scan (start, end, loop)
		: scan mode (one shot, loop, alternating, drum trigger, auto loop, reverse, forward)
	LFO: (speed, depth, delay)	
	Output: (release, level, filter, velocity)	
	Tune: (master tune ±100 cent, program tune ±100 cent)	
	Transpose: (±5 oct, constant pitch on/off)	
	Key range: (MIDI note 0—99)	
	Audio trigger: (on/off, MIDI note number)	
	Play key	
	Sample: (1, 2, 3, 4, 5, 6)	
	(16 with expansion memory card)	
MIDI:	MIDI CH (1—16)	
	OMNI ON (special mono, mono, poly)	
	OMNI OFF (special mono, mono, poly)	
	MULTI MODE (special mono, mono, poly)	
Data:	save, verify, load	
Display:	LC display	
External jack:	MIDI (in, out, thru)	
	Mic input jack	
	Line input jack	
	Line output jack	
Dimensions:	1,039 (W) × 110 (H) × 346 (D) mm	
Weight:	14 kg	
Optional accessory:	ASK70 (memory expansion board/16 sampled sounds memories)	

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

Model X7000 MIDI Implementation Chart Version :1.0

Function ...	Transmitted	Recognized	Remarks
Basic Default Channel Changed	1 1 - 16	1 1 - 16	
Mode Default Messages Altered	MODE 3 **********	MODE 3	
Note Number : True voice	36 - 96 * **********	0 - 127 0 - 99	Key Transpose ±7
Velocity Note ON Note OFF	○ 9nH v=1-127 ○ 8nH v=0-127	○ 9nH v=1-127 × 8nH v=0-127, 9n v=0	8nH: Velocity Release
After Key's Touch Ch's	× ×	× ○	
Pitch Bender	○	○	
Control 1 Change 7 64	○ ○	○ ○ ○	Modulation Wheel Volume Control Sustain Pedal
Prog Change : True #	○ (0 - 31) **********	○ 0 - 31	
System Exclusive	○	○	Sampling Data
System : Song Pos : Song Sel Common : Tune	× × ×	× × ×	
System :Clock Real Time :Commands	× ×	× ×	
Aux :Local ON/OFF :All Notes OFF Mes- :Active Sense sages:Reset	× × × ×	○ ○ × ×	123
Notes			

Mode 1 : OMNI ON, POLY Mode 2 : OMNI ON, MONO ○: Yes
Mode 3 : OMNI OFF, PLLY Mode 4 : OMNI OFF, MONO ×: no