YAMAHA

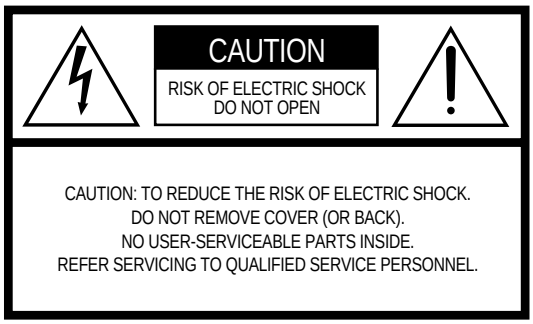
PROFESSIONAL SAMPLER

A3000

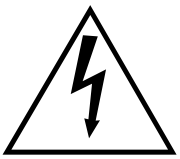
Owner's Manual

SPECIAL MESSAGE SECTION

PRODUCT SAFETY MARKINGS: Yamaha electronic products may have either labels similar to the graphics shown below or molded/stamped facsimiles of these graphics on the enclosure. The explanation of these graphics appears on this page. Please observe all cautions indicated on this page and those indicated in the safety instruction section.



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



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

IMPORTANT NOTICE: All Yamaha electronic products are tested and approved by an independent safety testing laboratory in order that you may be sure that when it is properly installed and used in its normal and customary manner, all foreseeable risks have been eliminated. DO NOT modify this unit or commission others to do so unless specifically authorized by Yamaha. Product performance and/or safety standards may be diminished. Claims filed under the expressed warranty may be denied if the unit is/has been modified. Implied warranties may also be affected.

SPECIFICATIONS SUBJECT TO CHANGE: The information contained in this manual is believed to be correct at the time of printing. However, Yamaha reserves the right to change or modify any of the specifications without notice or obligation to update existing units.

ENVIRONMENTAL ISSUES: Yamaha strives to produce products that are both user safe and environmentally friendly. We sincerely believe that our products and the production methods used to produce them, meet these goals. In keeping with both the letter and the spirit of the law, we want you to be aware of the following:

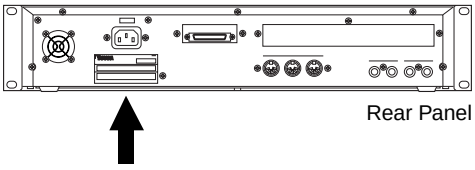
Battery Notice: This product MAY contain a small non-rechargable battery which (if applicable) is soldered in place. The average life span of this type of battery is approximately five years. When replacement becomes necessary, contact a qualified service representative to perform the replacement.

Warning: Do not attempt to recharge, disassemble, or incinerate this type of battery. Keep all batteries away from children. Dispose of used batteries promptly and as regulated by applicable laws. Note: In some areas, the servicer is required by law to return the defective parts. However, you do have the option of having the servicer dispose of these parts for you.

Disposal Notice: Should this product become damaged beyond repair, or for some reason its useful life is considered to be at an end, please observe all local, state, and federal regulations that relate to the disposal of products that contain lead, batteries, plastics, etc.

NOTICE: Service charges incurred due to lack of knowledge relating to how a function or effect works (when the unit is operating as designed) are not covered by the manufacturer's warranty, and are therefore the owners responsibility. Please study this manual carefully and consult your dealer before requesting service.

NAME PLATE LOCATION: The graphic below indicates the location of the name plate. The model number, serial number, power requirements, etc., are located on this plate. You should record the model number, serial number, and the date of purchase in the spaces provided below and retain this manual as a permanent record of your purchase.



Model _____

Serial No. _____

Purchase Date _____

PRECAUTIONS

PLEASE READ CAREFULLY BEFORE PROCEEDING

* Please keep these precautions in a safe place for future reference.

⚠ *WARNING*

Always follow the basic precautions listed below to avoid the possibility of serious injury or even death from electrical shock, short-circuiting, damages, fire or other hazards. These precautions include, but are not limited to, the following:

- This instrument contains no user-serviceable parts. Do not attempt to disassemble or modify the internal components in any way.
- Do not expose the instrument to rain, use it near water or in damp or wet conditions, or place containers on it containing liquids which might spill into any openings.
- If the power cord or plug becomes frayed or damaged, or if there is a sudden loss of sound during use of the instrument, or if any unusual smells or smoke should appear to be caused by it, immediately turn off the power switch, disconnect the electric plug from the outlet, and have the instrument inspected by qualified Yamaha service personnel.
- Only use the voltage specified as correct for the instrument. The required voltage is printed on the name plate of the instrument.
- Always connect the three-pin attachment plug to a properly grounded power source. (For more information about the main power supply, see "Connecting the Power.)
- Before cleaning the instrument, always remove the electric plug from the outlet. Never insert or remove an electric plug with wet hands.
- Check the electric plug periodically and remove any dirt or dust which may have accumulated on it.

⚠ *CAUTION*

Always follow the basic precautions listed below to avoid the possibility of physical injury to you or others, or damage to the instrument or other property. These precautions include, but are not limited to, the following:

- Do not place the power cord near heat sources such as heaters or radiators, and do not excessively bend or otherwise damage the cord, place heavy objects on it, or place it in a position where anyone could walk on, trip over, or roll anything over it.
- When removing the electric plug from an outlet, always hold the plug itself and not the cord. Pulling by the cord can damage it.
- Do not connect the instrument to an electrical outlet using a multiple-connector. Doing so can result in lower sound quality, or possibly cause overheating in the outlet.
- Remove the electric plug from the outlet when the instrument is not to be used for extended periods of time, or during electrical storms.
- Before connecting the instrument to other electronic components, turn off the power for all components. Before turning the power on or off for all components, set all volume levels to minimum.
- Do not expose the instrument to excessive dust or vibrations, or extreme cold or heat (such as in direct sunlight, near a heater, or in a car during the day) to prevent the possibility of panel disfiguration or damage to the internal components.
- Do not use the instrument near other electrical products such as televisions, radios, or speakers, since this might cause interference which can affect proper operation of the other products.
- Do not place the instrument in an unstable position where it might accidentally fall over.
- Before moving the instrument, remove all connected cables.
- When cleaning the instrument, use a soft, dry cloth. Do not use paint thinners, solvents, cleaning fluids, or chemical-impregnated wiping cloths. Also, do not place vinyl or plastic objects on the instrument, since this might discolor the panel.
- Do not rest your weight on, or place heavy objects on the instrument, and do not use excessive force on the buttons, switches or connectors.
- Do not place objects in front of the instrument's air vent, since this may prevent adequate ventilation of the internal components, and possibly result in the instrument overheating. To ensure adequate ventilation and cooling, leave at least 10cm of open space behind the A3000 rear panel, and at least 4cm of open space above the top cover.
- Do not operate the instrument for a long period of time at a high or uncomfortable volume level, since this can cause permanent hearing loss. If you experience any hearing loss or ringing in the ears, consult a physician.

■SAVING USER DATA

- To protect against data loss caused by malfunction or operating error, be sure to save your data regularly to floppy disk, hard disk or other storage medium.

Yamaha cannot be held responsible for damage caused by improper use or modifications to the instrument, or data that is lost or destroyed.

Always turn the power off when the instrument is not in use.

■Handling and Installation of Options

⚠ WARNING

- Before beginning installation, switch off the power to the A3000 and connected peripherals, and unplug them from the power outlet. Then remove all cables connecting the A3000 to other devices. (Leaving the power cord connected while working can result in electric shock. Leaving other cables connected can interfere with work.)
- Do not disassemble, modify, or apply excessive force to board areas and connectors on option boards, hard disk, and SIMMs. Bending or tampering with boards and connectors may lead to electric shock, fire, or equipment failures.

⚠ CAUTION

- Before handling an option board, hard disk, or SIMM, you should briefly touch the A3000 metal casing (or other such metallic area) with your bare hand so as to drain off any static charge from your body. Note that even a slight amount of electrostatic discharge may cause damage to these components.
- It is recommended that you wear gloves to protect your hands from metallic projections on the A3000, hard disk, SIMMs, option boards, and other components. Touching leads or connectors with bare hands may cause finger cuts, and may also result in poor electrical contact or electrostatic damage.
- Take care to avoid dropping screws into the A3000 unit. If a screw does fall in, be sure to remove it before you reassemble and power up the unit. Starting the unit with a loose screw inside may lead to improper operation or equipment failure. (If you are unable to retrieve a dropped screw, consult your Yamaha dealer for advice.)

* Consult your Yamaha dealer if you have any questions regarding installation procedures for options boards, hard disks, SIMMs, or other optional devices.

* If SIMM memory, hard disk, or other optional component fails to work properly, consult the item's dealer for advice.

Features

Versatile Professional Sampler

The A3000 professional sampler is an ideal break-beat machine and phrase sampler for a wide variety of recording and performance applications.

Excellent Effects System

The A3000's triple-block effect system lets you set up as many as three independent effects. Select from a wide range of built-in effects — including original effects custom-designed to heighten the performance qualities of phrase and break-beat play. You can also apply effects to incoming signals as you record them, and to analog input that you feed through the A3000 for realtime output.

Easy to Use

The A3000 presents its editing and control capabilities in an easy-to-use three-level arrangement. All operations are handled using front-panel mode buttons, function keys, and knobs. You can access and edit any setting by selecting the mode, then selecting the function, and then turning the knobs directly under the screen. It is also possible to use knobs and function keys to control realtime playback.

Performance-Enhancing Options

Installation of the optional I/O expansion board (AIEB1 board) adds digital I/O capability plus six additional assignable-output pairs to your A3000. The A3000 also accepts up to 128MB of expansion memory.

List of Accessories

Your A3000 package includes the following accessories. Make sure that all of these accessories are included.

- CD-ROM
- Power cord
- MIDI cable
- Five floppy disks
- Owner's Manual
- Power supply cable for hard disk (red/white 4-wire cable)
- SCSI cable for hard disk

* If any of the above items is missing, please contact your Yamaha dealer for assistance.

YAMAHA

PROFESSIONAL SAMPLER A3000

Owner's Manual

Thank you for your purchase of the Yamaha A3000 Professional Sampler. The A3000 incorporates a leading-edge AWM2 tone generator, and is an ideal for use with synthesizers, MIDI keyboards, and other MIDI devices in a wide variety of musical applications.

This owner's manual will help you get the most from your A3000's many advanced features. Please read through the essential parts of the manual carefully before beginning work with your sampler, and refer back to the manual for additional information as necessary. Please be sure to store the manual in a safe and handy location.

Contents

Using the Manual

Manual Organization

This manual comprises eight chapters and an Appendix. Chapters 1 and 3 contain essential information and should be read carefully. You may also wish to run through the brief tutorial given in Chapter 2 before beginning serious work with the A3000.

Chapters 4 through 8 provide detailed information about each of the five operating modes. Refer to this information as needed while working with the A3000.

- Chapter 1 Setting Up

  This chapter explains the A3000's controls and connectors, and shows how to connect up speakers and MIDI devices. Please read through this chapter before you start to work with the A3000.

- Chapter 2 Trying It Out

  This chapter guides you through a trial run with the A3000. Going through these procedures will help you get a good feel for basic A3000 operations.

- Chapter 3 Basics

  The chapter introduces basic concepts, terminology, and operating procedures. Read this chapter to learn about samples, sample banks, programs, and sequences; modes and functions; screen displays; and other important features.

- Chapter 4 PLAY Mode

  This chapter explains all PLAY-mode functions. You use PLAY mode to edit and play programs.

- Chapter 5 EDIT Mode

  This chapter explains all EDIT-mode functions. You use EDIT mode to edit your samples and sample banks.

- Chapter 6 RECORDING Mode

  This chapter explains all RECORDING-mode functions. You use RECORDING mode to record samples and sequences.

- Chapter 7 DISK Mode

  This chapter explains all DISK-mode functions. You use DISK mode to manage your floppy and hard disks.

- Chapter 8 UTILITY Mode

  This chapter explains all UTILITY-mode functions. You use UTILITY mode to set the system's environment.

- Appendix

  Provides option installation instructions, troubleshooting advice, error-message descriptions, A3000 specifications, and MIDI information.

Finding the Information You Need

You can use any of the following methods to locate information within this manual.

Use the *Contents*.

Check the Contents on pages 4 to 6.

Use the Index.

Refer to the Index on pages 363 to 367.

Refer to *Panel and Connector Arrangement*.

Go to the "Panel and Connector Arrangement" section (pages 8 to 14) and locate the knob, key, or other component that you require information about. Then refer to the indicated page.

Leaf through the manual.

Page through sections related to the feature you need information about. Note that each page has a header indicating the page's contents, and a footer indicating the chapter name.

Icons

This manual uses the following icons to call attention to specific types of information.

Important: An important note or precaution intended to help you avoid loss of data or other major inconvenience. Always read these notices carefully.

FYI (For Your Information): Reference information indirectly related to the content of the main text. May contain practical advice or general supplementary information.

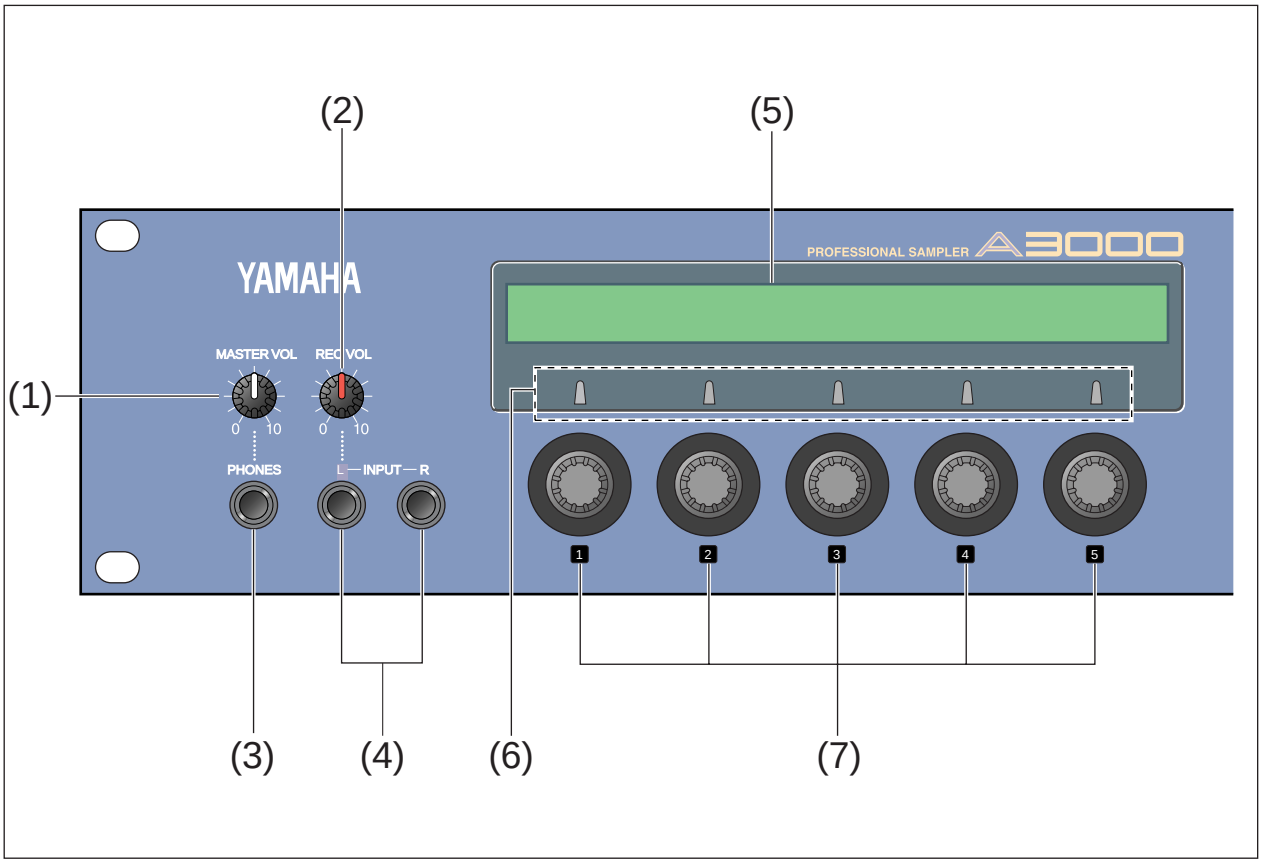
Procedure: Step-by-step instructions for carrying out a particular operation. A ▼ mark within a procedure indicates the result produced by carrying out the immediately preceding instruction.

☞ *xx* Page reference. Directs you to another page for related information.

Screen illustrations and other drawings within this manual are for explanatory purposes only, and may in some cases differ from actual displays and configurations.

Panel and Connector Arrangement

Front Panel (Left Side)



(1) MASTER VOL (Master Volume)

Adjusts the output level at the STEREO OUT connectors only. This knob does not affect the output level at the ASSIGNABLE OUT connectors, or at the various connectors provided on the optional I/O expansion board (AIEB1 board).

(2) REC VOL (Recording Volume)

Adjusts the input level from the front panel's INPUT L and INPUT R jacks. Use the knob to adjust the level when recording a sample, or when passing an input signal directly through the A3000 outputs for realtime output ("A/D In" feature).

This knob does not affect the input level to the DIGITAL IN and OPTICAL IN connectors on the optional I/O expansion board (AIEB1 board).

(3) PHONES jack

Connects to a set of stereo headphones. The PHONES jack always produces the same signal as the STEREO OUT jacks. Note that headphone impedance should be between 16 and 150 ohms.

(4) INPUT L, INPUT R jacks

Use these jacks to input an analog signal for recording, or for realtime output ("A/D In" feature). Use the INPUT L jack if you are supplying a monaural signal.

(5) Display

The display indicates the status and settings for the currently selected function, and presents messages and confirmation prompts. When you are working at a parameter-setting page, the top line of the display indicates the parameter names, while the bottom line shows the current values. The names and values appear directly over the knobs that you use to make the settings.

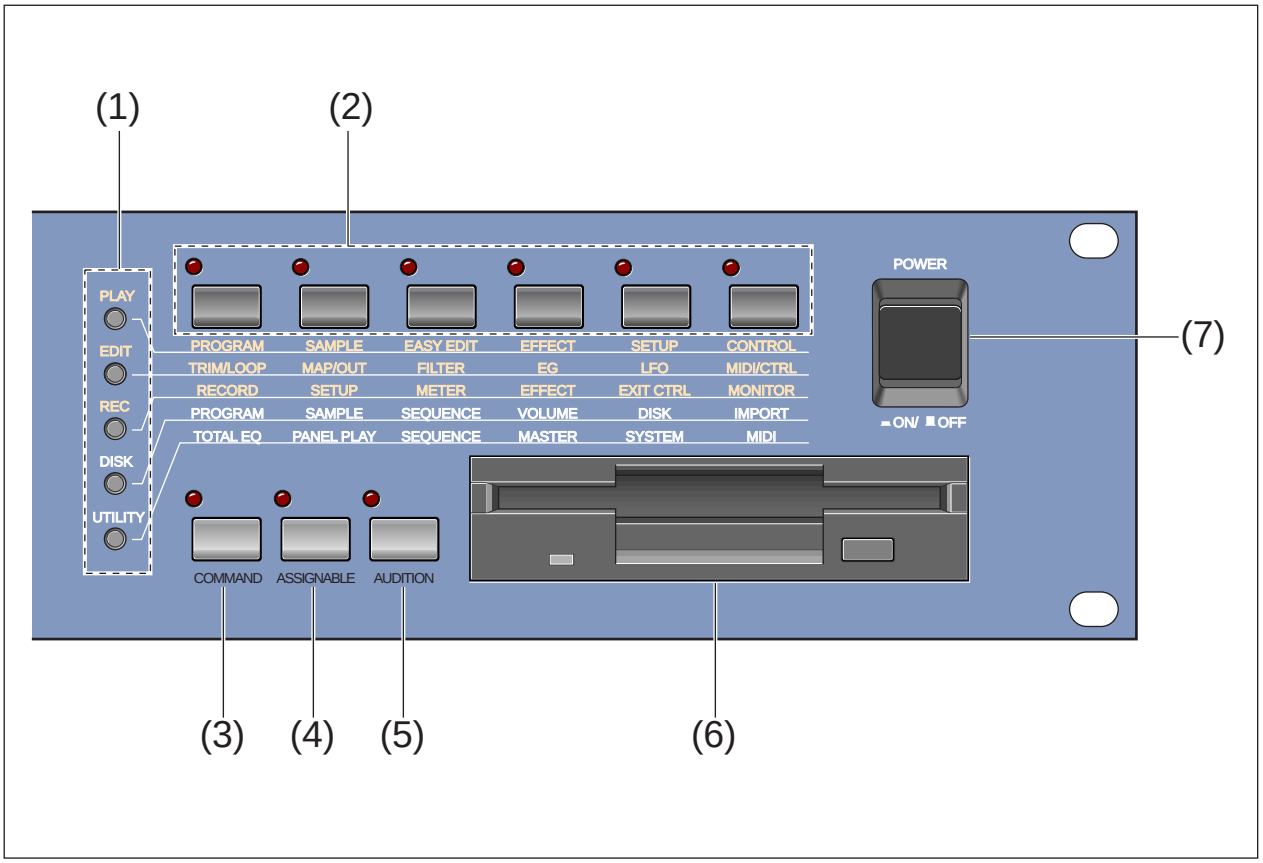
(6) Knob "push" lamps

The lamp above the knob lights up to indicate that the knob can be pushed to execute some action. If the lamp is off, pushing the knob has no effect.

(7) Knobs

You use the knobs to set the various parameter values, to switch display pages, and execute operations. In most cases you turn the knob to set a value, and push the knob to execute an operation — for example, to start or stop recording. Knobs are numbered 1 to 5.

Front Panel (Right Side)



(1) Mode buttons

The A3000 provides five operating modes. You select the mode by pressing the corresponding mode button. The button lamp comes on to indicate that the mode is selected.

Each mode is further divided into six functions. After selecting the mode, you can switch among its functions by pressing the appropriate function keys.

(The A3000 also uses the button lamps to let you know that it is receiving MIDI data. Each lamp corresponds to a different MIDI data type, and will continue to blink while the A3000 is receiving MIDI data of that type. (☞92))

(2) Function keys

Use these keys to switch among the six functions within the currently selected mode.

(3) COMMAND key

You press the COMMAND key to access additional commands relevant to the mode and function that you are currently working in. (☞91)

(4) ASSIGNABLE key

You can assign this key any of four different functions. You can set it to operate as a damp key (so that it switches all sound off), as a controller reset button, or as a toggle for the knob-controller feature (knobs act as controllers) or the function-key playback feature (function keys act as MIDI keys). (☞91)

(5) AUDITION key

Press the key to play out the currently selected sample. You use this feature to check the sound of the sample while editing.

(6) Floppy-disk drive

Accepts a 3.5-inch floppy disk. You can use floppy disks to save and reload your data (programs, samples, sequences, and system settings).

Note that there is an access lamp at the lower left of the drive. The lamp lights up while the disk is being accessed. Please do not eject the floppy-disk while this lamp is on.

To eject a disk, press the EJECT button at the lower right of the drive.

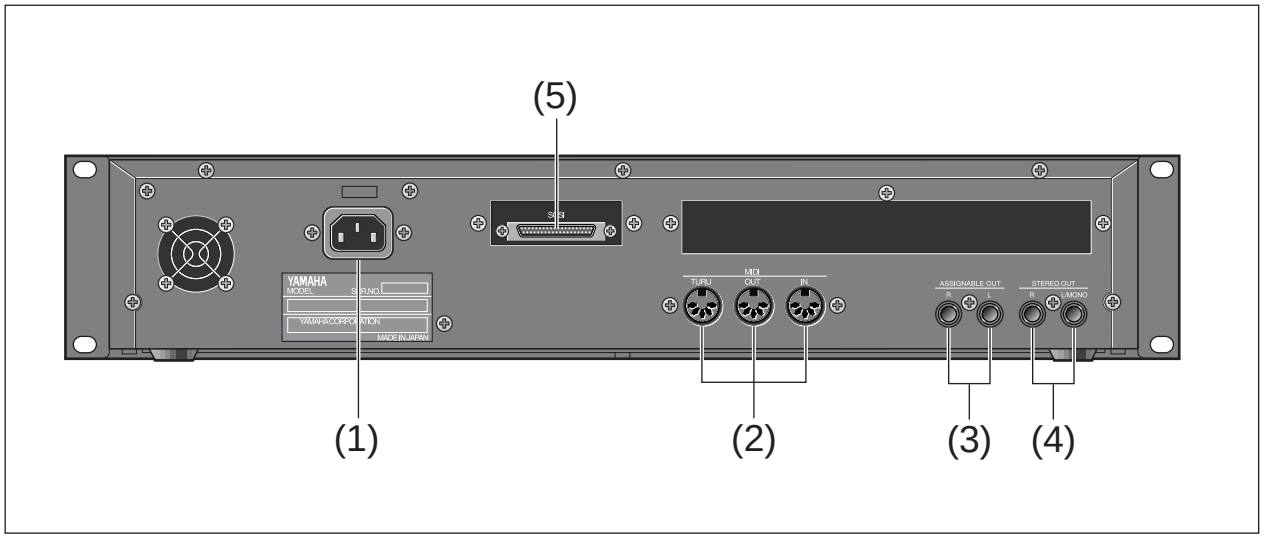
(7) POWER switch

Press once to switch the power on. Press again to turn the power off.

Important

The A3000 stores all new data into main memory only, and will lose all of this data when you switch off the power. You must therefore be sure to save all important data to disk before turning the A3000 off.

Rear Panel



(1) AC inlet

Connects to the AC power cord supplied with the A3000. (Please do not use any other power cord with this unit.)

(2) MIDI connectors

These connectors link the A3000 to external MIDI devices. The MIDI IN connector receives MIDI signals, while the MIDI OUT connector transmits MIDI data generated by the A3000. The MIDI THRU connector relays the MIDI signals received at the MIDI IN connector.

(3) ASSIGNABLE OUT jacks

Analog output jacks. These jacks operate independently of the STEREO OUT jacks. You can use these jacks to output the sound of one or more selected samples, or to output the signal supplied through the front panel's analog input connectors (☞134, 176). You may also set them so that they output the same signal as the STEREO OUT jacks (☞299).

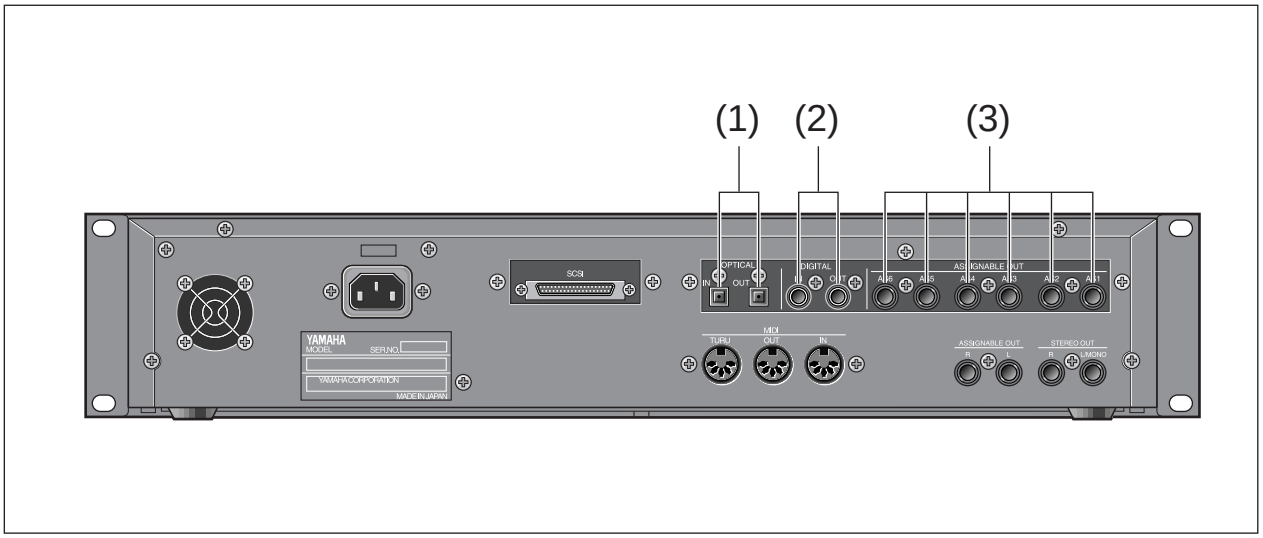
(4) STEREO OUT jacks

These are the main analog output jacks.

(5) SCSI connector

This is a half-pitch 50-pin connector. You use it to connect up a SCSI hard drive, CD-ROM drive, or other SCSI device.

Rear Panel (with optional AIEB1 board installed)



(1) OPTICAL IN, OUT connectors

Use these connectors to input or output digital signals over optical-fiber cable. You can use the OPTICAL IN to record a digital signal of frequency 48kHz, 44.1kHz, or 32kHz. The OPTICAL OUT connector outputs a digital signal of frequency 44.1kHz.

(2) DIGITAL IN, OUT connectors

Use these connectors to input or output digital signals over coaxial (RCA-pin) cable. The digital signal format is CD/DAT (S/P DIF).

You can use the DIGITAL IN connector to record a digital signal of frequency 48kHz, 44.1kHz, or 32kHz. The DIGITAL OUT connector outputs a digital signal of frequency 44.1kHz.

(3) ASSIGNABLE OUT jacks (AS1 to AS6)

Additional analog output jacks. Each pair (1&2, 3&4, 5&6) operates independently of all other outputs on the A3000. You can use these jacks to output the sound of one or more selected samples, or to output the signal supplied through the front panel's analog input connectors (☞134, 176). You may also set them so that they output the same signal as the STEREO OUT jacks (☞299).

A3000 Options

You can enhance the capability of your A3000 by installing options. The A3000 supports two options: (1) additional memory, and (2) the AIEB1 board (I/O expansion board).

Expansion Memory (SIMMs)

The A3000 stores all active data in main memory. To play a sample back, you must first load it into main memory. And whenever you record a sample, you must record it into main memory.

Samples consume a great deal of memory. The A3000 comes standard with 2 megabytes (2MB) of memory — but this is only sufficient to store about 23 seconds of high-quality monaural sound (at 44.1kHz sampling frequency), or approximately 11.5 seconds of stereo sound.

You can increase this capacity by installing additional memory. The A3000 accepts expansion memory in the form of SIMMs (single in-line memory modules). Using SIMMs, you can install up to 128MB of memory onto the A3000. SIMMs can be purchased from almost any computer-supply dealer.

Adding memory will allow you to record longer samples, and to work with more samples at the same time. For information about how to install SIMMs, refer to the Appendix. (☞312)

Important

- You need to use 72-pin SIMMs with access time of 70ns or less. The SIMM module size may be 4MB, 8MB, 16MB, or 32MB. The A3000 is designed for use with 32-bit SIMMs, but can also accept installation of 36-bit (parity-type) SIMMs.
- SIMMs must be installed in pairs: you can install either two SIMMs or four SIMMs. Both modules in a pair must have the same memory capacity.
- The A3000 ships with 2MB of sampling memory installed, and is capable of accessing up to 128MB. If you add one pair of 32MB SIMMs, for example, you increase the available sampling memory to a total of (2 + 32×2 =) 66MB. If you install four 32MB SIMMs, however, the sampling memory size becomes 128MB (and the original 2MB are effectively disabled).
- For more information about SIMM purchase, refer to your A3000 dealer.

The I/O Expansion Board (AIEB1 Board)

In its standard configuration, the A3000 supports analog I/O only. Although it stores all internal data in digital form, it does not provide direct digital I/O connectors.

You can add digital I/O capacity by installing an AIEB1 board. The board offers two different digital connector types: optical connectors, and coaxial connectors. As an added benefit, the board also includes three stereo ASSIGNABLE OUTPUT pairs (six analog jacks), which operate independently of the standard STEREO OUT and ASSIGNABLE OUT jacks.

For information about how to install this board, refer to the Appendix. (☞312)

Handling the Floppy Disk Drive(FDD) and Floppy Disk

Precautions

Be sure to handle floppy disks and treat the disk drive with care. Follow the important precautions below.

Disk Type

The A3000 disk drive accepts 2HD-type and 2DD-type 3.5" floppy disks.

Inserting/Ejecting Floppy Disks

To insert a floppy disk into the disk drive:

Hold the disk so that the label of the disk is facing upward and the sliding shutter is facing forward, towards the disk slot. Carefully insert the disk into the slot, slowly pushing it all the way in until it clicks into place and the eject button pops out.

To eject a floppy disk:

Before ejecting the disk, be sure to confirm that the FDD is stopped (check if the LED below the floppy disk slot is off).

Press the eject button slowly as far as it will go; the disk will automatically pop out. When the disk is fully ejected, carefully remove it by hand.

Never attempt to remove the disk or turn the power off during reading or writing. Doing so can damage the disk and possibly the disk drive.

If the eject button is pressed too quickly, or if it is not pressed in as far as it will go, the disk may not eject properly. The eject button may become stuck in a half-pressed position with the disk extending from the drive slot by only a few millimeters. If this happens, do not attempt to pull out the partially ejected disk, since using force in this situation can damage the disk drive mechanism or the floppy disk. To remove a partially ejected disk, try pressing the eject button once again, or push the disk back into the slot and then repeat the eject procedure.

Be sure to remove the floppy disk from the disk drive before turning off the power. A floppy disk left in the drive for extended periods can easily pick up dust and dirt that can cause data read and write errors.

Cleaning the Disk Drive Read/Write Head

- Clean the read/write head regularly. This instrument employs a precision magnetic read/write head which, after an extended period of use, will pick up a layer of magnetic particles from the disks used that will eventually cause read and write errors.
- To maintain the disk drive in optimum working order Yamaha recommends that you use a commercially-available dry-type head cleaning disk to clean the head about once a month. Ask your Yamaha dealer about the availability of proper head-cleaning disks.

Never insert anything but floppy disks into the disk drive. Other objects may cause damage to the disk drive or floppy disks.

About the Floppy Disks

To handle floppy disks with care:

Do not place heavy objects on a disk or bend or apply pressure to the disk in any way. Always keep floppy disks in their protective cases when they are not in use.

Do not expose the disk to direct sunlight, extremely high or low temperatures, or excessive humidity, dust or liquids.

Do not open the sliding shutter and touch the exposed surface of the floppy disk inside.

Do not expose the disk to magnetic fields, such as those produced by televisions, speakers, motors, etc., since magnetic fields can partially or completely erase data on the disk, rendering it unreadable.

Never use a floppy disk with a deformed shutter or housing.

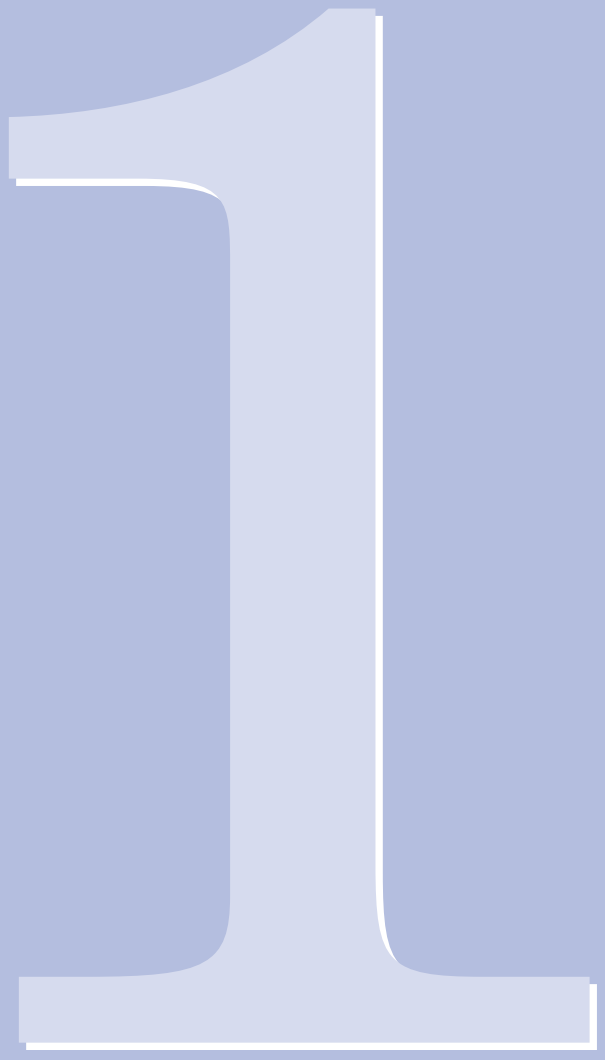
Do not attach anything other than the provided labels to a floppy disk. Also make sure that labels are attached in the proper location.

To protect your data (Write-protect Tab):

To prevent accidental erasure of important data, slide the disk's write-protect tab to the "protect" position (tab open).

Data backup

For maximum data security Yamaha recommends that you keep two copies of important data on separate floppy disks. This gives you a backup if one disk is lost or damaged.



Chapter 1
Setting Up

Setting Up

This chapter explains how to set up your equipment and run a simple sound check.

Setup Sequence

This chapter takes you through each of the steps necessary to connect up your system.

Connecting the Power

Explains how to connect up the A3000's power cord. (☞21)

Connecting the A3000 Outputs

Shows how to connect the A3000's stereo and assignable outputs to external audio devices. (☞22)

Connecting the Audio Inputs

Shows how to connect microphones and other input devices to the A3000. (☞25)

MIDI Connections

Introduces basic MIDI concepts, and shows how to connect up MIDI devices. (☞27)

Power ON/OFF

Explains the proper sequence for turning connected devices on and off. (☞30)

Sound Check

Takes you through a simple sound check, to confirm that your equipment is connected correctly. (☞32)

Important

If you have purchased SIMM expansion memory, the AIEB1 expansion board, or an internal hard disk for your A3000, or if you need to connect up an external SCSI disk, please be sure to install this equipment before going through the procedures given in this manual. For installation and connection information, please refer to the following pages.

- SIMM modules ☞312
- AIEB1 board ☞316
- Internal SCSI hard drive ☞326
- External SCSI drive ☞331

Connecting the Power

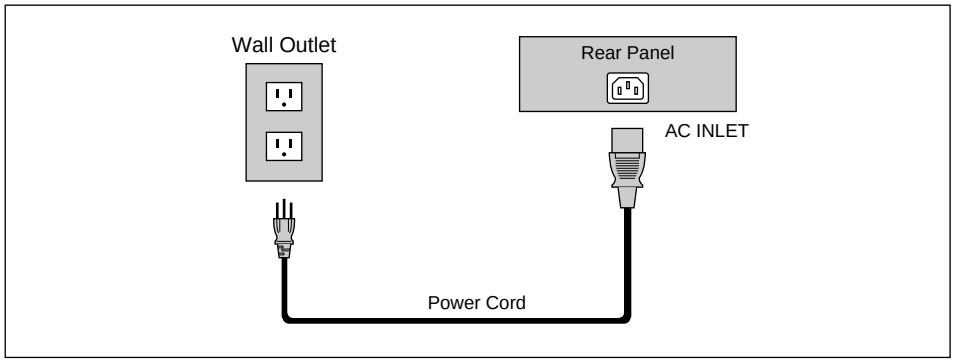
This page shows you how to connect up the power cord that comes with the A3000.

Important

- Be sure that the A3000's power switch is OFF before you attach the cord. (The switch is OFF when it is all the way out.)
- The A3000 is designed for use with a grounded line (three-prong outlet).

Connecting the Cord

Connect the supplied power cord to the AC inlet on the rear panel. Then plug the other end of the cord into a 3-prong wall outlet.



Connecting the A3000 Outputs

This section explains how to connect the A3000 audio outputs to external devices.

Important

- Be sure that power to the A3000 and to peripheral devices is OFF before making these connections. Connecting devices while power is ON may result in damage to amps or speakers.
- Digital I/O connections are available only if the optional AIEB1 board is installed.

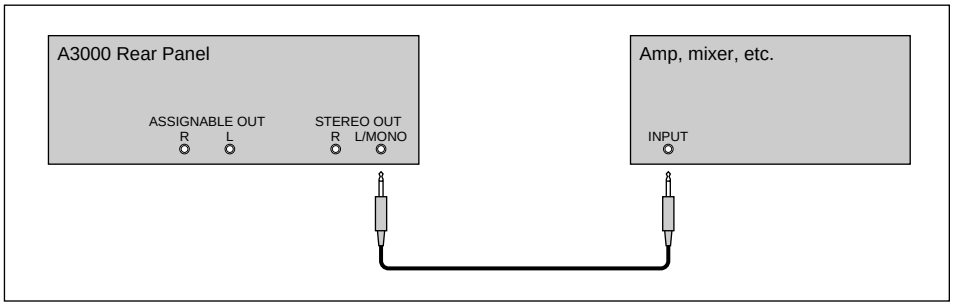
Connecting the Analog Outputs

The A3000 comes standard with the following stereo output jacks.

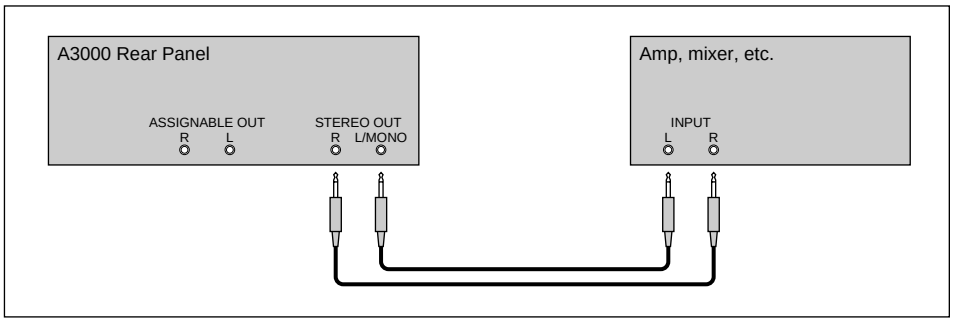
STEREO OUT	Main analog output.
ASSIGNABLE OUT	You can set the jacks to operate independently of the STEREO OUT jacks, so that they output selected samples or programs only. The feature is useful, for example, when you want to send the main signal to one audio device while sending a specific sample to a different device. But it is also possible to set these jacks so that they output the same signal as the STEREO OUT jacks. (☞299)

If you have installed the optional I/O expansion board (AIEB1 board), your A3000 will include three additional ASSIGNABLE OUT pairs (ASSIGNABLE OUT jacks 1 to 6).

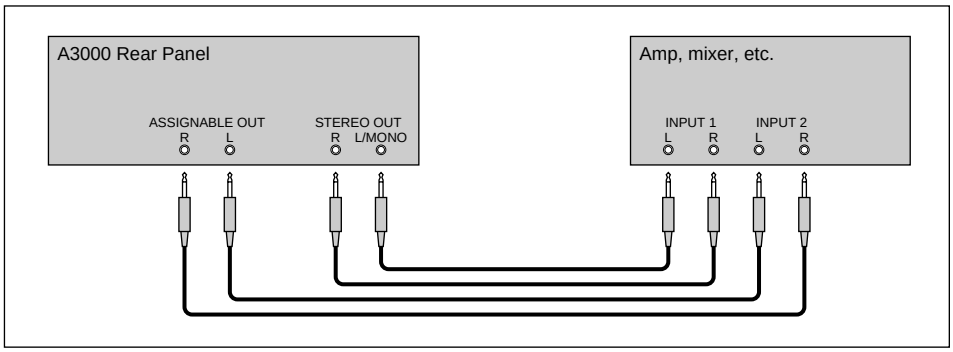
For monaural output:



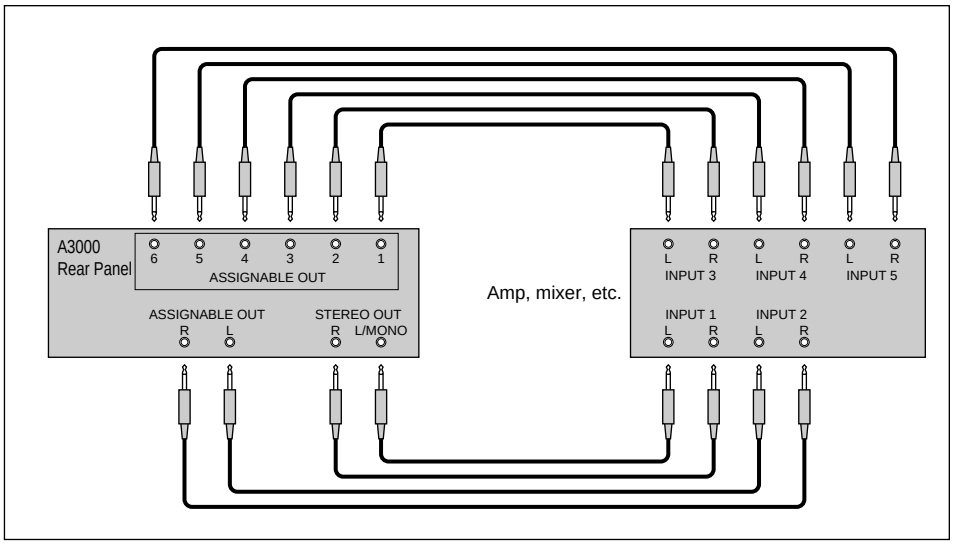
For stereo output:



For assignable output:



Assignable output using AIEB1 expansion board:



(It is not necessary, of course, to connect up all of the outputs on the expansion board. Connect only the outputs you need to use.)

Connecting the Digital Outputs

You can add digital I/O capacity to the A3000 by installing the optional I/O expansion board (AIEB1 board). The board enables direct digital output of A3000 playback and digital through-put.

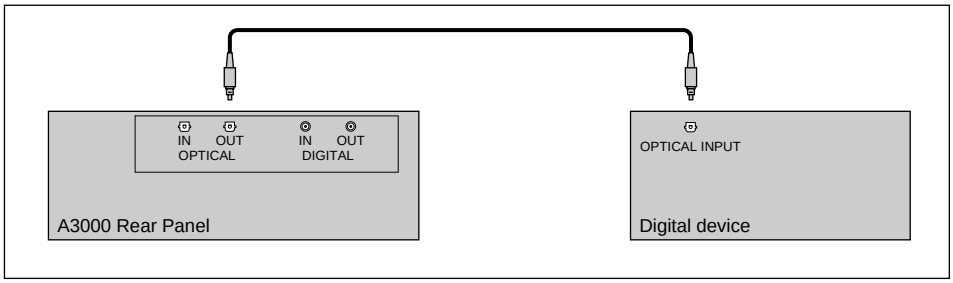
For purposes of compatibility, the AIEB1 board includes two different output types: OPTICAL OUT (optical fiber) and DIGITAL OUT (coaxial cable). Note that both of these outputs always produce identical signals.

The digital outputs function as assignable outputs. You can set them to output selected samples or programs, or you can set them to produce the same output as the STEREO OUT jacks (by setting the To AsgnOut parameter to DIG&OPT; ☞299).

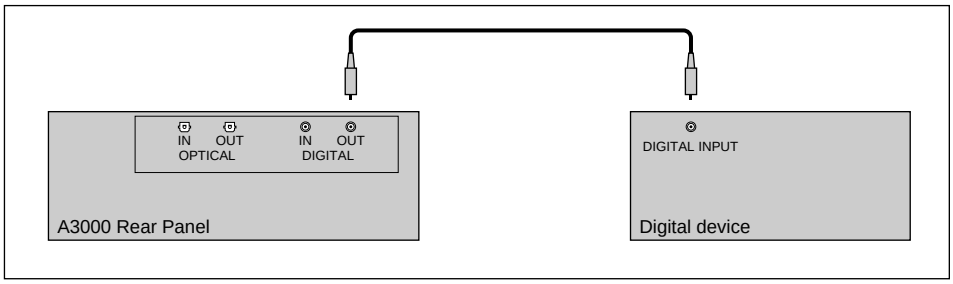
Important

The OPTICAL connectors are protected by plastic covers. You must remove the cover before connecting the cable. Please remember to replace the cover when you disconnect the cable.

OPTICAL output connection



Coaxial output connection



Connecting the Audio Inputs

This section explains how to connect the A3000 to a microphone, cassette recorder, or other sound source.

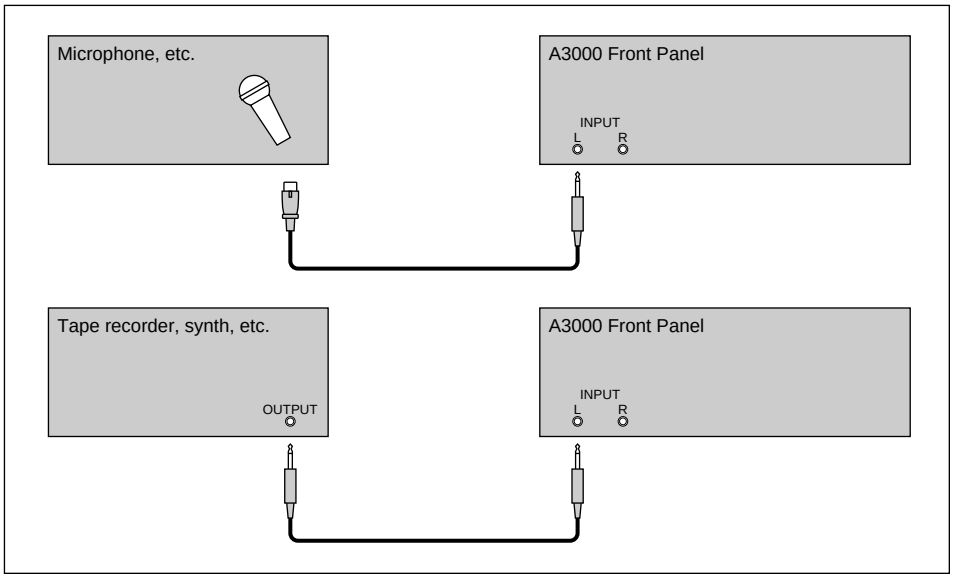
Important

- Be sure that power to the A3000 and to peripheral devices is OFF before making these connections. Connecting devices while power is ON may result in damage to amps or speakers.
- Digital I/O connections are available only if the optional AIEB1 board is installed.
- To select the input to be used for recording, use the Input parameter on the RecData page (☞227).

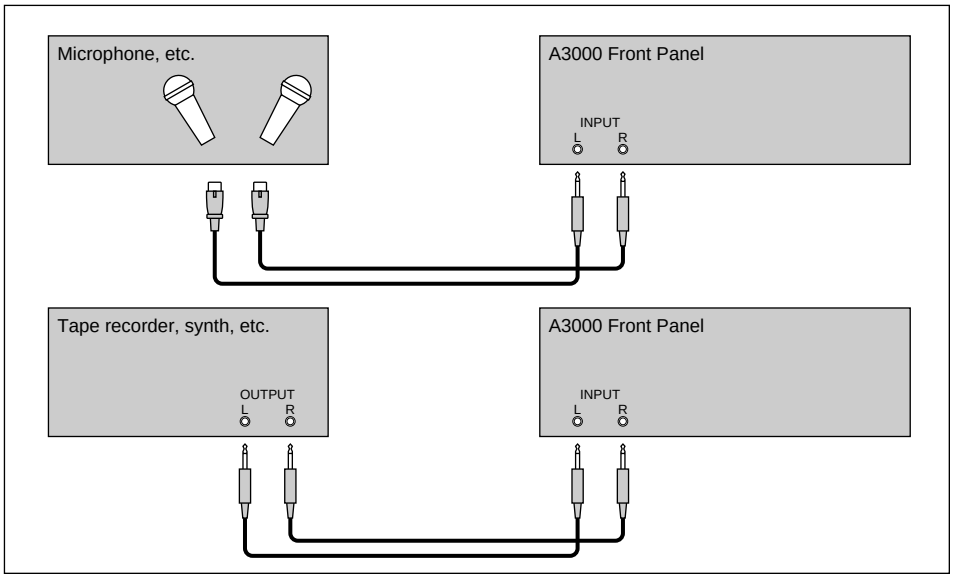
Connecting to Analog Input

The following illustrations show how to connect to an analog input source, such as a microphone, analog tape recorder, or analog synthesizer.

For monaural input



For stereo input

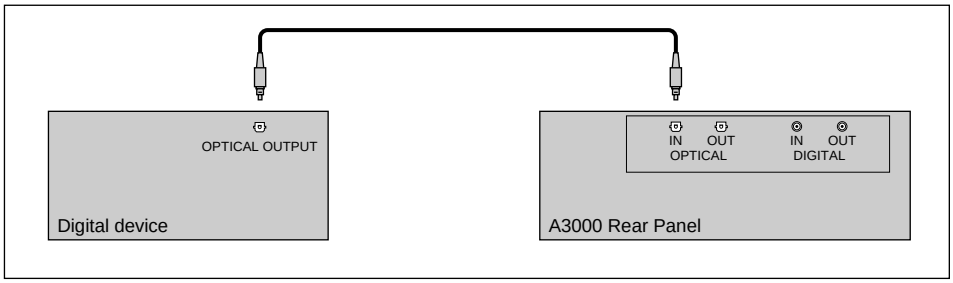


Connecting to Digital Input

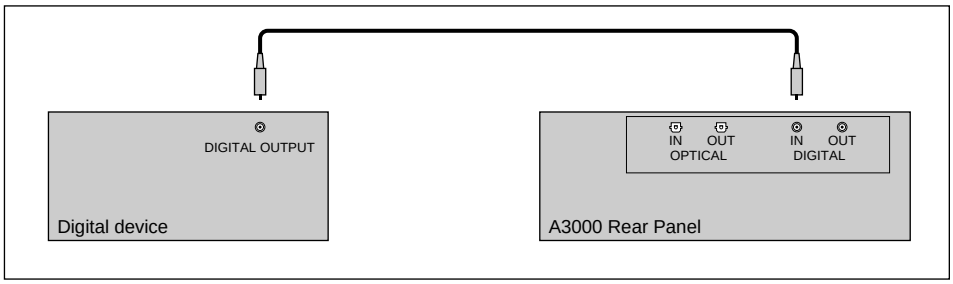
Installation of the optional I/O expansion board (AIEB1 board) lets you record digital signals directly from a digital input source — such as a CD player or DAT recorder.

For purposes of compatibility, the AIEB1 board includes two different input types: OPTICAL (optical fiber) and DIGITAL (coaxial cable).

OPTICAL input connection



Coaxial input connection



MIDI Connections

This section explains how to connect the A3000 to MIDI devices.

Important

Be sure that power to the A3000 and to peripheral devices is OFF before making MIDI connections. Connecting devices while power is ON may result in MIDI processing errors or unexpected and continuous sound output.

About MIDI

The following overview introduces some basic MIDI concepts. Readers familiar with MIDI may wish to skip to "MIDI Connection Configurations," on the next page.

What is MIDI?

MIDI (for "Musical Instrument Digital Interface") is a standard, internationally-recognized interface for music-related digital communication among electronic instruments, computers, sequencers, and related devices.

MIDI connectors and cables

MIDI devices provide MIDI connectors marked IN, OUT, and THRU. The IN connector receives data from external devices, the OUT connector outputs locally produced data, and the THRU connector relays data received at the IN connector. MIDI connections are made by running standard MIDI cables between connectors on different devices. Each MIDI cable connects the OUT or THRU connector of one device to the IN connector of another device.

Channels

A single MIDI cable carries up to 16 channels of performance data. If you have a MIDI setup consisting of three keyboards outputting performance data to a fourth device, for example, each keyboard would be transmitting data over a different channel. Each channel is identified by its channel number (1 to 16).

Data types

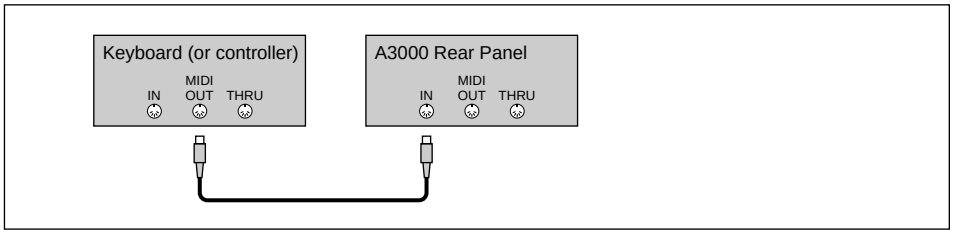
Each channel can carry a variety of data types. Data types include the following.

Note data:	Keys (on keyboard), and key striking force
Control change:	Controller movement (modulation wheel, foot controller, etc.)
Program change:	Change in voice or program
Aftertouch:	Pressure applied to key after initial strike
Pitchbend:	Movement of the pitchbend wheel
Bulk data:	Voice and device settings and related data

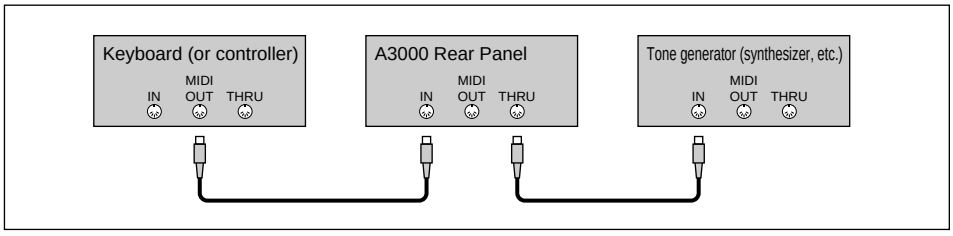
MIDI Connection Configurations

You can use MIDI connections to control the A3000 from an external keyboard, sequencer, or computer, or to transfer A3000 data to an external MIDI device.

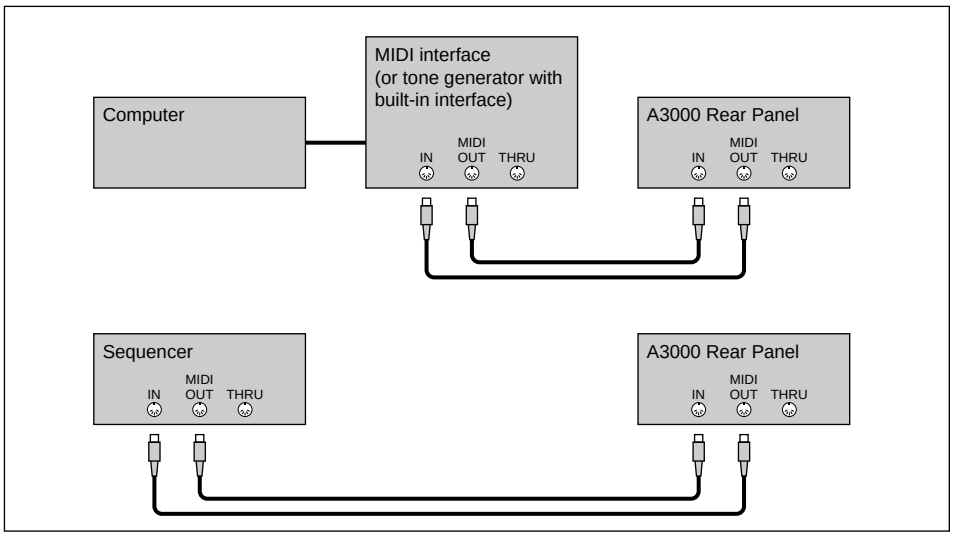
Connecting to keyboard or MIDI controller:



Connecting to keyboard/controller and external tone generator:



Connecting to computer or sequencer:



FYI

A wide variety of MIDI connection configurations are available. Design your setup to suit your device and performance requirements.

Power ON/OFF

This section explains the correct procedures for powering up and powering down your equipment.

Power ON

Important

Speakers or amplifiers should be switched on *last* to protect against unexpected sound surges that may damage your equipment.

Procedure

1. **Switch on power to external MIDI and SCSI devices.**
   - When powering up MIDI devices, it is generally good practice (although not strictly necessary) to switch on the transmitting-side device first.
   - If you are switching on a SCSI disk or CD-ROM drive, allow the drive a few seconds to get up to speed before proceeding to Step 2.

2. **Switch on the power to the A3000. (Press the POWER switch on the front panel.)**

3. **Switch on power to speakers and other audio devices.**

Power OFF

Important

- Like other samplers, the A3000 stores all new data into main memory only, and will lose all of this data when you switch off the power. You must therefore save all important data to disk before turning the A3000 off.
- Speakers or amplifiers should be switched off *first* to protect against unexpected sound surges that may damage your equipment.

Procedure

1. Switch off the amplifiers or speakers.

2. Switch off the power to the A3000. (Press the POWER switch on the front panel.)

3. Switch off external MIDI and SCSI devices.

Sound Check

The next procedure takes you though a simple sound check that you can use to confirm proper connection of external audio and MIDI devices. The procedure assumes that you are using a MIDI keyboard to control A3000 playback.

Procedure

1. Switch on power to all devices as described above.

2. Turn the MASTER VOL knob on the front panel to approximately middle position.

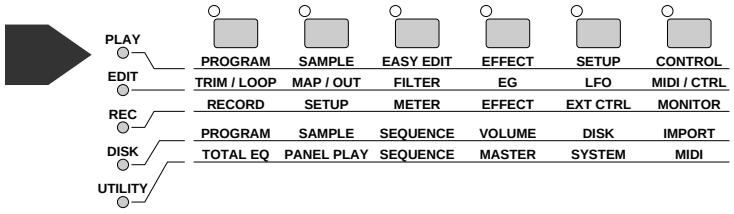
3. Adjust the volume of the speakers or amplifiers.

4. Set the Transmit Channel of your controlling MIDI keyboard to "1".

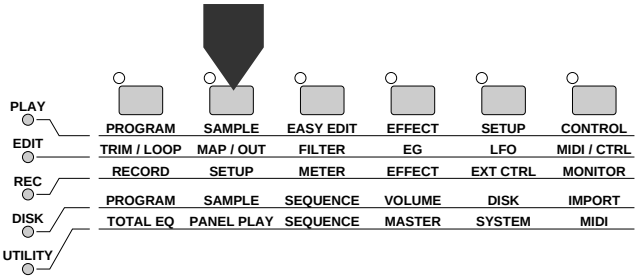
The A3000's "Basic Receive Channel" is set to "1" at time of shipping. This means that the A3000 is set to receive data over MIDI Channel 1.

5. Confirm that the PLAY-mode lamp is lit.

If necessary, press the PLAY button so that the lamp comes on.



6. Press the second function key (counting from the left).



▼The SmpSel (sample select) page should now appear. (The name SmpSel is displayed at the lower left of the screen.)

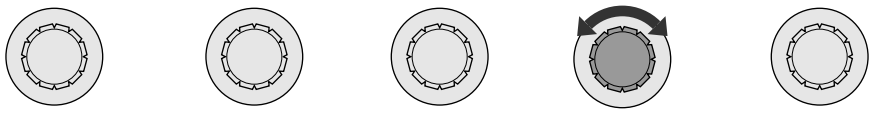
```
[Pgm001] Sample                ToPgm
▼SmpSel  "sine wave          "   off   >SAVE
```

If the screen is showing a different page, turn Knob 1 until SmpSel appears.

7. Turn Knob 4 one click to the right, so that the ToPgm setting changes to on**.**

At power-on, the A3000 automatically generates several basic samples. In this example, we will play the sine wave sample.

```
[Pgm001] Sample                ToPgm
▼SmpSel  "sine wave          "   on    >SAVE
```



8. Play some keys on your MIDI keyboard.

The A3000 should produce a "sine wave" sound when you play the keys. If you hear this sound, the check is successful and you can proceed to Step 9.

- If you do not hear any sound, try pressing the [AUDITION] key on the front panel. If this produces sound, then there is a problem with your MIDI connection or settings. If the [AUDITION] key also fails to generate sound, then the problem is with your speaker or amplifier connection. In either case, you should now switch off the power to all devices, check the connections and settings, and then try again. (Be sure to switch devices on and off in the correct order, as described in the previous two Procedures.)

9. Turn the volume at your speakers (or amplifiers) to minimum level.

10. Turn the MASTER VOL dial all the way to the left (minimum setting).

11. Switch off power to all devices, in the correct order (speakers first, then the A3000, and then MIDI and SCSI devices).

Chapter 2
Trying It Out

Introduction

This chapter takes you through a mini-tutorial that will help you become familiar with basic operating methods and give you some initial hands-on experience with your A3000. The practice provided here should help you gain rapid mastery of A3000 operating procedures.

Tutorial Flow

The chapter progresses through a coordinated sequence of operations, as outlined below.

Starting Out

Recording

Playback

Deleting and Redoing

Next Step

More Recording

Changing the Sample Names

Setting the Original Key and the Key Range

Sample Editing

Using Loops

Using a Filter

Using an Envelope Generator

Using the LFO

Program Editing

Using Effects

Editing a Different Program

Sequence Play

Recording the Sequence

Playing the Sequence

Saving and Reloading Your Data

Formatting a Floppy Disk

Saving Your Data

Loading Data from Disk

Accompanying Disks

Floppy Disks

CD-ROM

Things You Will Need

You will need following equipment to carry out the trials described in this chapter. Please refer to Chapter 1 for information about how to connect the devices. (☞21 to 29)

- A3000
- Powered speakers, or headphones, or other audio device — To listen to sound generated by the A3000.
- Microphone (stereo or monaural) — To record samples into the A3000.
- MIDI keyboard or controller — To input performance data into the A3000.
- Floppy disk (Yamaha MF2HD, or other 2HD disk preferably new) — To save samples and programs created at the A3000.

Important

- Set the “MIDI Transmit Channel” on your MIDI device to “1”.
- Descriptions in this chapter assume that you have not changed A3000 settings from their factory default values. Operation may not match the descriptions if settings have been changed.

Starting Out

This section guides you through the easiest procedure for recording and replaying a sample.

Recording

We begin with a short vocal recording — a 2-second, continuous *ahhhh* sound— that you will record through a microphone. In subsequent sections you will record other vocal samples, and then learn how to edit the samples and put them together.

Procedure

1. Switch on power to the A3000 and connected devices. Be sure to switch on your devices in the correct sequence.

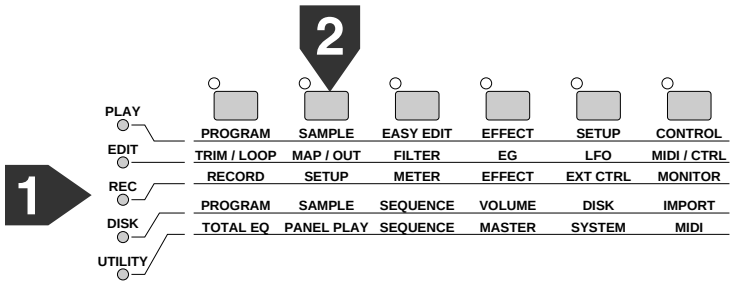
For information about the appropriate power-on sequence, refer to Chapter 1. (☞30)

▼The screen should now look like this.

```
[Pgm001] Program
 PgmSel     001:"Pgm 001 " >SAVE    >ALL
```

2. Select REC mode, SETUP function.

Press the RECORDING mode button (REC button), and then press the second function key.



▼The RecData page appears.(The name "RecData" appears at the lower left of the screen.)

```
[Pgm001]  Input  SmpType  Freq   PreTrig
▼RecData AD L/R  Stereo   44.1k   100ms
```

If the above page does not appear, try turning Knob 1 as necessary to produce it.

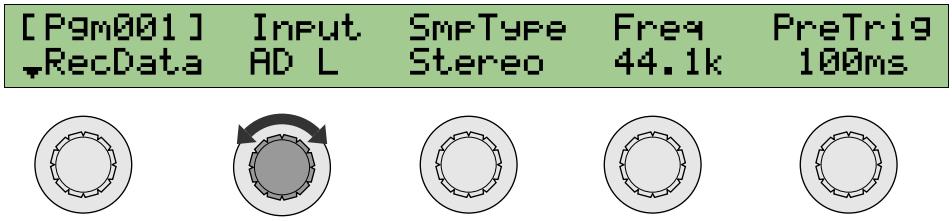
Memo

- Each operation is identified by its *mode* and *function*. You begin the operation by pressing the appropriate mode button (along the left), followed by the function key (along the top), so that the corresponding screen (or *page*) appears. Note that you do not need to press the mode button if the mode is already selected — the mode remains effective until you change it.
- Most screens include a descriptive screen name at the lower left corner.

3. Turn Knob 2 to select the input.

The Input setting selects the input to be recorded. The A3000 records only the signal carried through the connector(s) that you select here.

- If you are recording from a monaural microphone connected to the "L" input on the front panel, select AD L.
- If you are recording from a stereo microphone connected to both the "L" and "R" inputs, select AD L/R.

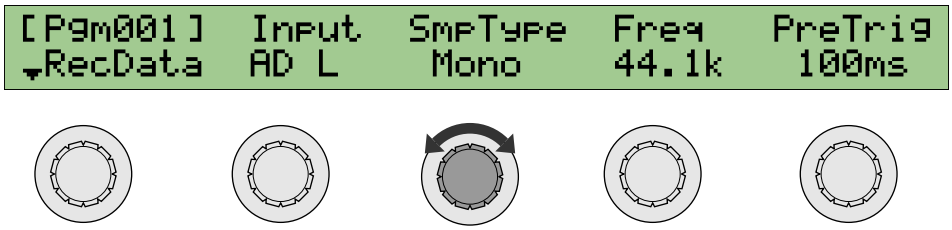


Memo

- After selecting the appropriate function screen (page), you adjust the various settings by rotating the appropriate knobs. Each knob controls a different setting. Above each knob you will see the name of the setting it controls (on the top line of the screen), and the currently selected value (on the second line). Turning the knob changes the value shown in the second line.
- If you have installed the optional AIEB1 I/O expansion board, you will also be able to select DIGITAL or OPTICAL as your input source.

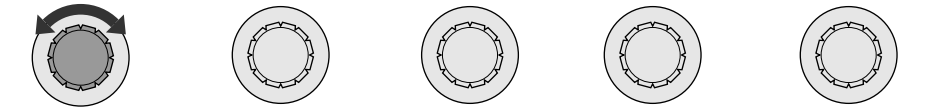
4. Turn Knob 3 to set the sample type (SmpType) to Mono.

This setting selects the type of sample to be recorded: either monaural or stereo. In this example, we will create a monaural sample. (Note that the Mono setting forces a monaural recording, even if you are supplying your input through a stereo microphone.)



5. Turn Knob 1 to the right one click to advance to the Target page.

You use this page to set the recording method and sample name, and to select whether the recorded sample is to be associated with the current program.



▼The screen now looks like this.

Memo

Notice that the SETUP function we are working with consists of a number of different pages. In general, most functions comprise multiple pages. You can always switch among these pages by turning Knob 1. (As an alternative, you can also switch pages by pressing the currently lit function key.)

6. Be sure that the ToPgm ("To Program") setting, above Knob 5, is on.

Memo

- Note that samples are intended to serve as constituents of a more complex sound, or *program*. The only way to play a sample, in fact, is to place it into a program. By setting the ToPgm value to on, you are telling the A3000 to place the newly recorded sample into the currently selected program, so that you will be able to play it back immediately after recording.

  For more information about the relation between samples and programs, refer to Chapter 3. (☞70)
- Notice that the A3000 automatically assigns the default name _NewSample to the sample that you are about to record. Although you can change this name either before or after recording, in this example we will leave the name as it is.

7. Turn Knob 1 to the right two more clicks to move to the Trigger page.

▼Your screen should look like this.

```
[Pgm001] StartBy StopBy
▲▼Trigger  SrcIn  ManOnly
```

8. Turn Knob 2 to set StartBy to ManOnly (manual only).

▼ The screen now looks like this.

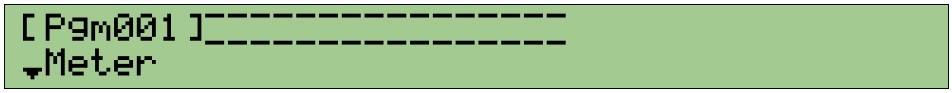
```
[Pgm001] StartBy StopBy
▲▼Trigger ManOnly ManOnly
```

Memo

The StartBy setting selects the trigger that will start the recording. The ManOnly setting means that the A3000 will not begin recording until you push the >START knob. If you set the value to SrcIn, the A3000 will begin recording immediately when the input level reaches some preset trigger level. (☞234)

9. **Press the third function key.**

▼The Meter screen appears.



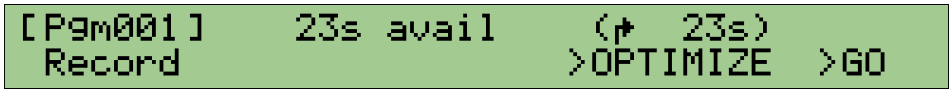
10. **Chant a continuous *ahhhh* sound into microphone while adjusting the REC VOL knob (on the left side of the front panel) and watching the movement of the meter bar. Adjust so that the bar approaches but stays within the outlined limits.**

Memo

- If the input volume is too high, the bar reaches the end of the limit area and a [C] mark appears at the right of the bar to indicate that clipping has occurred. Lower the volume so that the [C] no longer appears.
- Be sure to speak loudly enough (and hold the mike close enough) to generate a sufficient level on the meter.

11. **Press the first (leftmost) function key.**

▼The Record screen appears.



12. **Press Knob 5 (>Go).**

Memo

Note that only certain knobs have “push” capability for each screen. The red lamp (push lamp) directly above each knob indicates whether a push operation is currently assigned. If the lamp is ON, pushing the knob will generate the action indicated on the screen. If the lamp is OFF, pushing the knob has no effect.

13. **Face the microphone and get ready to record. When you are ready, press Knob 4 (>START) and start recording an *ahhhh* sound. Record for about 2 seconds, then press Knob 5 (>FINISH) to end the recording.**

Try to make a steady, continuous sound, while keeping pitch and volume fairly constant. Later we will see how to build this sound into a loop.

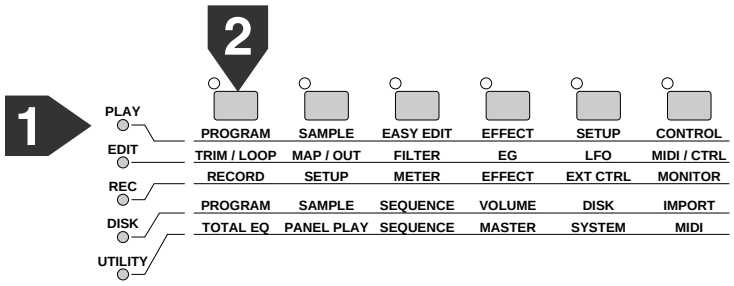
▼The screen shown at Step 11 above reappears when recording is finished.

Playback

We will now proceed to play the sample that we have just recorded.

Procedure

1. Select PLAY mode, and then select the PROGRAM function.



▼The screen looks like this.

```
[Pgm001] Program
 PgmSel     001:"Pgm 001 " >SAVE    >ALL
```

Although it is possible to play samples when working at other pages, in most cases you want to use this page to start the replay.

2. Strike a key on your MIDI keyboard.

Striking the key should cause your sample to play back. If you did not hear anything, check the speaker and MIDI connections. You may also need to adjust the MASTER VOL on the A3000 (the far left dial on the front panel), or the output level on your speakers.

Memo

Notice that you play a *program*, rather than a specific sample. In this case, you are playing program Pgm001, which is set up to play the sample that you just recorded (_NewSample).

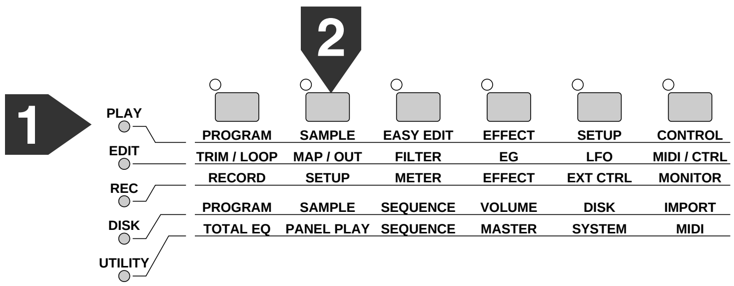
- If you are not happy with the recording results, turn to the next page for information about how to delete the sample so that you can record it again. If you are pleased with the result, you are ready to proceed to the "Next Step" section, starting on page 45.
- If you wish to stop for a while and switch off the power, note that your recorded sample will be lost unless you first save it to disk. You can save the sample by inserting a formatted floppy disk into the drive, then proceeding as described on pages 64 to 66. When you are ready to resume operation, please reload the data from the disk (☞67) and then proceed to the "Next Step" section (☞45).

Deleting and Redoing

If the recording results are not satisfactory, please use the following procedure to delete the recorded sample. Then record the sample again as described in the previous section.

Procedure

1. **Select PLAY mode, and then select the SAMPLE function (second function button).**



▼The screen looks like this.

```
[Pgm001] Sample                    ToPgm
↓SmpSel  "_NewSample          "  on    >SAVE
```

2. **Press the COMMAND key.**

Memo

The COMMAND key calls up a *command* screen that you use to execute a specific command. The command that appears depends on the current mode and function.

3. **Turn Knob 1 to select the** >DELETE **page.**

```
Command    Type
⇕>DELETE    Smp          "_NewSample        "
```

4. **Be sure that** Type **(Knob 2) is set to** Smp**.**

If necessary, turn Knob 2 to change the setting to Smp.

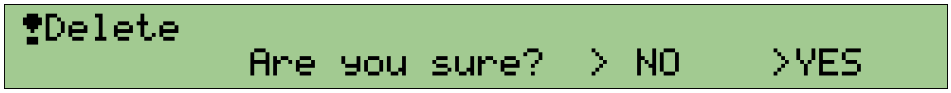
5. **Turn Knob 4 to select the name of the sample to be deleted.**

In this case, you want to set the value to _NewSample.

```
Command    Type
⇕>DELETE    Smp          "_NewSample        "
```

6. **Press Knob 1 (**>DELETE**).**

▼The following confirmation prompt appears.



7. **Press Knob 5 (**>YES**) to execute the deletion.**

The new sample is now deleted. You can record it again as described above.

Memo

In practice, it is not necessary to manually delete the sample as described here in order to replace it with a new one. You may instead record a new sample directly over the current sample, as explained later in this manual (☞230).

Next Step

In this section we record two more samples, a continuous *eeeee* sound and a continuous *ohhhh* sound. We will then assign a name, an *original* key, and a *key range* to each of these samples. Finally, we will try out the *split keyboard* feature.

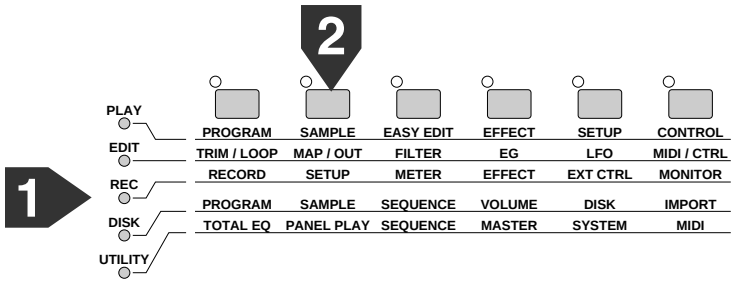
More Recording

We begin by recording an *eeeee* and an *ohhhh* sample.

Procedure

1. Select REC mode, SETUP function.

Press the RECORD mode button (REC button), and then press the second function key.



2. Turn Knob 1 to select the Target **page.**

▼The screen should now look like this.

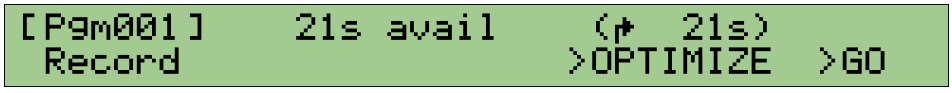
3. Turn Knob 2 to set Sample **to** New+**.**

Memo

Select New+ when you want to record two or more new samples in succession.

4. Press the first (leftmost) function key.

▼The Record screen appears.



5. **Press Knob 5 (>Go).**

6. **Face the microphone and get ready to record. When you are ready, press Knob 4 (>START) and start recording an *eeeee* sound. Record for about 2 seconds, and then press Knob 5 (>FINISH) to end the recording.**

▼The *eeeee* sound is now recorded.

7. **Face the microphone and get ready to record again. Press Knob 4 (>START) and start recording an *ohhhh* sound. Continue for about 2 seconds, and then press Knob 5 (>FINISH).**

▼The screen shown at step 4 reappears when recording is finished.

8. **Play a note on your MIDI keyboard.**

Pressing the note should cause all three of your samples to play out together.

- If you are unhappy with your two new samples, you can delete them both by pushing Knob 2 (>ALLDEL), and then pressing Knob 5 (>YES) to confirm. Then record them again as described above.
- If you want to redo only one of the two new samples, delete the bad sample using the procedure given on page 43 above ("Deleting and Redoing"). Note that you will need to select the sample by its names. Sample names are described immediately below.

Memo

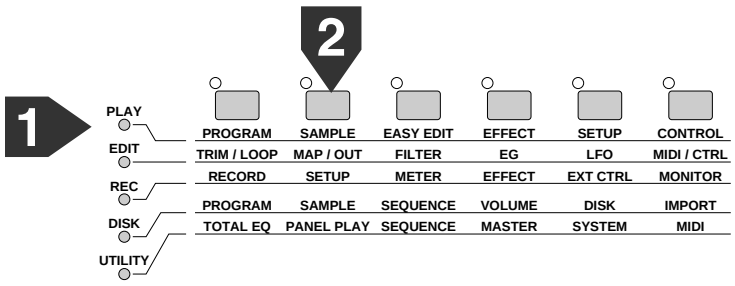
Each time you record a sample under an already existing sample name, the A3000 appends a sequential number to the end of the name. Since you have used the default name for all samples, the A3000 set the name for your first sample (*ahhhh*) to_NewSample, the name for your second recorded sample (*eeeee*) to _NewSample 1, and the name for your third recorded sample (*ohhhh*) to _NewSample 2.

Changing the Sample Names

The A3000 has set non-descriptive default names for your new samples: _NewSample, _NewSample 1, and _NewSample 2. We will now change the names to Voice AH, Voice EE, and Voice OH, respectively.

Procedure

1. Select PLAY mode, SAMPLE function.



2. Turn Knob 1 to select the SmpSel **(Sample Select) page.**

▼The screen should now look like this.

```
[Pgm001] Sample                ToPgm
▼SmpSel  "_NewSample     2"B   on    >SAVE
```

3. Turn Knob 2 or Knob 3 to select _NewSample **as the sample.**

4. Press Knob 2 or Knob 3.

```
          [_NewSample        ]
 <--->  <ENTER> <PASTE>   >EXIT   >OK
```

5. Turn Knob 3 to select <DELETE>**.**

```
          [_NewSample        ]
 <--->  <ENTER> <DELETE>  >EXIT   >OK
```

6. **Press Knob 3 as many times as necessary to delete all of the characters in the name.**

▼The name field should now be empty.

7. **Turn Knob 2 to select** V**.**

8. **Press Knob 2 (**<ENTER>**) to enter the new character and move the cursor one space to the right.**

9. **Repeat steps 7 to 8 in order to enter the rest of the name. Please set the name to** Voice AH**.**

Note that you will need to enter a space character between the “e” and the “A”. You can do this by pressing Knob 1 once (without turning Knob 2) after inputting the “e”.

10. **Press Knob 5 (**>OK**).**

▼This completes the name change. The original screen now reappears.

11. **Turn Knob 2 or Knob 3 to select** _NewSample 1**.**

12. **Press Knob 2 or Knob 3.**

13. **Turn Knob 3 to select** <PASTE>**.**

14. **Press Knob 3 (**<PASTE>**).**

▼The name that you just entered (Voice AH) is "pasted" into the name field.

Memo

Use the paste function to simplify the work of entering names. This feature lets you reinput a previous character string with a single press on the knob.

15. **Turn Knob 1 to move the cursor to the next to last letter of the displayed name (**A**).**

16. **Turn Knob 2 to change the** A **into an** E**. Then turn Knob 1 to advance to the last letter (**H**), and turn Knob 2 again to change this into another** E**.**

17. **Press Knob 5 (**>OK**).**

▼ This completes the name change. The original screen reappears.

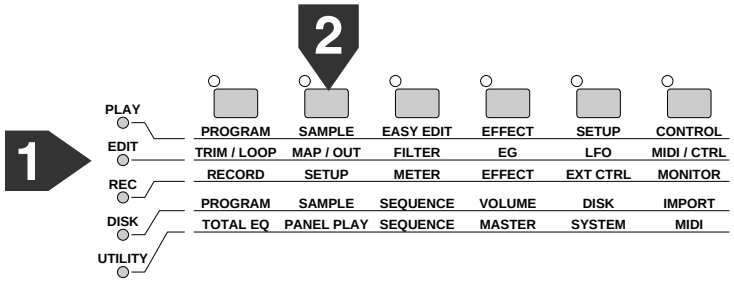
18. **Now repeat Steps 11 to 17 to change the name for your third sample from** _NewSample 2 **to** Voice OH**.**

Setting the Original Key and the Key Range

Notice that striking a key on your MIDI keyboard will replay all three of your samples at the same time. For our first "sample edit" session, we will now set the samples so that keyboard keys from C2 to B2 produce Voice AH, while keys C3 to B3 produce Voice EE, and keys C4 to B4 produce Voice OH.

Procedure

1. **Select EDIT Mode, and then select the MAP/OUT function.**



2. **Turn Knob 1 to select the** KeyRnge **page.**

▼The screen should now look like this.

```
[Pgm001 ]OrigKey  Low    High  KeyXfd
 KeyRnge  C 3     C-2     G 8    off
```

3. **Press Knob 1.**

▼The following screen appears.

```
Pgm001:"Pgm 001 "      SmpSolo MIDI→Smp
       "Voice OH      "   off      off
```

Memo

You use this screen to select the program or sample that you want to edit. Always go to this screen to select the appropriate item before you begin editing.

4. **Turn Knob 2 or 3 to select the** Voice AH **sample for editing.**

▼Be sure that Voice AH is selected.

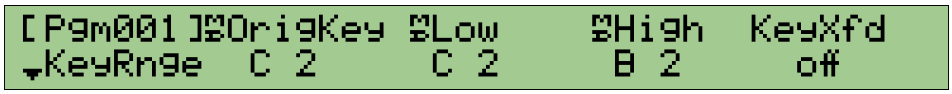
```
Pgm001:"Pgm 001 "      SmpSolo MIDI→Smp
       "Voice AH      "   off      off
```

5. **Press Knob 1 again.**

▼The initial KeyRnge screen reappears.

6. **Turn Knob 2 to set the** OrigKey **(*original key*) value to** C2**. Then turn Knob 3 to set** Low **to** C2**, and turn Knob 4 to set** High **to** B2**.**

▼As you can see, the "original key" is now set to C2, while the key range is C2 to B2.

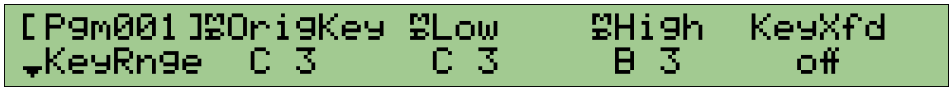


7. **Press Knob 1, and then turn Knob 2 or Knob 3 to select** Voice EE **for editing. Then press Knob 1 again.**

8. **Turn Knob 2 to set** OrigKey **to** C3**. Then turn Knob 3 to set** Low **to** C3**, and turn Knob 4 to set** High **to** B3**.**

- Note that in actual recording work you would want to set the original key to the sample's true pitch. In this practice session, however, we will set an imprecise value for the sake of convenience.

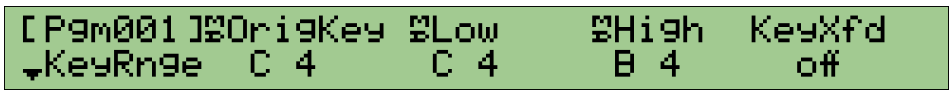
▼The "original key" is now set to C3. The key range is C3 to B3.



9. **Press Knob 1, and then turn Knob 2 or Knob 3 to select** Voice OH **for editing. Then press Knob 1 again.**

10. **Set** OrigKey **to** C4**; set** Low **to** C4**; and set** High **to** B4**.**

▼The "original key" is now set to C4. The key range is C4 to B4.



11. **Now try playing at the MIDI keyboard.**

▼Notice that each key in the C2 - B2 octave produces the *ahhhh* sound. Keys C3 to B3 produce the *eeeee* sample, while keys C4 to B4 play the *ohhhh* sample.

Memo

Notice how this procedure lets you map the different samples in a program to specific areas of the keyboard.

In the next section we will proceed to try out more sophisticated editing of your three samples.

If you wish to stop here for a while and switch off the power, please save your edited data to floppy disk (☞64 to 66). When you are ready to resume operation, please reload the data from the disk (☞67) and then proceed to the next page.

Sample Editing

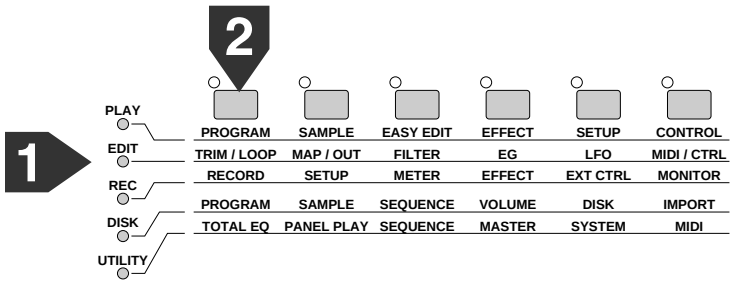
In this section we will try out further editing on your *ahhhh*, *eeeee*, and *ohhhh* samples.

Using Loops

We will now set up a loop for the *ahhhh* sample. The sample will then play out continuously when you hold down an appropriate key at the MIDI keyboard.

Procedure

1. **Select EDIT mode, and then select the TRIM/LOOP function.**



2. **Press Knob 1, and then turn Knob 2 or Knob 3 to select the** Voice AH **sample for editing. Then press Knob 1 again.**

3. **Turn Knob 1 to select the** WvMode **(wave mode) screen.**

▼The screen should now look like this.

```
[Pgm001] LpMode Vel→Start      Freq
▲WvMode   ----→     +0        (44100Hz)
```

4. **Turn Knob 2 to set** LpMode **(loop mode) to** – – – → ○**.**

```
[Pgm001] LpMode Vel→Start      Freq
▲WvMode   ---→O     +0        (44100Hz)
```

5. **Press and hold the AUDITION key.**

You use the AUDITION key to play out the currently selected sample. Notice how the sound loops: *ahhhh*, *ahhhh*, *ahhhh*. In the next few steps we will adjust the loop start and end points to produce a smoother loop (*ahhh-hhh-hhh*).

Memo

Notice that you can use the AUDITION key in place of the MIDI keyboard to play out the sound of your samples.

6. **Turn Knob 1 to select the** Config **(Configure) screen. Then turn Knob 3 to set** Zero **to** on**.**

The *zero* feature (also known as *automatic zeroing*) eliminates the cracking sound that may occur when playback jumps from the loop endpoint to the loop start point.

▼The screen now looks like this.

```
[Pgm001] Length   Zero     Snap  EndType
▼Config  unLock    on       off   address
```

7. **Turn Knob 1 to select the** Loop **screen. Then turn Knob 4 to set** Step **to** ×1000 **and turn Knob 2 as necessary to set** LpStart **(loop start point) to approximately** 30000**.**

```
[Pgm001]LpStart  LpEnd     Step LpMonitr
▲▼Loop   30016    84156    x1000   0ms
```

8. **Turn Knob 3 as necessary to set** LpEnd **(loop endpoint) to approximately** 45000**.**

```
[Pgm001]LpStart  LpEnd     Step LpMonitr
▲▼Loop   30016    45016    x1000   0ms
```

9. **Hold down the AUDITION key to check the editing results.**

Adjust the start and endpoint values as necessary to further improve the sound of the loop.

10. **Now play a key between C2 and B2 at your keyboard.**

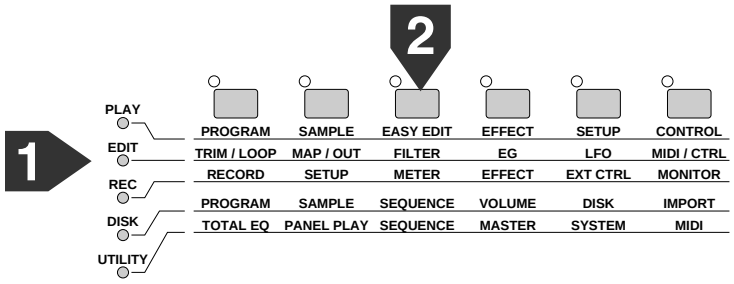
The key should produce the sound of the edited *ahhh-hhh-hhh* sample. The sound should continue until the key is released.

Using a Filter

We will now set up a filter for the *eeeee* sample. The filter settings should produce a significant change in the sample's sound.

Procedure

1. **Select EDIT mode, and then select the FILTER function.**



2. **Press Knob 1, and then turn Knob 2 or Knob 3 to select the** Voice EE **sample for editing. Then press Knob 1 again.**

3. **Turn Knob 1 to select the** Filter **screen. Then turn Knob 2 to set** Type **to** HiPass1**. Turn Knob 3 to set** Cutoff **to** 100**.**

▼The screen should now look like this.

```
[Pgm001]   Type  Cutoff FltGain Q/Width
▼Filter  HiPass1  100      +0       4
```

4. **Now play a key between C3 and B3 at your keyboard.**

▼Notice how the filter has eliminated the low-frequency components of the *eeeee* sound.

Memo

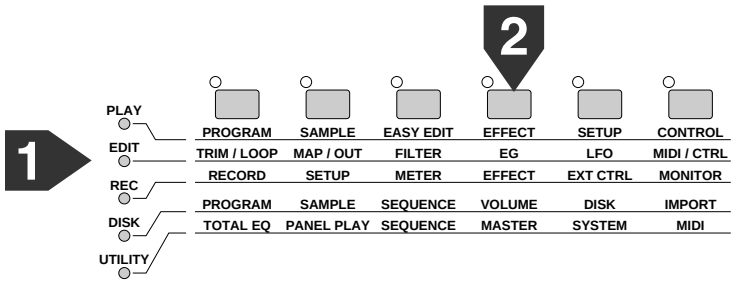
The A3000 offers a variety of filter types. You can select from among two high-pass filters (HiPass1, HiPass2), two low-pass filters (LowPass1, LowPass2), a band-pass filter (BandPass), and a band-eliminate filter (BandElim).

Using an Envelope Generator

We will now adjust the amplitude EG to lengthen the release rate of the *ohhhh* sample. The "release" determines how long the sample sound lingers after you stop playing the key at the keyboard.

Procedure

1. Select EDIT mode, and then select the EG (envelope generator) function.



2. Press Knob 1, and then turn Knob 2 or Knob 3 to select the Voice OH **sample for editing. Then press Knob 1 again.**

3. Turn Knob 1 to select the AEG **(amplitude envelope generator) screen. Then turn Knob 5 to set the** RelRate **value to 40.**

▼The screen should now look like this.

4. Now play a key between C4 and B4 at your keyboard.

Notice how the sound fades out slowly when you release the key.

Memo

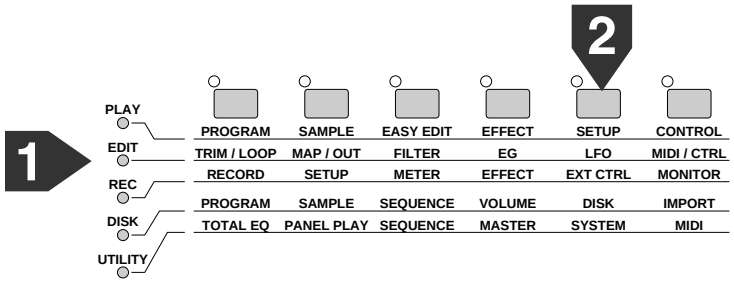
- The AEG determines how the sample's amplitude (sound level) develops over time. In addition to the release-rate value, you can also set an *attack rate* and a *sustain level*. The attack rate value determines how rapidly the sound rises when the key is first hit, while the sustain level determines how the sound continues while the key is held down.
- The A3000 also provides a filter EG ("FEG") and pitch EG ("PEG"). You use these features to select how filtering and pitch develop over time while the key is held down.

Using the LFO

We will now set the LFO (low-frequency oscillator) to create a vibrato in the *ahhhh* sample.

Procedure

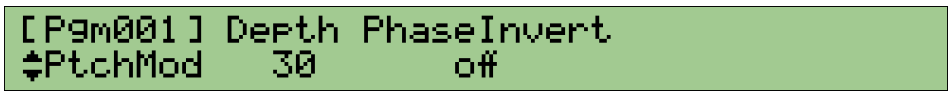
1. Select EDIT mode, LFO function.



2. Press Knob 1, and then turn Knob 2 or Knob 3 to select the Voice AH **sample for editing. Then press Knob 1 again.**

3. Turn Knob 1 to select the PtchMod **(pitch modulation) screen. Then turn Knob 2 to set the** Depth **to** 30**.**

▼The screen now looks like this.



4. Turn Knob 1 to select the Common **screen. Turn Knob 2 to set** Wave **to** Triangl**. Turn Knob 3 to set** Speed **to** 15**; turn Knob 4 to set** Delay **to** 90**.**

5. Now play and hold a key between C2 and B2 at your keyboard.

Notice how a gentle vibrato (pitch waver) begins after the sound has been held for a few moments.

In the next section we will begin to do some program editing.

If you wish to stop here for a while and switch off the power, please save your edited data to floppy disk (☞64 to 66). When you are ready to resume operation, please reload the data from the disk (☞67) and then proceed to the next page.

Program Editing

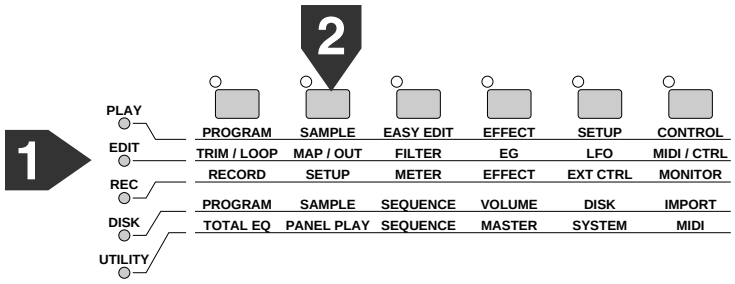
This section introduces you to some basic program-editing procedures.

Using Effects

We will first set up an effect for the currently selected program (Pgm 001). In particular, we will apply a "flanging pan" effect to the *eeeee* sample.

Procedure

1. **Select EDIT mode, and then select the MAP/OUT function.**



2. **Press Knob 1, and then turn Knob 2 or Knob 3 to select the** Voice EE **sample for editing. Then press Knob 1 again.**

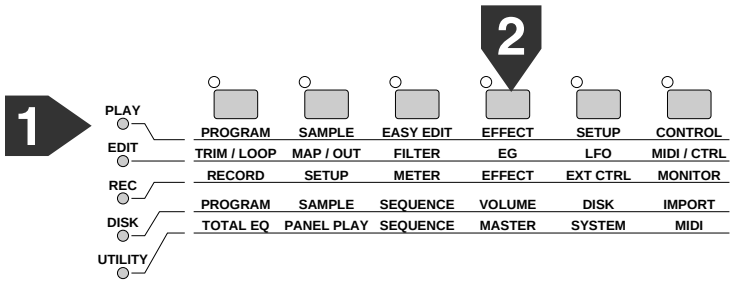
3. **Turn Knob 1 to select the** Output **page. Then turn Knob 2 to set** MainOut **to** Effect1**.**

▼The screen should now look like this.

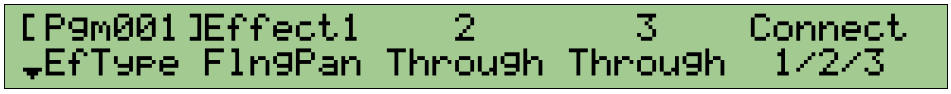
Memo

The A3000 allows you to assign up to three effects (Effect1, Effect2, and Effect3) to each program. You can then apply any one of these effects to each of the samples used by the program. The MainOut setting determines which of the effects is applied to the sample. In this case, we will apply Effect1.

4. **Select PLAY mode, EFFECT function.**



5. **Turn Knob 1 to select the** EfType **(effect type) screen. Then turn Knob 2 to set** Effect1 **to** FlngPan **(flanging pan).**



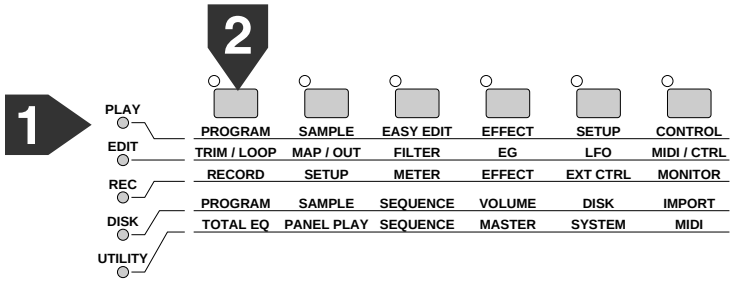
6. **Now play a key between C3 and B3 at your keyboard.**
Notice how the flange effect pans back and forth from right to left.

Editing a Different Program

Now we will see how to set up and edit another program. We will leave our current program (Pgm 001) as is, and begin work on a second program (Pgm 002).

Procedure

1. **Select PLAY mode, PROGRAM function.**



2. **Turn Knob 2 or Knob 3 to set** Program **to** 002:"Pgm 002"**.**

▼The screen should now look like this.

```
[Pgm002] Program
 PgmSel    002:"Pgm 002 " >SAVE   >ALL
```

3. **Try playing at the keyboard to see what happens.**

Nothing happens. Program 002 is still empty, since we have not yet assigned any samples to it. So we will now proceed to assign the three samples we have already created to this new program.

4. **Press the second (SAMPLE) function key.**

```
[Pgm002] Sample              ToPgm
▼SmpSel  "Voice EE          "E  off   >SAVE
```

If necessary, turn Knob 1 until SmpSel appears at the lower left of the screen.

5. **Turn Knob 2 or Knob 3 to select the** Voice AH **sample.**

6. **Turn Knob 4 to set** ToPgm **to** on**.**

This setting selects Voice AH for use in this program.

```
[Pgm002] Sample              ToPgm
▼SmpSel  "Voice AH          "E  on    >SAVE
```

7. **Now turn Knob 2 or 3 to select the** Voice EE **sample, then turn Knob 4 to set** ToPgm **to** on**. Then turn Knob 2 or 3 again to select the** Voice OH **sample, and again turn Knob 4 to set** ToPgm **to** on**.**

All three samples are now selected for use with this program.

```
[Pgm002] Sample              ToPgm
▼SmpSel  "Voice OH          "E  on    >SAVE
```

8. **Try playing at the keyboard again.**

As with Program 001, keys from C2 to B2 produce the *ahhhh* sample, keys from C3 to B3 play the *eeeee* sample, and keys from C4 to B4 play the *ohhhh* sample.

Memo

- Notice that there was no need to go through this procedure for Program 001, which was ready to play immediately after the samples were recorded. This is because you set the ToPgm setting to on before you began to record (see page 40). This setting causes the recorded sample to map directly to the currently selected program.
- Notice also that the keyboard ranges for all three samples are the same for both programs. This is because the range settings are stored with the samples, not with the program. The Voice AH sample is currently set for range C2 to B2, while Voice EE is set for C3 to B3, and Voice OH is set for C4 to B4.

Next, let's try dropping the pitch of Voice AH by one octave, and then raising the pitch of Voice OH by the same amount.

One way to do this would be to lower or raise each sample's internal pitch settings. But this would also change the sound of Program 001, since the pitch settings are stored with the sample and affect all programs in which the sample is used.

To limit our change to Program 002 only, we will instead use the Easy Edit feature to adjust the pitch.

9. **Press the third (EASY EDIT) function key.**

```
[Pgm002]   Edit Param          Value
 EasyEd  Level            :   +0    ( 100 )
```

10. **Press Knob 1, then turn Knob 2 or Knob 3 to select** Voice AH **for easy editing. Then press Knob 1 again.**

11. **Turn Knob 2 or Knob 3 to select the** Tune Coarse **edit parameter.**

```
[Pgm002]   Edit Param          Value
 EasyEd  Tune Coarse      :   +0    (  +0 )
```

12. **Turn Knob 4 or Knob 5 to set the value to** -12**.**

13. **Press Knob 1, then turn Knob 2 or Knob 3 to select** Voice OH **for easy editing. Then press Knob 1 again.**

14. **Turn Knob 4 or Knob 5 to set the coarse tune value to** +12**.**

15. **Try playing at the keyboard.**

▼Notice that the pitch of the *ahhhh* is now lower by one octave, while the *ohhhh* is higher by an octave.

In the next section we will try recording and playing a "sequence."

If you wish to stop here for a while and switch off the power, please save your edited data to floppy disk (☞64 to 66). When you are ready to resume operation, please reload the data from the disk (☞67) and then proceed to the next page.

Sequence Play

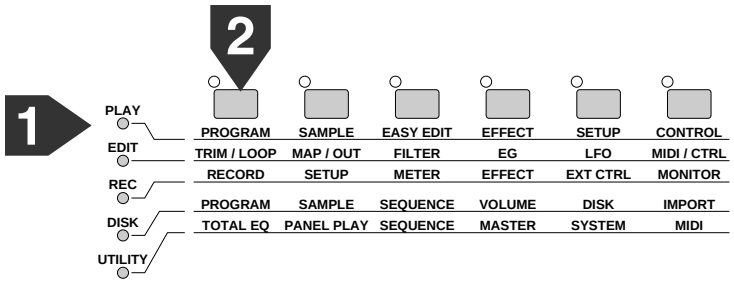
In this section you will learn how to record and play a sequence.

Recording the Sequence

Here we will record a sequence that makes use of Program 001. Note that a *sequence* is a stream of MIDI performance data that you record from your keyboard into the A3000 for later playback.

Procedure

1. Select PLAY mode, PROGRAM function.

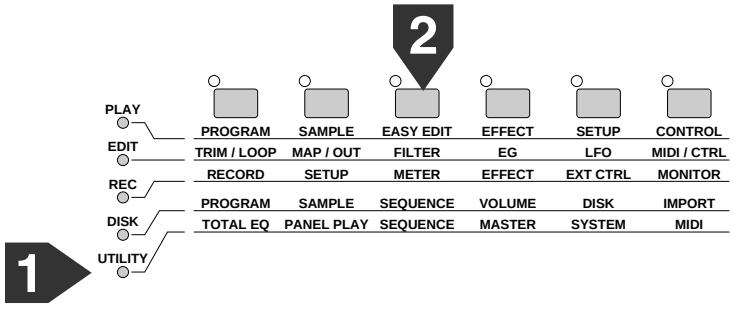


2. Turn Knob 2 or Knob 3 to set Program **to** 001:"Pgm 001"**.**

▼The screen looks like this.

```
[Pgm001] Program
 PgmSel     001:"Pgm 001  " >SAVE    >ALL
```

3. Select UTILITY mode, SEQUENCE function.



▼The screen should now look like this.

```
[Pgm001] Sequence
 SeqSel "----------------"          >NEW
```

If the above screen does not appear, turn Knob 1 until SeqSel appears at the lower left.

4. **Press Knob 5 (**>NEW**).**

▼The A3000 creates a new, blank sequence.

5. **Turn Knob 1 to select the** Play&Rec **screen.**

6. **Get ready to play a sequence at your MIDI keyboard. When you are ready, press Knob 4 (**>REC**) and then begin playing immediately. Play for about 10 seconds, then press Knob 5 (**>STOP**).**

Playing the Sequence

Now let's play back the sequence that you just recorded.

Procedure

1. **Press Knob 5 (**>PLAY**).**

▼The A3000 starts replay of the recorded sequence.

2. **Press Knob 5 (**>STOP**).**

▼The replay stops.

Saving and Reloading Your Data

Like other samplers, the A3000 stores all new data into main memory only, and will lose all of this data when you switch off the power. You must therefore be sure to save all important data to disk before turning the A3000 off. Note that "new data" here refers to all newly recorded samples and sequences, and to all editing changes that you make to your samples and programs.

In this example, we will save the data to a 2HD-type floppy disk.

Formatting a Floppy Disk

Floppy disks must be *formatted* before they can be used. The format operation sets the disk up so that it can be used for data storage and retrieval. You can format a new disk using the procedure described below, or you can use preformatted disks.

Note that the A3000 supports the following two format types only.

- MFF2DD (2DD disk type): MS-DOS 9-sector format 720KB
- MF2HD (2HD disk type): MS-DOS 18-sector format 1.44MB

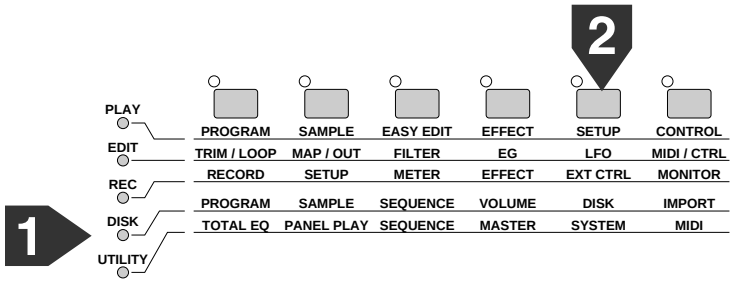
Important

The format operation erases any data already on the disk.

Procedure

1. Select DISK mode, DISK function.

If necessary, turn Knob 1 to select the Disk page.



▼The screen now looks like this.

2. **Press the COMMAND key.**

3. **Insert the floppy disk you want to format into the disk drive.**

In this example, it is assumed that you are using a new (unformatted) HD-type disk.

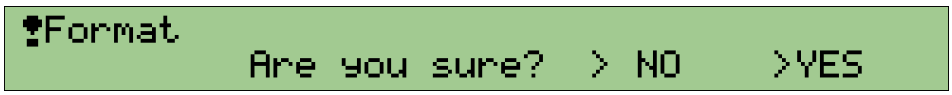
4. **Turn Knob 1 to select the** FD_FMT **screen.**

5. **Make sure that** Type **is set to** 2HD**. (If** 2HD **is not already selected, turn Knob 2 to select it.)**

The name to be given to the formatted disk appears above Knobs 4 and 5. The default name is "New FD". Although you are free to change the name, we will leave the default name unchanged for this example.

6. **Press Knob 1 (**>FD_FMT**).**

▼The following confirmation prompt appears.



7. **Press Knob 5 (**>YES**).**

▼The A3000 starts to format the disk. Please wait until the original screen returns, indicating that the format is finished.

Saving Your Data

The next procedure shows how to save all of your new data to floppy disk.

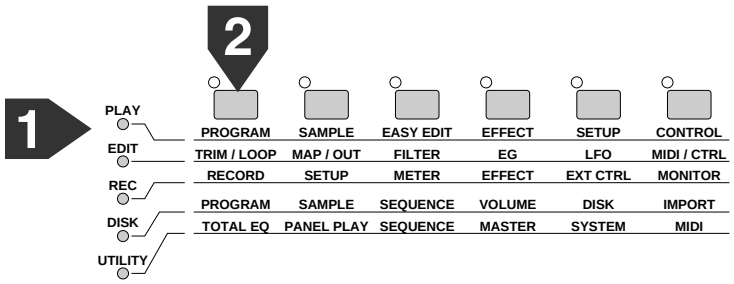
Important

This procedure writes all current memory content into the floppy disk, overwriting any data already existing on the disk.

Procedure

1. Select PLAY mode.

Function selection is not significant (you can execute this operation regardless of the selected function), but in this case let's select PROGRAM.



2. Press the COMMAND key.

3. Turn Knob 1 to select the >SAVE **screen.**

▼The screen should now look like this.

```
Command    Type     To
▼>SAVE All(wipe)   Dsk:"New FD          "
```

4. Be sure that Type **is set to** All(wipe)**. If necessary, turn Knob 2 to change the setting to this value.**

5. Be sure that To **is set to** Dsk:"New FD"**. If necessary, turn Knob 3 or Knob 4 to change the setting to this value.**

6. Press Knob 1 (>SAVE**).**

▼The following confirmation prompt appears.

```
!Save(Clear all files in Volume)
          Are you sure?  > NO    >YES
```

7. Press Knob 5 (>YES**).**

▼The A3000 starts to save the data. Please wait until the original screen returns, indicating that the save is finished.

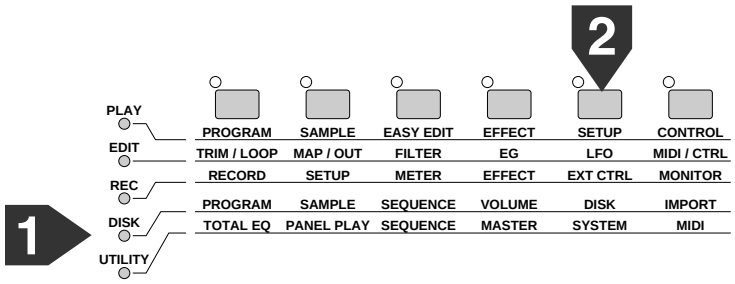
Loading Data from Disk

The section shows you to reload the saved disk data back into the A3000.

Procedure

1. Select DISK mode, DISK function.

If necessary, turn Knob 1 to select the Disk page.



▼The screen now looks like this.

```
[Pgm001] Disk                        855kB free
▼Disk     "New FD                " (FD  2HD  )
```

2. Be sure that Disk is set to New FD. If necessary, turn Knob 2 or Knob 3 to change the setting to this value.

3. Press the fourth (VOLUME) function key.

▼The Volume screen appears.

```
[Pgm001] Volume
 Volume   "FD VOLUME          ">LOAD
```

4. Press Knob 4 (>LOAD).

▼The following confirmation prompt appears.

```
!Load(Clear all memory)
          Are you sure?  > NO    >YES
```

5. Press Knob 5 (>YES).

▼The A3000 starts to load the data. The original screen reappears when loading is finished.

Accompanying Disks

The A3000 package includes five floppy disks and one CD-ROM.

Floppy Disks

Disk 1	Demonstration 1: “DJ TSUYOSHI”
Disk 2	Demonstration 2: “Something Wonderful”
Disk 3	Demonstration 3: “TAKASHI MORIO (D ground)”
Disk 4	Demonstration 4
Disk 5	Drum Variations

The four demonstration disks include both voice and sequence data. The “Drum Variations” disk contains a variety of voices.

To use a floppy disk, begin by inserting it into the drive. Then press the DISK mode button and then the DISK function key (fifth function key), and then turn Knob 2 to select the disk. Then press the VOLUME function key (fourth function key), and push Knob 4 (>LOAD) to load the disk content into the A3000.

If you have loaded one of the demonstration disks, you can proceed to play the sequence by pressing the UTILITY mode button, then pressing the SEQUENCE function key (third function key), then turning Knob 1 to select the Play&Rec page, and then pushing Knob 5 (>PLAY) to begin the playback.

CD-ROM

Track 1 of the CD-ROM contains A3000-format data (non-audio data) that can be loaded directly into the A3000. To load this data, you will need to insert the disk into a SCSI CD-ROM drive connected to the A3000’s SCSI connector.

The other CD tracks contain standard CD audio data. You can record this data from a standard CD player through standard audio connections. Do not attempt to record Track 1 in this way, however.

For information about the disk content, refer to the CD’s jacket.

Chapter 3
Basics

Samples and Programs

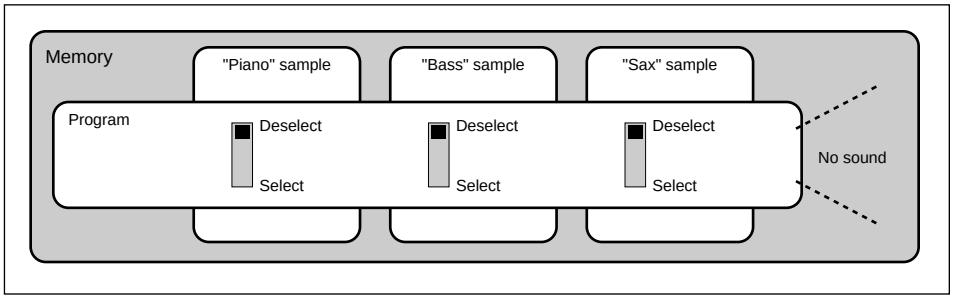
Samples and *programs* are the building blocks that you use to create and organize sounds on your A3000. This chapter introduces you to these two essential concepts.

Basics

A *sample* is a sound unit that serves as a component of a larger, more comprehensive sound, or *program*. A *program* is an organization of samples and related settings into a playable sound. Programs, in other words, are built from samples.

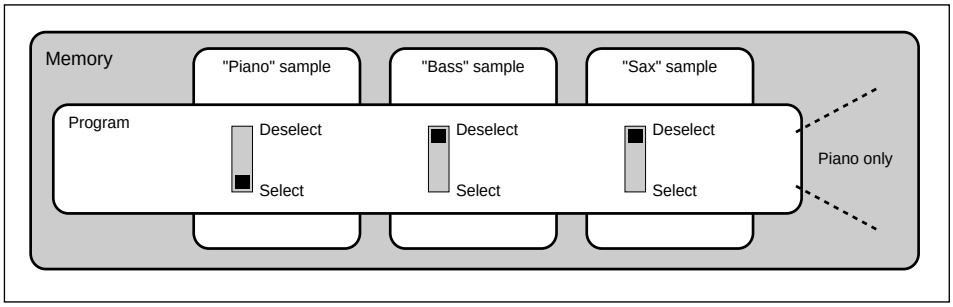
An *object* is an independent data structure that exists in memory and can be manipulated by you, the user. Despite their differences, samples and programs both meet this definition, and may both be referred to as objects.

When playing sounds from the A3000, you play the programs rather than the individual samples. As an example, assume that you have created three samples in A3000 memory: a "piano" sample, a "bass" sample, and a "sax" sample. You could then create a program to play any or all of these samples. The relationship is illustrated by the diagrams below.

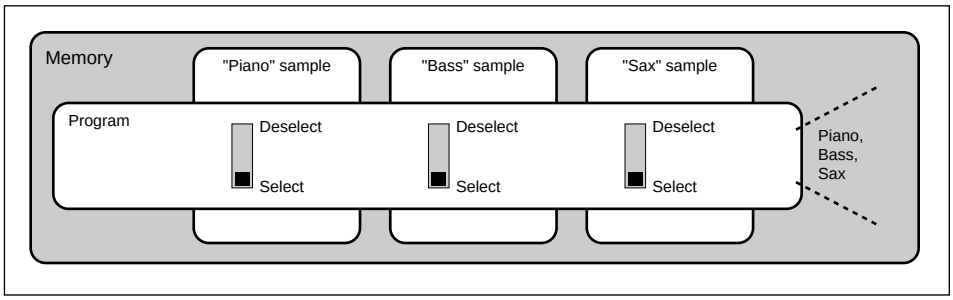


In the above case, the program has deselected all three samples, and will therefore produce no sound. Although you are free to select this program, it will not generate any sound so long as all samples are deselected.

If you set the program so that it uses the piano sample only, as shown below, then the program will be able to produce piano sound only.



If you set the program to use all three samples, then you will then be able to use it to produce all three sounds.



The basic approach, then, is to place all required samples into memory, and then set each program to use the samples that you want it to play.

We can now proceed to look in more detail at the structure of samples and programs on the A3000.

Samples

A sample consists of basic sound data (also called *waveform data*, or *wave data*), together with parameter data (*sample parameters*).

Sample Data

Wave data — Digital data representing an acoustic sound wave. You generally create this data by recording sound at the A3000, using input from a microphone or some external audio device. Note that the process of recording acoustic sound in digital form is known as *sampling*.

Sample parameters — Settings that determine how the wave data is reproduced. Parameters on the A3000 include the following: start and end addresses (define which area of the wave is played out), loop type (how the wave loops), original key, key range (keyboard range that causes sample to play), filter, envelope generators, LFO, and MIDI receive channel.

Important

- On most conventional samplers, a "sample" consists of waveform data only. The A3000 is a more sophisticated device that associates a variety of editable parameters with each waveform.
- An A3000 sample may be either stereo or monaural. A *stereo sample* contains two waveform patterns — one for the right channel, and another for the left.
- The amount of available memory determines the length and number of samples that can be used at any one time.
- The A3000 offers a special object type, referred to as a *sample bank*. The sample bank consists of a group of samples, but can be handled in the same way as a single sample. Details are provided later in this chapter.

Programs

A program is a playable collection of samples and other data. The program is the object that you use when you want to play sounds from the A3000.

The A3000 provides 128 programs, each identified by its own *program number*. Program numbers run from 001 to 128.

Note that all 128 programs are always resident in memory, even though many of these programs may be empty of data. In fact, when you first switch on the A3000 all 128 programs will be completely empty and essentially useless. Even an empty program is considered to exist, however, since it is always possible for you, or for an external MIDI device, to select it.

Program Data

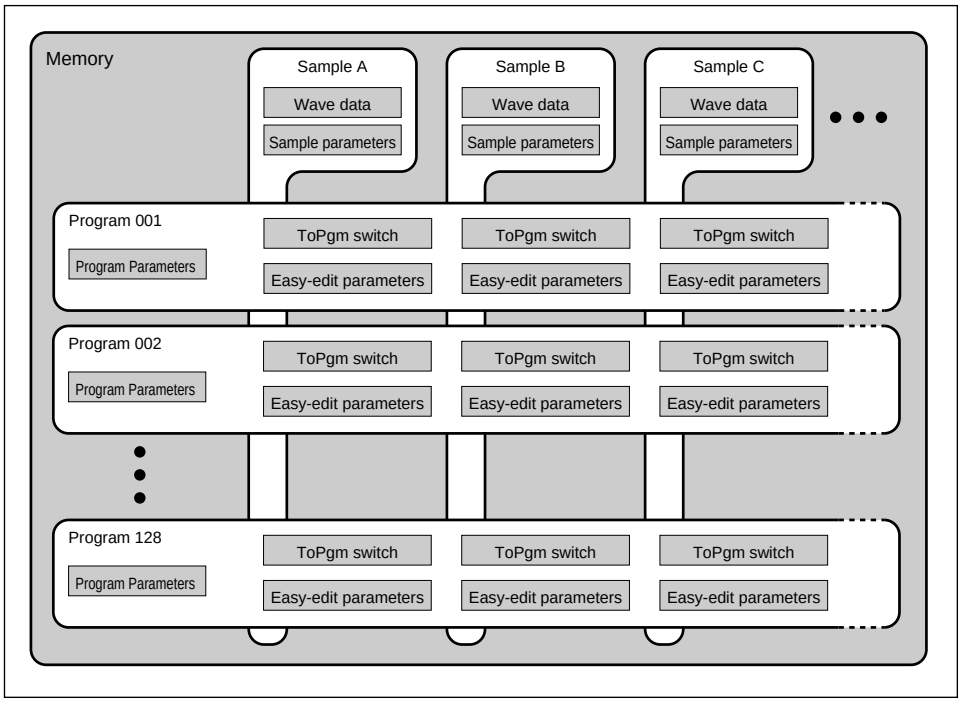
Programs consist of the following data types.

Program parameters — General playback settings: effect selection, sound output level, and others.

ToPgm switches — The sample select/deselect switches described above. These switches determine which samples the program uses.(Note that ToPgm stands for *to program*.)

Easy-edit parameters — Edit settings that temporarily adjust or override the sample parameters of the selected samples (the samples selected by the program's ToPgm switches). Note that the easy-edit parameters do not overwrite the sample parameters, but simply "overrule" them during the time that the program remains in use.

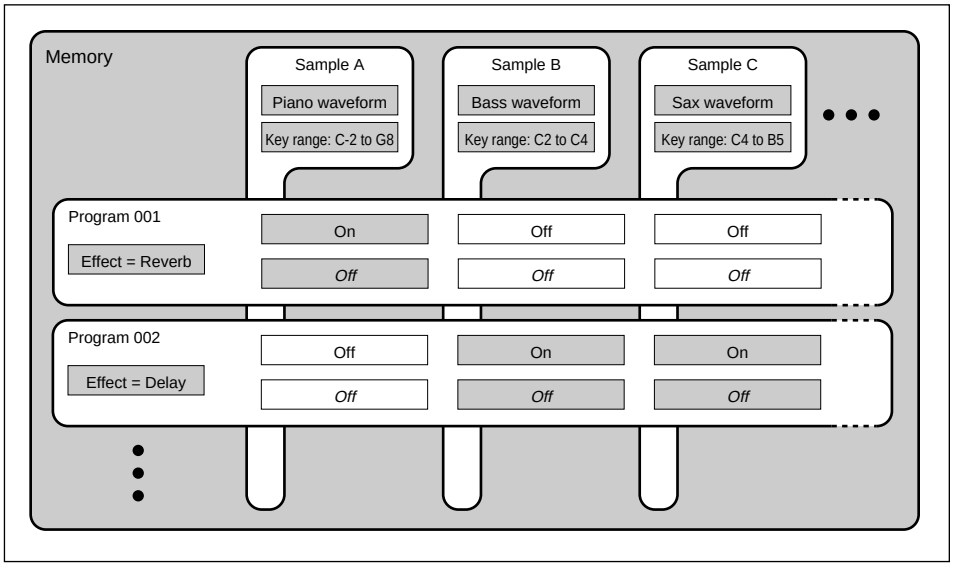
The following diagram again illustrates the relation between samples, programs, and data types.



Program Setup Example 1

We can now set up some programs by plugging in values for the various data types indicated above.

Sample A:	Piano, with key range set to “C-2 to G8.”
Sample B:	Bass. Key range set to “C2 to C4.”
Sample C:	Sax. Key range set to “C4 to B5.”
Program 001:	ToPgm ON for Sample A, OFF for Samples B and C. Selected effect = reverb. Easy-edit parameters all “off.”
Program 002:	ToPgm OFF for Sample A, ON for Samples B and C. Selected effect = delay. Easy-edit parameters all “off.”

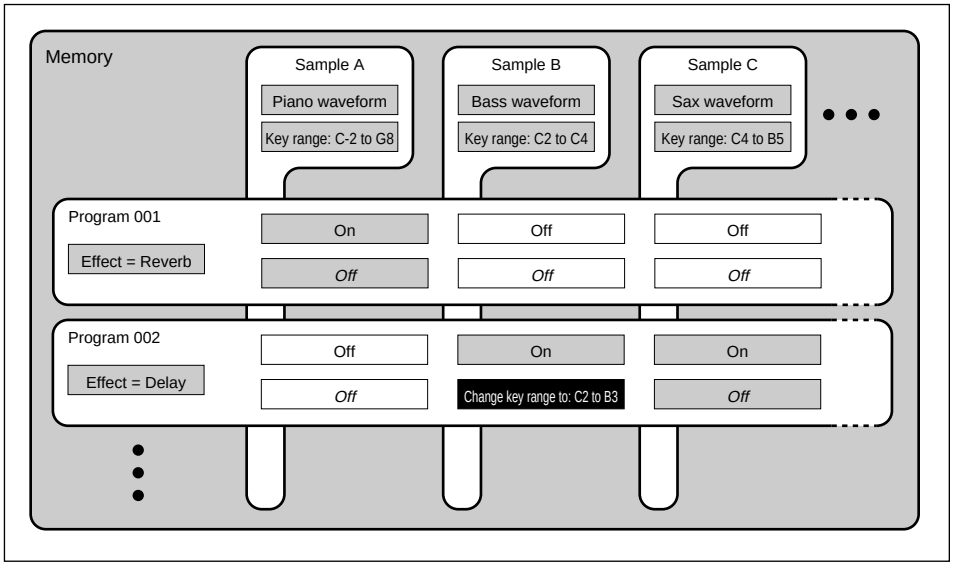


Selection of Program 1 causes the A3000 to play a piano sound (Sample A) each time any key on the keyboard is hit. (Note that the key range is set from C-2 to G8, covering the entire keyboard.) A reverb effect is applied to the sound.

Program 2 causes the A3000 to produce a bass sound (Sample B) over keyboard range C2 to C4, and a sax sound (Sample C) over keyboard range C4 to B5. Both sounds are played through a delay effect.

Notice that in the case of Program 2, key C4 plays out both samples at the same time. Assume, then, that you want to remove this overlap. One way to do this would be to change Sample B's key range to "C2 to B3." The problem with this approach is that it changes the sample's own parameters, and will therefore affect all programs in which the sample is used.

Another way to resolve the problem, then, is to use the "easy edit" feature to adjust the range for Program 2 only, while leaving the sample's own parameter data unchanged. The following illustration shows the idea.



The above adjustment removes the overlap. Program 2 will now play the bass sample over keyboard range C2 to B3, and the sax sample over range C4 to B5.

Program Setup Example 2

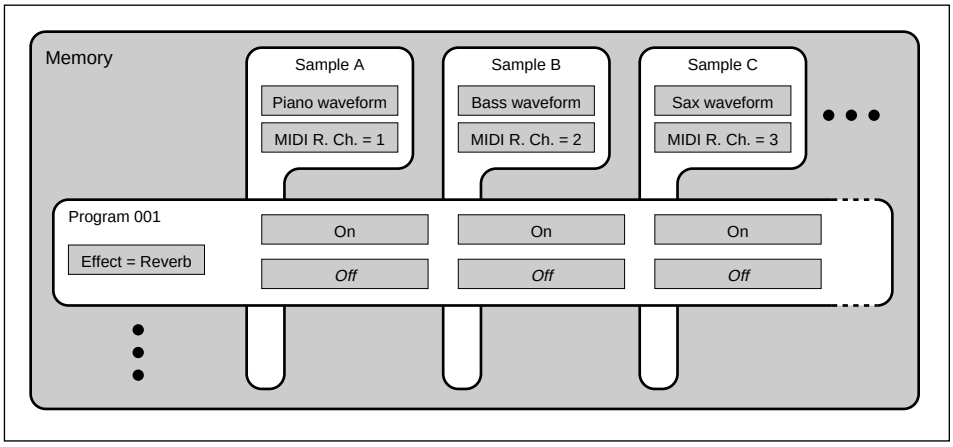
In this example, we assign a different MIDI Receive Channel to each sample.

Sample A: Piano. MIDI Receive Channel is "1."

Sample B: Bass. MIDI Receive Channel is "2."

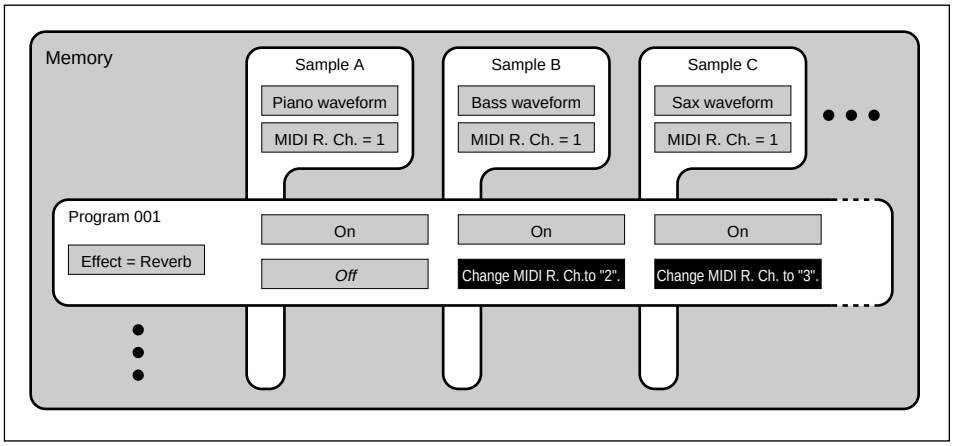
Sample C: Sax. MIDI Receive Channel is "3."

Program 001: ToPgm ON for all three samples. Easy-edit parameters all "off."



When Program 1 is in use, MIDI performance data transmitted through MIDI Channel 1 produces the piano sample, while Channel 2 data plays the bass and Channel 3 data drives the sax. This result is a multitimbral performance, with different channels producing different voices.

Note again that the above setup requires that you set the appropriate channel value into each sample's local parameters. Suppose that you want to use this channel arrangement with Program 1 only, while leaving all samples set to play on MIDI Channel 1 with all other programs. The following illustration shows how you would set this up.

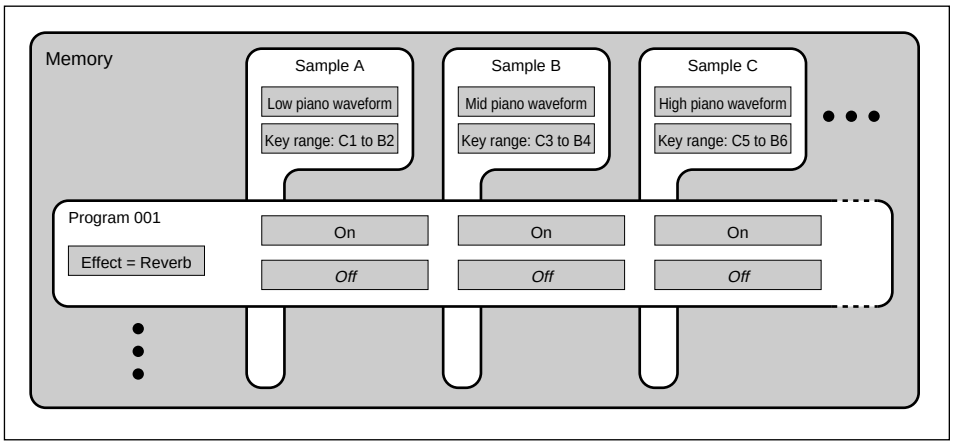


Sample Banks

It is generally not possible to use a single sample to reproduce an instrument sound accurately over a large range of keys. Instead, the way to get faithful reproduction is to record several samples from the original instrument, each at a different pitch, and then assign each of these samples to a corresponding area of the keyboard. This approach is referred to as *multisampling*.

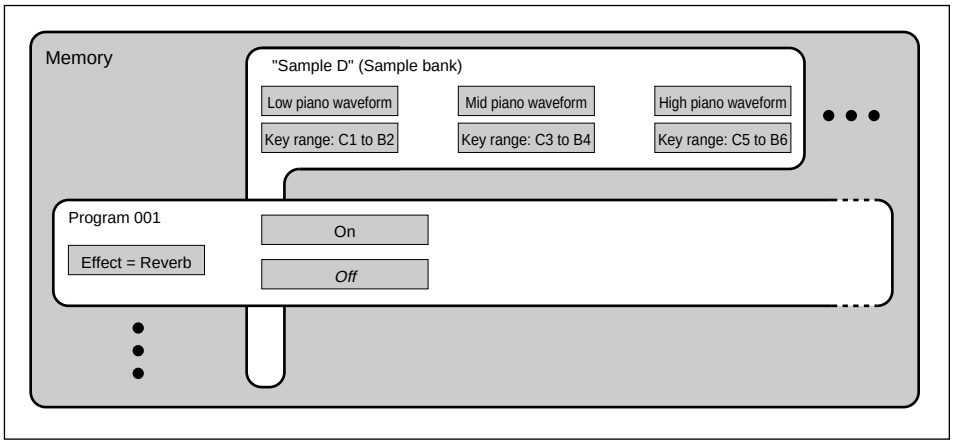
Once you have produced these samples, you will want to keep them together and treat them as a group. The A3000 therefore lets you handle the entire group of samples as a single unit, called a *sample bank*.

As an example, assume that you want to use three samples to record a piano: Sample A to generate sounds from C1 to B2, Sample B for the range C3 to B4, and Sample C for the range C5 to B6. If you do this without using a sample bank, the setup will look like this.



The difficulty with this approach is that each time you wish to use the piano sound in a different program, you must remember to set the program's ToPgm switches ON for all three of these samples. And when you need to save the samples to disk or reload them, you must always remember to save or load all three of them together.

By setting up a sample bank, however, you can avoid these problems. The sample bank lets you treat all three samples as a single unit. In practice, you can treat them as if they were a single sample. The following illustration shows the idea.



FYI

- Sample banks also have other uses. For example, you can create a sample bank consisting of samples from you favorite drum set (bass drum, snare, tom, hi-hat, cymbals, and so on), with each sample mapped to a different note within an octave. You can use a single ToPgm switch to set the entire drum set on or off for any given program.
- In most cases the A3000 automatically converts multisample data that you import from another sampler into the sample-bank structure described here. This feature does not work with all sampler models, however.

Summary

Let's briefly review the basic characteristics of samples and programs.

Sample

- Consists of waveform data (sound wave) and sample parameters (basic playback conditions).
- May be either stereo or monaural.
- Multiple samples can be grouped into a single sample bank. You can then treat the sample bank as a single "virtual" sample.
- When playing sound from the A3000, you do not select and play at the sample level. Instead, you create programs that utilize the samples, and then play the programs.

Program

- You use programs to play back your samples.
- The A3000 provides 128 programs (001 to 128).
- To use a sample within a program, you set the program's ToPgm switch ON for that sample.
- You can use the Easy Edit feature to adjust playback conditions at the program level. These adjustments do not affect the sample data itself, and are effective only while the program is selected.

Sample Output Destinations and Effects

Each sample includes output parameters that select the sample's output destination and effects usage. The A3000 provides a double-output system (main output and assignable output) and a triple effect system (three independent effect circuits).

Double Output System

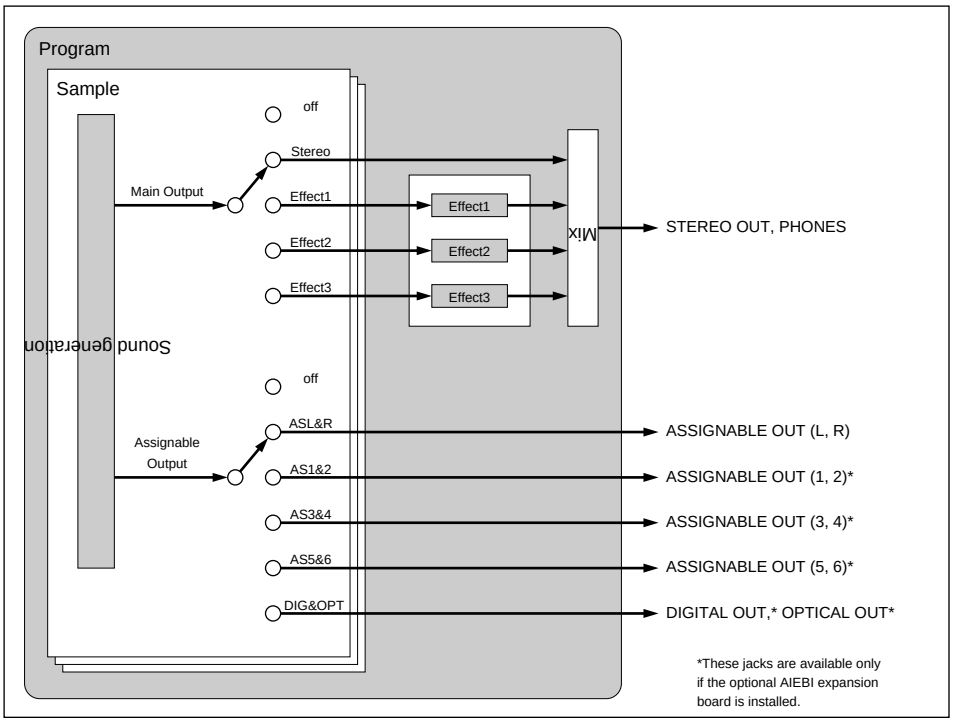
You can output each sample to two different output systems: a *main* output and an *assignable* output. Each system offers five different settings, as follows.

Main Output

off	No main output.
Stereo	Bypass the effects.
Effect1	Output to Effect 1.
Effect2	Output to Effect 2.
Effect3	Output to Effect 3.

Assignable Output

off	No assignable output.
ASL&R	Output to assignable output jacks L and R.
AS1&2	Output to assignable output jacks 1 and 2. (Requires optional AIEB1 board.)
AS3&4	Output to assignable output jacks 3 and 4. (Requires AIEB1 board.)
AS5&6	Output to assignable output jacks 5 and 6. (Requires AIEB1 board.)
DIG&OPT	Output to OPTICAL and DIGITAL jacks only. (Requires AIEB1 board.)



FYI

- You can set the output so that the signal to the STEREO OUT jacks also passes to the DIGITAL OUT and OPTICAL OUT jacks or to any ASSIGNABLE OUT pair. You make this setting using the StOut ("Stereo Out") parameter, located in the UTILITY mode's MASTER function. (☞299)
- You can use a program's Easy Edit feature to change the output destination for any sample within the program. The change is effective at the program level only, and does not alter the output settings within the sample itself.

Triple Effect System

The A3000 allows each program to use up to three effects. The three effects are implemented as independent, parallel circuits. It is also possible, however, to "rewire" any or all of these circuits into a serial configuration (☞121).

Important

As the above illustration suggests, the sample's "main output" setting selects the effect circuit to which the sample's output passes. Notice that the sample does not select the actual effect itself (reverb, delay, and so on). The effects themselves are assigned separately by each program.

Data Configuration and Handling

The A3000 main memory loses all data at power off. It is therefore essential that you save all important data to disk before you switch off the power. Of course, you must also reload the data you wish to use each time you switch the power back on.

This section describes the relationship between data in main memory and data stored on disk.

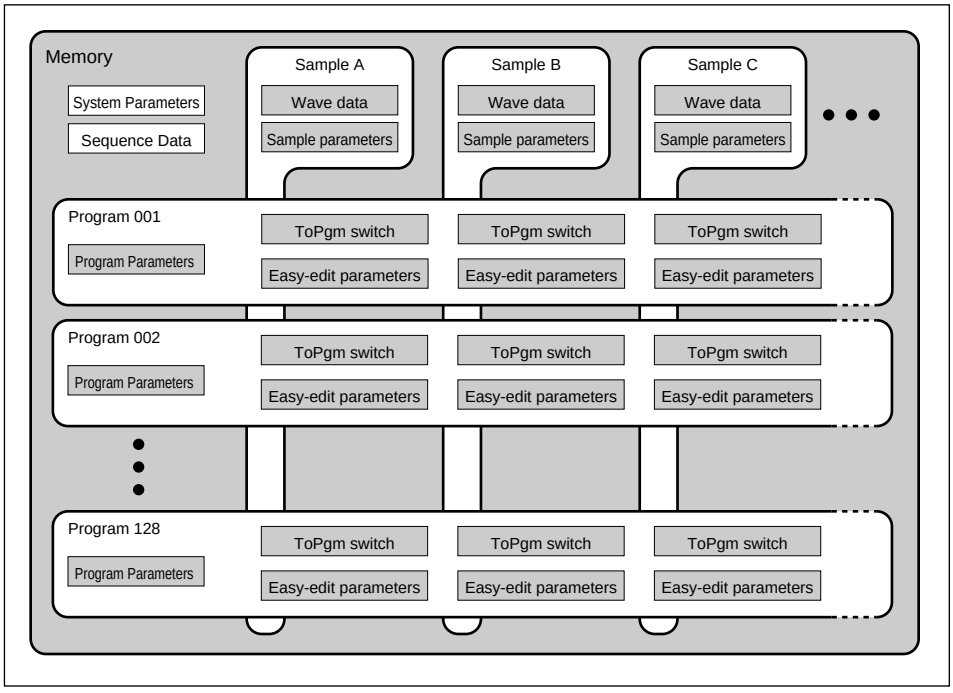
Main Memory storage

In addition to sample data and program data, the A3000 main memory also stores *system parameters* and *sequence data*.

System Parameters — Master tuning, total equalization, and other system-wide settings. These settings apply in common to all programs .

Sequence Data — Performance data received and recorded from an external MIDI device. (Sequence data exists in memory only if you load it from disk or generate it from an external device.)

The following illustration shows the structure of all data in main memory.



Disks and Volumes

The A3000 includes a built-in floppy disk drive. You may also connect the A3000 to an external SCSI drive, or install an internal SCSI drive (provided that you also install the optional ASIB1 expansion board).

Disks

You can store data to floppy disk, or (if an ASIB1 is installed) to hard disk, MO disk, or any other type of SCSI disk medium. Note that new disks must be formatted before they can be used. (☞252 to 258)

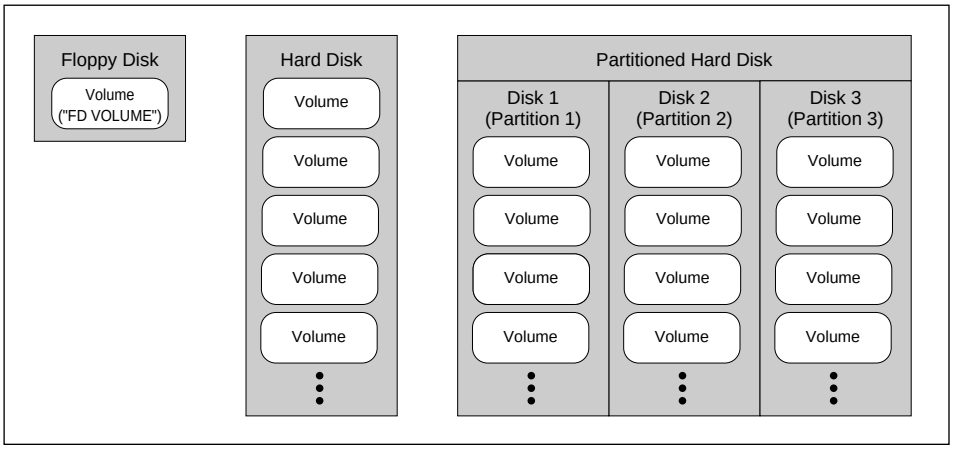
If you are using a SCSI disk, you are free to divide the disk space into multiple *partitions*. If you elect to do this, you can then treat each partition as if it were a separate disk.

Volumes

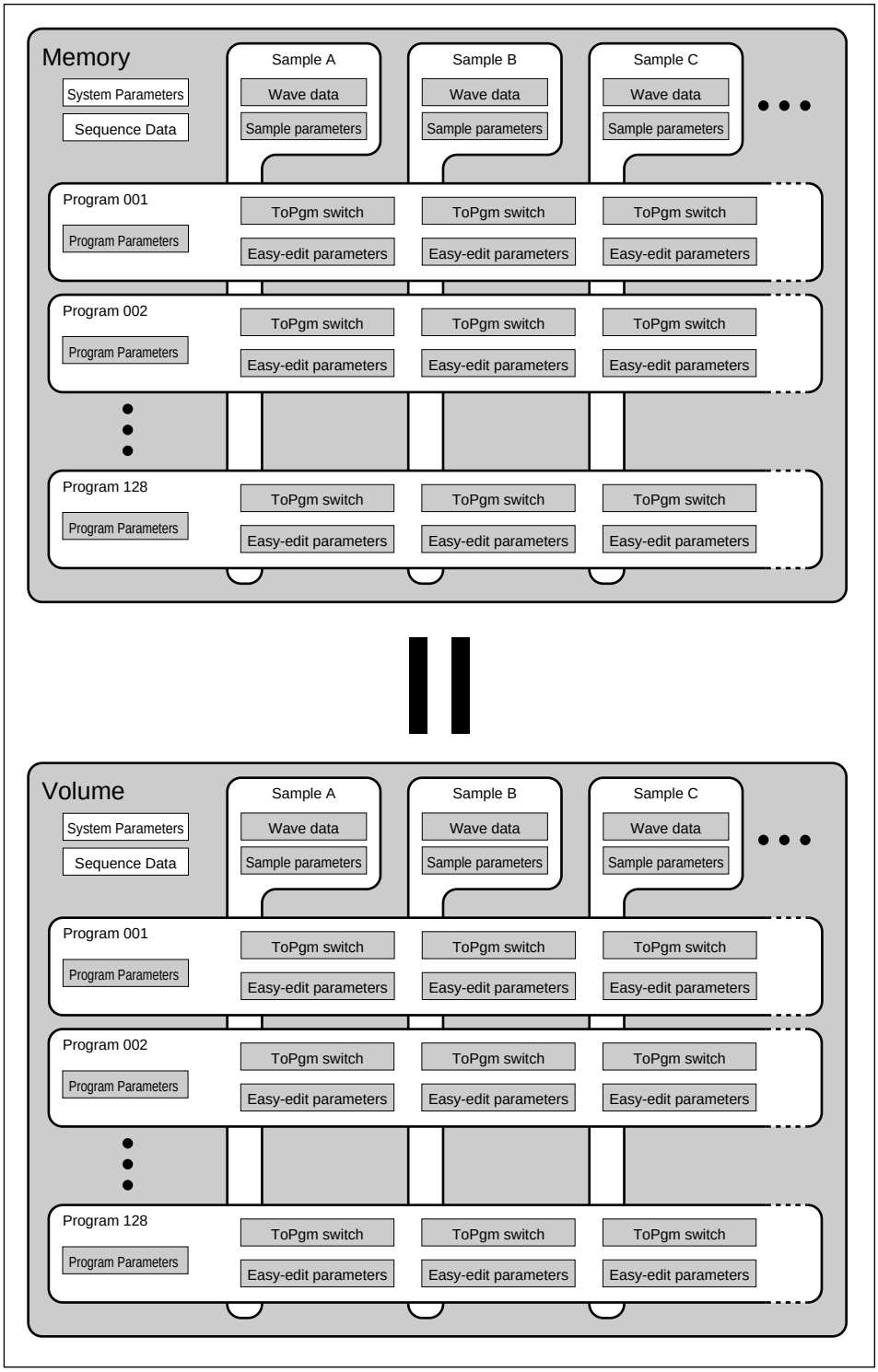
The A3000 stores all main-memory data into a *volume* on the target disk (or disk partition). The *volume* stores an entire set of main-memory data.

A floppy disk can store a single volume only. The A3000 automatically creates this volume (named "FD VOLUME") when you format the disk.

If you are using a SCSI disk, then you are free to create multiple volumes, so that you can store a different set of data onto each. The following illustration shows the relationship between disks and volumes.



The point to remember here is that each disk volume corresponds exactly to a full set of main-memory data. As the next illustration shows, the A3000 saves all main-memory data into a single volume. When you reload the volume, you restore the main memory to its exact state at the time of the data save.



Saving and Loading

For the sake of convenience, you will generally want to save and reload an entire volume. The use of a "volume save" makes it easy to save the entire main-memory content before switching the A3000 off, so that you can then restore the identical environment the next time you switch the power back on. You can resume work exactly where you left off, with all of your samples and programs intact.

The use of multiple volumes allows you to prepare multiple environments, so that you can then switch from one to the other during live performance or when working on different projects. If you are using floppy disks only, then you can store only one volume per disk (so that you will need to change disks in order to load a different environment). If you are using a SCSI drive, however, then you can save multiple volumes to the same physical disk.

It is also possible, of course, to save and reload one or more selected objects (samples, programs, or sequences). This approach is useful when you want to bring objects from one environment into another environment — for example, when you want to load all objects from one volume and then add selected objects from some other volume.

Saving and Loading Procedures

For instructions about how to execute various types of saves and loads, please refer to the pages indicated below.

Save Type

	Page
All main-memory content	98, ...
Newly edited data only	98, ...
All programs only	98, 110, ...
Single program only	98, 110, ...
All samples only	98, ...
Single sample only	113, 147, ...
Single sequence	281

Load Type

	Page
Entire volume	266
All programs	259
Single program	249, 259
All samples	261
Single sample	261
All sequences	264
Single sequence	264

Modes and Functions

The A3000 provides five operating modes: PLAY, EDIT, RECORDING, DISK, and UTILITY. Each mode is subdivided into six *functions*.

Modes

PLAY mode

Use this mode to select, play, and edit your programs. The mode lets you access and edit all program parameters, set up programs for playback, and carry out playback.

EDIT mode

Use this mode to edit your samples. The mode lets you access and edit all program parameters.

RECORDING mode

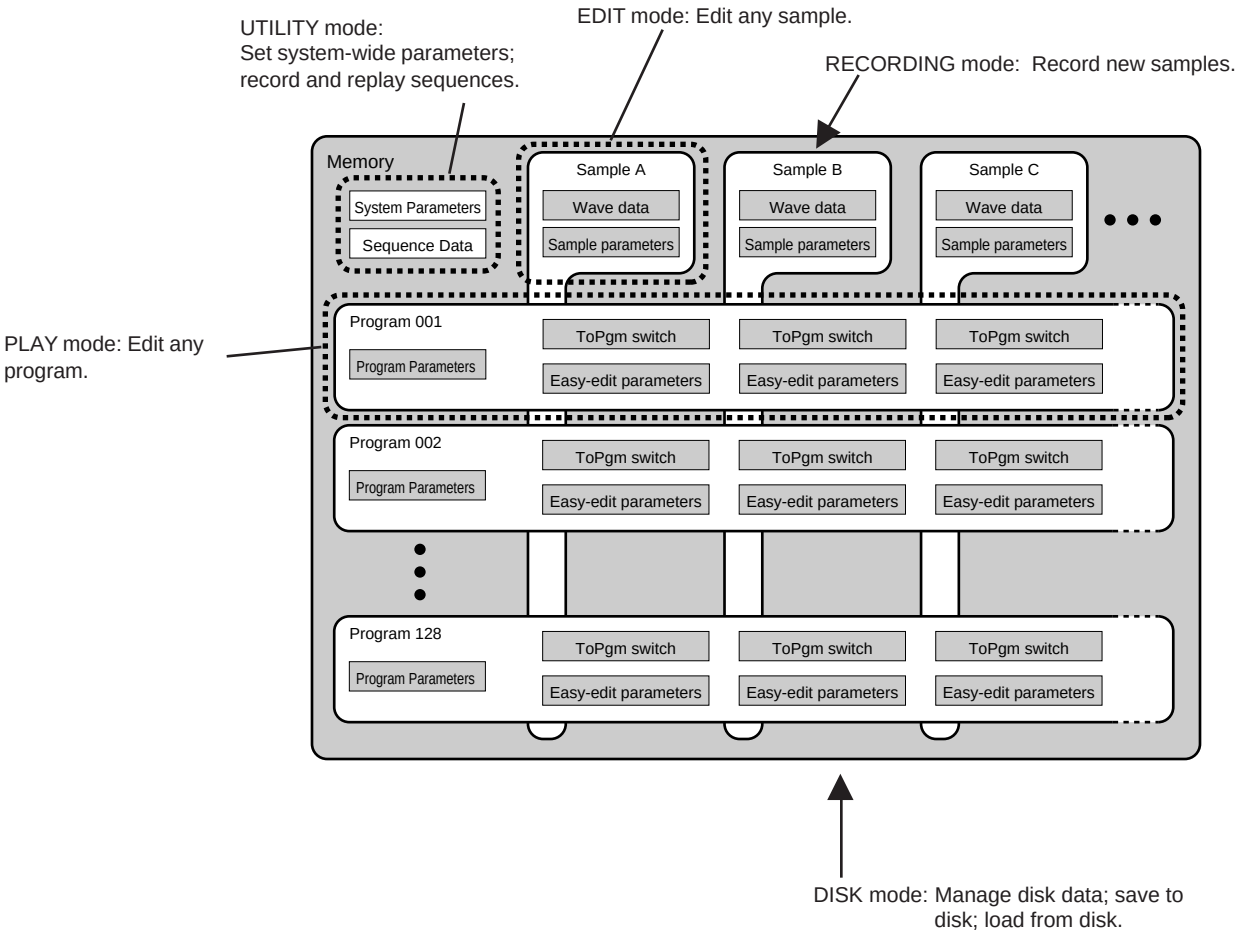
Use this mode to record new samples into memory.

Disk mode

This mode handles disk operations. Use it to format and set up new disks, manage your disk data, save from main memory to disk, and load from disk back to main memory.

UTILITY mode

Use this mode to set system-wide parameters, and to record and play sequences.



Functions

Each mode offers six different *functions*. The functions for each mode are as follows.

- PLAY functions
  PROGRAM, SAMPLE, EASY EDIT, EFFECT, SETUP, CONTROL
- EDIT functions
  TRIM/LOOP, MAP/OUT, FILTER, EG, LFO, MIDI/CTRL
- RECORDING functions
  RECORD, SETUP, METER, EFFECT, EXT CTRL, MONITOR
- DISK functions
  PROGRAM, SAMPLE, SEQUENCE, VOLUME, DISK, IMPORT
- UTILITY functions
  TOTAL EQ, PANEL PLAY, SEQUENCE, MASTER, SYSTEM, MIDI

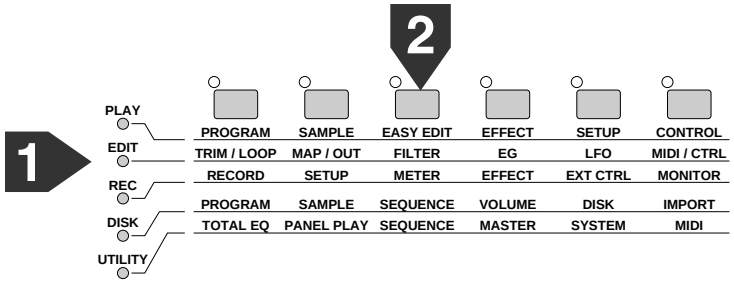
Basic Operation

This section describes basic A3000 operations.

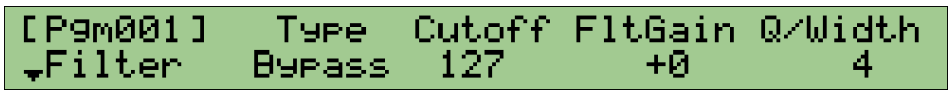
Selecting the Mode and Function

You select the mode by pressing the corresponding mode button. You can then select the function by pressing the appropriate function key. The five mode buttons are aligned vertically along the selection area, while the six function keys are aligned along the top.

If you want to change the filter settings for one of your samples, for example, you first press the EDIT button (to select EDIT mode), and then press the third function key (to select the EDIT mode's FILTER function).



The following Filter screen will then appear.



Selecting the Screen

When you select a function as described above, the A3000 displays a corresponding screen that you can use to change various settings or execute an operation. Most functions, however, contain too many selections for a single screen — and therefore

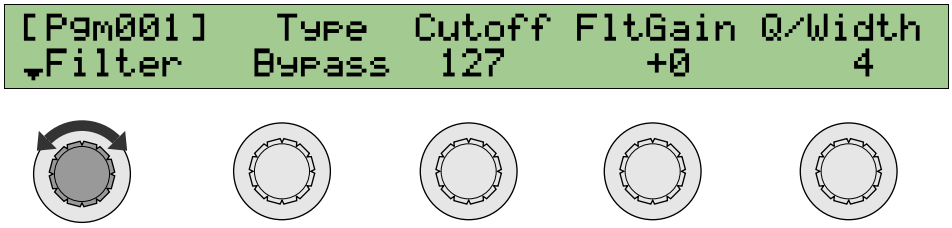
offer you multiple screens, each with a different group of settings or operations. Since you can only view one screen at a time, you must switch among the screens as necessary in order to access all of the settings or operations that you need.

You can switch from one screen to another (within the same function) in either of two ways: (1) by turning Knob 1, or (2) by pressing the same function key. These two methods are explained in further detail below.

The marking at the lower left of the screen indicates your position in the screen sequence. A ▼ mark means that you are at the function's "first" screen. A ▲ mark means that you are at the final screen (you cannot advance to any additional screens). A ▲▼ mark means that you are somewhere in the middle of the sequence (you can move both forward and backward to different screens).

Changing the Page with Knob 1

As mentioned above, you can switch from one page to another (within the same function) by turning Knob 1. Turn the knob one click to the right to advance to the next page, or one click to the left to move back one page.



Assume that you have just selected the EDIT mode's FILTER function and are looking at the first page (Filter page). Turning the knob to the right will now take through the function's second, third, and fourth pages: Filter → FltSens → FltScale → EQ. You could then move backward through these pages by turning the knob to the left.

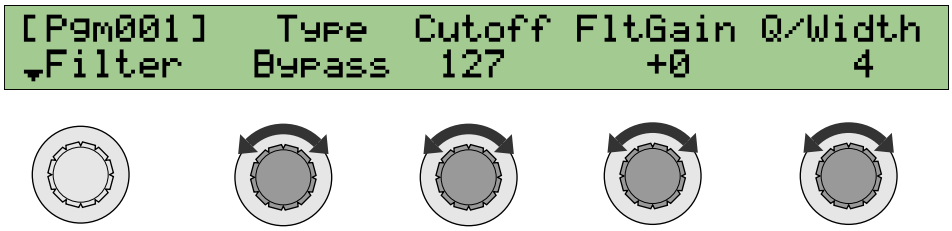
Changing the Page with the Function Key

You can also change the page by pressing the function key. Note that you must press the same function key — the key currently indicated by the illuminated lamp. Each press of this key moves you ahead one page. Pressing the key when you are at the last page cycles you back to the first page. In the case of the FILTER function, the sequence would be: Filter → FltSens → FltScale → EQ → Filter → FltSens..., and so on.

Changing the Settings

You use Knobs 2 to 5 to change the settings on each page. In most cases, the parameter names appear on the top line of the screen, with the current values appearing on the second line. Turning the knob changes the value displayed directly above the knob position.

Again, assume that you are working at the Filter page of the EDIT mode's FILTER function. Your screen looks something like this:



You can change the filter type by turning Knob 2. Turn the knob as necessary to select the appropriate Type value. The choices are: Bypass, LowPass1, LowPass2, HiPass1, HiPass2, BandPass, and BandElim.

In the same way, you can use Knob 3 to set the cutoff frequency, Knob 4 to set the filter gain, and Knob 5 to set the "Q/Width" value.

FYI

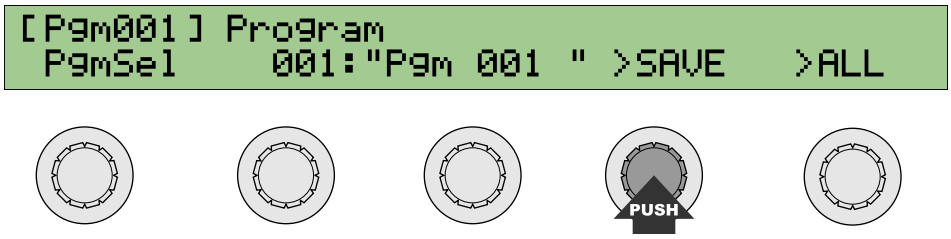
In some cases two adjacent knobs are assigned to the same parameter. In these cases you can use either knob to set the value.

Executing an Operation

Some pages allow you to execute operations. The second line of the screen displays the names of any available operations. Operation names always appear in uppercase characters with a leading > symbol. For example: >SAVE, >LOAD, and >NEW. To execute the operation, you press the knob directly under the operation name.

Note that only certain knobs have "push" capability for each screen. The red lamp (push lamp) directly above the knob lights up if the knob's "push" feature is currently available. Pushing a knob while the lamp is off has no effect.

As an example, the "program select" page in the PLAY-mode PROGRAM function looks like this.



In this case, you can press Knob 4 to proceed to save the selected program to disk.

Entering Names

In many cases you will want to set or change the names of programs or samples. The following screen, for example, can be used to change the name of a sample.

In general, you enter or change a name one letter at a time — first move the cursor to the desired position, then change or delete the character at that position, and so on. A number of variations and shortcuts are also available. The general entry operations are as follows.

Moving the Cursor

The name (character string) that you are working on appears in brackets on the first line of the screen. The current character position is marked by the cursor, which appears as an underscore under one of the characters in the name. You use Knob 1 to change the cursor position: turn right to move the cursor the right, or left to move the cursor to the left.

Entering a Character

You use Knob 2 to enter a character at the cursor position. Rotate the knob until the desired alphanumeric appears. Note that the A3000 supports both uppercase and lowercase letters.

Advancing the Cursor

Another way to advance the cursor is to push Knob 2. Each push moves the cursor one position to the right. This means that you can change the entire name using just Knob 2: turn the knob to change the current character, then push it to move to the next character.

Entering a Space Character

You can enter a space character by pressing Knob 1. A space appears at the cursor position, and the cursor automatically advances to the next position. (It is also possible to select the space character by turning Knob 2, but this will take you more time.)

Interposing a Space Character

You can interpose space characters at the current cursor position by turning Knob 3 to select <SPACE>, then pressing Knob 3 to enter the space. All characters from the cursor position onward jump ahead one position to make room for the new space.

Deleting a Character

First turn Knob 3 to select <DELETE>. You can then press Knob 3 to delete the character at the current cursor position. Characters located to the right of the cursor move back one space to fill in the gap.

Replacing with Most Recent Name ("Pasting")

This A3000 stores the most recently entered name into a special "paste" buffer. When you are ready to enter another name, you can insert the buffer content by turning Knob 3 to select <PASTE>, and then pressing Knob 3 to execute. This operation deletes the current name and replaces it with the paste string. Note that current cursor position has no effect on this operation.

This feature makes it easy to enter a number of similar names. You might name your first sample "Piano 1", for example. When you are ready to name the next sample, you could simply paste in the name "Piano 1" and then change the last character to "2". This is faster than entering the entire name one character at a time.

Canceling Your Input

You can cancel the name change and return to the previous screen by pressing Knob 4 (>EXIT). You can also cancel the entry by simply moving to a different screen without first pressing Knob 5 (>OK).

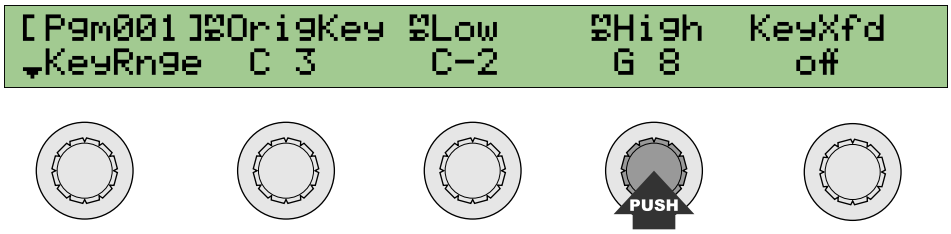
Registering the Name Change

The new name does not become effective until you press Knob 5 (>OK). Pressing this knob registers the new name, updates the contents of the paste buffer, and returns you to the previous screen.

Setting Values from a Remote MIDI Device

You will notice that an “MD” mark precedes some of the parameter names along the top line of the screen. This mark means that it is possible to set the parameter value from a remote MIDI device. To enable remote setting, you must first press the corresponding knob, so that the push indicator begins to blink.

For example, the “MD” mark appears before the OrigKey, Low, and High parameter names on the KeyRnge screen (EDIT mode, MAP/OUT function), as shown below.



To set the High value from your MIDI keyboard, you first press Knob 4 so that the indicator lamp above the knob begins blinking. The blinking indication means that the A3000 is ready to set the value in accordance with the input received at the MIDI IN connector. You can now make the setting by striking the appropriate key at the keyboard.

To register the new setting, press the knob again so that the lamp comes on solid (or else press a different knob to select another “MD” parameter).

Other Keys and Operations

This section explains the use of the remaining panel keys, and briefly introduces the A3000's "A/D Input" and "MIDI Indicator" features.

Special Keys

COMMAND Key

This key gives you access to additional commands relevant to the mode and function that you are currently using. If you are working in PLAY mode, for example, the COMMAND key gives you access to command screens that you can use to save programs and samples to disk, format a disk, copy objects from one location to another, and so on. If you are working at the EDIT mode's TRIM/LOOP function, then the COMMAND key gives you access to special waveform management commands (such as NORMALIZE and REVERSE).

For more information, refer to mode descriptions starting from Chapter 4.

ASSIGNABLE Key

You can set this key to perform any one of several different operations. The purpose of the key is to give you easy access to an operation that you intend to perform frequently. You select the key's operation using the UTILITY mode's SYSTEM function. (☞300)

For example, you might set up this key so that it forces off (damps) all sound output. Or you might set it so that it initializes all controllers. Or you may want to use it to switch Knobs 2 through 4 into realtime controllers, or to enable the function keys to operate as playback controls.

AUDITION Key

This key plays out the currently selected sample. You use this key, then, when you need to check the sound of a sample, or when you want to hear results while you are editing a sample. Please note that this playback is completely independent of the currently selected program, and is not affected by program parameters. This type of direct sample playback is available only with the AUDITION key.

If you press this key when working with a sample bank, the A3000 plays out each sample in the bank, one after the other.

A/D Input

This special feature lets you pass an analog signal through the A3000 at the same time as you are playing out your programs. You would typically use this feature when you wish to combine a vocal performance with A3000 program play.

You must supply the analog signal to the A/D input(s) on the front panel. You may elect to pass this signal through any of the available effects on its way through the A3000.

You can set this feature up using the PLAY mode SETUP function. (☞132)

MIDI Indicator

The A3000 lets you know that it is currently receiving MIDI data by blinking one of the lamps on its five mode buttons. The blinking lamp indicates the type of data that coming in, as follows.

Received Data Type	Blinking Lamp
Note On/Off :	PLAY lamp
Control Change :	EDIT lamp
Pitchbend :	RECORDING lamp
Aftertouch :	DISK lamp
Program Change :	UTILITY lamp

But note that these indications do not operate with respect to data types that are filtered out by the MIDI Receiving Filter (☞309).

Chapter 4
PLAY Mode

Play Mode

You use PLAY mode to edit, arrange, and play A3000 programs.

PLAY-Mode Functions

PLAY mode consists of the six functions described below.

PROGRAM

You use the PROGRAM function to select programs for replay or editing, to save edited programs to disk, and to carry out normal playback. (☞110)

SAMPLE

This function lets you select samples for each program, save samples to disk, build sample banks, and perform various other sample-level operations. (☞112)

EASY EDIT

Use this function to make program-level adjustments to each sample's playback settings. You make these settings separately for each program, and they remain effective only while the program is selected. These changes do not affect the sample's own (local) data. (☞118)

EFFECT

This function selects and sets up the effects for each program. (☞121)

SETUP

Use this function to set the output level, transposition, portamento, and A/D-input feature. These settings apply in common to all programs. (☞128)

CONTROL

This function sets up program controllers and handles controller resets.

Program & Sample Selection Screen

The A3000 includes a special selection screen that you can access at almost any time by pushing Knob 1. You can then use the screen to select a sample or program for playback or editing, and to set a number of other features as described below. This screen is unlike other screens in that you can select it regardless of the current mode or function.

Important

You cannot access this screen while the COMMAND key is engaged (while the key's indicator lamp is on), since Knob 1 is assigned a different operation in this cases. Be sure to release the COMMAND key before trying to select a sample or program.

FYI

This special screen is provided as a convenience, since program and sample selection is such a frequent operation. The parameters that you set here are the same as (are linked to) the parameters offered by the following regular screens.

- PLAY mode, PROGRAM function: Program selection, program name. (☞110)
- PLAY mode, SAMPLE function: Sample selection, sample name. (☞112)

PROGRAM/SAMPLE Selection Screen

Use this screen to select a program or sample for playback or editing, or to switch "sample solo" or "MIDI to sample" features ON or OFF.

PLAY	PROGRAM	SAMPLE	EASY EDIT	EFFECT	SETUP	CONTROL
EDIT	TRIM / LOOP	MAP / OUT	FILTER	EG	LFO	MIDI / CTRL
REC	RECORD	SETUP	METER	EFFECT	EXT CTRL	MONITOR
DISK	PROGRAM	SAMPLE	SEQUENCE	VOLUME	DISK	IMPORT
UTILITY	TOTAL EQ	PANEL PLAY	SEQUENCE	MASTER	SYSTEM	MIDI

Push Knob 1.

	Knob 1	Knob 2	Knob 3	Knob 4	Knob 5
Turn action	✔	✔	✔	✔	✔
Push action	✔	-	-	-	-

You use this screen to select a program or sample for playback or editing; to change the name of a sample or program; to enable or disable the "sample solo" feature, and to enable or disable the "MIDI to sample" feature. All of these operations are described on the next page.

Knob 1 **Program** **Back**

- Turn the knob to select a program.
- Push the knob to return to the previous screen.

Knobs 2, 3 **Sample**

Turn the knob to select a sample. The name of the selected sample appears on the second line of the screen.

- If you select a stereo sample, an [S] mark appears in front of the name.
- If you select a sample bank, a [B] appears in front of the name.

Knob 4 SmpSolo = off, on

This setting enables or disables the "sample solo" feature. Setting this feature ON lets you use MIDI input to play the selected sample (or sample bank) by itself. You use this feature when you are editing a sample (or sample bank) and need to hear how it sounds in isolation from other samples.

As an example, assume that you are working with a program that uses two samples, Sample A and Sample B, and that both of these samples are set to play over the entire key range (C-2 to G8). If the "sample solo" feature is OFF, playing a key at the keyboard will produce sounds from both samples.

Assume, further, that you are now editing Sample A, and that you want to produce the sound of this sample without intrusion from Sample B. If you set the "sample solo" feature ON, your MIDI input will produce sound from Sample A only.

- Note that this feature is available only with samples used by the program selected by Knob 1. If you select a sample that is not used by this program, the screen displays a "- - -" to indicate that the feature is not available.
- Note also that this feature is not available with individual samples within a sample bank. If you select such a sample, the screen displays a "- - -". But it is possible, however, to select the entire sample bank for solo play.

Knob 5 MIDI → Smp = off, on

This setting enables or disables the "MIDI-to-sample" feature. Setting this feature ON lets you use MIDI input to change from one sample to another (within a given program). This feature is useful when you need to make similar editing changes to each of the samples in a given program.

As an example, assume that you are working with a program that uses three samples: Sample A (key range C-2 to B3), Sample B (key range C4 to B4), and Sample C (key range C5 to G8). Assume also that the MIDI → Smp feature is set on, and that you are editing Sample A. If you now strike a key between C4 and B4 at your keyboard, the in-edit sample automatically switches to Sample B. If you next strike a key between C5 and G8, the in-edit sample changes to Sample C. In each case the edit screen itself remains unchanged (although the displayed values change to reflect the newly selected sample).

- If you have mapped more than one sample to a single key, that key will always select one of these samples — but it is not possible for you to designate which of these is selected.
- If you strike a key that plays a sample that exists within a sample bank, the A3000 selects the entire sample bank, rather than the individual sample. An exception, however, is noted directly below.
- If you are currently editing a sample that exists within a sample bank, you can use this feature only to switch to other samples within the same bank. In this case, the A3000 does not recognize keys associated with outside samples or with other sample banks.

COMMAND Pages

This section describes the command screens (*command pages*) that you can access by pressing the COMMAND key while working in PLAY mode.

SAVE

Use this page to save object(s) to disk.

PLAY	PROGRAM	SAMPLE	EASY EDIT	EFFECT	SETUP	CONTROL
EDIT	TRIM / LOOP	MAP / OUT	FILTER	EG	LFO	MIDI / CTRL
REC	RECORD	SETUP	METER	EFFECT	EXT CTRL	MONITOR
DISK	PROGRAM	SAMPLE	SEQUENCE	VOLUME	DISK	IMPORT
UTILITY	TOTAL EQ	PANEL PLAY	SEQUENCE	MASTER	SYSTEM	MIDI

Press the COMMAND key, then turn Knob 1 to select >SAVE.

	Knob 1	Knob 2	Knob 3	Knob 4	Knob 5
Turn action	✔	✔	✔	✔	✔
Push action	✔	-	-	-	-

Use this page to save the selected memory-resident object(s) to disk. You can elect to save all programs, all samples, the selected program only (together with all samples used by the program), or a selected sample only.

Knob 1 — Change Page — >SAVE

- Turn the knob to change to a different command page.
- Push the knob when you are ready to execute the save. The A3000 returns a confirmation prompt. Push Knob 5 (>YES) to proceed with the save, or Knob 4 (>NO) to cancel.
- If a name conflict occurs (if the selected object in main memory has the same name as a corresponding object on the target volume), the A3000 prompts for instructions about how to resolve the conflict. (☞100)

Knob 2 — Type of Save = All(wipe), AllPgm(wp), Edited, AllSmp, Pgm

Turn the knob to select the object(s) to be saved to disk. Selections are as follows.

All(wipe) — Saves all memory content to disk. This operation saves all objects currently in memory (all usable programs, all samples, and all sequences) to the destination volume on disk. The operation erases all data already existing in the destination disk volume. [Note: a program is *usable* if it uses at least one sample or if its "AD In" setting is on.]

AllPgm(wp) — Saves all usable programs, together with all samples used by these programs, to the destination volume on disk. Does not save any sequences. Saves only those samples that are used with at least one program (does not save unused samples).

This operation erases all data already existing in the destination disk volume.

Edited — Saves all new data to disk (all new and all edited objects that have not yet been saved to disk in their current form). Does not save objects that have not been changed since the most recent disk load.

AllSmp — Saves all samples into the destination volume.

Pgm — Saves the currently selected program only, together with all samples used by that program.

Note that you can save the program into any "program number" (001 to 128) on the destination side. Note also that the operation deletes any program data already existing in the target program number on the disk side (in the destination volume).

Knob 3 — Destination Type = Dsk, Vol, Pgm

Use this knob together with Knob 4 or 5 to select the destination for the save.

Dsk — Use this to view or change the destination-disk setting. When you select Dsk, the identity of the currently selected disk appears above Knobs 4 and 5. If necessary, you can then turn either of those knobs to change the destination disk.

Vol — Use this to view or change the volume setting. When you select Vol, the name of the currently selected volume appears above Knobs 4 and 5. If necessary, you can then turn either of those knobs to change the destination volume.

Pgm — If you are saving a single program, you use this setting to view or change the destination program number (001 to 128). When you select Pgm, the currently selected destination number appears above Knobs 4 and 5. If necessary, you can then turn either of those knobs to change the number.

Note that the Pgm setting is available only when you are saving a single program (only when the Type value above Knob 2 is set to Pgm).

As an example, suppose that you want to save the currently selected program into Program Number 005 on Volume "B" in Disk "A". First select the disk: Turn Knob 3 to select Dsk, then turn Knob 4 or 5 to select A. Next, select the volume: Turn Knob 3 again to select Vol, then turn Knob 4 or 5 to select B. Finally, turn Knob 3 to select Pgm, and turn Knob 4 or 5 to select 005.

Knobs 4, 5 — Destination

Use either knob to select the destination disk, volume, or program number.

Name Conflicts

During a save operation, the A3000 may encounter a sample or sequence that has the same name as a sample or sequence already existing within the destination volume.

The first time the A3000 encounters this type of name duplication during a save, it displays the command page shown below. You must then determine how to resolve the name conflict, as follows.

Knob 1 Select whether to repeat this page display for each duplication

If you are saving more than one sample, you can use this knob to select whether to handle all sample-name duplications in the same way, or whether to have the A3000 prompt you for instructions each time it encounters another conflict.

- If you select One, the A3000 will display the above-shown command page each time it encounters another sample-name duplication. You can decide how to proceed for each such sample.
- If you select All, the A3000 will apply your instructions to all same-name samples that it encounters during the current save operation.

Note that the One/All selection has no meaning if you are saving a single sample only, or if you are saving a sequence. (It is not possible to save more than one sequence in a single operation.)

Knob 2 >RENAME

Push Knob 2 if you want to rename the object (sample or sequence) in memory before executing the save. This option lets you keep both the original disk object and the newly saved object. If you select this option, the A3000 appends an asterisk (*) to the memory-resident name before executing the save.

Knob 3 >SKIP

Push this knob if you do not want to save the conflicting object to disk. In this case, the original disk-side object will remain unchanged.

Knob 4 >REPLAC

Push this knob if you want to overwrite the existing disk object with the object that you are saving. If you select this option, the A3000 will delete the original disk object and replace it with the object from main memory.

Knob 5 >ABORT

Push this knob to terminate the save operation without executing any further saves. Note that it is not possible to undo any saves that you have already completed.

INIT (Program Initialization)

Use this command page to initialize one or all programs.

PLAY	PROGRAM	SAMPLE	EASY EDIT	EFFECT	SETUP	CONTROL
EDIT	TRIM / LOOP	MAP / OUT	FILTER	EG	LFO	MIDI / CTRL
REC	RECORD	SETUP	METER	EFFECT	EXT CTRL	MONITOR
DISK	PROGRAM	SAMPLE	SEQUENCE	VOLUME	DISK	IMPORT
UTILITY	TOTAL EQ	PANEL PLAY	SEQUENCE	MASTER	SYSTEM	MIDI

Press the COMMAND key, then turn Knob 1 to select >INIT.

	Knob 1	Knob 2	Knob 3	Knob 4	Knob 5
Turn action	✔	✔	✔	✔	-
Push action	✔	-	-	-	-

Use this screen to initialize one or all memory-resident programs.

FYI

Initialization removes all sample assignments (sets all ToPgm switches to OFF), clears all Easy Edit settings, and returns the EFFECT, SETUP, and CONTROL settings to the initial values selected at the SETINIT page (☞104). (If you have not set any SETINIT values, then EFFECT, SETUP, and CONTROL settings revert to their factory defaults)

Knob 1 — Change Page — >INIT

- Turn the knob to change to a different command page.
- Push the knob to execute program initialization. The A3000 then returns a confirmation screen. Push Knob 5 (>YES) to complete the initialization, or Knob 4 (>NO) to cancel.

Knob 2 — Type of Initialization = Pgm, AllPgm

Turn the knob to select whether to initialize all programs or only one program.

Pgm	Initialize only the program selected by Knob 3 or 4.
AllPgm	Initialize all programs.

Knobs 3, 4 — Program = 001,...,128

If you are initializing a single program only, turn either knob to select the program. Note that this item does not appear if you are initializing all programs (if Type is set to AllPgm).

COPY

Copies all program data from selected program into destination program, resulting in two copies of the same program.

PLAY	PROGRAM	SAMPLE	EASY EDIT	EFFECT	SETUP	CONTROL
EDIT	TRIM / LOOP	MAP / OUT	FILTER	EG	LFO	MIDI / CTRL
REC	RECORD	SETUP	METER	EFFECT	EXT CTRL	MONITOR
DISK	PROGRAM	SAMPLE	SEQUENCE	VOLUME	DISK	IMPORT
UTILITY	TOTAL EQ	PANEL PLAY	SEQUENCE	MASTER	SYSTEM	MIDI

Press the COMMAND key, then turn Knob 1 to select >COPY.

	Knob 1	Knob 2	Knob 3	Knob 4	Knob 5
Turn action	✔	✔	✔	✔	✔
Push action	✔	-	-	-	-

Use this page to copy (replicate) a program. The A3000 copies all data from the selected memory-resident program into the destination memory-resident program. Following the copy, the two programs will have identical data but different program numbers.

Knob 1 **Change Page** >COPY

- Turn the knob to change to a different command page.
- Push the knob to execute the copy. The A3000 returns a confirmation screen. Push Knob 5 (>YES) to complete the copy, or Knob 4 (>NO) to cancel.

Knobs 2, 3 Program = 001,...,128

Turn either knob to select the program that you want to copy.

Knobs 4, 5 To = 001,...,128

Turn either knob to select the destination program number.

PGMDUMP (Program Dump)

Transmits a bulk dump of the selected program.

PLAY	PROGRAM	SAMPLE	EASY EDIT	EFFECT	SETUP	CONTROL
EDIT	TRIM / LOOP	MAP / OUT	FILTER	EG	LFO	MIDI / CTRL
REC	RECORD	SETUP	METER	EFFECT	EXT CTRL	MONITOR
DISK	PROGRAM	SAMPLE	SEQUENCE	VOLUME	DISK	IMPORT
UTILITY	TOTAL EQ	PANEL PLAY	SEQUENCE	MASTER	SYSTEM	MIDI

Press the COMMAND key, then turn Knob 1 to select >PGMDUMP.

	Knob 1	Knob 2	Knob 3	Knob 4	Knob 5
Turn action	✔	✔	✔	✔	-
Push action	✔	-	-	-	-

Use this page to dump the selected memory-resident program to an external MIDI device. The dump operation transmits all of the program's data to the external device.

Important

Before you can transmit or receive a program dump, you must set matching device-number values at the A3000 and the external device. (☞310)

Knob 1 **Change Page** >PGMDUMP

- Turn the knob to change to a different command page.
- Push the knob to execute the program dump. The A3000 returns a confirmation screen. Push Knob 5 (>YES) to proceed, or Knob 4 (>NO) to cancel.

Knobs 2, 3 Program = 001,...,128

Turn either knob to select the program that you want to dump.

Knob 4 withRelated = off, on

Use this setting to select whether to include the program's samples in the dump.

- If you select off, the A3000 transmits program data only.
- If you select on, the A3000 transmits the program data together with all data from all samples used by the program. (Sample data is transmitted in A3000 proprietary format.)

SETINIT (Set Program's Initial Conditions)

Sets default values for the selected program's effect, setup, and control settings.

PLAY	PROGRAM	SAMPLE	EASY EDIT	EFFECT	SETUP	CONTROL
EDIT	TRIM / LOOP	MAP / OUT	FILTER	EG	LFO	MIDI / CTRL
REC	RECORD	SETUP	METER	EFFECT	EXT CTRL	MONITOR
DISK	PROGRAM	SAMPLE	SEQUENCE	VOLUME	DISK	IMPORT
UTILITY	TOTAL EQ	PANEL PLAY	SEQUENCE	MASTER	SYSTEM	MIDI

Press the COMMAND key, then turn Knob 1 to select >SETINIT.

	Knob 1	Knob 2	Knob 3	Knob 4	Knob 5
Turn action	✔	✔	✔	✔	-
Push action	✔	-	-	-	-

Use this page to register the selected program's current EFFECT, SETUP, and/or CONTROL settings as that program's default (initial) settings. The settings that you register here will automatically take effect whenever power is turned on, and whenever you reinitialize the program with the INIT command. (☞101)

The "EFFECT, SETUP, and CONTROL settings" are the settings that you make using PLAY mode's EFFECT, SETUP, and CONTROL functions.

As an example, assume that you want to set the program so that it uses "reverb" as its default Effect 1. To do this, you would (a) select the program, (b) go to PLAY | EFFECT and set Effect1 to "reverb", and then (c) come to the SETINIT command page, set [EFFECT] (Knob 2) to on, and then push Knob 1 to execute.

Important

- The settings that you make here are stored in nonvolatile memory, and are not lost at power-off.
- The A3000 accepts initial settings only for the program's EFFECT, SETUP, and CONTROL parameters. You cannot set your own default values for program's PROGRAM, SAMPLE, and EASY EDIT settings.

Knob 1 — Change Page — ▲ >SETINIT

- Turn the knob to change to a different command page.
- Push the knob to initialize the selected settings. The A3000 returns a confirmation screen. Push Knob 5 (>YES) to proceed, or Knob 4 (>NO) to cancel.

Knob 2 — [EFFECT] = off, on

Set this on if you want to register the program's current EFFECT settings as the program's default effect values.

Knob 3 — [SETUP] = off, on

Set this on if you want to register the program's current SETUP settings as the program's default setup values.

Knob 4 — [CONTROL] = off, on

Set this on if you want to register the program's current CONTROL settings as the program's default control values.

NEWBANK (Create a Sample Bank)

Creates a sample bank.

PLAY	PROGRAM	SAMPLE	EASY EDIT	EFFECT	SETUP	CONTROL
EDIT	TRIM / LOOP	MAP / OUT	FILTER	EG	LFO	MIDI / CTRL
REC	RECORD	SETUP	METER	EFFECT	EXT CTRL	MONITOR
DISK	PROGRAM	SAMPLE	SEQUENCE	VOLUME	DISK	IMPORT
UTILITY	TOTAL EQ	PANEL PLAY	SEQUENCE	MASTER	SYSTEM	MIDI

Press the COMMAND key, then turn Knob 1 to select >NEWBANK.

	Knob 1	Knob 2	Knob 3	Knob 4	Knob 5
Turn action	✔	-	-	-	-
Push action	✔	-	-	✔	✔

Use this page to create a new, empty sample bank in main memory.

Important

This function generates an empty sample bank. To assign samples to the bank, you use the PLAY | SAMPLE ToBank parameter.

Knob 1 — Change Page — >NEWBANK

- Turn the knob to change to a different command page.
- Push the knob to execute. The A3000 returns a confirmation screen. Push Knob 5 (>YES) to create the bank, or Knob 4 (>NO) to cancel.

Knobs 4, 5 — Edit the Name

If you wish to change the name, push either knob to proceed to the name editing screen. For information about how to edit name strings, see “Entering Names” (☞88).

DELETE

Deletes one or more samples (or sample banks) from memory,

PLAY	PROGRAM	SAMPLE	EASY EDIT	EFFECT	SETUP	CONTROL
EDIT	TRIM / LOOP	MAP / OUT	FILTER	EG	LFO	MIDI / CTRL
REC	RECORD	SETUP	METER	EFFECT	EXT CTRL	MONITOR
DISK	PROGRAM	SAMPLE	SEQUENCE	VOLUME	DISK	IMPORT
UTILITY	TOTAL EQ	PANEL PLAY	SEQUENCE	MASTER	SYSTEM	MIDI

Press the COMMAND key, then turn Knob 1 to select >DELETE.

	Knob 1	Knob 2	Knob 3	Knob 4	Knob 5
Turn action	✔	✔	-	✔	✔
Push action	✔	-	-	-	-

Use this page to delete one or more samples from main memory. You can choose to delete (a) a single sample only, (b) all unused samples only, or (c) all samples.

Important

Deleting a sample will change the sound of any programs or sample banks in which the sample is used. Before deleting, check to make sure that the sample is not used by programs and sample banks that you wish to maintain.

Knob 1 — Change Page — >DELETE

- Turn the knob to change to a different command page.
- Push the knob to delete the sample(s). The A3000 returns a confirmation screen. Press Knob 5 (>YES) to complete the deletion, or Knob 4 (>NO) to cancel.
- If you select a sample bank for deletion, the A3000 screen will ask whether you want to also delete all of the samples within that bank. Push Knob 5 (>YES) to delete all samples together with the bank, or push Knob 4 (>NO) to delete the sample bank only, while leaving the samples in memory.

Knob 2 — Type of Deletion = Smp, AllSmp, FreeSmp

Turn the knob to select whether to delete one sample (or sample bank) only, all samples and sample banks, or unused samples only.

Smp	Delete the single sample or sample bank selected by Knob 4 or 5.
AllSmp	Delete all samples and sample banks.
FreeSmp	Delete unused samples and sample banks only (all samples and sample banks that are not associated with any programs).

Knobs 4, 5 — Sample = *Name of sample or sample bank*

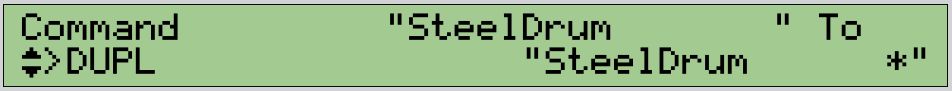
If you are deleting a single sample (or sample bank) only, turn either knob to select the sample (bank) to be deleted. Note that this item appears only if Type is set to Smp.

DUPL (Duplicate)

Creates another copy of a memory-resident sample or sample bank.

PLAY	PROGRAM	SAMPLE	EASY EDIT	EFFECT	SETUP	CONTROL
EDIT	TRIM / LOOP	MAP / OUT	FILTER	EG	LFO	MIDI / CTRL
REC	RECORD	SETUP	METER	EFFECT	EXT CTRL	MONITOR
DISK	PROGRAM	SAMPLE	SEQUENCE	VOLUME	DISK	IMPORT
UTILITY	TOTAL EQ	PANEL PLAY	SEQUENCE	MASTER	SYSTEM	MIDI

Press the COMMAND key, then turn Knob 1 to select >DUPL.



	Knob 1	Knob 2	Knob 3	Knob 4	Knob 5
Turn action	✔	-	✔	-	-
Push action	✔	-	-	✔	✔

- Use this page to create another copy of a selected sample (or sample bank) under a different name. Immediately following the copy, the new version will have the same sound as the original version: it will have the same parameter settings, and will make use of the same waveform data. You can then edit the parameter data to customize the sound of the new sample.

  The main benefit of this procedure is that both versions will access (share) the same waveform memory. (The waveform data itself is not duplicated.) This means that you can make as many copies as you like without using up any additional wave memory.
- If you duplicate a sample bank, the A3000 duplicates both the bank and all of the samples within the bank. (The name for each new sample becomes: original *name* + "*".)

Knob 1 — Change Page / >DUPL

- Turn the knob to change to a different command page.
- Push the knob to execute the duplication. The A3000 returns a confirmation screen. Push Knob 5 (>YES) to complete the duplication, or Knob 4 (>NO) to cancel.

Knob 3 — Sample = 001,...,128

Turn the knob to select the sample (or bank) that you want to copy.

Knobs 4, 5 — Edit the Name

The A3000 automatically generates a name for the new sample (or sample bank) by adding an asterisk to the original name. If the name of the original sample (or bank) is "ABC", for example, then the name for the duplicated version becomes "ABC*".

If you wish to change this name, push either knob to proceed to the name editing screen. For information about how to edit name strings, see "Entering Names" (☞88).

SMPDUMP (Sample Dump)

Transmits a bulk dump of the selected sample.

PLAY	PROGRAM	SAMPLE	EASY EDIT	EFFECT	SETUP	CONTROL
EDIT	TRIM / LOOP	MAP / OUT	FILTER	EG	LFO	MIDI / CTRL
REC	RECORD	SETUP	METER	EFFECT	EXT CTRL	MONITOR
DISK	PROGRAM	SAMPLE	SEQUENCE	VOLUME	DISK	IMPORT
UTILITY	TOTAL EQ	PANEL PLAY	SEQUENCE	MASTER	SYSTEM	MIDI

Press the COMMAND key, then turn Knob 1 to select >SMPDUMP.

	Knob 1	Knob 2	Knob 3	Knob 4	Knob 5
Turn action	✔	✔	✔	-	✔
Push action	✔	-	-	-	-

Use this page to dump a memory-resident sample or sample bank to an external MIDI device. The dump operation transmits all of the sample's data (or parameter data only; see below) to the external device.

Important

Before you can transmit or receive a sample dump, you must set matching device-number values at the A3000 and the external device. (☞310)

Knob 1 **Change Page** >SMPDUMP

- Turn the knob to change to a different command page.
- Push the knob to execute the sample dump. The A3000 returns a confirmation screen. Push Knob 5 (>YES) to proceed, or Knob 4 (>NO) to cancel.

Knobs 2, 3 Sample **= sample name**

- Turn either knob to select the sample or sample bank that you want to dump.
- If you select a sample bank: a [B] appears before the sample-bank name, and the operation name above Knob 5 changes from Format to withRelated.

Knob 5

- Format = norm, param, SDS#1,...,#1025
- withRelated = off,on

The selection here varies according to whether you are dumping a sample or a sample bank.

- If you are dumping a sample, use the Format setting to select the dump format. Available formats are as follows.

norm	Transmit all data (wave and parameter) in A3000 format.
param	Transmit parameter data only, in A3000 format.

SDS#1,...,#1025 Transmit all data (wave and parameter data) in "sample-dump standard format." The numerical value gives the SDS sample number transmitted along with the dumped data.

- If you are dumping a sample bank, use the withRelated setting to select whether or not to include the component samples in the dump. Set the value to on if you want to include the sample data, or off if you want to send the bank data only. (If you set the value to on, the A3000 dumps the component samples in A3000 proprietary format.)

PROGRAM Function

This section describes the PLAY-mode PROGRAM function. You use this function to select programs for replay or editing, to save edited programs to disk, and to carry out normal playback.

PROGRAM - PgmSel (Select Program)

Selects program for playback or editing, or saves data to disk

PLAY	PROGRAM	SAMPLE	EASY EDIT	EFFECT	SETUP	CONTROL
EDIT	TRIM / LOOP	MAP / OUT	FILTER	EG	LFO	MIDI / CTRL
REC	RECORD	SETUP	METER	EFFECT	EXT CTRL	MONITOR
DISK	PROGRAM	SAMPLE	SEQUENCE	VOLUME	DISK	IMPORT
UTILITY	TOTAL EQ	PANEL PLAY	SEQUENCE	MASTER	SYSTEM	MIDI

	Knob 1	Knob 2	Knob 3	Knob 4	Knob 5
Turn action	-	✔	-	-	-
Push action	✔	-	✔	✔	✔

Use this page to select a program for playback or editing, or to save a selected program or all programs to disk.

Knob 1 — **Select P/S**

Push the knob to move to the Program/Sample Selection screen. (☞95)

Knob 2 — Program = 001,...,128

Turn the knob to select a program for playback, editing, or save.

Knob 3 — **Edit the Name**

If you wish to set or change the program's name, push this knob to proceed to the name editing screen. For information about how to edit name strings, see "Entering Names" (☞88).

Knob 4

▲ >SAVE

Push this knob to save the selected program, together with all of its associated samples, to disk. The A3000 then returns a confirmation screen. Push Knob 5 (>YES) to execute the save, or Knob 4 (>NO) to cancel.

Note that this operation always saves the program to the currently selected disk volume (☞266), and always to the same program number. (For example, if you are saving Program 005 from main memory, the A3000 will save the data into Program 005 on disk.)

If you wish to save to a different volume or program number, do not use this screen. Use the SAVE command page instead (press the COMMAND key and go to the >SAVE command page). (☞98)

Knob 5

▲ >ALL

Push this knob to save all usable programs, together will all associated samples. (A program is usable if it uses at least one sample or if its "A/D-input" setting is on.) The A3000 then returns a confirmation screen. Push Knob 5 (>YES) to execute the save, or Knob 4 (>NO) to cancel.

This operation always saves data to the currently selected disk volume (☞266). **Note that the save operation will delete any data already existing in the destination volume.**

If you wish to save the data to a volume other than the currently selected volume, do not use this screen. Use the SAVE command page instead (press the COMMAND key and go to the >SAVE command page). (☞98)

SAMPLE Function

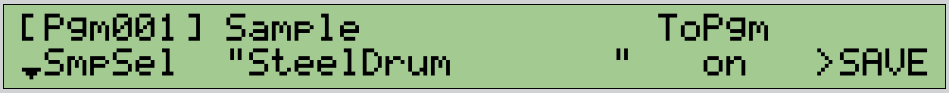
This section describes the PLAY-mode SAMPLE function. You can use this function to assign samples to programs, to save samples to disk, and to build sample banks.

SAMPLE - SmpSel (Select Sample)

Selects sample (or sample bank) for playback or editing, or saves data to disk.

PLAY	PROGRAM	SAMPLE	EASY EDIT	EFFECT	SETUP	CONTROL
EDIT	TRIM / LOOP	MAP / OUT	FILTER	EG	LFO	MIDI / CTRL
REC	RECORD	SETUP	METER	EFFECT	EXT CTRL	MONITOR
DISK	PROGRAM	SAMPLE	SEQUENCE	VOLUME	DISK	IMPORT
UTILITY	TOTAL EQ	PANEL PLAY	SEQUENCE	MASTER	SYSTEM	MIDI

Turn Knob 1 to select SmpSel.



	Knob 1	Knob 2	Knob 3	Knob 4	Knob 5
Turn action ↶	✔	✔	✔	✔	-
Push action ↑	✔	✔	✔	-	✔

Use this page to assign samples to the current program, to select samples for editing, or to save the selected sample to disk.

Knob 1 ↶ Change Page ↑ Select P/S

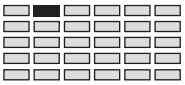
- Turn the knob to change to a different page within the SAMPLE function. Available pages are: SmpSel (this page), SmpBank, ToBank, and SmpSort.
- Push the knob to move to the Program/Sample Selection screen. (☞95)

Knobs 2, 3 ↶ Sample = sample name ↑ Edit the Name

- Turn either knob to select a sample (or sample bank) for program assignment or disk save. Once you have selected the sample, you can use Knob 4 to assign it to (or de-assign it from) the current program, and you can use Knob 5 to save it to disk.

  If you select a sample bank, a [B] mark appears in front of the name. If you select a stereo sample, an [S] mark appears in front of the name.

  If you select a new or edited sample that has not yet been saved to disk in its current form, an [E] ("edited") mark appears to the right of the name.
- If you wish to set or change the sample name, push either knob to proceed to the name-editing screen. For information about how to edit name strings, see "Entering Names" (☞88).



Knob 4 ToPgm = off, on

- Use the ToPgm (*assign-to-program*) switch to assign or de-assign the selected sample to the currently selected program. Set the switch on if you want the program to produce the sound of the sample, or off if you do not.
- You cannot set the switch for samples that belong to a sample bank (since you must assign or de-assign the entire bank). If Knob 2 or 3 selects a sample that belongs to a bank, therefore, the ToPgm setting is blanked out (a "- - -" appears in the setting area).
- Selecting too many overlapped samples (samples with identical or overlapping key ranges) may cause a delay in playback. In general, you should set your program up such that no key (on the keyboard) produces sound from more than four monaural samples (or 2 stereo samples).

Knob 5 >SAVE

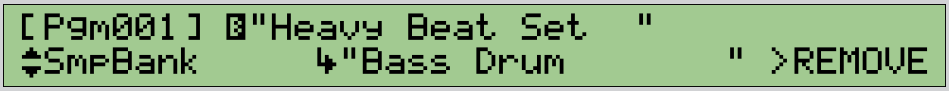
- Push this knob to save the selected sample or sample bank. The A3000 then returns a confirmation screen. Push Knob 5 (>YES) to execute the save, or Knob 4 (>NO) to cancel.
- If you select a sample bank, the A3000 will also save all samples within the bank.
- Note that this operation always saves to the currently selected disk volume (☞266). If you wish to save to a different volume, do not use this screen. Use the SAVE command page instead (press the COMMAND key and go to the >SAVE command page). (☞100).

SAMPLE - SmpBnk (Select Sample from Sample Bank)

Selects a sample from a sample bank.

PLAY	PROGRAM	SAMPLE	EASY EDIT	EFFECT	SETUP	CONTROL
EDIT	TRIM / LOOP	MAP / OUT	FILTER	EG	LFO	MIDI / CTRL
REC	RECORD	SETUP	METER	EFFECT	EXT CTRL	MONITOR
DISK	PROGRAM	SAMPLE	SEQUENCE	VOLUME	DISK	IMPORT
UTILITY	TOTAL EQ	PANEL PLAY	SEQUENCE	MASTER	SYSTEM	MIDI

Turn Knob 1 to select SmpSel.



	Knob 1	Knob 2	Knob 3	Knob 4	Knob 5
Turn action	✔	✔	✔	✔	-
Push action	✔	-	✔	✔	✔

Use this page to remove a sample from a sample bank, or to edit the selected sample's name.

Knob 1 — Change Page / Select P/S

- Turn the knob to change to a different page within the SAMPLE function. Available pages are: SmpSel, SmpBank, (this page), ToBank, and SmpSort.
- Push the knob to move to the Program/Sample Selection screen. (☞95)

Knob 2 — Sample bank = bank name

- Turn this knob to select the sample bank containing the sample that you want to remove or edit.
- If you select a new or edited sample bank that has not yet been saved to disk in its current form, an [E] ("edited") mark appears in front of the name.

Knobs 3, 4 — Sample = sample name / Edit the Name

- Turn either knob to select a sample from the sample bank selected by Knob 2.
- If you wish to set or change the name of the selected sample, push either knob to proceed to the name-editing screen. For information about how to edit name strings, see "Entering Names" (☞88).

Knob 5 — >REMOVE

Push this knob to remove the sample from the sample bank. You will then be able to use it as a freestanding sample.

SAMPLE - ToBank (Assign Sample to Bank)

Places a sample into a sample bank.

PLAY	PROGRAM	SAMPLE	EASY EDIT	EFFECT	SETUP	CONTROL
EDIT	TRIM / LOOP	MAP / OUT	FILTER	EG	LFO	MIDI / CTRL
REC	RECORD	SETUP	METER	EFFECT	EXT CTRL	MONITOR
DISK	PROGRAM	SAMPLE	SEQUENCE	VOLUME	DISK	IMPORT
UTILITY	TOTAL EQ	PANEL PLAY	SEQUENCE	MASTER	SYSTEM	MIDI

Turn Knob 1 to select ToBank.

```
[Pgm001] 0"Heavy Beat Set  "
▲▼ToBank       "SteelDrum       "  >ADD
```

	Knob 1	Knob 2	Knob 3	Knob 4	Knob 5
Turn action ↶↷	✔	✔	✔	✔	-
Push actio ▲	✔	-	✔	✔	✔

Use this page to set samples into sample banks.

FYI

- You cannot use this page to create a new sample bank. To create a sample bank, use the NEWBANK command page instead (press the COMMAND key and go to the >NEWBANK command page). (☞105).
- To remove a sample from a sample bank, use the REMOVE page. (☞114)

Knob 1 ↶↷ Change Page ▲ Select P/S

- Turn the knob to change to a different page within the SAMPLE function. Available pages are: SmpSel, SmpBank, ToBank (this page), and SmpSort.
- Push the knob to move to the Program/Sample Selection screen. (☞95)

Knob 2 ↶↷ Sample bank = bank name

- Turn this knob to select the destination sample bank.
- If you select a new or edited sample bank that has not yet been saved to disk in its current form, an [E] (“edited”) mark appears in front of the name.

Knobs 3, 4 ↶↷ Sample = sample name ▲ Edit the Name

- Turn either knob to select the sample that you want to add to the sample bank.
- If you wish to set or change the name of the selected sample, push either knob to proceed to the name-editing screen. For information about how to edit name strings, see “Entering Names” (☞88).

Knob 5

>ADD

- Push this knob to add the selected sample to the selected sample bank.
- It is not possible to add a sample that is already assigned to a different sample bank or to a program. If you select a sample that is already assigned, therefore, the A3000 will display a Duplicate & Add? prompt screen — giving you a chance to generate a new copy of the sample for inclusion into the selected bank.
  The Duplicate & Add? screen also shows the default name for the new sample, which is equivalent to *original name* + "*". If you wish to change the name, press Knob 2 or 3 to proceed to the name-editing screen.

  When you are ready to proceed, press Knob 5 (>YES) to generate the duplicate sample and add it to the selected sample bank.

  Note that the A3000 does not create another copy of the waveform data when "duplicating" the sample. Instead, both samples access the same waveform memory area. This means that the duplication does not consume any additional waveform memory.

SAMPLE - SmpSort (Sort Samples)

Sorts the order in which sample names appear on the screen.

PLAY	PROGRAM	SAMPLE	EASY EDIT	EFFECT	SETUP	CONTROL
EDIT	TRIM / LOOP	MAP / OUT	FILTER	EG	LFO	MIDI / CTRL
REC	RECORD	SETUP	METER	EFFECT	EXT CTRL	MONITOR
DISK	PROGRAM	SAMPLE	SEQUENCE	VOLUME	DISK	IMPORT
UTILITY	TOTAL EQ	PANEL PLAY	SEQUENCE	MASTER	SYSTEM	MIDI

Turn Knob 1 to select SmpSort.

	Knob 1	Knob 2	Knob 3	Knob 4	Knob 5
Turn action	✔	✔	✔	✔	-
Push action	✔	-	-	-	-

Use this page to select the sequence in which sample and sample-bank names appear on the screen. You can select either alphabetical or reverse alphabetical order. You can also opt to display all program-assigned samples ahead of all unassigned samples. Finally, you can choose whether to display or hide the names of the samples that are assigned to sample banks.

Knob 1 — Change Page / Select P/S

- Turn the knob to change to a different page within the SAMPLE function. Available pages are: SmpSel, SmpBank, ToBank, and SmpSort (this page).
- Push the knob to move to the Program/Sample Selection screen. (☞95)

Knob 2 — Name = off, forward, backward

This knob selects the sort type. You can select either forward (alphabetical order) or backward (reverse alphabetical order), or you can set sorting off.

Knob 3 — PgmOn = top, mixed

Use this knob to select whether to show all program-assigned samples first (ahead of all unassigned samples).

top	Show all program-associated samples first (in name order selected by Knob 2), then show unassociated samples.
mixed	Show all samples in the selected order, regardless of whether or not they are used in programs.

Knob 4 — InBank = hide, show

Use this knob to select whether to display the names of samples that belong to banks.

hide	Show names of sample banks and of all samples that are not associated with sample banks. Do not show names of the individual samples that are included in sample banks.
show	Show names of all sample and sample banks.

EASY EDIT Function

This section describes the PLAY-mode EASY EDIT function. You use easy-editing to adjust the sound of the samples used by the selected program.

Important

- These adjustments are applied by the program, and do not alter the settings stored within the sample itself. Some of these adjustments operate as offsets to the sample's own parameters, while others temporarily override the sample's own parameters.
- EASY EDIT settings for a particular sample are lost when you remove the sample from the program (when you set the program's ToPgm switch OFF for that sample). The settings are not restored if you then set the ToPgm switch back on.
- You cannot apply Easy Editing to samples that are not used by the current program, or to samples that exist within sample banks. If you select such a sample, the lower line of the screen will be blanked out ("- - -") to indicate that editing is unavailable.
- If you apply easy editing to a sample bank, the settings apply to the entire bank. You can apply edit settings to individual samples within the bank.

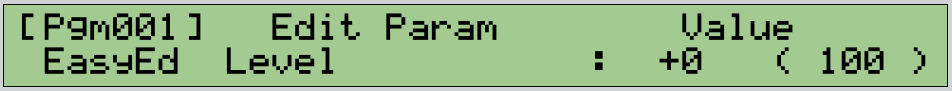
FYI

This feature lets you adjust the way a sample operates and sounds within a program while leaving the sample's original settings unchanged. This is particularly useful when you wish to use the same sample in different ways with different programs.

EASY EDIT - EasyEd

Adjust the sound of samples used within the program.

PLAY	PROGRAM	SAMPLE	EASY EDIT	EFFECT	SETUP	CONTROL
EDIT	TRIM / LOOP	MAP / OUT	FILTER	EG	LFO	MIDI / CTRL
REC	RECORD	SETUP	METER	EFFECT	EXT CTRL	MONITOR
DISK	PROGRAM	SAMPLE	SEQUENCE	VOLUME	DISK	IMPORT
UTILITY	TOTAL EQ	PANEL PLAY	SEQUENCE	MASTER	SYSTEM	MIDI



	Knob 1	Knob 2	Knob 3	Knob 4	Knob 5
Turn action	-	✔	✔	✔	✔
Push action	✔	-	-	-	-

You use this feature to adjust the way the sample operates and sounds within the currently selected program.

Knob 1 — Select P/S

Push the knob to move to the Program/Sample Selection screen. (☞95)

Knobs 2, 3 — Edit Param = Level, Pan, ... ,MIDI Control

Turn either knob to select the parameter that you want to adjust. You can then use Knob 4 or 5 to adjust the value. Repeat this sequence for all parameters that you need to adjust: first select the parameter with Knob 2 or 3, and then adjust the value using Knob 4 or 5.

The available parameters are listed below. Refer to the indicated page for more information.

Parameter	Purpose	Page
Level	Output level	174
Pan	Stereo positioning	174
Tune Coarse	Coarse pitch adjustment (semitone increments)	178
Tune Fine	Fine pitch adjustment (1.171875-cent increments)	178
AEG AttackRate	Amplitude EG's attack rate	188
AEG ReleaseRate	Amplitude EG's release rate	188
Filter Cutoff	Filter's cutoff frequency	182
Filter Q/Width	Filter's Q/Width setting	182
Key Limit Low	Lowest key of key range*	170
Key Limit High	Highest key of key range*	170
Key RangeShift	Keyboard range shift	
Key X-fade	Key crossfade on/off	170
Vel Limit Low	Minimum playback velocity†	172
Vel Limit High	Maximum playback velocity†	172
Vel X-fade	Velocity crossfade on/off	172

Poly/Mono	Poly/Mono switch	174
Poramento	Portamento on/off	174
AlternateGrp	"Alternate group" select	208
Main Output	Main Output select	176
Main Out level	Output level to main output	176
Assign Output	Assignable-output select	176
Assign Out Lvl	Output level to assignable output	176
MIDI ReceiveCH	MIDI Receive Channel	208
MIDI Control	MIDI Control enable/disable‡	210

* You can use these settings only to reduce the sample's internally-set key range. Settings that would increase the internally-set key range are ineffective. (See next page.)

† You can use these settings only to reduce the sample's internally-set velocity range. Settings that would increase this velocity range are ineffective. (See next page.)

‡ Selects whether the sample's own control settings are effective or ineffective.

Knobs 4, 5 Value **= parameter value**

Turn either of these knobs to set the value for the selected parameter. Available values differ for each parameter.

- Values preceded by a + or - sign are applied as offsets to the sample's own setting. The applied value (sample setting plus offset) is indicated in parentheses to the right of the offset value.
- If you set the value to =Sample, the program will use the sample's own setting.
- The Key Limit and Velocity Limit settings can be used only to reduce the sample's locally set keyboard range and velocity range. You cannot set the Limit Low value below the sample's own low-limit setting; you cannot set the Limit High value above the sample's high-limit setting. For example, if the sample's locally set key range is "C2 to B3", then you may adjust the range to "C2 to B2," but not to "C2 to B4."

EFFECT Function

This section describes the PLAY-mode EFFECT function. You use this function to set up the program's effects.

Important

- The sample's "main output" destination determines the effect that the sample receives. In particular, the A3000 does not apply any effect to samples whose main output is set to off or to Stereo. To apply an effect to a sample, make sure that the sample's main output is set to Effect1, Effect2, or Effect3. (☞176)
- Note that you can also adjust the "main output" setting using the Easy Edit function. (☞119).

EFFECT - EfType (Select the Effect Types)

Selects effect types and effect-block interconnection for the program.

PLAY	PROGRAM	SAMPLE	EASY EDIT	EFFECT	SETUP	CONTROL
EDIT	TRIM / LOOP	MAP / OUT	FILTER	EG	LFO	MIDI / CTRL
REC	RECORD	SETUP	METER	EFFECT	EXT CTRL	MONITOR
DISK	PROGRAM	SAMPLE	SEQUENCE	VOLUME	DISK	IMPORT
UTILITY	TOTAL EQ	PANEL PLAY	SEQUENCE	MASTER	SYSTEM	MIDI

Turn Knob 1 to select EfType.

	Knob 1	Knob 2	Knob 3	Knob 4	Knob 5
Turn action	✔	✔	✔	✔	✔
Push action	✔	✔	✔	✔	-

Use this page to assign a specific effect to each of the effect blocks (Effect 1, Effect 2, and Effect 3), and to set the interconnection (if any) among these blocks.

Knob 1 **Change Page** **Select P/S**

- Turn the knob to change to a different page within the EFFECT function. Available pages are: EfType (this page), Efct1, Efct2, Efct3, In&Out, and EdType.
- Push the knob to move to the Program/Sample Selection screen. (☞95)

Knob 2 Effect1 = Through, Scratch,...,Canyon **Bypass**

- Turn the knob to select the effect type to be applied as Effect 1. For information about available selections, refer to the "Effect type list" in the appendix. (☞335).
- Push the knob to toggle Effect 1 on or off. Press once to switch the effect off (so that a "- - -" appears above the knob); press again to switch the effect back on.

Knob 3 Effect2 = Through, Scratch,...,Canyon **Bypass**

- Turn the knob to select the effect type to be applied as Effect 2. For information about available selections, refer to the "Effect type list" in the appendix. (☞335).
- Push the knob to toggle Effect 2 on or off. Press once to switch the effect off (so that a "- - -" appears above the knob); press again to switch the effect back on.

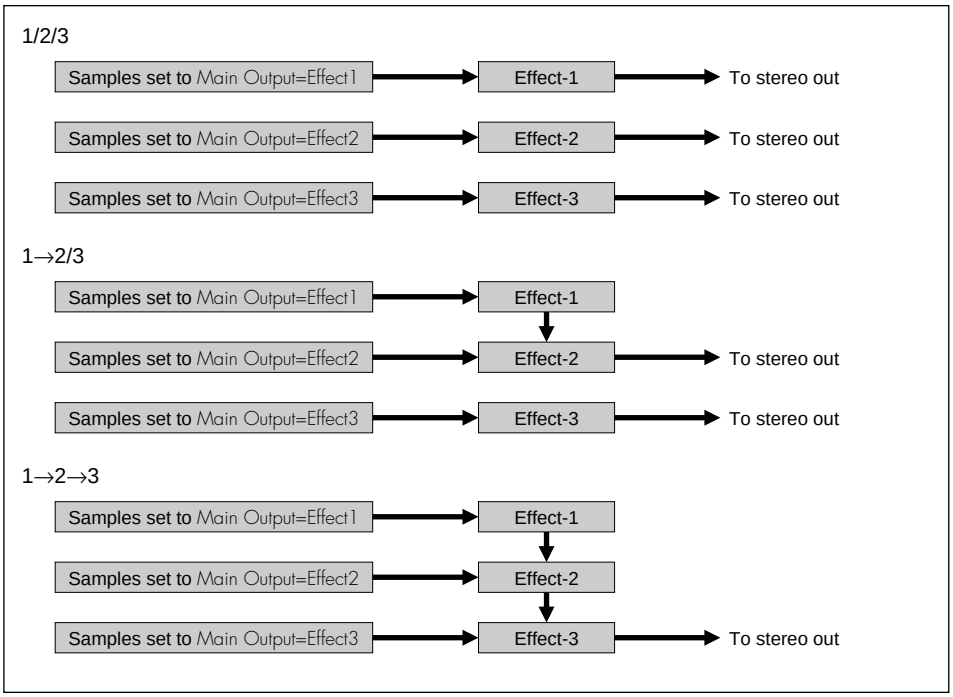
Knob 4 Effect3 = Through, Scratch,...,Canyon **Bypass**

- Turn the knob to select the effect type to be applied as Effect 3. For information about available selections, refer to the "Effect type list" in the appendix. (☞335).
- Push the knob to toggle Effect 3 on or off. Press once to switch the effect off (so that a — appears above the knob); press again to switch the effect back on.

Knob 5 Connect = 1/2/3, 1 → 2/3, 1 → 2 → 3

Turn this knob to select the interconnection between the three effects blocks. Available settings are as follows.

1/2/3	No interconnection — all effects blocks operate independently. Samples whose main output destination is to Effect1 move through the Effect-1 block only (receive Effect 1 only) and then pass the A3000's stereo outputs. Similarly, samples with main output destination set to Effect2 or Effect3 move through the corresponding block only and then pass to the stereo outputs.
1 → 2/3	Feeds the Effect-1 block through the Effect-2 block. Specifically, output from the Effect-1 block passes through the Effect-2 block and then to the stereo outputs. Operation is therefore as follows. Samples with destination set to Effect1 receive both Effect 1 and Effect 2, and then pass to the stereo outputs. Samples with destination set to Effect2 receive Effect 2 only (and pass to stereo outputs). Samples with destination set to Effect3 receive Effect 3 only (and pass to stereo outputs).
1 → 2 → 3	Feeds the Effect-1 block to the Effect-2 block, and the Effect-2 block to the Effect-3 block. Samples with destination set to Effect1 receive all three effects. Samples with destination set to Effect2 receive Effect 2 and Effect 3 only. Samples with destination set to Effect3 receive Effect 3 only. Again, all output from the Effect-3 block passes to the stereo outputs.


1/2/3
Samples set to Main Output=Effect1
Effect-1
To stereo out
Samples set to Main Output=Effect2
Effect-2
To stereo out
Samples set to Main Output=Effect3
Effect-3
To stereo out
1→2/3
Samples set to Main Output=Effect1
Effect-1
Samples set to Main Output=Effect2
Effect-2
To stereo out
Samples set to Main Output=Effect3
Effect-3
To stereo out
1→2→3
Samples set to Main Output=Effect1
Effect-1
Samples set to Main Output=Effect2
Effect-2
Samples set to Main Output=Effect3
Effect-3
To stereo out

EFFECT - Efct1,...,Efct3 (Edit the Effects)

Use this page to edit the effects selected for the current program. The page's appearance and operation varies according to whether "EffectEditType" value is set to "full" or "favorite" (☞127).

■ If "EffectEditType" is set to "full", the page appears as follows.

Sets parameters for the selected effect (Effect 1, 2, or 3).

PLAY	PROGRAM	SAMPLE	EASY EDIT	EFFECT	SETUP	CONTROL
EDIT	TRIM / LOOP	MAP / OUT	FILTER	EG	LFO	MIDI / CTRL
REC	RECORD	SETUP	METER	EFFECT	EXT CTRL	MONITOR
DISK	PROGRAM	SAMPLE	SEQUENCE	VOLUME	DISK	IMPORT
UTILITY	TOTAL EQ	PANEL PLAY	SEQUENCE	MASTER	SYSTEM	MIDI

Turn Knob 1 to select Efct1, Efct2, or Efct3.

	Knob 1	Knob 2	Knob 3	Knob 4	Knob 5
Turn action	✔	✔	✔	-	✔
Push action	✔	-	-	-	-

Use this page to set parameter values for the selected effect (Effect 1, 2, or 3). You can access and set all of the effect's parameters.

Knob 1 — Change Page / Select P/S

- Turn the knob to change to a different page within the EFFECT function. Available pages are: EfType, Efct1, Efct2, Efct3, In&Out, and EdType.
- Push the knob to move to the Program/Sample Selection screen. (☞95)

Knobs 2, 3 — Parameter = parameter name

Turn either knob to select the parameter whose value you want to view or set. You can then set the value using Knob 5. You can repeat the sequence to set each of the available parameters: first select the parameter with Knob 2 or 3, and then set the value with Knob 5.

Note that the available parameters differ for each effect type. For a listing of parameters and their meanings, refer to the "Effect parameter list" in the Appendix. (☞337)

Knob 5 — Value = value

Turn the knob to set the value for the parameter selected by Knob 2 or 3.

■ If "EffectEditType" is set to "favorite", the page looks like this.

Sets parameters for the selected effect (Effect 1, 2, or 3).

PLAY	PROGRAM	SAMPLE	EASY EDIT	EFFECT	SETUP	CONTROL
EDIT	TRIM / LOOP	MAP / OUT	FILTER	EG	LFO	MIDI / CTRL
REC	RECORD	SETUP	METER	EFFECT	EXT CTRL	MONITOR
DISK	PROGRAM	SAMPLE	SEQUENCE	VOLUME	DISK	IMPORT
UTILITY	TOTAL EQ	PANEL PLAY	SEQUENCE	MASTER	SYSTEM	MIDI

Turn Knob 1 to select Efct1, Efct2, or Efct3.

	Knob 1	Knob 2	Knob 3	Knob 4	Knob 5
Turn action	✔	✔	✔	✔	✔
Push action	✔	✔	✔	✔	✔

Use this page to set parameter values for the selected effect (Effect 1, 2, or 3). The screen displays the four "favorite" parameters for this effect. You can set the values with Knobs 2 to 5, or change the "favorite" selection by pressing any of the Knobs 2 to 5.

Knob 1 — Change Page — Select P/S

- Turn the knob to change to a different page within the EFFECT function. Available pages are: EfType, Efct1, Efct2, Efct3, In&Out, and EdType.
- Push the knob to move to the Program/Sample Selection screen. (☞95)

Knobs 2 to 5 — Value = parameter name — Select Parameter

Each knob sets the value for one parameter. The parameter name appears on the top line of the screen, and the current value on the second line. Turn the knob to change the value.

Although each effect offers a large number of parameters, this screen only shows four "favorites." As the factory default, the screen shows the four most important (most influential) parameters.

You can change the "favorite" grouping by pressing any knob between 2 and 5, producing a screen such as shown above. You can then turn Knobs 2 through 5 to select new favorites. When you are ready to return to the value-setting screen, press one of the knobs (Knobs 2 to 5) again.

EFFECT - In&Out (Input/output levels and pan)

Sets input level, output level, and pan for each effect (Effects 1, 2, and 3).

PLAY	PROGRAM	SAMPLE	EASY EDIT	EFFECT	SETUP	CONTROL
EDIT	TRIM / LOOP	MAP / OUT	FILTER	EG	LFO	MIDI / CTRL
REC	RECORD	SETUP	METER	EFFECT	EXT CTRL	MONITOR
DISK	PROGRAM	SAMPLE	SEQUENCE	VOLUME	DISK	IMPORT
UTILITY	TOTAL EQ	PANEL PLAY	SEQUENCE	MASTER	SYSTEM	MIDI

Turn Knob 1 to select In&Out.

	Knob 1	Knob 2	Knob 3	Knob 4	Knob 5
Turn action	✔	✔	✔	✔	✔
Push action	✔	-	-	-	-

Use this page to set the input level, output level, and pan for each of the three effect blocks (Effect 1, Effect 2, and Effect 3).

Knob 1 — Change Page / Select P/S

- Turn the knob to change to a different page within the EFFECT function. Available pages are: EfType, Efct1, Efct2, Efct3, In&Out (this page) and EdType.
- Push the knob to move to the Program/Sample Selection screen. (☞95)

Knob 2 — Effect# = 1, 2, 3

Turn the knob to select the effect block (Effect 1, 2, or 3) whose values you want to set. You can then set the various values using Knobs 3, 4, and 5. You can repeat the sequence to set each of the three effects: first select the effect block with Knob 2, then set the values with Knobs 3, 4, and 5.

Knob 3 — InLevel = 0,...,127

Turn the knob to set the input level for the selected effect block.

Knob 4 — OutLevel = 0,...,127

Turn the knob to set the output level for the selected effect block.

Knob 5 — Pan = -63,...,+63

Turn the knob to set the pan (stereo positioning) for the effect block's output. Positive values set pan to the right; negative values set pan to the left.

If the effect output is stereo, higher absolute pan settings will narrow the stereo feeling while noticeably shifting the sound position.

EFFECT - EdType (Effect Edit Type)

Selects the effect-edit method: either "full" or "favorite."

PLAY	PROGRAM	SAMPLE	EASY EDIT	EFFECT	SETUP	CONTROL
EDIT	TRIM / LOOP	MAP / OUT	FILTER	EG	LFO	MIDI / CTRL
REC	RECORD	SETUP	METER	EFFECT	EXT CTRL	MONITOR
DISK	PROGRAM	SAMPLE	SEQUENCE	VOLUME	DISK	IMPORT
UTILITY	TOTAL EQ	PANEL PLAY	SEQUENCE	MASTER	SYSTEM	MIDI

Turn Knob 1 to select EdType.

```
[Pgm001]        EffectEditType
▲EdType              full
```

	Knob 1	Knob 2	Knob 3	Knob 4	Knob 5
Turn action	✔	-	✔	-	-
Push action	✔	-	-	-	-

Use this page to select the method for editing at the Efct1, Efct2, and Efct3 pages (☞125).

Note that this page does not let you edit parameter values themselves. You must use the Efct1, Efct2, and Efct3 pages to access and change the values.

Knob 1 — Change Page / Select P/S

- Turn the knob to change to a different page within the EFFECT function. Available pages are: EfType, Efct1, Efct2, Efct3, In&Out, and EdType (this page).
- Push the knob to move to the Program/Sample Selection screen. (☞95)

Knob 3 — EffectEditType = full, favorite

Turn the knob to select the editing method used at the Efct1, Efct2, and Efct3 pages. Methods are as follows.

full

At the edit page, you select each parameter by turning Knob 1 to cycle through the parameter list. This method gives you relatively easy access to all parameters, but may increase the time it takes for you to locate the parameters you want to set. The "full" edit page appears as follows.

```
[Pgm001]Parameter(Scratch)        Value
▲▼Efct1   1:Input Level      :    110
```

favorite

The edit page gives you immediate access to four "favorite" parameters. This makes it very easy to edit these four parameters, while making it slightly more complicated to access the many other parameters. Under factory defaults, the edit page shows the four most important (influential) parameters, although you are free to change the "favorite" selection while working at that page. The "favorite" edit page looks like this.

```
[Pgm001]  Input   Delay   Speed   Depth
▲▼Efct1     80    180ms       9      90
```

SETUP Function

The PLAY-mode SETUP function lets you set each program's general output level, transposition, portamento, and A/D-input.

SETUP - PgmMstr (Program's Master Settings)

Sets the program's output level, transposition, and LFO "sample & hold" speed.

PLAY	PROGRAM	SAMPLE	EASY EDIT	EFFECT	SETUP	CONTROL
EDIT	TRIM / LOOP	MAP / OUT	FILTER	EG	LFO	MIDI / CTRL
REC	RECORD	SETUP	METER	EFFECT	EXT CTRL	MONITOR
DISK	PROGRAM	SAMPLE	SEQUENCE	VOLUME	DISK	IMPORT
UTILITY	TOTAL EQ	PANEL PLAY	SEQUENCE	MASTER	SYSTEM	MIDI

Turn Knob 1 to select PgmMstr.

	Knob 1	Knob 2	Knob 3	Knob 4	Knob 5
Turn action	✔	✔	✔	✔	-
Push action	✔	-	-	-	-

Use this page to set the program's overall output level, its transposition, and its sample/hold speed.

Knob 1 — Change Page / Select P/S

- Turn the knob to change to a different page within the SETUP function. Available pages are: PgmMstr (this page), Portmnt, ADSetup, and ADOut.
- Push the knob to move to the Program/Sample Selection screen. (☞95)

Knob 2 — Level = 0,...,127

Turn the knob to set the program's overall output level.

Knob 3 — Transpose = -127,...,+127

Use this setting to transpose the program up or down, in semitone increments. The transposition operates by raising or lowering all samples used by the program.

Note that each sample's keyboard range also transposes by an equivalent amount. If a sample's keyboard range is set to C3 through B3, for example, then transposing the program by -12 will shift the range for the sample to C2 through B2, so that striking key C2 will produce the sound originally associated with key C3.

Knob 4 S/HSpeed = 0,...,127

Turn the knob to set the *sample & hold* speed for the LFO (low-frequency oscillator).

This setting determines how the LFO operates on samples whose LFO Wave parameter is set to S/H. Specifically, the setting determines the "sample and hold" rate used for random LFO modulation. (Note that the term "sample" in "sample & hold" refers to sampling rate, and is unrelated to A3000 sound samples.)

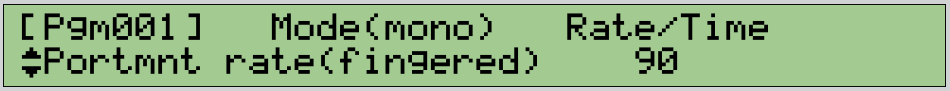
This setting has meaning only if the program uses at least one sample for which Wave=S/H. If the program uses two or more such samples, then the speed you set here applies to all of these samples.

SETUP - Portmnt (Portamento)

Sets the program's portamento.

PLAY	PROGRAM	SAMPLE	EASY EDIT	EFFECT	SETUP	CONTROL
EDIT	TRIM / LOOP	MAP / OUT	FILTER	EG	LFO	MIDI / CTRL
REC	RECORD	SETUP	METER	EFFECT	EXT CTRL	MONITOR
DISK	PROGRAM	SAMPLE	SEQUENCE	VOLUME	DISK	IMPORT
UTILITY	TOTAL EQ	PANEL PLAY	SEQUENCE	MASTER	SYSTEM	MIDI

Turn Knob 1 to select Portmnt.



	Knob 1	Knob 2	Knob 3	Knob 4	Knob 5
Turn action	✔	✔	✔	✔	-
Push action	✔	-	-	-	-

Use this page to set the portamento mode and portamento rate or time for the selected program. *Portamento* refers to the "sliding" of one pitch into the next during replay. The settings here determine how each played note slides into the next played note.

Important

These settings apply only to samples for which portamento is switched on. They have no effect on samples whose Porta parameter is set to off. (☞174)

Knob 1 **Change Page** **Select P/S**

- Turn the knob to change to a different page within the SETUP function. Available pages are: PgmMstr, Portmnt (this page), ADSetup, and ADOut.
- Push the knob to move to the Program/Sample Selection screen. (☞95)

Knobs 2, 3 Mode(mono) = rate(fingered), rate(fulltime), time(fingered), time(fulltime)

- Turn either knob to select the mode.
- The "rate" settings select a fixed-rate slide, while the "time" settings select a fixed-time slide.
- If you select a "fingered" portamento, the A3000 applies a slide between two consecutive notes only if the first note is still being held when the second note is played. If you select a "fulltime" portamento, the A3000 applies a slide between all consecutively played notes, even if the first note is released before the next note is played.
- Note that the "fingered" setting is effective only on samples that are set for one-note-at-a-time replay (samples whose Mono/Poly switch is set to mono; ☞174). Samples set to poly always receive "fulltime" portamento.

rate(fingered) — Slides one note into the next only if the first note (key) is still held when the next note is struck. Slide is at a constant rate; the time required to slide from the first note's pitch to the next note's pitch increases as the difference between the pitches increases.

rate(fulltime) — Pitch between consecutive notes always slides, even if the first note is released before the second note is struck. Again, pitch slide occurs at a constant rate.

time(fingered)	Slides one note into the next only if the first note (key) is still held when the next note is struck. The slide time is always the same; the slide rate increases as the difference between the pitches increases.
time(fulltime)	Pitch between consecutive notes always slides, even if the first note is released before the second note is struck. Again, the slide time is always the same.

Knob 4 Rate/Time = 0,...,127

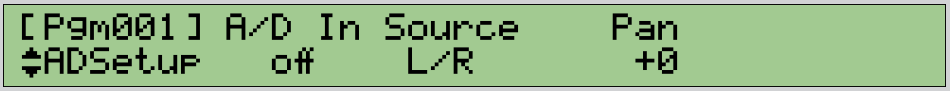
This value sets the pitch slide rate or slide time. The setting determines the slide rate (if the mode is set to “rate”) or the slide time (if the mode is set to “time”).

SETUP - ADSetup (A/D-In Setup)

Sets the A/D-in feature on or off, and sets the A/D-input source and pan.

PLAY	PROGRAM	SAMPLE	EASY EDIT	EFFECT	SETUP	CONTROL
EDIT	TRIM / LOOP	MAP / OUT	FILTER	EG	LFO	MIDI / CTRL
REC	RECORD	SETUP	METER	EFFECT	EXT CTRL	MONITOR
DISK	PROGRAM	SAMPLE	SEQUENCE	VOLUME	DISK	IMPORT
UTILITY	TOTAL EQ	PANEL PLAY	SEQUENCE	MASTER	SYSTEM	MIDI

Turn Knob 1 to select ADSetup.



	Knob 1	Knob 2	Knob 3	Knob 4	Knob 5
Turn action	✔	✔	✔	✔	-
Push action	✔	-	-	-	-

The *A/D-input* feature lets you feed an acoustic signal from an external device (typically a microphone) through the A3000. You can set the signal to receive any one of the program's three effects, or you can relay the signal through the A3000 without change.

You use this page to set the program's A/D-Input feature on or off, and to set the A/D input source and pan.

Important

It is not possible to use the digital connectors on the optional I/O expansion board (AIEB1 board) as the A/D input source.

Knob 1

Change Page **Select P/S**

- Turn the knob to change to a different page within the SETUP function. Available pages are: PgmMstr, Portmnt, ADSetup (this page), and ADOut.
- Push the knob to move to the Program/Sample Selection screen. (☞95)

Knob 2

A/D In = off, on

Turn this knob to switch the A/D-input feature on or off.

Knob 3

Source = L/R, L+R, L

Selects the input for the acoustic signal.

L/R	Use input stereo signal; handle the signal as stereo.
L+R	Use input stereo signal, but handle as monaural (mix the incoming L-channel and R-channel signals).
L	Use monaural input received on the left channel. (Select this setting when using a monaural microphone. Be sure to connect the microphone to the "L" connector on the A3000.)

Knob 4 Pan = -63,...,+63

This value sets the pan (stereo positioning) for the output from the A/D-input signal. Positive values set pan to the right; negative values set pan to the left.

If Source is set to L/R, higher absolute pan settings will narrow the stereo feeling while noticeably shifting the sound position.

SETUP - ADOut (Output Setup for A/D-Input Signal)

Selects the output destinations for the A/D-in signal, and sets the output levels.

PLAY	PROGRAM	SAMPLE	EASY EDIT	EFFECT	SETUP	CONTROL
EDIT	TRIM / LOOP	MAP / OUT	FILTER	EG	LFO	MIDI / CTRL
REC	RECORD	SETUP	METER	EFFECT	EXT CTRL	MONITOR
DISK	PROGRAM	SAMPLE	SEQUENCE	VOLUME	DISK	IMPORT
UTILITY	TOTAL EQ	PANEL PLAY	SEQUENCE	MASTER	SYSTEM	MIDI

Turn Knob 1 to select ADOut.

	Knob 1	Knob 2	Knob 3	Knob 4	Knob 5
Turn action	✔	✔	✔	✔	✔
Push action	✔	-	-	-	-

This page sets the main and assignable output destinations and levels for the A/D-in signal.

Knob 1 — Change Page / Select P/S

- Turn the knob to change to a different page within the SETUP function. Available pages are: PgmMstr, Portmnt, ADSetup, and ADOut (this page).
- Push the knob to move to the Program/Sample Selection screen. (☞95)

Knob 2 — MainOut = off, Stereo, Effect1, Effect2, Effect3

Selects the main output destination for the A/D-input signal. Available settings are as follows.

off	The signal does not flow to any main output. Use this setting when you want to output the signal through assignable outputs only (see below).
Stereo	Output the signal directly to the stereo outputs, bypassing all effects.
Effect1,...,Effect3	Pass the signal through the selected effect block (Effect 1, Effect 2, or Effect 3), and output the result to the stereo outputs.

Knob 3 — Level = 0,...,127

Sets the output level at the main output.

Knob 4 AsgnPut off, ASL&R, AS1&2, AS3&4, AS5&6, DIG&OPT

- Selects the assignable-output destination for the A/D-input signal.
- Set this value to off if you do not want to output the signal to any assignable output. Set the value to ASL&R if you want to output the signal to the A3000's standard assignable-output pair. The other settings are meaningful only if you have installed the optional I/O expansion board (AIEB1 board); if the board is not installed, these settings are equivalent to off.
- If you have installed the AIEB1 board, you may also select from among the other assignable-output pairs indicated above. If you select DIG&OUT, the A3000 will output the identical signal to both the DIGITAL and the OPTICAL output jacks.

Knob 5 AsLevel = 0,...,127

Sets the output level at the assignable outputs.

CONTROL Function

The PLAY-mode CONTROL function sets up the program's controller handling.

CONTROL - PgmCtl1 (Program Controller Setup 1)

Sets the program's controller usage.

PLAY	PROGRAM	SAMPLE	EASY EDIT	EFFECT	SETUP	CONTROL
EDIT	TRIM / LOOP	MAP / OUT	FILTER	EG	LFO	MIDI / CTRL
REC	RECORD	SETUP	METER	EFFECT	EXT CTRL	MONITOR
DISK	PROGRAM	SAMPLE	SEQUENCE	VOLUME	DISK	IMPORT
UTILITY	TOTAL EQ	PANEL PLAY	SEQUENCE	MASTER	SYSTEM	MIDI

Turn Knob 1 to select PgmCtl1.

```
[Pgm001]Matrix# ◆Device   Function
▼PgmCtl1    1:     001    Portament R/T
```

	Knob 1	Knob 2	Knob 3	Knob 4	Knob 5
Turn action	✔	✔	✔	✔	✔
Push action	✔	-	✔	-	-

You use this page together with page PgmCtl2 to set up the *controller matrix* that determines how selected MIDI controllers operate on the program's playback. The matrix selects up to four controllers, and assigns to each of these a specific function and operating range. A conceptual illustration of the matrix is shown below.

The controller settings that you make here operate in response to control-change messages received over the Basic Receive Channel. (☞305)

Matrix No. — Selects a controller. — Selects the controlled parameter. — Determines how the A3000 converts the received controller values. — Sets the maximum control range.

Matrix#	Device	Function	Type	Range
1				
2				
3				
4				

You use the PgmCtl1 page to set the Device and Function values only. Use page PgmCtl2 (☞139) to set the Type and Range values.

Knob 1 **Change Page** **Select P/S**

- Turn the knob to change to a different page within the CONTROL function. Available pages are: PgmCtl1 (this page), PgmCtl2, and Reset.
- Push the knob to move to the Program/Sample Selection screen. (☞95)

Knob 2 Matrix# = 1,...,4

Selects the matrix entry for editing. You can use the matrix to set up four controllers. Each matrix entry sets up a different controller.

Knob 3 Device = 000,...,120, AT, PB **MIDI IN**

Use this setting to select the external physical controller that you want to set for operation with the A3000. The setting selects one of the controllers on your external MIDI device. You can then use Knob 4 (and also the PgmCtl2 page) to determine how this controller affects the playback of this program.

You select the controller by its *controller number* (sometimes called *control-change number*). Each controller number identifies a specific controller, as set forth in the MIDI standard.

In addition, you may also select PB (pitchbend) and AT (aftertouch) controls. The MIDI standard defines these controls differently from the others, so they do not have their own controller numbers.

Most MIDI devices are equipped with the following physical controllers.

Controller	Controller Number
Modulation wheel	001
Breath controller	002
Foot controller	004
Volume controller	007
Expression pedal	011

You are free to select any of the above controllers, or any other of the controllers (control numbers) available on your equipment. You should generally avoid controller numbers 000 and 032, however, as many MIDI devices use these numbers for bank selection purposes.

You can input your controller-number selection directly from your MIDI keyboard. First press Knob 2 so that the indicator lamp (directly above the knob) begins blinking, and then operate the appropriate controller at the keyboard. The controller's controller number will then appear on the screen directly above the knob. Push the knob again (or move to another page) to terminate this MIDI-entry mode and register the new setting.

Knobs 4, 5 Function = - - - - - ,..., EF3-16

Use this setting to select the parameter to be controlled by the controller selected by Knob 2. Choices are listed below. For more information, refer to the indicated pages.

Function	**Parameter**	**See Page...**
Portament R/T	Portamento time or rate	130
S/H Speed	LFO "sample & hold" speed	128
AD Pan	Pan for A/D-input	132
AD Level	Main-output level for A/D input	134
Program level	Program output level	128
EF1:Level	Output level for Effect 1	126
EF1:Pan	Pan for Effect 1	126
EF1-x [x=1,...,16]	Parameter x for Effect 1	124
EF2:Level	Output level for Effect 2	126
EF2:Pan	Pan for Effect 2	126
EF2-x [x=1,...,16]	Parameter x for Effect 2	124
EF3:Level	Output level for Effect 3	126
EF3:Pan	Pan for Effect 3	126
EF3-x [x=1,...,16]	Parameter x for Effect 3	124

Note that certain effect parameters cannot be controlled (a "- - -" appears in the Function column if you attempt to select such a parameter. Note also that certain controls may generate noise when used with certain effect parameters.

CONTROL - PgmCtl2 (Program Controller Setup 2)

Sets the program's controller usage.

PLAY	PROGRAM	SAMPLE	EASY EDIT	EFFECT	SETUP	CONTROL
EDIT	TRIM / LOOP	MAP / OUT	FILTER	EG	LFO	MIDI / CTRL
REC	RECORD	SETUP	METER	EFFECT	EXT CTRL	MONITOR
DISK	PROGRAM	SAMPLE	SEQUENCE	VOLUME	DISK	IMPORT
UTILITY	TOTAL EQ	PANEL PLAY	SEQUENCE	MASTER	SYSTEM	MIDI

Turn Knob 1 to select PgmCtl2.

	Knob 1	Knob 2	Knob 3	Knob 4	Knob 5
Turn action	✔	✔	✔	✔	-
Push action	✔	-	-	-	-

You use this page together with page PgmCtl1 to set up the program's controller matrix. The matrix determines how selected MIDI controllers operate on the program's playback.

You use PgmCtl1 to set each matrix entry's Device and Function. You use this page (PgmCtl2) so set each entry's Type and Range.

Refer to the explanation of PgmCtl1 (☞135) for a conceptual illustration of the matrix.

Knob 1 — Change Page / Select P/S

- Turn the knob to change to a different page within the CONTROL function. Available pages are: PgmCtl1, PgmCtl2 (this page), and Reset.
- Push the knob to move to the Program/Sample Selection screen. (☞95)

Knob 2 — Matrix# = 1,...,4

Selects the matrix entry for editing. You can use the matrix to set up four controllers. Each matrix entry sets up a different controller.

Knob 3 — Type = +offset, -/+offset

The setting determines how the A3000 converts and applies the control-change value received from the controller.

When you move a controller at a MIDI device, the controller transmits a control-change value indicating the magnitude of the movement. The transmitted values always range from 0 to 127.

Upon receiving the value, the A3000 converts it as specified here, and then applies it to the parameter selected by the Function entry (☞138). The conversion determines how strongly (and in which direction) the parameter changes in response to the controller's movement.

Note that the conversion also depends on the "*range*" value, which you set using Knob 4 (see below).

+offset	The A3000 converts the received value (0 to 127) to a corresponding value in the range {0 to *range*}, and adds the result to the target parameter. Notice that the resulting offset is therefore always positive (or always negative, depending on the Range sign; see below). In other words, the controller can offset the target parameter in one direction only.
-/+offset	The A3000 converts the received value (0 to 127) to a corresponding value in the range {-*range* to 0 to +*range*}, and adds the result to the target parameter. Notice that in this case the controller applies 0 offset when at its center position; displacement in one direction generates a negative offset, while displacement in the other generates a positive offset.

Knob 4 Range = -63,...,+63

Sets the maximum offset that the controller can apply to the target parameter. This also determines how sensitive the parameter is to changes in the controller position.

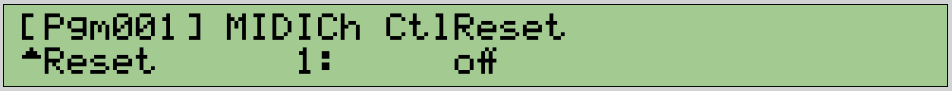
- A value of 0 disables the controller completely.
- A value of +63 or -63 allows the controller to have full effect.
- A negative setting reverses the controller's normal direction. For example, moving a volume dial clockwise will increase the volume if the setting is positive, but will decrease the volume if the setting is negative.

CONTROL - Reset (Controller Reset)

Selects whether controllers initialize when you switch into this program.

PLAY	PROGRAM	SAMPLE	EASY EDIT	EFFECT	SETUP	CONTROL
EDIT	TRIM / LOOP	MAP / OUT	FILTER	EG	LFO	MIDI / CTRL
REC	RECORD	SETUP	METER	EFFECT	EXT CTRL	MONITOR
DISK	PROGRAM	SAMPLE	SEQUENCE	VOLUME	DISK	IMPORT
UTILITY	TOTAL EQ	PANEL PLAY	SEQUENCE	MASTER	SYSTEM	MIDI

Turn Knob 1 to select Reset.



	Knob 1	Knob 2	Knob 3	Knob 4	Knob 5
Turn action	✔	✔	✔	-	-
Push action	✔	-	-	-	-

This page selects how controllers are set when you switch into this program from another program. You can choose to retain the previous control-change values, or else to temporarily reset these values to 0. You can set the operation separately for each MIDI channel.

For more information, refer to the supplementary explanation on the next page.

Knob 1 — Change Page / Select P/S

- Turn the knob to change to a different page within the CONTROL function. Available pages are: PgmCtl1, PgmCtl2 and Reset (this page).
- Push the knob to move to the Program/Sample Selection screen. (☞95)

Knob 2 — MIDICh = 1,...,16

Selects the MIDI Receive Channel. After selecting the channel, you can use Knob 3 to select whether controllers are reset for the samples that play on that channel (see next page).You can then repeat this sequence as necessary: Use Knob 2 to select another channel, then use Knob 3 to enable or disable controller reset for that channel.

Knob 3 — CtlReset = off, on

Selects whether the controller control-change values currently set for the previous program reinitialize to 0 when you switch into this program. You can set the operation separately for each MIDI Receive Channel.

off	Maintain previous values.
on	Return values to 0.

Supplementary Explanation

Assume that you have set up the following two programs.

Program 001: This program makes use of Sample A. Sample A, in turn, is set up so that operation of the modulation wheel (Controller 001) causes changes in the sample's pitch. Sample A is set to play out in response to MIDI performance data received over MIDI Receive Channel 1.

Program 002: This program uses Sample B, which is set so that the modulation wheel controls the sample's filter modulation. Again, the sample is set to receive its playback instructions from MIDI Receive Channel 1.

Now assume that you are playing Program 001, and you have turned the modulation wheel all the way up to produce a large pitch change in Sample A. Finally, assume that you now switch to Program 002, using either the A3000 panel or a program-change message from your MIDI keyboard. The behavior of Sample B when you first switch into Program 002 depends on whether or not the controller value is reset.

If CtlReset = "off" for Program 002, Channel 1:

The modulation wheel's control-change value remains in effect; the sample begins playback with a strong filter modulation. (Note: the modulation-wheel value affects the filter, not the pitch.) To reduce the filter modulation, you must move the modulation wheel back down.

If CtlReset = "on" for Program 002, Channel 1:

The modulation wheel's applied control-change value becomes 0; the sample begins playback with no filter modulation. If you move the modulation wheel even slightly, however, the control-change value immediately changes to match the wheel's true position.

Chapter 5
EDIT Mode

EDIT Mode

You use EDIT mode to edit your samples and sample banks.

EDIT-Mode Functions

EDIT mode comprises the six functions described below.

TRIM/LOOP

Use this function to select the playback area on the waveform (the playback "start" and "end" points), to trim off extraneous waveform data, and to set up the playback direction (forward or backward) and loop characteristics (loop range and type). (☞161)

MAP/OUT

Use this function to edit the sample's key range, original-key value, output level, tuning, and various other playback settings. (☞170)

FILTER

This function sets the sample's filter type, filter characteristics, and equalization. (☞182)

EG

Use this function to set up the sample's three envelope generators: amplitude EG, filter EG, and pitch EG. The EG settings determine how the sound of each note develops over time. (☞188)

LFO

This function sets up the sample's low-frequency oscillator (LFO). You use the LFO to apply an audible modulation to the output level, filtering, and pitch.(☞203)

MIDI/CTRL

This function selects the MIDI channel that drives the sample, and determines how the sample responds to controller action. You can also use this function to select the sample's "alternate group." (☞208)

FYI

- You can listen to the sound of the sample you are editing by pressing the AUDITION key. This makes it easy to monitor the results of your changes as you make them. (☞91)
- If you are editing a sample that is used by the currently selected program, the program's number appears in brackets at the top left of the screen; for example: [Pgm001]. If you edit a sample that does not belong to the program (or a sample that exists as a component of a sample bank), then the brackets change to parentheses: (Pgm001).

Samples and Sample Banks

You use EDIT mode to edit both samples and sample banks. Operation varies slightly according to whether you are editing (1) a freestanding sample, (2) a sample bank, or (3) a sample within a sample bank.

Freestanding sample

In most cases you will probably be editing freestanding samples — individual samples that are not assigned to sample banks. You can access and edit all available sample parameters directly.

Sample banks

A *sample bank* is a group of related samples that you handle as a single unit for purposes of program assignment, disk saves, and disk loads. When editing a sample bank, you should be aware of the difference between (a) parameter values set by each sample within the bank, and (b) parameter values set by the sample bank itself. For example, you need to understand the meaning of two special sample-bank settings: "----", and "(----)".

A "----" parameter setting means that each sample in the bank uses its own locally-set value for this parameter. When you begin editing the sample bank, many parameters will show this setting. If you like, you can select a specific value for the parameter by rotating the corresponding knob. If you do this, the A3000 will apply the value you select to all of the samples in the bank, temporarily overriding their local settings. If you wish to cancel the bank-level setting and return the samples to their original values, turn the knob to reselect the "----".

A "(----)" setting means that it is not possible to override the samples' local settings for this parameter. Turning the knob will have no effect.

Keep in mind that sample-bank editing never changes the parameter values stored within the samples themselves. To change these values, you must edit the samples individually.

Samples within a sample bank

Editing content is the same as for freestanding samples — you have direct access to each of the sample's parameters.

Selecting the Sample (or Bank)

Before you can edit a sample or sample bank, you must first select it. A variety of selection methods are available, as described below.

If the sample (bank) is already in a program...

If the sample (bank) you want to edit already belongs to a program, you can select it as follows: (1) Select PLAY | PROGRAM (PLAY mode, PROGRAM function); (2) go to the PgmSel page and turn Knob 2 or 3 to select the program; (3) select PLAY | SAMPLE; (4) go to the SmpSel page and turn Knob 2 or 3 to select the sample (bank). Then press the EDIT mode button to enter editing mode.

To create a program at same the time...

If you want to edit a sample (bank) and assign it to a new program, you can do it this way: (1) Select PLAY | PROGRAM; (2) go to the PgmSel page and turn Knob 2 or 3 to select a new (unused) program; (3) select PLAY | SAMPLE; (4) go to the SmpSel page, turn Knob 2 or 3 to select the sample (bank), and then turn Knob 4 to set the ToPgm switch to on. Then press the EDIT mode button to enter editing mode. If necessary, you can later switch to PLAY mode and apply further editing at the program level.

To edit a sample (bank) without assigning it to a program...

Use the procedure described directly above — since you want to temporarily assign the sample to a program so that you can use a MIDI keyboard to monitor the sound of your editing results. Then when you have finished editing the sample (bank), go back to the PLAY | SAMPLE SmpSel page and set the ToPgm switch to off to remove the sample (bank) from the program.

To select a sample from a sample bank, for independent editing...

If you need to edit a sample from a sample bank, proceed as follows: (1) Select PLAY | SAMPLE and go to the SmpBank page, (2) turn Knob 2 to select the sample bank, and (3) turn Knob 3 or 4 to select the sample. Then press the EDIT mode button to enter editing mode.

Important

Remember to save your edited sample and sample banks to disk (☞147). All unsaved data is lost when you switch off the A3000.

FYI

It is usually possible to switch directly from one sample to another while working in EDIT mode. To switch to a different sample, push Knob 1 on the edit screen you are working at. If switching is supported, the A3000 will now display the Program/Sample selection screen. Turn Knob 2 or 3 to select the next sample you want to edit. Then press Knob 1 again to return to the previous edit screen, with the new sample now selected.

COMMAND Pages

This section describes the command screens (*command pages*) that you can access by pressing the COMMAND key while working in EDIT mode.

SAVE

Saves object(s) from memory to disk.

PLAY	PROGRAM	SAMPLE	EASY EDIT	EFFECT	SETUP	CONTROL
EDIT	TRIM / LOOP	MAP / OUT	FILTER	EG	LFO	MIDI / CTRL
REC	RECORD	SETUP	METER	EFFECT	EXT CTRL	MONITOR
DISK	PROGRAM	SAMPLE	SEQUENCE	VOLUME	DISK	IMPORT
UTILITY	TOTAL EQ	PANEL PLAY	SEQUENCE	MASTER	SYSTEM	MIDI

Press the COMMAND key, then turn Knob 1 to select >SAVE.

	Knob 1	Knob 2	Knob 3	Knob 4	Knob 5
Turn action	✔	✔	✔	✔	✔
Push action	✔	-	-	-	-

Use this page to save the selected memory-resident object(s) to disk. You can elect to save all programs, all samples and sample banks, the selected program only (together with all samples used by the program), or a selected sample only.

Knob 1 — Change Page — >SAVE

- Turn the knob to change to a different command page.
- Push the knob when you are ready to execute the save. The A3000 returns a confirmation prompt. Push Knob 5 (>YES) to proceed with the save, or Knob 4 (>NO) to cancel.
- If a name conflict occurs (if the selected object in main memory has the same name as a corresponding object on the target volume), the A3000 prompts for instructions about how to resolve the conflict. (☞100)

Knob 2 — Type of Save = All(wipe), AllPgm(wp), Edited, AllSmp, Smp(Bank)

Turn the knob to select the object(s) to be saved to disk. Selections are as follows.

All(wipe) — Saves all memory content to disk. This operation saves all objects currently in memory (all usable programs, all samples, and all sequences) to the destination volume on disk. The operation erases all data already existing in the destination disk volume. [Note: a program is usable if it uses at least one sample or if its "A/D-in" setting is on.]

AllPgm(wp)	Saves all usable programs, together with all samples used by these programs, to the destination volume on disk. Does not save any sequences. Saves only those samples that are used with at least one program (does not save unused samples). This operation erases all data already existing in the destination disk volume.
Edited	Saves all new data to the destination volume (all new and all edited objects that have not yet been saved to disk in their current form). Does not save objects that have not been changed since the most recent disk load.
AllSmp	Saves all samples into the destination volume.
Smp(Bank)	Saves the currently selected sample (or sample bank) to the destination volume. If a sample bank is selected, the A3000 also saves all of the samples used in the bank.

Knob 3 — Destination Type= Dsk, Vol

Use this knob together with Knob 4 or 5 to select the destination for the save.

Dsk	Use this to view or change the destination-disk setting. When you select Dsk, the identity of the currently selected disk appears above Knobs 4 and 5. If necessary, you can then turn either of those knobs to change the destination disk.
Vol	Use this to view or change the volume setting. When you select Vol, the name of the currently selected volume appears above Knobs 4 and 5. If necessary, you can then turn either of those knobs to change the destination volume.

Knobs 4, 5 — Destination

Use either knob to select the destination disk or volume.

REVERT

Overwrites memory-resident sample with the disk version of the sample.

PLAY	PROGRAM	SAMPLE	EASY EDIT	EFFECT	SETUP	CONTROL
EDIT	TRIM / LOOP	MAP / OUT	FILTER	EG	LFO	MIDI / CTRL
REC	RECORD	SETUP	METER	EFFECT	EXT CTRL	MONITOR
DISK	PROGRAM	SAMPLE	SEQUENCE	VOLUME	DISK	IMPORT
UTILITY	TOTAL EQ	PANEL PLAY	SEQUENCE	MASTER	SYSTEM	MIDI

Press the COMMAND key, then turn Knob 1 to select >REVERT.

	Knob 1	Knob 2	Knob 3	Knob 4	Knob 5
Turn action	✔	-	-	-	-
Push action	✔	-	-	-	-

This operation reloads the selected sample or sample bank from disk into memory, canceling any new editing changes that you have made. This operation is available only if you have already saved the object to disk.

You use this operation to cancel "errors" that you make when editing or re-recording a sample. Assume, for example, that you record a sample, immediately save the results to disk (as you should), and then start to edit. If you now make a significant error during editing, you can use the REVERT command to restore the sample to its initial state. You can then begin editing all over again.

Important

- This operation is available only if you have already saved your data to disk. Remember to save important data to disk before you make significant editing changes.
- This operation is not available with imported samples.

Knob 1 Change Page >REVERT

- Turn the knob to change to a different command page.
- Push the knob to execute the reversion. The A3000 returns a confirmation screen. Push Knob 5 (>YES) to proceed, or Knob 4 (>NO) to cancel.

NORM (Normalize)

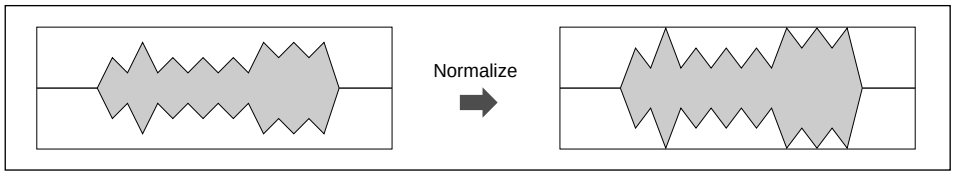
Adjusts waveform to optimal level.

PLAY	PROGRAM	SAMPLE	EASY EDIT	EFFECT	SETUP	CONTROL
EDIT	TRIM / LOOP	MAP / OUT	FILTER	EG	LFO	MIDI / CTRL
REC	RECORD	SETUP	METER	EFFECT	EXT CTRL	MONITOR
DISK	PROGRAM	SAMPLE	SEQUENCE	VOLUME	DISK	IMPORT
UTILITY	TOTAL EQ	PANEL PLAY	SEQUENCE	MASTER	SYSTEM	MIDI

Press the COMMAND key, then turn Knob 1 to select >NORM.

	Knob 1	Knob 2	Knob 3	Knob 4	Knob 5
Turn action	✔	-	-	-	-
Push action	✔	-	-	-	-

This command adjusts the waveform to its optimal level. Adjustment is made by proportionately raising all levels such that the highest level comes to just below the clip point, as illustrated below. (The "clip point" is the maximum level appropriate for digital processing.)



Important

This command does not operate on sample banks.

Knob 1 Change Page >NORM

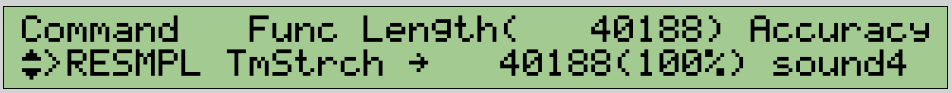
- Turn the knob to change to a different command page.
- Push the knob to execute the normalization. The A3000 returns a confirmation screen. Push Knob 5 (>YES) to proceed, or Knob 4 (>NO) to cancel.

RESMPL - TmStrch (Resampling - Time Stretch)

Lengthens or shortens the selected sample without changing its pitch.

PLAY	PROGRAM	SAMPLE	EASY EDIT	EFFECT	SETUP	CONTROL
EDIT	TRIM / LOOP	MAP / OUT	FILTER	EG	LFO	MIDI / CTRL
REC	RECORD	SETUP	METER	EFFECT	EXT CTRL	MONITOR
DISK	PROGRAM	SAMPLE	SEQUENCE	VOLUME	DISK	IMPORT
UTILITY	TOTAL EQ	PANEL PLAY	SEQUENCE	MASTER	SYSTEM	MIDI

Press the COMMAND key, turn Knob 1 to select >RESMPL, then turn Knob 2 to select TmStrch.



	Knob 1	Knob 2	Knob 3	Knob 4	Knob 5
Turn action	✔	✔	✔	✔	✔
Push action	✔	✔	-	-	-

The Resampling command page gives you access to two different commands: *Time Stretch* (described here), and *Pitch Conversion* (☞153). Select either of these operations by turning Knob 2.

You use the Time Stretch command to lengthen or shorten the playback time of the selected sample. The adjustment does not affect the sample's pitch.

Important

- This command does not operate on sample banks.
- The command lengthens or shortens the entire waveform. (Operation is not restricted to the area between the start and end addresses.)
- Time conversion may produce unexpected results with some samples. It is recommended that you limit adjustment to 10% in either direction, except in cases where you are trying to achieve an unusual effect.
- Following time conversion, the "start address" and "loop start address" reset to the wave-start address (=0), and the "end address" and "loop end address" reset to the wave-end address.

Knob 1 — Change Page — >RESMPL

- Turn the knob to change to a different command page.
- Push the knob to execute the time conversion. The A3000 returns a confirmation screen. Push Knob 5 (>YES) to proceed, or Knob 4 (>NO) to cancel.

Knob 2 — Func =TmStrch, PtchCnv — >Test

- Turn the knob to select the command you want to execute: Time Stretch or Pitch Conversion.
- Push the knob to hear how the converted sample will sound. This feature lets you confirm that results will be appropriate before you execute the actual conversion.

Knobs 3, 4 Length **= x % [Allowable range varies according to sample.]**

Turn either knob to set the time adjustment. Values above 100% lengthen the sample, while values below 100% compress it.

Knob 5 Accuracy =sound4,...,sound1, normal,rhythm1,..., rhythm4

Time-stretch conversion does not produce perfect results, and involves a tradeoff between sound and rhythm quality. This setting allows you to give priority to either sound or rhythm quality when making the conversion.

Select sound4 to give maximum weight to sound quality, rhythm4 to give maximum weight to rhythm quality, or normal for equal weight. Other values are intermediate settings.

RESMPL - PtchCnv (Resampling - Pitch Conversion)

Changes the sample's pitch while leaving its playback length unchanged.

PLAY	PROGRAM	SAMPLE	EASY EDIT	EFFECT	SETUP	CONTROL
EDIT	TRIM / LOOP	MAP / OUT	FILTER	EG	LFO	MIDI / CTRL
REC	RECORD	SETUP	METER	EFFECT	EXT CTRL	MONITOR
DISK	PROGRAM	SAMPLE	SEQUENCE	VOLUME	DISK	IMPORT
UTILITY	TOTAL EQ	PANEL PLAY	SEQUENCE	MASTER	SYSTEM	MIDI

Press the COMMAND key, turn Knob 1 to select >RESMPL, then turn Knob 2 to select PtchCnv.

	Knob 1	Knob 2	Knob 3	Knob 4	Knob 5
Turn action	✔	✔	✔	✔	✔
Push action	✔	✔	-	-	-

The Resampling command page gives you access to different commands: *Pitch Conversion* (described here), and *Time Stretch* (☞151). Select either of these operations by turning Knob 2.

You use the Pitch Conversion command to change the pitch of the selected sample while leaving its playback length unchanged. Knob 3 sets the coarse pitch adjustment (in semitones), while Knob 4 sets the fine adjustment.

Important

- This command does not operate on sample banks.
- The command operates on the entire waveform. (Operation is not restricted to the area between the start and end addresses.)
- Following the conversion, the "start address" and "loop start address" reset to the wave-start address (=0), and the "end address" and "loop end address" reset to the wave-end address.

Knob 1 — Change Page — >RESMPL

- Turn the knob to change to a different command page.
- Push the knob to execute the pitch conversion. The A3000 returns a confirmation screen. Push Knob 5 (>YES) to proceed, or Knob 4 (>NO) to cancel.

Knob 2 — Func — =TmStrch, PtchCnv — >Test

- Turn the knob to select the command you want to execute: Time Stretch or Pitch Conversion.
- Push the knob to hear how the converted sample will sound. This feature lets you confirm that results will be appropriate before you execute the actual conversion.

Knob 3 — Coarse — = -12,...,+12

Use this knob to raise or lower the pitch in semitone increments.

Knob 4 Fine = -50,...,+50

Use this knob to raise or lower the pitch in increments of 1.171875 cents. (Note: 100 cents = 1 semitone.)

Knob 5 Accuracy =sound4,...,sound1, normal,rhythm1,..., rhythm4

Time-fixed pitch adjustment does not produce perfect results, and involves a tradeoff between sound and rhythm quality. This setting allows you to give priority to either sound or rhythm quality when making the conversion.

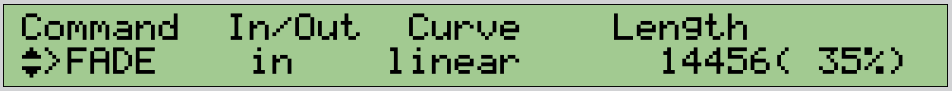
Select sound4 to give maximum weight to sound quality, rhythm4 to give maximum weight to rhythm quality, or normal for equal weight. Other values are intermediate settings.

FADE

Sets a fade-in or fade-out for the sample.

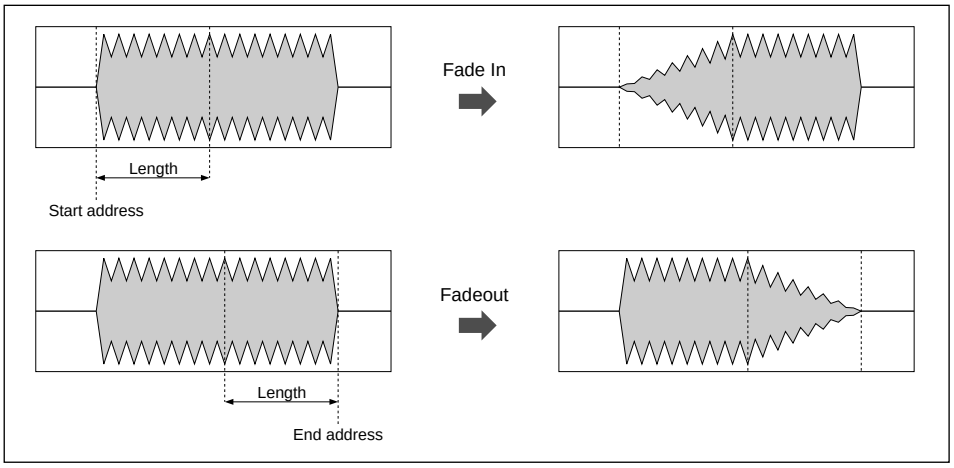
PLAY	PROGRAM	SAMPLE	EASY EDIT	EFFECT	SETUP	CONTROL
EDIT	TRIM / LOOP	MAP / OUT	FILTER	EG	LFO	MIDI / CTRL
REC	RECORD	SETUP	METER	EFFECT	EXT CTRL	MONITOR
DISK	PROGRAM	SAMPLE	SEQUENCE	VOLUME	DISK	IMPORT
UTILITY	TOTAL EQ	PANEL PLAY	SEQUENCE	MASTER	SYSTEM	MIDI

Press the COMMAND key, then turn Knob 1 to select >FADE.



	Knob 1	Knob 2	Knob 3	Knob 4	Knob 5
Turn action	✔	✔	✔	✔	✔
Push action	✔	-	-	-	-

This command selects whether the sample "fades in" or "fades out," and sets the length and type of the fade. Note that fade-in always starts at the start address, while fade-out always ends at the end address. (For information on how to edit the start and end addresses, see page 164.) The following drawing illustrates the concept.



Important

This command does not operate on sample banks.

Knob 1 — Change Page — >FADE

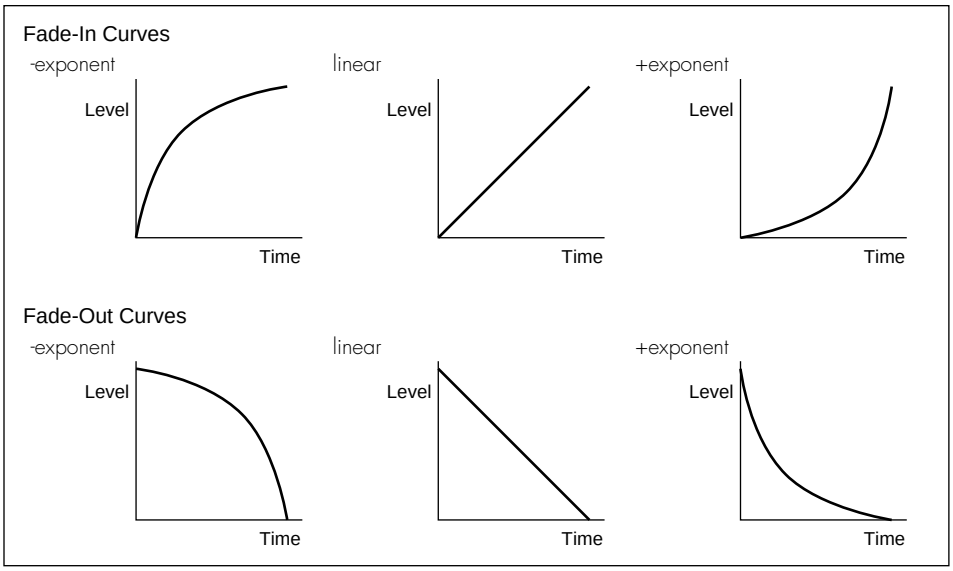
- Turn the knob to change to a different command page.
- Push the knob to execute processing. The A3000 returns a confirmation screen. Push Knob 5 (>YES) to proceed, or Knob 4 (>NO) to cancel.

Knob 2 — In/Out = in, out

Turn the knob to select whether the sample uses fade-in or fade-out.

Knob 3 Curve = -exponent, linear, +exponent

This setting selects the curve type for the fade. Three types are available, as illustrated below.



Knob 4 Length 0,...,(*end address - start address*)

Turn the knob to set the length for the fade, in "address" units. The minimum length is 0 (no fade). The maximum length is equal to the entire playback length of the waveform (the length from the start address to the end address).

Note again that fade-in always begins from the start address, while fade-out always ends at the end address.

REVERS (Reverse)

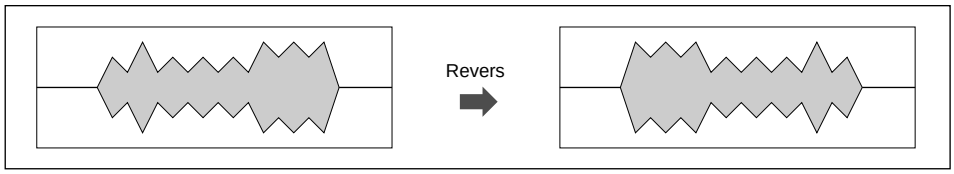
Reverses the sample.

PLAY	PROGRAM	SAMPLE	EASY EDIT	EFFECT	SETUP	CONTROL
EDIT	TRIM / LOOP	MAP / OUT	FILTER	EG	LFO	MIDI / CTRL
REC	RECORD	SETUP	METER	EFFECT	EXT CTRL	MONITOR
DISK	PROGRAM	SAMPLE	SEQUENCE	VOLUME	DISK	IMPORT
UTILITY	TOTAL EQ	PANEL PLAY	SEQUENCE	MASTER	SYSTEM	MIDI

Press the COMMAND key, then turn Knob 1 to select >REVERS.

	Knob 1	Knob 2	Knob 3	Knob 4	Knob 5
Turn action	✔	-	-	-	-
Push action	✔	-	-	-	-

This command reverses the waveform with respect to time, so that the sound is reversed.



Important

- This command does not operate on sample banks.
- The command reverses the entire waveform. Operation is not restricted to the area between the start and end addresses.

Knob 1 Change Page >REVERS

- Turn the knob to change to a different command page.
- Push the knob to execute the reversal. The A3000 returns a confirmation screen. Push Knob 5 (>YES) to proceed, or Knob 4 (>NO) to cancel.

LOOPXFD (Loop Crossfade)

Sets up the loop crossfade for the sample.

PLAY	PROGRAM	SAMPLE	EASY EDIT	EFFECT	SETUP	CONTROL
EDIT	TRIM / LOOP	MAP / OUT	FILTER	EG	LFO	MIDI / CTRL
REC	RECORD	SETUP	METER	EFFECT	EXT CTRL	MONITOR
DISK	PROGRAM	SAMPLE	SEQUENCE	VOLUME	DISK	IMPORT
UTILITY	TOTAL EQ	PANEL PLAY	SEQUENCE	MASTER	SYSTEM	MIDI

Press the COMMAND key, then turn Knob 1 to select >LOOPXFD.

	Knob 1	Knob 2	Knob 3	Knob 4	Knob 5
Turn action	✔	✔	✔	-	-
Push action	✔	-	-	-	-

This command sets up a loop crossfade (overlapping fade-in and fade-out) so as to produce a smoother loop

Important

This command does not operate on sample banks.

Knob 1 **Change Page** >LOOPXFD

- Turn the knob to change to a different command page.
- Push the knob to register the crossfade. The A3000 returns a confirmation screen. Push Knob 5 (>YES) to proceed, or Knob 4 (>NO) to cancel.

Knob 2: Width = 0%,...,100%

Sets the length of the crossfade area, as a percentage of the total loop length.

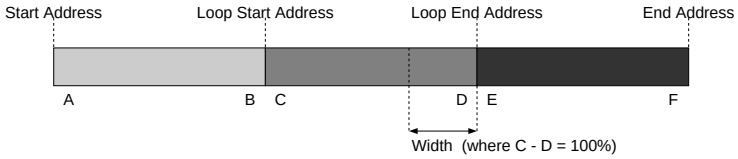
Knob 3 Area = sustain, release

Selects the area over which crossfade is applied, and determines the segments that are used to generate the crossfade. (See the illustrations on the next page.)

sustain — Generates the crossfade by merging the end part of the loop with the area just preceding the loop start. This method produces smoother sustained looping, and the crossfade recurs with each iteration.

release — Generates the crossfade by merging the initial part of the loop with the initial segment following the loop area. This method produces a smoother loop release, and the crossfade occurs only once (as the loop is exited). This method is useful only with the "– → ○ – →" loop type (☞169).

Processing if Area = sustain:

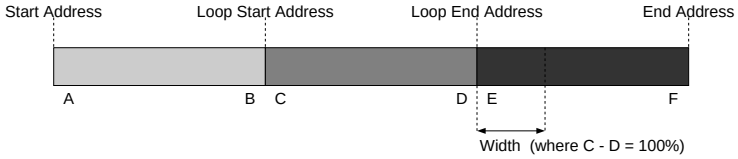


Step 1: Copy waveform piece from end of segment A-B into a buffer. Extract piece of equal length from the end of C-D, and copy into another buffer. The length of these pieces is determined by the Width setting.

Step 2: Apply fade-in processing to the A-B piece, and fade-out processing to the C-D piece.

Step 3: Combine the two resulting waveforms, and write the result into the extraction area at the end of C-D.

Processing if Area = release:



Step 1: Copy waveform piece from start of segment C-D into a buffer. Extract equal piece from the start of E-F, and copy into another buffer. The lengths of these pieces is determined by the Width setting.

Step 2: Apply fade-in processing to the C-D piece, and fade-out processing to the E-F piece.

Step 3: Combine the two resulting waveforms, and write the result into the extraction area at the start of E-F.

SETINIT (Register Initial Parameter Values)

Registers current parameter values as “initial” values.

PLAY	PROGRAM	SAMPLE	EASY EDIT	EFFECT	SETUP	CONTROL
EDIT	TRIM / LOOP	MAP / OUT	FILTER	EG	LFO	MIDI / CTRL
REC	RECORD	SETUP	METER	EFFECT	EXT CTRL	MONITOR
DISK	PROGRAM	SAMPLE	SEQUENCE	VOLUME	DISK	IMPORT
UTILITY	TOTAL EQ	PANEL PLAY	SEQUENCE	MASTER	SYSTEM	MIDI

Press the COMMAND key, then turn Knob 1 to select >SETINIT.

	Knob 1	Knob 2	Knob 3	Knob 4	Knob 5
Turn action	✔	-	-	-	-
Push action	✔	-	-	-	-

This command registers the selected sample’s parameter settings (filter settings, LFO settings, EG settings, and so on) as the default values to be used for new samples. If the current sample is set to use a HiPass1 filter, for example, then any subsequent sample that you record will also be initially set to use a HiPass1 filter.

Important

This command does not operate on sample banks.

FYI

The initial settings are stored in nonvolatile memory, and are not lost at power-off.

Knob 1 — Change Page — >SETINIT

- Turn the knob to change to a different command page.
- Push the knob to register the new initial values. The A3000 returns a confirmation screen. Push Knob 5 (>YES) to proceed, or Knob 4 (>NO) to cancel.

TRIM/LOOP Function

This section describes the EDIT mode's TRIM/LOOP function. You use this function to change the playback area on the waveform (the playback "start" and "end" points), to trim off extraneous waveform data, to set the playback direction (forward or backward) and loop characteristics (loop range and type), and to make various other related settings.

FYI

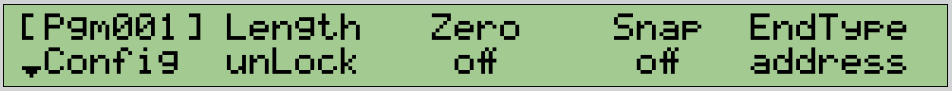
Keep in mind that the COMMAND key gives you rapid access to a number of helpful commands while you are working with this function. For example, you can use the COMMAND key when you want to save your edit results to disk, or when you want to cancel your new changes and restore the previously saved data. (☞147)

TRIM/LOOP - Config (Configure)

Selects TRIM/LOOP editing options.

PLAY	PROGRAM	SAMPLE	EASY EDIT	EFFECT	SETUP	CONTROL
EDIT	TRIM / LOOP	MAP / OUT	FILTER	EG	LFO	MIDI / CTRL
REC	RECORD	SETUP	METER	EFFECT	EXT CTRL	MONITOR
DISK	PROGRAM	SAMPLE	SEQUENCE	VOLUME	DISK	IMPORT
UTILITY	TOTAL EQ	PANEL PLAY	SEQUENCE	MASTER	SYSTEM	MIDI

Turn Knob 1 to select Config.



	Knob 1	Knob 2	Knob 3	Knob 4	Knob 5
Turn action	✔	✔	✔	✔	✔
Push action	✔	-	-	--	

Use this page to select TRIM/LOOP edit options. You can choose to lock the waveform playback and loop lengths, or you can enable automatic zeroing or automatic snap (see below). You can also select the type of value used to indicate the sample's end and loop-end addresses.

Important

The Length, Zero, and Snap options are mutually exclusive: enabling any one of these automatically disables the other two.

Knob 1 **Change Page** **Select P/S**

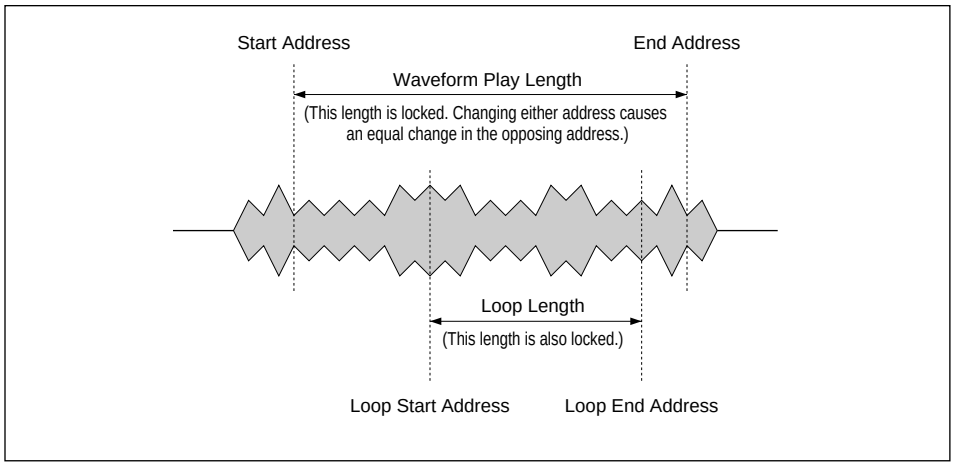
- Turn the knob to change to a different page within the TRIM/LOOP function. Available pages are: Config (this page), Wave, Loop, and WvMode.
- Push the knob to move to the Program/Sample Selection screen. (☞95)

Knob 2 Length = unlock, lock

This option lets you lock in the waveform's play length (the distance between the wave start and wave end addresses) and loop length (the distance between the loop-start and loop-end addresses).

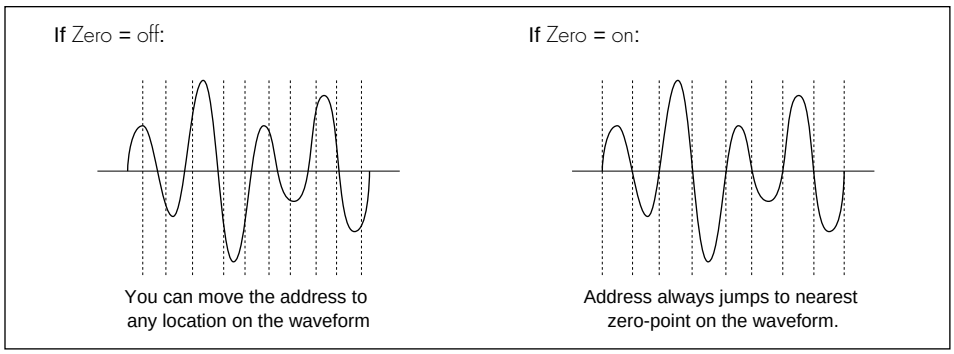
You enable this option by setting it to lock. If you do this, any change you make to any of these addresses will generate an equal change in the corresponding address — so that you can shift the playback or loop position along the waveform while maintaining constant playback length and loop length.

You will want to use this feature, for example, when you need to keep the playback or loop length at some fixed value for timing purposes.



Knob 3 Zero = off, on

This "automatic zeroing" option is another convenient feature for address editing. If you enable this option, any address change you make will be forced to the nearest zero-point — the address will jump from zero point to zero point as you turn the editing knob. If you disable this option, then you can change addresses continuously over the entire waveform.



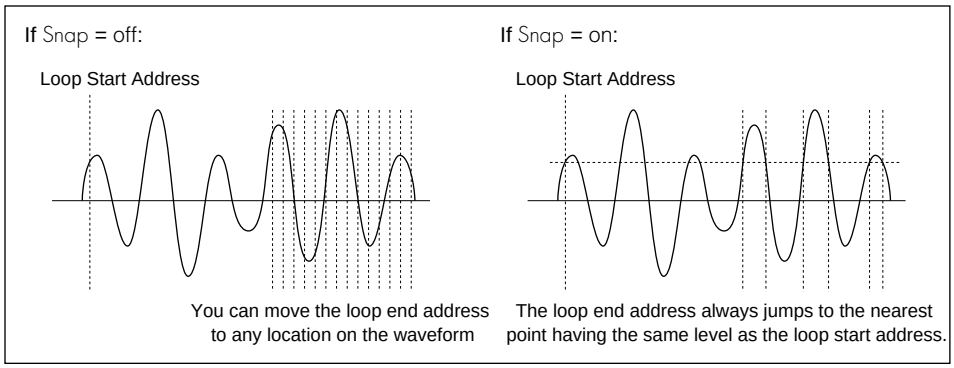
Setting an address on a non-zero point may cause the sample to "click" during playback. Forcing the address to a zero-point will ensure that you avoid this unwanted click.

Knob 4 Snap = off, on

The "automatic snap" option is useful when you are editing loop start and loop end addresses. If you enable this option, then you will only be able to change a loop address to those points on the waveform that have the same level as the opposing loop address; the address you are editing will jump from one such point to the next as you turn the knob. If you disable this option, then you can change either address continuously over the waveform.

Setting the two loop addresses to different levels on the waveform may cause a "click" sound at the loop point during playback. Forcing the loop start and loop end addresses to the same level will ensure that you avoid this problem.

The following illustration shows how this feature operates during editing of the loop end address.



Knob 5 EndType = address, length, time, beat, graph

Selects the type of indication used to show the end address and the loop end address on the edit screen. (Note that the start address and loop start address are always shown by their absolute address values.)

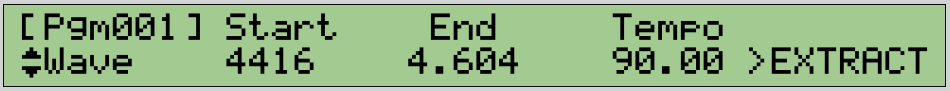
address	End and loop end addresses are indicated by their absolute address values on the waveform. (This is the standard setting.)
length	Each end address is shown by its distance from the corresponding start address, in address increments.
beat	Each end address is shown by its distance in beats from the corresponding start address.
graph	Numerical indication is the same as for "address" setting above, but the screen also displays a waveform graphic with positional indicators.

TRIM/LOOP - Wave (Edit Waveform)

Sets start and end addresses, and "trims" the waveform.

PLAY	PROGRAM	SAMPLE	EASY EDIT	EFFECT	SETUP	CONTROL
EDIT	TRIM / LOOP	MAP / OUT	FILTER	EG	LFO	MIDI / CTRL
REC	RECORD	SETUP	METER	EFFECT	EXT CTRL	MONITOR
DISK	PROGRAM	SAMPLE	SEQUENCE	VOLUME	DISK	IMPORT
UTILITY	TOTAL EQ	PANEL PLAY	SEQUENCE	MASTER	SYSTEM	MIDI

Turn Knob 1 to select Wave.



	Knob 1	Knob 2	Knob 3	Knob 4	Knob 5
Turn action	✔	✔	✔	✔	-
Push action	✔	✔	✔	✔✔	

Use this page to select the playback start and end points on the waveform. You can also use it to delete the unused area at each end of the waveform so as to free up additional memory.

FYI

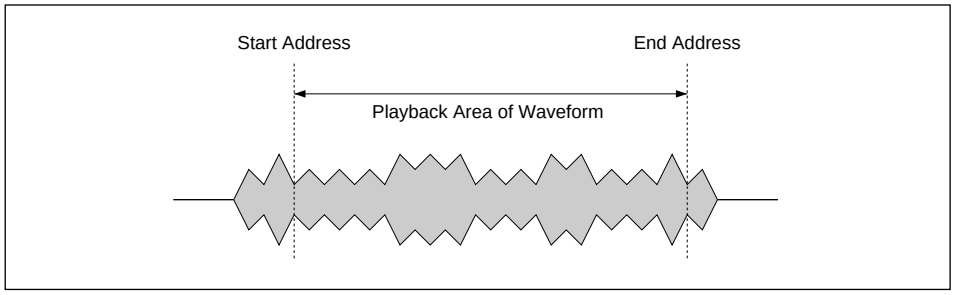
You can use the EndType setting on the Configure page to select the method for displaying the end address. (☞161)

Knob 1 — Change Page / Select P/S

- Turn the knob to change to a different page within the TRIM/LOOP function. Available pages are: Config, Wave (this page), Loop, and WvMode.
- Push the knob to move to the Program/Sample Selection screen. (☞95)

Knob 2 — Start = 0, ..., *end address* / Realtime Set

- Sets the playback "start" address on the waveform. (Note that the waveform itself always starts at address 0.) The concept is illustrated below.
- Note that the actual playback start location is also determined by the settings that you make at the Wave Mode page (☞168).



- If you push this knob while playing the sample with the AUDITION key or an external keyboard, the start address automatically resets to the current playback location.

Knob 3 End = *start address,..., final address* **Realtime Set**

- Sets the playback "end" address on the waveform.
- The actual playback endpoint also depends on the loop-mode setting that you make at the Wave Mode page. (☞168)
- The EndType setting on the Configure page selects the units used to indicate the end address on the screen (☞161). If you set EndType to beat, the end address is indicated by its distance, in beats, from the start address. The beat calculation is determined by the Tempo setting that you make with Knob 4; see directly below.

If EndType **(in the** Config **page)** ≠ beat**:**

Knob 4 Step = ×1**,...,**×10000

- This knob selects the increment used for address adjustments made with Knobs 2 and 3. Specifically, the value that you set here determines the amount that the address value changes when you turn Knob 2 or Knob 3 by a single click.
- The setting is identical to the Step setting on the Loop page (☞167). You can change the value from either page.
- If the EndType parameter on the Config page (☞163) is set to beat, then this knob operates differently, as described below.

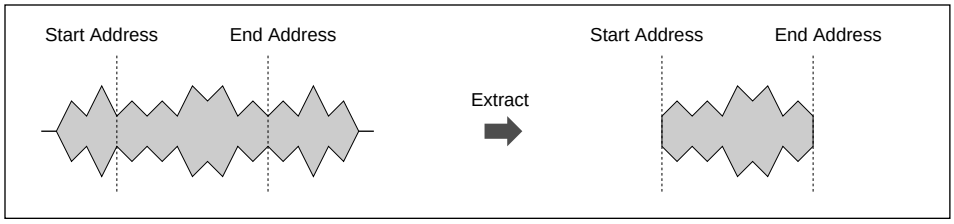
If EndType **(in the** Config **page) =** beat**:**

Knob 4 Tempo = 80.00**,...,**159.99 **Calculate Tempo**

- This knob sets the tempo used to calculate the number of beats between the start address and end address.
- The setting is identical to the Tempo setting on the Loop page (☞167). You can change the value from either page.
- If you push the knob, the A3000 automatically calculates and displays the tempo value for you, based on the assumption that the number of beats between the current start and end addresses is 4 beats (or an even multiple or dividend of 4 beats.).
- If the EndType parameter on the Config page (☞163) is set to a value other than beat, then this knob operates differently, as described above.

Knob 5 >Extract

Push this knob to "trim" the waveform, deleting all waveform data ahead of the start address and all waveform data located after the end address. This operation reduces the size of the sample and frees up additional waveform memory.



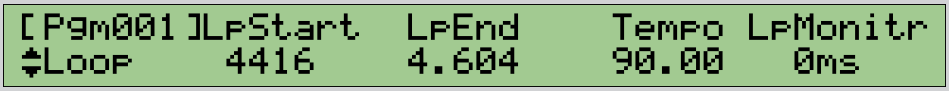
When you push the knob, the A3000 returns a confirmation screen. Push Knob 5 (>YES) to proceed, or Knob 4 (>NO) to cancel. Note that the deleted waveform area cannot be recovered (unless you have already saved the data to disk.)

TRIM/LOOP - Loop (Edit Loop Addresses)

Sets loop start and loop end addresses.

PLAY	PROGRAM	SAMPLE	EASY EDIT	EFFECT	SETUP	CONTROL
EDIT	TRIM / LOOP	MAP / OUT	FILTER	EG	LFO	MIDI / CTRL
REC	RECORD	SETUP	METER	EFFECT	EXT CTRL	MONITOR
DISK	PROGRAM	SAMPLE	SEQUENCE	VOLUME	DISK	IMPORT
UTILITY	TOTAL EQ	PANEL PLAY	SEQUENCE	MASTER	SYSTEM	MIDI

Turn Knob 1 to select Loop.



	Knob 1	Knob 2	Knob 3	Knob 4	Knob 5
Turn action	✔	✔	✔	✔	✔
Push action	✔	✔	✔	✔	✔

Use this page to select the start and end points for the playback loop.

FYI

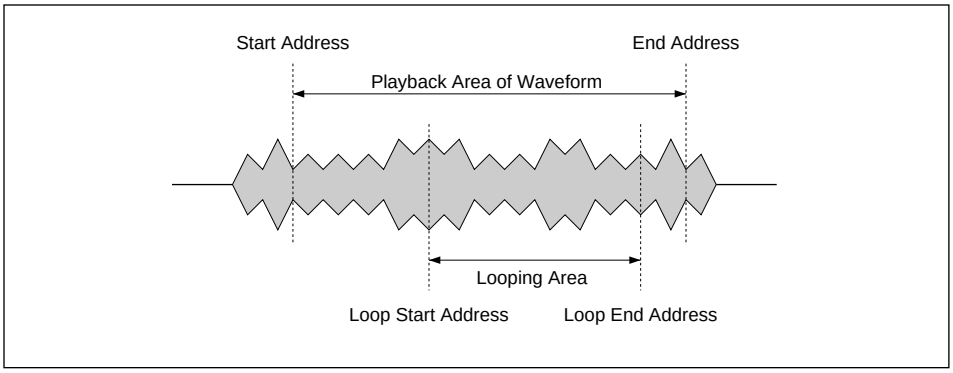
- To set the loop mode (loop direction and type), use the WvMode page. (☞168)
- You can use the EndType setting on the Configure page to select the method for displaying the end address. (☞161)

Knob 1 — Change Page / Select P/S

- Turn the knob to change to a different page within the TRIM/LOOP function. Available pages are: Config, Wave, Loop (this page), and WvMode.
- Push the knob to move to the Program/Sample Selection screen. (☞95)

Knob 2 — LpStart = *loop start address,...,end address* / Realtime Set

- Sets the start point of the loop on the waveform. The concept is illustrated below.
- Note that actual loop handling depends on the loop-mode setting. (☞168)



If you push this knob while playing the sample with the AUDITION key or an external keyboard, the loop start address automatically resets to the current playback location.

Knob 3 LpEnd = ***loop start address,..., final address*** **Realtime Set**

- Sets the end point (loop-back point) of the loop.
- Note that actual loop handling depends on the loop-mode setting. (☞168).
- The EndType setting on the Configure page selects the units used to indicate the address on the screen (☞161). If you set EndType to beat, the loop end address is indicated by its distance, in beats, from the loop start address. The beat calculation is determined by the Tempo setting that you make with Knob 4; see directly below.

If EndType **(in the** Config **page)** ≠ beat**:**

Knob 4 Step = ×1**,...,**×10000

- This knob selects the increment used for address adjustments made with Knobs 2 and 3. Specifically, the value that you set here determines the amount that the address value changes when you turn Knob 2 or Knob 3 by a single click.
- The setting is identical to the Step setting on the Wave page (☞165). You can change the value from either page.
- If the EndType parameter on the Config page (☞163) is set to beat, then this knob operates differently, as described below.

If EndType **(in the** Config **page) =** beat**:**

Knob 4 **Tempo** = 80.00**,...,**159.99 **Calculate Tempo**

- This knob sets the tempo used to calculate the number of beats between the start address and end address.
- The setting is identical to the Tempo setting on the Wave page (☞165). You can change the value from either page.
- If you push the knob, the A3000 automatically calculates and displays the tempo value for you, based on the assumption that the number of beats between the current start and end addresses is 4 beats (or an even multiple or dividend of 4 beats).
- If the EndType parameter on the Config page (☞163) is set to a value other than beat, then this knob operates differently, as described above.

Knob 5 LpMonitr = -500ms**,...,**0ms **Monitor Loop**

Push this knob to monitor the sound of the loop. This feature lets you hear how the sound of the loop changes as you edit the loop addresses.

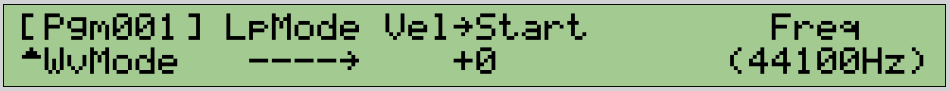
The LpMonitr setting lets you start the monitored loop playback slightly ahead of the loop start point. If you set the value to -500ms and then press the knob, for example, the A3000 begins replay from a point 1/2 second before the loop start. (This lead-in is played only once, and does not recur after the loop is entered.)

TRIM/LOOP - WvMode (Set Wave Mode)

Sets the loop mode and the start-address velocity sensitivity.

PLAY	PROGRAM	SAMPLE	EASY EDIT	EFFECT	SETUP	CONTROL
EDIT	TRIM / LOOP	MAP / OUT	FILTER	EG	LFO	MIDI / CTRL
REC	RECORD	SETUP	METER	EFFECT	EXT CTRL	MONITOR
DISK	PROGRAM	SAMPLE	SEQUENCE	VOLUME	DISK	IMPORT
UTILITY	TOTAL EQ	PANEL PLAY	SEQUENCE	MASTER	SYSTEM	MIDI

Turn Knob 1 to select WvMode.



	Knob 1	Knob 2	Knob 3	Knob 4	Knob 5
Turn action	✔	✔	✔	-	-
Push action	✔	-	-	-	-

- Use this page to select the loop mode and the start-address velocity sensitivity.
- The right side of the screen indicates the selected sample's sampling rate.

Knob 1 — Change Page / Select P/S

- Turn the knob to change to a different page within the TRIM/LOOP function. Available pages are: Config, Wave, Loop, and WvMode (this page).
- Push the knob to move to the Program/Sample Selection screen. (☞95)

Knob 2 — LpMode = Select from 6 types.

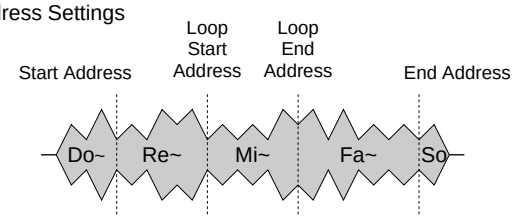
- Sets the loop mode. (Note the you can also use this setting to cause the sample to play back in reverse.)
- The six loop modes are illustrated and described on the next page.

Knob 3 — Vel → Start = -63,...,+63

This value sets the start-address *velocity sensitivity*: the degree by which the start point varies in response to the velocity (force) of the played note. This feature gives you added control over the attack part of the playback.

A value of 0 leaves the start address constant for all velocities. Positive values cause the start-point to move forward (the address to get higher) at higher velocities, and to move backward at lower velocities. Negative settings have the opposite effect.

Address Settings

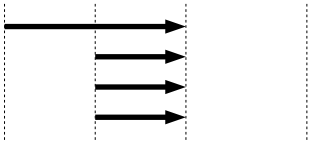


• "↓" denotes Note On.
• "↑" denotes Note Off.
• Small letters indicate "release" tone as note dies out following Note-Off. The length of the release depends on the sample's release-rate setting.

Loop Mode = "→" (Forward, No Loop):

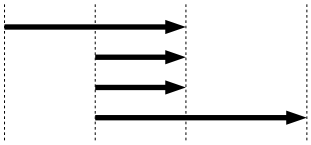
If key is held: ↓Re~ Mi~ Fa~
Key hit and release: ↓Re~ Mi~ ↑Fa~

Loop Mode = "→O" (Forward Loop, No Exit):



If key is held: ↓Re~ Mi~ Mi~ Mi~ Mi~...
Key hit and release: ↓Re~ Mi~ Mi~ ↑Mi~ Mi~...

Loop Mode = "→O→" (Forward Loop, Exit at Note-Off)

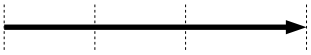


If key is held: ↓Re~ Mi~ Mi~ Mi~ Mi~...
Key hit and release: ↓Re~ Mi~ Mi~ Mi~ Mi~ ↑Fa~...

Loop Mode = "←" (Reverse, No Loop):

If key is held: ↓~ɐH~iM~əЯ
Key hit and release: ↓~ɐH~iM ↑~əЯ
(Sound is reversed.)

Loop Mode = "Shot →" (One-Shot)



If key is held: ↓Re~ Mi~ Fa~
Key hit and release: ↓Re~ ↑ Mi~ Fa~
(Sound is same regardless of key release.)

Loop Mode = "← Shot" (Reverse One-Shot)

If key is held: ↓~ɐH~iM~əЯ
Key hit and release: ↓~ɐH ↑~iM~əЯ
(Sound is reversed.)
(Sound is same regardless of key release.)

MAP/OUT Function

You use the MAP/OUT function to set the sample's "original key," key range, output destinations, output level, tuning, and related settings.

FYI

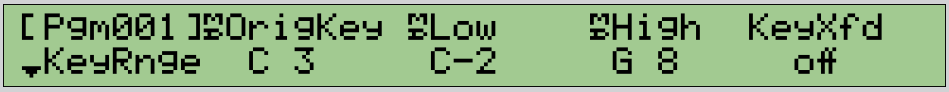
- Keep in mind that the COMMAND key gives you rapid access to a number of helpful commands while you are working with this function. For example, you can use the COMMAND key when you want to save your edit results to disk, or when you want to cancel your new changes and restore the previously saved data. (☞147)
- You can use the Note setting in the UTILITY | SYSTEM Display page (☞302) to select whether key values for the BP1 and BP2 settings are shown by name ("C-2" to "G8") or by the corresponding MIDI note number (0 to 127). Descriptions below assume that you are using name display.

MAP/OUT - KeyRnge (Key Range)

Sets the sample's "original key," key range, and key crossfade.

PLAY	PROGRAM	SAMPLE	EASY EDIT	EFFECT	SETUP	CONTROL
EDIT	TRIM / LOOP	MAP / OUT	FILTER	EG	LFO	MIDI / CTRL
REC	RECORD	SETUP	METER	EFFECT	EXT CTRL	MONITOR
DISK	PROGRAM	SAMPLE	SEQUENCE	VOLUME	DISK	IMPORT
UTILITY	TOTAL EQ	PANEL PLAY	SEQUENCE	MASTER	SYSTEM	MIDI

Turn Knob 1 to select KeyRnge.



	Knob 1	Knob 2	Knob 3	Knob 4	Knob 5
Turn action	✔	✔	✔	✔	✔
Push action	✔	✔	✔	✔-	

Use this page to set the sample's "original key," key range, and key crossfade.

Knob 1 — Change Page / Select P/S

- Turn the knob to change to a different page within the MAP/OUT function. Available pages are: KeyRnge (this page), VelRnge, Lvl&Mode, Output, Pitch, Expand, and LvlScale.
- Push the knob to move to the Program/Sample Selection screen. (☞95)

Knob 2 — OrigKey = C-2,...,G8 / MIDI IN

- Turn the knob to set the sample's "original key" — the key that best represents the sample's inherent pitch.
- Push the knob if you want to set the value using an external MIDI device. The knob indicator begins blinking, indicating that the A3000 is ready to receive MIDI input. Transmit the appropriate note value, then lock the setting in by pressing the knob again (or else press a different MIDI IN knob, or change to a different screen).

Knob 3 ↶ Low = C-2,...,***High key*** ↑ **MIDI IN**

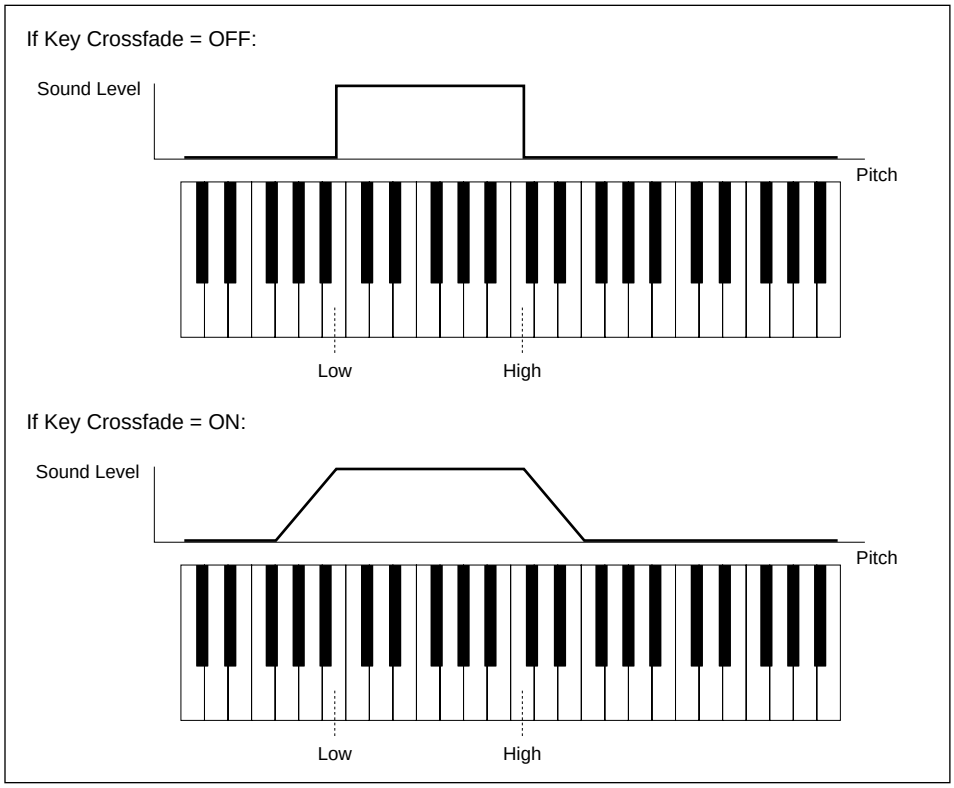
- Turn the knob to set the low end for the sample's key range.
- Push the knob if you want to set the value using MIDI input. Be sure that the knob indicator is blinking, then transmit the note from your MIDI device. Then press the same knob again, or else press a different MIDI IN knob or change to a different screen.

Knob 4 ↶ High = ***Low key***,...,G8 ↑ **MIDI IN**

- Turn the knob to set the high end for the sample's key range.
- Push the knob if you want to set the value using MIDI input. (See above.)

Knob 5 ↶ KeyXfd = off, on

- Set this parameter on to enable key crossfade, or off to disable.
- If you set the value to off, the sample plays out over the selected key range only. Keys that are adjacent to but outside of the key range do not produce any sound from this sample.
- If you set the value to on, keys adjacent to the key range also produce the sample, with the sample's output level decreasing gradually with increasing distance from the range border. The drawing below illustrates the concept.
- The use of key crossfade allows you to blend adjacent samples into one another, so as to avoid dramatic voice changes at the range borders. This is particularly useful when working with samples that map the same type of sound to different ranges on the keyboard (multisampling).



MAP/OUT - VelRnge (Velocity Range)

Sets the velocity range, velocity sensitivity, and velocity crossfade.

PLAY	PROGRAM	SAMPLE	EASY EDIT	EFFECT	SETUP	CONTROL
EDIT	TRIM / LOOP	MAP / OUT	FILTER	EG	LFO	MIDI / CTRL
REC	RECORD	SETUP	METER	EFFECT	EXT CTRL	MONITOR
DISK	PROGRAM	SAMPLE	SEQUENCE	VOLUME	DISK	IMPORT
UTILITY	TOTAL EQ	PANEL PLAY	SEQUENCE	MASTER	SYSTEM	MIDI

Turn Knob 1 to select VelRnge.

	Knob 1	Knob 2	Knob 3	Knob 4	Knob 5
Turn action	✔	✔	✔	✔	✔
Push action	✔	✔	✔	--	

Use this page to set the sample's velocity range, velocity sensitivity, and velocity crossfade.

Knob 1 **Change Page** **Select P/S**

- Turn the knob to change to a different page within the MAP/OUT function. Available pages are: KeyRnge, VelRnge (this page), Lvl&Mode, Output, Pitch, Expand, and LvlScale.
- Push the knob to move to the Program/Sample Selection screen. (☞95)

Knob 2 Low = 0,...,***High velocity*** **MIDI IN**

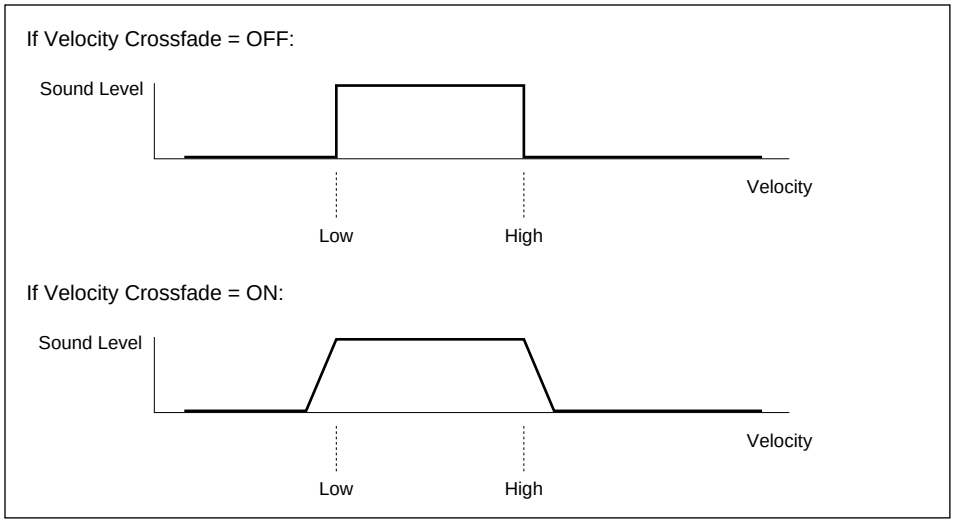
- Turn the knob to set the minimum velocity required to produce sound from this sample. (But refer also to the explanation for Knob 4, below.)
- Push the knob if you want to set the value using an external MIDI device. The knob indicator begins blinking, indicating that the A3000 is ready to receive MIDI input. Now transmit any note, taking care to use the appropriate velocity (key-strike force). Once you have made the correct setting, lock it in by pressing the knob again (or else press a different MIDI IN knob, or change to a different screen).

Knob 3 High = ***Low velocity***,...,127 **MIDI IN**

- Turn the knob to set the maximum velocity that can be used to produce sound from this sample. (But refer also to the explanation for Knob 4, below.)
- Push the knob if you want to set the value using an external MIDI device. (See explanation above.)

Knob 4 VelXfd = off, on

- Set this parameter on to enable velocity crossfade, or off to disable.
- If you set the value to off, the sample plays out over the selected velocity range only. Velocities outside of the range do not produce any sound from the sample.
- If you set the value to on, velocity values close to but outside of the specified range will also produce the sample, with the sample's output level decreasing with increasing distance from the range limit.
- The use of velocity crossfade allows you to blend samples that are set for playback at different velocity ranges, so that sound does not change drastically in response to slight velocity changes near the range limit.



Knob 5 VelSense → Start = -63,...,+63

- This value sets the sample's *velocity sensitivity*. The velocity sensitivity determines how the sample's output level varies in response to changes in velocity.

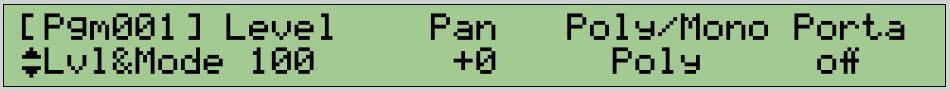
  A value of 0 produces constant output level for all velocities within the velocity range. Positive values causes output level to increase with increasing velocity, while negative settings have the opposite effect.
- You can use the UTILITY | MIDI Adjust page to set the adjustment that the A3000 applies to received velocity values before transmitting them to the internal tone generator. (☞307)

MAP/OUT - Lvl&Mode

Sets the sample's level, pan, portamento, and poly/mono switch.

PLAY	PROGRAM	SAMPLE	EASY EDIT	EFFECT	SETUP	CONTROL
EDIT	TRIM / LOOP	MAP / OUT	FILTER	EG	LFO	MIDI / CTRL
REC	RECORD	SETUP	METER	EFFECT	EXT CTRL	MONITOR
DISK	PROGRAM	SAMPLE	SEQUENCE	VOLUME	DISK	IMPORT
UTILITY	TOTAL EQ	PANEL PLAY	SEQUENCE	MASTER	SYSTEM	MIDI

Turn Knob 1 to select Lvl&Mode.



	Knob 1	Knob 2	Knob 3	Knob 4	Knob 5
Turn action	✔	✔	✔	✔	✔
Push action	✔	-	-	--	

Use this page to set the sample's level, pan, portamento, and poly/mono switch.

Knob 1 **Change Page** **Select P/S**

- Turn the knob to change to a different page within the MAP/OUT function. Available pages are: KeyRnge, VelRnge, Lvl&Mode (this page), Output, Pitch, Expand, and LvlScale.
- Push the knob to move to the Program/Sample Selection screen. (☞95)

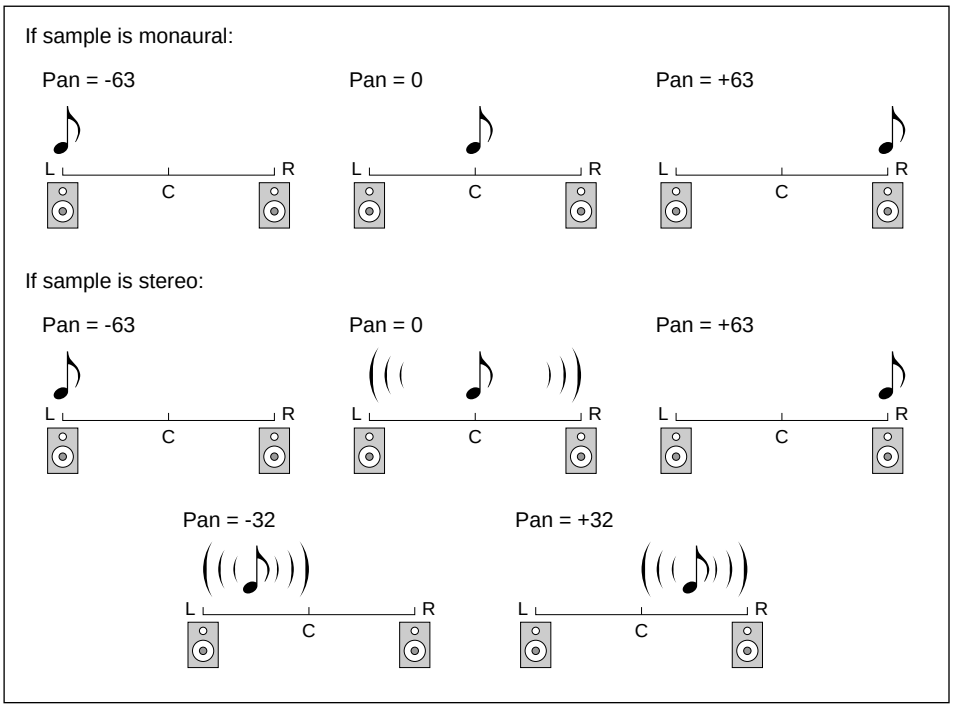
Knob 2 Level = 0,...,127

Turn the knob to set the sample's output level.

Knob 3 Pan = -63,...,+63

Turn the knob to set the sample's pan (stereo position). Positive values set the pan to the right; negative values move the pan to the left.

If you are working with a stereo sample, higher pan magnitudes will narrow the stereo range while noticeably shifting the sound position. See the illustration below.



Knob 4 Poly/Mono = Poly, Mono

Select Mono if you want to limit playback of this sample to one note at a time. Select Poly to enable simultaneous playback of multiple notes.

Knob 5 Porta = off, on

- This is a portamento enable switch. Set it on to enable if you want the sample to use portamento, or off if you do not.
- *Portamento* refers to the "sliding" of one pitch into the next during replay. Note that portamento operation itself must be set at the program level (☞130).

MAP/OUT - Output

Sets the sample's output destinations and output levels.

PLAY	PROGRAM	SAMPLE	EASY EDIT	EFFECT	SETUP	CONTROL
EDIT	TRIM / LOOP	MAP / OUT	FILTER	EG	LFO	MIDI / CTRL
REC	RECORD	SETUP	METER	EFFECT	EXT CTRL	MONITOR
DISK	PROGRAM	SAMPLE	SEQUENCE	VOLUME	DISK	IMPORT
UTILITY	TOTAL EQ	PANEL PLAY	SEQUENCE	MASTER	SYSTEM	MIDI

Turn Knob 1 to select Output.

	Knob 1	Knob 2	Knob 3	Knob 4	Knob 5
Turn action	✔	✔	✔	✔	✔
Push action	✔	-	-	--	

Use this page to set the sample's main and assignable output destinations, and the output level to each.

Knob 1 — Change Page / Select P/S

- Turn the knob to change to a different page within the MAP/OUT function. Available pages are: KeyRnge, VelRnge, Lvl&Mode, Output (this page), Pitch, Expand, and LvlScale.
- Push the knob to move to the Program/Sample Selection screen. (☞95)

Knob 2 — MainOut = off, Stereo, Effect1, Effect2, Effect3

Selects the sample's main output destination. Available settings are as follows.

off	The signal does not flow to any main output. Use this setting when you want to output the sample through assignable outputs only (see below).
Stereo	Output the sample signal directly to the stereo outputs, bypassing all effects.
Effect1,...,Effect3	Pass the sample's signal through the selected effect block (Effect 1, Effect 2, or Effect 3), then output the result to the stereo outputs.

Knob 3 — Level = 0,...,127

Sets the output level to the main output.

Knob 4 AsgnPut = off, ASL&R, (AS1&2, AS3&4, AS5&6, DIG&OPT)

- Selects the assignable-output destination for sample's output signal
- Set this value to off if you do not want to output the signal to any assignable output. Set the value to ASL&R if you want to output the signal to the A3000's standard assignable-output pair. The other settings are meaningful only if you have installed the optional I/O expansion board (AIEB1 board); if the board is not installed, these settings are equivalent to off.
- If you have installed the AIEB1 board, you may also select from among the other assignable-output pairs indicated above. If you select DIG&OUT, the A3000 outputs the identical signal to both the DIGITAL and the OPTICAL output connectors.

Knob 5 AsLevel = 0,...,127

Sets the output level to the assignable outputs.

MAP/OUT - Pitch

Sets the sample's pitch characteristics.

PLAY	PROGRAM	SAMPLE	EASY EDIT	EFFECT	SETUP	CONTROL
EDIT	TRIM / LOOP	MAP / OUT	FILTER	EG	LFO	MIDI / CTRL
REC	RECORD	SETUP	METER	EFFECT	EXT CTRL	MONITOR
DISK	PROGRAM	SAMPLE	SEQUENCE	VOLUME	DISK	IMPORT
UTILITY	TOTAL EQ	PANEL PLAY	SEQUENCE	MASTER	SYSTEM	MIDI

Turn Knob 1 to select Pitch.

	Knob 1	Knob 2	Knob 3	Knob 4	Knob 5
Turn action	✔	✔	✔	✔	✔
Push action	✔	-	-	--	

Use this page to set the sample's tuning and pitch characteristics.

Knob 1 **Change Page** **Select P/S**

- Turn the knob to change to a different page within the MAP/OUT function. Available pages are: KeyRnge, VelRnge, Lvl&Mode, Output, Pitch (this page), Expand, and LvlScale.
- Push the knob to move to the Program/Sample Selection screen. (☞95)

Knob 2 Coarse = -127,...,+127

Turn the knob to adjust the sample's pitch, in semitone increments.

Knob 3 Fine = -63,...,+63

Turn the knob to fine-tune the sample's pitch. Each click adjusts the pitch by 1.171875 cent. (Note: 100 cents = 1 semitone)

Knob 4 Fixed = off, on

Set this parameter on if you want the sample to play out at the same pitch over its entire key range.

Knob 5 Random = 0,...,63

Use this setting to impart a slight, random pitch variation to the sample's pitch.

Set to 0 to eliminate all random variation. Increase the value to produce a greater range of variation.

Note that this variation is applied to each note at the start of its playback. This setting does not affect how pitch develops once the note has started playing.

MAP/OUT - Expand

Sets the sound's expansion characteristics.

PLAY	PROGRAM	SAMPLE	EASY EDIT	EFFECT	SETUP	CONTROL
EDIT	TRIM / LOOP	MAP / OUT	FILTER	EG	LFO	MIDI / CTRL
REC	RECORD	SETUP	METER	EFFECT	EXT CTRL	MONITOR
DISK	PROGRAM	SAMPLE	SEQUENCE	VOLUME	DISK	IMPORT
UTILITY	TOTAL EQ	PANEL PLAY	SEQUENCE	MASTER	SYSTEM	MIDI

Turn Knob 1 to select Expand.

	Knob 1	Knob 2	Knob 3	Knob 4	Knob 5
Turn action	✔	✔	✔	✔	-
Push action	✔	-	-	--	

Use this page to create a more expansive sound for the sample. This feature makes it possible to broaden the sound of monaural samples, and to generate wider acoustics for your stereo samples.

FYI

The expansion settings introduce slight differentials between left-channel and right-channel playback. These settings impart subtle stereo characteristics to monaural samples.

Knob 1 **Change Page** **Select P/S**

- Turn the knob to change to a different page within the MAP/OUT function. Available pages are: KeyRnge, VelRnge, Lvl&Mode, Output, Pitch , Expand(this page), and LvlScale.
- Push the knob to move to the Program/Sample Selection screen. (☞95)

Knob 2 Detune = -7,...,+7

This feature sets up a tuning differential (discord) between left and right channels. Positive values apply the differential in one direction, while negative values apply it in the other. A setting of 0 switches detuning off.

Knob 3 Dephase = -63,...,+63

This feature sets up a differential in the playback start address for each channel — resulting in a subtle phase discord. Positive values apply the differential in one direction, while negative values apply it in the other. A setting of 0 switches dephasing off.

Knob 4 Width = -63,...,+63

This parameter sets the sound's width. A setting of +63 produces normal positioning for stereo samples.

MAP/OUT - LvlScale (Level Scaling)

Sets the relation between output level and keyboard location.

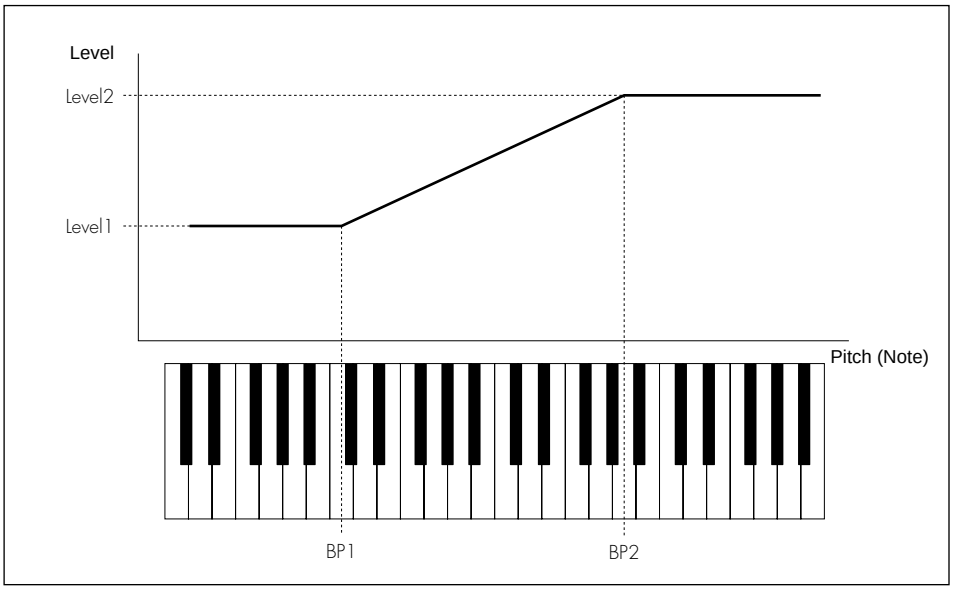
PLAY	PROGRAM	SAMPLE	EASY EDIT	EFFECT	SETUP	CONTROL
EDIT	TRIM / LOOP	MAP / OUT	FILTER	EG	LFO	MIDI / CTRL
REC	RECORD	SETUP	METER	EFFECT	EXT CTRL	MONITOR
DISK	PROGRAM	SAMPLE	SEQUENCE	VOLUME	DISK	IMPORT
UTILITY	TOTAL EQ	PANEL PLAY	SEQUENCE	MASTER	SYSTEM	MIDI

Turn Knob 1 to select LvlScale.

	Knob 1	Knob 2	Knob 3	Knob 4	Knob 5
Turn action	✔	✔	✔	✔	-
Push action	✔	-	✔	✔	-

This page determines how the sample's output level varies across the keyboard.

The following illustration shows the relationship. All notes from BP1 down produce sound at Level 1, while all notes from BP2 up produce sound at Level 2. The sound level changes at a constant rate over the keyboard range BP1 to BP2.



FYI

- Certain samples seem to get louder as pitch increases, while certain others seem to become softer with rising pitch. The level-scaling feature described here lets you correct for these variations, allowing you to produce an apparently uniform playback level over the entire keyboard.
- You can use the Note setting in the UTILITY | SYSTEM Display page (☞302) to select whether key values for the BP1 and BP2 settings are shown by name ("C-2" to "G8") or by the corresponding MIDI note number (0 to 127). Descriptions below assume that you are using name display.

Knob 1 **Change Page** **Select P/S**

- Turn the knob to change to a different page within the MAP/OUT function. Available pages are: KeyRnge, VelRnge, Lvl&Mode, Output, Pitch, Expand, and LvlScale (this page).
- Push the knob to move to the Program/Sample Selection screen. (☞95)

Knob 2 Level1 = 0,...,127

Sets the Level1 output level. (See illustration on preceding page.)

Knob 3 BP1 = C-2,...,***(BP2 - 1 semitone)*** **MIDI IN**

- Selects Breakpoint 1.
- Push the knob if you want to set the value using an external MIDI device. The knob indicator begins blinking, indicating that the A3000 is ready to receive MIDI input. Transmit the appropriate note value, then lock the setting in by pressing the knob again (or else press a different MIDI IN knob, or change to a different screen).

Knob 4 BP2 = ***(C-2 + 1 semitone)***,...,G8 **MIDI IN**

- Selects Breakpoint 2.
- Push the knob if you want to set the value using an external MIDI device. (See explanation directly above.)

Knob 5 Level2 = 0,...,127

Sets the Level2 output level.

FILTER Function

You use this function to set the sample's filter type, filter characteristics, and equalization. You can also set the way that filter strength varies with respect to velocity and keyboard location.

FYI

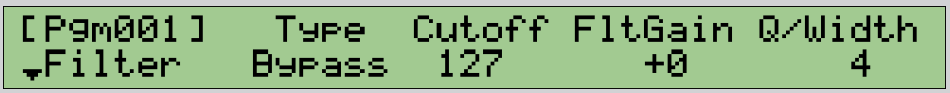
- You can use filter-EG settings and LFO settings to create variations in filter cutoff frequency over time. (☞192, 202)
- The COMMAND key gives you rapid access to a number of helpful commands while you are working with this function. For example, you can use the COMMAND key when you want to save your edit results to disk, or when you want to cancel your new changes and restore the previously saved data. (☞147)

FILTER - Filter

Selects the filter type, and sets the cutoff frequency and the Q/width value.

PLAY	PROGRAM	SAMPLE	EASY EDIT	EFFECT	SETUP	CONTROL
EDIT	TRIM / LOOP	MAP / OUT	FILTER	EG	LFO	MIDI / CTRL
REC	RECORD	SETUP	METER	EFFECT	EXT CTRL	MONITOR
DISK	PROGRAM	SAMPLE	SEQUENCE	VOLUME	DISK	IMPORT
UTILITY	TOTAL EQ	PANEL PLAY	SEQUENCE	MASTER	SYSTEM	MIDI

Turn Knob 1 to select Filter.



	Knob 1	Knob 2	Knob 3	Knob 4	Knob 5
Turn action	✔	✔	✔	✔	✔
Push action	✔	-	-	-	-

This page sets the filter type, cutoff frequency, and Q/width value.

Knob 1 — Change Page / Select P/S

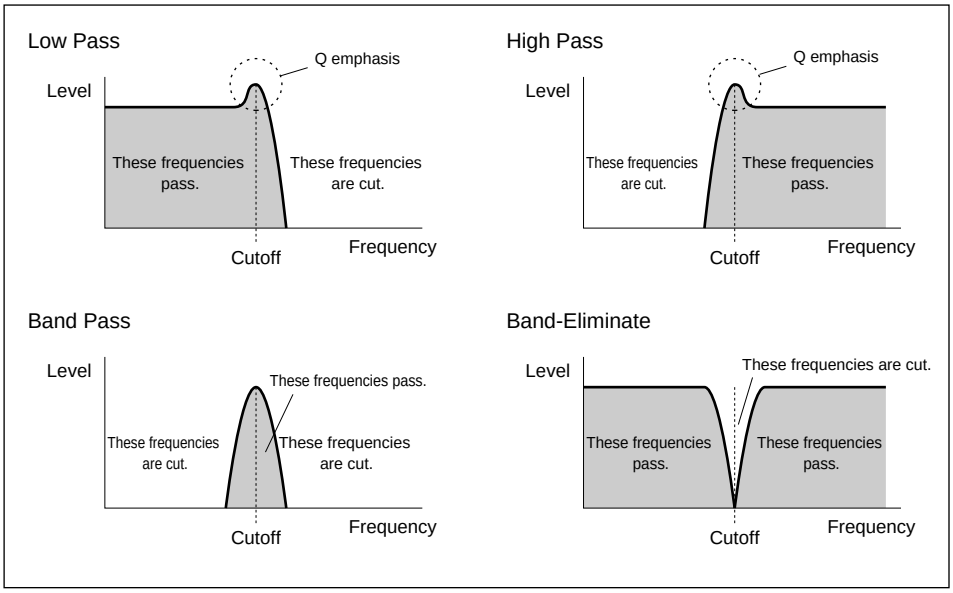
- Turn the knob to change to a different page within the FILTER function. Available pages are: Filter (this page), FltSens, FltScale, and EQ.
- Push the knob to move to the Program/Sample Selection screen. (☞95)

Knob 2 — Type = Bypass,...,BandElim

Select any one of the following filter types.

Bypass	No filter.
LowPass1	Low-pass filter #1. (A *low-pass* filter blocks out all frequencies above the cutoff frequency.)

LowPass2	Low-pass filter #2. Offers much higher Q (resonance) than low-pass filter #1.
HiPass1	High-pass filter #1. (A *high-pass* filter blocks out all frequencies below the cutoff frequency.)
HiPass2	High-pass filter #2. Offers much higher Q (resonance) than high-pass filter #1.
BandPass	Band-pass filter. (Allows only frequencies near the cutoff frequency to pass; blocks out all higher and lower frequencies.)
BandElim	Band-eliminate filter. (Blocks out the frequency range around the cutoff frequency, while allowing higher and lower frequencies to pass.)



Knob 3

Cutoff = 0,...,127

Use this knob to set the filter's cutoff frequency.

Knob 4

FltGain = -31,...,+31

- Use this knob to set the filter's output level.
- Note that high settings may produce distortion when used with certain sample sounds or when many samples are played together.

Knob 5

Q/Width = 0,...,31

This knob sets the Q value (resonance) or width setting, depending on the filter type.

- If you select a low-pass or high-pass filter, this setting selects the Q value. The Q value determines the amount of emphasis applied to frequencies that are very close the cutoff point. (See drawing above.) Higher settings produce stronger emphasis. Note that high settings for a LowPass2 or HiPass2 filter may produce distortion with certain samples.
- If you select the band-pass filter, this setting determines the width of the band that is allowed to pass. Increasing the setting will widen the band, allowing more frequencies to pass.
- If you select the band-eliminate filter, this setting determines the width of the frequency ranges that are allowed to pass. Increasing the setting will allow more frequencies to pass (will reduce the elimination zone). Note that the elimination band itself becomes narrower as you increase the value.

FILTER - FltSens (Filter Sensitivity)

Selects the filter's velocity sensitivity.

PLAY	PROGRAM	SAMPLE	EASY EDIT	EFFECT	SETUP	CONTROL
EDIT	TRIM / LOOP	MAP / OUT	FILTER	EG	LFO	MIDI / CTRL
REC	RECORD	SETUP	METER	EFFECT	EXT CTRL	MONITOR
DISK	PROGRAM	SAMPLE	SEQUENCE	VOLUME	DISK	IMPORT
UTILITY	TOTAL EQ	PANEL PLAY	SEQUENCE	MASTER	SYSTEM	MIDI

Turn Knob 1 to select FltSens.

	Knob 1	Knob 2	Knob 3	Knob 4	Knob 5
Turn action	✔	✔	✔	✔	✔
Push action	✔	-	-	-	-

This page determines how velocity affects the filter's cutoff frequency and Q/Width value.

Knob 1 **Change Page** **Select P/S**

- Turn the knob to change to a different page within the FILTER function. Available pages are: Filter, FltSens (this page), FltScale, and EQ.
- Push the knob to move to the Program/Sample Selection screen. (☞95)

Knobs 2, 3 Vel → Cutoff = -63,...,+63

Determines how the cutoff frequency changes in response to velocity. If you set the value to 0, the cutoff frequency remains the same at all velocities. Positive values cause the cutoff frequency to move up as velocity increases, while negative values cause the frequency to move down as velocity increases.

Knobs 4, 5 Vel → Q/Width = -63,...,+63

Determines how the Q/width value changes in response to velocity. If you set the value to 0, the Q/width value remains the same at all velocities. Positive values cause the value to increase as velocity increases, while negative values cause the value to decrease as velocity increases.

FILTER - FltScale (Filter Scaling)

Sets the relation between cutoff frequency and keyboard location.

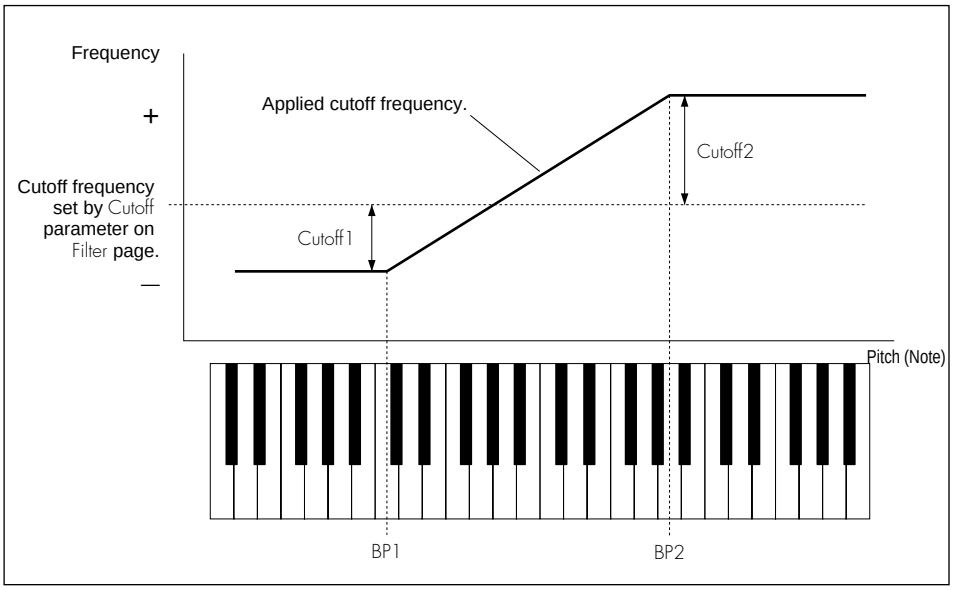
PLAY	PROGRAM	SAMPLE	EASY EDIT	EFFECT	SETUP	CONTROL
EDIT	TRIM / LOOP	MAP / OUT	FILTER	EG	LFO	MIDI / CTRL
REC	RECORD	SETUP	METER	EFFECT	EXT CTRL	MONITOR
DISK	PROGRAM	SAMPLE	SEQUENCE	VOLUME	DISK	IMPORT
UTILITY	TOTAL EQ	PANEL PLAY	SEQUENCE	MASTER	SYSTEM	MIDI

Turn Knob 1 to select FltScale.

	Knob 1	Knob 2	Knob 3	Knob 4	Knob 5
Turn action	✔	✔	✔	✔	-
Push action	✔	-	✔	✔	-

This page determines how the cutoff frequency varies across the keyboard.

The following illustration shows the relationship. All notes from BP1 down are filtered using cutoff frequency "Cutoff1," while all notes from BP2 up are filtered by "Cutoff2." The applied cutoff frequency changes at a constant rate over the keyboard range BP1 to BP2.



Important

It is not possible to set the actual cutoff frequency beyond a certain range. Regardless of settings you make at this page, the cutoff frequency will not shift beyond these limits.

FYI

You can use the Note setting on the UTILITY | SYSTEM Display page (☞302) to select whether key values for the BP1 and BP2 settings are shown by name ("C-2" to "G8") or by the corresponding MIDI note number (0 to 127). Descriptions below assume that you are using name display.

Knob 1 **Change Page** **Select P/S**

- Turn the knob to change to a different page within the FILTER function. Available pages are: Filter, FltSens, FltScale (this page), and EQ.
- Push the knob to move to the Program/Sample Selection screen. (☞95)

Knob 2 Cutoff1 = -127,...,127

Sets the Cutoff1 cutoff frequency.(See illustration on preceding page.)

Knob 3 BP1 = C-2,...,(***BP2 - 1 semitone***) **MIDI IN**

- Selects Breakpoint 1.
- Push the knob if you want to set the value using an external MIDI device. The knob indicator begins blinking, indicating that the A3000 is ready to receive MIDI input. Transmit the appropriate note value, then lock the setting in by pressing the knob again (or else press a different MIDI IN knob, or change to a different screen).

Knob 4 BP2 = (***C-2 + 1 semitone***),...,G8 **MIDI IN**

- Selects Breakpoint 2.
- Push the knob if you want to set the value using an external MIDI device. (See explanation directly above.)

Knob 5 Cutoff2 = -127,...,127

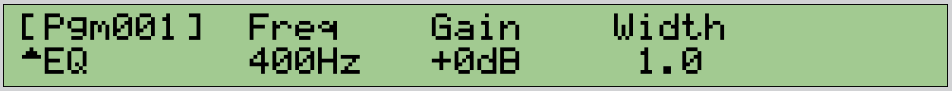
Sets the Cutoff2 cutoff frequency.

FILTER - EQ (Equalization)

Sets the sample's equalization.

PLAY	PROGRAM	SAMPLE	EASY EDIT	EFFECT	SETUP	CONTROL
EDIT	TRIM / LOOP	MAP / OUT	FILTER	EG	LFO	MIDI / CTRL
REC	RECORD	SETUP	METER	EFFECT	EXT CTRL	MONITOR
DISK	PROGRAM	SAMPLE	SEQUENCE	VOLUME	DISK	IMPORT
UTILITY	TOTAL EQ	PANEL PLAY	SEQUENCE	MASTER	SYSTEM	MIDI

Turn Knob 1 to select EQ.



	Knob 1	Knob 2	Knob 3	Knob 4	Knob 5
Turn action	✔	✔	✔	✔	-
Push action	✔	-	-	-	-

This page sets up the sample's 1-band equalizer.

Knob 1 **Change Page** **Select P/S**

- Turn the knob to change to a different page within the FILTER function. Available pages are: Filter, FltSens, FltScale, and EQ (this page).
- Push the knob to move to the Program/Sample Selection screen. (☞95)

Knob 2 Freq = 32Hz,...,16.0kHz

Turn the knob to set the equalizer's frequency point.

Knob 3 Gain = -12dB,...,+12dB

This value sets the gain at the equalizer's frequency point.

Knob 4 Width = 1.0,...,2.0

This value determines the width of the emphasis or attenuation band. Note that smaller values increase the width, while larger values decrease the width.

EG Function

The EG function sets up the sample's envelope generators (EGs). The envelope generators determine how sound develops over time, both while the note is held and after it is released. The A3000 offers three different EGs: an *amplitude EG*, a *filter EG*, and a *pitch EG*.

FYI

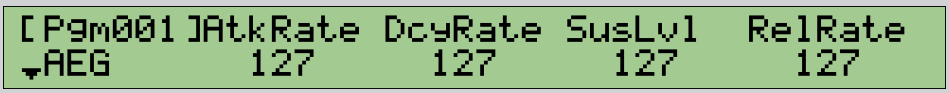
The COMMAND key gives you rapid access to a number of helpful commands while you are working with this function. For example, you can use the COMMAND key when you want to save your edit results to disk, or when you want to cancel your new changes and restore the previously saved data. (☞147)

EG - AEG (Amplitude Envelope Generator)

Sets up the amplitude envelope generator.

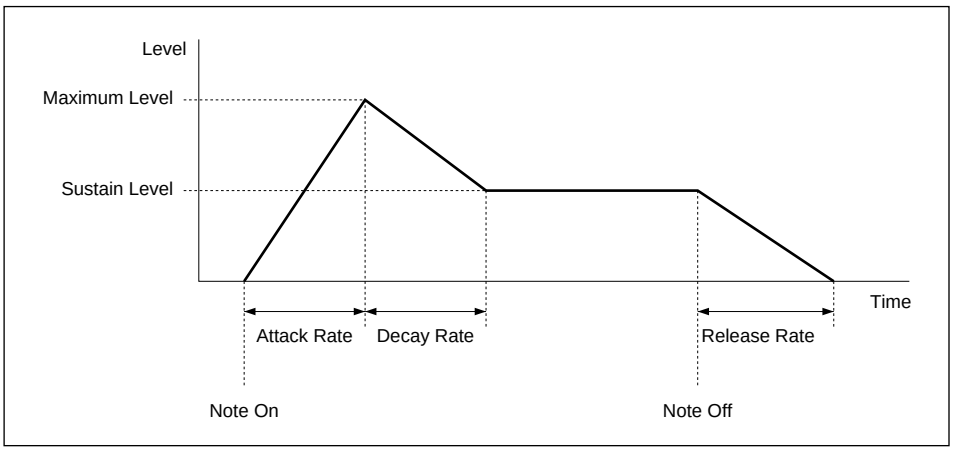
PLAY	PROGRAM	SAMPLE	EASY EDIT	EFFECT	SETUP	CONTROL
EDIT	TRIM / LOOP	MAP / OUT	FILTER	EG	LFO	MIDI / CTRL
REC	RECORD	SETUP	METER	EFFECT	EXT CTRL	MONITOR
DISK	PROGRAM	SAMPLE	SEQUENCE	VOLUME	DISK	IMPORT
UTILITY	TOTAL EQ	PANEL PLAY	SEQUENCE	MASTER	SYSTEM	MIDI

Turn Knob 1 to select AEG.



	Knob 1	Knob 2	Knob 3	Knob 4	Knob 5
Turn action	✔	✔	✔	✔	✔
Push action	✔	-	-	-	-

This page sets up the AEG (amplitude envelope generator). The AEG determines how the sound level (amplitude) develops over time. Development begins at Note On, and terminates when the sound dies out. The envelope is defined by four settings, as illustrated below.



Knob 1 **Change Page** **Select P/S**

- Turn the knob to change to a different page within the EG function. Available pages are: AEG (this page), AEGMode, FEGRate, FEGLevel, FEGMode, PEGRate, PEGLevel, and PEGMode.
- Push the knob to move to the Program/Sample Selection screen. (☞95)

Knob 2 AtkRate = 0,...,127

This value sets the attack rate. The meaning of the setting varies according to the setting of the AttackMode parameter on the AEGMode page (☞191).

- If AttackMode is set to "rate", then the AtkRate value sets the rate at which amplitude rises from 0 (at time of Note-On) to its maximum level. Higher values produce a faster attack.
- If AttackMode is set to "time", amplitude begins at maximum level immediately upon Note-On, and holds steady for a certain time before beginning to decline. In this case, the AtkRate value determines how long the maximum level is held. (See illustration on page 191.) Note that higher values produces shorter holding time (faster progression).

Knob 3 DcyRate = 0,...,127

This value sets the decay rate: the rate at which the sound drops from its maximum amplitude to its "sustain" level. Higher values produce faster decay.

Note that this setting is meaningless (there is no decay period) if the SusLvl value (Knob 4) is set to 127.

Knob 4 SusLvl = 0,...,127

This value sets the sustain level. The sustain level is the steady level that begins when decay is completed, and continues until Note Off occurs.

Knob 5 RelRate = 0,...,127

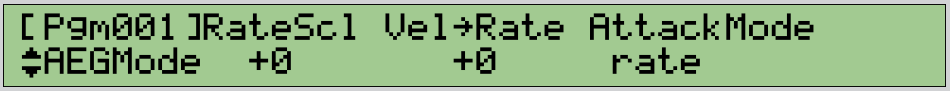
This value sets the *release rate*: the rate at which the amplitude drops from the sustain level to zero following Note Off. Higher values produce faster release. A setting of 127 causes sound to stop immediately when Note Off occurs.

EG - AEGMode (AEG Mode Settings)

Sets up the AEG's scaling, velocity sensitivity, and attack type.

PLAY	PROGRAM	SAMPLE	EASY EDIT	EFFECT	SETUP	CONTROL
EDIT	TRIM / LOOP	MAP / OUT	FILTER	EG	LFO	MIDI / CTRL
REC	RECORD	SETUP	METER	EFFECT	EXT CTRL	MONITOR
DISK	PROGRAM	SAMPLE	SEQUENCE	VOLUME	DISK	IMPORT
UTILITY	TOTAL EQ	PANEL PLAY	SEQUENCE	MASTER	SYSTEM	MIDI

Turn Knob 1 to select AEGMode.



	Knob 1	Knob 2	Knob 3	Knob 4	Knob 5
Turn action	✔	✔	✔	✔	-
Push action	✔	-	-	-	-

Use this page to determine how AEG rates vary with velocity and keyboard location, and to select the AEG attack type (rising or flat).

Knob 1 — Change Page / Select P/S

- Turn the knob to change to a different page within the EG function. Available pages are: AEG, AEGMode (this page), FEGRate, FEGLevel, FEGMode, PEGRate, PEGLevel, and PEGMode.
- Push the knob to move to the Program/Sample Selection screen. (☞95)

Knob 2 — RateScl = -7,...,+7

This setting determines how the AEG rates (attack, decay, and release rates) vary according to keyboard location (pitch) of the played note. Set the value to 0 to keep rates the same for all keyboard notes. Positive settings cause rates to increase as you move up the keyboard, while negative settings cause rates to decrease as you move up the keyboard.

Knob 3 — Vel → Rate = -63,...,+63

This value sets the AEG's *velocity sensitivity*: the amount by which the AEG rates (attack, decay, and release rates) vary in response to the velocity (force) of the played note.

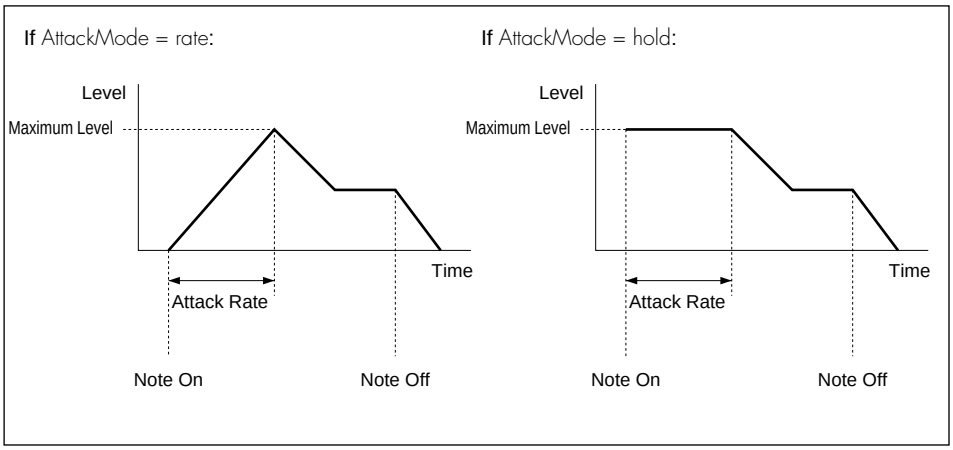
Set the value to 0 to keep rates the same for all velocities. Positive settings cause rates to increase as velocity increases, while negative settings cause rates to decrease as velocity increases.

Knob 4 AttackMode = rate, hold

This value sets the AEG *attack mode* — the way that amplitude behaves immediately following Note On.

rate	Level starts at 0 (when Note On occurs) and rises to maximum, then begins to drop.
hold	Level starts immediately at it maximum point and holds steady for a certain interval before beginning to drop.

Note that the AtkRate setting on the AEG page (☞188) sets the timing for the attack. Higher AtkRate settings produce a faster attack — so that the level rises more quickly (if the mode is set to rate) or holds steady for a shorter time before dropping (if the mode is set to hold).

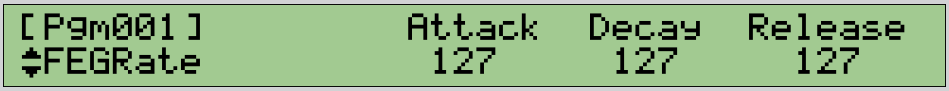


EG - FEGRate (Filter-EG Rates)

Sets the rates for the filter EG.

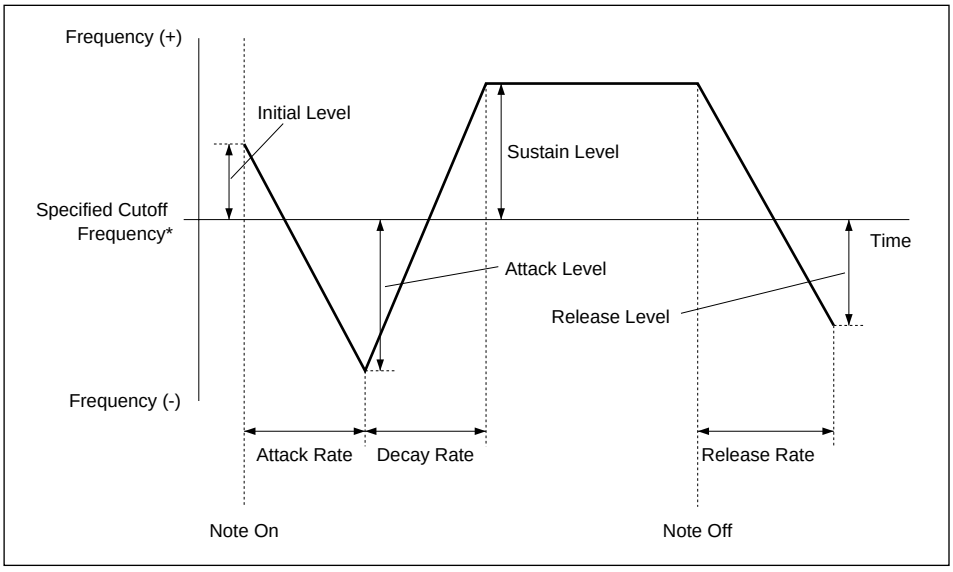
PLAY	PROGRAM	SAMPLE	EASY EDIT	EFFECT	SETUP	CONTROL
EDIT	TRIM / LOOP	MAP / OUT	FILTER	EG	LFO	MIDI / CTRL
REC	RECORD	SETUP	METER	EFFECT	EXT CTRL	MONITOR
DISK	PROGRAM	SAMPLE	SEQUENCE	VOLUME	DISK	IMPORT
UTILITY	TOTAL EQ	PANEL PLAY	SEQUENCE	MASTER	SYSTEM	MIDI

Turn Knob 1 to select FEGRate.



	Knob 1	Knob 2	Knob 3	Knob 4	Knob 5
Turn action	✔	-	✔	✔	✔
Push action	✔	-	-	-	-

Use this page together with the FEGLevel page (☞194) to set up the sample's FEG (filter envelope generator). The FEG determines how the filter's cutoff frequency shifts over time as each note plays out.



Use the FEGRate page (this page) to set the rates (attack, decay, and release rates). Use the FEGLevel page to set the levels (initial, attack, sustain, and release levels).

* "Specified Cutoff Frequency" is the value set by the Cutoff parameter on the Filter page (☞182).

Important

Filter-EG settings are not effective if the Type parameter on the Filter page (☞182) is set to Bypass.

Knob 1 **Change Page** **Select P/S**

- Turn the knob to change to a different page within the EG function. Available pages are: AEG, AEGMode, FEGRate(this page), FEGLevel, FEGMode, PEGRate, PEGLevel, and PEGMode.
- Push the knob to move to the Program/Sample Selection screen. (☞95)

Knob 3 Attack = 0,...,127

This value sets the rate at which the cutoff frequency moves from its initial level (at Note On) to the attack level. Higher values produce faster rates.

Knob 4 Decay = 0,...,127

This value sets the rate at which the cutoff frequency moves from the attack level to the sustain level. Higher values produce faster rates.

Knob 5 Release = 0,...,127

This value sets the rate at which the cutoff frequency moves from the sustain level to the release level following Note Off. Higher values produce faster rates.

Note that the effectiveness of this setting declines at higher AEG release rates (☞189), since the sound dies out before the shift in cutoff frequency can be heard.

EG - FEGLevel (Filter-EG Levels)

Sets the levels for the filter EG.

PLAY	PROGRAM	SAMPLE	EASY EDIT	EFFECT	SETUP	CONTROL
EDIT	TRIM / LOOP	MAP / OUT	FILTER	EG	LFO	MIDI / CTRL
REC	RECORD	SETUP	METER	EFFECT	EXT CTRL	MONITOR
DISK	PROGRAM	SAMPLE	SEQUENCE	VOLUME	DISK	IMPORT
UTILITY	TOTAL EQ	PANEL PLAY	SEQUENCE	MASTER	SYSTEM	MIDI

Turn Knob 1 to select FEGLevel.

	Knob 1	Knob 2	Knob 3	Knob 4	Knob 5
Turn action	✔	✔	✔	✔	✔
Push action	✔	-	-	-	-

Use this page together with the FEGRate page (☞192) to set up the sample's FEG (filter envelope generator). The FEG determines how the filter's cutoff frequency shifts over time as each note plays out.

The FEGLevel page (this page) sets the FEG's levels (initial, attack, sustain, and release). The FEGRate page sets the FEG's various rates (attack, decay, and release rates).

Important

- It is not possible to set the actual cutoff frequency beyond a certain range. Regardless of settings you make at this page, the cutoff frequency will not shift beyond these limits.
- Filter-EG settings are not effective if the Type parameter on the Filter page (☞182) is set to Bypass.

Knob 1 — Change Page / Select P/S

- Turn the knob to change to a different page within the EG function. Available pages are: AEG, AEGMode, FEGRate, FEGLevel (this page), FEGMode, PEGRate, PEGLevel, and PEGMode.
- Push the knob to move to the Program/Sample selection screen. (☞95)

Knob 2 — Init = -127,...,+127

This value sets the initial level (the cutoff-frequency offset applied at time of Note On).

Knob 3 Attack = -127,...,+127

This value sets the attack level. (See illustration, page 192.)

Knob 4 Sustain = -127,...,+127

This value sets the sustain level. (See illustration, page 192.)

Knob 5 Release = -127,...,+127

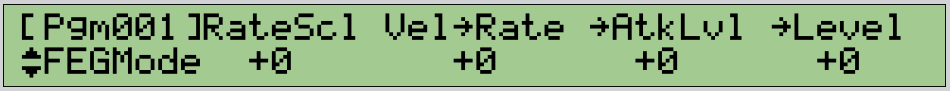
This value sets the release level. (See illustration, page 192.)

EG - FEGMode (FEG Mode Settings)

Sets up the FEG's scaling and velocity sensitivities.

PLAY	PROGRAM	SAMPLE	EASY EDIT	EFFECT	SETUP	CONTROL
EDIT	TRIM / LOOP	MAP / OUT	FILTER	EG	LFO	MIDI / CTRL
REC	RECORD	SETUP	METER	EFFECT	EXT CTRL	MONITOR
DISK	PROGRAM	SAMPLE	SEQUENCE	VOLUME	DISK	IMPORT
UTILITY	TOTAL EQ	PANEL PLAY	SEQUENCE	MASTER	SYSTEM	MIDI

Turn Knob 1 to select FEGMode.



	Knob 1	Knob 2	Knob 3	Knob 4	Knob 5
Turn action	✔	✔	✔	✔	✔
Push action	✔	-	-	-	-

Use this page to determine how FEG rates vary with keyboard location and velocity, and how FEG levels vary with velocity.

Knob 1 — Change Page / Select P/S

- Turn the knob to change to a different page within the EG function. Available pages are: AEG, AEGMode, FEGRate, FEGLevel, FEGMode (this page), PEGRate, PEGLevel, and PEGMode.
- Push the knob to move to the Program/Sample Selection screen. (☞95)

Knob 2 — RateScl = -7,...,+7

This setting determines how the FEG rates (attack, decay, and release rates) vary according to keyboard location (pitch) of the played note.

Set the value to 0 to keep rates the same for all keyboard notes. Positive settings cause rates to increase as you move up the keyboard, while negative settings cause rates to decrease as you move up the keyboard.

Knob 3 — Vel → Rate = -63,...,+63

This value sets the velocity sensitivity of the FEG rates: the amount by which the FEG rates (attack, decay, and release rates) vary in response to the velocity (force) of the played note.

Set the value to 0 to keep rates the same for all velocities. Positive settings cause rates to increase as velocity increases, while negative settings cause rates to decrease as velocity increases.

Knob 4 →AtkLvl = -63,...,+63

This parameter sets the first velocity-sensitivity value for the FEG's initial level and attack level. The value operates together with the value set by Knob 5 to determine the amount by which these levels vary in response to the velocity of the played note.

Positive settings cause levels to increase as velocity increases, while negative settings cause levels to decrease as velocity increases.

Knob 5 →Level = -63,...,+63

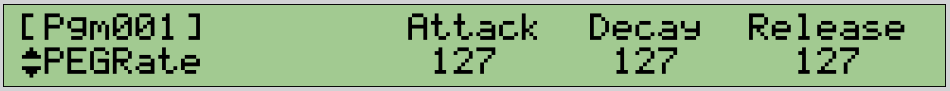
This parameter sets the general velocity sensitivity for all FEG levels (initial, attack, sustain, and release). Positive settings cause levels to increase as velocity increases, while negative settings cause levels to decrease as velocity increases.

EG - PEGRate (Pitch-EG Rates)

Sets the rates for the pitch EG.

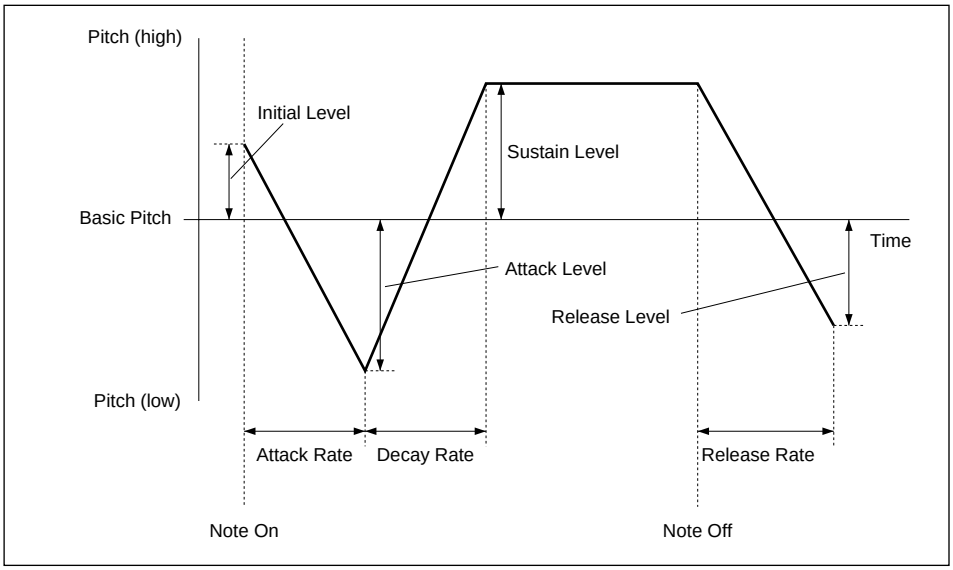
PLAY	PROGRAM	SAMPLE	EASY EDIT	EFFECT	SETUP	CONTROL
EDIT	TRIM / LOOP	MAP / OUT	FILTER	EG	LFO	MIDI / CTRL
REC	RECORD	SETUP	METER	EFFECT	EXT CTRL	MONITOR
DISK	PROGRAM	SAMPLE	SEQUENCE	VOLUME	DISK	IMPORT
UTILITY	TOTAL EQ	PANEL PLAY	SEQUENCE	MASTER	SYSTEM	MIDI

Turn Knob 1 to select PEGRate.



	Knob 1	Knob 2	Knob 3	Knob 4	Knob 5
Turn action	✔	-	✔	✔	✔
Push action	✔	-	-	-	-

Use this page together with the PEGLevel page (☞200) to set up the sample's PEG (pitch envelope generator). The PEG determines how the pitch varies over time as each note plays out.



Use the PEGRate page (this page) to set the rates (attack, decay, and release rates). Use the PEGLevel page to set the levels (initial, attack, sustain, and release levels).

Knob 1 Change Page / Select P/S

- Turn the knob to change to a different page within the EG function. Available pages are: AEG, AEGMode, FEGRate, FEGLevel, FEGMode, PEGRate (this page), PEGLevel, and PEGMode.
- Push the knob to move to the Program/Sample Selection screen. (☞95)

Knob 3 Attack = 0,...,127

This value sets the rate at which the pitch moves from its initial level (at Note On) to the attack level. Higher values produce faster rates.

Knob 4 Decay = 0,...,127

This value sets the rate at which the pitch moves from the attack level to the sustain level. Higher values produce faster rates.

Knob 5 Release = 0,...,127

This value sets the rate at which the pitch moves from the sustain level to the release level following Note Off. Higher values produce faster rates.

Note that the effectiveness of this setting declines at higher AEG release rates (☞189), since the sound dies out before the shift in pitch can be heard.

EG - PEGLevel (Pitch-EG Levels)

Sets the levels for the pitch EG.

PLAY	PROGRAM	SAMPLE	EASY EDIT	EFFECT	SETUP	CONTROL
EDIT	TRIM / LOOP	MAP / OUT	FILTER	EG	LFO	MIDI / CTRL
REC	RECORD	SETUP	METER	EFFECT	EXT CTRL	MONITOR
DISK	PROGRAM	SAMPLE	SEQUENCE	VOLUME	DISK	IMPORT
UTILITY	TOTAL EQ	PANEL PLAY	SEQUENCE	MASTER	SYSTEM	MIDI

Turn Knob 1 to select PEGLevel.

	Knob 1	Knob 2	Knob 3	Knob 4	Knob 5
Turn action	✔	✔	✔	✔	✔
Push action	✔	-	-	-	-

Use this page together with the PEGRate page (☞198) to set up the sample's PEG (pitch envelope generator). The PEG determines how the pitch varies over time as each note plays out.

The PEGLevel page (this page) sets the PEG's levels (initial, attack, sustain, and release). The PEGRate page sets the PEG's various rates (attack, decay, and release rates).

Knob 1 — Change Page / Select P/S

- Turn the knob to change to a different page within the EG function. Available pages are: AEG, AEGMode, FEGRate, FEGLevel, FEGMode, PEGRate, PEGLevel (this page), and PEGMode.
- Push the knob to move to the Program/Sample Selection screen. (☞95)

Knob 2 — Init = -127,...,+127

This value sets the initial level (the pitch offset applied at time of Note On).

Knob 3 — Attack = -127,...,+127

This value sets the attack level. (See illustration, page 198.)

Knob 4 — Sustain = -127,...,+127

This value sets the sustain level. (See illustration, page 198.)

Knob 5 — Release = -127,...,+127

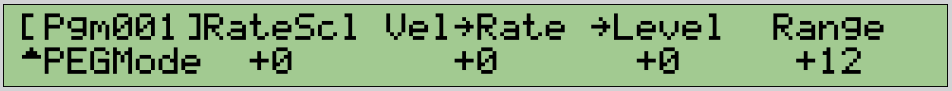
This value sets the release level. (See illustration, page 198.)

EG - PEGMode (PEG Mode Settings)

Sets up the PEG's scaling, velocity sensitivity, and range.

PLAY	PROGRAM	SAMPLE	EASY EDIT	EFFECT	SETUP	CONTROL
EDIT	TRIM / LOOP	MAP / OUT	FILTER	EG	LFO	MIDI / CTRL
REC	RECORD	SETUP	METER	EFFECT	EXT CTRL	MONITOR
DISK	PROGRAM	SAMPLE	SEQUENCE	VOLUME	DISK	IMPORT
UTILITY	TOTAL EQ	PANEL PLAY	SEQUENCE	MASTER	SYSTEM	MIDI

Turn Knob 1 to select PEGMode.



	Knob 1	Knob 2	Knob 3	Knob 4	Knob 5
Turn action	✔	✔	✔	✔	-
Push action	✔	-	-	-	-

Use this page to determine how PEG rates vary with velocity and keyboard location, and how the PEG levels vary with velocity. Also use it to set the range for the PEG levels.

Knob 1 — Change Page / Select P/S

- Turn the knob to change to a different page within the EG function. Available pages are: AEG, AEGMode, FEGRate, FEGLevel, FEGMode, PEGRate, PEGLevel, and PEGMode (this page).
- Push the knob to move to the Program/Sample Selection screen. (☞95)

Knob 2 — RateScl = -7,...,+7

This setting determines how the PEG rates (attack, decay, and release rates) vary according to keyboard location (pitch) of the played note. Set the value to 0 to keep rates the same for all keyboard notes. Positive settings cause rates to increase as you move up the keyboard, while negative settings cause rates to decrease as you move up the keyboard.

Knob 3 — Vel → Rate = -63,...,+63

This value sets the velocity sensitivity for the PEG rates: the amount by these PEG rates (attack, decay, and release rates) vary in response to the velocity (force) of the played note.

Set the value to 0 to keep rates the same for all velocities. Positive settings cause rates to increase as velocity increases, while negative settings cause rates to decrease as velocity increases.

Knob 4 →Level = -63,...,+63

This value sets the velocity sensitivity for the PEG levels: the amount by these levels (initial, attack, sustain, and release rates) vary in response to the velocity of the played note.

Set the value to 0 to keep the levels the same for all velocities. Positive settings cause the levels to increase as velocity increases, while negative settings cause the levels to decrease as velocity increases.

Knob 5 Range = -63,...,+63

This value sets the range for PEG pitch variation, in semitones.

This setting works in conjunction with the level settings at the PEGLevel page (☞200) to determine how far the PEG levels are from the sample's basic pitch (☞198). If you set the PEGLevel settings to maximum (+127 or -127), then the distance between each level and the basic pitch will be equal to the number of semitones that you set here.

LFO Function

You use the LFO function to set up the sample's LFO (low-frequency oscillator). The LFO applies a low-frequency modulation to the output volume, filter cutoff frequency, and pitch.

FYI

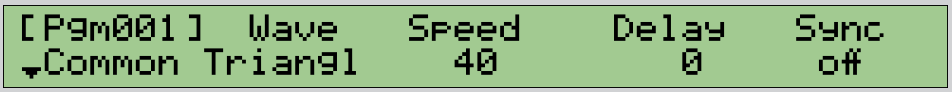
The COMMAND key gives you rapid access to a number of helpful commands while you are working with this function. For example, you can use the COMMAND key when you want to save your edit results to disk, or when you want to cancel your new changes and restore the previously saved data. (☞147)

LFO - Common

Sets the basic LFO parameters.

PLAY	PROGRAM	SAMPLE	EASY EDIT	EFFECT	SETUP	CONTROL
EDIT	TRIM / LOOP	MAP / OUT	FILTER	EG	LFO	MIDI / CTRL
REC	RECORD	SETUP	METER	EFFECT	EXT CTRL	MONITOR
DISK	PROGRAM	SAMPLE	SEQUENCE	VOLUME	DISK	IMPORT
UTILITY	TOTAL EQ	PANEL PLAY	SEQUENCE	MASTER	SYSTEM	MIDI

Turn Knob 1 to select Common.



	Knob 1	Knob 2	Knob 3	Knob 4	Knob 5
Turn action ↶↷	✔	✔	✔	✔	✔
Push action ↑	✔	-	-	-	-

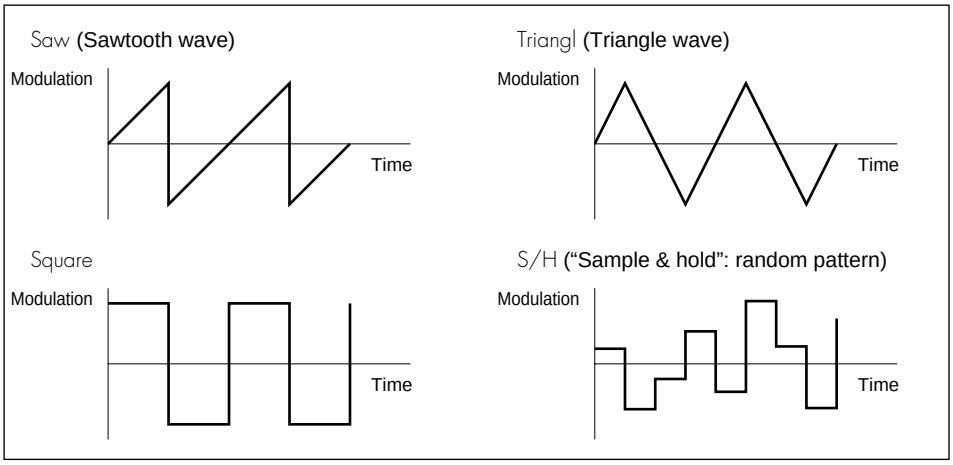
Use this page to set the basic LFO parameters — wave type, oscillation speed, delay, and phase synchronization.

Knob 1 ↶↷ Change Page ↑ Select P/S

- Turn the knob to change to a different page within the LFO function. Available pages are: Common (this page), FltrMod, PtchMod, and AmpMod.
- Push the knob to move to the Program/Sample Selection screen. (☞95)

Knob 2 Wave = Saw, Triangl, Square, S/H

This parameter selects the LFO waveform. The waveform, in turn, determines the type of modulation (oscillation) applied to the sample's filter, pitch, and amplitude.



Knob 3 Speed = 0,...,127

- This value sets the modulation speed for the saw, triangle, or square waveform. Higher values produce faster modulation.
- Modulation speed for the S/H waveform must be set at the program side (☞128). If you have selected the S/H waveform, the screen displays the current program-side setting. You cannot change the setting from this page.

Knob 4 Delay = 0,...,127

This parameter sets the interval between Note On and the onset of LFO modulation. Higher values produce longer delay together with a more gradual buildup of the modulation level.

Knob 5 Sync = off, on

This setting selects whether LFO oscillation always begins from the same phase (at the same point in the LFO waveform).

If you set the value to on, LFO oscillation will restart from phase 0 (the leftmost point in the above illustrations) with each new note that you play.

LFO - FltrMod (Filter Modulation)

Sets LFO filter modulation.

PLAY	PROGRAM	SAMPLE	EASY EDIT	EFFECT	SETUP	CONTROL
EDIT	TRIM / LOOP	MAP / OUT	FILTER	EG	LFO	MIDI / CTRL
REC	RECORD	SETUP	METER	EFFECT	EXT CTRL	MONITOR
DISK	PROGRAM	SAMPLE	SEQUENCE	VOLUME	DISK	IMPORT
UTILITY	TOTAL EQ	PANEL PLAY	SEQUENCE	MASTER	SYSTEM	MIDI

Turn Knob 1 to select FltrMod.

```
[Pgm001] Depth PhaseInvert
▲▼FltrMod    0       off
```

	Knob 1	Knob 2	Knob 3	Knob 4	Knob 5
Turn action	✔	✔	✔	-	-
Push action	✔	-	-	-	-

This page determines how the LFO waveform acts upon (modulates) the filter cutoff frequency.

Important

These settings are meaningless if the Type parameter on the Filter page (☞182) is set to Bypass.

Knob 1 — Change Page / Select P/S

- Turn the knob to change to a different page within the LFO function. Available pages are: Common, FltrMod (this page), PtchMod, and AmpMod.
- Push the knob to move to the Program/Sample Selection screen. (☞95)

Knob 2 — Depth = 0,...,127

This value sets the degree by which the filter's cutoff frequency is modulated by the LFO waveform. Higher values produce stronger modulation.

Knob 3 — PhaseInvert = off, on

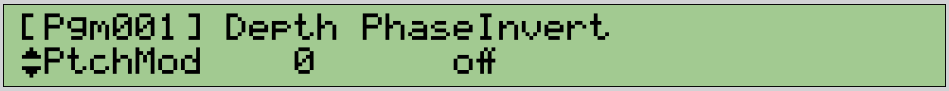
Set this value to on if you want to invert the waveform used to modulate the filter. If the setting is on, the A3000 modulates the cutoff frequency using the inverse of the selected LFO waveform. (The inverse is obtained by rotating the actual LFO waveform 180 degrees with respect to the time axis. The actual LFO waveforms are shown on page 204.)

LFO - PtchMod (Pitch Modulation)

Sets LFO pitch modulation.

PLAY	PROGRAM	SAMPLE	EASY EDIT	EFFECT	SETUP	CONTROL
EDIT	TRIM / LOOP	MAP / OUT	FILTER	EG	LFO	MIDI / CTRL
REC	RECORD	SETUP	METER	EFFECT	EXT CTRL	MONITOR
DISK	PROGRAM	SAMPLE	SEQUENCE	VOLUME	DISK	IMPORT
UTILITY	TOTAL EQ	PANEL PLAY	SEQUENCE	MASTER	SYSTEM	MIDI

Turn Knob 1 to select PtchMod.



	Knob 1	Knob 2	Knob 3	Knob 4	Knob 5
Turn action	✔	✔	✔	-	-
Push action	✔	-	-	-	-

This page determines how the LFO waveform modulates the sample's pitch.

Knob 1 — Change Page — Select P/S

- Turn the knob to change to a different page within the LFO function. Available pages are: Common, FltrMod, PtchMod (this page), and AmpMod.
- Push the knob to move to the Program/Sample Selection screen. (☞95)

Knob 2 — Depth = 0,...,127

This value sets the degree by which the pitch is modulated by the LFO waveform. Higher values produce stronger modulation.

Knob 3 — PhaseInvert = off, on

Set this value to on if you want to invert the waveform used to modulate the pitch.

If the setting is on, the A3000 modulates the pitch using the inverse of the selected LFO waveform. (The inverse is obtained by rotating the actual LFO waveform 180 degrees with respect to the time axis. The actual LFO waveforms are shown on page 204.)

LFO - AmpMod (Amplitude Modulation)

Sets LFO amplitude modulation.

PLAY	PROGRAM	SAMPLE	EASY EDIT	EFFECT	SETUP	CONTROL
EDIT	TRIM / LOOP	MAP / OUT	FILTER	EG	LFO	MIDI / CTRL
REC	RECORD	SETUP	METER	EFFECT	EXT CTRL	MONITOR
DISK	PROGRAM	SAMPLE	SEQUENCE	VOLUME	DISK	IMPORT
UTILITY	TOTAL EQ	PANEL PLAY	SEQUENCE	MASTER	SYSTEM	MIDI

Turn Knob 1 to select AmpMod.

	Knob 1	Knob 2	Knob 3	Knob 4	Knob 5
Turn action	✔	✔	-	-	-
Push action	✔	-	-	-	-

This page determines how the LFO waveform modulates the sample's amplitude.

Knob 1 **Change Page** **Select P/S**

- Turn the knob to change to a different page within the LFO function. Available pages are: Common, FltrMod, PtchMod, and AmpMod (this page).
- Push the knob to move to the Program/Sample Selection screen. (☞95)

Knob 2 Depth = 0,...,127

This value sets the degree by which the amplitude is modulated by the LFO waveform. Higher values produce stronger modulation.

MIDI/CTRL Function

You use the MIDI/CTRL function to set the sample's MIDI Receive Channel, to designate its "alternate group," and to set up its controller handling.

FYI

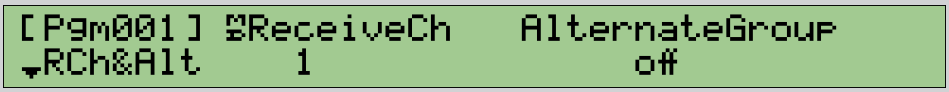
The COMMAND key gives you rapid access to a number of helpful commands while you are working with this function. For example, you can use the COMMAND key when you want to save your edit results to disk, or when you want to cancel your new changes and restore the previously saved data. (☞147)

MIDI/CTRL - RCh&Alt (Receive Channel and Alternate

Sets the sample's MIDI Receive Channel and "alternate group."

PLAY	PROGRAM	SAMPLE	EASY EDIT	EFFECT	SETUP	CONTROL
EDIT	TRIM / LOOP	MAP / OUT	FILTER	EG	LFO	MIDI / CTRL
REC	RECORD	SETUP	METER	EFFECT	EXT CTRL	MONITOR
DISK	PROGRAM	SAMPLE	SEQUENCE	VOLUME	DISK	IMPORT
UTILITY	TOTAL EQ	PANEL PLAY	SEQUENCE	MASTER	SYSTEM	MIDI

Turn Knob 1 to select RCh&Alt.



	Knob 1	Knob 2	Knob 3	Knob 4	Knob 5
Turn action	✔	✔	-	✔	-
Push action	✔	✔	-	-	-

You use this page to set the sample's MIDI Receive Channel, and to assign the sample to an "alternate group."

Important

If you set the sample into an alternate group (if you set the AlternateGroup parameter to any value other than "off"), you will not be able to play more than one note at a time from the sample, since each new note from the sample automatically switches off any preceding note from the sample.

Knob 1 **Change Page** **Select P/S**

- Turn the knob to change to a different page within the MIDI/CTRL function. Available pages are: RCh&Alt (this page), SmpCtl1, SmpCtl2, and Vel&PB.
- Push the knob to move to the Program/Sample Selection screen. (☞95)

Knob 2 ReceiveCh = 1,...,16, Bch **MIDI IN**

- Turn the knob to select the MIDI channel that drives the sample's playback. Set the value to 1 to 16 to select the corresponding channel. Select Bch if you want to use the channel selected by the BasicCh parameter in the UTILITY | MIDI Receive page (☞305).
- Push the knob if you want to set the channel from an external MIDI device. The knob indicator begins blinking, indicating that the A3000 is ready to receive MIDI input. Now transmit any note to the A3000 over the appropriate channel; the A3000 detects the channel and displays the value over the knob. Lock in the setting in by pressing the knob again or by changing to a different page.

Knob 4 AlternateGroup = off, 1,...,16

Turn the knob to select the "alternate group" for the sample. The A3000 supports 16 alternate groups. Set the value off if you do not want to place the sample into any of these groups. (If you set the value to anything other than off, you will not be able to play more than one note from this sample at any given time.)

Explanation: You use alternate groups to prevent simultaneous play of samples that do not go well together. Only one note from the group can be in play at any given time; playing any note from any sample in the group automatically switches off any other note already playing from that group.

As an example, in general you would not want to play a "high-hat close" sound while a "high-hat open" sound is still audible. To prevent accidental overlap of these two sounds, you would place your "high-hat-open" sample and your "high-hat-close" sample into the same alternate group. If you then play the "close" sample while the "open" sample is still sounding, the A3000 immediately switches off the "open" sample and starts playing the "close" sample.

MIDI/CTRL - SmpCtl1 (Sample Controller Setup 1)

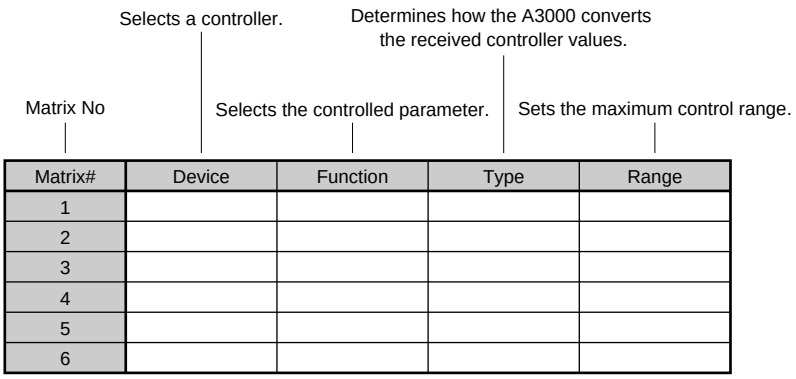
Sets up the sample's controller usage.

PLAY	PROGRAM	SAMPLE	EASY EDIT	EFFECT	SETUP	CONTROL
EDIT	TRIM / LOOP	MAP / OUT	FILTER	EG	LFO	MIDI / CTRL
REC	RECORD	SETUP	METER	EFFECT	EXT CTRL	MONITOR
DISK	PROGRAM	SAMPLE	SEQUENCE	VOLUME	DISK	IMPORT
UTILITY	TOTAL EQ	PANEL PLAY	SEQUENCE	MASTER	SYSTEM	MIDI

Turn Knob 1 to select SmpCtl1.

	Knob 1	Knob 2	Knob 3	Knob 4	Knob 5
Turn action	✔	✔	✔	✔	✔
Push action	✔	-	✔	-	-

You use this page together with page SmpCtl2 to set up the *controller matrix* that determines how selected MIDI controllers operate on the sample's playback. The matrix selects up to six controllers, and assigns to each of these a specific function and operating range. A conceptual illustration of the matrix is shown below.



Matrix#	Device	Function	Type	Range
1				
2				
3				
4				
5				
6				

You use the SmpCtl1 page to set the Device and Function values only. Use page SmpCtl2 (☞213) to set the Type and Range values.

Knob 1 Change Page / Select P/S

- Turn the knob to change to a different page within the MIDI/CTRL function. Available pages are: RCh&Alt, SmpCtl1 (this page), SmpCtl2, and Vel&PB.
- Push the knob to move to the Program/Sample Selection screen. (☞95)

Knob 2 Matrix# = 1,...,6

Selects the matrix entry for editing. You can use the matrix to set up six controllers. Each matrix entry sets up a different controller.

Knob 3 Device = 000,...,120, AT, PB **MIDI IN**

Use this setting to select the external physical controller that you want to set for operation with the sample. The setting selects one of the controllers on your external MIDI device. You can then use Knob 4 (and also the SmpCtl2 page) to determine how this controller affects the playback of this sample.

You select the controller by its controller number (sometimes called *control-change number*). Each controller number identifies a specific controller, as set forth in the MIDI standard.

In addition, you may also select PB (pitchbend) and AT (aftertouch) controls. The MIDI standard defines these controls differently from the others, so they do not have their own controller numbers.

Most MIDI devices are equipped with the following physical controllers.

Controller	Controller Number
Modulation wheel	001
Breath controller	002
Foot controller	004
Volume controller	007
Expression pedal	011

You are free to select any of the above controllers, or any other of the controllers (control numbers) available on your equipment. But note the following points.

- It is recommended that you do not use controller numbers 000 and 032, as many MIDI devices use these numbers for bank selection purposes.
- The volume controller (007) always controls volume. You may select a different function for this controller, but it will continue to control volume at the same time.
- If you set PB (the pitchbend wheel) to a function other than "-----", the pitchbend wheel will control the selected function only (and will lose its normal pitch-bending effect).

You can input your controller-number selection directly from your MIDI keyboard. First press Knob 2 so that the indicator lamp (directly above the knob) begins blinking, and then operate the appropriate controller at the keyboard. The controller's controller number will then appear on the screen directly above the knob. Push the knob again (or move to another page) to terminate this MIDI-entry mode and register the new setting.

Knobs 4, 5 Function = - - - - -,...,Start Address

Use this setting to select the parameter to be controlled by the controller selected by Knob 2. Choices are listed below. For more information, refer to the indicated pages.

Function	**Parameter**	**See Page...**
- - -	None	
PitchModDepth	LFO pitch modulation depth	206
AmpModDepth	LFO amplitude modulation depth	207
CutoffModDepth	LFO filter modulation depth	205
Cutoff Bias	Filter's cutoff frequency	182
FilterQ/Width	Filter's Q/Width	182
Pan Bias	Pan*	174
Pitch Bias	Pitch	
Level	Output level†	174
LFO Speed	LFO speed	203
LFO Delay	LFO delay	203
AEG Attack	AEG attack rate	188
AEG Release	AEG release rate	188
PEG Attack	PEG attack rate	198
PEG Release	PEG release rate	198
FEG Attack	FEG attack rate	192
FEG Release	FEG release rate	192
PitchBend	Pitch-bend	
Start Address	Wave play start address	164

* Pan can also be controlled by Controller 010.
† Level can also be controlled by Controller 007.

MIDI/CTRL - SmpCtl2 (Sample Controller Setup 2)

Sets up the sample's controller usage.

PLAY	PROGRAM	SAMPLE	EASY EDIT	EFFECT	SETUP	CONTROL
EDIT	TRIM / LOOP	MAP / OUT	FILTER	EG	LFO	MIDI / CTRL
REC	RECORD	SETUP	METER	EFFECT	EXT CTRL	MONITOR
DISK	PROGRAM	SAMPLE	SEQUENCE	VOLUME	DISK	IMPORT
UTILITY	TOTAL EQ	PANEL PLAY	SEQUENCE	MASTER	SYSTEM	MIDI

Turn Knob 1 to select SmpCtl2.

	Knob 1	Knob 2	Knob 3	Knob 4	Knob 5
Turn action	✔	✔	✔	✔	-
Push action	✔	-	-	-	-

You use this page together with page SmpCtl1 to set up the sample's controller matrix. The matrix determines how selected MIDI controllers operate on the sample's playback.

You use SmpCtl1 to set each matrix entry's Device and Function. You use this page (SmpCtl2) so set each entry's Type and Range.

Refer to the explanation of SmpCtl1 (☞210) for a conceptual illustration of the matrix.

Knob 1 — Change Page / Select P/S

- Turn the knob to change to a different page within the MIDI/CTRL function. Available pages are: RCh&Alt, SmpCtl1, SmpCtl2 (this page), and Vel&PB.
- Push the knob to move to the Program/Sample Selection screen. (☞95)

Knob 2 — Matrix# = 1,...,6

Selects the matrix entry for editing. You can use the matrix to set up six controllers. Each matrix entry sets up a different controller.

Knob 3 — Type = +offset, -/+offset

The setting determines how the A3000 converts and applies the control-change value received from the controller.

When you move a controller at a MIDI device, the controller transmits a control-change value indicating the magnitude of the movement. The transmitted values always range from 0 to 127.

Upon receiving the value, the A3000 converts it as specified here, and then applies it to the parameter selected by the Function entry (☞212). The conversion determines how strongly (and in which direction) the parameter changes in response to the controller's movement.

Note that the conversion also depends on the "*range*" value, which you set using Knob 4 (see below).

+offset — The A3000 converts the received value (0 to 127) to a corresponding value in the range {0 to *range*}, and adds the result to the target parameter. Notice that the resulting offset is therefore always positive (or always negative, depending on the Range sign; see below). In other words, the controller can offset the target parameter in one direction only.

-/+offset

The A3000 converts the received value (0 to 127) to a corresponding value in the range {-*range* to 0 to +*range*}, and adds the result to the target parameter. Notice that in this case the controller applies 0 offset when at its center position; displacement in one direction generates a negative offset, while displacement in the other generates a positive offset.

Knob 4 Range = -63,...,+63

Sets the maximum offset that the controller can apply to the target parameter. This also determines how sensitive the parameter is to changes in the controller position.

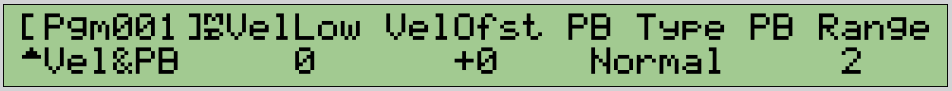
- A value of 0 disables the controller completely.
- A value of +63 or -63 allows the controller to have full effect.
- A negative setting reverses the controller's normal direction. For example, moving a volume dial clockwise will increase the volume if the setting is positive, but will decrease the volume if the setting is negative.

MIDI/CTRL - Vel&PB (Velocity and Pitchbend)

Sets the sample's handling of velocity and pitchbend input.

PLAY	PROGRAM	SAMPLE	EASY EDIT	EFFECT	SETUP	CONTROL
EDIT	TRIM / LOOP	MAP / OUT	FILTER	EG	LFO	MIDI / CTRL
REC	RECORD	SETUP	METER	EFFECT	EXT CTRL	MONITOR
DISK	PROGRAM	SAMPLE	SEQUENCE	VOLUME	DISK	IMPORT
UTILITY	TOTAL EQ	PANEL PLAY	SEQUENCE	MASTER	SYSTEM	MIDI

Turn Knob 1 to select Vel&PB.



	Knob 1	Knob 2	Knob 3	Knob 4	Knob 5
Turn action	✔	✔	✔	✔	-
Push action	✔	✔	-	-	-

You use this page to set the sample's minimum velocity, velocity offset, and pitchbend handling.

FYI

Upon receiving a Note-On message, the A3000 first checks that the velocity value is within the range specified by the EDIT | MAP/OUT VelRnge page (☞173). If the velocity is outside of this range, the A3000 does not play the note. If the velocity is inside the range, the A3000 adjusts the velocity according to the minimum and offset values that you set here, and then applies additional adjustment in accordance with the VelocityCurve setting on the UTILITY | MIDI Adjust page.

Knob 1 **Change Page** **Select P/S**

- Turn the knob to change to a different page within the MIDI/CTRL function. Available pages are: RCh&Alt, SmpCtl1, SmpCtl2, and Vel&PB (this page).
- Push the knob to move to the Program/Sample Selection screen. (☞95)

Knob 2 VelLow = 0,...,127 **MIDI IN**

- Turn the knob to select the minimum velocity for note replay. Whenever the A3000 receives a Note-On message with a lower velocity, it will automatically raise the velocity to the value given here.
- If you wish to set the value from an external MIDI keyboard: Push the knob so that the knob indicator begins blinking, then play any note using the appropriate velocity (force). The velocity value will appear on the screen directly above the knob. Lock the setting in by pressing the knob again or by moving to a different page.

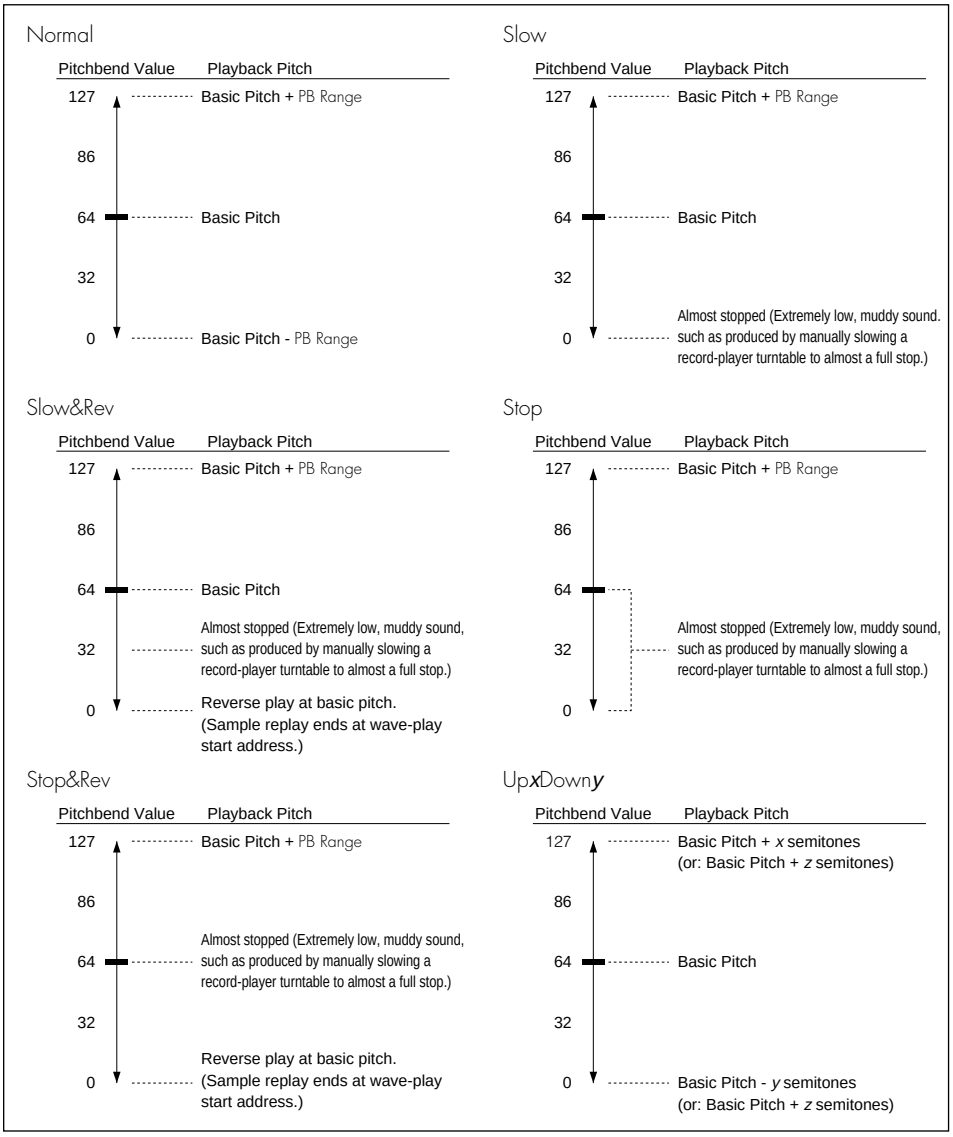
Knob 3 VelOfst = -127,...,+127

Use this value to apply an offset to all received velocities — so as to raise or lower all velocities by the same amount. If you set the offset to -25, for example, then a Note-On message with a velocity of 90 will be replayed at a velocity of 65.

Knob 4 PB Type = Normal,...,Up&Dwn12

This setting determines how strongly the pitchbend wheel controls the sample's pitch. More specifically, it determines how upward and downward wheel movements operate on the sample.

The following diagram shows the meaning of each setting. The "PB Range" value indicated in the diagram is set by Knob 5 (see next page).



Knob 5 PB Range = 0,...,24

This setting works together with the PB Type value (Knob 4) to determine the pitchbend range for the pitchbend wheel. Refer to the diagram on the previous page. (Note that this setting is not meaningful if PB Type is set to UpxDwny or Up&Dwnz).

Chapter 6
RECORDING Mode

RECORDING Mode

You use RECORDING mode to set up for and carry out recording of new samples.

RECORDING Functions

RECORDING mode comprises the six functions described below.

RECORD

Use this function to record a new sample. (☞223).

SETUP

Use this function to set up for a new recording. You can set a wide variety of setup parameters: input source, input level, sample's original key and key range, recording start trigger, recording end trigger, automatic normalization, and others. (☞227)

METER

Use the METER function to check the input level, and to set the recording trigger levels. (☞236)

EFFECT

This function sets the effects applied to the signal as it is recorded. (☞238)

EXT CTRL (External Control)

This function lets you control playback from an audio CD mounted in a SCSI drive. Use this function when you are recording from a CD. (☞241)

MONITOR

This function sets up the monitoring feature, so that you can monitor the input signal as you record it. You can also use the function to set up a metronome. (☞220)

COMMAND Page

This section describes the command screens (*command pages*) that you can access by pressing the COMMAND key while working in RECORDING mode.

SAVE

Saves object(s) from memory to disk.

PLAY	PROGRAM	SAMPLE	EASY EDIT	EFFECT	SETUP	CONTROL
EDIT	TRIM / LOOP	MAP / OUT	FILTER	EG	LFO	MIDI / CTRL
REC	RECORD	SETUP	METER	EFFECT	EXT CTRL	MONITOR
DISK	PROGRAM	SAMPLE	SEQUENCE	VOLUME	DISK	IMPORT
UTILITY	TOTAL EQ	PANEL PLAY	SEQUENCE	MASTER	SYSTEM	MIDI

Press the COMMAND key, then turn Knob 1 to select >SAVE.

	Knob 1	Knob 2	Knob 3	Knob 4	Knob 5
Turn action ↶	-	✔	✔	✔	✔
Push action ↑	✔	-	-	-	-

Use this page to save the selected memory-resident object(s) to disk. You can elect to save all programs, all samples and sample banks, the selected program only (together with all samples used by that program), or a selected sample only.

Knob 1 ↑ >SAVE

- Push the knob when you are ready to execute the save. The A3000 returns a confirmation prompt. Push Knob 5 (>YES) to proceed with the save, or Knob 4 (>NO) to cancel.
- If a name conflict occurs (if the selected object in main memory has the same name as a corresponding object on the target volume), the A3000 prompts for instructions about how to resolve the conflict. (☞100)

Knob 2 ↶ Type of Save = All(wipe), AllPgm(wp), Edited, AllSmp, Smp(Bank)

Turn the knob to select the object(s) to be saved to disk. Selections are as follows.

All(wipe) — Saves all memory content to disk. This operation saves all objects currently in memory (all usable programs, all samples, and all sequences) to the destination volume on disk. The operation erases all data already existing in the destination disk volume. [Note: a program is usable if it uses at least one sample or if its "A/D In" setting is on.]

AllPgm(wp) — Saves all usable programs, together with all samples used by these programs, to the destination volume on disk. Does not save any sequences. Saves only those samples that are used with at least one program (does not save unused samples).

This operation erases all data already existing in the destination disk volume.

Edited — Saves all new data to the destination volume (all new and all edited objects that have not yet been saved to disk in their current form). Does not save objects that have not been changed since the most recent disk load.

AllSmp — Saves all samples into the destination volume.

Smp(Bank) — Saves the currently selected sample (or sample bank) to the destination volume. If a sample bank is selected, the A3000 also saves all of the samples used in the bank.

Knob 3 — Destination Type = Dsk, Vol

Use this knob together with Knob 4 or 5 to select the destination for the save.

Dsk — Use this to view or change the destination-disk setting. When you select Dsk, the identity of the currently selected disk appears above Knobs 4 and 5. If necessary, you can then turn either of those knobs to change the destination disk.

Vol — Use this to view or change the volume setting. When you select Vol, the name of the currently selected volume appears above Knobs 4 and 5. If necessary, you can then turn either of those knobs to change the destination volume

Knobs 4, 5 — Destination

Use either of these knobs to select the destination disk or volume

RECORD Function

You use the RECORD function to record a new sample.

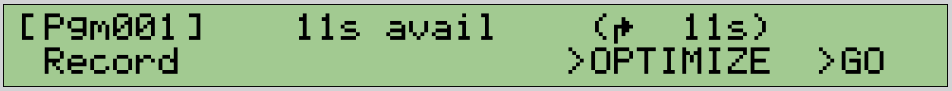
Important

Before beginning to record, you must first use the other RECORDING-mode functions to set up the recording environment.

RECORD - Record

Records a sample.

PLAY	PROGRAM	SAMPLE	EASY EDIT	EFFECT	SETUP	CONTROL
EDIT	TRIM / LOOP	MAP / OUT	FILTER	EG	LFO	MIDI / CTRL
REC	RECORD	SETUP	METER	EFFECT	EXT CTRL	MONITOR
DISK	PROGRAM	SAMPLE	SEQUENCE	VOLUME	DISK	IMPORT
UTILITY	TOTAL EQ	PANEL PLAY	SEQUENCE	MASTER	SYSTEM	MIDI



	Knob 1	Knob 2	Knob 3	Knob 4	Knob 5
Turn action	-	-	-	-	-
Push action	✔	✔	-	✔	✔

Use this function to record one or more samples.

- The function begins by displaying the "initial recording page" shown above — the first of several pages that appear during recording. (If you have set the Sample value in the Target page (☞230) to Replace, then >RETRY will appear in place of >GO above Knob 5.)
- The value shown above Knob 2 indicates the maximum length (in seconds) currently available for your recording.

Knob 1 ↑ Select P/S

Push the knob to move to the Program/Sample Selection screen. (☞95)

Knob 2 ↑ >ALLDEL

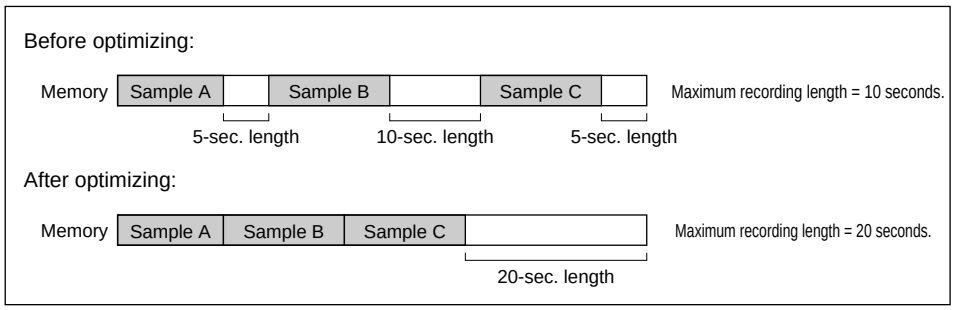
If you are in the process of recording a series of samples, you can use this command to delete all samples that you have just finished recording. This command is available only if you are using serial recording (only if the Sample value in the Target page (☞230) is set to New+), and only if you have already completed at least one recording in the series.

Knob 4

▲ >OPTIMIZE

The A3000 can record onto contiguous memory space only. Loading, deleting, and trimming of samples can result in gaps between adjacent samples in memory, reducing the amount of memory available for recording. You can use the >OPTIMIZE command to realign the samples, removing all gaps and leaving a single stretch of free memory — allowing for a longer recording.

The following illustration gives an example. Before optimization, the maximum recording length is only 10 seconds (the length of the largest free space). By optimizing, however, you increase the available length to 20 seconds.



Notice that the amount of contiguous memory that you can obtain by optimizing is indicated on the first line of the screen, directly above ">OPTIMIZE". There is no need to optimize if this value is equivalent to the time value indicated above Knob 2.

Push the knob to execute the optimization. The A3000 returns a confirmation screen. Push Knob 5 (>YES) to proceed, or Knob 4 (>NO) to cancel.

Knob 5

▲ >GO

Push the knob when you are ready to start recording. The A3000 will then display the "recording standby" page illustrated below.

- You can now start actual recording by pushing Knob 4 (>START).
- If you have set up a start trigger (by setting the StartBy parameter in the Trigger page to SrcIn), the A3000 will start recording automatically when the input level rises above the trigger level (unless you start recording earlier by pushing Knob 4). (☞234)
- If you are recording from an audio CD (if you have used the EXT CTRL function to set up playback from a CD-ROM drive), the CD will begin playback when standby screen appears. (☞242)

While recording is in progress, the A3000 displays one of the recording screens described below.

■ If Sample = Replace or New

If you have set the Sample parameter on the Target page (☞230) to Replace or New, then the following screen appears while recording is in progress.

- To end the recording at its current point, push Knob 5 (>FINISH). The A3000 registers the new sample and returns you to the initial recording screen.
- To abort the recording, push Knob 4 (>ABORT). The A3000 deletes the recorded waveform and related data, and returns you to the initial screen.
- If you have set up a stop trigger (if you have set StopBy at the Trigger page to SrcOut), then recording stops automatically when the input level falls below the trigger level (unless you push Knob 4 or Knob 5 first).
- If you are recording from an audio CD (external CD-ROM drive), CD playback also stops when you push Knob 4 or Knob 5.

■ If Sample = New+

If you have set the Sample parameter on the Target page (☞230) to New+, then the A3000 displays the following page while recording is in progress.

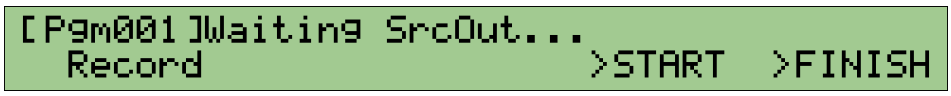
- To end (and register) the current recording and proceed to the next recording, push Knob 2 (>STOP). The A3000 returns to the recording standby page (☞224) and stands by to start the new recording.

  Note: If you have set up a stop trigger (if you have set StopBy at the Trigger page to SrcOut), then recording will stop automatically when the input level falls below the trigger level, unless you stop it sooner by pushing a knob.
- To abort the current recording and proceed to the next recording, push Knob 3 (>SKIP). The A3000 deletes the data that was just recorded, returns to the standby page, and stands by for the next recording.
- To end (and register) the current recording and terminate the serial recording sequence, push Knob 4 (>FINISH). The A3000 returns you to the initial recording screen.

- When you push Knob 2 (>STOP) or Knob 3 (>SKIP) to end the current recording and proceed to the next, the screen display depends on whether you have selected a stop trigger.

  If you have not selected a stop trigger: The A3000 immediately returns to the standby page and stands by to begin the next recording.

  If you have selected a stop trigger (if you have set StopBy to SrcOut): The A3000 stops the recording, but continues to wait for the input level to fall below the trigger before proceeding. In this case, the following screen appears.



  If you push Knob 4 (>START), the A3000 will immediately start recording the next sample. If you do nothing, the A3000 will wait for the level to fall below the trigger, and will then return to the standby page.

- If you push Knob 2 (>STOP) or Knob 3 (>SKIP) while recording from an audio CD (external CD-ROM drive), the A3000 automatically advances the CD position to the next index number. If the playback position is currently at the last index number in the track (or if the CD does not provide index data), the position advances to the next track.

SETUP Function

You use the SETUP function to set up for a recording — to select the input source, to set the recording start and stop methods, and to set a wide variety of other setup parameters.

SETUP - RecData

Sets basic recording parameters.

PLAY	PROGRAM	SAMPLE	EASY EDIT	EFFECT	SETUP	CONTROL
EDIT	TRIM / LOOP	MAP / OUT	FILTER	EG	LFO	MIDI / CTRL
REC	RECORD	SETUP	METER	EFFECT	EXT CTRL	MONITOR
DISK	PROGRAM	SAMPLE	SEQUENCE	VOLUME	DISK	IMPORT
UTILITY	TOTAL EQ	PANEL PLAY	SEQUENCE	MASTER	SYSTEM	MIDI

Turn Knob 1 to select RecData.

	Knob 1	Knob 2	Knob 3	Knob 4	Knob 5
Turn action	✔	✔	✔	✔	✔
Push action	✔	-	-	-	-

You use this page to designate the input source, to select the sample type (monaural or stereo), and to set the sampling frequency and the pretrigger time.

Knob 1 — Change Page / Select P/S

- Turn the knob to change to a different page within the SETUP function. Available pages are: RecData (this page), Target, KeyRnge, Trigger, and Process.
- Push the knob to move to the Program/Sample Selection screen. (☞95)

Knob 2 — Input = AD L, AD L/R, STOut, DIGITAL, OPTICAL

This setting selects the input source for the recording. Note that the DIGITAL and OPTICAL settings are effective only if you have installed the optional I/O expansion board (AIEB1 board).

AD L	Record analog signal from the front panel's INPUT-L jack.
AD L/R	Record analog signal from both front-panel input jacks (INPUT-L and INPUT-R).
STOut	Record the signal that the A3000 is producing and transmitting to its own stereo outputs. (A process called *resampling*: the A3000 re-records its own signal. You use this setting to record playback that you control from a MIDI keyboard or other such device.)

DIGITAL — Record the digital signal supplied to the DIGITAL IN connector on the AIEB1 expansion board.

OPTICAL — Record the digital signal supplied to the OPTICAL IN connector on the AIEB1 expansion board.

- You cannot apply recording effects to STOut, DIGITAL, or OPTICAL signals. If you select any of these inputs, the RecEfSW switch (in the **EFFECT** function's EfType page; ☞238) is forced to off.
- If you select DIGITAL or OPTICAL, the SmpType setting is forced to Stereo.
- If you select STOut, then MIDI control-change messages (as well as pitchbend and aftertouch messages) are all disabled during recording. In addition, maximum polyphony (the maximum number of monaural samples that can play at one time) is limited to 4 (so that you cannot record sound from more than 4 monaural or 2 stereo samples at any given moment).

Knob 3 ↶ SmpType = Mono, Stereo

This setting selects whether the new sample is stereo or monaural. Note that the Stereo setting is forced if Input is set to DIGITAL or OPTICAL.

Mono — Record as a monaural sample.
- If Input = AD L, the A3000 records the INPUT-L signal without change.
- If Input = AD L/R or STOut, the A3000 mixes the left and right signals to produce the monaural sample.

Stereo — Record as a stereo sample.
- If Input = AD L, the A3000 records the INPUT-L signal into both waveforms (left and right waveforms) of the new sample. (The two waveforms are therefore identical.)
- If Input = AD L/R or STOut, the A3000 records the L and R signals into the respective waveforms of the stereo sample.

Knob 4 ↶ Freq (varies according to Input setting)

This setting selects the sampling frequency the A3000 uses to record the input. Higher frequencies produce better sound — and in most cases you will want to use the highest frequency (44.1kHz) to secure the highest sound quality. But note that higher frequencies also consume more memory.

Available settings depend on the input source, as follows.

- If Input is set to AD L, AD L/R, or STOut, then you can select any of the following: 44.1k (44.1kHz), 22k or 22kLoFi (22.05kHz), 11k or 11kLoFi (11.025kHz), or 5k or 5kLoFi (5.5125kHz). [When converting to 22k, 11k, or 5k, the A3000 applies a filter to eliminate "return" noise produced by the conversion. The "LoFi" settings switch the filter off, resulting in a rougher sound.]
- If Input is set to DIGITAL or OPTICAL, then you can set the frequency to ext, ext/2, ext/4, or ext/8 (external clock x 1, 1/2, 1/4, or 1/8, respectively).
  Please also note the following additional points.
- If you select a frequency other than 44.1, the quality that you hear when monitoring the signal may not match the quality of the actual recording.

- For DIGITAL and OPTICAL inputs, the A3000 supports the following three clock frequencies only: 48kHz, 44.1kHz, and 32kHz. The A3000 can not accept input frequencies other than these. Note also that the A3000 does not filter out return noise when reducing the frequency to ext/2, ext/4, or ext/8. Also note that if you reduce the frequency, the quality that you hear when monitoring the signal may not match the recording quality.
- Note that you can not use the DIGITAL OUT connector (on the AIEB1 expansion board) to monitor the input signal. Note also that A3000's DIGITAL OUT frequency is fixed at 44.1kHz.

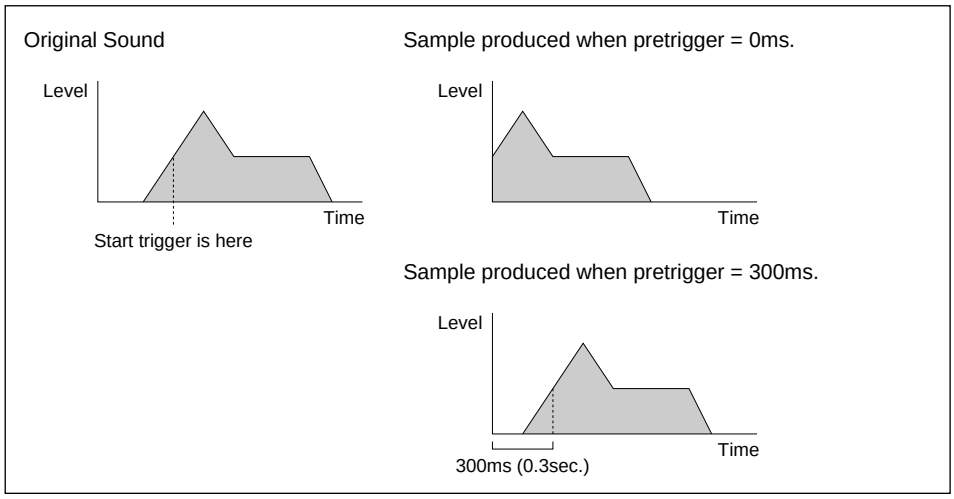
Knob 5

Pretrig = 0ms,...,500ms

Use this feature to add a "pretrigger" period to the recording, so that actual recording starts at a specified interval ahead of the start trigger. While in standby, the A3000 retains memory of recent input. When the A3000 receives the start trigger, it moves the start point back so as to include the pretrigger interval into the recording.

As an example, assume you want to record a sudden explosive sound from a tape cassette, and that you are using a manual trigger to do this (you push the >START knob when you hear the sound start). Since the sound comes up so suddenly, you will always push the knob too late. If you set the pretrigger to a 500ms, however, then you can wait 1/2 second after the sound has started before pushing the >START knob.

The pretrigger is especially helpful when you are using a signal-level trigger (when StartBy = SrcIn; ☞234), since it allows you to capture the attack portion of the target sound. If you set the level to 30 and the pretrigger to 0ms, you will miss any attack qualities as the level builds from 1 to 29. If you set the pretrigger to 300ms, however, you will be able to capture 0.3 second of attack.



SETUP - Target

Selects the recording method, sets the sample name, and assigns the sample to a program.

PLAY	PROGRAM	SAMPLE	EASY EDIT	EFFECT	SETUP	CONTROL
EDIT	TRIM / LOOP	MAP / OUT	FILTER	EG	LFO	MIDI / CTRL
REC	RECORD	SETUP	METER	EFFECT	EXT CTRL	MONITOR
DISK	PROGRAM	SAMPLE	SEQUENCE	VOLUME	DISK	IMPORT
UTILITY	TOTAL EQ	PANEL PLAY	SEQUENCE	MASTER	SYSTEM	MIDI

Turn Knob 1 to select Target.

	Knob 1	Knob 2	Knob 3	Knob 4	Knob 5
Turn action	✔	✔	-	-	✔
Push action	✔	-	✔	✔	-

Use this page to select the recording method (replacement, new, or serial), set the sample name, and assign the sample to a program.

Knob 1 — Change Page / Select P/S

- Turn the knob to change to a different page within the SETUP function. Available pages are: RecData, Target (this page), KeyRnge, Trigger, and Process.
- Push the knob to move to the Program/Sample Selection screen. (☞95)

Knob 2 — Sample = Replace, New, New+

This setting selects the recording method.

Replace	Record the new sound directly into the currently selected sample, overwriting (completely replacing) its waveform data. But retain all of the existing sample's parameter settings (key range, original key, etc.).
New	Record a new sample.
New+	Record a series of new samples.

- Note that Replace is not available if you have selected a sample bank rather than a sample.

Knobs 3, 4 — **Name**

- To change the name for the sample to be recorded, push this knob to proceed to the name editing screen. For information about how to edit name strings, see "Entering Names" (☞ 88). If you do not set a name, the A3000 uses the default name (if this is a New or New+ recording) or the existing name (if this is a Replace recording).
- If the name you choose matches the name of an existing sample, or if you are making a serial recording (New+ recording), the A3000 appends a sequential number to the new name(s).

Knob 5 — ToPgm — off, on, C1→, C2→, C3→, C4→, C5→

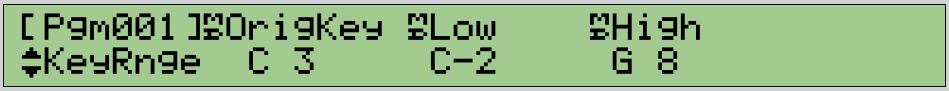
- Use this feature to select whether to immediately assign the recorded sample(s) to the currently selected program. If you decide to assign the sample, the A3000 will set the program's ToPgm switch for this sample to "on" as soon as recording of the sample is finished.
- This setting is not available if the you are making a Replace-type recording. In this case, the screen displays a "- - -" above the knob.
- If you are making a single new recording (if Sample = New), then you can set this value to on or off only.
  - If you select on, the A3000 immediately assigns the newly recorded sample to the currently selected program — so that you can hear the sample by playing the program.
  - If you select off, the new sample remains unassigned. You will not be able to play the sample until you assign it to some program.
- If you are making a series of new recording (if Sample = New+), then you can set this value to off, on, C1→, C2→, C3→, C4→, or C5→.
  - If you select on, the A3000 assigns all of the new samples to the currently selected program — so that you can hear all of the samples by playing the program.
  - If you select off, the new samples remain unassigned. You will not be able to play the samples until you assign them to some program.
  - If you select C1→, the A3000 maps the first recorded sample to key C1 of the currently selected program, the second sample to key C#1, the third sample to D1, and so on up the keyboard. Note that this key mapping automatically cancels any key-range settings that you have made in the SETUP function's KeyRnge page (☞232). As soon as you have finished recording, you can play the samples one at a time by playing a scale (starting at C1) at your keyboard.
  - The C2→ to C5→ settings work the same way as the C1→ setting, except that the C2→ setting maps the samples starting from C2 on the keyboard (C2, C2#, D2...), the C3→ setting maps the samples starting from C3, and so on.

SETUP - KeyRnge

Sets the key range and "original key" for the new sample(s).

PLAY	PROGRAM	SAMPLE	EASY EDIT	EFFECT	SETUP	CONTROL
EDIT	TRIM / LOOP	MAP / OUT	FILTER	EG	LFO	MIDI / CTRL
REC	RECORD	SETUP	METER	EFFECT	EXT CTRL	MONITOR
DISK	PROGRAM	SAMPLE	SEQUENCE	VOLUME	DISK	IMPORT
UTILITY	TOTAL EQ	PANEL PLAY	SEQUENCE	MASTER	SYSTEM	MIDI

Turn Knob 1 to select KeyRnge.



	Knob 1	Knob 2	Knob 3	Knob 4	Knob 5
Turn action	✔	✔	✔	✔	-
Push action	✔	✔	✔	✔	-

You use this page to set the key range and "original key" settings for the sample(s) that you are about to record.

Note that you cannot set these values if the Target page (☞230) is set up in either of the following ways.

- If the Sample parameter is set to Replace. In this case, the existing sample's settings are automatically retained.
- If the Sample parameter is set to New+ and the ToPgm parameter is set to C1→,...,C5→.

FYI

You can use the Note setting in the UTILITY | SYSTEM Display page (☞302) to select whether key values are shown by name ("C-2" to "G8") or by the corresponding MIDI note number (0 to 127). Descriptions below assume that you are using name display.

Knob 1 — Change Page / Select P/S

- Turn the knob to change to a different page within the SETUP function. Available pages are: RecData, Target, KeyRnge (this page), Trigger, and Process.
- Push the knob to move to the Program/Sample Selection screen. (☞95)

Knob 2 — OrigKey = C-2,...,G8 / MIDI IN

- Turn the knob to set the sample's "original key" — the key that best represents the sample's inherent pitch.
- Push the knob if you want to set the value using MIDI input. Be sure that the knob indicator is blinking, then transmit the note from your MIDI device. Then lock the value in by pushing the same knob again or by changing to a different screen.

Knob 3 Low = C-2,...,***High key*** **MIDI IN**

- Turn the knob to set the low end for the sample's key range.
- Push the knob if you want to set the value using MIDI input. Be sure that the knob indicator is blinking, then transmit the note from your MIDI device. Then push the same knob again, or else push a different MIDI IN knob or change to a different screen.

Knob 4 High = ***Low key***,...,G8 **MIDI IN**

- Turn the knob to set the high end for the sample's key range.
- Push the knob if you want to set the value using MIDI input. (See above.)

SETUP - Trigger

Selects the trigger types used to start and stop recording.

PLAY	PROGRAM	SAMPLE	EASY EDIT	EFFECT	SETUP	CONTROL
EDIT	TRIM / LOOP	MAP / OUT	FILTER	EG	LFO	MIDI / CTRL
REC	RECORD	SETUP	METER	EFFECT	EXT CTRL	MONITOR
DISK	PROGRAM	SAMPLE	SEQUENCE	VOLUME	DISK	IMPORT
UTILITY	TOTAL EQ	PANEL PLAY	SEQUENCE	MASTER	SYSTEM	MIDI

Turn Knob 1 to select Trigger.

	Knob 1	Knob 2	Knob 3	Knob 4	Knob 5
Turn action	✔	✔	✔	-	-
Push action	✔	-	-	-	-

You use this page to set the type of triggers used to start and stop actual recording.

Knob 1 — Change Page / Select P/S

- Turn the knob to change to a different page within the SETUP function. Available pages are: RecData, Target, KeyRnge, Trigger (this page), and Process.
- Push the knob to move to the Program/Sample Selection screen. (☞95)

Knob 2 — StartBy = ManOnly, SrcIn

Turn the knob to set the type of trigger used to start recording. The setting determines how the A3000 switches from standby into actual recording.

ManOnly — Manual trigger only. The A3000 does not begin recording until you push Knob 4 (>START) at the recording standby page (☞224)

SrcIn — The A3000 automatically begins recording when the input level rises above the SrcIn level specified in the METER function's TrgLvl page (☞237). But you are free to start recording earlier than this by pushing Knob 4 (>START) at the standby page.

Knob 3 — StopBy = ManOnly, SrcOut

Turn the knob to set the type of trigger used to stop recording.

ManOnly — Manual trigger only. The A3000 stops recording only when you push Knob 5 (>FINISH) or Knob 2 (>STOP), or when you run out of free memory.

SrcOut — The A3000 automatically stops recording when the input level falls below the SrcOut level specified in the METER function's TrgLvl page (☞237). But you are free to stop recording earlier than this by pushing Knob 5 (>FINISH) or Knob 2 (>STOP).

SETUP - Process

Selects whether to apply automatic normalization.

PLAY	PROGRAM	SAMPLE	EASY EDIT	EFFECT	SETUP	CONTROL
EDIT	TRIM / LOOP	MAP / OUT	FILTER	EG	LFO	MIDI / CTRL
REC	RECORD	SETUP	METER	EFFECT	EXT CTRL	MONITOR
DISK	PROGRAM	SAMPLE	SEQUENCE	VOLUME	DISK	IMPORT
UTILITY	TOTAL EQ	PANEL PLAY	SEQUENCE	MASTER	SYSTEM	MIDI

Turn Knob 1 to select Target.

```
[Pgm001] AutoNormalize
▲Proces    off
```

	Knob 1	Knob 2	Knob 3	Knob 4	Knob 5
Turn action	✔	✔	-	-	-
Push action	✔	-	-	-	-

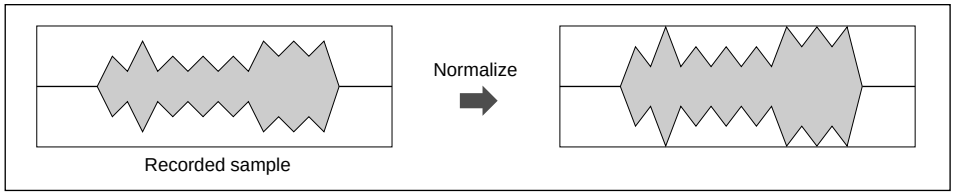
Use this page to select whether the A3000 normalizes samples immediately after recording them.

Knob 1 — Change Page / Select P/S

- Turn the knob to change to a different page within the SETUP function. Available pages are: RecData, Target, KeyRnge, Trigger, and Process (this page).
- Push the knob to move to the Program/Sample Selection screen. (☞95)

Knob 2 — AutoNormalize = on, off

- Set this on if you want the A3000 to normalize each new sample immediately after recording it.
- If you select on, the A3000 automatically adjusts the recorded waveform by proportionately raising all levels such that the highest level comes to just below the clip point, as illustrated below. (The "clip point" is the maximum level appropriate for digital processing.)
- Note that you can normalize a sample at any time using the EDIT mode's NORM command. (☞150)



METER Function

You use the METER function to check the input level, and to set the trigger levels used to start and stop recording.

METER - Meter

PLAY	PROGRAM	SAMPLE	EASY EDIT	EFFECT	SETUP	CONTROL
EDIT	TRIM / LOOP	MAP / OUT	FILTER	EG	LFO	MIDI / CTRL
REC	RECORD	SETUP	METER	EFFECT	EXT CTRL	MONITOR
DISK	PROGRAM	SAMPLE	SEQUENCE	VOLUME	DISK	IMPORT
UTILITY	TOTAL EQ	PANEL PLAY	SEQUENCE	MASTER	SYSTEM	MIDI

Turn Knob 1 to select Meter.

	Knob 1	Knob 2	Knob 3	Knob 4	Knob 5
Turn action	✔	-	-	-	✔
Push action	✔	-	-	-	-

- Use the displayed level meter to check the input level before beginning recording. If you are recording the A3000's own output signal (if Input = STOut on the SETUP function's RecData page [☞227]), then you can use Knob 5 to adjust the level.
- You can use the monitor feature to listen to the sound of the signal while this page remains on the display. Use the MONITOR function (☞243) to switch monitoring on or off, and to select the output destination for the monitor signal.
- If you are recording an analog signal, adjust the front panel's REC VOL knob so that maximum input level reaches (but does not exceed) the [C] mark that appears to the right of the meter. The [C] mark indicates the "clip" level. Note that it is not possible to adjust the input level if you are recording a digital signal.
- If you have selected DIGITAL or OPTICAL as your input source (☞227) but the A3000 is unable to receive the signal (because the cable is not connected, or because the A3000 does not recognize the incoming frequency), the A3000 displays the following message to indicate that it requires valid input: "DIG or OPT signal input is required."

Knob 1 — Change Page / Select P/S

- Turn the knob to switch between the function's Meter and TrgLvl pages.
- Push the knob to move to the Program/Sample Selection screen. (☞95)

Knob 2 — RecLevel = -12,...,+12

Sets the recording level used when recording the A3000's own output signal (resampling). This adjustment is available only if Input is set to STOut. (☞227)

METER - TrgLvl

Sets the recording trigger levels.

PLAY	PROGRAM	SAMPLE	EASY EDIT	EFFECT	SETUP	CONTROL
EDIT	TRIM / LOOP	MAP / OUT	FILTER	EG	LFO	MIDI / CTRL
REC	RECORD	SETUP	METER	EFFECT	EXT CTRL	MONITOR
DISK	PROGRAM	SAMPLE	SEQUENCE	VOLUME	DISK	IMPORT
UTILITY	TOTAL EQ	PANEL PLAY	SEQUENCE	MASTER	SYSTEM	MIDI

Turn Knob 1 to select TrgLvl.

	Knob 1	Knob 2	Knob 3	Knob 4	Knob 5
Turn action	✔	-	-	✔	✔
Push action	✔	-	-	-	-

- Use this page to set the input levels required to start and stop recording. These settings are effective only if you have selected SrcIn and/or SrcOut triggering at the SETUP Trigger page (☞234).
- Use the SrcIn value to set the level for the recording start trigger. Use SrcOut to set the level for the stop trigger.
- You can use the monitor feature to listen to the sound of the signal while this page is on the display. Use the MONITOR function (☞243) to switch monitoring on or off, and to select the output destination for the monitor signal.

Knob 1 — Change Page / Select P/S

- Turn the knob to switch between the function's Meter and TrgLvl pages.
- Push the knob to move to the Program/Sample Selection screen. (☞95)

Knob 4 — SrcIn = 0,...,63

- This value sets the input level that triggers the start of recording. The setting is meaningful only if you have set the Trigger page's StartBy parameter to SrcIn.
- The display's upper-level triangle mark (▲) points to the position of the SrcIn level on the graphic level meter.

Knob 5 — SrcOut = 0,...,63

- This value sets the input level that triggers the end of recording. The setting is meaningful only if you have set the Trigger page's StopBy parameter to SrcOut.
- The display's lower-level triangle mark (▲) points to the position of the SrcOut level on the graphic level meter.

EFFECT Function

The EFFECT function sets the recording effect(s). If the recording-effect switch is enabled, the A3000 passes the incoming signal through the selected effect(s) before recording it into memory.

Most of the settings provided here are identical to those that you use to set up the program effects. The explanations below describe only those parameters that are different. For detailed information, refer to the explanations for the PLAY | EFFECT function. (☞121)

EFFECT - EfType (Select the Effect Types)

Selects effect types and sets effect use on or off.

PLAY	PROGRAM	SAMPLE	EASY EDIT	EFFECT	SETUP	CONTROL
EDIT	TRIM / LOOP	MAP / OUT	FILTER	EG	LFO	MIDI / CTRL
REC	RECORD	SETUP	METER	EFFECT	EXT CTRL	MONITOR
DISK	PROGRAM	SAMPLE	SEQUENCE	VOLUME	DISK	IMPORT
UTILITY	TOTAL EQ	PANEL PLAY	SEQUENCE	MASTER	SYSTEM	MIDI

Turn Knob 1 to select EfType.

	Knob 1	Knob 2	Knob 3	Knob 4	Knob 5
Turn action	✔	✔	✔	✔	✔
Push action	✔	✔	✔	✔	-

- With the exception of the Knob 5 setting, this page is identical to the corresponding PLAY| EFFECT page (☞121). Knob 5, however, sets the recording-effect switch rather than the effect-block interconnection.
- Note that the A3000 always uses a "1→2→3→" connection type when applying recording effects. The incoming signal passes through Effect 1 first, then through Effect 2, and then through Effect 3.
- For information about the available effect types, refer to the "Effect type list" in the Appendix. (☞335)

Knob 5 RecEfSW = off, 1→2→3→

- This setting determines whether the A3000 passes the incoming signal through the effect blocks before recording it. If you set the value to off, the signal does not receive any effect. If you set the value to 1→2→3→, the signal passes sequentially through all three blocks.
- Note that this setting is forced to off if the Input setting (☞227) is set to STOut, DIGITAL, or OPTICAL.

EFFECT - RecEf1,...,RecEf3 (Edit the Effects)

Use this page to edit the recording effects. The page's appearance and operation varies according to whether the RecEfEditType value is set to full or favorite (☞240).

■ If "RecEfEditType" is set to "full", the page appears as follows.

Sets parameters for the selected effect (Effect 1, 2, or 3).

PLAY	PROGRAM	SAMPLE	EASY EDIT	EFFECT	SETUP	CONTROL
EDIT	TRIM / LOOP	MAP / OUT	FILTER	EG	LFO	MIDI / CTRL
REC	RECORD	SETUP	METER	EFFECT	EXT CTRL	MONITOR
DISK	PROGRAM	SAMPLE	SEQUENCE	VOLUME	DISK	IMPORT
UTILITY	TOTAL EQ	PANEL PLAY	SEQUENCE	MASTER	SYSTEM	MIDI

Turn Knob 1 to select RecEf1, RecEf2, or RecEf3.

	Knob 1	Knob 2	Knob 3	Knob 4	Knob 5
Turn action	✔	✔	✔	✔	✔
Push action	✔	-	-	-	-

- This page is identical to the corresponding page in the PLAY | EFFECT function. (☞124)
- Available parameters differ for each effect type. For a listing of parameters and their meanings, refer to the "Effect parameter list" in the Appendix. (☞337)

■ If "RecEfEditType" is set to "favorite", the page looks like this.

Sets parameters for the selected effect (Effect 1, 2, or 3).

PLAY	PROGRAM	SAMPLE	EASY EDIT	EFFECT	SETUP	CONTROL
EDIT	TRIM / LOOP	MAP / OUT	FILTER	EG	LFO	MIDI / CTRL
REC	RECORD	SETUP	METER	EFFECT	EXT CTRL	MONITOR
DISK	PROGRAM	SAMPLE	SEQUENCE	VOLUME	DISK	IMPORT
UTILITY	TOTAL EQ	PANEL PLAY	SEQUENCE	MASTER	SYSTEM	MIDI

Turn Knob 1 to select RecEf1, RecEf2, or RecEf3.

	Knob 1	Knob 2	Knob 3	Knob 4	Knob 5
Turn action	✔	✔	✔	✔	✔
Push action	✔	✔	✔	✔	✔

- This page is identical to the corresponding page in the PLAY | EFFECT function. (☞125)
- Available parameters differ for each effect type. For a listing of parameters and their meanings, refer to the "Effect parameter list" in the Appendix. (☞337)

EFFECT - In&Out (Input/output levels and pan)

Sets input level, output level, and pan for each effect (Effects 1, 2, and 3).

PLAY	PROGRAM	SAMPLE	EASY EDIT	EFFECT	SETUP	CONTROL
EDIT	TRIM / LOOP	MAP / OUT	FILTER	EG	LFO	MIDI / CTRL
REC	RECORD	SETUP	METER	EFFECT	EXT CTRL	MONITOR
DISK	PROGRAM	SAMPLE	SEQUENCE	VOLUME	DISK	IMPORT
UTILITY	TOTAL EQ	PANEL PLAY	SEQUENCE	MASTER	SYSTEM	MIDI

Turn Knob 1 to select In&Out.

	Knob 1	Knob 2	Knob 3	Knob 4	Knob 5
Turn action	✔	✔	✔	✔	✔
Push action	✔	-	-	-	-

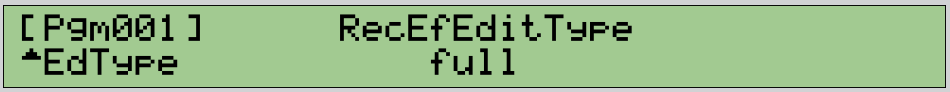
This page is identical to the corresponding page in the PLAY | EFFECT function. (☞126)

EFFECT - EdType (Effect Edit Type)

Selects the effect-edit method: either “full” or “favorite.”

PLAY	PROGRAM	SAMPLE	EASY EDIT	EFFECT	SETUP	CONTROL
EDIT	TRIM / LOOP	MAP / OUT	FILTER	EG	LFO	MIDI / CTRL
REC	RECORD	SETUP	METER	EFFECT	EXT CTRL	MONITOR
DISK	PROGRAM	SAMPLE	SEQUENCE	VOLUME	DISK	IMPORT
UTILITY	TOTAL EQ	PANEL PLAY	SEQUENCE	MASTER	SYSTEM	MIDI

Turn Knob 1 to select EdType.



	Knob 1	Knob 2	Knob 3	Knob 4	Knob 5
Turn action	✔	-	✔	-	-
Push action	✔	-	-	-	-

This page is identical to the corresponding page in the PLAY | EFFECT function. (☞127)

EXT CTRL Function

You use this function to control playback of an audio CD from an external CD-ROM drive (SCSI drive). This feature lets you record samples from CD playback.

Important

To record CD playback, you must first connect the Analog Out (or Audio Out) connector from the CD-ROM drive to the analog input(s) on the A3000's front panel. You must also select use of analog input by setting the Input parameter (on the RecData page; ☞227) to AD L/R or AD L.

EXT CTRL - CD-ROM

Selects the CD-ROM drive (by its SCSI ID).

PLAY	PROGRAM	SAMPLE	EASY EDIT	EFFECT	SETUP	CONTROL
EDIT	TRIM / LOOP	MAP / OUT	FILTER	EG	LFO	MIDI / CTRL
REC	RECORD	SETUP	METER	EFFECT	EXT CTRL	MONITOR
DISK	PROGRAM	SAMPLE	SEQUENCE	VOLUME	DISK	IMPORT
UTILITY	TOTAL EQ	PANEL PLAY	SEQUENCE	MASTER	SYSTEM	MIDI

Turn Knob 1 to select CD-ROM.

	Knob 1	Knob 2	Knob 3	Knob 4	Knob 5
Turn action ↶	✔	✔	-	-	-
Push action ▲	✔	-	-	-	-

Use this page to designate the CD-ROM drive that you want to control. You designate the drive by selecting its SCSI ID.

Knob 1 ↶ **Change Page** ▲ **Select P/S**

- Turn the knob to switch between the function's CD-ROM and CD-DA pages.
- Push the knob to move to the Program/Sample Selection screen. (☞95)

Knob 2 ↶ SCSI ID = 0,...,7

Turn the knob to select the SCSI ID of the CD-ROM drive that you want to record from.

The right side of the screen indicates the name (and manufacturer) of the device connected to the currently selected SCSI ID. Turn the knob until you see the name (manufacturer) of the CD-ROM drive that you want to use.

EXT CTRL - CD-DA

Controls CD playback.

PLAY	PROGRAM	SAMPLE	EASY EDIT	EFFECT	SETUP	CONTROL
EDIT	TRIM / LOOP	MAP / OUT	FILTER	EG	LFO	MIDI / CTRL
REC	RECORD	SETUP	METER	EFFECT	EXT CTRL	MONITOR
DISK	PROGRAM	SAMPLE	SEQUENCE	VOLUME	DISK	IMPORT
UTILITY	TOTAL EQ	PANEL PLAY	SEQUENCE	MASTER	SYSTEM	MIDI

Turn Knob 1 to select CD-DA.

	Knob 1	Knob 2	Knob 3	Knob 4	Knob 5
Turn action	✔	✔	✔	-	-
Push action	✔	-	-	-	✔

Use this page to set up playback from the audio CD mounted in the selected CD-ROM SCSI drive.

Knob 1 **Change Page** **Select P/S**

- Turn the knob to switch between the function's CD-ROM and CD-DA pages.
- Push the knob to move to the Program/Sample Selection screen. (☞95)

Knob 2 Track = 1,...

Selects the track at which playback starts.

Knob 3 Index = 1,...

Selects the index location (within the selected track) at which playback starts..

Knob 5 >PLAY

- Push this knob to start CD playback. Playback begins at the track and index location selected by Knobs 2 and 3.
- The following screen appears while playback is in progress. You can push Knob 5 (>STOP) to stop the playback, or push Knob 4 (>PAUSE) to pause the playback.

- If you push Knob 4 (>PAUSE) at the above screen, the A3000 pauses the play and displays the following screen. You can then resume play by pushing Knob 4 (>CONTINUE), or end it by pushing Knob 5 (>STOP).

MONITOR Function

This function sets up the monitoring feature, so that you can monitor the input signal as you record it. You can also use this function to generate a metronome click that you can use to help time your recording.

MONITOR - Monitor

Sets up the input monitor.

PLAY	PROGRAM	SAMPLE	EASY EDIT	EFFECT	SETUP	CONTROL
EDIT	TRIM / LOOP	MAP / OUT	FILTER	EG	LFO	MIDI / CTRL
REC	RECORD	SETUP	METER	EFFECT	EXT CTRL	MONITOR
DISK	PROGRAM	SAMPLE	SEQUENCE	VOLUME	DISK	IMPORT
UTILITY	TOTAL EQ	PANEL PLAY	SEQUENCE	MASTER	SYSTEM	MIDI

Turn Knob 1 to select Monitor.

	Knob 1	Knob 2	Knob 3	Knob 4	Knob 5
Turn action	✔	✔	✔	-	-
Push action	✔	-	-	-	✔

Use this page to switch monitoring on or off, to select the monitor output, and to set the monitor level.

Knob 1 — Change Page / Select P/S

- Turn the knob to switch between the function's Monitor and Click pages.
- Push the knob to move to the Program/Sample Selection screen. (☞95)

Knob 2 — Output = Stereo, ASL&R, AS1&2, AS3&4, AS5&6, DIG&OPT

- Turn the knob to select the output location for the monitor signal.
- Note that the AS1&2, AS3&4, AS5&6, and DIG&OPT settings are effective only if you have installed the optional AIEB1 expansion board.
- This setting is forced to Stereo if the A3000 is taking its input from the DIGITAL or OPTICAL connector (if the Input setting in the RecData page (☞227) is set to DIGITAL or OPTICAL).

Knob 3 — Level = 0,...,127

- Turn the knob to set the monitor's output level. (This setting does not affect the level of the input signal.)
- Note that you cannot adjust this setting if using OPTICAL or DIGITAL input.

Knob 5 Monitor = off, on

- Turn the knob to switch monitoring on or off. If you set the value to off, the A3000 will not relay the input signal to the selected monitor output.
- If you set the value to on, you will be able to monitor the signal while working at any of the pages within RECORDING mode.

MONITOR - Click

Creates a "click" sample.

PLAY	PROGRAM	SAMPLE	EASY EDIT	EFFECT	SETUP	CONTROL
EDIT	TRIM / LOOP	MAP / OUT	FILTER	EG	LFO	MIDI / CTRL
REC	RECORD	SETUP	METER	EFFECT	EXT CTRL	MONITOR
DISK	PROGRAM	SAMPLE	SEQUENCE	VOLUME	DISK	IMPORT
UTILITY	TOTAL EQ	PANEL PLAY	SEQUENCE	MASTER	SYSTEM	MIDI

Turn Knob 1 to select Click.

	Knob 1	Knob 2	Knob 3	Knob 4	Knob 5
Turn action	✔	✔	✔	✔	✔
Push action	✔	-	-	-	-

- Use this page to set up a metronome sound that you can use to help time the recording of drum and percussion phrases.
- When you set Click to on (Knob 5), the A3000 generates a special sample (named "Click") in main memory. (The A3000 will not create the sample, however, if a sample with this name already exists.) It then uses the sample to produce the metronome sound while you are working in RECORDING mode.
- You can select the output destination for the click by editing the "Click" sample.

Knob 1 **Change Page** **Select P/S**

- Turn the knob to switch between the function's Monitor and Click pages.
- Push the knob to move to the Program/Sample Selection screen. (☞95)

Knob 2 Tempo = 80:00,...,159.99

Sets the tempo for the click.

Knob 3 Level = 0,...,127

Sets the output level for the click.

Knob 4 Beat = 1,...,15

Sets the number of beats.

Knob 5 Click = off, on

- Set this on if you want to output the click sound. If the setting is on, the A3000 continues to generate the click while you are working in RECORDING mode.
- If the setting is on, the A3000 will include click information into the samples that you record. The information is set into the sample's parameter data, and does not affect the waveform itself. You can later use the click data as an aid when editing the sample's waveform addresses. (☞164, 166)

- Be careful if using the click while recording from a microphone, since it is possible for the microphone to pick up the click sound and record it into the waveform.

Chapter 7
DISK Mode

DISK Mode

You use DISK mode to load data from disk, and to manage your disks, volumes, and SCSI setup.

DISK Functions

DISK mode comprises the six functions described below.

PROGRAM

Use this function to load one or all programs from disk into main memory. (☞259)

SAMPLE

Use this function to load one or all samples from disk into main memory. (☞261)

SEQUENCE

Use this function to load one or all sequences from disk into main memory. (☞264)

VOLUME

Use this to create and select disk volumes, and to load all data from a volume. (☞266)

DISK

Use this to select a disk, to format disks, and to manage your disk partitions. (☞272)

IMPORT

This function lets you load samples and sound data created by or for other sampler models. (☞272)

Important

Remember that when you format a disk, you lose all data currently existing in the disk. Be careful to avoid accidental data loss.

COMMAND Pages

This section describes the command screens (*command pages*) that you can access by pressing the COMMAND key while working in DISK mode.

LOAD

Loads the selected disk-resident program into any program number in memory.

PLAY	PROGRAM	SAMPLE	EASY EDIT	EFFECT	SETUP	CONTROL
EDIT	TRIM / LOOP	MAP / OUT	FILTER	EG	LFO	MIDI / CTRL
REC	RECORD	SETUP	METER	EFFECT	EXT CTRL	MONITOR
DISK	PROGRAM	SAMPLE	SEQUENCE	VOLUME	DISK	IMPORT
UTILITY	TOTAL EQ	PANEL PLAY	SEQUENCE	MASTER	SYSTEM	MIDI

Press the COMMAND key.

```
Command                    Pgm001:"Pgm 001  " To
 >LOAD                     Pgm001:"Pgm 001  "
```

	Knob 1	Knob 2	Knob 3	Knob 4	Knob 5
Turn action	-	-	✔	✔	-
Push action	✔	-	-	-	-

Use this command when you want to load the selected disk-resident program into main memory under a different program number. You can load the program into any program number (001 to 128) on the memory side. The number at the disk side remains unchanged.

Knob 1 ▲ >LOAD

Push the knob when you are ready to execute the load. The A3000 returns a confirmation screen. Push Knob 5 (>YES) to proceed with the load, or Knob 4 (>NO) to cancel.

Knobs 3, 4 **Program** = 001,...,128

Turn either knob to select the destination program number (memory-side program number). The bottom line of the screen displays the destination number.

DELETE

Deletes a sample, sequence, or volume from disk.

PLAY	PROGRAM	SAMPLE	EASY EDIT	EFFECT	SETUP	CONTROL
EDIT	TRIM / LOOP	MAP / OUT	FILTER	EG	LFO	MIDI / CTRL
REC	RECORD	SETUP	METER	EFFECT	EXT CTRL	MONITOR
DISK	PROGRAM	SAMPLE	SEQUENCE	VOLUME	DISK	IMPORT
UTILITY	TOTAL EQ	PANEL PLAY	SEQUENCE	MASTER	SYSTEM	MIDI

Press the COMMAND key, then turn Knob 1 to select >DELETE.

	Knob 1	Knob 2	Knob 3	Knob 4	Knob 5
Turn action	✔	-	-	✔	✔
Push action	✔	-	-	-	-

Use this command to delete a sample or sequence within the currently selected volume, or to delete the entire volume. (The command's operation depends on the function you are working in: SAMPLE, SEQUENCE, or VOLUME.)

Important

- If you are deleting a volume, keep in mind that the deletion will cause loss of all objects stored within that volume.
- Note that it is not possible to delete the volume on a floppy disk.

Knob 1 — Change Page ▲ >DELETE

- Turn the knob to change to a different command page. (Only available if you are working in the VOLUME function.)
- Push the knob when you are ready to delete the sample, sequence, or volume indicated above Knob 4 and 5. The A3000 returns a confirmation screen. Push Knob 5 (>YES) to proceed with the deletion, or Knob 4 (>NO) to cancel.

Knobs 4, 5 — Sample | Sequence | Volume = name

- Turn either knob to select the sample, sequence, or volume that you want to delete. (Operation depends on the function you are currently working in: SAMPLE, SEQUENCE, or VOLUME.)
- Note that if you select a sample bank for deletion, the A3000 will delete the bank itself but will not delete the samples contained in the bank.

COPY

Copies the contents of the selected volume into another volume.

PLAY	PROGRAM	SAMPLE	EASY EDIT	EFFECT	SETUP	CONTROL
EDIT	TRIM / LOOP	MAP / OUT	FILTER	EG	LFO	MIDI / CTRL
REC	RECORD	SETUP	METER	EFFECT	EXT CTRL	MONITOR
DISK	PROGRAM	SAMPLE	SEQUENCE	VOLUME	DISK	IMPORT
UTILITY	TOTAL EQ	PANEL PLAY	SEQUENCE	MASTER	SYSTEM	MIDI

Press the COMMAND key, then turn Knob 1 to select >COPY.

	Knob 1	Knob 2	Knob 3	Knob 4	Knob 5
Turn action	✔	-	✔	✔	✔
Push action	✔	-	-	-	-

- This command copies all data from one volume into another. The copy operation deletes (replaces) all data already existing in the destination volume.
- You use this command page to select the destination volume only. You must select the source volume before you call this page.
- Note that it is not possible to copy volumes to or from floppy disk.

Knob 1 — Change Page — >COPY

- Turn the knob to change to a different command page.
- Push the knob when you are ready to execute the copy. The A3000 returns a confirmation screen. Push Knob 5 (>YES) to proceed with the copy, or Knob 4 (>NO) to cancel.

Knob 3 — Destination Type = Dsk, Vol

Use this knob together with Knob 4 or 5 to select the destination volume for the copy.

Dsk — Use this to view or change the destination-disk setting. When you select Dsk, the identity of the currently selected disk appears above Knobs 4 and 5. If necessary, you can then turn either of those knobs to change the destination disk.

Vol — Use this to change the volume setting. When you select Vol, the name of the currently selected volume appears above Knobs 4 and 5. If necessary, you can then turn either of those knobs to change the destination volume.

Knobs 4, 5 — Destination

Use either knob to select the destination disk or volume.

FORMAT

Formats the selected SCSI disk. (Fast format)

PLAY	PROGRAM	SAMPLE	EASY EDIT	EFFECT	SETUP	CONTROL
EDIT	TRIM / LOOP	MAP / OUT	FILTER	EG	LFO	MIDI / CTRL
REC	RECORD	SETUP	METER	EFFECT	EXT CTRL	MONITOR
DISK	PROGRAM	SAMPLE	SEQUENCE	VOLUME	DISK	IMPORT
UTILITY	TOTAL EQ	PANEL PLAY	SEQUENCE	MASTER	SYSTEM	MIDI

Press the COMMAND key, then turn Knob 1 to select >FORMAT.

```
Command      ID  NumOfPart      Name
>FORMAT       2:          1   "HD1                 "
```

	Knob 1	Knob 2	Knob 3	Knob 4	Knob 5
Turn action	✔	✔	✔	-	-
Push action	✔	-	-	✔	✔

Use this command to fast-format and partition a SCSI disk.

Important

- Formatting a disk causes loss of all data on the disk.
- You can divide the disk into as many as 8 partitions when formatting it, but you cannot set specific partition sizes. The A3000 automatically generates equally sized partitions.
- The A3000 cannot use partitions larger than 512 megabytes. Be sure to set enough partitions to keep partition size to 512MB or less.
- This operation applies fast formatting (logical formatting) only. If you need to format a disk that was previously used with another device, please use the PHYS_FMT (physical format) command instead (☞254).

FYI

- You cannot use this command to format floppy disks. To format a floppy disk, use the FD_FMT command page. (☞258)
- If you need to format a specific partition only, use the PART_FMT command (☞256).
- The A3000 uses a proprietary disk format for SCSI disks. The format is compatible with the Yamaha A7000, but is not recognized by computers or other such devices.

Knob 1 **Change Page** >FORMAT

- Turn the knob to change to a different command page.
- Push the knob when you are ready to execute the format. The A3000 returns a confirmation screen. Push Knob 5 (>YES) to proceed with the format, or Knob 4 (>NO) to cancel.

Knob 2 ID = 0,...,7

Use this knob to select the disk that you want to format, by its SCSI ID. Be careful to select the correct ID; do not select the wrong disk, or an unused ID, or the ID of the A3000 itself.

Knob 3 NumOfPart = 1,...,8

- Use this knob to set the number of partitions that you want to create on the disk. If you set the value to 1, the A3000 sets the entire disk up as a single partition.
- Remember that the A3000 cannot use partitions larger than 512KB. Consider the total size of your disk, and set enough partitions so that partition size does exceed 512KB.

Knobs 4, 5 Name

The bottom line of the screen shows the name of the disk or of the first partition (if you have created multiple partitions). If you wish to change the name, push Knob 4 or Knob 5 to proceed to the name editing screen. For information about how to edit name strings, see "Entering Names" (☞88).

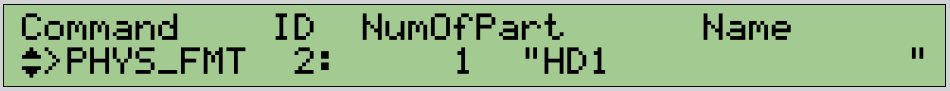
If you have created multiple partitions, the first partition takes the name shown here, while subsequent partitions take the same name followed by a sequential number (located at the far right side of the name field). If you have created a 3-partition disk under the name "HardDisk", for example, then the first partition is named "HardDisk", the second is named "HardDisk 1", and the third is named "HardDisk 2."

PHYS_FMT (Physical Format)

Formats the selected SCSI disk. (Physical format)

PLAY	PROGRAM	SAMPLE	EASY EDIT	EFFECT	SETUP	CONTROL
EDIT	TRIM / LOOP	MAP / OUT	FILTER	EG	LFO	MIDI / CTRL
REC	RECORD	SETUP	METER	EFFECT	EXT CTRL	MONITOR
DISK	PROGRAM	SAMPLE	SEQUENCE	VOLUME	DISK	IMPORT
UTILITY	TOTAL EQ	PANEL PLAY	SEQUENCE	MASTER	SYSTEM	MIDI

Press the COMMAND key, then turn Knob 1 to select >PHYS_FMT.



	Knob 1	Knob 2	Knob 3	Knob 4	Knob 5
Turn action	✔	✔	✔	-	-
Push action	✔	-	-	✔	✔

Use this command to physically format and partition a SCSI disk.

Important

- Formatting a disk causes loss of all data on the disk.
- You can divide the disk into as many as 8 partitions when formatting it, but you cannot set specific partition sizes. The A3000 automatically generates equally sized partitions.
- The A3000 cannot use partitions larger than 512 megabytes. Be sure to set enough partitions to keep partition size to 512MB or less.
- This operation physically formats the disk (low-level format). The operation takes longer than the fast-format that you can execute from the FORMAT command page (☞252).

FYI

- You cannot use this command to format floppy disks. To format a floppy disk, use the FD_FMT command page. (☞258)
- The A3000 uses a proprietary disk format for SCSI disks. The format is compatible with the Yamaha A7000, but is not recognized by computers or other such devices.

Knob 1 **Change Page** >PHYS_FMT

- Turn the knob to change to a different command page.
- Push the knob when you are ready to execute the format. The A3000 returns a confirmation screen. Push Knob 5 (>YES) to proceed with the format, or Knob 4 (>NO) to cancel.

Knob 2 ID = 0,...,7

Use this knob to select the disk that you want to format, by its SCSI ID. Be careful to select the correct ID; do not select the wrong disk, or an unused ID, or the ID of the A3000 itself.

Knob 3 NumOfPart = 1,...,8

- Use this knob to set the number of partitions that you want to create on the disk. If you set the value to 1, the A3000 sets the entire disk up as a single partition.
- Remember that the A3000 cannot use partitions larger than 512KB. Consider the total size of your disk, and set enough partitions so that partition size does exceed 512KB.

Knobs 4, 5 Name

The bottom line of the screen shows the name of the disk or of the first partition (if you have created multiple partitions). If you wish to change the name, push Knob 4 or Knob 5 to proceed to the name editing screen. For information about how to edit name strings, see "Entering Names" (☞88).

If you have created multiple partitions, the first partition takes the name shown here, while subsequent partitions take the same name followed by a sequential number (located at the far right side of the name field). If you have created a 3-partition disk under the name "HardDisk", for example, then the first partition is named "HardDisk", the second is named "HardDisk 1", and the third is named "HardDisk 2."

PART_FMT (Format a Partition)

Formats the selected partition. (Fast format).

PLAY	PROGRAM	SAMPLE	EASY EDIT	EFFECT	SETUP	CONTROL
EDIT	TRIM / LOOP	MAP / OUT	FILTER	EG	LFO	MIDI / CTRL
REC	RECORD	SETUP	METER	EFFECT	EXT CTRL	MONITOR
DISK	PROGRAM	SAMPLE	SEQUENCE	VOLUME	DISK	IMPORT
UTILITY	TOTAL EQ	PANEL PLAY	SEQUENCE	MASTER	SYSTEM	MIDI

Press the COMMAND key, then turn Knob 1 to select >PART_FMT.

```
Command     ID  Partition      Name
▲▼>PART_FMT  2:      1  "HD1              "
```

	Knob 1	Knob 2	Knob 3	Knob 4	Knob 5
Turn action ↶↷	✔	✔	✔	-	-
Push action ▲	✔	-	-	✔	✔

Use this command to fast-format a specified partition on the SCSI disk.

Important

Formatting a partition causes loss of all data existing in that partition.

FYI

- You cannot use this command to format floppy disks. To format a floppy disk, use the FD_FMT command page. (☞258).
- The A3000 uses a proprietary disk format for SCSI disks. This format is not recognized by computers and other foreign devices.

Knob 1

↶↷ **Change Page** ▲ >PART_FMT

- Turn the knob to change to a different command page.
- Push the knob when you are ready to execute the format. The A3000 returns a confirmation screen. Push Knob 5 (>YES) to proceed with the format, or Knob 4 (>NO) to cancel.

Knob 2

↶↷ ID = 0,...,7

Use this knob to select the SCSI ID of the disk containing the partition that you want to format. Be careful to select the correct ID; do not select the wrong disk, or an unused ID, or the ID of the A3000 itself.

Knob 3

↶↷ Partition = 1,...,8

Turn the knob to select the partition that you want to format, by its partition number. Note that the A3000 does not show partition numbers for non-existent partitions.

Knobs 4, 5 ▲ Name

If you wish to change the name of the partition, push Knob 4 or Knob 5 to proceed to the name editing screen. For information about how to edit name strings, see “Entering Names” (☞88).

FD_FMT (Format a Floppy Disk)

Formats a floppy disk.

PLAY	PROGRAM	SAMPLE	EASY EDIT	EFFECT	SETUP	CONTROL
EDIT	TRIM / LOOP	MAP / OUT	FILTER	EG	LFO	MIDI / CTRL
REC	RECORD	SETUP	METER	EFFECT	EXT CTRL	MONITOR
DISK	PROGRAM	SAMPLE	SEQUENCE	VOLUME	DISK	IMPORT
UTILITY	TOTAL EQ	PANEL PLAY	SEQUENCE	MASTER	SYSTEM	MIDI

Press the COMMAND key, then turn Knob 1 to select >FD_FMT.

	Knob 1	Knob 2	Knob 3	Knob 4	Knob 5
Turn action ↷	✔	✔	-	-	-
Push action ▲	✔	-	-	✔	✔

Use this command to format a floppy disk.

Important

- Formatting a disk causes loss of all data existing in that disk.
- You cannot format a floppy disk if the disk's "write protect" tab is enabled (if the "window" on the disk casing is open).

FYI

The A3000's uses MS-DOS–compatible floppy-disk format.

Knob 1 ↷ **Change Page** ▲ >FD_FMT

- Turn the knob to change to a different command page.
- Push the knob when you are ready to execute the format. The A3000 returns a confirmation screen. Push Knob 5 (>YES) to proceed with the format, or Knob 4 (>NO) to cancel.

Knob 2 ↷ Type = 2HD, 2DD

- Use this knob to specify the disk type.
- Be sure that the setting matches the type of the disk you are using. Do not use 2HD format on a 2DD disk, or 2DD format on a 2HD disk.

Knobs 4, 5 ▲ Name

If you wish to change the name for the floppy disk, push Knob 4 or Knob 5 to proceed to the name editing screen. For information about how to edit name strings, see "Entering Names" (☞88).

PROGRAM Function

You use the PROGRAM function to load one or all programs from a floppy disk or SCSI disk volume into the A3000 main memory. Before using this function, you must select the source disk or volume using the DISK or VOLUME function.

- If loading from a floppy disk, you must first insert the floppy disk into the A3000 floppy drive, and then select the disk at the DISK function. (☞268)
- If loading from a SCSI disk, you must first select the disk (partition) and volume containing the program(s) you want to load. (☞268, 266)

For details about the relationship between disks, partitions, and volumes, refer to the section entitled “Disks and Volumes” in Chapter 3. (☞81)

FYI

Before you can load programs, you must first save them to disk. You can save your programs to disk using the PLAY | PROGRAM function. (☞110)

PROGRAM - PgmLoad (Load Program(s))

Loads one or all programs from disk.

PLAY	PROGRAM	SAMPLE	EASY EDIT	EFFECT	SETUP	CONTROL
EDIT	TRIM / LOOP	MAP / OUT	FILTER	EG	LFO	MIDI / CTRL
REC	RECORD	SETUP	METER	EFFECT	EXT CTRL	MONITOR
DISK	PROGRAM	SAMPLE	SEQUENCE	VOLUME	DISK	IMPORT
UTILITY	TOTAL EQ	PANEL PLAY	SEQUENCE	MASTER	SYSTEM	MIDI

```
[Pgm001] Program
 PgmLoad    001:"Sunset   " >LOAD    >ALL
```

	Knob 1	Knob 2	Knob 3	Knob 4	Knob 5
Turn action	-	✔	-	-	-
Push action	✔	-	-	✔	✔

Use this page to select and load one or all programs, together with all samples used by these programs.

FYI

If you want to load a program from disk into a different program number in memory (for example, Program 001 from disk into Program 003 in memory), you should first select the disk-side program at this page, and then press the COMMAND key and use Knob 3 or 4 to select the program number for the destination program. (☞249)

Knob 1 — Select P/S

Push the knob to move to the Program/Sample Selection screen. (☞95)

Knob 2 — Program = 001,...,128

If you want to load a single program from disk, turn this knob to select the program (by its program number).

Knob 4 — >LOAD

Push this knob to load the program selected by Knob 2 into the identical program number in main memory, while at the same time loading all of the samples used by that program. The load operation deletes any data already stored in the destination program number — although it does not delete any samples that were used by the overwritten program.

When you push the knob, the A3000 returns a confirmation screen. Push Knob 5 (>YES) to execute the load, or Knob 4 (>NO) to cancel.

Knob 5 — >ALL

Push this knob to load all programs from the selected disk volume, together with all samples used by these programs. The A3000 returns a confirmation screen asking whether you want to proceed. Push Knob 5 (>YES) to execute the load, or Knob 4 (>NO) to cancel.

SAMPLE Function

You use the SAMPLE function to load one or all samples from a floppy disk or SCSI disk volume into the A3000 main memory. Before using this function, you must select the source disk or volume using the DISK or VOLUME function.

- If loading from a floppy disk, you must first insert the floppy disk into the A3000 floppy drive, and then select the disk at the DISK function. (☞268)
- If loading from a SCSI disk, you must first select the disk (partition) and volume containing the program(s) you want to load. (☞268, 266)

For details about the relationship between disks, partitions, and volumes, refer to the section entitled “Disks and Volumes” in Chapter 3. (☞81)

Please note that is possible to audition a sample directly from SCSI disk, so that you can check the sound before deciding whether or not to load it. To hear the sample, first select it with Knob 2 or 3 at the SmpLoad page (see below), and then press the AUDITION key. (This feature does not work with floppy disks, and some SCSI disks may not support it.)

FYI

Before you can load samples, you must first save them to disk. You can save your samples to disk using the PLAY | SAMPLE function. (☞112)

SAMPLE - SmpLoad (Load Sample(s))

Loads one or all samples from disk.

PLAY	PROGRAM	SAMPLE	EASY EDIT	EFFECT	SETUP	CONTROL
EDIT	TRIM / LOOP	MAP / OUT	FILTER	EG	LFO	MIDI / CTRL
REC	RECORD	SETUP	METER	EFFECT	EXT CTRL	MONITOR
DISK	PROGRAM	SAMPLE	SEQUENCE	VOLUME	DISK	IMPORT
UTILITY	TOTAL EQ	PANEL PLAY	SEQUENCE	MASTER	SYSTEM	MIDI

	Knob 1	Knob 2	Knob 3	Knob 4	Knob 5
Turn action	-	✔	✔	-	-
Push action	✔	-	-	✔	✔

Use this page to load one or all samples from disk.

Knob 1 ▲ **Select P/S**

Push the knob to move to the Program/Sample Selection screen. (☞95)

Knobs 2, 3 ↶ Sample **= sample name**

If you want to load a single sample from disk, turn either knob to select the disk-side sample.

If you select a sample bank, a [B] appears in front of the name. (Stereo samples are not identified by an [S] mark, however.)

Knob 4 ▲ >LOAD

- Push this knob to load the sample selected by Knob 2 or 3. The screen returns a confirmation screen. Push Knob 5 (>YES) to execute the load, or Knob 4 (>NO) to cancel.
- If the selected disk-side sample has the same name as a sample currently in memory, the A3000 will prompt for instructions about how to resolve the conflict. (☞263)

Knob 5 ▲ >ALL

- Push this knob to load all samples from the selected disk volume. The A3000 returns a confirmation screen. Push Knob 5 (>YES) to proceed, or Knob 4 (>NO) to cancel.
- If any of the disk-side samples has the same name as a sample in memory, the A3000 will prompt for instructions about how to resolve the conflict. (☞263)

Name Conflicts

During a load operation, the A3000 may encounter a disk-side sample (or sequence) that has the same name as a sample (or sequence) already existing within main memory.

The first time the A3000 encounters this type of name duplication during a load, it displays the command page shown below. You must then determine how to resolve the name conflict, as follows.

Knob 1 Select whether to repeat this page display for each duplication

If you are loading more than one object (sample or sequence), you can use this knob to select whether to handle all name duplications in the same way, or whether to have the A3000 prompt you for instructions each time it encounters another conflict.

- If you select One, the A3000 will display the above-shown command page each time it encounters another name duplication. You can decide how to proceed for each such object.
- If you select All, the A3000 will apply your instructions to all name duplications that it encounters during the current load operation.

Note that the One/All selection has no meaning if you are loading a single object only.

Knob 2 >RENAME

Push Knob 2 if you want to rename the object currently in memory before loading the conflicting object from disk. If you select this option, the A3000 appends an asterisk (*) to the existing name in memory, and then loads the disk-side object under the original name.

Knob 3 >SKIP

Push this knob if you do not want to load the conflicting object from disk. In this case, the original memory-resident object remains unchanged.

Knob 4 >REPLAC

Push this knob if you want to overwrite the existing memory object with the object that you are loading. If you select this option, the A3000 deletes the original memory object and replaces it with the object from disk.

Knob 5 >ABORT

Push this knob to terminate the load operation without executing any further loads. Note that it is not possible to undo any loads that you have already completed.

SEQUENCE Function

You use the SEQUENCE function to load one or all sequences from a floppy disk or SCSI disk volume into the A3000 main memory. Before using this function, you must select the source disk or volume using the DISK or VOLUME function.

- If loading from a floppy disk, you must first insert the floppy disk into the A3000 floppy drive, and then select the disk at the DISK function. (☞268)
- If loading from a SCSI disk, you must first select the disk (partition) and volume containing the sequence(s) you want to load. (☞268, 266)

For details about the relationship between disks, partitions, and volumes, refer to the section entitled “Disks and Volumes” in Chapter 3. (☞81)

FYI

Before you can load sequences, you must first save them to disk. You can save your sequence(s) to disk using the UTILITY | SEQUENCE function. (☞281)

SEQUENCE - SeqLoad (Load Sequence(s))

Loads one or all sequences from disk.

PLAY	PROGRAM	SAMPLE	EASY EDIT	EFFECT	SETUP	CONTROL
EDIT	TRIM / LOOP	MAP / OUT	FILTER	EG	LFO	MIDI / CTRL
REC	RECORD	SETUP	METER	EFFECT	EXT CTRL	MONITOR
DISK	PROGRAM	SAMPLE	SEQUENCE	VOLUME	DISK	IMPORT
UTILITY	TOTAL EQ	PANEL PLAY	SEQUENCE	MASTER	SYSTEM	MIDI

```
[Pgm001] Sequence
 SeqLoad "Sea Blue          ">LOAD  >ALL
```

	Knob 1	Knob 2	Knob 3	Knob 4	Knob 5
Turn action	-	✔	✔	-	-
Push action	✔	-	-	✔	✔

Use this page to load one or all sequences from disk.

Knob 1 **Select P/S**

Push the knob to move to the Program/Sample Selection screen. (☞95)

Knobs 2, 3 Sequence **= sequence name**

If you want to load a single sequence from disk, turn this knob to select the disk-side sequence.

Knob 4

▲ >LOAD

- Push this knob to load the sequence selected by Knob 2 or 3. The screen then returns a confirmation screen. Push Knob 5 (>YES) to execute the load, or Knob 4 (>NO) to cancel.
- If the selected disk-side sequence has the same name as a sequence currently in memory, the A3000 will prompt for instructions about how to resolve the conflict. (☞263)

Knob 5

▲ >ALL

- Push this knob to load all sequences from the selected disk (volume). The A3000 will return a confirmation screen asking you whether you want to proceed. Push Knob 5 (>YES) to proceed, or Knob 4 (>NO) to cancel.
- If any of the disk-side sequences has the same name as a sequence in memory, the A3000 will prompt for instructions about how to resolve the conflict. (☞263)

VOLUME Function

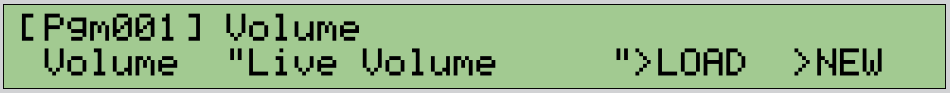
You use the VOLUME function to select and manage disk volumes. Note that this function only allows access to the volumes on the currently selected disk (partition). To change the disk selection, use the DISK function. (☞268)

For details about the relationship between disks, partitions, and volumes, refer to the section entitled “Disks and Volumes” in Chapter 3. (☞81)

VOLUME - Volume

Selects, loads, and creates volumes.

PLAY	PROGRAM	SAMPLE	EASY EDIT	EFFECT	SETUP	CONTROL
EDIT	TRIM / LOOP	MAP / OUT	FILTER	EG	LFO	MIDI / CTRL
REC	RECORD	SETUP	METER	EFFECT	EXT CTRL	MONITOR
DISK	PROGRAM	SAMPLE	SEQUENCE	VOLUME	DISK	IMPORT
UTILITY	TOTAL EQ	PANEL PLAY	SEQUENCE	MASTER	SYSTEM	MIDI

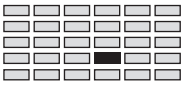


	Knob 1	Knob 2	Knob 3	Knob 4	Knob 5
Turn action	-	✔	✔	-	-
Push action	✔	✔	✔	✔	✔

Use this page to select a volume for saves and loads, to change the volume name, to create a new volume, or to load all data from the selected volume to main memory.

Important

Floppy disks always hold a single volume only. The A3000 automatically creates this volume at time of formatting, and gives it the name FD VOLUME. This name cannot be changed.



Knob 1 — ▲ **Select P/S**

Push the knob to move to the Program/Sample Selection screen. (☞95)

Knobs 2, 3 — ↶ Volume **= volume name** — ▲ **Edit the Name**

- Turn either knob to select the volume containing the objects (samples, programs, or sequences) that you want to load into the main memory. Whenever you execute a load, the A3000 always takes the data from the volume you select here. In most cases you will also use this volume as the destination for your data saves (although you are free to select a different volume when making the save).

  Note that you can only select volumes that are located on the currently selected disk (partition). To change to a different disk, use the DISK function. (☞268)
- Push either knob if you want to change the name of the selected volume. The A3000 then displays the name-editing screen. For information about how to edit name strings, see "Entering Names" (☞88). Note that it is not possible to change the name of volumes on floppy disks.

Knob 4 — ▲ >LOAD

Push this knob if you want to load all objects (programs, samples, and sequences) from the selected volume into the A3000 main memory. The A3000 returns a confirmation screen. Press Knob 5 (>YES) to execute the load, or Knob 4 (>NO) to cancel.

Knob 5 — ▲ >NEW

- Push the knob to add a new, empty volume to the selected disk (partition). The A3000 automatically names the volume New Volume. (If a volume with this name already exists, the A3000 appends a sequential number to the new name.) You can then change the name by pressing Knob 2 or 3.
- Note that you cannot add a volume to a floppy disk.

DISK Function

You use the DISK function to select and manage disks (partitions). The A3000 uses the disk that you select as the source for data loads. This selection also determines the volumes that you can select at the VOLUME function (☞266).

You can also use this function to change the SCSI ID of the A3000, and to enable or disable use of connected SCSI disks and CD-ROM drives.

Finally, you use this function's command pages to format your disks (both hard disks and floppies), and to create and manage disk partitions. You access the command pages by selecting the DISK function, then pressing the COMMAND key (☞252 to 258).

For details about the relationship between disks, partitions, and volumes, refer to the section entitled "Disks and Volumes" in Chapter 3. (☞81)

DISK - Disk

Selects a disk (partition).

PLAY	PROGRAM	SAMPLE	EASY EDIT	EFFECT	SETUP	CONTROL
EDIT	TRIM / LOOP	MAP / OUT	FILTER	EG	LFO	MIDI / CTRL
REC	RECORD	SETUP	METER	EFFECT	EXT CTRL	MONITOR
DISK	PROGRAM	SAMPLE	SEQUENCE	VOLUME	DISK	IMPORT
UTILITY	TOTAL EQ	PANEL PLAY	SEQUENCE	MASTER	SYSTEM	MIDI

Turn Knob 1 to select Disk.

	Knob 1	Knob 2	Knob 3	Knob 4	Knob 5
Turn action	✔	✔	✔	-	-
Push action	✔	✔	✔	-	-

- Use this page to select the disk (partition) used for data loads, and to change the disk (partition) name.
- The right side of the screen indicates the amount of free space on the currently selected disk (partition).

FYI

If you find that you are unable to access a connected SCSI disk or CD-ROM, go to the Configure page (☞270) to check the device's SCSI ID and to make sure the device is enabled ("mounted").

Knob 1 **Change Page** **Select P/S**

- Turn the knob to change to a different page within the DISK function. Available pages are: Disk (this page), Config, and SelfID.
- Push the knob to move to the Program/Sample Selection screen. (☞95)

Knobs 2, 3 Disk **= disk (partition) name** **Edit the Name**

- Turn either knob to select the disk (partition) containing the objects (samples, programs, or sequences) that you want to load into main memory. Whenever you execute a load, the A3000 always take the data from the disk (partition) that you select here. In most cases you will also use this disk (partition) as the destination for your data saves (although you are free to select a different disk when making the save.)
- If you select a floppy disk, the disk type (2HD or 2DD) is indicated on the lower right of the screen.
- If you select a SCSI disk (or any other interconnected SCSI device), the device's ID appears on the lower right side of the screen.
- Push either knob if you want to change the name of the selected disk (partition). The A3000 then displays the name-editing screen. For information about how to edit name strings, see "Entering Names" (☞88).

DISK - Config (Configure)

Enables or disables use of SCSI devices.

PLAY	PROGRAM	SAMPLE	EASY EDIT	EFFECT	SETUP	CONTROL
EDIT	TRIM / LOOP	MAP / OUT	FILTER	EG	LFO	MIDI / CTRL
REC	RECORD	SETUP	METER	EFFECT	EXT CTRL	MONITOR
DISK	PROGRAM	SAMPLE	SEQUENCE	VOLUME	DISK	IMPORT
UTILITY	TOTAL EQ	PANEL PLAY	SEQUENCE	MASTER	SYSTEM	MIDI

Turn Knob 1 to select Config.

	Knob 1	Knob 2	Knob 3	Knob 4	Knob 5
Turn action	✔	✔	-	-	✔
Push action	✔	-	-	-	-

Use this page to check the SCSI IDs of the devices connected to the A3000, and to enable or disable the use of each of these devices.

FYI

After changing a SCSI ID or connecting a new SCSI device to your system, you should always come to this page to check the connection status. For information about how to connect up SCSI devices, please refer to "Connecting external SCSI devices." (☞328)

Knob 1 — Change Page / Select P/S

- Turn the knob to change to a different page within the DISK function. Available pages are: Disk, Config (this page),and SelfID.
- Push the knob to move to the Program/Sample Selection screen. (☞95)

Knob 2 — SCSI ID = 0,...,7

- Turn the knob to select a SCSI ID. If a device with this ID is currently connected, the screen indicates the device's name, its manufacturer, and its current "mount" status (see below). Note that the A3000 itself, and any internal hard disk that you have installed, are also SCSI devices, and will be identified on the screen when you select the corresponding ID.
- If you select the ID of the A3000, the screen displays "YAMAHA : A3000".
- If you select an unused ID, the screen displays "--------:--------".

Knob 5 — Mount = off, on

- Use this setting to "mount" or "unmount" (internally connect or disconnect) the selected SCSI device.

  on — Mounts the device, so that you can use it with the A3000.

  off — Unmounts the device. The A3000 will not be able to use this device while this setting remains off.

- This setting is not available if you have selected the ID of the A3000 itself.

DISK - SelfID

Sets the SCSI ID of the A3000.

PLAY	PROGRAM	SAMPLE	EASY EDIT	EFFECT	SETUP	CONTROL
EDIT	TRIM / LOOP	MAP / OUT	FILTER	EG	LFO	MIDI / CTRL
REC	RECORD	SETUP	METER	EFFECT	EXT CTRL	MONITOR
DISK	PROGRAM	SAMPLE	SEQUENCE	VOLUME	DISK	IMPORT
UTILITY	TOTAL EQ	PANEL PLAY	SEQUENCE	MASTER	SYSTEM	MIDI

Turn Knob 1 to select SelfID.

```
[Pgm001]A3000 ID (valid after power on)
▲SelfID      7
```

	Knob 1	Knob 2	Knob 3	Knob 4	Knob 5
Turn action ↶↷	✔	✔	-	-	-
Push action ▲	✔	-	-	-	-

Use this page to set the SCSI ID of the A3000.

Important

- There is generally no need to change the ID from its factory setting (ID 7). You will need to make this change only if you are connecting up another SCSI device that has a fixed (unchangeable) ID of 7.
- Be sure that the ID that you set here does not match the ID of any other device in your system — since all devices must have different IDs. To check for currently used IDs, use the Config page (☞270).
- The ID that you set here does not become effective until you switch the power off and then back on.

Knob 1 ↶↷ Change Page ▲ Select P/S

- Turn the knob to change to a different page within the DISK function. Available pages are: Disk, Config, and SelfID (this page).
- Push the knob to move to the Program/Sample Selection screen. (☞95)

Knob 2 ↶↷ A3000 ID = 0,...,7

Turn the knob to set the new ID. (The new setting does not become effective until you switch power off and then back on.)

IMPORT Function

You use this function to load samples and other objects created by devices other than the A3000. The A3000 is able to import A7000 samples, computer-generated samples, and samples available in stores on floppy disk or CD-ROM. It can also import "voices" and "programs" (into A3000 sample banks), and TX16W samples, standard MIDI files, and AIFF and WAV-type sample files (into A3000 sequences).

You import the data from a floppy disk, hard disk, CD-ROM, or other SCSI storage device.

- If importing from a floppy disk, you must first insert the floppy disk into the A3000 floppy drive, and then select the disk at the DISK function. (☞268)
- If importing from a CD-ROM or other SCSI drive, you must first select the disk (partition) and volume containing the data. (☞268, 266)

IMPORT - ImpSmp (Import a sample)

Imports a sample.

PLAY	PROGRAM	SAMPLE	EASY EDIT	EFFECT	SETUP	CONTROL
EDIT	TRIM / LOOP	MAP / OUT	FILTER	EG	LFO	MIDI / CTRL
REC	RECORD	SETUP	METER	EFFECT	EXT CTRL	MONITOR
DISK	PROGRAM	SAMPLE	SEQUENCE	VOLUME	DISK	IMPORT
UTILITY	TOTAL EQ	PANEL PLAY	SEQUENCE	MASTER	SYSTEM	MIDI

Turn Knob 1 to select ImpSmp.

	Knob 1	Knob 2	Knob 3	Knob 4	Knob 5
Turn action	✔	✔	-	-	✔
Push action	✔	-	-	-	✔

Use this page to import an A7000 sample, or an over-the-counter sample provided on floppy disk or CD-ROM.

FYI

Changes in pitch, loop playback, or sound quality may occur with some samples. Note also that the A3000 is unable to import certain of the older sample formats.

Knob 1 **Change Page** **Select P/S**

- Turn the knob to change to a different page within the IMPORT function. Available pages are: ImpSmp (this page), ImpVce, and ImpOthr.
- Push the knob to move to the Program/Sample Selection screen. (☞95)

Knobs 2, 3 Sample Name **= sample name**

- Turn either knob to select the sample that you want to import.
- If you select an A7000 "alias" sample for import, an [A] appears to the right of the sample name.

Knob 5 >IMPORT

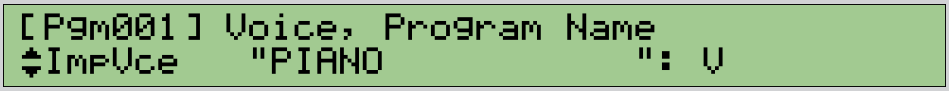
Push the knob to import the sample selected by Knob 2 or 3. The A3000 returns a confirmation screen. Press Knob 5 (>YES) to complete the import, or Knob 4 (>NO) to cancel.

IMPORT - ImpVce (Import a voice)

Imports a foreign voice or program.

PLAY	PROGRAM	SAMPLE	EASY EDIT	EFFECT	SETUP	CONTROL
EDIT	TRIM / LOOP	MAP / OUT	FILTER	EG	LFO	MIDI / CTRL
REC	RECORD	SETUP	METER	EFFECT	EXT CTRL	MONITOR
DISK	PROGRAM	SAMPLE	SEQUENCE	VOLUME	DISK	IMPORT
UTILITY	TOTAL EQ	PANEL PLAY	SEQUENCE	MASTER	SYSTEM	MIDI

Turn Knob 1 to select ImpVce.



	Knob 1	Knob 2	Knob 3	Knob 4	Knob 5
Turn action	✔	✔	✔	-	-
Push action	✔	-	-	-	✔

Use this page to import a voice created at a Yamaha A7000, or a "program" created at another machine type or purchased over-the-counter on floppy disk or CD-ROM. The A3000 imports the object into a sample bank.

FYI

Some of the parameters in the original object may not be preserved by the A3000. In some cases, the A3000 may be unable to load some of the component samples from the original object. Changes in pitch or other sound characteristics may occur.

Knob 1 — Change Page / Select P/S

- Turn the knob to change to a different page within the IMPORT function. Available pages are: ImpSmp, ImpVce (this page), and ImpOthr.
- Push the knob to move to the Program/Sample Selection screen. (☞95)

Knobs 2, 3 — Voice, Program Name = voice name or program name

- Turn either knob to select the foreign voice or program that you want to import.
- The letter to the right of the name identifies the type of foreign object that you have selected. Note that all of these objects become sample banks at the A3000 side.

  Indications are as follows.

  V A7000 normal voice
  D A7000 drum voice
  P "Program"

Knob 5

>IMPORT

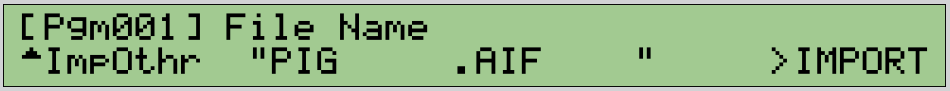
Push the knob to import the object selected by Knob 2 or 3. The A3000 returns a confirmation screen. Press Knob 5 (>YES) to complete the import, or Knob 4 (>NO) to cancel.

IMPORT - ImpOthr (Import Other Data Type)

Imports SMF, AIFF, or WAV file into an A3000 sequence.

PLAY	PROGRAM	SAMPLE	EASY EDIT	EFFECT	SETUP	CONTROL
EDIT	TRIM / LOOP	MAP / OUT	FILTER	EG	LFO	MIDI / CTRL
REC	RECORD	SETUP	METER	EFFECT	EXT CTRL	MONITOR
DISK	PROGRAM	SAMPLE	SEQUENCE	VOLUME	DISK	IMPORT
UTILITY	TOTAL EQ	PANEL PLAY	SEQUENCE	MASTER	SYSTEM	MIDI

Turn Knob 1 to select ImpOthr.



	Knob 1	Knob 2	Knob 3	Knob 4	Knob 5
Turn action	✔	✔	✔	-	-
Push action	✔	-	-	-	✔

Use this page to import a TX16W sample, a computer-generated AIFF or WAV sample file, or a standard MIDI file (SMF) purchased in a store or generated by a sequencer or computer.

Important

- The A3000 recognizes the file type by its file extension. The A3000 will not be able to handle the file if the extension is incorrect.

  File extensions are as follows.

.W*xx*	TX16W sample file (*xx*: arbitrary)
.AIF	AIFF sample file
.WAV	WAV-type sample file

- To import a file generated at a computer, begin by saving the file from the computer onto an MS-DOS–format floppy disk. You can then insert the disk into the A3000.

  Use either of the following MS-DOS format types.

  If 2DD disk: 7-sector format (720 KB)
  If 2HD disk: 18-sector format (1.44MB)

- The A3000 supports SMF File Type 0.

FYI

Changes in pitch, loop playback, or sound quality may occur with some samples. Note also that the A3000 may be unable to recognize certain AIFF and WAV files.

Knob 1 **Change Page** **Select P/S**

- Turn the knob to change to a different page within the IMPORT function. Available pages are: ImpSmp, ImpVce, and ImpOthr (this page).
- Push the knob to move to the Program/Sample Selection screen. (☞95)

Knobs 2, 3 File Name **= filename**

Turn either knob to select the file that you want to import.

Knob 5 >IMPORT

Push the knob to import the file selected by Knob 2 or 3. The A3000 returns a confirmation screen. Press Knob 5 (>YES) to complete the import, or Knob 4 (>NO) to cancel.

Chapter 8
UTILITY Mode

UTILITY Mode

You use UTILITY mode to set up the system's environment, and to record and play sequences.

UTILITY Functions

UTILITY mode offers the six functions described below.

TOTAL EQ

This function sets up the 4-band equalizer for the stereo output. (☞287)

PANEL PLAY

This function lets you set up knobs so that they operate as MIDI controllers, and function keys so that they operate as MIDI keyboard keys. (☞291)

SEQUENCE

Use this function to record and replay MIDI sequences. (☞296)

MASTER

Use this function to adjust the system's output pitch, to adjust the level to the stereo outputs, and to set an assignable-output destination for the stereo output signal. (☞298)

SYSTEM

This function sets the operating mode for the ASSIGNABLE and AUDITION keys, selects whether notes are displayed by name or MIDI number, and determines the first function that becomes active when you switch to a new mode, and the first page that becomes active when you switch to a new function. (☞300)

MIDI

This function sets the various MIDI parameters (Basic Receive Channel, "omni" enable, velocity curve, and others). (☞305)

Important

Changes that you make in UTILITY mode never cause any changes to the local settings stored in your programs and samples. But some UTILITY settings do affect the way that programs and samples behave, and may effectively disable (or add an offset to) the local settings.

COMMAND Pages

This section describes the command screens (*command pages*) that you can access by pressing the COMMAND key while working in UTILITY mode.

SAVE

Saves object(s) from memory to disk.

PLAY	PROGRAM	SAMPLE	EASY EDIT	EFFECT	SETUP	CONTROL
EDIT	TRIM / LOOP	MAP / OUT	FILTER	EG	LFO	MIDI / CTRL
REC	RECORD	SETUP	METER	EFFECT	EXT CTRL	MONITOR
DISK	PROGRAM	SAMPLE	SEQUENCE	VOLUME	DISK	IMPORT
UTILITY	TOTAL EQ	PANEL PLAY	SEQUENCE	MASTER	SYSTEM	MIDI

Press the COMMAND key, then turn Knob 1 to select >SAVE.

	Knob 1	Knob 2	Knob 3	Knob 4	Knob 5
Turn action	✔	✔	✔	✔	✔
Push action	✔	-	-	-	-

Use this page to save the selected memory-resident object(s) to disk.

Knob 1 Change Page >SAVE

- Turn the knob to change to a different command page.
- Push the knob when you are ready to execute the save. The A3000 returns a confirmation prompt. Push Knob 5 (>YES) to proceed with the save, or Knob 4 (>NO) to cancel.
- If a name conflict occurs (if the selected object in main memory has the same name as a corresponding object on the target volume), the A3000 prompts for instructions about how to resolve the conflict. (☞100)

Knob 2 Type of Save = All(wipe), AllPgm(wp), Edited, AllSmp, Seq

Turn the knob to select the object(s) to be saved to disk. Selections are as follows.

All(wipe) — Saves all memory content to disk. This operation saves all objects currently in memory (all usable programs, all samples, and all sequences) to the destination volume on disk. The operation erases all data already existing in the destination disk volume. [Note: a program is *usable* if it uses at least one sample or if its "AD In" setting is on.]

AllPgm(wp)	Saves all usable programs, together with all samples used by these programs, to the destination volume on disk. Does not save any sequences. Saves only those samples that are used with at least one program (does not save unused samples). This operation erases all data already existing in the destination disk volume.
Edited	Saves all new data to the destination volume (all new and all edited objects that have not yet been saved to disk in their current form). Does not save objects that have not been changed since the most recent disk load.
AllSmp	Saves all samples into the destination volume.
Seq	Saves the currently selected sequence to the destination volume.

Knob 3 — Destination Type = Dsk, Vol

Use this knob together with Knob 4 or 5 to select the destination for the save.

Dsk	Use this to view or change the destination-disk setting. When you select Dsk, the identity of the currently selected disk appears above Knobs 4 and 5. If necessary, you can then turn either of those knobs to change the destination disk.
Vol	Use this to view or change the volume setting. When you select Vol, the name of the currently selected volume appears above Knobs 4 and 5. If necessary, you can then turn either of those knobs to change the destination volume.

Knobs 4, 5 — Destination

Use either knob to select the destination disk or volume.

DELETE

Deletes one or all sequences from main memory.

PLAY	PROGRAM	SAMPLE	EASY EDIT	EFFECT	SETUP	CONTROL
EDIT	TRIM / LOOP	MAP / OUT	FILTER	EG	LFO	MIDI / CTRL
REC	RECORD	SETUP	METER	EFFECT	EXT CTRL	MONITOR
DISK	PROGRAM	SAMPLE	SEQUENCE	VOLUME	DISK	IMPORT
UTILITY	TOTAL EQ	PANEL PLAY	SEQUENCE	MASTER	SYSTEM	MIDI

Press the COMMAND key, then turn Knob 1 to select >DELETE.

```
Command    Type          Sequence
▲>DELETE    Seq          "Sea Blue                "
```

	Knob 1	Knob 2	Knob 3	Knob 4	Knob 5
Turn action ↶↷	✔	✔	-	✔	✔
Push action ▲	✔	-	-	-	-

Use this command to delete one or all sequences from main memory.

Knob 1 ↶↷ Change Page ▲ >DELETE

- Turn the knob to change to a different command page.
- Push the knob when you are ready to delete the sequence(s). The A3000 returns a confirmation screen. Push Knob 5 (>YES) to proceed with the deletion, or Knob 4 (>NO) to cancel.

Knob 2 ↶↷ Type = Seq, AllSeq

Turn the knob to select whether to delete one or all sequences.

Seq	Delete the single sequence selected by Knob 4 or 5.
AllSeq	Delete all sequences.

Knobs 4, 5 ↶↷ Sequence = sequence name

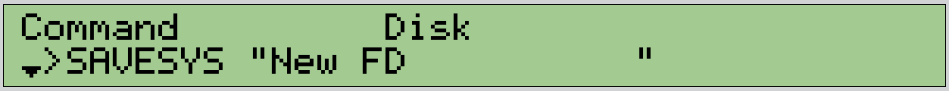
If you are deleting a single sequence only, turn either knob to select the sequence.

SAVESYS (Save System Settings)

Saves system settings to disk.

PLAY	PROGRAM	SAMPLE	EASY EDIT	EFFECT	SETUP	CONTROL
EDIT	TRIM / LOOP	MAP / OUT	FILTER	EG	LFO	MIDI / CTRL
REC	RECORD	SETUP	METER	EFFECT	EXT CTRL	MONITOR
DISK	PROGRAM	SAMPLE	SEQUENCE	VOLUME	DISK	IMPORT
UTILITY	TOTAL EQ	PANEL PLAY	SEQUENCE	MASTER	SYSTEM	MIDI

Press the COMMAND key, then turn Knob 1 to select >SAVESYS.



	Knob 1	Knob 2	Knob 3	Knob 4	Knob 5
Turn action	✔	✔	✔	-	-
Push action	✔	-	-	-	-

Use this command when you want to save the current system environment (all system settings) to disk. For a complete listing of the system parameters, refer to Table 2, "System Parameters," in the "MIDI data format" section of the Appendix. (☞352)

Important

Each disk partition can store one environment only. Note that the environment is stored at the disk level (rather than the volume level), and is not identified by name.

Knob 1 — Change Page — >SAVESYS

- Turn the knob to change to a different command page.
- Push the knob to execute the save. The A3000 returns a confirmation screen. Push Knob 5 (>YES) to proceed, or Knob 4 (>NO) to cancel.

Knobs 2, 3 — Disk = disk (partition) name

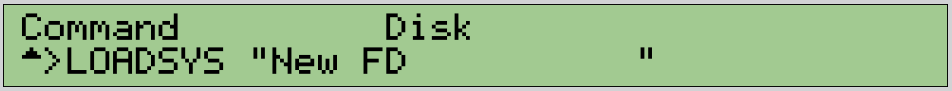
Turn either knob to select the destination disk (disk partition).

LOADSYS (Load System Settings)

Loads system environment from disk.

PLAY	PROGRAM	SAMPLE	EASY EDIT	EFFECT	SETUP	CONTROL
EDIT	TRIM / LOOP	MAP / OUT	FILTER	EG	LFO	MIDI / CTRL
REC	RECORD	SETUP	METER	EFFECT	EXT CTRL	MONITOR
DISK	PROGRAM	SAMPLE	SEQUENCE	VOLUME	DISK	IMPORT
UTILITY	TOTAL EQ	PANEL PLAY	SEQUENCE	MASTER	SYSTEM	MIDI

Press the COMMAND key, then turn Knob 1 to select >LOADSYS.



	Knob 1	Knob 2	Knob 3	Knob 4	Knob 5
Turn action	✔	✔	✔	-	-
Push action	✔	-	-	-	-

Use this command to reload a system environment that you saved using the >SAVESYS command (☞284). This operation replaces the current environment (all system settings) with the saved environment.

For a complete listing of the system parameters, refer to Table 2, "System Parameters," in the "MIDI data format" section of the Appendix. (☞352).

Knob 1 — Change Page — >LOADSYS

- Turn the knob to change to a different command page.
- Push the knob to execute the load. The A3000 returns a confirmation screen. Push Knob 5 (>YES) to proceed, or Knob 4 (>NO) to cancel.

Knobs 2, 3 — Disk = disk (partition) name

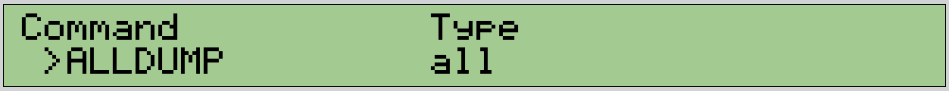
Turn either knob to select the disk (partition) containing the environment that you want to load.

ALLDUMP (Data Dump)

Dumps all data, or system data only.

PLAY	PROGRAM	SAMPLE	EASY EDIT	EFFECT	SETUP	CONTROL
EDIT	TRIM / LOOP	MAP / OUT	FILTER	EG	LFO	MIDI / CTRL
REC	RECORD	SETUP	METER	EFFECT	EXT CTRL	MONITOR
DISK	PROGRAM	SAMPLE	SEQUENCE	VOLUME	DISK	IMPORT
UTILITY	TOTAL EQ	PANEL PLAY	SEQUENCE	MASTER	SYSTEM	MIDI

Press the COMMAND key.



	Knob 1	Knob 2	Knob 3	Knob 4	Knob 5
Turn action	-	-	✔	-	-
Push action	✔	-	-	-	-

Use this command to execute a MIDI bulk dump. The dump operation transmits A3000 memory-resident data to the connected MIDI device.

You can choose whether to dump all memory content, or system settings only.

Important

Before executing this operation, you must connect up the destination MIDI device, and you must set appropriate “device number” values at each side. (☞310)

Knob 1 — Change Page — >ALLDUMP

Push the knob to start the dump. The A3000 returns a confirmation screen. Push Knob 5 (>YES) to proceed, or Knob 4 (>NO) to cancel.

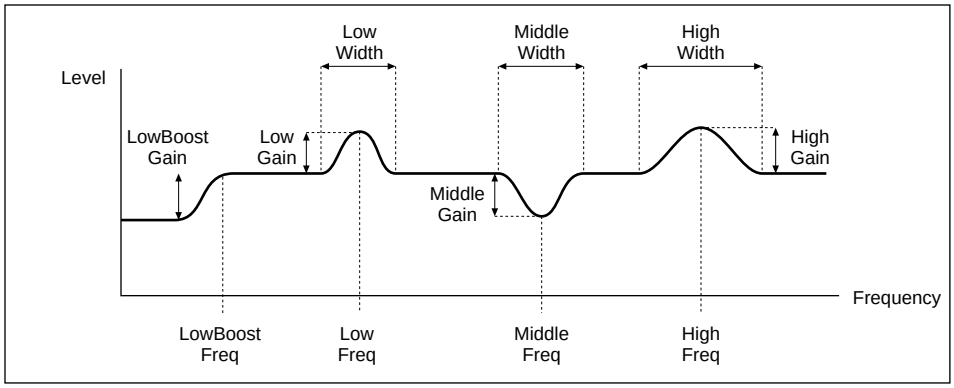
Knob 3 — Type = all, system

Select whether to transmit all data, or system data only.

all	Transmit all memory content (all programs, all samples, all sequences, and all system data).
system	Transmit system settings only.

TOTAL EQ Function

This function sets up the 4-band equalizer applied to the stereo-output signal. You set up the equalizer by setting its *gain*, *frequency*, and *width* parameters. The following illustration shows how these parameters operate on the output frequency.



Important

The 4-band equalizer does not operate on assignable output. If you choose to branch the stereo-output signal to a designated assignable-output pair, however (To AsgnOut parameter;☞299), then equalization will apply to the output at both locations.

FYI

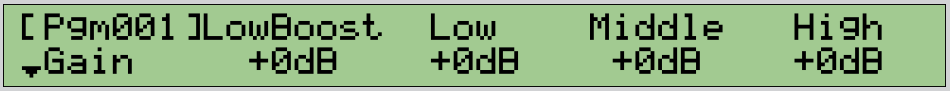
The equalization you set here applies to all sound directed to the stereo output. If you have set the A3000 up temporarily in a studio or sound stage, the equalizer offers a convenient way to make final adjustments to match the acoustics of your environment.

TOTAL EQ - Gain

Sets the gain values for the equalizer.

PLAY	PROGRAM	SAMPLE	EASY EDIT	EFFECT	SETUP	CONTROL
EDIT	TRIM / LOOP	MAP / OUT	FILTER	EG	LFO	MIDI / CTRL
REC	RECORD	SETUP	METER	EFFECT	EXT CTRL	MONITOR
DISK	PROGRAM	SAMPLE	SEQUENCE	VOLUME	DISK	IMPORT
UTILITY	TOTAL EQ	PANEL PLAY	SEQUENCE	MASTER	SYSTEM	MIDI

Turn Knob 1 to select Gain.



	Knob 1	Knob 2	Knob 3	Knob 4	Knob 5
Turn action	✔	✔	✔	✔	✔
Push action	✔	-	-	-	-

Use this page to set the equalizer's gain values.

Knob 1 **Change Page** **Select P/S**

- Turn the knob to change to a different page within the TOTAL EQ function. Available pages are: Gain (this page), Freq, and Width.
- Push the knob to move to the Program/Sample Selection screen. (☞95)

Knob 2 LowBoost = -12dB,...,+12dB

Sets the low-frequency boost.

Knob 3 Low = -12dB,...,+12dB

Sets the gain for the low-frequency band.

Knob 4 Middle = -12dB,...,+12dB

Sets the gain for the mid-frequency band.

Knob 5 High = -12dB,...,+12dB

Sets the gain for the high-frequency band.

TOTAL EQ - Freq

Sets the equalizer frequency points.

PLAY	PROGRAM	SAMPLE	EASY EDIT	EFFECT	SETUP	CONTROL
EDIT	TRIM / LOOP	MAP / OUT	FILTER	EG	LFO	MIDI / CTRL
REC	RECORD	SETUP	METER	EFFECT	EXT CTRL	MONITOR
DISK	PROGRAM	SAMPLE	SEQUENCE	VOLUME	DISK	IMPORT
UTILITY	TOTAL EQ	PANEL PLAY	SEQUENCE	MASTER	SYSTEM	MIDI

Turn Knob 1 to select Freq.

	Knob 1	Knob 2	Knob 3	Knob 4	Knob 5
Turn action	✔	✔	✔	✔	✔
Push action	✔	-	-	-	-

Use this page to set the equalizer's four frequency points.

Knob 1 **Change Page** **Select P/S**

- Turn the knob to change to a different page within the TOTAL EQ function. Available pages are: Gain, Freq (this page), and Width.
- Push the knob to move to the Program/Sample Selection screen. (☞95)

Knob 2 LowBoost = 32Hz,...,2.0kHz

Sets the low-boost frequency point.

Knob 3 Low = 32Hz,...,2.0kHz

Sets the frequency point for the low-frequency band.

Knob 4 Middle = 32Hz,...,16.0kHz

Sets the frequency point for the mid-frequency band.

Knob 5 High = -500Hz,...,16.0kHz

Sets the frequency point for the high-frequency band.

TOTAL EQ - Width

Sets the equalizer band widths.

PLAY	PROGRAM	SAMPLE	EASY EDIT	EFFECT	SETUP	CONTROL
EDIT	TRIM / LOOP	MAP / OUT	FILTER	EG	LFO	MIDI / CTRL
REC	RECORD	SETUP	METER	EFFECT	EXT CTRL	MONITOR
DISK	PROGRAM	SAMPLE	SEQUENCE	VOLUME	DISK	IMPORT
UTILITY	TOTAL EQ	PANEL PLAY	SEQUENCE	MASTER	SYSTEM	MIDI

Turn Knob 1 to select Width.

	Knob 1	Knob 2	Knob 3	Knob 4	Knob 5
Turn action	✔	-	✔	✔	✔
Push action	✔	-	-	-	-

Use this page to set the equalizer's low, middle, and high band widths.

Knob 1 **Change Page** **Select P/S**

- Turn the knob to change to a different page within the TOTAL EQ function. Available pages are: Gain, Freq, and Width (this page).
- Push the knob to move to the Program/Sample Selection screen. (☞95)

Knob 3 Low = 1.0,...,12.0

- Sets the band width for low-frequency equalization.
- Note that *lower* values produce *greater* width.

Knob 4 Middle = 1.0,...,12.0

- Sets the band width for mid-frequency equalization.
- *Lower* values produce *greater* width.

Knob 5 High = 1.0,...,12.0

- Sets the band width for high-frequency equalization.
- *Lower* values produce *greater* width.

PANEL PLAY Function

This function lets you set up and use the A3000 knobs as "MIDI controllers," and to set up the function keys so that they operate as keys on a MIDI keyboard.

PANEL PLAY - KnobCtl (Knob Control)

Knobs operate as controllers.

PLAY	PROGRAM	SAMPLE	EASY EDIT	EFFECT	SETUP	CONTROL
EDIT	TRIM / LOOP	MAP / OUT	FILTER	EG	LFO	MIDI / CTRL
REC	RECORD	SETUP	METER	EFFECT	EXT CTRL	MONITOR
DISK	PROGRAM	SAMPLE	SEQUENCE	VOLUME	DISK	IMPORT
UTILITY	TOTAL EQ	PANEL PLAY	SEQUENCE	MASTER	SYSTEM	MIDI

Turn Knob 1 to select KnobCtl.

```
[Pgm001] Knob2   Knob3   Knob4   Knob5
▼KnobCtl( 1:064)( 1:064)( 1:064)( 1:064)
```

	Knob 1	Knob 2	Knob 3	Knob 4	Knob 5
Turn action ↶↷	✔	✔	✔	✔	✔
Push action ↑	✔	-	-	-	-

While this page is on display, Knobs 2 to 5 function as MIDI controllers. The push indicators blink to identify the active controller knobs.

You use the KnobSet page to select the control function (controller number) and Transmit channel for each of the knobs you want to use. (☞292)

FYI

You can also use the ASSIGNABLE key to activate knob-control mode. To do this, you must first set the key's function to "Knob Control." (Go to the Keys page in the UTILITY | SYSTEM function (☞300)). Once you have set this up, you can enter knob-control mode while working at almost any screen by depressing the ASSIGNABLE key.

Knob 1 ↶↷ Change Page ↑ Select P/S

- Turn the knob to change to a different page within the PANEL PLAY function. Available pages are: KnobCtl (this page), KnobSet, and FKeySet.
- Push the knob to move to the Program/Sample Selection screen. (☞95)

Knobs 2 to 5 ↶↷ Knob2,...,Knob5 = 000,...,127

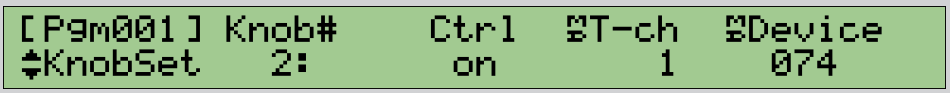
- Turn the knob to transmit control-change data to the A3000 playback system.
- The lower line on the display indicates the knob's Transmit channel and the current control-change value. A display of "- -:- - -" indicates that the knob's control function is set to "off" (☞292).

PANEL PLAY - KnobSet

Sets up knobs as controllers.

PLAY	PROGRAM	SAMPLE	EASY EDIT	EFFECT	SETUP	CONTROL
EDIT	TRIM / LOOP	MAP / OUT	FILTER	EG	LFO	MIDI / CTRL
REC	RECORD	SETUP	METER	EFFECT	EXT CTRL	MONITOR
DISK	PROGRAM	SAMPLE	SEQUENCE	VOLUME	DISK	IMPORT
UTILITY	TOTAL EQ	PANEL PLAY	SEQUENCE	MASTER	SYSTEM	MIDI

Turn Knob 1 to select >KnobSet.



	Knob 1	Knob 2	Knob 3	Knob 4	Knob 5
Turn action	✔	✔	✔	✔	✔
Push action	✔	-	-	-	✔

- Use this page to assign a controller number and Transmit channel to each of the knobs you want to use as controller.
- To actually use the knobs as controllers, you must go to the KnobCtl page (or else use the ASSIGNABLE key). (☞291)

Knob 1 — Change Page — Select P/S

- Turn the knob to change to a different page within the PANEL PLAY function. Available pages are: KnobCtl, KnobSet (this page), and FKeySet.
- Push the knob to move to the Program/Sample Selection screen. (☞95)

Knob 2 — Knob# = 2,...,5

Select the knob you want to set up, by its knob number. You can then set the knob up using Knobs 3 to 5, as described immediately below. You may then repeat this sequence for each knob that you want to set up: first select the knob number with Knob 2, then set the values using Knobs 3 to 5.

Knob 3 — Ctrl = off, on, Step1, Step2, Step3

- This value sets the selected knob's control sensitivity-the amount by which the control value changes per increment of knob rotation. Set to on for minimum sensitivity, or to Step 1, Step 2, or Step 3 for greater sensitivity (where Step 3 gives the highest sensitivity).
- Set the value to off if you want to disable use of the selected knob as a controller.

Knob 4 — T-ch = 1,...,16, Bch — MIDI IN

- This value sets the "Transmit" channel for the selected knob's controller action. The setting determines the channel over which the knob-generated control-change data is transmitted.
- Set the value to Bch if you want to use the channel selected by the BasicCh parameter in the UTILITY | MIDI Receive page (☞305).
- Push the knob if you want to set the channel from an external MIDI device. The knob indicator begins blinking, indicating that the A3000 is ready to receive MIDI input. Now transmit any channel message from the MIDI device; the A3000 detects the channel and displays the value over the knob. Lock in the setting in by pushing the knob again or by switching to a different screen.

Knob 5 Device = 000,...,120 **MIDI IN**

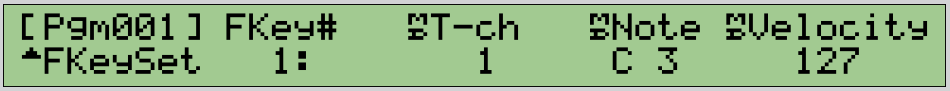
- This value assigns the knob's controller function (controller number).
- Push the knob if you want to set the number from an external MIDI device. The knob indicator begins blinking, indicating that the A3000 is ready to receive MIDI input. Now operate the appropriate controller at the MIDI device; the A3000 detects the controller number and displays the value over the knob. Lock in the setting in by pushing the knob again or by switching to a different screen.
- Keep in mind that the MIDI standard defines specific uses for certain controller numbers.

PANEL PLAY - FKeySet (Set Function Keys)

Assigns MIDI notes to function keys.

PLAY	PROGRAM	SAMPLE	EASY EDIT	EFFECT	SETUP	CONTROL
EDIT	TRIM / LOOP	MAP / OUT	FILTER	EG	LFO	MIDI / CTRL
REC	RECORD	SETUP	METER	EFFECT	EXT CTRL	MONITOR
DISK	PROGRAM	SAMPLE	SEQUENCE	VOLUME	DISK	IMPORT
UTILITY	TOTAL EQ	PANEL PLAY	SEQUENCE	MASTER	SYSTEM	MIDI

Turn Knob 1 to select FKeySet.



	Knob 1	Knob 2	Knob 3	Knob 4	Knob 5
Turn action	✔	✔	✔	✔	✔
Push action	✔	-	✔	✔	✔

- The A3000 lets you set up the six function keys as MIDI keys (keyboard keys), so that you can use them to produce sound from the selected program (more specifically, to send Note-On messages to the program). You set up each function key by designating its transmission channel, note number, and velocity.
- In order to actually use the function keys to produce sound, you must first set the ASSIGNABLE key so that it works with this feature. (Go to the UTILITY | SYSTEM Keys page and set the ASSIGNABLE parameter to FKey Play on/off.) Once you have done this, you can toggle function-key playback on and off by pressing the ASSIGNABLE key — press once to enable playback (the ASSIGNABLE lamp comes on); press again to return the keys to their normal operation (the lamp goes off).
- Note that you cannot use function-key playback while working in RECORDING mode, or while using certain other A3000 screens.

Knob 1 — Change Page / Select P/S

- Turn the knob to change to a different page within the PANEL PLAY function. Available pages are: KnobCtl, KnobSet, and FKeySet (this page).
- Push the knob to move to the Program/Sample Selection screen. (☞95)

Knob 2 — FKey# = 1,...,6

Select the function key that you to set up, by its function-key number (where numbers run from left to right; "1" identifies to the leftmost key). You can then use Knobs 2 to 5 to set the values for the selected function key. You then repeat this sequence for each function key that you want to set up: first select the function key with Knob 2, then set the values using Knobs 3 to 5.

Knob 3 T-ch = 1,...,16, Bch **MIDI IN**

- Use this knob to set the "Transmit" channel for the selected function key. The setting determines the MIDI channel over which the Note-On message is transmitted.
- Set the value to Bch if you want to use the channel selected by the BasicCh parameter in the UTILITY | MIDI Receive page (☞305).
- Push the knob if you want to set the channel from an external MIDI device. The knob indicator begins blinking, indicating that the A3000 is ready to receive MIDI input. Now transmit any note to the A3000 over the appropriate channel; the A3000 detects the channel and displays the value over the knob. Lock in the setting in by pushing the knob again or changing to a different screen.

Knob 4 Note = C-2,...,G8 **MIDI IN**

- Use this knob to set the note to be played by the selected function key. The setting determines the note value that the key transmits when sending a Note-On message.
- To set the value from an external MIDI device: Push the knob (so that the indicator begins blinking), then transmit the appropriate Note-On value. (See explanation directly above.)
- You can use the Note setting in the UTILITY | SYSTEM Display page (☞302) to select whether note values are shown by name ("C-2" to "G8") or by the corresponding MIDI note number ("0" to "127").

Knob 5 Velocity = 1,...,127 **MIDI IN**

- Use this knob to set the velocity for selected function key. The setting determines the velocity value that the key transmits when sending a Note-On message.
- To set the value from an external MIDI device: Push the knob (so that the indicator begins blinking), then transmit any note using the appropriate velocity. (See explanation directly above.)
- You can use the Note setting in the UTILITY | SYSTEM Display page (☞302) to select whether note values are shown by name ("C-2" to "G8") or by the corresponding MIDI note number ("0" to "127").

SEQUENCE Function

A *sequence* is a recorded series of MIDI performance data (MIDI instructions). The A3000 records a sequence by memorizing the MIDI data that you send from a MIDI keyboard or other such MIDI device. When you play the sequence back, the A3000 reproduces the same series of instructions.

The A3000's sequencing feature is ideal for capturing performance ideas involving break beats and phrase samples. Note, however, that the A3000 is not designed to offer the capabilities of a professional sequencer, and does not support MIDI clock synchronization, sequence editing, or other such functions.

SEQUENCE - SeqSel (Select Sequence)

Selects a sequence for playback or recording.

PLAY	PROGRAM	SAMPLE	EASY EDIT	EFFECT	SETUP	CONTROL
EDIT	TRIM / LOOP	MAP / OUT	FILTER	EG	LFO	MIDI / CTRL
REC	RECORD	SETUP	METER	EFFECT	EXT CTRL	MONITOR
DISK	PROGRAM	SAMPLE	SEQUENCE	VOLUME	DISK	IMPORT
UTILITY	TOTAL EQ	PANEL PLAY	SEQUENCE	MASTER	SYSTEM	MIDI

Turn Knob 1 to select SeqSel.

	Knob 1	Knob 2	Knob 3	Knob 4	Knob 5
Turn action	✔	✔	✔	-	-
Push action	✔	✔	✔	-	✔

Use this page to select a sequence for playback or recording.

Knob 1 — Change Page / Select P/S

- Turn the knob to switch between the function's SeqSel and Play&Rec pages.
- Push the knob to move to the Program/Sample Selection screen. (☞95)

Knobs 2, 3 — Sequence = sequence name / Edit the Name

- Turn either knob to select the sequence that you want to play or over-record. The name of the selected sequence appears above the knobs.
- You can change the name of the sequence by pushing either knob to proceed to the name editing screen. For information about how to edit name strings, see "Entering Names" (☞ 88).

Knob 5 — >NEW

Push the knob to create a new sequence. The A3000 automatically names the sequence "New Seq *x*" (where *x* is a sequential number that increments as necessary to avoid name duplication).

SEQUENCE - Play&Rec (Playback and Recording)

Plays or records a sequence.

PLAY	PROGRAM	SAMPLE	EASY EDIT	EFFECT	SETUP	CONTROL
EDIT	TRIM / LOOP	MAP / OUT	FILTER	EG	LFO	MIDI / CTRL
REC	RECORD	SETUP	METER	EFFECT	EXT CTRL	MONITOR
DISK	PROGRAM	SAMPLE	SEQUENCE	VOLUME	DISK	IMPORT
UTILITY	TOTAL EQ	PANEL PLAY	SEQUENCE	MASTER	SYSTEM	MIDI

Turn Knob 1 to select Play&Rec.

	Knob 1	Knob 2	Knob 3	Knob 4	Knob 5
Turn action	✔	✔	-	-	-
Push action	✔	-	-	✔	✔

Use this page to play or record (or over-record) the sequence that you select at the SeqSel page (☞296).

Knob 1 — Change Page / Select P/S

- Turn the knob to switch between the function's SeqSel and Play&Rec pages.
- Push the knob to move to the Program/Sample Selection screen. (☞95)

Knob 2 — Speed(%) = -50,...,+50

- This value sets the playback speed, relative to the recorded speed.
- The setting is by percentage. A value of +0 reproduces the original speed; a setting of +50 increases the speed by a factor of 1.5, while a setting of -50 cuts the speed in half.
- If you are playing back an imported SMF (standard MIDI file), the available range may be less than shown here.

Knob 4 — >REC

- Push the knob to begin recording.
- Once recording has started, you can pause it by pushing Knob 4 (>PAUSE), and then resume from the point you left of by pushing Knob 4 (>CONTINUE) once again. You can terminate the recording at any time by pushing Knob 5 (>STOP).

Knob 5 — >PLAY

- Push the knob to begin playback.
- Once playback has started, you can pause it by pushing Knob 4 (>PAUSE), and then resume from the point you left of by pushing Knob 4 (>CONTINUE) again. You can terminate playback at any time by pushing Knob 5 (>STOP).

MASTER Function

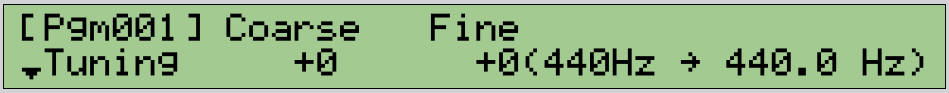
Use this function to adjust the system's output pitch, to adjust the level to the stereo outputs, and to set an assignable-output destination for the stereo output signal.

MASTER - Tuning

Sets the system-wide tuning.

PLAY	PROGRAM	SAMPLE	EASY EDIT	EFFECT	SETUP	CONTROL
EDIT	TRIM / LOOP	MAP / OUT	FILTER	EG	LFO	MIDI / CTRL
REC	RECORD	SETUP	METER	EFFECT	EXT CTRL	MONITOR
DISK	PROGRAM	SAMPLE	SEQUENCE	VOLUME	DISK	IMPORT
UTILITY	TOTAL EQ	PANEL PLAY	SEQUENCE	MASTER	SYSTEM	MIDI

Turn Knob 1 to select Tuning.



	Knob 1	Knob 2	Knob 3	Knob 4	Knob 5
Turn action	✔	✔	✔	-	-
Push action	✔	-	-	-	-

Use this page to adjust the tuning (shift the pitch) of all system output.

The lower right of the screen indicates the degree of pitch shift, with respect to note A3. The value to the left of the arrow indicates the normal frequency for A3 (which is 440Hz), while the value to the right indicates the "tuned" frequency.

Knob 1 — Change Page / Select P/S

- Turn the knob to switch between the function's Tuning and StOut pages.
- Push the knob to move to the Program/Sample Selection screen. (☞95)

Knob 2 — Coarse = -127,...,+127

Turn the knob to adjust the tuning, in semitone increments.

Knob 3 — Fine = -63,...,+63

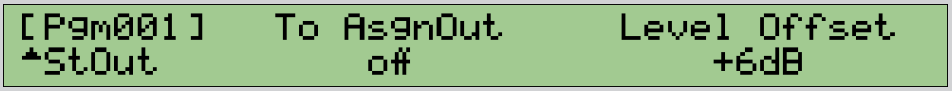
Turn the knob to adjust the tuning in increments of 1.171875 cent.
(Note: 100 cents = 1 semitone)

MASTER - StOut (Stereo Output Assignment)

Selects an assignable-output destination for the stereo-output signal. Also, sets the "level offset" for the stereo output.

PLAY	PROGRAM	SAMPLE	EASY EDIT	EFFECT	SETUP	CONTROL
EDIT	TRIM / LOOP	MAP / OUT	FILTER	EG	LFO	MIDI / CTRL
REC	RECORD	SETUP	METER	EFFECT	EXT CTRL	MONITOR
DISK	PROGRAM	SAMPLE	SEQUENCE	VOLUME	DISK	IMPORT
UTILITY	TOTAL EQ	PANEL PLAY	SEQUENCE	MASTER	SYSTEM	MIDI

Turn Knob 1 to select StOut.



	Knob 1	Knob 2	Knob 3	Knob 4	Knob 5
Turn action	✔	✔	✔	✔	✔
Push action	✔	-	-	-	-

Use this page to adjust the level to the stereo outputs. You can also select an assignable-output destination for the stereo output signal — so that the stereo-output jacks and the selected assignable-output connectors produce exactly the same signal.

Important

The setting that you make at this page takes precedence over the assignable-output settings within samples and programs. If you select AS2&3 at this page, for example, then AS2&3 will always produce the same signal as the stereo outputs.

Knob 1 **Change Page** **Select P/S**

- Turn the knob to switch between the function's Tuning and StOut pages.
- Push the knob to move to the Program/Sample Selection screen. (☞95)

Knobs 2, 3 To AsgnOut = off, ASL&R, AS1&2, AS3&4, AS5&6, DIG&OPT

- Set this value to off if you do not want to pass the stereo-output signal to any assignable output. Set the value to ASL&R if you want to pass the signal to the A3000's standard assignable-output pair. The other settings are meaningful only if you have installed the optional I/O expansion board (AIEB1 board); if the board is not installed, these settings are equivalent to off.
- If you have installed the AIEB1 board, you may also select from among the other assignable-output pairs indicated above. If you select DIG&OPT, the A3000 transmits the same signal to both the DIGITAL and the OPTICAL output jacks.

Knobs 4, 5 Level Offset = -0dB,...,+24dB

- Use this setting to raise the level to the stereo outputs.
- Note that higher settings may produce distortion with certain types of sound, or when many notes are played at the same time.

SYSTEM Function

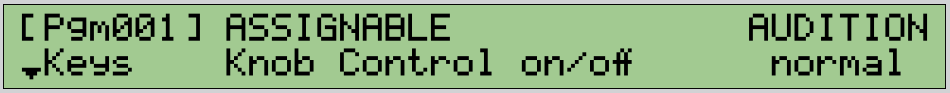
Use this function to set up the system's operating environment and screen-display options, and to check the amount of free memory.

SYSTEM - Keys

Sets the operation of the ASSIGNABLE and AUDITION keys.

PLAY	PROGRAM	SAMPLE	EASY EDIT	EFFECT	SETUP	CONTROL
EDIT	TRIM / LOOP	MAP / OUT	FILTER	EG	LFO	MIDI / CTRL
REC	RECORD	SETUP	METER	EFFECT	EXT CTRL	MONITOR
DISK	PROGRAM	SAMPLE	SEQUENCE	VOLUME	DISK	IMPORT
UTILITY	TOTAL EQ	PANEL PLAY	SEQUENCE	MASTER	SYSTEM	MIDI

Turn Knob 1 to select Keys.



	Knob 1	Knob 2	Knob 3	Knob 4	Knob 5
Turn action	✔	✔	✔	-	✔
Push action	✔	-	-	-	-

This page sets the operation of the ASSIGNABLE and AUDITION keys.

Knob 1 Change Page / Select P/S

- Turn the knob to change to a different page within the SYSTEM function. Available pages are: Keys (this page), Display, Page, and FreeMem.
- Push the knob to move to the Program/Sample Selection screen. (☞95)

Knobs 2, 3 ASSIGNABLE = Damp,...,Fkey Play on/off

Turn either knob to select the operation of the ASSIGNABLE key.

Damp	Switches off (damps) all sound output.
Controller Reset	Resets all control-change values.
Knob Control on/off	Switches the knob operation mode. While the ASSIGNABLE key is engaged (indicator lamp is on), Knobs 2 to 5 operate as controllers, in accordance with the settings in the KnobSet page of the PANEL PLAY function (☞292).
Fkey Play on/off	Switches the function-key operation mode. While the ASSIGNABLE key is engaged (indicator lamp is on), the function keys operate as keyboard keys -- transmitting Note On messages in accordance with the settings in the FKeySet page of the PANEL PLAY function (☞294).

Knob 5 AUDITION = normal, toggle

Selects whether the AUDITION key produces sound only while held down, or whether it continues to produce sound until pressed a second time.

normal	The key produces sound only while you hold it down. Sound stops immediately when you release the key.
toggle	Pressing the key once starts the playback. Pressing the key again stops the sound (if it is still playing) and disengages the key.

SYSTEM - Display

Selects note display type.

PLAY	PROGRAM	SAMPLE	EASY EDIT	EFFECT	SETUP	CONTROL
EDIT	TRIM / LOOP	MAP / OUT	FILTER	EG	LFO	MIDI / CTRL
REC	RECORD	SETUP	METER	EFFECT	EXT CTRL	MONITOR
DISK	PROGRAM	SAMPLE	SEQUENCE	VOLUME	DISK	IMPORT
UTILITY	TOTAL EQ	PANEL PLAY	SEQUENCE	MASTER	SYSTEM	MIDI

Turn Knob 1 to select Display.

	Knob 1	Knob 2	Knob 3	Knob 4	Knob 5
Turn action	✔	✔	-	-	-
Push action	✔	-	-	-	-

This page selects whether the screen indicates note values by name or by MIDI note number.

Knob 1 — Change Page / Select P/S

- Turn the knob to change to a different page within the SYSTEM function. Available pages are: Keys, Display (this page), Page, and FreeMem.
- Push the knob to move to the Program/Sample Selection screen. (☞95)

Knob 2 — Note = name, number

This value selects the note display type.

name	The A3000 displays note values by name. For example: C3, F4, F#-1.
number	The A3000 displays note values by MIDI note number. For example: 60, 77, 18.

SYSTEM - Page

Determines initial function selection, page selection.

PLAY	PROGRAM	SAMPLE	EASY EDIT	EFFECT	SETUP	CONTROL
EDIT	TRIM / LOOP	MAP / OUT	FILTER	EG	LFO	MIDI / CTRL
REC	RECORD	SETUP	METER	EFFECT	EXT CTRL	MONITOR
DISK	PROGRAM	SAMPLE	SEQUENCE	VOLUME	DISK	IMPORT
UTILITY	TOTAL EQ	PANEL PLAY	SEQUENCE	MASTER	SYSTEM	MIDI

Turn Knob 1 to select Page.

	Knob 1	Knob 2	Knob 3	Knob 4	Knob 5
Turn action	✔	✔	✔	✔	✔
Push action	✔	-	-	-	-

This page selects whether the A3000 moves to the "first" or "most recent" function when you switch the mode; and whether it moves to the "first" or "most recent" page when you switch the function.

Knob 1 — Change Page / Select P/S

- Turn the knob to change to a different page within the SYSTEM function. Available pages are: Keys, Display, Page (this page), and FreeMem.
- Push the knob to move to the Program/Sample Selection screen. (☞95)

Knobs 2, 3 — atModeChange = 1stFunction, LastFunction

This setting selects whether the A3000 activates the "first" function or the "last" (most recent) function when you switch to a different mode.

1stFunction	When you switch to a different mode, the A3000 automatically moves into the function identified by the first (leftmost) function key.
LastFunction	When you switch to a different mode, the A3000 automatically re-enters the function that was active when you last exited that mode.

Knobs 4, 5 — atFuncChange = 1stPage, LastPage

This setting selects whether the A3000 activates the "first" page or the "last" (most recent) page when you switch to a different function within the current mode.

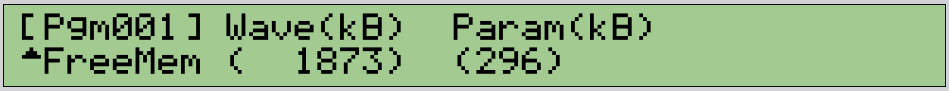
1stPage	When you change functions (by pressing a function key), the A3000 automatically displays the initial page for that function.
LastPage	When you change functions (by pressing a function key), the A3000 automatically displays the page that was shown when you last exited that function.

SYSTEM - FreeMem

Shows amount of free memory.

PLAY	PROGRAM	SAMPLE	EASY EDIT	EFFECT	SETUP	CONTROL
EDIT	TRIM / LOOP	MAP / OUT	FILTER	EG	LFO	MIDI / CTRL
REC	RECORD	SETUP	METER	EFFECT	EXT CTRL	MONITOR
DISK	PROGRAM	SAMPLE	SEQUENCE	VOLUME	DISK	IMPORT
UTILITY	TOTAL EQ	PANEL PLAY	SEQUENCE	MASTER	SYSTEM	MIDI

Turn Knob 1 to select FreeMem.



	Knob 1	Knob 2	Knob 3	Knob 4	Knob 5
Turn action	✔	-	-	-	-
Push action	✔	-	-	-	-

This page displays the amount of memory currently available for use (currently unused). The screen shows separate values for waveform memory (Wave) and parameter memory (Param).

Note that the A3000 uses its waveform memory to store waveform data for all samples. It uses its parameter memory to store the parameters for programs, samples, and sequences.

Knob 1 Change Page / Select P/S

- Turn the knob to change to a different page within the SYSTEM function. Available pages are: Keys, Display, Page, and FreeMem (this page).
- Push the knob to move to the Program/Sample Selection screen. (☞95)

MIDI Function

Use this function to set the various MIDI parameters.

MIDI - Receive

Sets the MIDI reception parameters.

PLAY	PROGRAM	SAMPLE	EASY EDIT	EFFECT	SETUP	CONTROL
EDIT	TRIM / LOOP	MAP / OUT	FILTER	EG	LFO	MIDI / CTRL
REC	RECORD	SETUP	METER	EFFECT	EXT CTRL	MONITOR
DISK	PROGRAM	SAMPLE	SEQUENCE	VOLUME	DISK	IMPORT
UTILITY	TOTAL EQ	PANEL PLAY	SEQUENCE	MASTER	SYSTEM	MIDI

Turn Knob 1 to select Receive.

	Knob 1	Knob 2	Knob 3	Knob 4	Knob 5
Turn action	✔	✔	✔	✔	-
Push action	✔	✔	-	-	-

This page sets the A3000's MIDI reception parameters.

Knob 1 ↶ Change Page ↑ Select P/S

- Turn the knob to change to a different page within the MIDI function. Available pages are: Receive (this page), Adjust, RcvFlt, and Bulk.
- Push the knob to move to the Program/Sample Selection screen. (☞95)

Knob 2 ↶ BasicCh = 1,...,16 ↑ MIDI IN

- This value sets the A3000's "Basic Receive" channel.
- If Omni=on (see explanation for Knob 4 below), then the BasicCh setting is meaningless — since the A3000 accepts messages over all channels. If Omni=off, then the BasicCh sets the channel used to receive control-change and program-change messages, and the default channel for playback (Note-On and Note-Off) messages.
- Playback messages (Note messages) on this channel control playback of all samples whose ReceiveCh setting is set to Bch. (☞209)
- Control-change messages on this channel control playback of programs, in accordance with each program's controller setup. (☞135)
- Program-change messages on this channel cause the A3000 to change programs (provided that PgmChange is set on; see explanation for Knob 4 below).
- If you wish to set the channel from an external MIDI device, push the knob so that the knob indicator begins blinking. Then transmit any channel message from the MIDI device; the A3000 will detect the channel and display the value over the knob. Lock in the setting in pushing the knob again or by changing to a different page.

Knob 3 Omni = off, on

Set this value on to enable reception over all channels.

Note that setting the value to on disables the Basic Channel setting that you make with Knob 2, since the A3000 will accept note messages, program-change messages (if PgmChange=on; see below), and control-change messages over all channels.

Knob 4 PgmChange = off, on

The setting determines whether the A3000 accepts program-change messages.

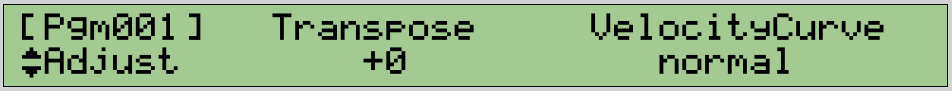
on	The A3000 accepts program change messages. Specifically, the A3000 will change programs in response to program-change messages received over the Basic Receive Channel (if Omni=off), or over any channel (if Omni=on).
off	The A3000 will never switch programs in response to program-change messages.

MIDI - Adjust

Sets MIDI transposition and velocity curve.

PLAY	PROGRAM	SAMPLE	EASY EDIT	EFFECT	SETUP	CONTROL
EDIT	TRIM / LOOP	MAP / OUT	FILTER	EG	LFO	MIDI / CTRL
REC	RECORD	SETUP	METER	EFFECT	EXT CTRL	MONITOR
DISK	PROGRAM	SAMPLE	SEQUENCE	VOLUME	DISK	IMPORT
UTILITY	TOTAL EQ	PANEL PLAY	SEQUENCE	MASTER	SYSTEM	MIDI

Turn Knob 1 to select Adjust.



	Knob 1	Knob 2	Knob 3	Knob 4	Knob 5
Turn action	✔	✔	✔	✔	✔
Push action	✔	-	-	-	-

This page sets MIDI transposition, and determines how the A3000 adjusts received Note-On messages before transmitting them to the internal tone generator.

Knob 1 **Change Page** **Select P/S**

- Turn either knob to change to a different page within the MIDI function. Available pages are: Receive, Adjust (this page), RcvFlt, and Bulk.
- Push the knob to move to the Program/Sample Selection screen. (☞95)

Knobs 2, 3 Transpose = -127,...,+127

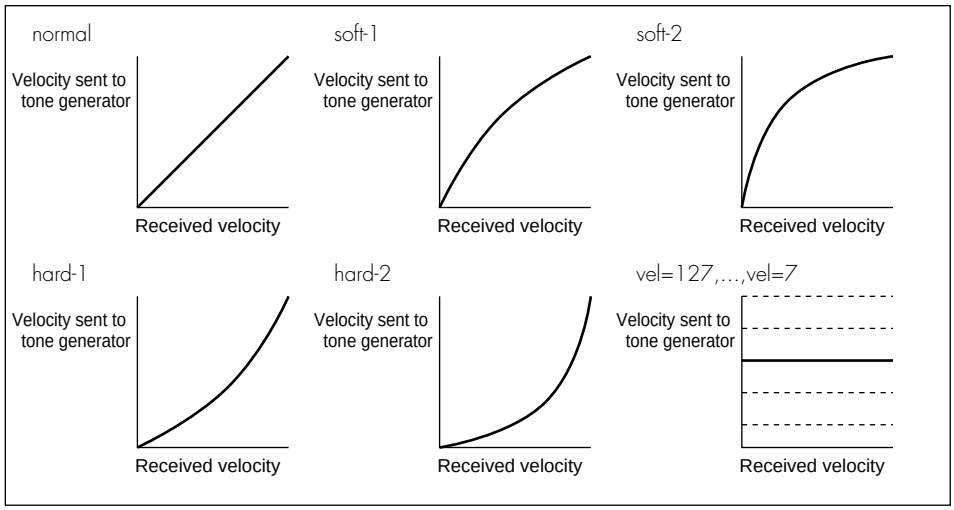
Turn either knob to set the transposition applied to received note values, in semitones. Set to +0 if you do not want to apply any transposition.

Example: If you set the value to +1, the A3000 will transpose all received note values upward by one semitone. If the MIDI device transmits a Note-On for A4, the A3000 will change the value to A#4 before passing it into the internal tone generator.

Knobs 4, 5 VelocityCurve = normal, soft-1, soft-2, hard-1, hard-2, vel=127, vel=117,...,vel=7

This setting selects the conversion curve that the A3000 uses to adjust received velocity values before sending them to the tone generator. (See illustration on next page.)

normal	Linear relationship
soft-1, soft-2	The applied velocity rises more rapidly in the low-velocity range, with the rate becoming flatter at higher range. Use one of these settings if you tend to strike the keyboard lightly when playing. The soft-2 setting is more pronounced than the soft-1 setting.
hard-1, hard-2	The applied velocity increases relatively slowly in the low-velocity range, with the rate becoming sharper as velocity gets higher. Use one of these settings if you have a relatively strong key attack. The hard-2 setting is more pronounced than the hard-1 setting.
vel=127,...,vel=7	Uses a single velocity for all notes, regardless of received velocity value. You can set the applied velocity to any velocity value ending in 7 (127, 117,...,17, 7).

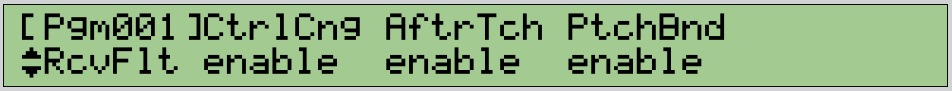

normal
Velocity sent to tone generator
Received velocity
soft-1
Velocity sent to tone generator
Received velocity
soft-2
Velocity sent to tone generator
Received velocity
hard-1
Velocity sent to tone generator
Received velocity
hard-2
Velocity sent to tone generator
Received velocity
vel=127,...,vel=7
Velocity sent to tone generator
Received velocity

MIDI - RcvFlt (Receiving Filter)

Sets up filtering of MIDI data.

PLAY	PROGRAM	SAMPLE	EASY EDIT	EFFECT	SETUP	CONTROL
EDIT	TRIM / LOOP	MAP / OUT	FILTER	EG	LFO	MIDI / CTRL
REC	RECORD	SETUP	METER	EFFECT	EXT CTRL	MONITOR
DISK	PROGRAM	SAMPLE	SEQUENCE	VOLUME	DISK	IMPORT
UTILITY	TOTAL EQ	PANEL PLAY	SEQUENCE	MASTER	SYSTEM	MIDI

Turn Knob 1 to select RcvFlt.



	Knob 1	Knob 2	Knob 3	Knob 4	Knob 5
Turn action	✔	✔	✔	✔	-
Push action	✔	-	-	-	-

This page selects the types of MIDI messages accepted by the A3000. The A3000 accepts messages of a given type only if the corresponding parameter is set to enable. If the setting is disable, the A3000 filters out (ignores) messages of this type.

Note that the settings that you make here remain effective when you are recording a sequence. If you disable control-change messages, for example, then the sequence will not register any control-change messages that are received during recording.

Knob 1 — Change Page / Select P/S

- Turn the knob to change to a different page within the MIDI function. Available pages are: Receive, Adjust, RcvFlt (this page), and Bulk.
- Push the knob to move to the Program/Sample Selection screen. (☞95)

Knob 2 — CtrlCng = enable, disable

Set this to enable if you want to allow control-change data to pass to the tone generator. Set to disable if you want the A3000 to ignore (filter out) all control-change data.

Knob 3 — AftrTch = enable, disable

Set this to enable if you want to allow aftertouch data to pass to the tone generator. Set to disable if you want the A3000 to ignore (filter out) all aftertouch data.

Knob 4 — PtchBnd = enable, disable

Set this to enable if you want to allow pitchbend data to pass to the tone generator. Set to disable if you want the A3000 to ignore (filter out) all pitchbend data.

MIDI - Bulk (Bulk Dump)

Sets parameters for MIDI bulk dumps.

PLAY	PROGRAM	SAMPLE	EASY EDIT	EFFECT	SETUP	CONTROL
EDIT	TRIM / LOOP	MAP / OUT	FILTER	EG	LFO	MIDI / CTRL
REC	RECORD	SETUP	METER	EFFECT	EXT CTRL	MONITOR
DISK	PROGRAM	SAMPLE	SEQUENCE	VOLUME	DISK	IMPORT
UTILITY	TOTAL EQ	PANEL PLAY	SEQUENCE	MASTER	SYSTEM	MIDI

Turn Knob 1 to select Bulk.

```
[Pgm001 ]Protect Device#
*Bulk      on       all
```

	Knob 1	Knob 2	Knob 3	Knob 4	Knob 5
Turn action	✔	✔	✔	-	-
Push action	✔	-	-	-	-

This page sets parameters related to MIDI bulk dumps.

Knob 1 Change Page / Select P/S

- Turn the knob to change to a different page within the MIDI function. Available pages are: Receive, Adjust, RcvFlt, and Bulk (this page).
- Push the knob to move to the Program/Sample Selection screen. (☞95)

Knob 2 Protect = off, on

This setting selects whether the A3000 accepts bulk-dump transmissions from connected MIDI devices. If you set the protection off, the A3000 will accept and process dumped data as soon as it is received. If you set the protection on, the A3000 ignores all received bulk data.

Knob 3 Device# = off, 1,...,16, all

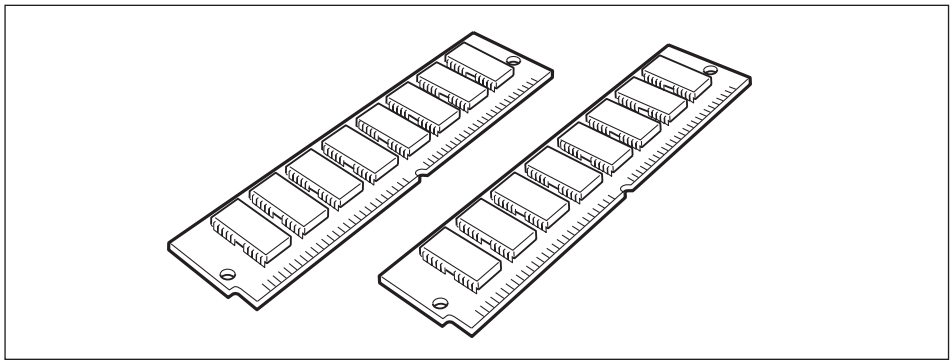
This value sets the A3000's device number for purposes of bulk dumps.

The A3000 can transfer a bulk dump to/from another device only if the two devices have consistent device-number settings.

off	The A3000 does not send or receive bulk dumps.
1,...,16	The A3000 can receive bulk dumps directed to this device number only. It transmits all bulk dumps to this device number,
all	The A3000 accepts all bulk dumps, regardless of device number. It transmits bulk dumps to Device #1 only.

Appendix

Installing SIMMs



You can increase the A3000's sampling memory by installing commercially available SIMMs (single in-line memory modules). This section explains how to carry out the installation.

Important

- Before performing the installation, please read precautions "Handling and Installation of Options," found at the beginning of this manual.
- You need to use 72-pin SIMMs with access time of 70ns or less. The SIMM module size may be 4MB, 8MB, 16MB, or 32MB. The A3000 is designed for use with 32-bit SIMMs, but can also accept installation of 36-bit (parity-type) SIMMs.
- When purchasing SIMMs, make sure that the SIMM design does not utilize more than 18 memory chips per module. (SIMMs comprised of more than 18 chips do not operate correctly on the A3000.)
- SIMMs must be installed in pairs: you can install either two SIMMs or four SIMMs. Both modules in a pair must have the same memory capacity.
- The A3000 ships with 2MB of sampling memory installed, and is capable of accessing up to 128MB. If you add one pair of 32MB SIMMs, for example, you increase the available sampling memory to a total of (2 + 32 × 2 =) 66MB. If you install four 32MB SIMMs, however, the sampling memory size becomes 128MB (and the original 2MB are effectively disabled).

Procedure

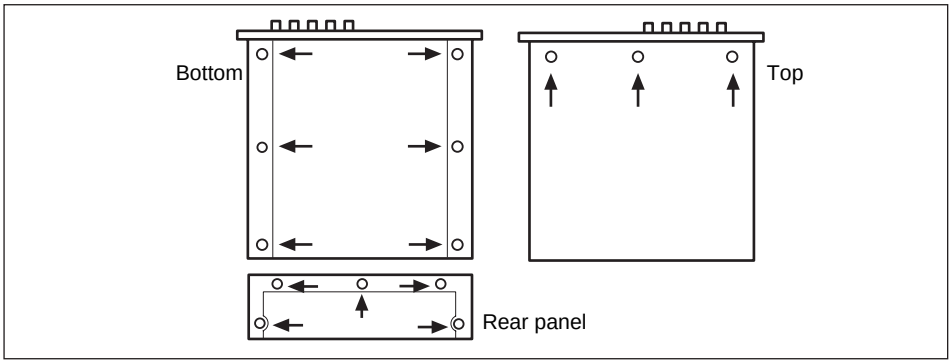
1. Be sure that you have the following at hand before starting the installation.

- A3000 main unit
- SIMMs (One or two pairs: 2 or 4 modules)
- Phillips screwdriver
  Magnetic-tipped screwdriver is recommended.
- Workbench
  Please carry out all work on a stable workbench or table. Spreading a cloth over the work surface will help prevent scratching.
- Gloves: Be sure to wear gloves so that your hands are not scratched by the metal cover or other metal parts.

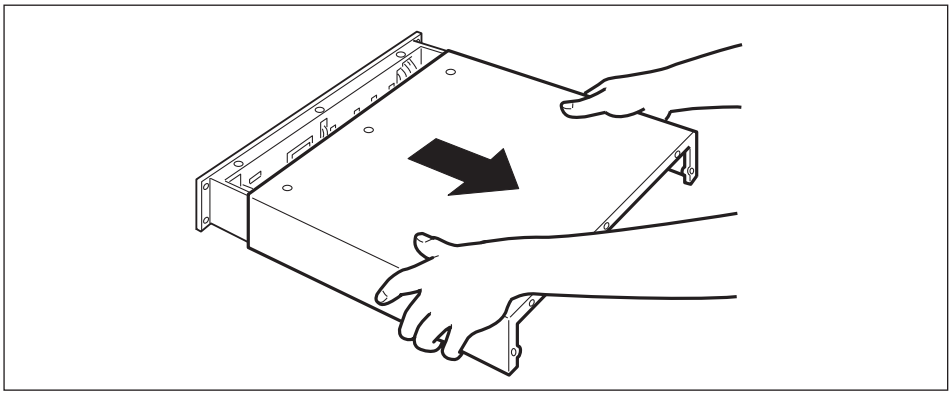
2. **Switch off the A3000 power, and unplug the power cord from the wall outlet.**

3. **Remove the screws holding the A3000 top cover in place.**

Set the A3000 upside down on the workbench and unscrew the 6 screws along the sides of the bottom (see drawing). Then turn the A3000 right side up again and unscrew the 3 screws along the top. Then unscrew the 5 screws holding the cover to the rear panel.

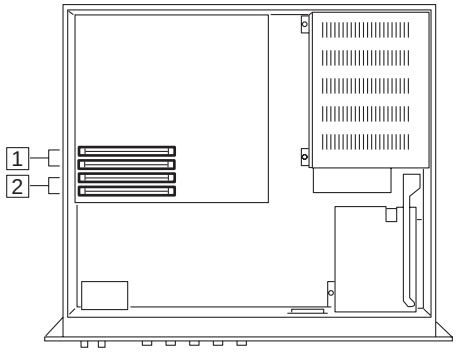


4. **Hold the two sides of the cover and slide the cover straight back (over the rear panel) and off.**



5. Install the SIMMs into the memory sockets.

First identify the sockets you will install the SIMMs into. There are four sockets, divided into two banks. The two sockets for bank 1 are labeled 1, and the two sockets for bank 2 are labeled 2. Bank 1 must be filled first, and then if necessary you can proceed to fill bank 2. (The labels 1 and 2 are located at the left side of the slot when viewed from the front panel.)



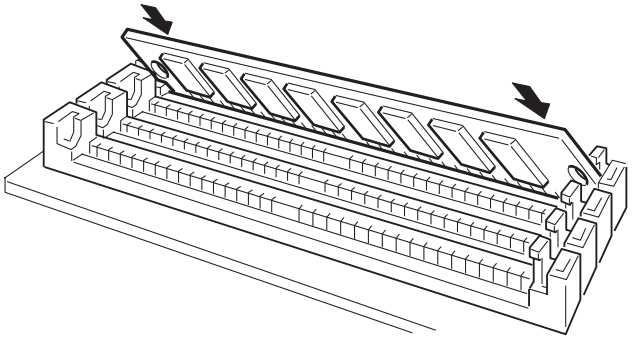
NOTE: Although the above illustration does not show the SCSI board mounted in the A3000, please note that *there is no need* to remove the SCSI board when installing SIMMs.

If you are using different SIMM sizes in the two banks, the larger size must be installed into the Bank 1 sockets to ensure that the A3000 handles the memory correctly. For example, if you are adding one pair of 32MB SIMMs and one pair of 8MB SIMMs, you must install the 32MB SIMMs into Bank 1. If you already have SIMMs installed in Bank 1 and are now adding a larger pair, you will need to move the original pair into Bank 2 and insert the new pair into Bank 1.

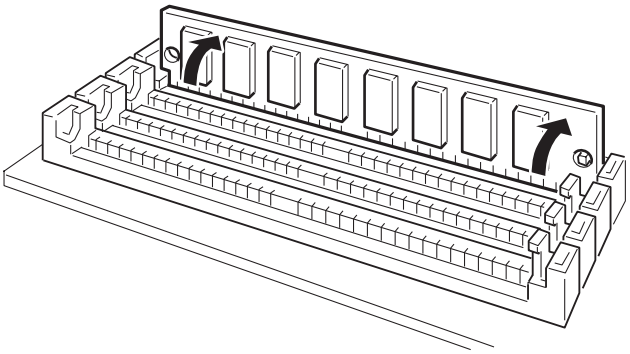
When inserting SIMMs, always begin with the free socket furthest from the A3000 front side. (SIMMs will not fit into the sockets if you reverse this order.)

Hold the SIMM with its cutout part facing to the left (as viewed from the front panel), and set it into the socket at an angle as shown in Figure 1. Then push in direction shown in Figure 2 so that it becomes upright and the hook snaps into place.

(1)



(2)



Repeat this step for each SIMM that you wish to install.

* If you need to remove a SIMM from a socket, hold open the two hooks on the socket (one at each end) and push on the SIMM so that it moves to the opposite angle from that shown in Figure (2) (toward yourself in the diagram), and then pull the SIMM out.

This completes the installation. There is no need to remove the expansion board when installing other devices.

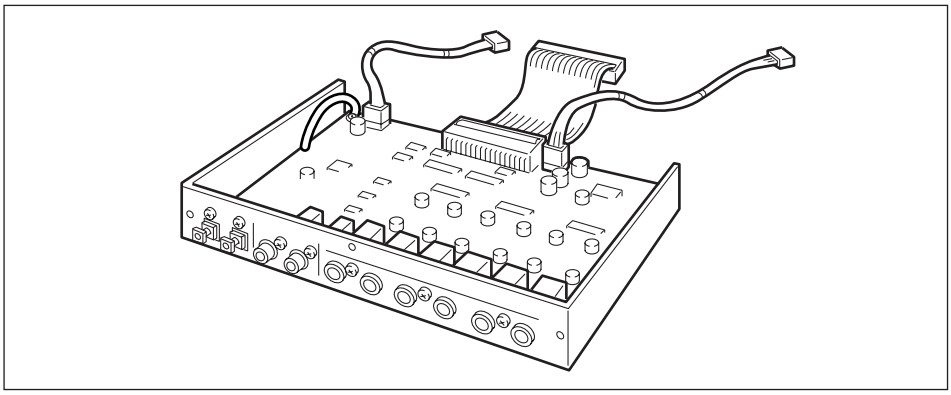
6. Return the top cover to its original position, and fasten into place with the screws removed at Step 3 above.

- When remounting the cover, be careful to keep clear of internal cabling, and do not allow cables to be pinched or pulled.
- When refastening the three screws on the top, press inward on the top center part of the front panel.

7. Plug in the power cord.

- The UTILITY - SYSTEM FreeMem page allows you to verify that the installed SIMM modules were detected correctly. (☞304)

Installing the AIEB1 I/O Expansion Board



The optional AIEB1 Input/Output expansion board adds digital I/O (both optical and coaxial formats) and six assignable outputs to the A3000. For information about the board's connectors and general board setup, refer to information elsewhere in this manual (☞22 to 26).

Important

Before performing the installation, please read precautions "Handling and Installation of Options," found at the beginning of this manual.

Procedure

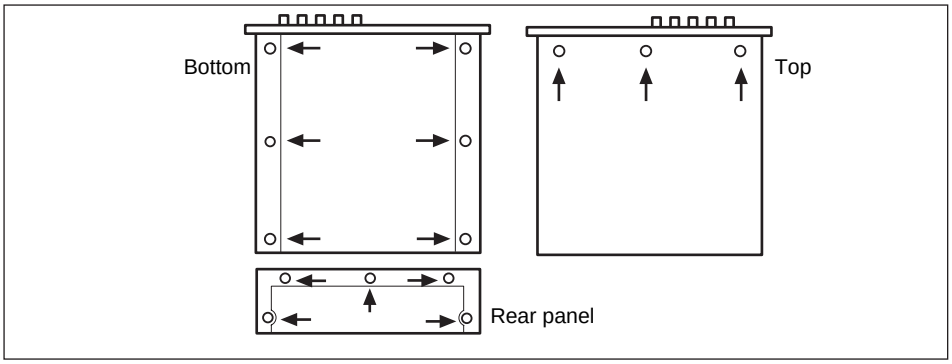
1. Be sure that you have the following at hand before starting the installation.

- A3000 main unit
- AIEB1 I/O expansion board
  Confirm that there are 3 cables extending from the board.
- Phillips screwdriver
  Magnetic-tipped screwdriver is recommended.
- Workbench
  Please carry out all work on a stable workbench or table. Spreading a cloth over the work surface will help prevent scratching.
- Gloves: Be sure to wear gloves so that your hands are not scratched by the metal cover or other metal parts.

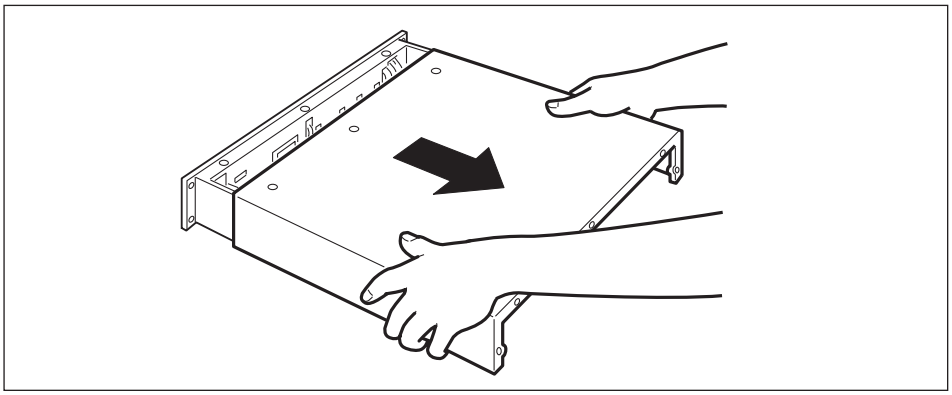
2. Switch off the A3000 power, and unplug the power cord from the wall outlet.

3. Remove the screws holding the A3000 top cover in place.

Set the A3000 upside down on the workbench and unscrew the 6 screws along the sides of the bottom (see drawing). Then turn the A3000 right side up again and unscrew the 3 screws along the top. Then unscrew the 5 screws holding the cover to the rear panel.

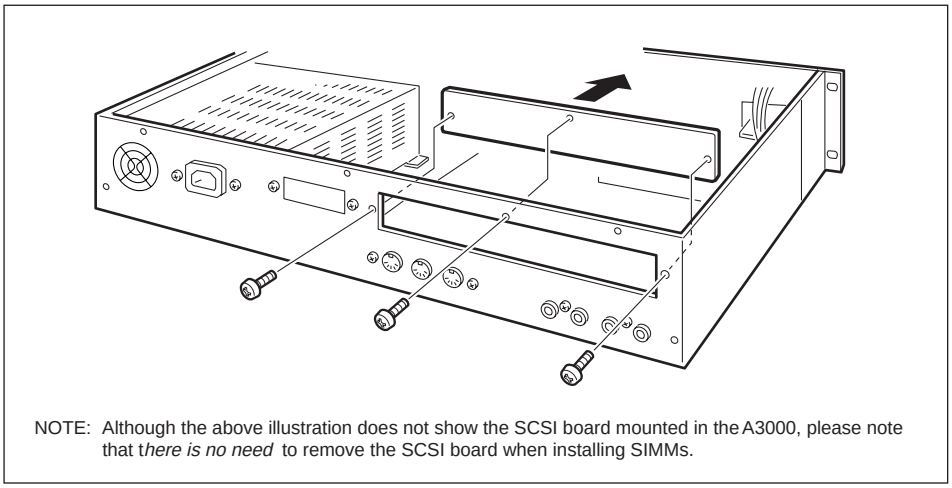


4. **Hold the two sides of the cover and slide the cover straight back (over the rear panel) and off.**



5. **Now go to the rear panel and remove the 3 screws holding the expansion-board coverplate in place. Take the coverplate out.**

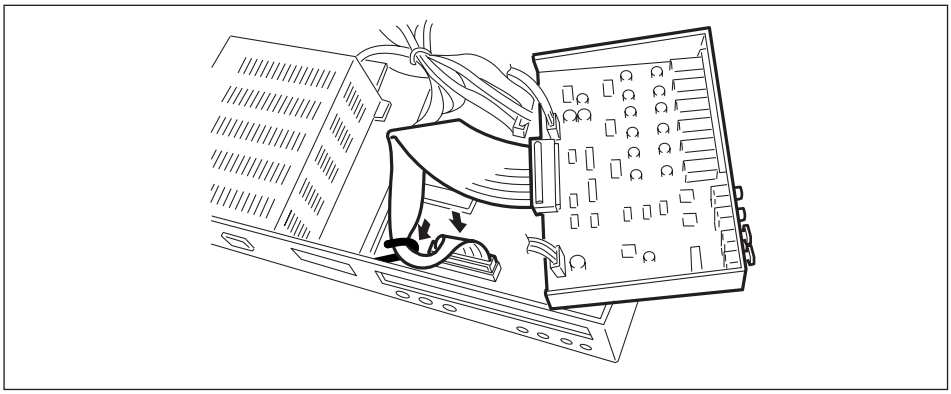
Keep the 3 silver-colored screws at hand, since you will need them to fasten the expansion board. (Note that these screws are not the same type as those removed at Step 3.) You will not need the coverplate again unless you decide to remove the expansion board.



NOTE: Although the above illustration does not show the SCSI board mounted in the A3000, please note that t*here is no need* to remove the SCSI board when installing SIMMs.

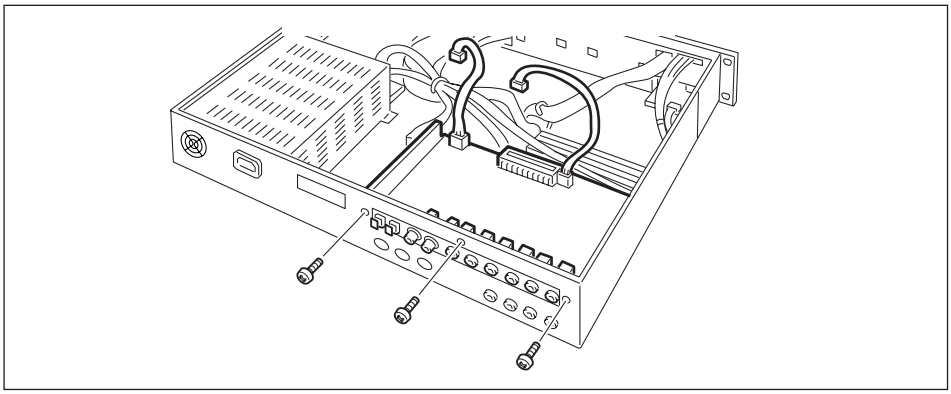
6. Connect the wide flat cable.

Connect the wide flat cable from the expansion board into the corresponding connector in the A3000 (the long black connector located just behind the three MIDI terminals). Note that the connectors are notched to ensure that you connect in the right direction. Make sure that you run the cable through the hook-shaped bundle tie located within the A3000 (as shown in the drawing). Adjust the shape of the tie so that the cable is secure.



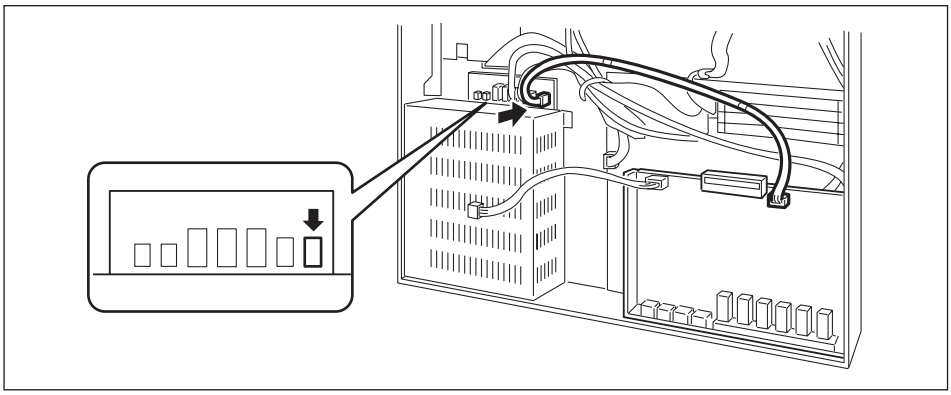
7. Insert the AIEB1 expansion board.

Support the board as shown in the drawing, and fasten it in to the rear panel by screwing in the three screws that you removed at Step 5 above.



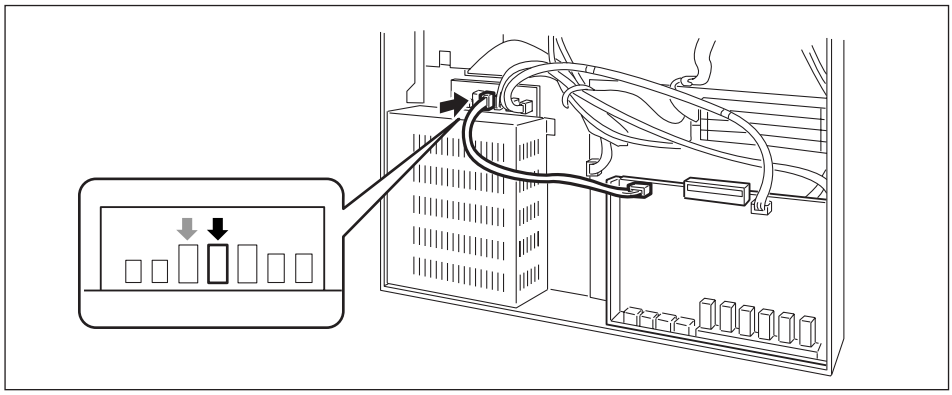
8. Connect the two red/white cables.

First connect the 3-wire cable into the connector indicated in the drawing. (Note that these connectors can attach in one direction only. Make sure that the direction is correct and do not try to force the connection.)



Now connect the remaining cable (the 4-wire cable) into the connector indicated in the photo. If you do not have a hard disk installed, you can connect to either of the free connectors.

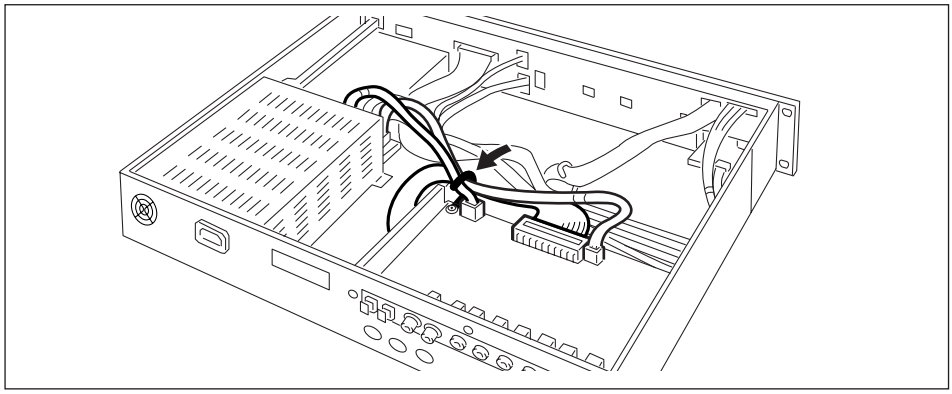
* If for some reason you later need to remove either of these red/white cable connections, be sure to press on the connector's tab when pulling the connector out. Pulling without pressing may cause the connector to break.



The expansion board is now fully installed. There is no need to remove the expansion board when installing other devices.

9. Secure the red/white cables and the wide flat cable to the bundle tie.

Run the flat cable, the 3-wire cable, and the 4-wire cable through the bundle tie (see drawing). Adjust the tie so that the cables are secure.



10. Return the top cover to its original position, and fasten into place with the screws removed at Step 3 above.

- When remounting the cover, be careful to keep clear of internal cabling, and do not allow cables to be pinched or pulled.
- When refastening the three screws on the top, press inward on the top center part of the front panel.

11. Plug in the power cord.

Setting the SCSI Board Terminator Switch

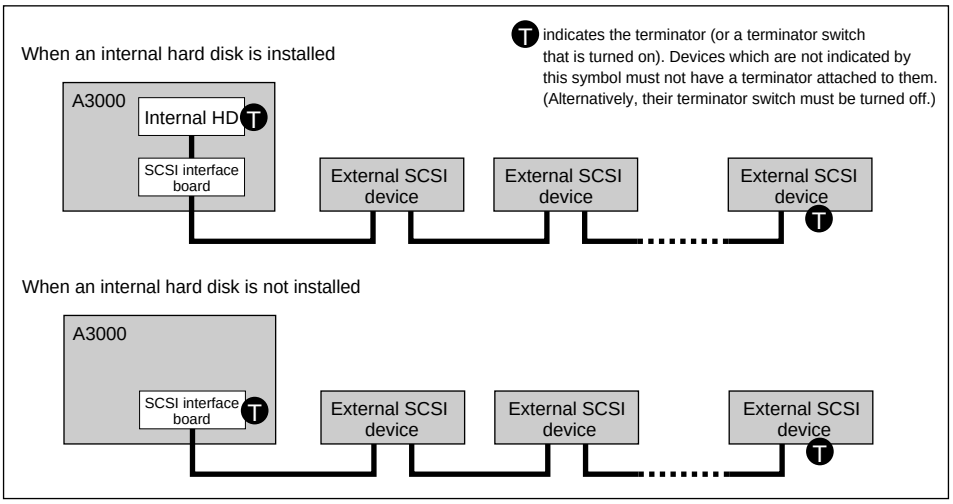
About SCSI

SCSI (pronounced “scuzzy”) stands for Small Computer System Interface, and is a data transmission interface standard used by personal computers and other devices.

Hard disk drives (internal or external), MO disk drives, or CD-ROM drives which support this standard can be connected to the A3000 for use. Up to 7 SCSI devices can be connected. (If an internal hard disk is installed, up to 6 external SCSI devices can be connected.)

External SCSI devices usually have two SCSI connectors. These two connectors allow you to connect multiple SCSI devices in a “daisy-chain.” The placement sequence of a device within the daisy-chain does not matter.

The last device in the daisy chain must have a device known as a “terminator” connected to it. (Alternatively, the terminator switch of the last device must be turned on.) A terminator is also required for the first device of the daisy chain, but this is provided by the terminator switch (or terminator jumper switch) of the internal hard disk or the SCSI interface board itself.



Important

- Including the A3000, each SCSI device is distinguished by a number from 0—7, called the SCSI ID. If two or more devices have the same SCSI ID number, the SCSI devices will not function correctly. When shipped from the factory, the A3000 is set to SCSI ID 6. Be aware that the SCSI ID number of a device has no relation to its position in the daisy-chain.
- If an external SCSI device is not connected, it is not necessary to attach a terminator to the external SCSI connector of the SCSI interface board.

Procedure

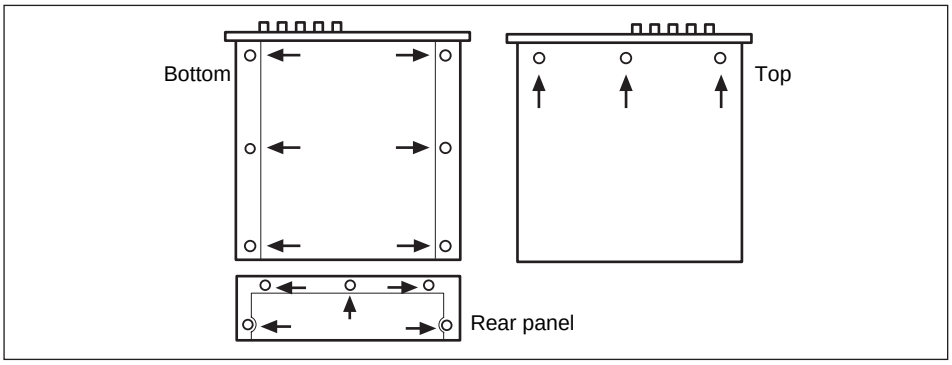
1. Be sure that you have the following at hand before starting the installation.

- A3000 main unit
- Phillips screwdriver
  Magnetic-tipped screwdriver is recommended.
- Workbench
  Please carry out all work on a stable workbench or table. Spreading a cloth over the work surface will help prevent scratching.
- Gloves: Be sure to wear gloves so that your hands are not scratched by the metal cover or other metal parts.

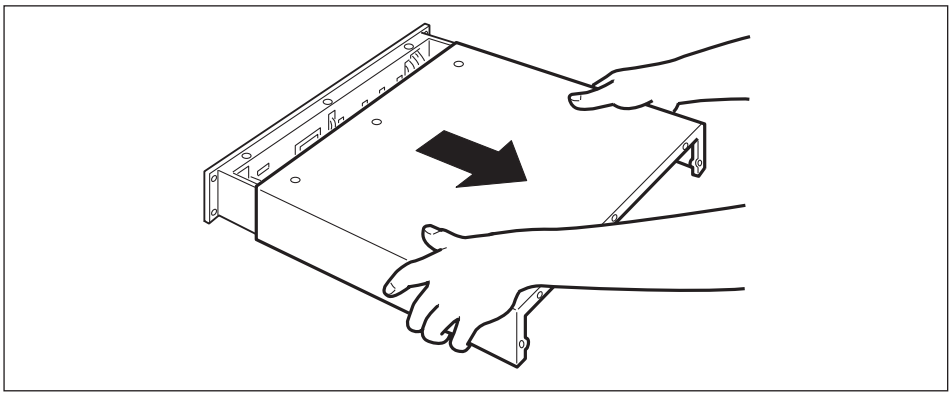
2. Switch off the A3000 power, and unplug the power cord from the wall outlet.

3. Remove the screws holding the A3000 top cover in place.

Set the A3000 upside down on the workbench and unscrew the 6 screws along the sides of the bottom (see drawing). Then turn the A3000 right side up again and unscrew the 3 screws along the top. Then unscrew the 5 screws holding the cover to the rear panel.

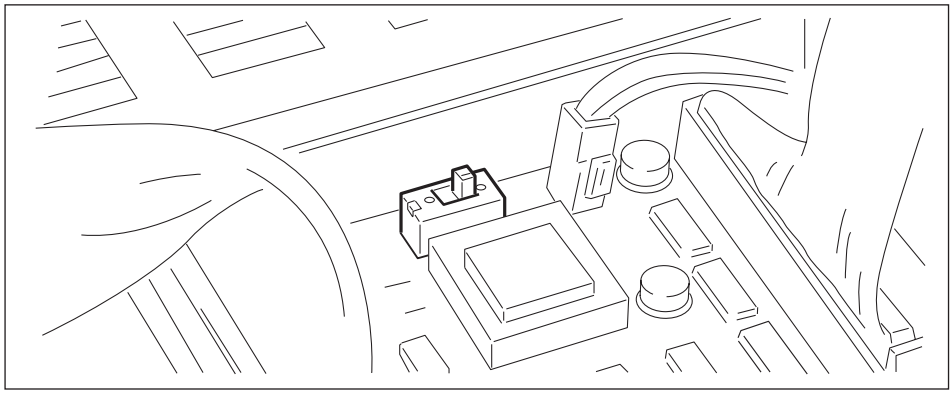


4. Hold the two sides of the cover and slide the cover straight back (over the rear panel) and off.



5. **Set the SCSI terminator switch.**

Set the TERM switch on the SCSI board to match your configuration, as follows.



If you are connecting an internal hard disk

Set the SCSI terminator switch of the SCSI interface board to OFF. (When shipped from the factory this is ON.)

* In this case you must also set the SCSI terminator of the internal disk itself to ON. (☞324) And if you are connecting one or more external SCSI devices, you must also be sure to switch ON the terminator of the final device in the chain. (Alternatively, turn its terminator switch ON.) (☞328)

If you are not connecting an internal hard disk

Set the SCSI terminator switch of the SCSI interface board to ON. (When shipped from the factory this is ON.)

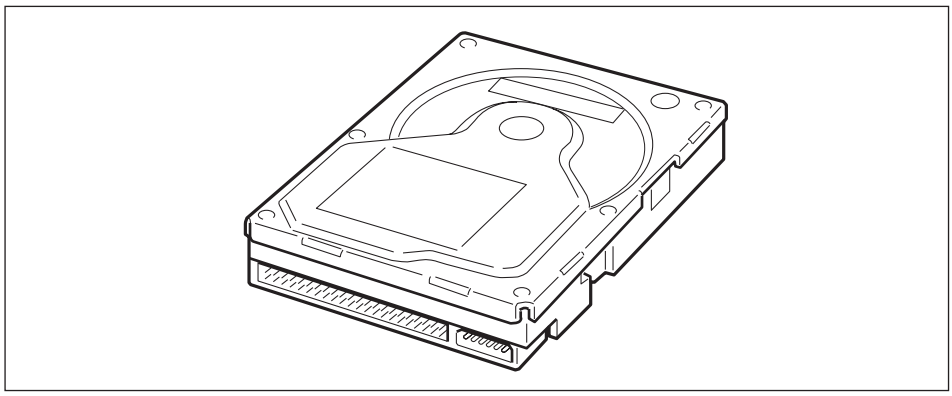
* If you are connecting one or more external SCSI devices, you must also be sure to switch ON the terminator of the final device in the chain. (Alternatively, turn its terminator switch ON.) (☞328)

6. **Return the top cover to its original position, and fasten into place with the screws removed at Step 3 above.**

- Be careful to keep clear of internal cabling when remounting the cover.
- When refastening the three screws on the top, press inward on the top center part of the front panel.

7. **Plug in the power cord.**

Installing an Internal Hard Disk



This section explains how to install a standard SCSI hard disk drive (bare drive) into the A3000.

Important

- Before performing the installation, please read precautions "Handling and Installation of Options," found at the beginning of this manual.
- Consult your Yamaha dealer for information about hard disk models that have been confirmed as operating correctly with the A3000.

Procedure

1. Be sure that you have the following at hand before starting the installation.

- A3000 main unit
- Internal SCSI hard disk
- Hard disk installation screws
  Available from your hard disk dealer.
- Red/white cable (4-wire cable) supplied with the A3000. (power supply cable for the hard disk)
- SCSI cable for the hard disk supplied with the A3000.
- Phillips screwdriver
  Magnetic-tipped screwdriver is recommended.
- Screwdriver for the hard-disk installation screws.
  Note that some hard-disk models do not use Phillips-head screws.
- Workbench
  Please carry out all work on a stable workbench or table. Spreading a cloth over the work surface will help prevent scratching.
- Gloves: Be sure to wear gloves so that your hands are not scratched by the metal cover or other metal parts.

2. **Check the hard disk settings.**

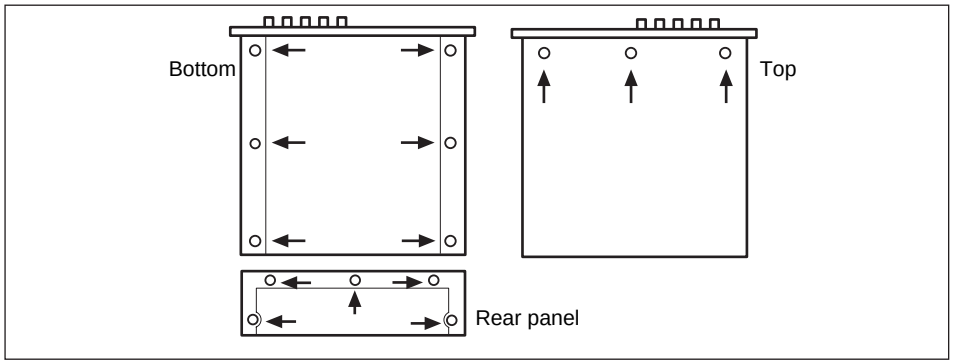
Be sure that the hard disk's terminator is set to ON. For information about how to make this setting, refer to the instructions provided with the disk.

It is recommended that you set the hard disk's SCSI ID to 4, although you are free to set the ID to any value other than 6 (the factory-set ID for the A3000). For information about how to make this setting, refer to the instructions provided with the disk.

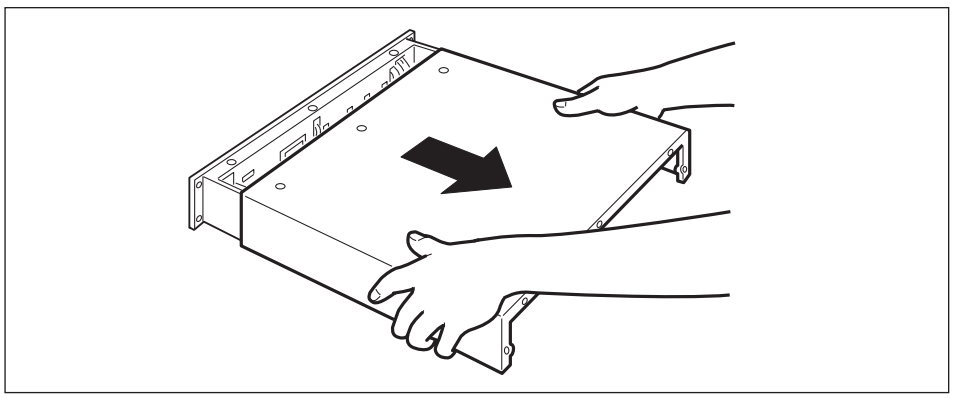
3. **Switch off the A3000 power, and unplug the power cord from the wall outlet.**

4. **Remove the screws holding the A3000 top cover in place.**

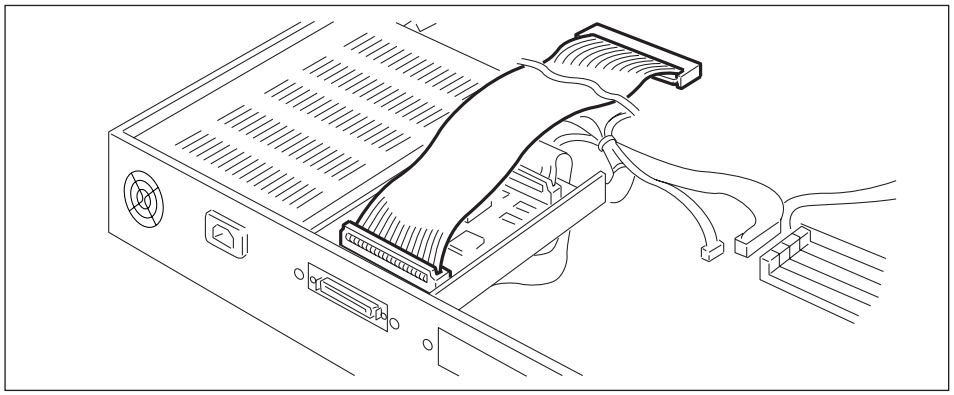
Set the A3000 upside down on the workbench and unscrew the 6 screws along the sides of the bottom (see drawing). Then turn the A3000 right side up again and unscrew the 3 screws along the top. Then unscrew the 5 screws holding the cover to the rear panel.



5. **Hold the two sides of the cover and slide the cover straight back (over the rear panel) and off.**

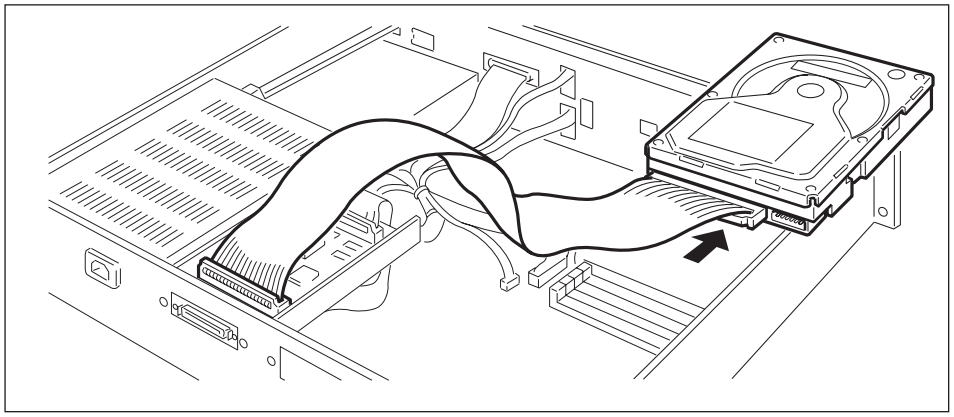


6. Connect the SCSI cable for the hard disk to the connector of the SCSI interface board as shown in the illustration. When connecting the cable, support the SCSI board from the bottom and avoid excessive force on the board. Also, set the SCSI board's terminator switch to OFF at this time.



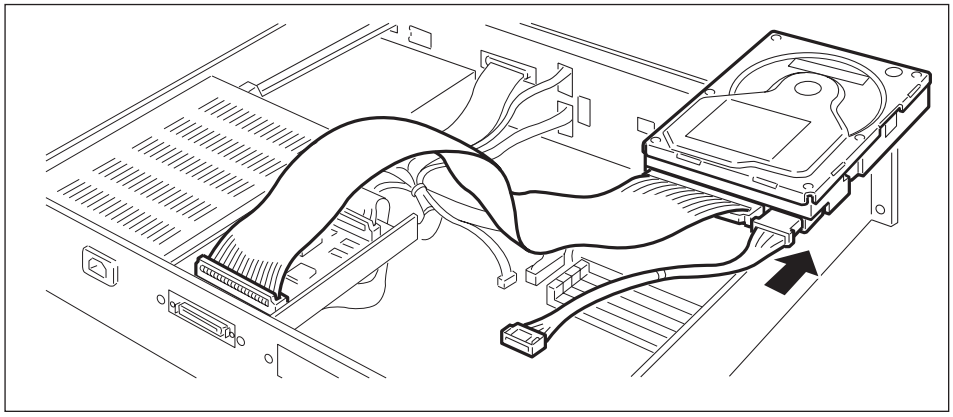
7. **Connect the SCSI interface board to the hard disk.**

Connect the free end of the flat SCSI cable (connected to the SCSI interface board) to the connector on the hard disk. The connectors are notched to ensure that you connect in the right direction.



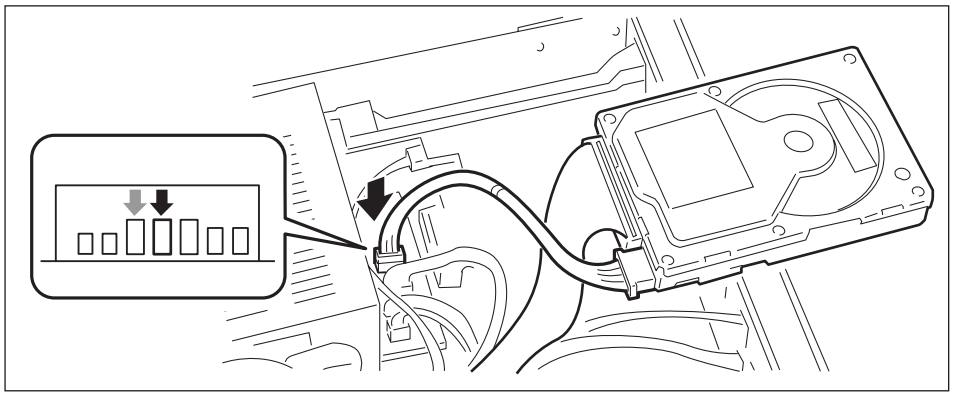
8. **Using the red/white cable (hard disk power supply cable), connect the hard disk to the A3000.**

Begin by connecting one end of the 4-wire red/white cable (hard disk power supply cable) to the connector on the hard disk.



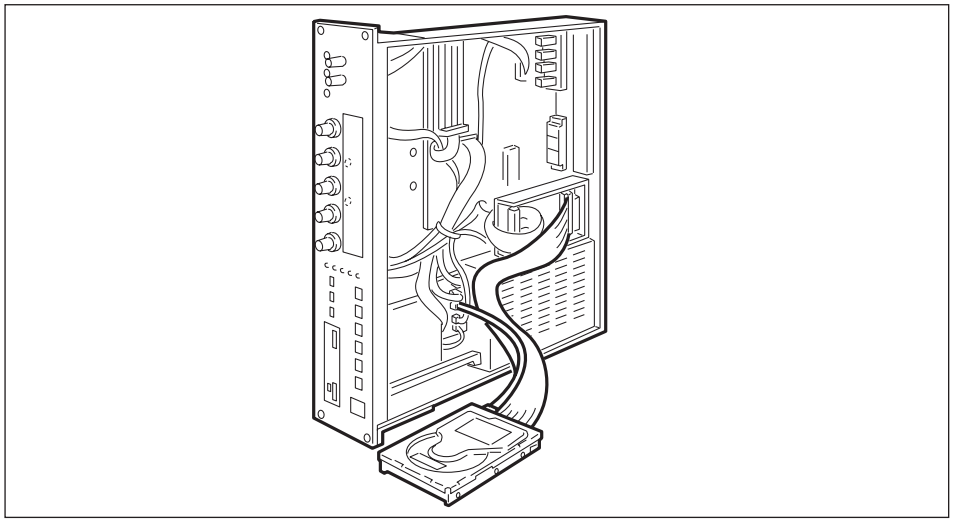
Now connect the other end of the cable into the connector indicated in the drawing. If you do not have an AEIB1 I/O expansion board installed, you can connect to either of the free connectors. Note that the connection can be made in one direction only; make sure that the direction is correct and do not try to force the connector in.

* If for some reason you later need to disconnect this cable, be sure to press on the connector's tab when pulling the connector out. Pulling without pressing may cause the connector to break.

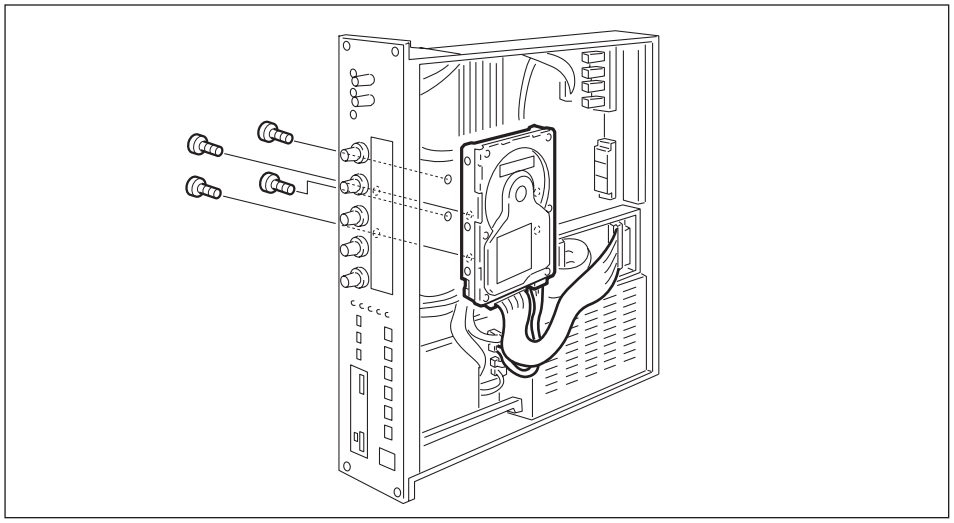


9. Install the hard disk.

Temporarily rest the disk unit on the workbench to the right of the A3000 (viewing from the front panel). Now carefully stand the A3000 up onto its right panel (see drawing), while taking due care to keep the hard disk from falling out.



Now support the hard disk in the correct position with one hand (on the inside of the unit) while using the other hand to insert the screws and fasten into place. Note that the screws must be inserted from the outside of the unit, through the base (see drawing)



The hard disk is now fully installed. There is no need to remove the disk when installing other devices.

10. Gently lower the A3000 back down into its normal position. Then replace the top cover and fasten it in place with the screws removed at Step 4 above.

- When remounting the cover, be careful to keep clear of internal cabling, and do not allow cables to be pinched or pulled.
- When refastening the three screws on the top, press inward on the top center part of the front panel.

11. Plug in the power cord.

Important

After installing the hard disk, connect your audio and MIDI devices, and turn on the A3000. Then mount the hard disk (☞270), format it (☞254), and partition it into volumes (☞266).

Connecting external SCSI devices

This section explains how to connect external devices such as external hard disk drives, MO drives, or CD-ROM drives.

Important

- Before connecting SCSI devices, be sure to turn off the power of the A3000 and all connected equipment. If the power is on while connections are being made, the A3000 or SCSI devices can be damaged.
- SCSI devices are distinguished by a SCSI ID number of 0—7. If two or more devices have the same SCSI ID number, the SCSI devices will not function correctly.
- Don't forget to attach a terminator to the last SCSI device in the daisy-chain.
- Use as short a SCSI cable as possible. Using long cables can cause unreliable operation. (In general, the total cable length including the cables inside the A3000 should be less than 6 meters (approximately 18 feet).)
- Use good-quality SCSI cables. Poor-quality cables can cause unreliable operation.
- Hard disks and MO disks will be formatted by the A3000. If you wish to use a hard disk or MO disk that was being used by a computer, you will need to perform the format operation after connecting and powering-on the disk.
- Some SCSI devices have only one SCSI connector. If you are using such a device, connect it at the end of the daisy-chain.

Procedure

1. **Use SCSI cables to daisy-chain the external SCSI devices.**
   There are several types of SCSI connector. Use SCSI cables appropriate for your devices.

2. **Connect the power cable of the external SCSI device to an AC outlet.**

3. Set the SCSI ID (0—7) of the external SCSI device.

Select a SCSI ID that will not conflict with the other SCSI devices (including the A3000). When the A3000 is shipped from the factory, the SCSI ID is set to 6. When installing the internal hard disk, we suggest that you set the internal hard disk to a SCSI ID of 4.

4. Attach the terminator to the SCSI connector (the vacant one of the two SCSI connectors) of the last device in the daisy-chain.

Alternatively, turn on the terminator switch of that device.

5. Make sure that the terminator switch is turned OFF for all other devices in the daisy-chain (i.e., all devices other than the last device).

Important

After installing a new hard disk or MO drive (or one which has been used by another computer device), connect your audio and MIDI devices, and turn on the external SCSI devices and the A3000. (If using an MO drive, insert the MO disk.) Then mount the disk (☞270), format it (☞254), and partition it into volumes (☞266).

FYI

Many articles and books concerning SCSI are available. However most of them discuss only the concepts or the specification, and do not tell you what to do if the system does not work when connected as described. The following paragraphs will provide more information about SCSI that will help you correct problems which may occur when SCSI devices are connected. Please read this material if you experience problems. Please be aware that when connecting SCSI devices, problems with termination and cabling can cause valuable data to be damaged. We regret that Yamaha can take no responsibility regarding any data which is lost.

■ Principles of termination

Termination is the greatest source of potential problems in a SCSI system. Termination refers to an impedance-matched resistance which is connected to the bus to terminate the end of the data path. The “terminator” is the resistance required to provide termination.

SCSI connects a 220-ohm resistance between Vcc and the data lines, and 330-ohms between the ground and data lines. Termination is achieved when this collective resistance is connected to line 18 of the SCSI bus. Normally, the Vcc signal is output from line 38 of the SCSI bus to supply the power. If the drive itself has a terminator, the drive will supply power to the terminator. In this case, it is not necessary to supply Vcc power to line 38. In general, it is necessary to provide termination at the beginning and the end of the SCSI bus. This is because termination allows high-speed data transfer unaffected by noise, and keeps the bus signals clean.

■ Realities of terminator installation

Although we have said that a terminator is required at the beginning and end of the SCSI bus, this is a general principle and not a requirement. For example if the bus is extremely short (45 cm or less), there are cases in which it is best for there to be a terminator only on one or the other end. This is something which you should be aware of when using recent ultra-miniature drives. However if other drives are connected in addition to these drives, the situation will again be different.

Also, if the SCSI devices are separated by more than 3 meters, it is said that using a terminator at the 3 meter point is preferable. In this case, three or more terminators will exist within the SCSI bus.

In this way, the theory and practice of SCSI connections can differ widely. Simply changing a drive in a system that had been working correctly can cause operation to become unreliable, or adding a drive to an unreliable system can cause it to start working correctly. In practice, a certain amount of trial and error is necessary.

■ Reasons for SCSI errors

A SCSI bus operates stably only if all the connected SCSI devices are operating correctly. If any of the devices are producing noise, the other devices will also produce errors, and in the worst case, the boot block of a drive can be destroyed. (All data in that drive will be lost.)

Also, there are cases in which a system on which data appears to have saved may not have actually saved the data, resulting in data loss.

The following paragraphs will discuss the reasons for such errors, and will provide a sequence for your troubleshooting.

- Check the SCSI ID
  Make sure that there is no conflict between the SCSI ID of each SCSI device including the A3000. When shipped from the factory, the A3000's SCSI ID is set to 6. We suggest that the internal hard disk normally be set to 4. Be sure to turn off the power before changing the SCSI ID setting.
- Check the terminator
  As discussed above, check the location where the terminator is attached.

- Check the SCSI cables
  Low-quality SCSI cables will almost always create problems. Always use double-shielded cables. It is also important that the shield be grounded inside the connector. Long SCSI cables frequently cause problems, so use as short a SCSI cable as possible. Bending or twisting a SCSI cable in a confined space can cause conductors to break or pins to be broken, so be careful to avoid this.
- Faulty cabling inside an external SCSI device
  Inside an external SCSI drive, a V-shaped connector is normally used to connect the two SCSI connectors and the drive. However some drives use an I-shaped connector. Drives connected with an I-shaped connector sometimes produce noise which causes errors.
- External SCSI devices with 25-pin connectors
  Some SCSI devices use 25-pin connectors. These can also be the case of errors. Also, most SCSI cables on which both connectors are 25-pin do not fulfill the SCSI standard, and this can also cause problems.

Specifications

Tone generation method

AWM2 tone generator

Polyphony

64 notes, 16 multis, layering

Key assignment

Last-note priority, dynamic voice allocation, mono-mode supported

A/D conversion

16 bit delta-sigma type 64-times oversampling

D/A conversion

18 bit 4-times oversampling

Digital I/O (only when AIEB1 I/O expansion board is installed)

Input/output	DIGITAL connectors	S/P-DIF (coaxial)
	OPTICAL connectors	S/P-DIF (optical)
Input frequency	48 kHz, 44.1 kHz, 32 kHz	
Output frequency	44.1 kHz	

Sampling frequency

Analog input 44.1, 22.05, 11.025 kHz, 5.5125 kHz (mono and stereo)

Digital input (only when AIEB1 I/O expansion board is installed)

48 kHz, 44.1 kHz, 32 kHz external synchronized recording (stereo only)

1/2, 1/4 and 1/8 undersampling is supported

Internal sample memory capacity

Standard	2 Mbytes (installed on-board)
Maximum	128 Mbytes
	(When four 32 Mbyte 72 pin SIMM modules are installed. The on-board 2 Mbytes are unused only if memory has been expanded to the maximum.)

Sampling time

Maximum sample length

32 Mbytes monaural

64 Mbytes stereo

Maximum sampling time (mono or stereo)

6 minutes 20 seconds (44.1 kHz)

12 minutes 40 seconds (22.05 kHz)

25 minutes 21 seconds (11.025 kHz)

50 minutes 43 seconds (5.5125 kHz)

Front panel

POWER switch	
REC INPUT L,R jacks	(phone × 2)
REC VOLUME	(L& R shared)
MASTER VOLUME	(L&R shared, STEREO OUT & PHONES shared)
PHONES OUTPUT jack	
Knobs	(1—5)
Mode buttons	(PLAY, EDIT, REC, DISK, UTILITY)
Function buttons	(six buttons)
Command button	
Assignable button	
Audition button	

LCD (40 character × 2 line, LED backlight)

3.5" 2HD/2DD dual mode floppy disk drive

Rear panel

SCSI connector	
STEREO OUT L/MONO, R	(phone jack × 2)
ASSIGNABLE OUT L, R	(phone jack × 2)
MIDI	(IN, OUT, THRU)
Power supply connector	(AC inlet)
Fan	

Dimensions

Two-space rackmount unit

W 483 mm × D 403 mm × H 90 mm (19" × 15-5/6" × 3-1/2")

Weight

6.9 kg (15lbs 3oz)

Included items

Power cable	× 1
MIDI cable	× 1
Power supply cable for hard disk (red/white 4-wire cable)	× 1
SCSI cable for hard disk	× 1
CD-ROM	× 1
FD set (five disks)	× 1
Owner's manual	× 1

Options (made by Yamaha)

AIEB1	I/O expansion board

Internal expansion devices (made by other manufacturers)

Expansion memory (use a pair of identical-size SIMM modules of the following types)

Access time	70 ns or less
Bit width	32 (no parity) or 36 (with parity), Must comply with JEDEC standard
Expansion memory	72 pin SIMM (4 Mbyte)
Expansion memory	72 pin SIMM (8 Mbyte)
Expansion memory	72 pin SIMM (16 Mbyte)
Expansion memory	72 pin SIMM (32 Mbyte)

Internal hard disk drive (3.5 inch) performance requirements

Rotational speed	3600 rpm or more
Average seek time	35 ms (maximum) or less
Average rotational latency	8.3 ms or less
Recording density	29,300 bpi (18,275 TPI) or more
Transfer speed	400 kBPS or more
SCSI	SCSI-1 compatible
Power supply	+5V maximum 500 mA +12V operating maximum 500 mA startup maximum 1.4 A

Specifications and descriptions in this owner's manual are for information purposes only. Yamaha Corp. reserves the right to change or modify products or specifications at any time without prior notice. Since specifications, equipment or options may not be the same in every locale, please check with your Yamaha dealer.

Effect type list

This section explains each of the types of effect that are built into the A3000. For the parameters of each effect, refer to the following section “Effect parameter list.”

No.	Effecttype	Effect
1	Scratch (DIGITAL SCRATCH)	Adds a scratch sound to the input signal.
2	AutoSyn (AUTO SYNTH)	Processes the input signal into a synthesizer-type sound.
3	TechMod (TECH MODULATION)	Adds a unique feeling of modulation similar to ring modulation.
4	NoisDly (NOISY MOD DELAY)	Adds a modulated delay sound.
5	FlngPan (FLANGING PAN)	Flanger and auto-pan are synchronized.
6	FlowPan (FLOW PAN)	Auto-pan is placed in series, moving the sound image in complex ways.
7	NoisAmb (NOISE AMBIENT)	Adds noise to the input signal, and uses a delay to broaden the sound.
8	LoReso (LOW RESOLUTION)	Simulates a lowered resolution for the input signal. The phase of the Rch can be inverted.
9	Noisy (NOISY)	Adds a feeling of noise to the input signal.
10	AtkLoFi (ATTACK LOFI)	Creates a somewhat LoFi feeling, and emphasizes the attack of the sound. Also has the feel of a flanger.
11	Radio (RADIO)	Simulates a radio.
12	TurnTbl (DIGITAL TURNTABLE)	Simulates the noise of an analog record.
13	Jump (JUMP)	Cuts apart the input signal and applies extreme modulation to the playback order or speed.
14	BeatChg (BEAT CHANGE)	Modifies the waveform length of the sound in realtime. Use in conjunction with a controller.
15	VceCncl (VOICE CANCELAR)	Attenuates the vocal part of a CD or other source.
16	3BandEQ (3BAND EQ)	An EQ which allows equalization of low, mid and high bands.
17	Exciter (AURAL EXCITER)	Adds new harmonics to the input signal to make the sound stand out. Aural Exciter ® is a registered trademark of Aphex Systems, Ltd., and is manufactured under license.
18	AWah+DS (AUTO WAH+DIST)	The output of an Auto Wah can be distorted by Distortion.
19	AWah+OD (AUTO WAH+ODRV)	The output of an Auto Wah can be distorted by Overdrive.
20	TWah+DS (TOUCH WAH+DIST)	The output of a Touch Wah can be distorted by Distortion.
21	TWah+OD (TOUCH WAH+ODRV)	The output of a Touch Wah can be distorted by Overdrive.
22	Dist (DISTORTION)	Adds distortion with an edge. Since a Noise Gate is included, this is also suitable for A/D input.
23	OverDrv (OVERDRIVE)	Adds mild distortion. Since a Noise Gate is included, this is also suitable for A/D input.
24	AmpSim (AMP SIMULATOR)	Simulates a guitar amp. Since a Noise Gate is included, this is also suitable for A/D input.

No.	Effecttype	Effect
25	Comp (COMPRESSOR)	Holds down the output level when a specified input level is exceeded. A sense of attack can also be added to the sound.
26	Comp+DS (COMP+DIST)	Since a Compressor is included in the first stage, steady distortion can be produced regardless of changes in input level.
27	NoiseGt (NOISE GATE)	Gates the input when the input signal falls below a specified level. This is effective when you wish to decrease the noise at the A/D input.
28	Chorus (CHORUS)	Standard chorus effect.
29	Celeste (CELESTE)	Uses a three-phase LFO to add more modulation and width to the sound.
30	Flanger (FLANGER)	Creates a sound reminiscent of a jet airplane.
31	Sympho (SYMPHONIC)	Adds more stages to the modulation of Celeste.
32	Phaser1 (PHASER 1)	Cyclically modulates the phase to add modulation to the sound.
33	Phaser2 (PHASER 2)	Cyclically modulates the phase to add modulation to the sound.
34	Pitch1 (PITCH CHANGE 1)	Changes the pitch of the input signal.
35	Pitch2 (PITCH CHANGE 2)	Changes the pitch of the input signal.
36	Detune (ENSEMBLE DETUNE)	Chorus effect without modulation, created by adding a slightly pitch-shifted sound.
37	Rotary (ROTARY SPEAKER)	Simulates a rotary speaker.
38	Rot2Way (2WAY ROTARY SPEAKER)	Simulates a rotary speaker.
39	Tremolo (TREMOLO)	Cyclically modulates the volume.
40	AutoPan (AUTO PAN)	Cyclically moves the sound between left and right, front and back.
41	Ambienc (AMBIENCE)	Blurs the stereo positioning of the sound to add spatial width.
42	3Delay (DELAY L,C,R)	Produces three delayed sounds: L, R and C (center).
43	2Delay (DELAY L,R)	Produces two delayed sounds: L and R. Two feedback delays are provided.
44	Echo (ECHO)	Two delayed sounds (L and R), and independent feedback delays for L and R.
45	X-Delay (CROSS DELAY)	The feedback of the two delayed sounds is crossed.
46	Dly+Pan (DELAY+AUTO PAN)	Delayed sound is cyclically moved between left and right.
47	Hall (HALL)	Reverb simulating the acoustics of a hall.
48	Room (ROOM)	Reverb simulating the acoustics of a room.
49	Stage (STAGE)	Reverb suitable for a solo instrument.
50	Plate (PLATE)	Reverb simulating a plate reverb unit.
51	WhiteRm (WHITE ROOM)	Unique short reverb with a bit of initial delay.
52	Tunnel (TUNNEL)	Simulates a cylindrical space expanding to left and right.
53	Basemnt (BASEMENT)	Reverb with unique reverberation following a slight initial delay.
54	Canyon (CANYON)	Creates the sound of an imaginary space in which the sound expands limitlessly.

Effect parameter list

This section explains the meaning of each parameter in each effect.
The tables give the parameter number, the range of settings (or selections), and the explanation.

1: Scratch (DIGITAL SCRATCH)

1	Input Level	0~127	Scratch depth
2	Initial Delay	0.1~460.0ms	Delay time
3	Scratch Speed	1~127	Scratch modulation frequency
4	Scratch Depth	0~127	Scratch modulation depth
5	Auto Pan Speed	0.00Hz~39.7Hz	Autopan frequency
6	Auto Pan Depth	0~127	Autopan depth
7	EQ Mid Frequency	100Hz~10.0kHz	Frequency at which the EQ will boost/cut the mid range
8	EQ Mid Gain	-12~+12dB	Gain by which the EQ will boost/cut the mid range
9	EQ Mid Width	1.0~12.0	Width of the mid range area boosted/cut by the EQ
10	HPF Frequency	Thru~8.0kHz	Frequency at which the high pass filter will cut the low range
11	Dry/Wet Balance	D63>W ~ D=W ~ D<W63	Balance between dry sound and effect sound

2: AutoSyn (AUTO SYNTH)

1	Mod Speed	0~127	Modulation speed
2	Mod Wave Type	typeA, typeB, typeC, typeD	Modulation type
3	Mod Depth	0~127	Modulation depth
4	Mod Depth Ofst R	-64~+63	R ch offset relative to modulation depth
5	LPF Frequency	1.0kHz~Thru	Frequency at which the low pass filter will cut the high range
6	HPF Frequency	Thru~8.0kHz	Frequency at which the high pass filter will cut the low range
7	Dry Mix Level	0~127	Add dry sound before the delay input
8	Delay Time	0.1~370.0ms	Delay time
9	Delay Time Ofst R	-884~0	Delay time offset for the R ch offset
10	Feedback Level	-63~+63	Feedback amount
11	FB Level Ofst R	-63~+63	Feedback offset for the R ch
12	Delay Level	0~127	Delay level
13	AM Speed	0~127	Modulation frequency
14	AM Wave	tri, sine, saw up, saw down	Select modulation waveform
15	AM Depth	0~127	Amplitude modulation depth
16	AM Inverse R	“normal, inverse”	Left/right phase reversal of the amplitude modulation signal

3: TechMod (TECH MODULATION)

1	Mod Speed	0~127	Modulation speed
2	Mod Depth	0~127	Modulation depth
3	Pre Mod HPF Freq	Thru~8.0kHz	Frequency at which the high pass filter will cut the low range
4	Mod Gain	-12~+12dB	Gain of the modulation signal
5	Mod LPF Frequency	1.0kHz~Thru	Frequency at which the low pass filter will cut the high range
6	Mod LPF Resonance	1.0~12.0	Resonance of the low pass filter
7	Mod Mix Balance	D63>W ~ D=W ~ D<W63	Balance between the effect sound and the dry sound before the delay input
8	Delay Time	0.1~740.0ms	Delay time
9	Delay Time Ofst R	-884~0	Delay time offset for the R ch
10	Feedback Level	-64~+63	Feedback amount
11	FB Level Ofst R	-64~+63	Feedback offset for the R ch
12	Feedback Hi Damp	0.1~1.0	Adjust the high range attenuation (lower values will cause the high range to decay faster)
13	FB Hi Damp Ofst R	-0.9~+0.9	High Damp offset for the R ch
14	Dry/Wet Balance	D63>W ~ D=W ~ D<W63	Balance between the dry sound and effect sound

4: NoisDly (NOISY MOD DELAY)

1	Dry/Wet Balance	D63>W ~ D=W ~ D<W63	Balance between the dry sound and the effect sound
2	Mod Speed	0~127	Delay modulation frequency
3	Mod Wave Type	typeA, typeB, typeC, typeD	Modulation type
4	Mod Depth	0~127	Modulation depth
5	Delay Time	0.1~650.0ms	Delay time
6	Feedback Level	-63~+63	Feedback amount
7	Mod Mix Balance	1~127	Balance between delay sound and delay bypass sound
8	Hi Gain	-12~+12dB	Gain by which the EQ will boost/cut the high range
9	HPF Frequency	Thru~8.0kHz	Frequency at which the high pass filter will cut the low range

5: FlngPan (PLANGING PAN)

1	Dry/Wet Balance	D63>W ~ D=W ~ D<W63	Balance between the dry sound and the effect sound
2	Flange&Pan Speed	0.00Hz~39.7Hz	Delay modulation frequency
3	Flanger Depth	0~127	Delay modulation depth
4	Flanger Delay	0.1~180.0ms	Delay time
5	Flanger Feedback	-63~+63	Feedback amount
6	FlangPan Delay	0.1~180.0ms	Delay time
7	FlangPan Feedback	-63~+63	Feedback amount
8	HPF Frequency	Thru~8.0kHz	Frequency at which the high pass filter will cut the low range
9	LPF Frequency	1.0kHz~Thru	Frequency at which the low pass filter will cut the high range
10	Delay Time	0.1~270.0ms	Delay time
11	Delay Feedback	-63~+63	Feedback amount
12	Delay Level	0~127	Delay level
13	AM Speed	0.00Hz~39.7Hz	Frequency of amplitude modulation
14	AM Wave	tri, sine, saw up, saw down	Select amplitude modulation waveform
15	AM Depth	0~127	Amplitude modulation depth
16	AM Inverse R	normal, inverse	Invert left/right phase of amplitude modulation signal

6: FlowPan (FLOW PAN)

1	Dry/Wet Balance	D63>W ~ D=W ~ D<W63	Balance between delay sound and effect sound
2	Delay Time	0.1~650.0ms	Delay time
3	Delay Time Ofst R	-884~0	Offset of R ch delay time
4	Feedback Level	-63~+63	Feedback amount
5	FB Level Ofst R	-63~+63	Offset of R ch feedback
6	Feedback Hi Damp	0.1~1.0	Adjust the high range attenuation (lower values will cause the high range to decay faster)
7	FB Hi Damp Ofst R	-0.9~+0.9	Offset of R ch high damp
8	Delay Mod Speed	0.00Hz~39.7Hz	Delay modulation frequency
9	Delay Mod Depth	0~127	Delay modulation depth
10	Delay Dry/Wet	1~127	Balance between delay sound and effect sound
11	PreDelayPan Speed	0.00Hz~39.7Hz	Frequency of the pre-delay autopan
12	PreDelayPan Wave	tri, sine	Waveform of the pre-delay autopan
13	PreDelayPan Depth	0~127	Depth of the pre-delay autopan
14	Auto Pan Speed	0.00Hz~39.7Hz	Autopan frequency
15	Auto Pan Wave	tri, sine	Autopan waveform selection
16	Auto Pan Depth	0~127	Autopan depth

7: NoisAmb (NOISE AMBIENT)

1	Dry/Wet Balance	D63>W ~ D=W ~ D<W63	Balance between dry sound and effect sound
2	Mod Speed	0~127	Modulation speed
3	Mod Depth	0~127	Modulation depth
4	Noise Level	0~127	Level of noise component
5	LPF Frequency	1.0kHz~Thru	Frequency at which the low pass filter will cut the high range
6	Dry Mix Level	0~127	Pre-delay dry level
7	Delay Time	0.1~370.0ms	Delay time
8	Delay Time Ofst R	-884~0	Delay time offset for the R ch
9	Feedback Level	-63~+63	Feedback amount
10	Delay Level	0~127	Delay level
11	AM Speed	0.00Hz~39.7Hz	Modulation frequency
12	AM Wave	tri, sine, saw up, saw down	Modulation waveform selection
13	AM Depth	0~127	Depth of amplitude modulation
14	AM Inverse R	normal, inverse	Invert left/right phase of amplitude modulation signal

8: LoReso (LOW RESOLUTION)

1	Mod Depth	0~127	Modulation depth
2	Mod Delay Offset	1~127	Modulation delay offset
3	Mod Feedback	-64~+63	Feedback amount
4	Resolution	1, 1/2~1/128	Resolution
5	Mod Mix Balance	0~127	Balance between modulation sound and modulation bypass sound
6	Phase Inverse R	off, wet, wet+dry	Left/right phase reversal
7	Dry/Wet Balance	D63>W ~ D=W ~ D<W63	Balance between dry sound and effect sound

9: Noisy (NOISY)

1	Drive	0~127	Degree of distortion
2	Mod Depth	1~10	Modulation depth
3	Mod Speed	0~127	Modulation speed
4	Mod Feedback	-63~+63	Feedback amount
5	AM Speed	0.00Hz~39.7Hz	Amplitude modulation frequency
6	AM Depth	0~127	Amplitude modulation depth
7	Mod Mix Balance	1~127	Balance between noise modulated sound and bypass sound
8	LPF Frequency	1.0kHz~Thru	Frequency at which the low pass filter will cut the high range
9	LPF Resonance	1.0~12.0	Resonance of the low pass filter
10	EQ Frequency	100Hz~10.0kHz	Frequency at which the EQ will boost/cut the mid range
11	EQ Gain	-12~+12dB	Gain by which the EQ will boost/cut the mid range
12	EQ Width	1.0~12.0	Width of the mid range area which the EQ will boost/cut
13	Dry/Wet Balance	D63>W ~ D=W ~ D<W63	Balance between the dry sound and effect sound

10: AtkLoFi (ATTACK LOFI)

1	Sensitive	0~127	Sensitivity
2	Resolution	1, 1/2~1/32	Resolution
3	Peak Frequency	100Hz~10.0kHz	Frequency at which a peak will be created in the mid range
4	LPF Frequency	1.1kHz~Thru	Frequency at which the low pass filter will cut the high range
5	Flanger Speed	0.00Hz~39.7Hz	Frequency of delay modulation
6	Flanger LFO Wave	tri, sine, saw up, saw down	Modulation waveform selection
7	Flanger Depth	0~127	Modulation depth
8	Fln Depth Ofst R	-64~+63	R ch offset for depth
9	Flanger Delay	0.1~650ms	Delay time
10	Fln Delay Ofst R	-884~0	R ch offset for delay time
11	Flanger Feedback	-63~+63	Feedback amount
12	Flanger FB Ofst R	-63~+63	R ch offset for feedback
13	Flanger FB HiDamp	0.1~1.0	Adjust the high range attenuation (low values will cause the high range to decay faster)
14	FB HiDamp Ofst R	-0.9~+0.9	R ch offset for high damp
15	Fln Mix Balance	1~127	Balance between flanger sound and bypass sound
16	Dry/Wet Balance	D63>W ~ D=W ~ D<W63	Balance between dry sound and effect sound

11: Radio (RADIO)

1	Noise Level	0~127	Degree of noise modulation
2	Tone	0~127	Tone of noise modulation
3	Mod LPF Frequency	1.0kHz~Thru	Frequency at which the low pass filter will cut the high range
4	Mod HPF Resonance	1.0~12.0	Resonance of high pass filter
5	HPF Frequency	Thru~8.0kHz	Frequency at which the high pass filter will cut the low range
6	LPF Frequency	1.0kHz~Thru	Frequency at which the low pass filter will cut the high range
7	Dry/Wet Balance	D63>W ~ D=W ~ D<W63	Balance between dry sound and effect sound

12: TurnTbl (DIGITAL TURNTABLE)

1	Click Density	0~5	Frequency with which the click sounds will occur
2	Click Level	0~127	Level of the click sounds
3	Noise Tone	0~6	Tone of noise
4	Noise Mod Speed	0.00Hz~39.7Hz	Amplitude modulation frequency of the noise
5	Noise Mod Depth	0~127	Amplitude modulation depth of the noise
6	Dry Send to Noise	0~127	Mixture of dry signal into the noise
7	Noise LPF Freq	1.0kHz~Thru	Frequency at which the low pass filter will cut the high range
8	Noise LPF Q	1.0~12.0	Low pass filter resonance
9	Noise Level	0~127	Noise level
10	Dry LPF Frequency	1.0kHz~Thru	Frequency at which the low pass filter will cut the high range
11	Dry Level	0~127	Level of the dry sound

13: Jump (JUMP)

1	Depth	0~127	Modulation depth
2	Speed	0~127	Modulation speed
3	Direction	L<>R, L>>R	Modulation type
4	Type	typeA, typeB, typeC	Modulation type
5	Jump Wave Type	typeA, typeB, typeC, typeD	Modulation type
6	Resolution	1, 1/2~1/256	Resolution
7	LPF Frequency	1.0k~Thru	Frequency at which the low pass filter will cut the high range
8	HPF Frequency	Thru~8.0kHz	Frequency at which the high pass filter will cut the low range
9	Dry/Wet Balance	D63>W ~ D=W ~ D<W63	Balance between the dry sound and effect sound

14: BeatChg (BEAT CHANGE)

1	BeatChange(Ctrl)	-63~+63	Special parameter which allows a controller to modify the beat change
2	Beat Range	0~12	Width of variation for sample playback speed
3	PitchChange(Ctrl)	-63~+63	Special parameter which allows a controller to modify the pitch change
4	Pitch Range	0~12	Width of variation for Pitch Change
5	Accuracy Type	sound4~normal~rhythm4	Balance between emphasis on sound quality and emphasis on sense of beat
6	EQ Frequency	100Hz~10.0kHz	Frequency at which the EQ will boost/cut the mid range
7	EQ Gain	-12~+12dB	Gain by which the EQ will boost/cut the mid range
8	EQ Width	1.0~12.0	Width of the area in which the EQ will boost/cut the mid range
9	Dry/Wet Balance	D63>W ~ D=W ~ D<W63	Balance between the dry sound and effect sound

- You can use this effect to set up a controller so that the controller will vary the playback speed while leaving the pitch unchanged. To set this up, first select the program, then go the program's EfType page (☞121) and set one of the program effects (Effect 1, 2, or 3) to BeatChg. Then go to the program's PgmCtl page (☞136), select the desired controller (Device), and set its Function to EFx-1 (where x is the Effect number: 1, 2, or 3). Then go to the effects editing page (☞124) and set this effect's Beat Range parameter to an appropriate value. Leave the BeatChange (Ctrl) and PitchChange (Ctrl) values set to 0, so that the effect operates only in response to the controller input.
- Note that this effect may not operate as expected if you apply it to the input signal or if you select it for more than one of the A3000's three effect blocks.

15: VceCncl (VOICE CANCELLER)

1	Low Adjust	0~26	Adjust the frequency of the lower limit of the mid range that will be attenuated.
2	High Adjust	0~26	Adjust the frequency of the upper limit of the mid range that will be attenuated.

16: 3BandEQ 3 BAND EQ)

1	EQ Low Frequency	50Hz~2.0kHz	Frequency at which the EQ will boost/cut the low range
2	EQ Low Gain	-12~+12dB	Amount of gain by which the EQ will boost/cut the low range
3	EQ Mid Frequency	100Hz~10.0kHz	Frequency at which the EQ will boost/cut the low range
4	EQ Mid Gain	-12~+12dB	Amount of gain by which the EQ will boost/cut the mid range
5	EQ Mid Width	1.0~12.0	Width of the area in which the EQ will boost/cut the mid range
6	EQ High Gain	-12~+12dB	Amount of gain by which the EQ will boost/cut the high range
7	EQ High Frequency	500Hz~16.0kHz	Frequency at which the EQ will boost/cut the high range
8	Input Mode	mono/stereo	Mono/stereo input mode selection

17: Exciter (AURAL EXCITER)

1	HPF Cutoff Freq	500Hz~16.0kHz	Frequency at which the high pass filter will cut the low range of the effect sound
2	Drive	0~127	Degree with which the exciter effect will be applied
3	Mix Level	0~127	Level at which the effect sound will be mixed into the dry sound

18: AWah+Drum Set (AUTO WAH + DIST), 19: AWah+OD (AUTO WAH+ODRV)

1	LFO Frequency	0.00Hz~39.7Hz	Frequency at which the wah filter will be controlled
2	LFO Depth	0~127	Depth at which the wah filter will be controlled
3	Cutoff Freq Offset	0~127	Offset value for the wah filter control frequency
4	Resonance	1.0~12.0	Bandwidth of the wah filter
5	Drive	0~127	(Distortion) Degree of distortion
6	PostDrive EQ Low	-12~+12dB	(Distortion) Gain by which the EQ will boost/cut the low range
7	PostDrive EQ Mid	-12~+12dB	(Distortion) Gain by which the EQ will boost/cut the mid range
8	PostDrive LPF Freq	1.0kHz~thru	(Distortion) Frequency at which the filter will cut the high range
9	Drive Output Level	0~127	(Distortion) Output level
10	EQ Low Frequency	32Hz~2.0kHz	Frequency at which the EQ will boost/cut the low range
11	EQ Low Gain	-12~+12dB	Amount of gain by which the EQ will boost/cut the low range
12	EQ High Frequency	500Hz~16.0kHz	Frequency at which the EQ will boost/cut the high range
13	EQ High Gain	-12~+12dB	Amount of gain by which the EQ will boost/cut the high range
14	Dry/Wet Balance	D63>W ~ D=W ~ D<W63	Balance between the dry sound and effect sound

20: TWah+Drum Set (TOUCH WAH+DIST), 21: TWah+OD (TOUCH WAH+ODRV)

1	Sensitive	0~127	Sensitivity at which the wah filter will change in response to the input level
2	Cutoff Freq Offset	0~127	Offset value for the wah filter control frequency
3	Resonance	1.0~12.0	Bandwidth of the wah filter
4	Drive	0~127	(Distortion) Degree of distortion
5	PostDrive EQ Low	-12~+12dB	(Distortion) Gain by which the EQ will boost/cut the low range
6	PostDrive EQ Mid	-12~+12dB	(Distortion) Frequency at which the filter will cut the high range
7	PostDrive LPF Freq	1.0kHz~thru	(Distortion) Frequency at which the filter will cut the high range
8	Drive Output Level	0~127	(Distortion) Output leve
9	EQ Low Frequency	32Hz~2.0kHz	Frequency at which the EQ will boost/cut the low range
10	EQ Low Gain	-12~+12dB	Amount of gain by which the EQ will boost/cut the low range
11	EQ High Frequency	500Hz~16.0kHz	Frequency at which the EQ will boost/cut the high range
12	EQ High Gain	-12~+12dB	Amount of gain by which the EQ will boost/cut the high range
13	Dry/Wet Balance	D63>W ~ D=W ~ D<W63	Balance between the dry sound and effect sound

22: Dist (DISTORTION), 23: OverDrv (OVERDRIVE)

1	Drive	0~127	Degree of distortion
2	EQ Low Frequency	32Hz~2.0kHz	Frequency at which the EQ will boost/cut the low range
3	EQ Low Gain	-12~+12dB	Gain with which the EQ will boost/cut the low range
4	LPF Cutoff	1.0kHz~Thru	Frequency at which the filter will cut the high range
5	Output Level	0~127	Output level
6	Edge	0~127	Curve of distortion characteristics (sharp (127): distortion begins suddenly; mild (0): distortion begins gradually)
7	EQ Mid Frequency	100Hz~10.0kHz	Frequency at which the EQ will boost/cut the mid range
8	EQ Mid Gain	-12~+12dB	Gain with which the EQ will boost/cut the mid range
9	EQ Mid Width	1.0~12.0	Width of the area in which the EQ will boost/cut the mid range
10	Dry/Wet Balance	D63>W ~ D=W ~ D<W63	Balance between the dry sound and the effect sound

24: AmpSim (AMP SIMULATOR)

1	Dry/Wet Balance	D63>W ~ D=W ~ D<W63	Balance between dry sound and effect sound
2	Drive	0~127	Degree of distortion
3	AMP Type	Off, Stack, Combo, Tube	Select the type of amp to be simulated
4	LPF Cutoff	315Hz~Thru	Frequency at which the low pass filter will cut the high range
5	Edge	0~127	Curve of distortion characteristics (sharp (127): distortion begins suddenly; mild (0): distortion begins gradually)
6	Output Level	0~127	Output level

25: Comp (COMPRESSOR)

1	Threshold	-48~-6dB	Input level at which compression begins to be applied
2	Attack	1~40ms	Time until when the compressor begins to take effect
3	Release	10~680ms	Time until the compressor effect disappears
4	Ratio	1.0~20.0	Compression ratio of the compressor
5	Output Level	0~127	Output level

26: Comp+Drum Set (COMP+DIST)

1	Drive	0~127	Degree of distortion
2	LPF Cutoff Freq	1.0k~Thru	Frequency at which the filter will cut the high range
3	Output Level	0~127	Output level
4	Edge	0~127	Curve of distortion characteristics (sharp (127): distortion begins suddenly; mild (0): distortion begins gradually)
5	Attack	1ms~40ms	(Compressor) Time until when the compressor begins to take effect
6	Release	10ms~680ms	(Compressor) Time until the compressor effect disappears
7	Threshold	-48dB~-6dB	(Compressor) Input level at which compression begins to be applied
8	Ratio	1.0~20.0	(Compression) Compression ratio of the compressor
9	EQ Low Frequency	32Hz~2.0kHz	Frequency at which the EQ will boost/cut the low range
10	EQ Low Gain	-12~+12dB	Gain with which the EQ will boost/cut the low range
11	EQ Mid Frequency	100Hz~10.0kHz	Frequency at which the EQ will boost/cut the mid range
12	EQ Mid Gain	-12~+12dB	Gain with which the EQ will boost/cut the mid range
13	EQ Mid Width	1.0~12.0	Width of the mid range area which the EQ will boost/cut
14	Dry/Wet Balance	D63>W ~ D=W ~ D<W63	Balance of the dry sound and effect sound

27: NoiseGt (NOISE GATE)

1	Threshold	-72~-30dB	Input level at which the gate begins to open
2	Attack	1~40ms	Time until when the gate begins to open
3	Release	10~680ms	Time until the gate closes
4	Output Level	0~127	Output level

28: Chorus (CHORUS), 29: Celeste (CELESTE)

1	Dry/Wet Balance	D63>W ~ D=W ~ D<W63	Balance of the dry sound and effect sound
2	LFO Frequency	0.00Hz~39.7Hz	Delay modulation frequency
3	LFO Depth	0~127	Delay modulation depth
4	Feedback Level	-63~+63	Level at which the delay output is returned to the input (negative values invert the phase)
5	Delay Offset	0~12.7ms	Offset value for delay modulation
6	EQ Low Frequency	32Hz~2.0kHz	Frequency at which the EQ will boost/cut the low range
7	EQ Low Gain	-12~+12dB	Gain with which the EQ will boost/cut the low range
8	EQ Mid Frequency	100Hz~10.0kHz	Frequency at which the EQ will boost/cut the mid range
9	EQ Mid Gain	-12~+12dB	Gain with which the EQ will boost/cut the mid range
10	EQ Mid Width	1.0~12.0	Width of the mid range area which the EQ will boost/cut
11	EQ High Frequency	500Hz~16.0kHz	Frequency at which the EQ will boost/cut the high range
12	EQ High Gain	-12~+12dB	Gain with which the EQ will boost/cut the high range
13	Input Mode	mono/stereo	Mono/stereo selection for the input

30: Flanger (FLANGER)

1	Dry/Wet Balance	D63>W ~ D=W ~ D<W63	Balance of the dry sound and effect sound
2	LFO Frequency	0.00Hz~39.7Hz	Frequency of delay modulation
3	LFO Depth	0~127	Depth of delay modulation
4	Feedback Level	-63~+63	Level at which delay output is returned to the input
5	Delay Offset	0~12.7ms	Offset value for delay modulation
6	LFOPhaseDifference	-180~+180deg	L/R phase difference of modulation waveform (no difference at 0 deg (=64))
7	EQ Low Frequency	32Hz~2.0kHz	Frequency at which the EQ will boost/cut the low range
8	EQ Low Gain	-12~+12dB	Gain with which the EQ will boost/cut the low range
9	EQ Mid Frequency	100Hz~10.0kHz	Frequency at which the EQ will boost/cut the mid range
10	EQ Mid Gain	-12~+12dB	Gain with which the EQ will boost/cut the mid range
11	EQ Mid Width	1.0~12.0	Width of the mid range area which the EQ will boost/cut
12	EQ High Frequency	500Hz~16.0kHz	Frequency at which the EQ will boost/cut the high range
13	EQ High Gain	-12~+12dB	Gain with which the EQ will boost/cut the high range

31: Sympho (SYMPHONIC)

1	Dry/Wet Balance	D63>W ~ D=W ~ D<W63	Balance of the dry sound and effect sound
2	LFO Frequency	0.00Hz~39.7Hz	Frequency of delay modulation
3	LFO Depth	0~127	Depth of delay modulation
4	Delay Offset	0~50.0ms	Delay modulation offset value
5	EQ Low Frequency	32Hz~2.0kHz	Frequency at which the EQ will boost/cut the low range
6	EQ Low Gain	-12~+12dB	Gain with which the EQ will boost/cut the low range
7	EQ Mid Frequency	100Hz~10.0kHz	Frequency at which the EQ will boost/cut the mid range
8	EQ Mid Gain	-12~+12dB	Gain with which the EQ will boost/cut the mid range
9	EQ Mid Width	1.0~12.0	Width of the mid range area which the EQ will boost/cut
10	EQ High Frequency	500Hz~16.0kHz	Frequency at which the EQ will boost/cut the high range
11	EQ High Gain	-12~+12dB	Gain with which the EQ will boost/cut the high range

32: Phaser1 (PHASER 1)

1	Dry/Wet Balance	D63>W ~ D=W ~ D<W63	Balance of the dry sound and effect sound
2	LFO Frequency	0.00Hz~39.7Hz	Frequency of phase modulation
3	LFO Depth	0~127	Depth of phase modulation
4	Phase Shift Offset	0~127	Phase shift offset value
5	Feedback Level	-63~+63	Level at which phaser output will be returned to the input (negative values invert the phase)
6	Stage	4~12	Number of phaser shifter stages
7	Diffusion	mono, stereo	Diffusion
8	EQ Low Frequency	32Hz~2.0kHz	Frequency at which the EQ will boost/cut the low range
9	EQ Low Gain	-12~+12dB	Gain with which the EQ will boost/cut the low range
10	EQ High Frequency	500Hz~16.0kHz	Frequency at which the EQ will boost/cut the high range
11	EQ High Gain	-12~+12dB	Gain with which the EQ will boost/cut the high range

33: Phaser2 (PHASER 2)

1	Dry/Wet Balance	D63>W ~ D=W ~ D<W63	Balance of the dry sound and effect sound
2	LFO Frequency	0.00Hz~39.7Hz	Frequency of phase modulation
3	LFO Depth	0~127	Depth of phase modulation
4	Phase Shift Offset	0~127	Phase shift offset value
5	Feedback Level	-63~+63	Level at which phaser output will be returned to the input (negative values invert the phase)
6	Stage	3, 4, 5, 6	Number of phaser shifter stages
7	LFOPhaseDifference	-180deg~+180deg	L/R phase difference in the modulation waveform (no difference at 0 deg (=64))
8	EQ Low Frequency	32Hz~2.0kHz	Frequency at which the EQ will boost/cut the low range
9	EQ Low Gain	-12~+12dB	Gain with which the EQ will boost/cut the low range
10	EQ High Frequency	500Hz~16.0kHz	Frequency at which the EQ will boost/cut the high range
11	EQ High Gain	-12~+12dB	Gain with which the EQ will boost/cut the high range

34: Pitch1 (PITCH CHANGE 1)

1	Dry/Wet Balance	D63>W ~ D=W ~ D<W63	Balance of the dry sound and effect sound
2	Pitch	-24~+24	Pitch change in semitone steps
3	Initial Delay	0.1~200ms	Delay length
4	Fine1	-50Hz~+50Hz	Fine pitch setting for first unit
5	Fine2	-50Hz~+50Hz	Fine pitch setting for second unit
6	Feedback Level	-63~+63	Amount of feedback
7	Pan1	L63~R63	Panning of first unit
8	Output Level1	0~127	Output level of first unit
9	Pan2	L63~R63	Panning of second unit
10	Output Level2	0~127	Output level of second unit

35: Pitch2 (PITCH CHANGE 2)

1	Dry/Wet Balance	D63>W ~ D=W ~ D<W63	Balance of the dry sound and effect sound
2	Pitch	-24~+24	Pitch change in semitone steps
3	Initial Delay	0.1~200ms	Delay length
4	Fine1	-50~+50cent	Fine pitch setting for first unit
5	Fine2	-50~+50cent	Fine pitch setting for second unit
6	Feedback Gain	-63~+63	Amount of feedback
7	Pan1	L63~R63	Panning of first unit
8	Output Level1	0~127	Output level of first unit
9	Pan2	L63~R63	Panning of second unit
10	Output Level2	0~127	Output level of second unit

36: Detune (ENSEMBLE DETUNE)

1	Dry/Wet Balance	D63>W ~ D=W ~ D<W63	Balance of the dry sound and effect sound
2	Detune	-50~+50cent	Amount by which the pitch will be detuned
3	Initial Delay Lch	0~50.0ms	Length of left channel delay
4	Initial Delay Rch	0~50.0ms	Length of right channel delay
5	EQ Low Frequency	32Hz~2.0kHz	Frequency at which the EQ will boost/cut the low range
6	EQ Low Gain	-12~+12dB	Gain with which the EQ will boost/cut the low range
7	EQ High Frequency	500Hz~16.0kHz	Frequency at which the EQ will boost/cut the high range
8	EQ High Gain	-12~+12dB	Gain with which the EQ will boost/cut the high range

37: Rotary (ROTARY SPEAKER)

1	LFO Frequency	0.00Hz~39.7Hz	Rotation frequency of the speaker
2	LFO Depth	0~127	Depth of modulation produced by speaker rotation
3	EQ Low Frequency	32Hz~2.0kHz	Frequency at which the EQ will boost/cut the low range
4	EQ Low Gain	-12~+12dB	Gain with which the EQ will boost/cut the low range
5	EQ Mid Frequency	100Hz~10.0kHz	Frequency at which the EQ will boost/cut the mid range
6	EQ Mid Gain	-12~+12dB	Gain with which the EQ will boost/cut the mid range
7	EQ Mid Width	1.0~12.0	Width of the mid range area which the EQ will boost/cut
8	EQ High Frequency	500Hz~16.0kHz	Frequency at which the EQ will boost/cut the high range
9	EQ High Gain	-12~+12dB	Gain with which the EQ will boost/cut the high range
10	Dry/Wet Balance	D63>W ~ D=W ~ D<W63	Balance of the dry sound and effect sound

38: Ro2Way (2WAY ROTARY SPEAKER)

1	Rotor Speed	0.0Hz~39.7Hz	Rotation frequency of the speaker
2	Drive Low	0~127	Depth of modulation produced by high-range speaker rotation
3	Drive High	0~127	Depth of modulation produced by low-range speaker rotation
4	Low/High Balance	L63>H ~ L=H ~ L<H63	Volume balance between high-range speaker and low-range speaker
5	Crossover Frequency	100Hz~10.0kHz	Crossover frequency between high-range speaker and low-range speaker
6	Mic L-R Angle	0deg~180deg	L/R angle of mics which pick up the output
7	EQ Low Frequency	32Hz~2.0kHz	Frequency at which the EQ will boost/cut the low range
8	EQ Low Gain	-12~+12dB	Gain with which the EQ will boost/cut the low range
9	EQ High Frequency	500Hz~16.0kHz	Frequency at which the EQ will boost/cut the high range
10	EQ High Gain	-12~+12dB	Gain with which the EQ will boost/cut the high range

39: Tremolo (TREMOLO)

1	LFO Frequency	0.00Hz~39.7Hz	Modulation frequency
2	AM Depth	0~127	Amplitude modulation depth
3	PM Depth	0~127	Delay modulation depth
4	LFOPhaseDifference	-180~+180deg	L/R phase difference of the modulation waveform (no difference at 0 deg (=64))
5	EQ Low Frequency	32Hz~2.0kHz	Frequency at which the EQ will boost/cut the low range
6	EQ Low Gain	-12~+12dB	Gain with which the EQ will boost/cut the low range
7	EQ Mid Frequency	100Hz~10.0kHz	Frequency at which the EQ will boost/cut the mid range
8	EQ Mid Gain	-12~+12dB	Gain with which the EQ will boost/cut the mid range
9	EQ Mid Width	1.0~12.0	Width of the mid range area which the EQ will boost/cut
10	EQ High Frequency	500Hz~16.0kHz	Frequency at which the EQ will boost/cut the high range
11	EQ High Gain	-12~+12dB	Gain with which the EQ will boost/cut the high range
12	Input Mode	mono, stereo	Mono/stereo selection for the input

40: AutoPan (AUTO PAN)

1	LFO Frequency	0.00Hz~39.7Hz	Auto pan frequency
2	L/R Depth	0~127	Left/right depth of panning
3	F/R Depth	0~127	Front/rear depth of panning
4	Pan Direction	L<>R, L>>R, L<<R, Lturn, Rturn, L/R	Auto pan type (L<->R is sine wave, L/R is square wave)
5	EQ Low Frequency	32Hz~2.0kHz	Frequency at which the EQ will boost/cut the low range
6	EQ Low Gain	-12~+12dB	Gain with which the EQ will boost/cut the low range
7	EQ Mid Frequency	100Hz~10.0kHz	Frequency at which the EQ will boost/cut the mid range
8	EQ Mid Gain	-12~+12dB	Gain with which the EQ will boost/cut the mid range
9	EQ Mid Width	1.0~12.0	Width of the mid range area which the EQ will boost/cut
10	EQ High Frequency	500Hz~16.0kHz	Frequency at which the EQ will boost/cut the high range
11	EQ High Gain	-12~+12dB	Gain with which the EQ will boost/cut the high range

41: Ambienc (AMBIENCE)

1	Dry/Wet Balance	D63>W ~ D=W ~ D<W63	Balance of the dry sound and effect sound
2	Delay Time	0~50.0ms	Delay length
3	Wet Output Phase	normal/invers	Invert the phase of the effect sound between L/R
4	EQ Low Frequency	32Hz~2.0kHz	Frequency at which the EQ will boost/cut the low range
5	EQ Low Gain	-12~+12dB	Gain with which the EQ will boost/cut the low range
6	EQ High Frequency	500Hz~16.0kHz	Frequency at which the EQ will boost/cut the high range
7	EQ High Gain	-12~+12dB	Gain with which the EQ will boost/cut the high range

42: 3Delay (DELAY L,C,R)

1	Dry/Wet Balance	D63>W ~ D=W ~ D<W63	Balance of the dry sound and effect sound
2	Delay Time L	0.1~1480ms	Length of left channel delay
3	Delay Time R	0.1~1480ms	Length of right channel delay
4	Delay Time C	0.1~1480ms	Length of center channel delay
5	Feedback Time	0.1~1480ms	Length of feedback delay
6	Feedback Level	-63~+63	Feedback amount
7	Delay Level C	0~127	Volume of center channel
8	Feedback High Damp	0.1~1.0	High range attenuation (lower values cause the high range to decay faster)
9	EQ Low Frequency	32Hz~2.0kHz	Frequency at which the EQ will boost/cut the low range
10	EQ Low Gain	-12~+12dB	Gain with which the EQ will boost/cut the low range
11	EQ High Frequency	500Hz~16.0kHz	Frequency at which the EQ will boost/cut the high range
12	EQ High Gain	-12~+12dB	Gain with which the EQ will boost/cut the high range

43: 2Delay (DELAY L,R)

1	Dry/Wet Balance	D63>W ~ D=W ~ D<W63	Balance of the dry sound and effect sound
2	Delay Time L	0.1~1480ms	Length of left channel delay
3	Delay Time R	0.1~1480ms	Length of right channel delay
4	Feedback Time 1	0.1~1480ms	Length of feedback delay 1
5	Feedback Time 2	0.1~1480ms	Length of feedback delay 2
6	Feedback Level	-63~+63	Amount of feedback
7	Feedback High Damp	0.1~1.0	High range attenuation (lower values cause the high range to decay faster)
8	EQ Low Frequency	32Hz~2.0kHz	Frequency at which the EQ will boost/cut the low range
9	EQ Low Gain	-12~+12dB	Gain with which the EQ will boost/cut the low range
10	EQ High Frequency	500Hz~16.0kHz	Frequency at which the EQ will boost/cut the high range
11	EQ High Gain	-12~+12dB	Gain with which the EQ will boost/cut the high range

44: Echo (ECHO)

1	Dry/Wet Balance	D63>W ~ D=W ~ D<W63	Balance of the dry sound and effect sound
2	Delay Time L1	0.1~740ms	Length of first delay of left channel
3	Feedback Level L	-63~+63	Amount of feedback for left channel
4	Delay Time R1	0.1~740ms	Length of first delay of right channel
5	Feedback Level R	-63~+63	Amount of feedback for right channel
6	Feedback High Damp	0.1~1.0	High range attenuation (lower values cause the high range to decay faster)
7	Delay Time L2	0.1~740ms	Length of second delay of left channel
8	Delay Time R2	0.1~740ms	Length of second delay of right channel
9	Delay Level 2	0~127	Volume of second delay
10	EQ Low Frequency	32Hz~2.0kHz	Frequency at which the EQ will boost/cut the low range
11	EQ Low Gain	-12~+12dB	Gain with which the EQ will boost/cut the low range
12	EQ High Frequency	500Hz~16.0kHz	Frequency at which the EQ will boost/cut the high range
13	EQ High Gain	-12~+12dB	Gain with which the EQ will boost/cut the high range

45: X-Delay (CROSS DELAY)

1	Dry/Wet Balance	D63>W ~ D=W ~ D<W63	Balance of the dry sound and effect sound
2	Delay Time L>R	0.1~740ms	Delay time from left (input) to right (output)
3	Delay Time R>L	0.1~740ms	Delay time from right (input) to left (output)
4	Feedback Level	-63~+63	Amount of feedback
5	Input Select	“L, R, L&R”	Input select
6	Feedback High Damp	0.1~1.0	High range attenuation (lower values cause the high range to decay faster)
7	EQ Low Frequency	32Hz~2.0kHz	Frequency at which the EQ will boost/cut the low range
8	EQ Low Gain	-12~+12dB	Gain with which the EQ will boost/cut the low range
9	EQ High Frequency	500Hz~16.0kHz	Frequency at which the EQ will boost/cut the high range
10	EQ High Gain	-12~+12dB	Gain with which the EQ will boost/cut the high range

46: Dly+Pan (DELAY+AUTO PAN)

1	Dry/Wet Balance	D63>W ~ D=W ~ D<W63	Balance of the dry sound and effect sound
2	Delay Time	0.1~740ms	Delay time
3	Feedback Level	-63~+63	Amount of feedback
4	Feedback High Damp	0.1~1.0	High range attenuation (lower values cause the high range to decay faster)
5	Auto Pan Speed	0.00Hz~39.7Hz	Auto pan frequency
6	Auto Pan Depth	0~127	Panning depth
7	EQ Frequency	90Hz~10.0kHz	Frequency at which the EQ will boost/cut the mid range
8	EQ Gain	-12~+12dB	Gain with which the EQ will boost/cut the mid range
9	EQ Width	1.0~12.0	Width of the mid range area which the EQ will boost/cut

47: Hall (HALL), 48: Room (ROOM), 49: Stage (STAGE), 50: Plate (PLATE)

1	Dry/Wet Balance	D63>W ~ D=W ~ D<W63	Balance of the dry sound and effect sound
2	Reverb Time	0.3~30.0s	Reverb length
3	Diffusion	0~10	Spread of the reverb
4	Initial Delay	0.1~99.3ms	Delay time until the early reflections
5	HPF Cutoff Freq	Thru~8.0kHz	Frequency at which the high pass filter will cut the low range
6	LPF Cutoff Freq	1.0kHz~Thru	Frequency at which the low pass filter will cut the high range
7	Reverb Delay	0.1~99.3ms	Delay time from the early reflections until the reverberation
8	Density	0~4	Density of the reverberation
9	Er/Rev Balance	E63>R ~ E=R ~ E<R63	Level balance of the early reflections and the reverberation
10	Feedback High Damp	0.1~1.0	High range attenuation (lower values cause the high range to decay faster)
11	Feedback Level	-63~+63	Amount of feedback for the initial delay

51: WhiteRm (WHITE ROOM), 52: Tunnel (TUNNEL), 53: Basemnt (BASEMENT), 54: Canyon (CANYON)

1	Dry/Wet Balance	D63>W ~ D=W ~ D<W63	Balance of the dry sound and effect sound
2	Reverb Time	0.3~30.0s	Reverb length
3	Diffusion	0~10	Spread of the reverb
4	Initial Delay	0.1~99.3ms	Delay time until the early reflections
5	HPF Cutoff Freq	Thru~8.0kHz	Frequency at which the high pass filter will cut the low range
6	LPF Cutoff Freq	1.0kHz~Thru	Frequency at which the low pass filter will cut the high range
7	Width	0.5~10.2m	Width of the simulated room
8	Height	0.5~20.2m	Height of the simulated room
9	Depth	0.5~30.2m	Depth of the simulated room
10	Wall Vary	0~30	Wall surface of the simulated room (higher values produce more random reflections)
11	Reverb Delay	0.1~99.3ms	Delay time from the early reflections until the reverberation
12	Density	0~4	Density of the reverberation
13	Er/Rev Balance	E63>R ~ E=R ~ E<R63	Level balance of the early reflections and the reverberation
14	Feedback High Damp	0.1~1.0	High range attenuation (lower values cause the high range to decay faster)
15	Feedback Level	-63~+63	Amount of feedback for the initial delay

Control change number list

A list of the control change numbers used by many MIDI devices (synthesizers, MIDI controllers, MIDI tone generators etc.) is given below. You may find it useful to refer to this when making controller settings for programs or samples.

In the table, the “Controller or function” column lists only the application that is most widely used in Yamaha products and other MIDI devices, and does not indicate that the effect that the controller will have on the sound of the A3000.

Control change number	Controller or function
000	Bank select MSB
001	Modulation wheel
002	Breath controller
003	Unused
004	Foot controller
005	Portamento time
006	Data entry MSB
007	Volume control
008—009	Unused
010	Panpot
011	Expression
012—031	Unused
032	Bank select LSB
033—037	Unused
038	Data entry LSB
039—063	Unused
064	Hold 1
065	Portamento switch
066	Unused
067	Soft pedal
068—120	Unused

Troubleshooting

If you experience problems such as “no sound” or “incorrect pitch,” refer to this section and make sure that the A3000 and your other equipment has the correct settings.

No sound

- Is the power of the A3000 and your external equipment turned on?
- Are MIDI cables and audio cables connected correctly between the A3000 and the external equipment? (☞22—29)
- Is the MASTER VOL knob raised? (☞8)

When there is a problem with the program settings

- Is the program setting ToPgm turned ON for the desired sample in memory? (☞112)
- In the EASY EDIT settings, have you modified the sample keyboard range or velocity range, or the MIDI receive channel? (☞118)
- Are the effect settings InLevel or OutLevel set to 0? (☞126)
- Is Level set to 0? (☞128)
- If an external controller has been set to control program level, is that controller in the 0 position? (☞136)

When there is a problem with the sample settings

- Are the key range settings Low and High set correctly? (☞170)
- Are the velocity range settings Low and High set correctly? (☞172)
- Is Level set to 0? (☞174)
- Is a setting other than OFF selected for MainOut or AsgnOut? (☞176)
- For some samples, strongly applying a filter may mean that the sound cannot be heard at all. (☞182)
- Is the AEG AtkRate set to an extremely low value? (☞188)
- Is the MIDI receive channel of the sample set correctly? (☞208)
- If an external controller has been set to control sample level, is that controller in the 0 position? (☞210)

Pitch is incorrect

- Has the pitch bend wheel of an external MIDI device been moved?

When there is a problem with the program settings

- Is Transpose set to a value other than 0? (☞128)
- If you are using a sample for which portamento is turned on, is the portamento Rate set extremely low (or is the Time extremely high)? (☞130)

When there is a problem with the sample settings

- Is OrigKey set correctly? (☞170)
- Are Coarse and Fine set correctly? (☞178)
- Is Fixed turned ON? (☞178)
- Is Random set to a setting other than 0? (☞178)
- Is the PEG set? (☞198)
- If an external controller has been set to control the Pitch Bias of a sample, is that controller raised (or lowered) ? (☞210)

When there is a problem with the utility settings

- Are the master tuning parameters Coarse and Fine set correctly? (☞298)
- Is the MIDI parameter Transpose set to other than 0? (☞307)

Cannot record

- If you are recording an analog signal, is the REC VOL knob turned up? (☞8)
- Is there free memory? To create contiguous free space, execute the Optimize operation. (☞223)
- Is the Input selected correctly? (☞227)

Cannot save data

- Is the write protect tab of the floppy disk in the Protect position?
- Is the floppy disk or hard disk formatted correctly? (☞252—258)
- Is the hard disk mounted correctly? (☞270)
- If you are using a hard disk, is a volume selected? (☞266)

Other problems

Cannot use the A/D input function

- Is the program's A/D In setting turned ON? (☞132)
- Is the A/D input MainOut or AsgnOut set to other than OFF? (☞134)
- Is the A/D input Level or AsLevel set to 0? (☞132)

Cannot make fine adjustments to the sample addresses

- Are Zero (auto zero) or Snap (auto snap) turned ON? (☞161)

Cannot play chords

- Is the sample parameter or easy edit parameter Poly/Mono set to Mono? (☞119, 174)
- Does the sample parameter or easy edit parameter Alternate Group have a setting other than OFF? (☞119, 208)

Volume or tone differs depending on the pitch

- Is level scaling specified for the sample? (☞180)
- Is filter scaling specified for the sample? (☞185)

Tone, pitch or volume changes cyclically

- Is the sample's LFO parameter FltrMod set to a Depth or 1 or more? (☞205)
- Is the sample's LFO parameter PtchMod set to a Depth or 1 or more? (☞206)
- Is the sample's LFO parameter AmpMod set to a Depth or 1 or more? (☞207)
- If an external controller has been set to control the Ptch Mod Depth, Amp Mod Depth or Cutoff Mod Depth of a sample, is that controller raised (or lowered) ? (☞210)

Of the incoming MIDI messages, only specific MIDI messages are not received

- In the utility setting MIDI Receive Filter, are any of the settings CtrlChg, AftrTch or PtchBnd set to "disable"? (☞309)

Error messages

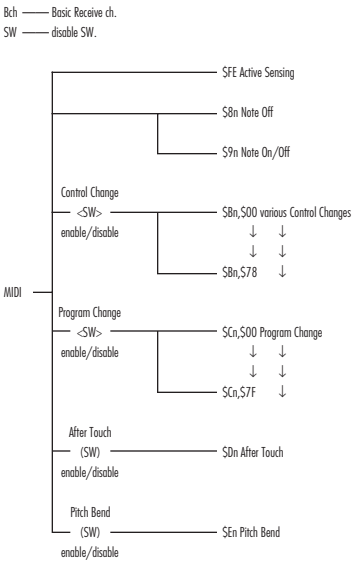
Here is a list of the error messages that will appear when an incorrect operation is performed or when a setting is incorrect.

Audio CD is required.	An audio CD is not loaded into the external CD-ROM drive.
Bulk data error.	Processing of a bulk dump failed.
Bulk protect switch is ON.	Bulk data was transmitted to the A3000 when Bulk Protect was turned on.
Cannot copy Volume to FD.	Cannot copy a volume unit to a floppy disk.
Cannot find associated file(s).	The sound data file referred to by the sound data does not exist.
Cannot find file.	The specified file does not exist.
Cannot find disk.	Not ready for disk operation.
Cannot find SCSI disk.	SCSI disk could not be found.
Cannot revert this sample.	A newly created sample or an imported sample cannot be Reverted.
Cannot write to CD-ROM.	You attempted to write to CD-ROM.
DIG or OPT signal input is required.	A digital audio signal is not being input to DIGITAL IN or OPTICAL IN.
Disk drive is not ready.	The disk is not ready for saving or loading.
Disk is not formatted.	The disk is not formatted for the A3000.
Disk is write protected.	The disk is write protected, and writing could not be performed.
Disk read/write error.	An error occurred while reading or writing to/from disk.
File is being accessed.	You attempted to access a file which was undergoing some type of processing.
Foreign disk format.	Since the disk is not in A3000 format, the operation could not be performed.
MIDI buffer is full.	The A3000's processing was not able to keep up with MIDI input.
MIDI is busy.	You attempted to execute a bulk dump from the front panel while a bulk dump or parameter change etc. was being processed.
MIDI receive error.	A MIDI receive error occurred.
Name already exists.	A file or object of the specified name already exists.
Non-existent track or index.	The audio CD loaded into the external CD-ROM drive does not have the specified track number or index number.
Not enough free disk area.	The specified operation could not be performed due to insufficient free space on the disk.
Parameter memory full.	The specified operation could not be performed due to insufficient free space in the parameter memory.
Please set device number.	Transmission or reception of bulk data was attempted with the device number turned off.
Sample processing failed.	When executing a waveform processing command, the specified command could not be executed due to insufficient free space in the work area of wave memory, or for some other reason.
SIMM configuration error.	The A3000 was not able to start up, due to the fact that expansion SIMM's are not installed in pairs, or because the usage order of the expansion slots is incorrect etc.
Too many takes.	The sample could not be created, either because the maximum number of 64 was exceeded when consecutively recording with New+, or because an identically-named sample already exists.
Unknown disk or file format.	Either the contents of the file have been damaged, or it is the wrong format.
Unsupported filename.	The filename could not be detected by the A3000.
Verification error.	A verification error occurred while writing to disk.
Wave memory error.	An error occurred in wave memory.
Wave memory full.	The specified command could not be executed due to insufficient free space in wave memory.

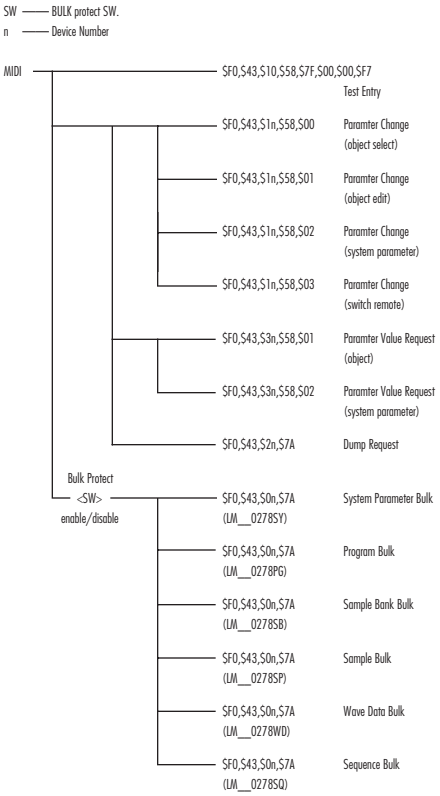
MIDI data format

1. MIDI reception/transmission conditions block diagram

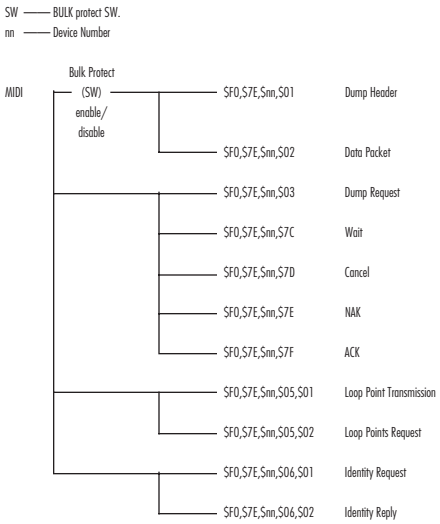
< MIDI reception conditions > 1/3



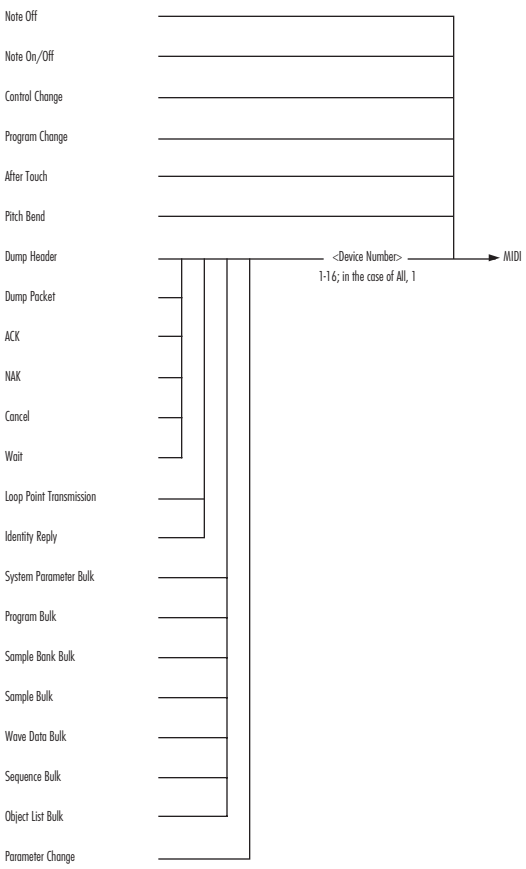
< MIDI reception conditions > 2/3



< MIDI reception conditions > 3/3



< MIDI transmission conditions >



2. Channel messages

Channel messages are received as follows.

When the Omni Sw is on, the channel has no significance for Note On/Off, Control Change, Pitch Bend and After Touch.

When the Program Change SW is on, Program Changes take effect on the Basic Receive Channel. When it is off, Program Changes have no effect.

Transmission is performed when the internal MIDI sequencer is playing, and when the KNOB Control function and FKey Play function are being used.

When the MIDI sequencer is playing, the MIDI events that are played back are transmitted to the internal tone generator, and also simultaneously transmitted via MIDI OUT.

When the FKey Play function is used, Note On/Off messages will be transmitted on the specified channel with the specified note number and velocity. The velocity used when transmitting a Note Off message is fixed. Note Off messages will have a velocity of 0 if the form $8n is used, and if the form $9n is used the velocity will be determined case by case.

2.1. Reception

2.1.1. Note off

Note range = C-2...G8
Velocity range = ignored

2.1.2. Note on/off

Note range = C-2...G8
Velocity range = 0...127

2.1.3. Polyphonic aftertouch

Not received.

2.1.4. Control changes

The following parameters can be controlled.

Parameters which function for each program.

cntrl#	parameter	data rng	
5	Portament time	0...127	
0-120	Portament R/T	0...127	*
0-120	S/H Speed	0...127	*
0-120	AD Pan	0...127	*
0-120	AD Level	0...127	*
0-120	Program Level	0...127	*
0-120	EF1 Level	0...127	*
0-120	EF1 Pan	0...127	*
0-120	EF1 Parameter 1...16	0...127	*
0-120	EF2 Level	0...127	*
0-120	EF2 Pan	0...127	*
0-120	EF2 Parameter 1...16	0...127	*
0-120	EF3 Level	0...127	*
0-120	EF3 Pan	0...127	*
0-120	EF3 Parameter 1...16	0...127	*

Parameters marked by "*" depend on the Control Matrix settings.

Parameters which function for each MIDI channel of a program

cntrl#	parameter	data rng
7	Volume(Level)	0...127
10	Pan	0...127
64	Sustain	0...127
65	Portament ON/OFF	0...127
66	Sostenute	0...127

Parameters which function for samples or sample banks

cntrl#	parameter	data rng	
0-120	Pitch Mod Depth	0...127	*
0-120	Amp Mod Depth	0...127	*
0-120	Cutoff Mod Depth	0...127	*
0-120	Cutoff Bias	0...127	*
0-120	Filter Q/Width	0...127	*
0-120	Pan Bias	0...127	*
0-120	Pitch Bias	0...127	*
0-120	Volume(Level)	0...127	*
0-120	LFO Speed	0...127	*
0-120	LFO Delay	0...127	*
0-120	AEG Attack	0...127	*
0-120	AEG Release	0...127	*
0-120	PEG Atack	0...127	*
0-120	PEG Release	0...127	*
0-120	FEG Attack	0...127	*
0-120	FEG Release	0...127	*
0-120	Pitch Bend	0...127	*
0-120	Start Address	0...127	*

Parameters marked by "*" depend on the Control Matrix settings.

2.1.5. Mode messages

Messages which function always

cntrl#	parameter	data rng
120	All sound off	0...127
121	Reset all controllers	0...127
123	All notes off	0...127

Messages which function for samples or sample banks

cntrl#	parameter	data rng
126	mono mode	0...127
127	poly mode	0...127

2.1.6. Program changes

When a program change is received, the A3000 will select the correspondingly-numbered program as the one for playing and editing. However if the Program Change SW is off, nothing will happen. Also, program changes will be processed only on the channel specified by the Basic Receive SW.

2.1.7. Pitch bend

The 7 bits of the MSB are used.

2.1.8 Channel aftertouch

Received.

3. Realtime messages

3.1. Reception

3.1.1. Active sensing

Once active sensing is received, monitoring will begin, and if no MIDI input appears for an interval longer than approximately 400 msec, the MIDI receive buffer will be cleared, and the tone generator will be damped.

4. UNIVERSAL SYSTEM EXCLUSIVE

4.1. SAMPLE DUMP STANDARD

Transmission is performed when you execute the Sample Editor command "Bulk" with the Standard format, or when a Sample Dump Request is received.

The A3000 will automatically detect whether the MIDI connections are an open loop or a closed loop, and will automatically switch to use or not use hand shaking.

Messages will be valid when their channel number matches the device number.

The sample number is in the range of 0—1024 (displayed as 1—1025), and samples will automatically be assigned to sample objects. For transmission, these numbers or the specified number will be used. For reception, sample numbers in the range of 0—16383 will be recognized, and the sample will be kept as "MIDI nnnnn" where sample number nnnnn is added to the name.

4.1.1. Dump Request

0	11110000	F0
1	01111110	7E
2	0nnnnnnn	nnnnnnn = Channel Number
3	00110100	03
4	0sssssss	sssssss = Sample number(LSB first)
5	0sssssss	sssssss =
6	11110111	F7

When this message is received, the A3000 will search for the correspondingly-numbered sample, and if that sample exists, a dump header will be transmitted. If the corresponding sample does not exist, processing will be terminated.
This message is not transmitted.

4.1.2. ACK

0	11110000	F0
1	01111110	7E
2	0nnnnnnn	nnnnnnn = Channel Number
3	00110100	7F
4	0ppppppp	ppppppp = Packet number
5	11110111	F7

This message indicates that the receiving device correctly received a packet. "Packet number" indicates the number of the packet which was received correctly.
This message is transmitted and received.

4.1.3. NAK

0	11110000	F0
1	01111110	7E
2	0nnnnnnn	nnnnnnn = Channel Number
3	00110100	7E
4	0ppppppp	ppppppp = Packet number
5	11110111	F7

This message indicates that the receiving device received a packet incorrectly. "Packet number" indicates the number of the packet which was received incorrectly.
This message is transmitted and received.

4.1.4. Cancel

0	11110000	F0
1	01111110	7D
2	0nnnnnnn	nnnnnnn = Channel Number
3	00110100	7D
4	0ppppppp	ppppppp = Packet number
5	11110111	F7

This message indicates that a dump is to be terminated. "Packet number" indicates the packet which was terminated.
This message is transmitted and received.

4.1.5. Wait

0	11110000	F0
1	01111110	7C
2	0nnnnnnn	nnnnnnn = Channel Number
3	00110100	7C
4	0ppppppp	ppppppp = Packet number
5	11110111	F7

This message indicates a pause during a dump.
This message is transmitted and received.

4.1.6. Dump Header

0	11110000	F0
1	01111110	7E
2	0nnnnnnn	nnnnnnn = Channel Number
3	00110100	01
4	0sssssss	sssssss = Sample number(LSB first)
5	0sssssss	sssssss =
6	0eeeeeee	eeeeeee = Sample format
7	0fffffff	fffffff = Sample period(LSB first)
8	0fffffff	fffffff =
9	0fffffff	fffffff =
10	0ggggggg	ggggggg = Sample length(LSB first)
11	0ggggggg	ggggggg =
12	0ggggggg	ggggggg =
13	0hhhhhhh	hhhhhhh = Sustain loop start point(LSB first)
14	0hhhhhhh	hhhhhhh =
15	0hhhhhhh	hhhhhhh =
16	0iiiiii	iiiiii = Sustain loop end point(LSB first)
17	0iiiiii	iiiiii =
18	0iiiiii	iiiiii =
19	0jjjjjj	pppppp = Loop type
20	11110111	F7

This is the header portion of a dump.

Name	Range	Contents
Sample format	8–28	Number of bits in one sample word
Sample period	0–2097151	Sample rate (nSec units)
Sample lenrth	0–2097151	Amount of data (word units)
Sustain Loop start point	0–2097151	Loop start address (word units)
Sustain Loop end point	0–2097151	Loop end address (word units)
Loop type	$00/$01/$7F	Loop type $00=forward only, $01=backward/forward, $7F=Loop off

This message is transmitted and received.

4.1.7. Data Packet

0	11110000	F0
1	01111110	7E
2	0nnnnnnn	nnnnnnn = Channel Number
3	00110100	02
4	0ppppppp	ppppppp = Packet number
5	0ddddddd	ddddddd \
	↓	↓ | Sample data(120byte)
124	0ddddddd	ddddddd /
125	0lllllll	lllllll = Checksum
126	11110111	F7

This is the data portion of a dump.
This message is transmitted and received.

4.2. MULTIPLE LOOP POINT MESSAGES

4.2.1. Loop Point Transmission

0	11110000	F0
1	01111110	7E
2	0nnnnnnn	nnnnnnn = Channel Number
3	00110100	05
4	00110100	01
5	0sssssss	sssssss = Sample number(LSB first)
6	0sssssss	sssssss =
7	0bbbbbbb	bbbbbbb = Loop number(LSB first)
8	0bbbbbbb	bbbbbbb =
9	0ccccccc	sssssss = Loop type
10	0ttttttt	ttttttt = Loop start address(LSB first)
11	0ttttttt	ttttttt =
12	0ttttttt	ttttttt =
13	0eeeeeee	eeeeeee = Loop end address(LSB first)
14	0eeeeeee	eeeeeee =
15	0eeeeeee	eeeeeee =
16	11110111	F7

This is loop point data.

Name	Range	Contents
Loop number	0—16383	Loop number 16383 (S7F, S7F) means to delete all loops
Loop type	S00/S01/S7F	Loop type S00= forward only S01= backward/forward S7F= loop off
Loop start address	0—2097151	Loop start address (word units)
Loop end address	0—2097151	Loop end address (word units)

If the sample contains a release loop, this message is transmitted after the sample dump. Alternatively, this message is transmitted in reply to a Loop Point Request message.

4.2.2. Loop Point Request

0	11110000	F0	
1	01111110	7E	
2	0nnnnnnn	nnnnnnn	= Channel Number
3	00110100	05	
4	00110100	02	
5	0ssssss	sssssss	= Sample number (LSB first)
6	0ssssss	sssssss	=
7	0bbbbbbb	bbbbbbb	= Loop number(LSB first)
8	0bbbbbbb	bbbbbbb	=
9	11110111	F7	

This message requests loop points.

Name	Range	Contents
Loop number	0—16383	Loop number 16383 (S7F, S7F) requests all loops

This message is only received.

4.3. INQUIRY MESSAGE

4.3.1. Identity Request

0	11110000	F0	
1	01111110	7E	
2	0nnnnnnn	nnnnnnn	= Channel Number
3	00110100	06	
4	00110100	01	
5	11110111	F7	

This message requests device-specific information.

4.3.2. Identity Reply

0	11110000	F0	
1	01111110	7E	
2	0nnnnnnn	nnnnnnn	= Channel Number
3	00110100	06	
4	00110100	02	
5	01000011	43	= Manufacturers System Exclusive ID code
6	0fffffff	fffffff	= Device family code(LSB first)
7	0fffffff	fffffff	=
8	0ddddddd	ddddddd	= Device family number code(LSB first)
9	0ddddddd	ddddddd	=
10	0vvvvvv	vvvvvv	= Software revision level. Format device specific
11	0vvvvvv	vvvvvv	= (LSB first)
12	0vvvvvv	vvvvvv	=
13	0vvvvvv	vvvvvv	=
14	11110111	F7	

This message is returned in response to an Identity Request message asking for device-specific information.

Name	Range	Contents
Device family code	0041	LM
Device family number code	0116	#0278
Software revision level	0100-nnnn	A3000 software version

This message is only transmitted in response to an Identity Request message.

5. YAMAHA SYSTEM EXCLUSIVE

5.1. Bulk dump

This message is transmitted when an editing operation "Bulk" is executed, when the MIDI UTILITY "Bulk" operation is executed, or when a dump request is received.
This message can be received if bulk protect is off.

Data format

0	11110000	F0
1	01000011	43
2	0000nnnn	nnnn = Device Number
3	00001010	7A
4	0bbbbbbb	number of bytes
5	0bbbbbbb	
6	01001100	4C(ASCII"L")
7	01001101	4D(ASCII"M")
8	00100000	20(ASCII" ")
9	00100000	20(ASCII" ")
10	00110000	30(ASCII"0")
11	00110001	32(ASCII"2")
12	00110000	37(ASCII"7")
13	00110000	38(ASCII"8")
14	0mmmmmmm	mmmmmmm = data format name ending (ASCII)
15	0mmmmmmm	mmmmmmm = data format name ending (ASCII)
16	0ccccccc	object name(ASCII)
↓	↓	
31	0ccccccc	
32	0ddddddd	ddddddd = data
↓	↓	↓
	0ssssss	ssssss = check_sum
	11110111	F7

The data format name ending in bytes 14 and 15 specifies the type of bulk data, as follows.

mm	Data type
SY	System parameter bulk dump
PG	Program bulk dump
SB	Sample bank bulk dump
SP	Sample bulk dump
WD	Wave data bulk dump
SQ	Sequence bulk dump
OL	Object list bulk dump

Note) mm is ASCII code

"Object name" is the name attached to the bulk dump. However for system parameters and object lists, this will always be eight bytes of 20 (ASCII " ").

If a bulk dump is 4096 bytes or more including the header, data will be divided into packets of 4096, and all data will be transmitted in the above format.

Data bytes are divided in the order of upper nibble and lower nibble. For details on the data contents, refer to table 1.

5.2. Dump request

Bulk dump transmission is performed when a dump request is received.

0	11110000	F0
1	01000011	43
2	0000nnnn	nnnn = Device Number
3	00001010	7A
4	01001100	4C(ASCII"L")
5	01001101	4D(ASCII"M")
6	00100000	20(ASCII" ")
7	00100000	20(ASCII" ")
8	00110000	30(ASCII"0")
9	00110001	32(ASCII"2")
10	00110000	37(ASCII"7")
11	00110000	38(ASCII"8")
12	0mmmmmmm	mmmmmmm = data format name ending
13	0mmmmmmm	mmmmmmm = data format name ending
14	0ccccccc	object name
↓	↓	object name
29	0ccccccc	object name
30	11110111	F7

The data format name ending in bytes 12 and 13 specifies the type of transmitted data, as follows.

mm	Data type
SY	System parameter bulk dump
PG	Program bulk dump
SB	Sample bank bulk dump
SP	Sample bulk dump
WD	Wave data bulk dump
SQ	Sequence bulk dump
OL	Object list bulk dump

Note) mm is ASCII code

"Object name" is the name attached to the bulk dump. The data specified by the data format name and object name will be transmitted as bulk data.
However in the case of system parameters and object lists, the object name has no significance, and the bulk data is transmitted only by the data format name.

5.3. Parameter change

This message is transmitted when a parameter value request is received.
When specifying an object, first use a parameter change to specify the name of the desired object, and then specify the individual parameter change for the desired parameter item.

5.3.1. Parameter change (object select)

0	11110000	F0
1	01000011	43
2	0001nnnn	nnnn = Device Number
3	01011000	58 g=22,h=0
4	00000000	00
5	0ccccccc	object name(16byte)
↓	↓	object name(16byte)
20	0ccccccc	object name(16byte)
22	0ttttttt	object type
21	11110111	F7

This message specifies the object.

The object type is shown in the following table.

mm	Data type
20	Program bulk dump
17	Sample bank bulk dump
16	Sample bulk dump
2	Wave data bulk dump
19	Sequence bulk dump

5.3.2. Parameter change (object edit)

0	11110000	F0
1	01000011	43
2	0001nnnn	nnnn = Device Number
3	01011000	58 g=22,h=0
4	00000001	01
5	0ppppppp	parameter(6byte)
↓	↓	parameter(6byte)
10	0ppppppp	parameter(6byte)
11	0ddddddd	data
↓	↓	data
	0ddddddd	data
	11110111	F7

This message is a parameter change for the specified object.

For the parameters, refer to table 1.

Data bytes are divided in the order of upper nibble and lower nibble. For details on the data size and content, refer to table 1.

5.3.3 Parameter change (system parameter)

0	11110000	F0
1	01000011	43
2	0001nnnn	nnnn = Device Number
3	01011000	58 g=22,h=0
4	00000001	02
5	0ppppppp	parameter(6byte)
↓	↓	parameter(6byte)
10	0ppppppp	parameter(6byte)
11	0ddddddd	data
↓	↓	data
	0ddddddd	data
	11110111	F7

This message is a parameter change for system parameters.

For the parameters, refer to table 2.

Data bytes are divided in the order of upper nibble and lower nibble. For details on the data size and content, refer to table 2.

5.3.4. Parameter change (switch remote)

0	11110000 F0	
1	01000011 43	
2	0001nnnn	nnnn = Device Number
3	01011000	58 g=22,h=0
4	00000001	03
5	0ppppppp	switch number
6	00000000	00
↓	↓ ↓	
10	00000000	00
11	0ddddddd	data
27	11110111	F7

This message performs remote control of switches.

For the switch numbers, refer to table 3.

With the exception of switch numbers 123—127, data of $00-$3F turns the switch off, and data of $40-$7F turns the switch on.

For switch numbers 123—127 (knob encoders), a value of 64 less than the data specifies the number of pulses which correspond to rotation (10 pulses per rotation). Positive numbers are rotation toward the right, and negative numbers are rotation toward the left.

This message is received only.

5.3.5. Parameter request (object)

0	11110000	F0	
1	01000011	43	
2	0011nnnn	nnnn	= Device Number
3	01011000	58	g=22,h=0
4	00000000	01	
5	0ppppppp	\	
↓	↓	|	parameter(6byte)
10	0ppppppp	/	
11	11110111F7		

This message requests transmission of the parameter of the specified object as a parameter change.
Refer to table 1 for the parameters.

This message is received only.

5.3.6. Parameter request (system parameter)

0	11110000	F0	
1	01000011	43	
2	0011nnnn	nnnn	= Device Number
3	01011000	58	g=22,h=0
4	00000000	02	
5	0ppppppp	\	
↓	↓	|	parameter(6byte)
10	0ppppppp	/	
11	11110111	F7	

This message requests transmission of a system parameter as a parameter change.
Refer to table 2 for the parameters.

This message is received only.

6. Table 1: Sound parameters

< Bulk dump data format for each object >

p	offset	decimal	
s	data size UC	unsigned 8 bit	
		SC	signed 8 bit (2's complement)
		US	unsigned 16 bit
		SS	signed 16 bit (2's complement)
		UL	unsigned 32 bit
		SL	signed 32 bit (2's complement)
		[ ]	refer to the appropriate parameter block
		*n	'n' successive occurrences of the above format data
v	value	decimal	
		c	displayable ASCII code other than \
		b	bitmap (refer to the 'name' field for bit units)
		max	maximum number expressible by data size

■ Program bulk dump 232+56* (number of samples) bytes

p	s	v	name
0000	[Common]	64byte	
0064	UC*8	c	program name
0072	UC	b	b0:AD in on, b2-1:AD in source, b4-3:effect connect
0073	UC	-	reserved
0074	US	b	b0:MIDI channel1 controller reset... b15:MIDI channel16 controller reset
0076	US	-	reserved
0078	SC	±63	AD in pan
0079	UC	0-4	AD in main output
0080	UC	0-127	AD in level
0081	UC	0-4	AD in assignable output
0082	UC	0-127	AD in assignable level
0083	UC	0-127	program level
0084	SC	±63	fine tune
0085	SC	±127	coarse tune
0086	SC	±127	transpose
0087	UC	-	reserved
0088	UC	0-3	portamento type
0089	UC	0-127	portamento rate
0090	UC	0-127	portamento time
0091	UC	0-127	S/H speed
0092	US	-	reserved
0094	US	0-999	number of samples (??)
0096	[Effect Parameter]*3	120byte(effect1-3)	
0216	[Control Matrix]*4	16byte(matrix1-4)	
0232	[Easy Edit Parameter]*n	56byte*(number of samples)byte	

(Note 1) Number of sample and sample banks for which ToPgm is turned on.

■ Sample bank bulk dump 276+20* (number of samples) bytes

p	s	v	name
0000	[Common]	64byte	
0064	[Sample Parameter]	188byte	
0252	UL*4	-	reserved
0268	UC	0-127	number of samples
0269	UC*7	-	reserved
0276	[Sample Bank Member]*n	20*(number of samples)byte	

■ Sample bulk dump 300 bytes

p	s	v	name
0000	[Common]	64byte	
0064	UC*16	c	wave name L
0080	UC*16	c	wave name R
0096	UL*2	-	reserved
0104	UL*2	-	reserved
0112	[Sample Parameter]	188byte	

■ Wave data bulk dump

p	s	v	name
0000	[Common]	64byte	
0064	SS	-	reserved
0066	US	-	reserved
0068	US	-	reserved
0070	US	-	reserved
0072	US*nnnn		wave data (nnnn=size)

■ Sequence bulk dump

p	s	v	name
0000	[Common]	64byte	
0064	US	50-250	original tempo
0066	US	-	reserved
0068	US	-	reserved
0070	US	-	reserved
0072	UC*nnnn		sequence data (nnnn=size)

■ Object request bulk dump

p	s	v	name
0000	UC		obj type (Note 1)
0001	UC*16	c	name
	:		
From "obj type" to "name" is repeated for each object existing in memory.			
	:		

(Note 1) sample:16, sample bank:17, sequence:19, program:20

■ Parameter block

p	s	v	name
0000	UC		obj type (Note 1)
0001	UC	-	reserved
0002	UC*16	c	name
0018	UC*2	-	reserved
0020	UL		size (Note 2)
0024	UC*16	-	reserved
0040	UC*16	-	reserved
0056	UC	-	reserved
0057	UC*3	-	reserved
0060	UL	-	reserved

(Note 1) sample:16, sample bank:17, sequence:19, program:20
(Note 2) For a Wave Data bulk dump, this is the wave data word size. For a Sequence bulk dump, this is the sequence data byte size. Otherwise this is 0.

[Control Matrix] 4byte

p	s	v	name
0000	UC	0-122	control device
0001	UC	0-59	control function
0002	UC	0-1	control type
0003	SC	±63	control range

[Sample Parameter] 188byte

p	s	v	name
0000	[Control Matrix]*6	24byte(matrix1-6)	
0024	UL	b	b0:linked to program001...b31:program032
0028	UL	b	b0:linked to program033...b31:program064
0032	UL	b	b0:linked to program065...b31:program096
0036	UL	b	b0:linked to program097...b31:program128
0040	UC	b	b0:sample bank member, b1:mono sample, b2:expanded (Note 1)
0041	UC	b	b0:portamento, b1:mono mode, b2:note x-fade, b3:velocity x-fade, b4:fixed pitch
0042	UC	0-16	MIDI receive channel
0043	UC	0-13	pitch bend type
0044	UC	0-24	pitch bend range
0045	SC	±63	coarse tune
0046	UC	0-127	original key L
0047	UC	0-127	original key R
0048	US	1-65535	sampling frequency L
0050	US	1-65535	sampling frequency R
0052	SC	±63	file tune L
0053	SC	±63	file tune R
0054	SS*2	-	reserved
0058	UC	0-127	key range high
0059	UC	0-127	key range low
0060	UC	-	reserved
0061	UC	0-5	loop mode
0062	US	8000-15999	tempo
0064	UL	0-16777215	wave start address L
0068	UL	0-16777215	wave start address R
0072	UL	0-16777215	wave length L
0076	UL	0-16777215	wave length R
0080	UL	0-16777215	loop start address L
0084	UL	0-16777215	loop start address R
0088	UL	0-16777215	loop length L
0092	UL	0-16777215	loop length R
0096	SC	±63	start address velocity sensitivity
0097	UC	0-6	filter type
0098	UC	0-127	filter cutoff frequency
0099	UC	0-127	filter Q/width
0100	UC	0-127	cutoff key scaling break point 1
0101	UC	0-127	cutoff key scaling break point 2
0102	SC	±127	cutoff key scaling level 1
0103	SC	±127	cutoff key scaling level 2
0104	SC	±63	cutoff velocity sensitivity
0105	SC	±63	Q/width velocity sensitivity
0106	SC	±7	detune
0107	SC	±63	dephase
0108	SC	±63	expand width
0109	UC	0-63	random pitch
0110	UC	0-127	level
0111	SC	±63	pan
0112	UC	0-127	velocity low limit
0113	UC	±127	velocity offset
0114	UC	0-127	velocity range high
0115	UC	0-127	velocity range low
0116	UC	0-127	level key scaling break point 1
0117	UC	0-127	level key scaling break point 2
0118	UC	0-127	level key scaling level 1
0119	UC	0-127	level key scaling level 2
0120	SC	±63	key velocity sensitivity
0121	UC	0-16	alternate group number
0122	UC	4-58	EQ frequency
0123	SC	52-76	EQ gain
0124	UC	10-120	EQ width
0125	SC	-	reserved
0126	UC	0-127	FEG attack rate
0127	UC	0-127	FEG decay rate
0128	UC	0-127	FEG release rate
0129	SC	±127	FEG init level
0130	SC	±127	FEG attack level
0131	SC	±127	FEG sustain level
0132	SC	±127	FEG release level
0133	SC	±7	FEG rate key scaling
0134	SC	±63	FEG rate velocity sensitivity
0135	SC	±63	FEG attack level velocity sensitivity
0136	SC	±63	FEG level velocity sensitivity
0137	UC	0-127	PEG attack rate
0138	UC	0-127	PEG decay rate
0139	UC	0-127	PEG release rate
0140	SC	±127	PEG init level
0141	SC	±127	PEG attack level
0142	SC	±127	PEG sustain level
0143	SC	±127	PEG release level
0144	SC	±7	PEG rate key scaling
0145	SC	±63	PEG rate velocity sensitivity
0146	SC	±63	PEG level velocity sensitivity
0147	UC	±63	PEG range
0148	UC	0-127	AEG attack rate
0149	UC	0-127	AEG decay rate
0150	UC	0-127	AEG release rate
0151	UC*2	-	reserved
0153	UC	0-127	AEG sustain level
0154	UC	-	reserved
0155	UC	0-1	AEG attack mode
0156	SC	±7	AEG rate key scaling
0157	SC	±63	AEG rate velocity sensitivity
0158	UC	0-4	LFO wave
0159	UC	0-127	LFO speed
0160	UC	0-127	LFO delay time
0161	UC	b	b0:sync, b1:Filter mod phase invert, b2:pitch mod phase invert
0162	UC	0-127	cutoff mod depth
0163	UC	0-127	pitch mod depth
0164	UC	0-127	amplitude mod depth
0165	UC	0-4	main output
0166	UC	0-127	main output level
0167	UC	0-4	assignable output
0168	UC	0-127	assignable output level
0169	UC	-	reserved
0170	US*5	-	reserved
0180	UL	0-16777215	wave end address
0184	UL	0-16777215	loop end address

(Note 1) If Detune or Dephase is other than +/-1, this is 1 for a mono sample.

[Sample Bank Member] 20byte

p	s	v	name
0000	UC*16	c	sample name
0016	UL	-	reserved

[Easy Edit Parameter]Â@56byte

p	s	v	name
0000	UC*16	c	sample(bank) name
0016	UL	-	reserved
0020	UC		obj type (Note 1)
0021	SC	-1,0-16	MIDI receive channel (Note 2)
0022	SC	±127	level offset
0023	SC	-	reserved
0024	SC	±63	pan offset
0025	SC	-	reserved
0026	SC	±63	fine tune offset
0027	SC	-	reserved
0028	SC	±127	coarse tune offset
0029	SC	-	reserved
0030	UC	0-127	key limit high
0031	UC	0-127	key limit low
0032	SC	±127	key range shift
0033	UC	0-127	velocity limit high
0034	UC	0-127	velocity limit low
0035	UC	b	b0:portamento, b2:mono mode, b4:note x-fade, b6:velocity x-fade (Note 3)
0036	SC	-1,0-16	alternate group number (Note 2)
0037	SC	±127	AEG attack rate offset
0038	SC	-	reserved
0039	SC	±127	AEG release rate offset
0040	SC	-	reserved
0041	SC	±127	filter cutoff offset
0042	SC	-	reserved

0043	SC	±127	filter Q/width offset
0044	SC	-	reserved
0045	SC	-1,0-4	main output (Note 2)
0046	SC	±127	main output level offset
0047	SC	-	reserved
0048	SC	0-5	assignable output
0049	SC	±127	assignable output level offset
0050	SC	-	reserved
0051	UC	0-1	MIDI control on/off
0052	UC	-	reserved
0053	UC*3	-	reserved

(Note 1) sample:16, sample bank:17
(Note 2) -1:"=sample"
(Note 3) 1:"=sample" for each bn and bn+1

[Effect Parameter] 40byte

p	s	v	name
0000	UC	0-1	bypass
0001	UC	0-127	input level
0002	UC	0-127	output level
0003	SC	±63	pan
0004	UC*3	-	reserved
0007	UC	0-54	effect type
0008	US*16		effect parameters

< Parameter change table for sound parameters >

p1...6	parameter number	Decimal	
s	data size UC	unsigned 8 bit	
		SC	signed 8 bit (2's complement)
		US	unsigned 16 bit
		SS	signed 16 bit (2's complement)
		UL	unsigned 32 bit
		SL	signed 32 bit (2's complement)
		[ ]	refer to the appropriate parameter block
		*n	'n' successive occurrences of the above format data
v	value	decimal	
		c	displayable ASCII code other than \
		b	bitmap
			refer to the 'name' field for bit units
		max	maximum number expressible by data size

■ Program parameters

P1	P2	P3	P4	P5	P6	s	v	name
0								[Common]
1	0	-	-	-	-	UC*8	c	program name
1	1	0-15	-	-	-	UC	0,1	controller reset
1	2	0-15	-	-	-	-	-	reserved
1	3	-	-	-	-	UC	0,1	AD in on
1	4	-	-	-	-	UC	0-2	AD in source
1	5	-	-	-	-	SC	±63	AD in pan
1	6	-	-	-	-	UC	0-4	AD in main output
1	7	-	-	-	-	UC	0-127	AD in level
1	8	-	-	-	-	UC	0-4	AD in assignable output
1	9	-	-	-	-	UC	0-127	AD in assignable level
1	10	-	-	-	-	UC	0-127	program level
1	11	-	-	-	-	SC	±63	fine tune
1	12	-	-	-	-	SC	±127	coarse tune
1	13	-	-	-	-	SC	±127	transpose
1	14	-	-	-	-	-	-	reserved
1	15	-	-	-	-	-	-	reserved
1	16	-	-	-	-	UC	0-3	portamento type
1	17	-	-	-	-	UC	0-127	portamento rate
1	18	-	-	-	-	UC	0-127	portamento time
1	19	-	-	-	-	UC	0-127	S/H speed
1	20	-	-	-	-	US	0-999	number of samples
1	21	0-2	0	-	-	UC	0,1	effect bypass
1	21	0-2	1	-	-	UC	0-127	effect input level
1	21	0-2	2	-	-	UC	0-127	effect output level
1	21	0-2	3	-	-	SC	±63	effect pan
1	21	0-2	4	-	-	UC	0-54	effect type
1	21	0-2	5	0-15	0	-	-	effect parameter
1	21	0-2	5	0-15	1	-	-	reserved
1	22	0-3	0	-	-	UC	0-122	control device 1-4
1	22	0-3	1	-	-	UC	0-59	control function 1-4
1	22	0-3	2	-	-	UC	0-1	control type 1-4
1	22	0-3	3	-	-	SC	±63	control range 1-4
1	23	-	-	-	-	UC	0-2	effect connection
2	0-9	0-99	0	-	-	UC*16	c	sample(bank) name
2	0-9	0-99	1	-	-	-	-	reserved
								easy edit
2	0-9	0-99	2	-	-	SC	-1,0-16	MIDI receive channel (Note 1)
2	0-9	0-99	3	0	-	SC	±127	level offset
2	0-9	0-99	4	0	-	SC	±63	pan offset
2	0-9	0-99	5	0	-	SC	±63	fine tune offset
2	0-9	0-99	6	0	-	SC	±127	coarse tune offset
2	0-9	0-99	7	-	-	UC	0-127	key limit high
2	0-9	0-99	8	-	-	UC	0-127	key limit low
2	0-9	0-99	9	-	-	UC	±127	key range shift
2	0-9	0-99	10	-	-	UC	0-127	velocity limit high
2	0-9	0-99	11	-	-	UC	0-127	velocity limit low
2	0-9	0-99	12	-	-	SC	-1,0,1	portamento on (Note 1)
2	0-9	0-99	13	-	-	SC	-1,0,1	mono mode (Note 1)
2	0-9	0-99	14	-	-	SC	-1,0,1	key x-fade on (Note 1)
2	0-9	0-99	15	-	-	SC	-1,0,1	velocity x-fade on (Note 1)
2	0-9	0-99	16	-	-	SC	-1,0-16	alternate group number (Note 1)
2	0-9	0-99	17	0	-	SC	±127	AEG attack rate offset
2	0-9	0-99	18	0	-	SC	±127	AEG release rate offset
2	0-9	0-99	19	0	-	SC	±127	filter cutoff offset
2	0-9	0-99	20	0	-	SC	±127	filter Q/width offset
2	0-9	0-99	21	-	-	SC	-1,0-4	main output (Note 1)
2	0-9	0-99	22	0	-	SC	±127	main output level offset
2	0-9	0-99	23	-	-	SC	-1,0-5	assignable output (Note 1)
2	0-9	0-99	24	0	-	SC	±127	assignable output level offset
2	0-9	0-99	25	-	-	UC	0,1	MIDI control on
2	0-9	0-99	26	-	-	-	-	reserved

(Note 1) -1: "=sample"

■ Sample bank parameters

P1	P2	P3	P4	P5	P6	s	v	name
0								[Common]
1	0	-	-	-	-	-	-	reserved
1	1	-	-	-	-	UC	0-127	number of samples
1	2	-	-	-	-	0-126	UC*16	sample name
1	3	-	-	-	-	-	-	reserved
2								[Sample Parameter]

■ Sample parameters

P1	P2	P3	P4	P5	P6	s	v	name
0								[Common]
1	0	0-1	-	-	-	-	-	reserved
1	1	0-1	-	-	-	-	-	reserved
1	2	0-1	-	-	-	-	-	reserved
2				[Sample Parameter]				

■ Parameter block

[Common]

P1	P2	P3	P4	P5	P6	s	v	name
0	0	-	-	-	-	UC	0-8	obj type (Note 1)
0	1	-	-	-	-	UC	-	reserved
0	2	-	-	-	-	UC*16	c	name
0	3	-	-	-	-	-	-	reserved
0	4	-	-	-	-	-	-	reserved

(Note 1) sample:16, sample bank:17, program:20

[Sample Parameter]

P1	P2	P3	P4	P5	P6	s	v	name
2	0	0-127	-	-	-	UC	0,1	linked to program1-128
2	1	-	-	-	-	UC	0,1	1:sample bank member
2	2	-	-	-	-	UC	0-2	0:stereo,1:mono, 2:expanded (Note 1)
2	3	-	-	-	-	UC	0-16	MIDI receive channel
2	4	-	-	-	-	UC	0-13	pitch bend type
2	5	-	-	-	-	UC	0-24	pitch bend range
2	6	0-1	-	-	-	UC	0-127	original key L,R
2	7	0-1	-	-	-	US	1-65535	sampling frequency L,R
2	8	0-1	-	-	-	SC	±63	file tune L,R
2	9	-	-	-	-	SC	±63	coarse tune
2	10	-	-	-	-	UC	0-127	key range high
2	11	-	-	-	-	UC	0-127	key range low
2	12	-	-	-	-	UC	0-5	loop mode
2	13	-	-	-	-	UL	0-16777215	wave start address
2	14	0	-	-	-	UL	0-16777215	wave length
2	15	-	-	-	-	UL	0-16777215	wave end address
2	16	-	-	-	-	UL	0-16777215	loop start address
2	17	0	-	-	-	UL	0-16777215	loop length
2	18	-	-	-	-	UL	0-16777215	loop end address
2	19	-	-	-	-	SC	±63	start address velocity sensitivity
2	20	-	-	-	-	US	8000-15999	sample tempo
2	21	-	-	-	-	UC	0-6	filter type
2	22	-	-	-	-	UC	0-127	filter cutoff frequency
2	23	-	-	-	-	UC	0-127	filter Q/width
2	24	0-1	-	-	-	SC	0-127	cutoff key scaling break point 1,2
2	25	0-1	-	-	-	SC	0±127	cutoff key scaling level 1,2
2	26	-	-	-	-	SC	±63	cutoff velocity sensitivity
2	27	-	-	-	-	SC	±63	Q/width velocity sensitivity
2	28	-	-	-	-	UC	0,1	fixed pitch on/off
2	29	-	-	-	-	SC	±7	detune
2	30	-	-	-	-	SC	±63	dephase
2	31	-	-	-	-	SC	±63	expand width
2	32	-	-	-	-	UC	0-63	random pitch
2	33	-	-	-	-	UC	0-127	sample level
2	34	-	-	-	-	SC	±63	pan
2	35	-	-	-	-	UC	0-127	velocity low limit
2	36	-	-	-	-	SC	±127	velocity offset
2	37	-	-	-	-	UC	0-127	velocity range high
2	38	-	-	-	-	UC	0-127	velocity range low
2	39	0-1	-	-	-	UC	0-127	level key scaling break point 1,2
2	40	0-1	-	-	-	UC	0-127	level key scaling level 1,2
2	41	-	-	-	-	SC	±63	key velocity sensitivity
2	42	-	-	-	-	UC	0,1	portamento on
2	43	-	-	-	-	UC	0,1	mono mode
2	44	-	-	-	-	UC	0,1	key x-fade on
2	45	-	-	-	-	UC	0,1	velocity x-fade on
2	46	-	-	-	-	-	-	reserved
2	47	-	-	-	-	-	-	reserved
2	48	-	-	-	-	UC	0-16	alternate group number
2	49	-	-	-	-	UC	0-127	EQ frequency
2	50	-	-	-	-	SC	±63	EQ gain
2	51	-	-	-	-	UC	0-127	EQ width
2	52	-	-	-	-	-	-	reserved
2	53	0-2	-	-	-	UC	0-127	FEG rate attack,decay,release
2	54	0-3	-	-	-	SC	±127	FEG level init, attack, sustain, release
2	55	-	-	-	-	SC	±7	FEG rate key scaling
2	56	-	-	-	-	SC	±63	FEG rate velocity sensitivity
2	57	-	-	-	-	SC	±63	FEG attack level velocity sensitivity
2	58	-	-	-	-	SC	±63	FEG level velocity sensitivity
2	59	0-2	-	-	-	UC	0-127	PEG rate attack,decay,release
2	60	0-3	-	-	-	SC	±127	PEG level init,attack,sustain, release
2	61	-	-	-	-	SC	±7	PEG rate key scaling
2	62	-	-	-	-	SC	±63	PEG rate velocity sensitivity
2	63	-	-	-	-	SC	±63	PEG level velocity sensitivity
2	64	-	-	-	-	SC	±63	PEG range
2	65	0-2	-	-	-	UC	0-127	AEG rate attack,decay,release
2	66	0-1	-	-	-	-	-	reserved
2	66	2	-	-	-	UC	0-127	AEG sustain level
2	66	3	-	-	-	-	-	reserved
2	67	-	-	-	-	SC	±7	AEG rate key scaling
2	68	-	-	-	-	SC	±63	AEG rate velocity sensitivity
2	69	-	-	-	-	UC	0,1	AEG attack mode
2	70	-	-	-	-	UC	0-4	LFO wave
2	71	-	-	-	-	UC	0-127	LFO speed
2	72	-	-	-	-	UC	0-127	LFO delay time
2	73	-	-	-	-	UC	0,1	LFO sync on
2	74	-	-	-	-	UC	0,1	LFO pitch mod phase invert
2	75	-	-	-	-	UC	0,1	LFO cutoff mod phase invert
2	76	-	-	-	-	UC	0-127	cutoff mod depth
2	77	-	-	-	-	UC	0-127	pitch mod depth
2	78	-	-	-	-	UC	0-127	amplitude mod depth
2	79	-	-	-	-	UC	0-4	main output
2	80	-	-	-	-	UC	0-127	main output level
2	81	-	-	-	-	UC	0-4	assignable output
2	82	-	-	-	-	UC	0-127	assignable output level
2	83	0-5	0	-	-	UC	0-122	control device 1-6
2	83	0-5	1	-	-	UC	0-18	control function 1-6
2	83	0-5	2	-	-	UC	0-1	control type 1-6
2	83	0-5	3	-	-	SC	±63	control range 1-6

(Note 1) Mono sample when 2:detune or dephase is other than ±0

7. Table 2: System parameters

■ System parameter bulk dump 840 bytes

p	offset	Decimal	
s	data size UC	unsigned 8 bit	
		SC	signed 8 bit (2's complement)
		US	unsigned 16 bit
		SS	signed 16 bit (2's complement)
		UL	unsigned 32 bit
		SL	signed 32 bit (2's complement)
		[ ]	refer to the appropriate parameter block
		*n	'n' successive occurrences of the above format data
v	value	decimal	
		c	displayable ASCII code other than \
		b	bitmap
			refer to the 'name' field for bit units
		max	maximum number expressible by data size

p	s	v	name
0000	UC*16	-	reserved
0016	SC	±63	master fine tune
0017	SC	±127	master coarse tune
0018	SC	±127	master transpose
0019	UC	0-17	velocity curve
0020	UC	0-15	MIDI basic receive channel
0021	UC	0-5	stereo to assignable out
0022	UC	b	b0:omni, b1:program change enable
0023	UC	0-16	knob2 control MIDI transmit channel
0024	UC	0-16	knob3 control MIDI transmit channel
0025	UC	0-16	knob4 control MIDI transmit channel
0026	UC	0-16	knob5 control MIDI transmit channel
0027	UC	0-120	knob2 control device
0028	UC	0-120	knob3 control device
0029	UC	0-120	knob4 control device
0030	UC	0-120	knob5 control device
0030	UC	0-16	fkey1 play MIDI transmit channel
0032	UC	0-16	fkey2 play MIDI transmit channel
0033	UC	0-16	fkey3 play MIDI transmit channel
0034	UC	0-16	fkey4 play MIDI transmit channel
0035	UC	0-16	fkey5 play MIDI transmit channel
0036	UC	0-16	fkey6 play MIDI transmit channel
0037	UC	0-127	fkey1 play note number
0038	UC	0-127	fkey2 play note number
0039	UC	0-127	fkey3 play note number
0040	UC	0-127	fkey4 play note number
0041	UC	0-127	fkey5 play note number
0042	UC	0-127	fkey6 play note number
0043	UC	1-127	fkey1 play velocity
0044	UC	1-127	fkey2 play velocity
0045	UC	1-127	fkey3 play velocity
0046	UC	1-127	fkey4 play velocity
0047	UC	1-127	fkey5 play velocity
0048	UC	1-127	fkey6 play velocity
0049	UC	-	reserved
0050	UC	4-40	low boost frequency
0051	UC	52-76	low boost gain
0052	UC	-	reserved
0053	UC	4-40	low frequency
0054	UC	52-76	low gain
0055	UC	10-120	low width

0056	UC	4-58	mid frequency
0057	UC	52-76	mid gain
0058	UC	10-120	mid width
0059	UC	28-58	high frequency
0060	UC	52-76	high gain
0061	UC	10-120	high width
0062	UC*2	-	reserved
0064	UC	0-7	self SCSI ID
0065	UC	b	mounted SCSI ID
0080	US	-	reserved
0082	US	b	b15-12:effect type1 favorite parameter1 b11-8:effect type1 favorite parameter2 b7-4:effect type1 favorite parameter3 b3-0:effect type1 favorite parameter4
0084	US*53	b	effect type2...54 favorite parameters
0190	US*9	-	reserved
0208	UC	-	reserved
0209	UC	0-1	effect edit type
0210	UC	0-1	knob2 control on
0211	UC	0-1	knob3 control on
0212	UC	0-1	knob4 control on
0213	UC	0-1	knob5 control on
0214	UC	0-4	assignable key function
0215	UC	0-1	audition key function
0216	UC	0-1	page mode at mode change
0217	UC	0-1	page mode at function change
0218	UC	0-1	note display type
0219	UC	-	reserved
0220	UC	0-1	sample name sort type
0221	UC	0-1	program on sample sort type
0222	UC	0-1	sample in sample bank sort type
0223	UC	0-4	wave end address display type
0224	UC	-	reserved
0225	UC*47	-	reserved
0272	[Effect Parameter]*3	120byte(rec effect1-3)	
0392	UC	0-2	record target sample
0393	UC	0-1	record sample type
0394	UC	0-4	record input
0395	UC	0-3	record frequency (Note 1)
0396	UC	0-5	pre-trigger time
0397	UC	0-1	start trigger type
0398	UC	0-1	stop trigger type
0399	UC	0-63	source in level
0400	UC	0-63	source out level
0401	SC	0-4	record target to-program type
0402	UC	0-127	record target key range low
0403	UC	0-127	record target key range high
0404	SC	0-127	record target original key
0405	UC	0-1	auto normalize
0406	SC	-1,0-7	external control SCSI ID (Note 2)
0407	UC	1-256	external control start track
0408	UC	1-256	external control start index
0409	UC	0-5	monitor output
0410	UC	0-127	monitor level
0411	UC	0-127	click level
0412	US	8000-15999	click tempo
0414	UC	1-15	click beat
0415	UC*11	-	reserved
0426	UC*6	-	reserved
0432	UC*8	-	reserved
0440	UC*2	-	reserved
0442	UC	0-1	bulk protect
0443	UC	0-1	after touch disable
0444	UC	0-1	control change disable
0445	UC	0-1	pitch bend disable
0446	UC	-	reserved
0447	UC	0-17	MIDI device number
0448	UC*8	-	reserved
			initial value
0456	[Sample Parameter]	188byte	
0644	[Effect Parameter]*3	120byte(effect1-3)	
0764	[Control Matrix]*4	16byte(program control matrix1-4)	
0780	UC*8	-	reserved
0788	UC	b	b0:AD in on, b2-1:AD in source, b4-3:effect connect
0789	UC	-	reserved
0790	US	b	b0:MIDI channel1 controller reset... b15:MIDI channel16 controller reset
0792	US	-	reserved
0794	SC	±63	AD in pan
0795	UC	0-4	AD in main output
0796	UC	0-127	AD in level
0797	UC	0-4	AD in assignable output
0798	UC	0-127	AD in assignable level
0799	UC	0-127	program level
0800	SC	±63	fine tune
0801	SC	±127	coarse tune
0802	SC	±127	transpose
0803	UC	-	reserved
0804	UC	0-3	portamento type
0805	UC	0-127	portamento rate
0806	UC	0-127	portamento time
0807	UC	0-127	S/H speed
0808	US	-	reserved
0810	UC*30	-	reserved

(Note 1) 0:x1, 1:x1/2, 2:x1/4, 3:x1/8 for 44.1 kHz when analog in is used, or for the frequency of the input signal when digital in is used.
(Note 2) -1:off

■ System parameter change table

P1	P2	P3	P4	s	v	name
1	1	0	-	SC	±63	master fine tune
1	1	1	-	SC	±127	master coarse tune
1	1	2	-	SC	±127	master transpose
1	1	3	-	UC	0-17	velocity curve
1	1	4	-	UC	0-15	MIDI basic receive channel
1	1	5	-	UC	0,1	MIDI basic channel omni on
1	1	6	-	UC	0,1	MIDI program change enable
1	1	7	0-3	UC	0-16	knob2-5 control MIDI transmit channel
1	1	8	0-3	UC	0-120	knob2-5 control device
1	1	9	0-5	UC	0-16	fkey1-6 play MIDI transmit channel
1	1	10	0-5	UC	0-127	fkey1-6 play note number
1	1	11	0-5	UC	0-127	fkey1-6 play velocity
1	1	12	-	SC	52-76	total EQ Low boost gain
1	1	13	-	UC	4-40	total EQ Low boost frequency
1	1	14	-	SC	52-76	total EQ Low gain
1	1	15	-	UC	4-40	total EQ Low frequency
1	1	16	-	UC	10-120	total EQ Low width
1	1	17	-	SC	52-76	total EQ Mid gain
1	1	18	-	UC	4-58	total EQ Mid frequency
1	1	19	-	UC	10-120	total EQ Mid width
1	1	20	-	SC	52-76	total EQ High gain
1	1	21	-	UC	28-58	total EQ High frequency
1	1	22	-	UC	10-120	total EQ High width
1	1	23	-	UC	0-5	stereo to assignable out
1	1	24	-	-	-	reserved
1	1	25	-	-	-	reserved
1	1	26	-	-	-	reserved

8. Table 3: Switch remote switch number

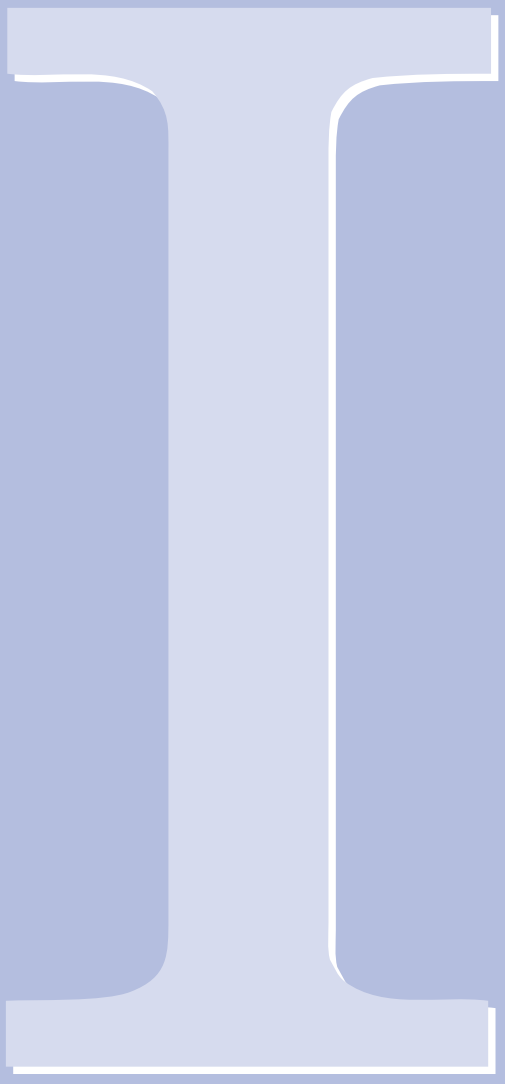
ppppppp	Panel name
0	FKEY1
1	FKEY2
2	FKEY3
3	FKEY4
4	FKEY5
5	FKEY6
6	[COMMAND]
7	[ASSIGNABLE]
8	[AUDITION]
9	[PLAY]
10	[EDIT]
11	[REC]
12	[DISK]
13	[UTILITY]
14	KNO
15	KNOB2 SW
16	KNOB3 SW
17	KNOB4 SW
18	KNOB5 SW
123	KNOB1 ENCODER
124	KNOB2 ENCODER
125	KNOB3 ENCODER
126	KNOB4 ENCODER
127	KNOB5 ENCODER

YAMAHA [Professional Sampler] Date:04-FEB-1997
Model A3000 MIDI Implementation Chart Version : 1.0

Function ...		Transmitted	Recognized	Remarks
Basic Channel	Default	1 - 16	1 - 16	memorized
	Changed	1 - 16	1 - 16	
Mode	Default	x	1,2,3,4	memorized
	Messages	x	POLY,MONO(M=1)	
	altered	**********	x	
Note Number		0 - 127	0 - 127	
	True voice	**********	0 - 127	
Velocity	Note ON	o v=1-127	o v=1-127	
	Note OFF	x	x	
After Touch	Key's	x	x	
	Ch's	o	o	
Pitch Bender		o	o	*1:7 bit resolution
Control Change	5	o	o	*1:portamento time
	7	o	o	*1:volume
	10	o	o	*1:pan
	64	o	o	*1:sustain
	65	o	o	*1:portamento
	66	o	o	*1:sostenute
	0 - 120	o	o	*1:(assignable)
All Sound Off(120)		x	o	
ResetAllCntrl(121)		x	o	
Prog Change		x	o 0-127	*1:
	True #	**********	o 0-127	
System Exclusive		o	o	*2: object etc.
common	Song Pos.	x	x	
	Song Sel.	x	x	
	Tune	x	x	
System Real Time	Clock	x	x	
	Commands	x	x	
Aux Mes- sages	Local ON/OFF	x	x	
	All Notes OFF	x	o	
	Active Sense	x	o	
	Reset	x	x	

Note *1 receive if each receive filter = enable.
*2 receive if device No is not off.

Mode 1 : OMNI ON, POLY Mode 2 : OMNI ON, MONO o : Yes
Mode 3 : OMNI OFF, POLY Mode 4 : OMNI OFF, MONO x : No



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MEMO

MEMO

FCC INFORMATION (U.S.A.)

1. IMPORTANT NOTICE: DO NOT MODIFY THIS UNIT!
This product, when installed as indicated in the instructions contained in this manual, meets FCC requirements. Modifications not expressly approved by Yamaha may void your authority, granted by the FCC, to use the product.

2. IMPORTANT: When connecting this product to accessories and/or another product use only high quality shielded cables. Cable/s supplied with this product MUST be used. Follow all installation instructions. Failure to follow instructions could void your FCC authorization to use this product in the USA.

3. NOTE: This product has been tested and found to comply with the requirements listed in FCC Regulations, Part 15 for Class "B" digital devices. Compliance with these requirements provides a reasonable level of assurance that your use of this product in a residential environment will not result in harmful interference with other electronic devices. This equipment generates/uses radio frequencies and, if not installed and used according to the instructions found in the users manual, may cause interference harmful to the operation of other electronic devices. Compliance with FCC regulations does not guarantee that interference will not occur in all installations. If this product is found to be the source of interference, which can be determined by turning the unit "OFF" and "ON", please try to eliminate the problem by using one of the following measures:

Relocate either this product or the device that is being affected by the interference.

Utilize power outlets that are on different branch (circuit breaker or fuse) circuits or install AC line filter/s.

In the case of radio or TV interference, relocate/reorient the antenna. If the antenna lead-in is 300 ohm ribbon lead, change the lead-in to co-axial type cable.

If these corrective measures do not produce satisfactory results, please contact the local retailer authorized to distribute this type of product. If you can not locate the appropriate retailer, please contact Yamaha Corporation of America, Electronic Service Division, 6600 Orangethorpe Ave, Buena Park, CA90620

The above statements apply ONLY to those products distributed by Yamaha Corporation of America or its subsidiaries.

* This applies only to products distributed by YAMAHA CORPORATION OF AMERICA.

IMPORTANT NOTICE FOR THE UNITED KINGDOM

Connecting the Plug and Cord

WARNING: THIS APPARATUS MUST BE EARTHED
IMPORTANT. The wires in this mains lead are coloured in accordance with the following code:

GREEN-AND-YELLOW	:	EARTH
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 GREEN-and-YELLOW must be connected to the terminal in the plug which is marked by the letter E or by the safety earth symbol or colored GREEN or GREEN-and-YELLOW.

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.

• This applies only to products distributed by Yamaha-Kemble Music (U.K.) Ltd.

IMPORTANT SAFETY INSTRUCTIONS

INFORMATION RELATING TO PERSONAL INJURY, ELECTRICAL SHOCK, AND FIRE HAZARD POSSIBILITIES HAS BEEN INCLUDED IN THIS LIST.

WARNING- When using any electrical or electronic product, basic precautions should always be followed. These precautions include, but are not limited to, the following:

1. Read all Safety Instructions, Installation Instructions, Special Message Section items, and any Assembly Instructions found in this manual BEFORE making any connections, including connection to the main supply.

2. Do not attempt to service this product beyond that described in the user-maintenance instructions. All other servicing should be referred to qualified service personnel.

3. Main Power Supply Verification: Yamaha products are manufactured specifically for the supply voltage in the area where they are to be sold. If you should move, or if any doubt exists about the supply voltage in your area, please contact your dealer for supply voltage verification and (if applicable) instructions. The required supply voltage is printed on the name plate. For name plate location, please refer to the graphic found in the Special Message Section of this manual.

4. **DANGER**-Grounding Instructions: This product must be grounded and therefore has been equipped with a three pin attachment plug. If this product should malfunction, the ground pin provides a path of low resistance for electrical current, reducing the risk of electrical shock. If your wall socket will not accommodate this type plug, contact an electrician to have the outlet replaced in accordance with local electrical codes. Do NOT modify the plug or change the plug to a different type!

5. **WARNING:** Do not place this product or any other objects on the power cord or place it in a position where anyone could walk on, trip over, or roll anything over power or connecting cords of any kind. The use of an extension cord is not recommended! If you must use an extension cord, the minimum wire size for a 25' cord (or less) is 18 AWG. NOTE: The smaller the AWG number, the larger the current handling capacity. For longer extension cords, consult a local electrician.

6. Ventilation: Electronic products, unless specifically designed for enclosed installations, should be placed in locations that do not interfere with proper ventilation. If instructions for enclosed installations are not provided, it must be assumed that unobstructed ventilation is required.

7. Temperature considerations: Electronic products should be installed in locations that do not seriously contribute to their operating temperature. Placement of this product close to heat sources such as; radiators, heat registers etc., should be avoided.

8. This product was NOT designed for use in wet/damp locations and should not be used near water or exposed to rain. Examples of wet /damp locations are; near a swimming pool, spa, tub, sink, or wet basement.

9. This product should be used only with the components supplied or; a cart ,rack, or stand that is recommended by the manufacturer. If a cart, rack, or stand is used, please observe all safety markings and instructions that accompany the accessory product.

10. The power supply cord (plug) should be disconnected from the outlet when electronic products are to be left unused for extended periods of time. Cords should also be disconnected when there is a high probability of lightening and/or electrical storm activity.

11. Care should be taken that objects do not fall and liquids are not spilled into the enclosure through any openings that may exist.

12. Electrical/electronic products should be serviced by a qualified service person when:

a. The power supply cord has been damaged; or
b. Objects have fallen, been inserted, or liquids have been spilled into the enclosure through openings; or
c. The product has been exposed to rain; or
d. The product does not operate, exhibits a marked change in performance; or
e. The product has been dropped, or the enclosure of the product has been damaged.

13. This product, either alone or in combination with an amplifier and headphones or speaker/s, may be capable of producing sound levels that could cause permanent hearing loss. DO NOT operate for a long period of time at a high volume level or at a level that is uncomfortable. If you experience any hearing loss or ringing in the ears, you should consult an audiologist. IMPORTANT: The louder the sound, the shorter the time period before damage occurs.

14. Some Yamaha products may have benches and/or accessory mounting fixtures that are either supplied as a part of the product or as optional accessories. Some of these items are designed to be dealer assembled or installed. Please make sure that benches are stable and any optional fixtures (where applicable) are well secured BEFORE using. Benches supplied by Yamaha are designed for seating only. No other uses are recommended.

PLEASE KEEP THIS MANUAL

For details of products, please contact your nearest Yamaha or the authorized distributor listed below.

Pour plus de détails sur les produits, veuillez-vous adresser à Yamaha ou au distributeur le plus proche de vous figurant dans la liste suivante.

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