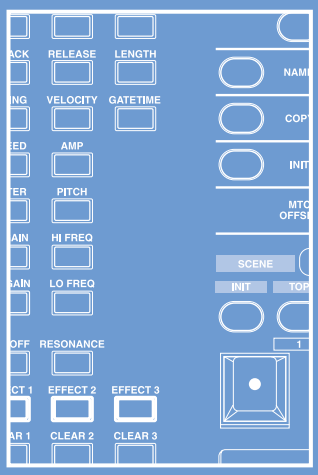
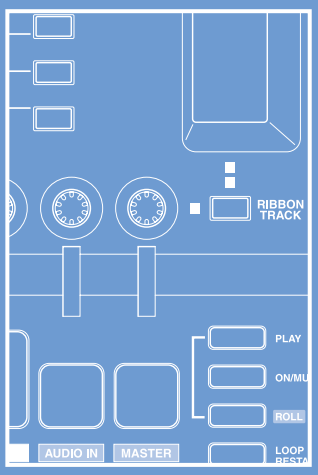
YAMAHA

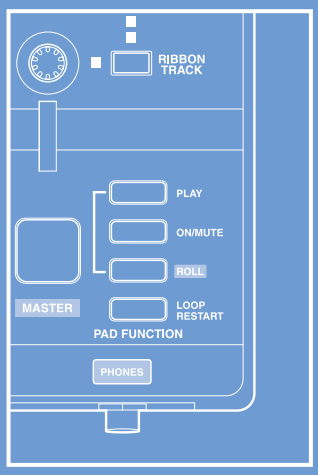
SAMPLING UNIT

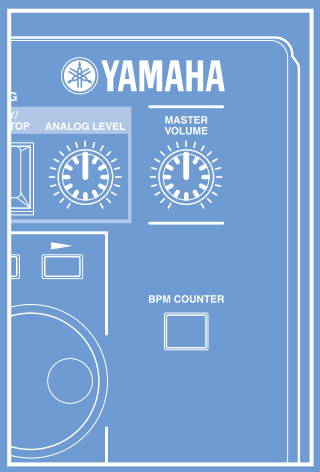
SU700

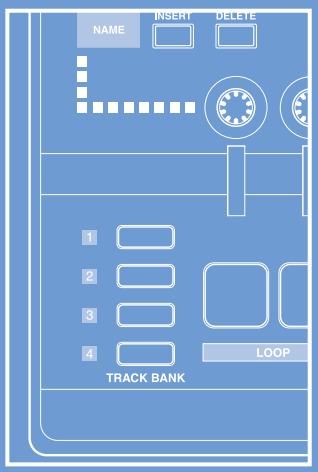
Owner's Manual

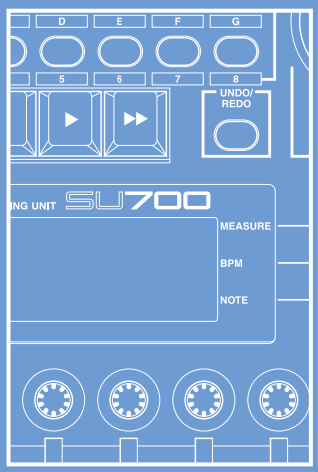












IMPORTANT SAFETY INSTRUCTIONS

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. 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.

3. This product may be equipped with a polarized plug (one blade wider than the other). If you are unable to insert the plug into the outlet, turn the plug over and try again. If the problem persists, contact an electrician to have the obsolete outlet replaced. Do NOT defeat the safety purpose of the plug.

4. Some electronic products utilize external power supplies or adapters. Do NOT connect this type of product to any power supply or adapter other than one described in the owners manual, on the name plate, or specifically recommended by Yamaha.

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 significantly contribute to their operating temperature. Placement of this product close to heat sources such as; radiators, heat registers and other devices that produce heat 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 dose 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. 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.

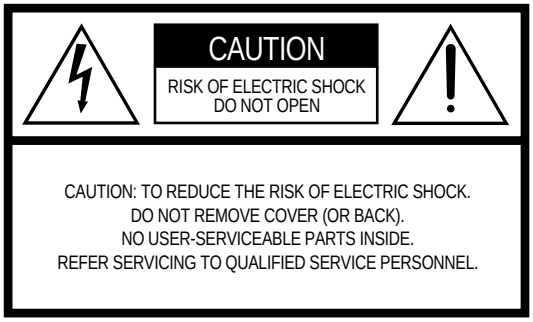
14. This product, either alone or in combination with an amplifier and headphones or speaker/s, may be capable of producing sound levels that could cause permanent hearing loss. DO NOT operate for a long period of time at a high volume level or at a level that is uncomfortable. If you experience any 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.

15. 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.

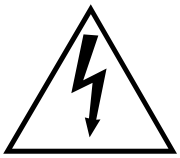
PLEASE KEEP THIS MANUAL

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:

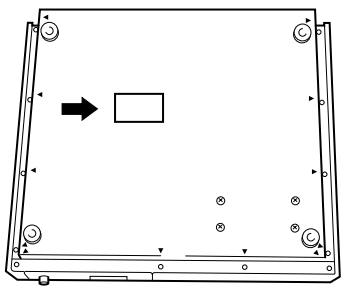
Battery Notice: This product MAY contain a small non-rechargable battery which (if applicable) is soldered in place. The average life span of this type of battery is approximately five years. When replacement becomes necessary, contact a qualified service representative to perform the replacement.

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.
- 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 the instrument or 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, plastic or rubber objects on the instrument, since this might discolor the panel or keyboard.
- 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 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

- Always save data to a floppy disk frequently, in order to help prevent the loss of important data due to a malfunction or user operating error.

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.

Intro Yamaha SU700 Sampling Unit Owner's Manual

Thank you for your purchase of the Yamaha SU700 sampling unit. The SU700 is a combination sampler, sequencer, mixer, and multi-effector—a powerful new tool for a wide range of performance and recording environments.

This manual will help you learn what you need to know to make effective use of all of the SU700's many features. Please read through the essential parts of the manual carefully before beginning work with the SU700, and refer back to the manual for additional information as necessary. Please keep the manual in a safe and handy location so that you can refer to it as necessary.

Features

The SU700 is an ideal tool for artists in need of sampling and sequencing capabilities for their recording and performance work. Here is just an abbreviated list of what's included.

- **Forty-two tracks.** With 40 sample tracks plus 2 special tracks, you can make your songs as complex as you wish.

- **Three different sample track types**. LOOP tracks that generate automatic continuous loops; COMPOSED LOOP tracks that let you build your own custom loop phrases; and FREE tracks that are ideal for adding fills and playing along in real time.

- **AUDIO IN track lets you mix realtime vocals into your songs**. You can control the sound of the realtime audio using both the knob functions and the effects.

- **Intuitive, *playable* controls**. Use pads and knobs to control an astonishing number of functions on each track. You can record all control actions as sequence data, or you can apply controls on the fly during realtime performance. Special **ribbon controller** can be set to "scratch out" samples, or can be set to control level, pitch, or virtually any other parameter.

- **Powerful sampling capability**. Provides high-quality sampling at any of five different sampling frequencies.

- **Triple-block effect system** applies up to three effects at any given time. Select from a total of **43 great-sounding Yamaha effects**. Set effect parameters for the effect itself, for the effect block, and for each track.

- **Scene memory** stores up to eight ***scenes***. Each scene holds an entire set of knob settings, mute settings, and effects. You can recall scenes instantly during performance, and you can record scene changes directly into your song.

- **Ample MIDI support**. Use an external sequencer to control and synchronize SU700 track play; or use the SU700 to control playback from an external tone generator.

- **Easily expandable**. Supports up to 64MB of expansion memory. Optional SCSI board (ASIB1) enables connection to external SCSI storage device. Optional I/O expansion board (AIEB1) adds digital and optical input/out and six assignable analog outputs.

- **Colorful, easy-to-read fluorescent display** gives you all the feedback you need to maintain full control of the SU700's power.

Accessories

Please check your SU700 package to confirm that all of the following accessories are present. If any items are missing or damaged, please contact your Yamaha dealer for assistance.

- Sampling CD "SU700 Sampling Audio"
- Demo floppy disk
- Power cord
- This Owner's Manual
- Flat 40-pin cable and round 3-pin cable (for use with optional AIEB1 board)

Using the Manual

Recommended Approach

Before switching on the machine you should read though Chapter 1 to familiarize yourself with the SU700 arrangement, and the usage of each of the SU700 controls and connectors. You may then want to jump into the comprehensive tutorial provided in Chapter 2, or instead read Chapters 3 and 4 first to familiarize yourself with the underlying concepts of SU700 operation. Refer also to Chapter 5 for details about samples and sampling.

Chapters 6 to 10 and various appendixes offer detailed reference information, and should be referred to as necessary.

Chapter Arrangement

■ Chapter 1: SU700 Components, Connections, And Start-Up

Explains all of the SU700 controls and connectors, and shows you how to connect up and start the SU700. Please read through this chapter before you begin working the SU700.

■ Chapter 2: Tutorial

Takes you through a comprehensive tutorial, showing you step-by-step how to build a complex song using samples provided on the accessory CD. Working through the tutorial will help you gain rapid mastery of SU700 operation.

■ Chapter 3: Basic Concepts, Track Types, and Memory

Introduces basic concepts underlying SU700 operation. Also provides a detailed explanation of the different track types, and explains how the SU700 memory is organized. You should read through this chapter before you begin serious work with the SU700.

■ Chapter 4: SU700 Operating Modes

Describes the six operating modes. Shows you how you can immediately identify the current mode by looking at the screen display; explains how you move from one mode to another; and indicates the operations that are and are not available from each mode.

■ Chapter 5: Samples and Sampling

Explains samples, sampling, and the various sampling parameters. Provides detailed procedures for recording samples onto the SU700.

■ Chapter 6: Using the Features

Offers detailed, reference-level explanations about how to use each of the SU700's song-related features. Describes pad usage, knob usage, ribbon usage, scenes, markers, quantizing, and more.

■ Chapter 7: Effects

Gives a detailed explanation of the SU700's effects implementation. Describes the relation between tracks, effects, and the three effect blocks; explains how to set up the effects and record your setups into scenes; and explains the difference between system effects and insertion effects.

■ Chapter 8: Knob Functions

Gives detailed information about the 22 parameters controlled by the track knobs.

■ Chapter 9: Editing Functions

Describes the functions provided by the SU700's Editing Function panel. You use these features to clear or set up the effects, to delete note events, to reset knob settings to their defaults, and to assist in name-editing.

■ Chapter 10: Jobs

Provides detailed explanations and procedures for all of the SU700 jobs. You use these jobs for a wide variety of purposes—to configure your system, to save and load data, to edit or delete song data, to set the track characteristics, and much more.

■ Appendixes

Appendix 1 provides detailed instructions for installing each of the SU700's supported options. Appendix 2 gives the SU700 specifications. Appendix 3 offers a number of helpful usage tips. Appendix 4 explains the SU700 error messages. Appendix 5 lists and describes the 43 built-in effects and their associated parameters. Appendix 6 explains the MIDI implementation.

Notations

This manual employs the following notational conventions.

- Button names are capitalized printed in uppercase bold and enclosed in brackets.
  Examples: **[CANCEL]** *and* **[OK]**.

- Words that appear directly on the screen are printed in a distinctive font.
  Examples: SONG01 *and* SELECT TRACK.

- Jobs are identified by the job-group selector and job selector that you must press to access them. The group-selector appears first, followed by a bar, followed by the job selector.
  Examples: SONG | NAME *and* RESAMPLE | TRACK

  In cases where you must then select from multiple jobs by turning the dial, the job name is appended as shown below.
  Example: SAMPLE | PROCESS/TRIM

- Buttons on the Knob Function panel and Editing Function panel are indicated by the group name, then a slash, then the button name.
  Examples: SOUND/**[LEVEL]** *and* NAME/**[INSERT]**

- SU700 operating modes are written in uppercase.
  Examples: REC STANDBY *and* PLAY

- The following icons and symbols are also used.

NOTE. Indicates 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. Note that a ▼ mark within a procedure indicates the result produced by carrying out the immediately preceding instruction.

→*number* *Page reference*. Directs to another page for related information.

Finally, please note that screen illustrations and other drawings presented in this manual are for explanatory purposes only, and in some cases may differ from actual displays and configurations.

Table of Contents

Chapter 1 SU700 Components, Connections, and Startup

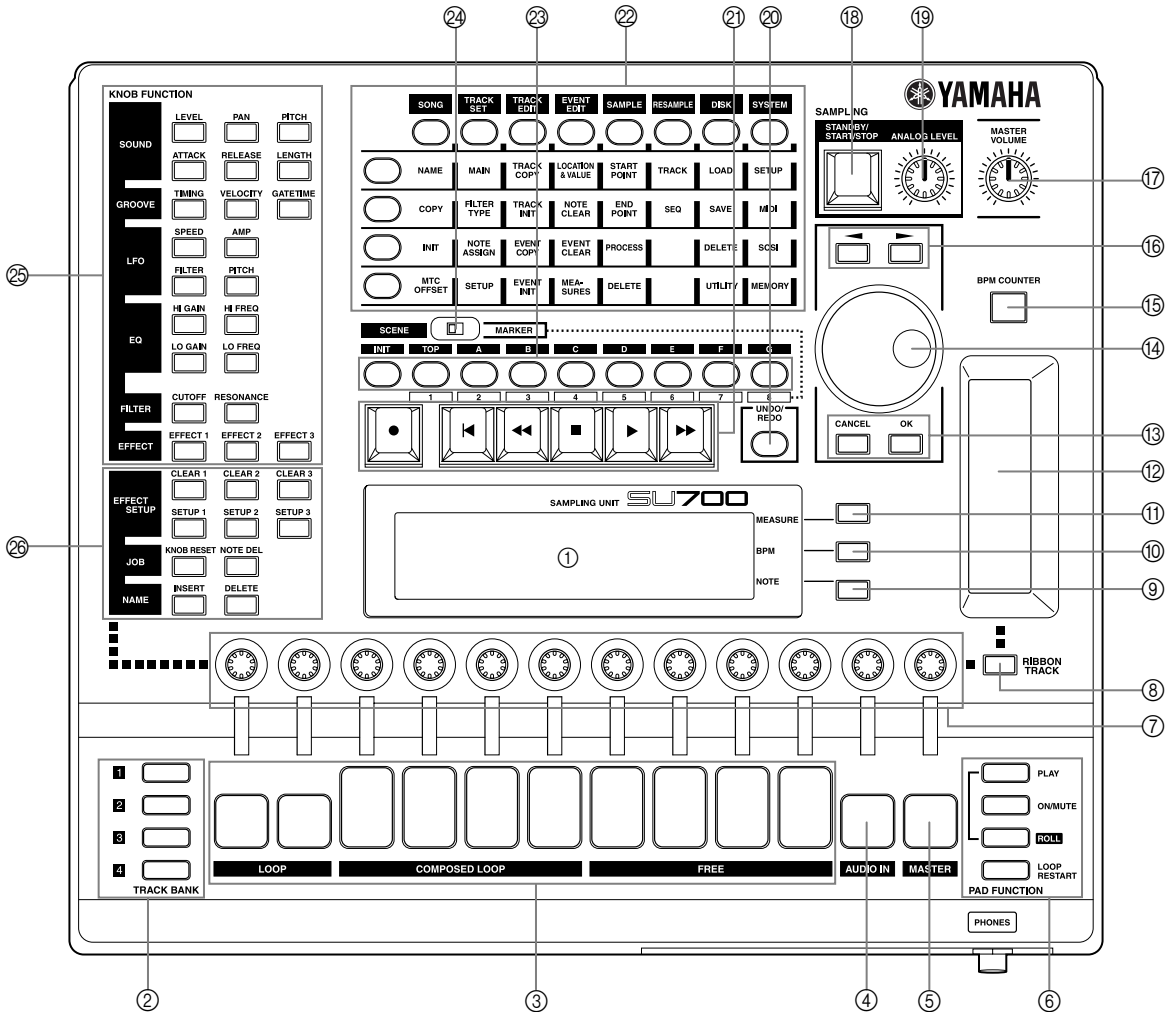
This chapter describes the SU700's layout and screen displays, shows you how you can connect the SU700 to other devices, and takes you through the SU700 startup procedure.

CONTENTS

1.1 SU700 Layout

This section explains all of the SU700 components.

1.1.1 Main Panel



① **Display**
The display provides all the information you need to work effectively at the SU700. For a detailed explanation of common screen displays and indications, see page 23.

② **TRACK BANK Selectors**
You use the *track bank selectors* in combination with the *sample track pads* to select tracks for playback, recording, editing, and control.

The SU700 provides four *track banks*, each with ten *sample tracks*. This gives you a total of 40 sample tracks. This means that each song can utilize anywhere from 1 to 40 samples.

③ **Sample Track Pads**
You use these 10 pads to control play on the sample tracks, and to select tracks for sample recording, track editing, and track setup.

Each pad can be used to control a variety of operations. At any given time, each pad controls a single operation only. You can switch the pad operation using the PAD FUNCTION selectors (see item 5 below).

The pads for COMPOSED LOOP and FREE tracks include velocity sensors that are effective for PLAY and LOOP RESTART pad functions. (→ p.167, 301)

④ **AUDIO IN Track Pad**
You use this pad to set or release the mute for the AUDIO IN track, or to select the AUDIO IN track during setup work.

⑤ **MASTER Track Pad**
Use this pad to set or release the mute on all other tracks, to restart looping on the LOOP and COMPOSED LOOP tracks, or to select the MASTER track during setup work.

⑥ **PAD FUNCTION Selectors**
The *pad function selectors* select the operation to be controlled by the pad.

Each track has a default pad function that is effective whenever you are working at the *main screen*. You can set these defaults using the TRACK SET | MAIN job (→ p. 231).

You can override the defaults by pressing any of these selectors during song recording, playback, or standby. This will switch you to a *function screen* and will cause all pads to switch to the selected function.

For detailed information about pad functions and their selection, see page 166. For information about the difference between the *main screen* and the *function screens*, see page 144.

⑦ **Knobs**

You use these knobs to control the values of multiple parameters (or *knob settings*) on each track. At any given time each knob controls a single parameter only. You use the KNOB FUNCTION panel (see item 9 below) to switch the parameter controlled by the knobs.

When you are working the main screen, each knob controls its default parameter. You can set these default separately for each track using the TRACK SET | MAIN job (→ p.231).

⑧ **[RIBBON TRACK] Button**

You use this button when you want to change the track(s) controlled by the ribbon. You select the track(s) by holding down the button and pressing the appropriate pad.

If you press the pad for a sample track, then the ribbon will work on all four tracks associated with that pad (the tracks in Banks 1, 2, 3, and 4 for that pad). If you press the pad for the AUDIO IN or MASTER track, then the ribbon will operate on that track only.

⑨ **NOTE Display and Button**

The bottom right corner of the display indicates relevant Quantize or Resolution interval. If necessary, you can adjust the setting by pressing the **[NOTE]** button (so that the indication starts blinking) and then turning the dial. Intervals are indicated using note images ( ,  , etc.).

> ***Exception:*** *To set the resolution for the ROLL pad function, you must first press the* ***[NOTE]*** *button, and then hold down the* ***[ROLL]*** *button while turning the dial.*

⑩ **BPM Display and Button**

The center right line of the screen indicates the song's current tempo, in BPM (beats per minute). You can change the tempo by pressing the **[BPM]** button (so that the BPM indication starts blinking) and then turning the dial.

⑪ **MEASURE Display and Button**

The top right corner of the screen indicates the current song location, by measure and beat. One way to change the location is to use the ⏮, ⏪, and ⏩ buttons, as described above. Another way is to press the **[MEASURE]** button (so that the measure indication starts blinking) and then turn the dial.

⑫ **Ribbon Controller**

You can set the ribbon up to control a single selected function with respect to a single pad. You select the track set using the **[RIBBON TRACK]** button; see below.

Once you have set this up, you can rub your finger along the ribbon to control the selected function on the corresponding track. For example, if you set the function to LEVEL then you use the ribbon to adjust the level on the track.

Available functions include most of the knob functions, and a special *scratch* function that lets you scratch out the sound of a selected track—the same kind of sound that you would get by manually turning a vinyl record forward or backward. For more information about ribbon use, see page 172.

⑬ **[CANCEL] and [OK] Buttons**
Use these buttons to confirm or cancel various operations, or to move forward or backward through the various job screens. Actual operation varies according to the SU700's current state.

⑭ **Dial**
Use this dial to enter and adjust various values. Actual operation varies according to the SU700's current state. The value that can be adjusted by the dial is usually shown in blinking format on the display.

⑮ **[BPM COUNTER] button**
This button makes it easy to set the tempo to match the tempo of external playback that you may be preparing to record or play along with. To get a tempo reading, simply tap on the counter along with the beat (hitting the counter once at each beat). The SU700 detects a BPM value from your taps, and flashes this value in the BPM area on the screen. If you wish to keep the new tempo, press **[OK]**. (If you do not press **[OK]**, the SU700 will restore the previous setting.)

⑯ **Cursor Buttons ([◁] and [▷])**
Use these buttons to move the cursor position when editing names on the screen, or to move from one parameter to another when working at setup screens containing multiple parameters.

⑰ **MASTER VOLUME Knob**
Turn the knob to adjust the output level to the STEREO OUT jacks. Note that this adjustment does not affect the output level to any of the outputs on the optional AIEB1 board.

⑱ **SAMPLING: STANDBY/START/STOP Button ([SAMPLING] button)**
Use this button to begin and end sample recording. For details about how to record samples, see the explanation beginning on page 156.

⑲ **SAMPLING: ANALOG LEVEL Knob**
Turn this knob to adjust the input level when recording a sample from analog input. The screen displays a level meter that will help you set an appropriate level.

⑳ **[UNDO/REDO] Button**

You use this button to undo or redo all changes that you recorded into your song during your previous recording pass. This feature is useful for undoing poor results, or for comparing "before" and "after" versions to determine which you want to keep. The **[UNDO/REDO]** button operates only while the sequencer is in PLAY STANDBY mode. (→ p.183)

㉑ **Sequencer Controls**

Use these buttons to control the sequencer. Button usage is outlined below. For detailed information, refer to "Using the Sequencer," (→ p.162). Also refer to Chapter 4, "SU700 Operating Modes," for an overview of the different sequencer modes (→ p.139).

- ● ***RECORD***
  Press to enter recording standby.
- ⏮ ***TOP OF SONG***
  Press to jump back to the top of the song (first beat of first measure).
- ⏪ ***FAST REVERSE***
  Hold down to move rapidly backward through the song.
- ■ ***STOP***
  Press to stop song playback or recording.
- ▶ ***PLAY***
  Press to start song playback or recording.
- ⏩ ***FAST FORWARD***
  Hold down to move rapidly forward through the song.

㉒ **Job Grid**

You use these buttons to access various SU700 jobs. These jobs let you carry out a wide variety of editing, setup, and management tasks.

To select a job, you first press one of the job group selectors along the top of the grid, and then press one of the job selectors along the left of the grid. You can then carry out the job using the dial, cursor buttons, **[CANCEL]** or **[OK]** buttons, and any other relevant controls.

For detailed explanations of all jobs, refer to Chapter 10, "Jobs," on page 223.

㉓ **[SCENE/MARKER] Buttons**

Operation depends on whether you have selected **[SCENE]** or **[MARKER]** with the scene/marker switch.

If SCENE: The SU700 lets you store up to eight scenes per song. A *scene* is an entire environment of knob settings, mute settings, and effect settings. To store the current environment, hold down one of the scene buttons (from **[TOP]** to **[G]**) for approximately 1.5 seconds, until the screen says SCENE STORED. To recall a scene, press the corresponding scene button briefly.

If you store a scene into the **[TOP]** button, this scene will automatically be recalled when you return the song to its start position.

You can use the **[INIT]** scene button to initialize (clear) the content of any scene. Simply hold down the **[INIT]** button and then press the scene button that you want to initialize. (→ p.180)

Note that you can store and initialize scenes only while the sequencer is in PLAY or PLAY STANDBY mode. You can recall scenes at any time.

For more information about scenes, refer to page 176.

If MARKER: Use markers [1] to [8] to store song positions or to immediately jump the song to a stored position. These buttons only work while the sequencer is in PLAY or PLAY STANDBY mode.

To store the current position, hold down one of the marker buttons for about 1.5 seconds, until the screen says MARKER STORED. To jump to that position, press the same button briefly.

㉔ **SCENE/MARKER Switch**
Use this switch to select the operating mode of the **[SCENE/MARKER]** buttons. Set the switch to the left if you want the buttons to control scenes; set to the right if you want the buttons to control markers.

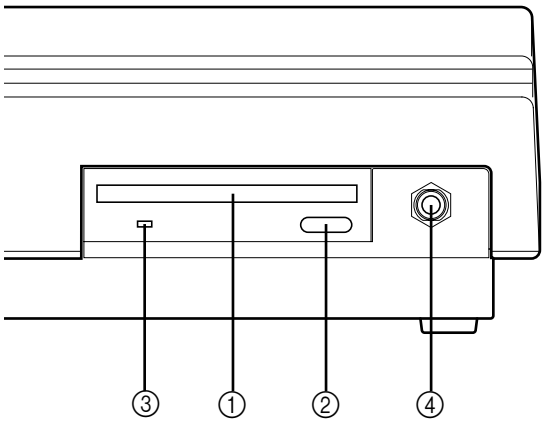
㉕ **KNOB FUNCTION Panel**
When you press one of these buttons during song standby, recording, or playback, the display automatically switches to the corresponding function screen, and all knobs automatically get control of the selected parameter. You can adjust the value on each track by turning the corresponding knob (and using the bank selectors as necessary to switch the bank).

You can also use these buttons to make selections within certain jobs; for example, to select the default knob functions for the TRACK SET | MAIN job.

For detailed information, refer to Chapter 8, page 193.

㉖ **Edit Function Panel**
You can use these buttons to perform various tasks: to set up each of the three effect blocks, to switch off any of the effects, to reset knob settings on selected tracks, and to insert or delete characters within a name you are editing. For detailed information, see Chapter 9, page 213.

1.1.2 Front Panel



① **Floppy-Drive Slot**
The drive accepts 3.5" floppy disks (2HD or 2DD). You can use the disks to save and reload all data, and to import commercially available sample or voice data.

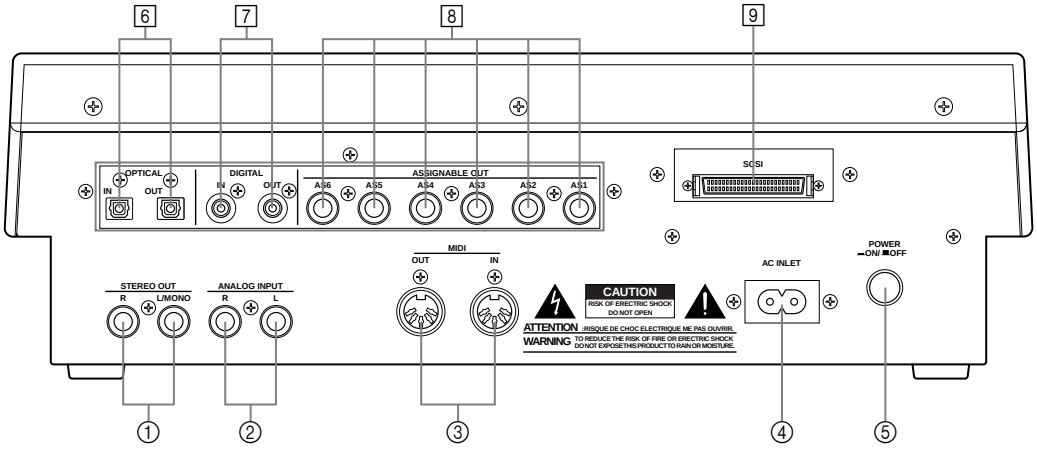
② **Floppy Eject Button**
Press this button to eject the floppy disk currently inserted in the slot. Remember: Do not eject the disk while the access lamp is lit.

③ **Floppy Access Lamp**
This lamp lights up to indicate that the SU700 is currently accessing the disk.

> ⚠ ***CAUTION***
> ***Do not press the EJECT button or switch off the power while this lamp is lit, as doing so may destroy data on the disk or cause damage to the disk drive.***

④ **Headphone Jack**
Connects to standard stereo headphones. Outputs the same signal as the stereo output jacks on the rear panel.

1.1.3 Rear Panel



∗ Circled numbers indicate standard connectors. Numbers enclosed in squares indicate options.

In its standard configuration, the rear panel provides connectors ① to ⑤ above. If you install the optional AIEB1 board, you also get the assignable and digital outputs (items [7], [8], and, [9] above). If you install the optional ASIB1 board (SCSI board), you also get the SCSI connector (number [6] above).

Note that if an option board is not installed, the corresponding area of the panel is covered with an expansion cover.

① **STEREO OUT Jacks**
These jacks output the stereo analog signal produced by the SU700 to powered speakers or other playback device. (For monaural output, use the left jack only.)

These are the standard outputs.

② **ANALOG INPUT Jacks**
Standard analog input jacks accept line or microphone input. Use these jacks to input analog signals to be recorded (as samples) or fed to the AUDIO IN track (during realtime performance).

Note that you must use the SYSTEM | SETUP job to inform the system of the actual audio input you are using (→ p.298).

③ **MIDI Connectors**
Standard MIDI connectors. Use these connectors to link the SU700 to other MIDI devices.

④ **AC Inlet**
Connects to SU700 power cord.

> ⚠ ***CAUTION***
> ***Use the supplied power cord only. Use of a different cord may result in electric shock or device damage.***

⑤ **POWER Switch**
Switches the SU700 power ON and OFF.

<If AEIB1 option board is installed>

6 **OPTICAL IN/OUT connectors**

7 **DIGITAL IN/OUT connectors**

Use the OPTICAL connectors to input or output digital audio signals over optical-fiber cable. Use the DIGITAL connectors to input or output digital audio signals over coaxial (RCA-pin) cable, in CD/DAT (S/P DIF) format.

Each connector can support both mono and stereo signals.

Input Signal: The SU700 can accept input digital frequencies of 11.025kHz, 22.05kHz, 32.0kHz, 44.1kHz, and 48.0kHz. (If you wish to enable this input, you must open the SYSTEM | SETUP job and set AUDIO IN to either OPTICAL or DIGITAL. See page 302.)

Output Signal: The output frequency is always 44.1kHz. The output is the digital equivalent of the signal directed to the STEREO OUT jacks, but is *not* passed through the effects blocks. Note that the OPTICAL OUT and DIGITAL OUT connectors will always produce the identical signal.

8 **ASSIGNABLE analog output jacks**
You can set the output destination independently for each nonempty sample track. Settings can be entered separately for each song. Note that these settings are not available for the AUDIO IN track, for the MASTER TRACK, and for sample tracks that do not currently contain a sample.

Under default conditions, output is directed to the STEREO OUT jacks (and OPTICAL and DIGITAL connectors). As an alternative, however, you can use the TRACK SET | SETUP job to direct the track's output to any one of the assignable outputs (AS 1 to AS 6), or to an adjacent pair of outputs (AS 1+2, AS 3+4, or AS 5+6). Note that signals directed to assignable outputs do not pass through the effects blocks (do not receive any effects).

<If ASIB1 option board is installed>

9 **SCSI connector**
A SCSI-2 D-sub half-pitch 50-pin connector that can be used to connect to an external SCSI disk device. Allows for convenient saving and loading of large quantities of data.

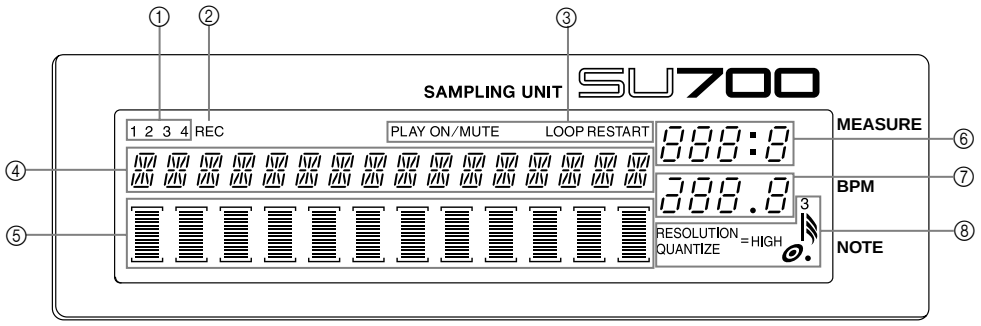
1.2 SU700 Display Configuration

You refer to the SU700 screen for information and guidance during all SU700 operations. This section presents an overview of the various screen displays.

The first part, “Screen Layout,” introduces the various elements of the display panel. The second part, “Main-Screen and Function-Screen Displays,” shows screen examples for the two most frequently used working environments. The third part, “Other Screen Indication,” gives an overview of less commonly encountered screen indications.

1.2.1 Screen Layout

The screen is divided into several different areas, each presenting a different type of information. The general arrangement is described below. The amount of information displayed at any given time will vary according to the operating mode and current conditions.



① **Bank** ..... Shows the currently selected bank. Always displayed.

② **REC indicator** ..... Comes on to indicate that the sequencer is in REC or REC STANDBY mode.

③ **Pad function** ..... Shows the currently selected pad function. Displayed whenever you are working at a function screen.

④ **Parameter data** ..... This area shows parameter information and error messages.
When you are at the main screen, this area shows the current song number and song name. When you are at a function screen, this area shows the current knob function and the function value. When you are executing a job, this area shows the job type and/or current setting. Before you record a sample, you refer to this area to set the sampling parameters.

⑤ **Track indicator** ..... When you are working at the main screen or a function screen, each vertical bar meter (or *track meter*) indicates the relevant knob-function value for the corresponding track (of the current bank). The brackets (above and below the meter) are visible if the track is not muted; they disappear if the track is muted.

When you are standing by to record a sample, the meter area operates as a two-bar horizontal level meter that you can use to monitor the input level. The upper bar indicates the L-channel level; the lower bar indicates the R-channel level.

⑥ **MEASURE** ..... Shows the current location (measure and beat) within the current song.

⑦ **BPM** ..... Shows the current tempo (in beats per minute).

⑧ **NOTE** ..... Shows the quantize interval or time resolution, when applicable.

1.2.2 Main-Screen and Function-Screen Displays

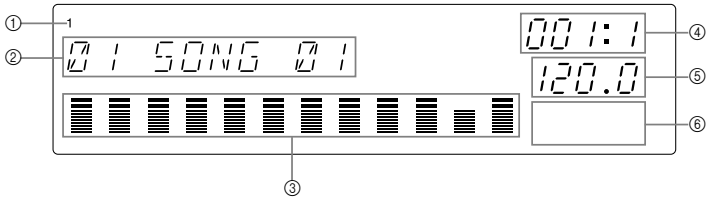
The screen display content varies according to the current machine state. This section shows screen displays for two most commonly used machine states.

Main Screen

This screen that appears immediately following power-on. It is also the default screen, and will reappear when you exit from job mode, when you finish sample recording, and when you press **[OK]** to escape from a function screen.

Note that this screen can appear only while the sequencer is operating in PLAY STANDBY or PLAY mode. (→ p.142)

When you are working at this screen, the knob and pad action for each track is determined by the settings you make at the TRACK SET | MAIN job (→ p.231). This means that the knobs and pads on different tracks may operate in different ways.



① Currently selected bank.
② Currently selected song number and name. (If the sequencer is in PLAY STANDBY, you can change to a different song by turning the dial and then pressing **[OK]**.)
③ Shows function values and muting for each track within the current bank.
- Note that all meters always indicate the value for the default knob parameter on the most recently controlled track (the track whose pad or knob you last touched). If you hit the pad on a track whose default knob-function is set to PITCH, for example, then all meters indicate PITCH levels. If you then hit a pad on another track whose default knob function is set to ATTACK, all meters change to indicate ATTACK levels.
- Brackets are visible if track is non-muted; invisible if track is muted.

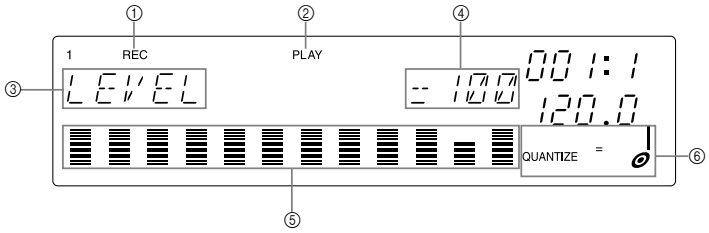
④ Current position in song.
⑤ Tempo setting.
⑥ The NOTE area is always empty.

Function Screen

You enter this screen from the main screen when you press any knob-function or pad-function button, or when you press the **[REC]** button.

When you are working at a function screen, knob functions and pad functions are the same on all tracks.

A typical display appears as follows.



① Appears only if you have pressed [●] to set the sequencer into RECORD mode.
② Indicates the current pad function.
③ Indicates the current knob function.
④ Indicates the knob-function value for the track whose pad or knob you last used.
⑤ Each meter indicates the knob function's value (in this case, the PITCH value) for the corresponding track. The bracket is visible if the track is not muted; invisible if the track is muted.
⑥ Indicates the QUANTIZE or RESOLUTION setting, if applicable. (Does not appear for some knob functions.)

1.2.3 Other Screen Indications

Track Selection

Before you can record a sample, you must select the target track. Many job screens will also require you to select a track.

To select a track, you press the appropriate bank selector and hit the appropriate track pad (in either order). The bank number will appear at the upper left of the screen, and brackets will move to indicate the selected track.

When you are making this type of a selection, the screen will also let you know whether or not the selected track contains a sample. If the track does contain a sample, then a double bar will appear at the center of the bracketed area. If the track is empty, then no bar will appear.

The following shows the display you use to select the track when preparing to record a sample.

Indicates that the selected track already contains a sample. If the track is empty, this bar will not appear.

NOTE:
For TRACK EDIT / EVENT COPY, TRACK EDIT / EVENT INIT etc., it is also important to know whether a selected track contains recorded sequence data. For these jobs, six bars will appear at the center of the bracketed area to indicate that the track contains both a sample and some sequence data.

Sample only:

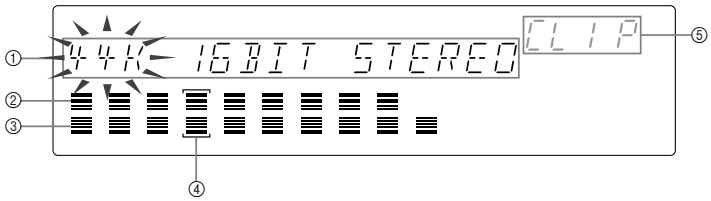
Sample plus sequence data:

Sample Recording Meter

When you are standing by to record a sample (or to execute a resampling job), the meter operates as a two-bar horizontal level meter. The top part of the meter monitors the level for the LEFT channel input, while the bottom part of the meter monitors the level for the RIGHT channel input. In addition, the word CLIP will appear at the upper right of the screen if the input level exceeds the clip level.

In general, you want to adjust the input level so that the meter peaks all the way to the right without triggering the CLIP indication.

The following shows how the screen may appear when you are standing by to begin sample recording.



① Shows the recording parameters.
② Monitors the left-channel input level.
③ Monitors the right-channel input level.
④ Shows the destination track.
⑤ CLIP indicator

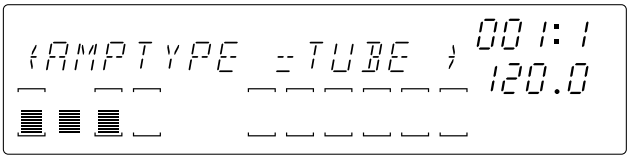
Flashing Parameters

When you are working at a screen that allows you to set more than one parameter value, the parameter currently selected for setting will be blinking, indicating that you can proceed to change its value by turning the dial (or pressing an appropriate button). Note that only one parameter can be blinking at any given time.

In the screen illustration shown above, for example, the 44K value (frequency setting) is flashing. This tells you that turning the dial will change the frequency setting. If you wish to change one of the other parameters, then you would first need to press the [▷] to move the flashing indication to either 16BIT or STEREO.

Multipage Displays

Some setup screens consist of multiple pages. A right-arrow in the display indicates that you can advance to another page by pressing the [▷] cursor button; a left arrow means that you can move back to a previous page by pressing the [◁] button.
The following shows the third page of the AMPSIM-effect setup screen.



Ribbon-Track Indication

When you press the **[RIBBON TRACK]** button, the brackets for the currently selected ribbon track blink on the screen. You can change the selection by pressing a different pad. (→ p.172)

1.3 Connecting Up

The SU700 is extremely easy to set up. Simply connect the appropriate components as described below.

Power

Connect the power as follows.

1. Confirm that the power switch (on the rear panel) is in the OFF position (protruding from the panel). If the switch is ON, press it so that it pops out into the OFF position.

2. Connect the small end of the supplied power cable to the power inlet on the rear panel.

3. Connect the other end to a standard wall outlet.

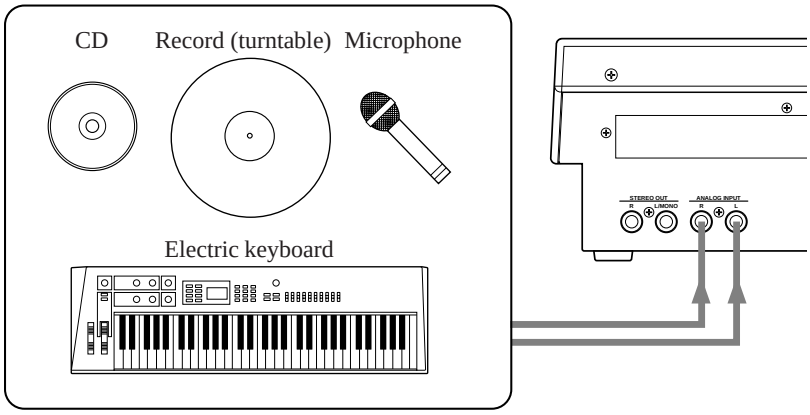
> ⚠ ***CAUTION***
> ***Do not connect the power while the power switch is ON.***

Input Source

If you are going to record a sample or supply an audio input signal to accompany realtime playback, you need to connect an input source. You can connect up one or more of the following.

- Connect a microphone to the one of the ANALOG INPUT jacks on the rear panel.
- Connect analog line input (for example, from a CD player or electronic instrument) to the ANALOG INPUT jacks on the rear panel. To input a stereo signal, connect to both jacks.
- (If you have installed the optional AIEB1 board:) Connect a digital or optical line to the DIGITAL IN or OPTICAL IN connector on the rear panel.

To enable input, you must set the AUDIO IN parameter to the source you wish to use. You can set the parameter using the SYSTEM | SETUP job; see page 302. The SU700 can only accept input from one source at a time.



Output

You can connect any or all of the following.

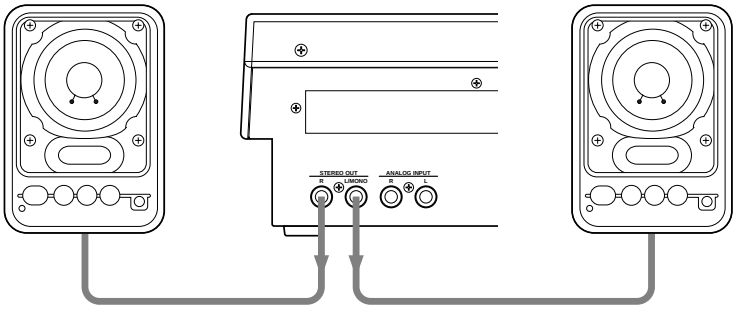
- Connect amplifiers, powered speakers, mixer, analog recorder, or other such device to the STEREO OUT jacks on the rear panel.

> ***IMPORTANT***
> ***If you are connecting up a single speaker or amp only, be sure to connect to the L/MONO jack.***

> ***NOTE:***
> *If connecting to a device with adjustable pan (such as a mixer) set the pan for the channel receiving the L/MONO output all the way to the left; set the pan for the RIGHT output all the way to the right.*

- Connect headphones to the PHONES jack on the front panel.
- (If you have installed the optional AIEB1 board:) Connect speakers to any of the ASSIGNABLE OUT jacks on the rear panel, or connect a digital device to the DIGITAL OUT or OPTICAL OUT connector on the rear panel.

  If using powered speakers, connect as shown below.



Using the AIEB1-board outputs

If you have installed the optional AIEB1 board (input/output expansion board), you will be able to use the board's assignable and digital/optical outputs. Note the following points.

- Under factory defaults, the output goes to the STEREO OUT jacks.
- The signal to the STEREO OUT jacks is also directed to the DIGITAL OUT and OPTICAL OUT connectors.
- You can use the TRACK SET | SETUP job's OUTPUT TO parameter to direct output from selected sample tracks to selected assignable output jacks. For each track, you can decide whether to output to a single output jack or to a pair of output jacks.
- Note that that when you direct a track to an assignable output:
  - (*a*) The track is directed to the selected jack(s) only. It does not flow to the STEREO OUT or digital/optical outputs.
  - (*b*) The track output does not pass through the effect blocks.

For information about setting up the OUTPUT TO parameter, see page 239.

MIDI Connections

- If you are going to use an external MIDI device to synchronize SU700 playback or to control track play, run a MIDI cable from the MIDI OUT connector of the controlling device (or the MIDI THRU connector on an intermediate device) to the MIDI IN connector on the SU700.
- If you plan to use the SU700 to control playback from an external tone generator, external sequencer, or other such device, run a MIDI cable from the SU700's MIDI OUT connector to the MIDI IN connector on the target device.
- Note that you must use the SYSTEM | MIDI jobs to set up the SU700's MIDI operation (→ p.303). You can also use the SONG | MTC OFFSET job to set an offset for an externally supplied MTC synchronization signal.

MIDI Use on the SU700

The SU700 supports the following MIDI operations.

- Sends and received note-on and note-off messages, control-change messages, and system realtime messages (Timing Clock, Start, Continue, and Stop).
- Can synchronize with externally supplied MIDI time code (MTC).
- You can set transmit channel independently on each of the 40 sample tracks. You can set receive channel on up to 16 sample tracks (where each track must receive on a different channel).

For full details about the SU700's MIDI implementation, refer to page 345.

Connecting an External SCSI Drive

If you have installed the SCSI expansion board (ASIB1 board), you can connect a SCSI drive to the SU700. Simply run a SCSI cable from the SCSI connector on the external device to the SCSI connector on the SU700's rear panel.

Note the following points.

- Although you are free to connect together multiple SCSI devices (in a SCSI chain configuration), **the SU700 can recognize only one external SCSI device at a given time**.
- You use the SYSTEM | SCSI job (→ p.307) to select the SCSI ID of the external device you wish to recognize. (Note that you must also set a matching ID setting at the external device side, as well.)

- Use good-quality SCSI cable. Cable length should be kept short. For specific limitations on cable length, refer to the documentation provided with your external SCSI device.
- **If you are connecting multiple devices in a chain, the SU700 must be at one end of the chain. It cannot be in the middle of the chain.**
- If you are connecting to a single SCSI device, that device must be terminated. If you are connecting to a chain of SCSI devices, the device at the other end of the chain must be terminated. For information about SCSI termination, refer to the instructions provided with your external SCSI device(s).

For information about how to format and use external SCSI disks, refer to the explanations for the DISK | UTILITY jobs (→ p.293).

1.4 Starting Up

Use the following procedure to start up the SU700.

1. Make sure that the power cable is connected as described above.
2. If you wish to begin by loading a volume from floppy disk, insert the disk before switching on the power. (The SU700 will automatically load the floppy-disk volume during the startup sequence.)

   Before starting the SU700 for the first time, therefore, you should insert the accessory floppy disk in the slot.

NOTE:
Auto-loading does not work with volumes that span multiple disks. If you want to load a volume from multiple disks, you must start the SU700 first and then use the DISK | LOAD/ LOAD VOLUME job (→ p.281).

3. Press the power switch on the rear panel so that it engages in the ON position. This causes the SU700 to execute its power-on sequence.
   - The SU700 begins by displaying its name.
   - It then checks for options and indicates any options that it finds.
   - It then checks the amount of installed RAM, and indicates the results.
   - It then checks whether a floppy disk with a valid volume has been inserted in the disk slot. If so, it indicates that it has found the volume, and then proceeds to load the volume.
   - The SU700 enters PLAY STANDBY mode, with SONG 01 selected.

Chapter 2 Tutorial

This chapter takes you through a tutorial that will give you some quick hands-on experience with the SU700. The first part of the tutorial how to play the demo song and how to use various features. The second part of the tutorial takes you through the procedures for recording samples and building a song.

CONTENTS

2.1 Setting Up

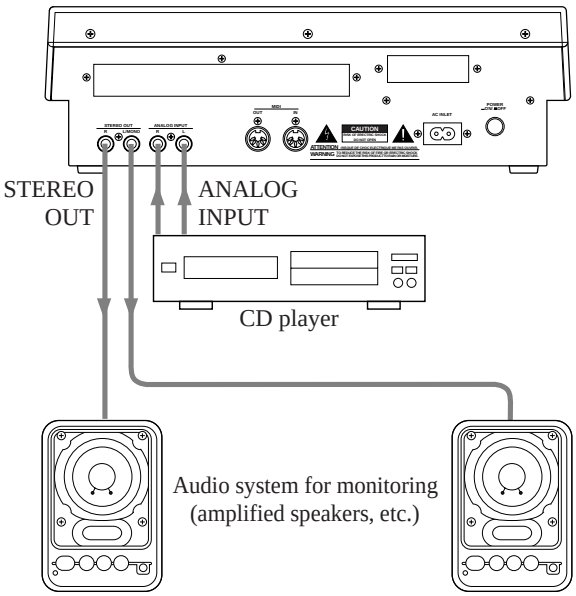
First you will need to connect your audio system so that you can listen to the demo song and monitor the process of creating a song. You will also need to connect a CD player so that you can playback the sampling sources from the included audio CD.

Connections

Before you make connections, be sure that the power of the SU700, your CD player, and your audio system is turned off.

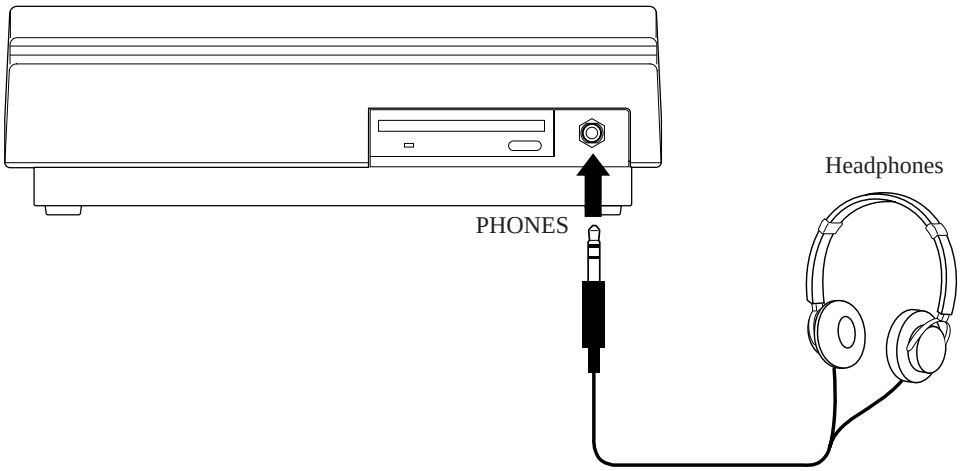
1. Connect the analog outputs from your CD player to the ANALOG INPUT jacks on the rear of the SU700.
   - The ANALOG INPUT (L, R) jacks are each monaural phone jacks. In order to connect them to your CD player, you will need to obtain connecting cables that are appropriate for each type of jack.

2. Connect powered speakers or another monitoring device to the STEREO OUT (L/MONO, R) jacks.
   - If you are using a monaural audio system, make connections to the L/MONO jack.

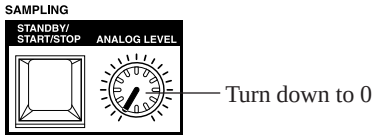


If you are using headphones, connect them to the PHONES jack located on the front panel of the SU700.

- The PHONES jack can be used simultaneously with the STEREO OUT jacks.



3. Turn the MASTER VOLUME of the SU700 and the volume controls of your CD player and audio system all the way down to 0.



Do not turn on the power yet. We still need to prepare the SU700 to auto-load the demo song when its power is turned on.

2.2 Listening to the Demo Song

This section shows you how to load and play the demo song included in the accessory floppy disk.

Loading the Demo Song (auto-load)

In order to playback the demo song from the included the following diagram, the contents of the floppy disk must be loaded into the internal memory of the SU700.

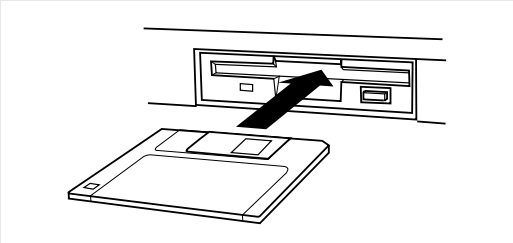
If you insert the included floppy disk into the disk drive and turn on the power, the SU700 will automatically load the demo song.

> ⚠ ***CAUTION***
> ***If you load the demo song after using the SU700, all data currently in internal memory will be lost. If memory contains any data you wish to keep, be sure to save it to disk etc. (Save: → p.287) before you load the demo song.***

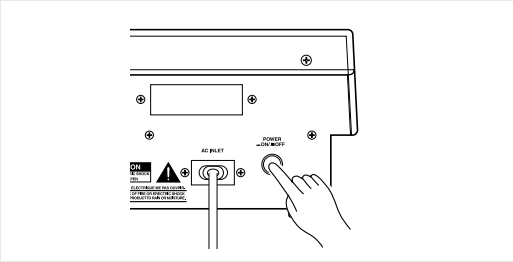
Procedure

1. Insert the accessory floppy into the slot on the SU700 front panel.

- Insert with label facing up and shutter facing the front panel. Push in lightly until the disk clicks into place.



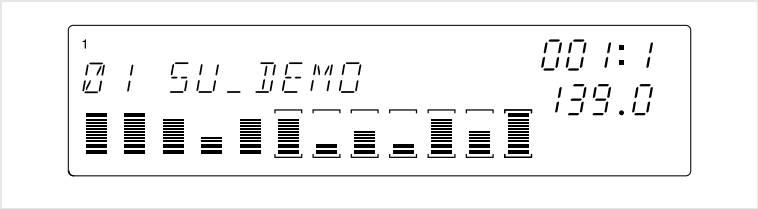
2. Switch on the power to the SU700.



3. The SU700 begins automatic loading of the song data. While data is being loaded, the display will indicate "LOADING ..."

- Do not eject the floppy disk or switch off the SU700 power while the word LOADING... is on the display, as doing so may cause damage to the disk or the disk drive.

4. When loading is finished, the screen will look like this.

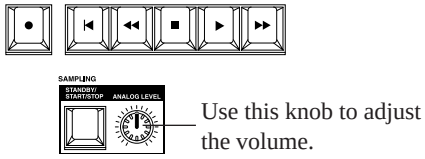


* "SU_DEMO"
Composer: Takashi MORIO (synthesizer artist)
* This demo-FD features samples from the world's foremost sample developer AMG.

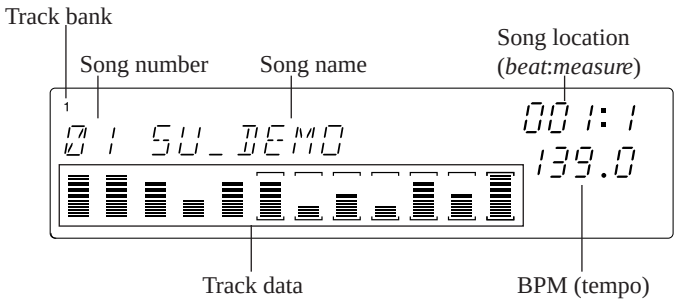
Playing the Demo

■ **You're now ready to play the song.**

- Press the sequencer start button (▶) to begin playback of the song.
- Adjust the volume by turning the MASTER VOLUME knob.
- You can stop playback by pressing the stop button (■).
- You can jump back to the top of the song by pressing ⏮.



● ***Reading the display***

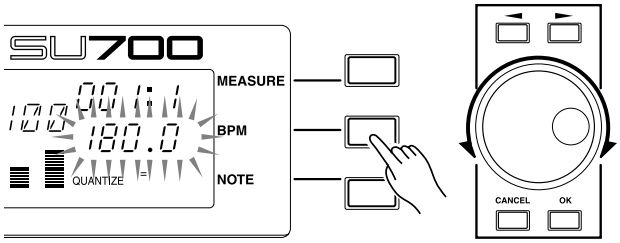


Track Bank	Indicates the currently selected bank.
Song number	Indicates the song number of the currently selected song. (The SU700 stores up to 20 songs, each identified by a number.)
Song name	Name of the currently selected song. (Each song takes a name of up to eight alphanumeric characters.)
Track Data	Shows information about tracks in the currently selected bank. Brackets (⌜ ⌝) indicate that track is not muted. (Brackets disappear if you mute the track.) The bar meters (*track meters*) indicate the value on each track for the selected knob setting. (Under factory defaults, the meters indicate the LEVEL setting.)
Song Location	Indicates the current location in the song, by measure and beat.
BPM	Indicates the song's playback tempo, in beats per minute.

■ Changing the Tempo

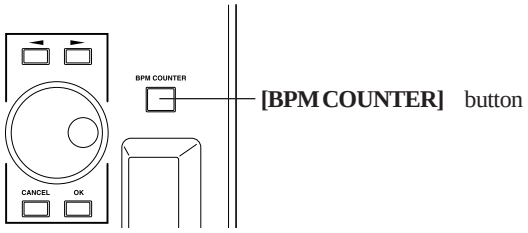
1. Press the **[BPM]** button.
   ◆ The BPM indication on the screen begins blinking.

2. Turn the dial to change the tempo. Turn right to increase the tempo, or left to reduce it.



Another way to set the BPM:

You can use the **[BPM COUNTER]** button to tap out the tempo that you want to use. The SU700 automatically detects the tempo and displays it in the BPM area. If you wish to use the newly displayed tempo, press **[OK]**. (If you don't press OK within several seconds, the old tempo value will reappear.) (→ p.164)



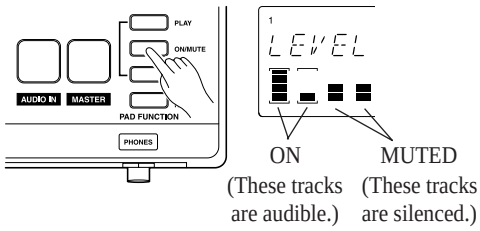
■ Using the Mutes

1. With the song playing, press the **[ON/MUTE]** pad-function button. This will cause the pads to operate as mute switches.

   ◆ You'll notice that the ON/MUTE indication appears (in blue) along the top of the screen.

2. Try pressing the pads on the various tracks. Tracks that are muted (⬚ unlit) will not be played. Pressing the same pad again switches the mute back off (the sound returns and the brackets reappear).

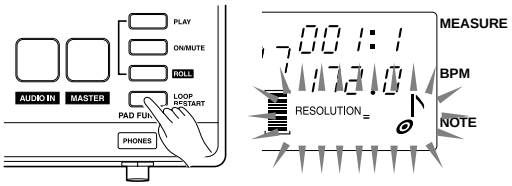
- When the song data is played back to a location where Track Mute on/off data was written, the mute settings you made manually will change.



■ Using the ROLL Pad Function

The roll function generates a drum-roll (machine-gun) type of sound by rapidly repeating the first part of the sample. The repetition rate is set by the interval, or "resolution." Let's try it out now.

1. Set the roll rate (the "resolution").
Press the **[NOTE]** button once. Then *hold down* the **[ROLL]** pad-function button. The NOTE area of the screen will now blink "RESOLUTION=" to indicate the currently set roll rate (resolution) as a note value symbol.



2. Continue to hold down the **[ROLL]** button and turn the dial to change the rate. Select the rate that you want to try.

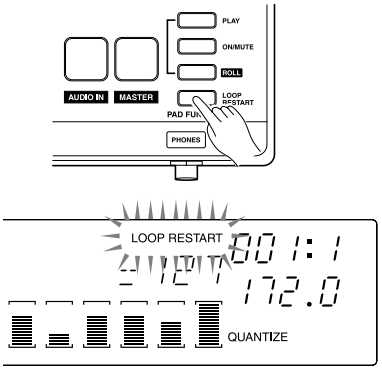
3. With the song playing back, hold down the **[ROLL]** button and press and hold the pad for the (un-muted) track that you want to roll. As long as you hold the pad down, the sample will repeatedly playback from its beginning for the length that you specified by the Resolution setting.

- Roll works best with samples that start out with a sharp attack. It does not work so well with samples that start out quietly, or samples that have a portion of silence at their beginning.
- The Roll function cannot be used when the sequencer is stopped.

■ Using the LOOP START Pad Function

You can use this feature to restart the loop on any of the LOOP or COMPOSED LOOP tracks.

1. Press the **[LOOP RESTART]** pad-function button. The upper part of the display will indicate "LOOP RESTART."



2. With the song playing, try pressing the pad on any (un-muted) LOOP or COMPOSED LOOP track that you wish to restart. The track's loop phrase jumps back to the top when you press the pad.

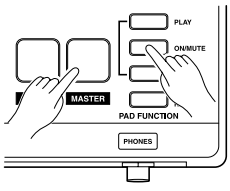
Listening To and Adjusting Samples One Track at a Time

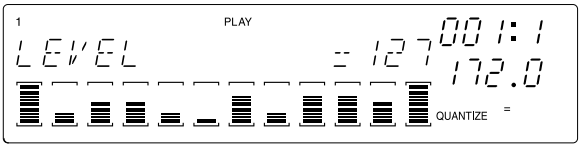
Now let's try listening the samples with the song stopped.. First, press the ■ button to stop the song. (This places the sequencer into PLAY STANDBY mode.)

Next, to make sure that pads can be used to play samples on all tracks, you want to be sure that all mutes (on all tracks) are switched off, and that the pad function is set to PLAY. Proceed as follows.

1. First press the **[ON/MUTE]** pad-function button, so that pads will operate as mute switches.

2. Press the MASTER track pad either once or twice, so that meter brackets on all tracks are visible.
   - You use the MASTER track to control all other tracks at the same time. Setting the mute on or off on the MASTER track causes all mutes to go on or off.





3. Now press the **[PLAY]** pad-function button, so that pads can be used to play the samples.

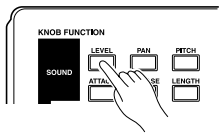
Now you can use the pads to play the samples. Try pressing the pad for each track to hear the sample. By doing this you can identify all of the song's samples and the tracks they are located on.

■ Adjusting the Levels

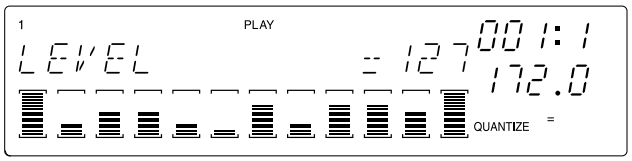
The sound from each track is conditioned by numerous parameter settings. These are called *knob settings*, since you control them using the track knobs. First you select the parameter you want to control by pressing the corresponding button on the Knob Function panel. You can then adjust the values on each track by turning the knobs.

Let's try using the knobs to adjust the level on each track (sample) — just as you might on a conventional mixer.

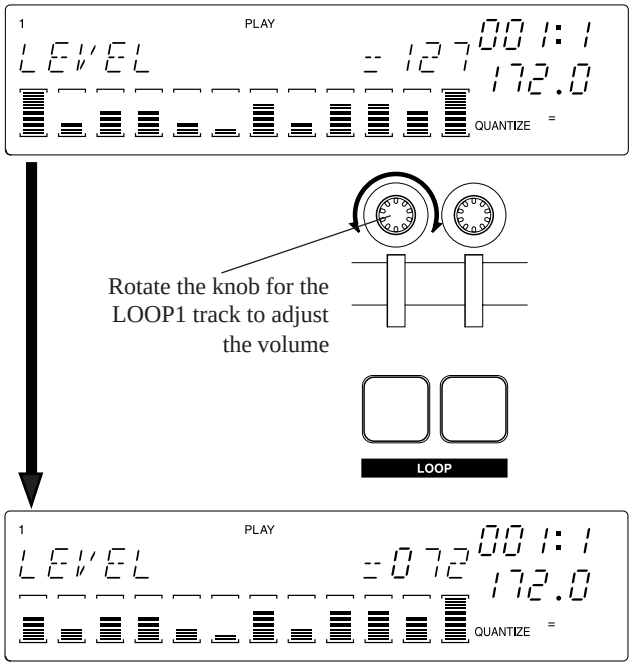
1. Press the SOUND/**[LEVEL]** button on the Knob Function panel.



- The display switches to the function screen illustrated below. The track meter for each track indicates the track's current LEVEL setting. The numerical LEVEL value (127 in the figure below) shows the precise level setting for the track whose pad or knob you last operated. The twelve knobs will now adjust the volume level of the corresponding track.



2. To adjust the level on any track, turn the track's knob. You can listen to the result by hitting the track's pad.



■ Adjusting the Other Parameters

Now try adjusting some of the other parameters in the same way. First press the button on the Knob Function panel, and then turn the knobs on each track while at the same time hitting the pad so that you can hear the sound. Try working will all parameters, starting with SOUND/**[LEVEL]** and ending with EFFECT/**[EFFECT 3]**.

NOTE:

- *Not all knob settings are supported on all tracks. If a setting is not supported, the display will show "---" in place of a numerical value.*
- *You will not be able to hear the results of GROOVE adjustments while the sequencer is stopped—since the groove feature operates only while the song is playing. You should adjust the GROOVE-group settings after you start song playback.*
- *The EFFECT group settings (**[EFFECT 1]**, **[EFFECT 2]**, and **[EFFECT 3]** control the signal levels to the three effect blocks. The effects themselves are selected using the Editing Panel's **[EFFECT SETUP]** buttons (**[SETUP 1]**, **[SETUP 2]**, **[SETUP 3]**). For information about the effects implementation, see Chapter 7, "Effects," on page 185.*

Using the Ribbon Controller

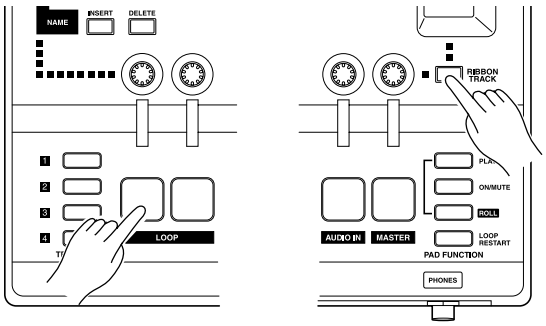
You can use the ribbon controller to control any one of the knob settings, or else to control a special scratch function. The ribbon controller (or just *ribbon*) works on only one selected track at a time. (For details about ribbon setup, see page 172.)

■ Trying Out the Scratch Function

Under factory defaults, the ribbon is set to control the scratch function. Assuming you haven't changed the ribbon setup, you can proceed without making any adjustment.

NOTE:
If you have already changed the ribbon function to something other than SCRATCH, you can change the setting using the SYSTEM | SETUP job, as described following the procedure given below.

1. Hold down the **[RIBBON TRACK]** button and press the pad for the first LOOP track. This sets the ribbon so that it works with the first LOOP track.

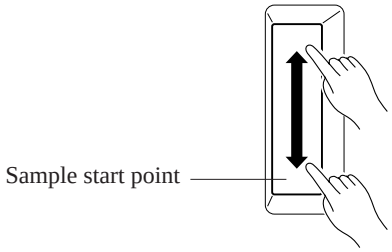


The brackets (⌜ ⌝) of the selected track (LOOP1) will blink.

2. Now try rubbing on the ribbon with your finger. Rubbing upward from the bottom plays the sample out from its start point; rubbing downward from the top plays the sample out in reverse. Rubbing from the middle of the ribbon starts playback from somewhere in the middle of the sample.

3. Note also that the playback rate varies according to the speed of your finger along the ribbon. Operation simulates the scratch sound you get by manually rotating a vinyl disk on a turntable.

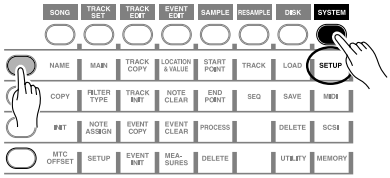
NOTE:
To provide this function, the SU700 maps the sample to the ribbon, with the start point of the sample mapped to the bottom of the ribbon. Each point on the ribbon corresponds to a specific location on the sample waveform. For more information, see page 173.



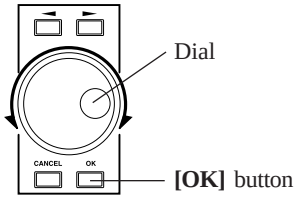
■ Using the Ribbon to Control the Level

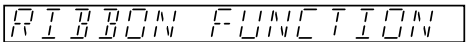
Now let's change the ribbon function so that the ribbon can be used to control the LEVEL on each track.

1. Select the SYSTEM | SETUP job. First press the [SYSTEM] job-group selector, and then press the top job selector.

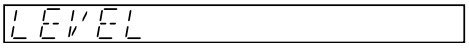


2. Turn the dial until the screen displays RIBBON FUNCTION, and then press **[OK]**.





3. Now you want to set the function to LEVEL. You can do this either by pressing the SOUND/**[LEVEL]** button on the Knob Function panel, or else by turning the dial all the way to the left.



4. You can now use the ribbon to control the level on the selected ribbon track (the first LOOP track, as selected in the previous procedure). Try holding down the pad as you touch different parts of the ribbon and as you move your finger along the ribbon.

NOTE:
Touching the ribbon at the very bottom causes the track's LEVEL setting to immediately drop to 0; touching the ribbon at the top causes the tracks LEVEL setting to jump to 127. You can also slide your finger up or down the ribbon so as to adjust the value more gradually.

■ Using the Ribbon to Control Other Parameters

Now try using the ribbon to control some of the other functions. Repeat the above procedure but at step 3 select some function other than LEVEL or SCRATCH. Note that available functions vary somewhat according to track type.

2.3 Building Your Own Song

Now we'll proceed to build an entire song using the samples provided on the "SU700 Sampling Audio" audio CD included with the SU700.

During these procedures you will gain experience at recording samples and sequence data.

Song Design Plan

We'll build the song according to the design plan given below.

A finished version of the song we will be creating is provided on the included audio CD "SU700 Sampling Audio" (Track 93). You may want to listen the song on your CD player so that you can hear the type of sound we are trying to create.

- In this section, the sampling grade and various procedures have been simplified for instructional purposes, in order to clarify the operations and procedures. For this reason, the song that you create will differ slightly from the example (Track 93) in audio quality and other respects.

● ***Track Structure***

Our song will use all of the tracks in bank 1 plus FREE tracks 1–4 of bank 2, for a total of fourteen tracks. Tracks 79–92 of the included audio CD (SU700 Sampling Audio) contain the sample sources that we will use for this tutorial. First let's sample these sources and use them to create a song.

NOTE:
Tracks 79-92 were created by processing sources from tracks 1-78. For details on how to use these original sources to create new sounds, refer to the section "Modifying sampled sounds," which begins on page 95.

LOOP 1: ..... Source used: Track 79 (*Loop 1)
Loop track for drum patterns.

LOOP 2: ..... Source used: Track 80 (*Loop 2)
Loop track for bass.

COMPOSED LOOP 1: ..... Source used: Track 81 (*Composed Loop 1)
A bass track that plays a 16-beat loop.

COMPOSED LOOP 2: ..... Source used: Track 82 (*Composed Loop 2)
A bass track that plays a 16-beat loop. This is a sample of the COMPOSED LOOP 1 track with its pitch shifted upward.

COMPOSED LOOP 3: ..... Source used: Track 83 (*Composed Loop 3)
A synth-sound track which plays a 16 beat loop.

COMPOSED LOOP 4: ..... Source used: Track 84 (*Composed Loop 4)
A synth-sound track which plays a 32 beat loop.

FREE 1: ..... Source used (sound type A): Track 85 (*Free 1a)
Source used (sound type B): Track 89 (*Free 1b)
These are samples that are 16 or more beats long. Two different samples are provided for track banks 1 and 2, and will be used in different blocks of the song.

FREE 2: ..... Source used (sound type A): Track 86 (*Free 2a)
Source used (sound type B): Track 90 (*Free 2b)

FREE 3: ..... Source used (sound type A): Track 87 (*Free 3a)
Source used (sound type B): Track 91 (*Free 3b)

FREE 4: ..... Source used (sound type A): Track 88 (*Free 4a)
Source used (sound type B): Track 92 (*Free 4b)

We'll use these tracks to play sound effects, drums, and fills at various locations throughout the song. We'll also use the ribbon controller to scratch out these sounds during the Intro and Ending sections.

As with the sample on FREE 1, we'll set the sound up in two different ways for track banks 1 and 2, so we can get different sounds in different sections.

* This CD features samples from the world's foremost sample developer — AMG.

● *Structure of the song*

Our song will consist of 10 sections, as outlined below.

Measure	Section	Description
001 : : : :	Intro A	• Track bank 2 samples are used for FREE tracks 1–4. • We'll play the sample on FREE 1 continuously (all the way through to the end of Intro B). • We'll use the ribbon control to scratch out the sound on FREE tracks 2–4 (both in Intro A and again in Intro B).
009 :	Intro B	• FREE tracks continue as in Intro A, using the samples of track bank 2. • At start of Intro B, begin bass loop phrases on COMPOSED LOOP 1 and 2.
023	Break	• All tracks muted for two measures.
025 : : : : :	Section A	• At the beginning of section A, we will switch the samples for FREE tracks 1-4 to different samples (track bank 1) than those that were used in the Intro. • Start LOOP 1 and LOOP 2 loops at beginning of this section. • Also start COMPOSED LOOP 1 and 2 loops at beginning of this section. • Hold FREE 1 sound from start of this section for approximately 2 measures. • Begin playback of other FREE tracks starting from the middle of this section.
041 :	Section B	• Start COMPOSED LOOP 3 and 4 loops at beginning of this section. • Other tracks continue as from section A. All tracks are now playing.
057 : : : : :	Section C	• Switch mute ON for LOOP 1 and LOOP 2 at beginning of this section. • All COMPOSED LOOP tracks continue playing without change (sound is same as in Section B). • At start of this section, switch all FREE tracks back to the samples they had during the Intro sections (Track Bank 2), and play them in the same way as during Intro A.
071 :	Section D	• Switch mute ON for COMPOSED LOOP 1 and 2 at beginning of this section. • Continue COMPOSED LOOP 3–4 and all FREE tracks from Section C.
073 : : : :	Section E	• At start of this section, change FREE tracks back to the samples of track bank 2. • Also at start of this section, release mutes on LOOP tracks 1 and 2, and on COMPOSED LOOP 1 and 2, so that all tracks are playing. • Play the same content as Section B (16 measures) twice in succession (32 measures).
105 : :	Ending A	• Switch mute ON for LOOP 1 and 2 tracks and for COMPOSED LOOP 3 and 4. • Switch the samples of FREE tracks 1–4 back to those of track bank 2, and play FREE tracks 1–4 in the same way as in Intro B.
121 : : 130	Ending B	• At start of this section, switch mutes ON for COMPOSED LOOP 1 and 2, so that all looping tracks are muted and only FREE tracks are unmuted. • Play FREE tracks 1–4 as in Intro A. • Hold FREE 1 until measure 130, where the song ends.

The above design plan is intended to give you an idea of how we will go about building the song. But note that when building your own songs, you do not need to set up a detailed plan ahead of time. You can use knobs, pads, and the ribbon controller freely to try out different ideas while listening to the sounds and using mutes to switch different combinations of samples on and off. You are also free to replace samples you don't like with better ones, to use the "resampling" features, and to edit your recorded sequence and setup data to customize the sound. You can also change the settings freely in real time during performance.

Before You Start Sampling...
You always want to make sure you have enough memory before you begin to record your samples. If you have loaded the demo song into the machine, let's delete it now to ensure you have plenty of room for the operations described below. One way is to eject the floppy from the slot (press the **EJECT** button just under the slot) and then switch the SU700 power off and back on. Another way is to delete the song using the SONG | INIT job (→ p.230).

2.3.1 Setting Up The First LOOP Track ("LOOP 1")

■ Recording the Sample

We begin by recording a one-measure sample of a drum phrase from the sampling CD (track 79 on the CD). We record the sample onto the first LOOP track ("LOOP 1").

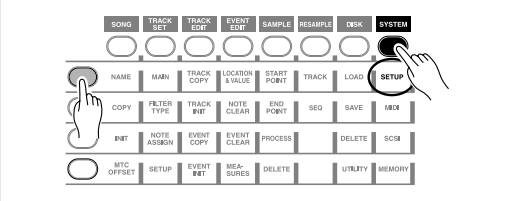
NOTE:

- *Note that the SU700 can record samples only when the sequencer is in PLAY STANDBY mode. Before proceeding, press ■ once to ensure that the sequencer is in PLAY STANDBY.*
- *The following procedure takes you through the basic steps for recording a sample, but omits many details. For detailed instructions about how to record a sample, detailed explanations about the various parameters, and information about what to do in the case of unexpected error or warning messages, refer to Chapter 5, "Samples and Sampling" starting on page 149.*

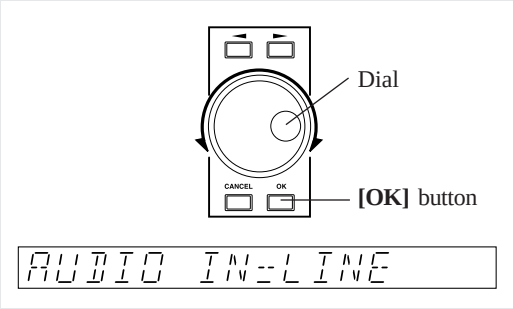
Procedure

1. **Turn down the MASTER VOLUME knob of the SU700, and all volume controls of your CD player and audio system. Then turn on the power of your CD player.**

2. **Specify the input jacks from which the sample will be recorded.**
Press the [SYSTEM] button, and then press the topmost [SETUP] button.



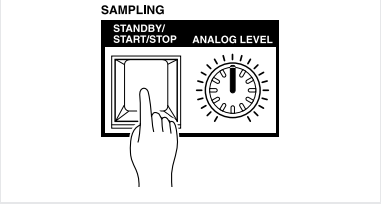
3. **Now turn the dial as necessary so that the screen says AUDIO IN. Then press [OK]. Then turn the dial again (if necessary) so that the screen says AUDIO IN=LINE. Then press [OK] once more.**



With this setting, the included audio CD can be used as a source for sampling.

NOTE:
You can also supply sound through a microphone connected to the ANALOG IN input(s), provided that you first set ANALOG INPUT *to* MIC*. If you have installed the optional AIEB1 board (optional I/O expansion board), you can also record samples directly through the board's OPTICAL or DIGITAL connectors.*

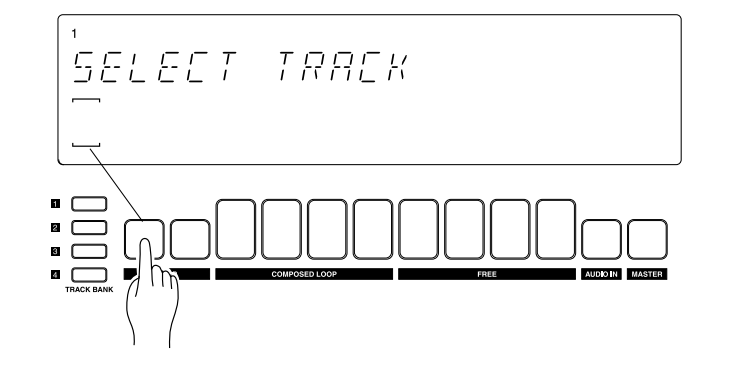
4. **Press the [SAMPLING] button. The screen displays the** SELECT TRACK **message.**



NOTE:
- *If sampling memory is already full when you try to record a sample, the screen will display MEMORY FULL. If this occurs, press* ***[CANCEL]*** *to return to the main screen, and then delete or reduce the size of the samples you have already recorded.*
- *If you have specified digital input for AUDIO IN, one of the following error messages may be displayed.*
  "DIG-IN UNPLUGGED"
  Digital input connections have been broken, and the PLL lock has been broken.
  "DIG-IN PARITY ER"
  A parity error has occurred in the digital input.In either case, press the ***[CANCEL]*** *button to exit sampling mode, and resolve the problem before you continue.*

5. **Now select the track you want to record on. In this case we are going to record on the first LOOP track in bank 1. (We will call this track "LOOP 1.") So press TRACK BANK button [1], and then hit the first (leftmost) LOOP pad. The brackets move to this track to indicate that it is selected.**

First LOOP track in bank 1

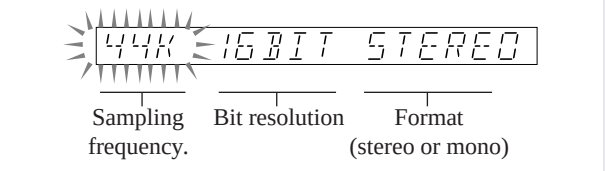


NOTE:
*If you select a track to which a sample has already been assigned, the bracket display will be [ ], and when you press the **[OK]** button the display will ask "REPLACE SAMPLE?" If you execute sampling, the data in the sampling display will be overwritten and lost. If you wish to keep the existing data, you should either select a different vacant track, or save the song to disk etc. before you continue.*

6. **Press [OK] to register the track selection and move to the parameter and input-monitoring screen. You use this screen to adjust the three recording parameters and to monitor and adjust the input level.**

NOTE:
*You can often reverse the action of the **[OK]** button by pressing the **[CANCEL]** button. In this case, for example, you can press **[CANCEL]** to return to the SELECT TRACK screen.*

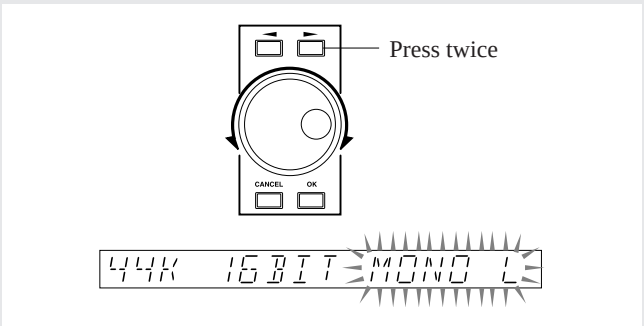
▼ The screen presents three parameters, as shown below.



Let's leave the frequency at 44K and the resolution at 16BIT, but let's change the format to "MONO L" (so that the SU700 will record a monaural sample from the left channel of the stereo CD).

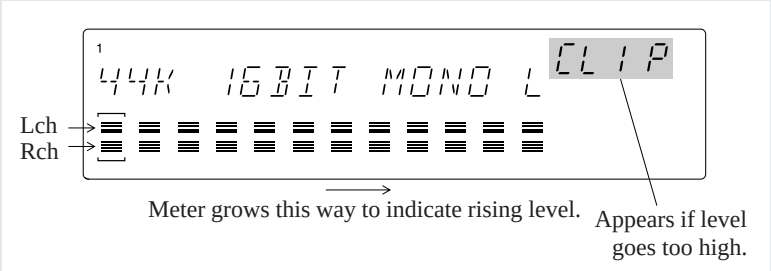
NOTE:
On LOOP tracks, stereo samples may sometimes produce an inappropriate click at the loop ends. You can avoid this problem by using monaural recording for these tracks. Alternatively, you can record these as stereo samples and then convert to monaural later, if necessary, using the SAMPLE | PROCESS SAMPLE TO MONO *job (→ p.270).*

To adjust, press the right arrow button [▷] twice to select the format parameter, so that the parameter is blinking on the screen. Then turn the dial to select MONO L.



7. Now let's adjust the input level from the CD. First, start playback of track 79 on the sampling CD.

▼ If the CD player is correctly connected to the SU700, you will hear the sound coming through the SU700 and you will see the level meter moving on the screen. Note that the meter grows to the right as the level increases; and that the word CLIP appears if the level goes too high.



(The upper horizontal bar indicates the input to the right-channel level. The lower bar indicates the input to the left-channel level. For monaural recording, both bars move together.)

Turn the ANALOG LEVEL dial to adjust the level. **You want to adjust so that peak levels bring the meter reading all the way to the right *without* triggering the CLIP warning.**

> ***NOTE:***
> *If you are recording to a digital input on the optional AIEB1 board, the parameter settings and level settings are fixed.*

8. After you have finished setting the level, press the [SAMPLING] button on the SU700 to begin recording. To stop sampling, press the button once again.

- Track 79 repeats the same phrase four times. You can sample at any location that is convenient.

> ***NOTE:***
> *You generally want to include excess material at the beginning and end of your recording. This will allow you to freely edit the playback start points and end points to get just the area you need.*

◆ Recording begins. The screen keeps track of remaining free sampling time as recording proceeds.

> ***NOTE:***
> - *If you run out of memory while sampling, the display will indicate "MEMORY FULL," and sampling will end automatically.*
> - *You can press **[CANCEL]** to cancel the recording and return to the* SELECT TRACK *screen. If you cancel before concluding the recording, the previously existing sample on the target track (if any) will be retained.*
> - *(For LOOP tracks only): If the recorded length is too short or too long, the screen will display the CANNOT FIND LOOP message. In this case you must press either **[CANCEL]** or **[OK]** to escape: the SU700 will discard the recorded data and return you to the main screen. If the track already held a sample, that sample is retained.*

9. After recording the part of the sample that you want to use, press the [SAMPLING] button to stop recording.

▼ Recording stops. The SU700 displays WAIT... as it process the new data. It then returns to PLAY STANDBY mode and redisplays the main screen.
The sample will automatically be assigned a sample name. For details on naming rules, refer to page 154.

■ Track editing (Creating an endless loop phrase)

Now you want to listen to the results of your recording, and edit the playback start and end points to get a clean loop.

NOTE:

- *If the recording results are not acceptable, you can simply repeat the previous procedure to record the sample again. When you select the same track as the recording destination, the SU700 will display the query* REPLACE?*, asking you whether you wish to replace the data that you have already recorded. Simply press* ***[OK]*** *to proceed.*
- *The following steps show how to edit the sample's length. When working on your own, you may also want to edit the sample in other ways as well. (For example, you may want to "normalize" the sample to get a better dynamic range.) For information about the various types of editing you can perform on samples, refer to pages 151 and 152, and also to the explanation of the SAMPLE jobs (pages 262 to 271).*

Procedure

1. Press and hold the LOOP 1 track pad to play the sample.

▼ The sample loops continuously as you hold down the pad.

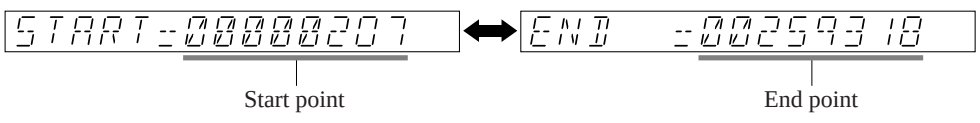
NOTE:

You can also listen to the loop by starting the sequencer (by pressing ▶), since the SU700 automatically generates the loop. But you must stop the playback (press ■) before you can proceed to edit the sample as described below.

We will now use the SAMPLE | START POINT and SAMPLE | END POINT jobs to adjust the playback range (the length) of the sample. (For full details about these jobs, refer to page 259.)

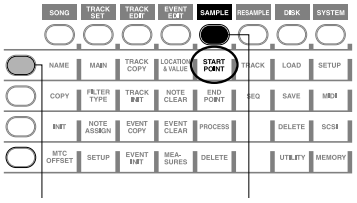
EXPLANATION:

When recording the sample, you almost certainly did not record the exact area that you wish to use for your loop. Rather, you presumably recorded some excess. You must therefore adjust the start and end points to zero in on the area you want to replay.



2. First, press the SAMPLE job-group selector to select the SAMPLE **job group.**

3. Next, press the top job selector if you wish to adjust the start point, or the second job selector if you wish to adjust the end point. You can move back and forth between the two adjustments as necessary by pressing these two buttons.

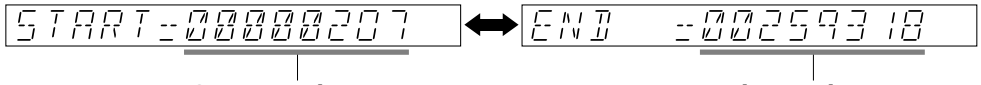


Then press here or here to move to start-point or end-point adjustment screen.

Press here first (one time only.)

4. After selecting the start point (or end point) adjustment screen, you can adjust the start point (end point) by turning the dial. (You can change the increment of adjustment using the ◁ and ▷ buttons.)

Continue holding the pad down while making the adjustments, so that you can hear the results. Move back and forth between start-point and end-point adjustment screens until you have selected the precise span of the waveform that you want.



Start-point adjustment

End-point adjustment

5. When you are satisfied with the results, press the [OK] button to return to the main screen.

NOTE:
You are not locked into these settings. If you decide later that the start and end points are not quite right, you can always go back and readjust.

6. Now press the pad for the LOOP 1 track and listen to the playback. Confirm that the loop sounds good.

2.3.2 Setting Up LOOP 2

■ Recording the Sample

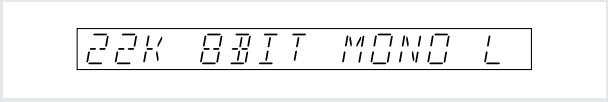
Using the same procedure as we did for the LOOP 1 track, we will now sample Track 80 (bass phrase) from the included audio CD to the LOOP 2 track.

Procedure

1. **Press the [SAMPLING] button to enter sample-recording mode.**
   The screen displays the [SELECT TRACK] message.

2. **Press the second LOOP pad to select the track. Then press [OK].**

3. **Set the sampling parameters as follows:**



4. **Start the CD player, play the sample, and adjust the level (using the ANALOG LEVEL dial) while watching the meter on the display.**

5. **Playback the source, and press the [SAMPLING] button to begin sampling.**
   - Track 80 repeats the same two-measure phrase four times. Sample two measures at a convenient location.

6. **When you have finished sampling the sound you need, press [SAMPLING] again to stop the recording.**

■ Editing the track (Creating an endless loop phrase)

Now adjust the start and end points for the sample on LOOP 2 just as you did for the sample on LOOP 1. Adjust as necessary so that you get a good sounding, smooth loop.

- The start/end points can be adjusted only when the sequencer (the song) is stopped.

Procedure

1. **Press and hold the LOOP 2 track pad to play the sample.**
   ▼ The sample loops continuously as you hold down the pad.

> ***NOTE:***
> *You can also listen to the both loop tracks together by starting the sequencer (by pressing ▶).You may want to try this to get an idea of how the loops sound when playing together. But remember that you must stop the sequencer before you can proceed to edit the sample length.*

2. Now use the SAMPLE | START POINT and SAMPLE | END POINT jobs to adjust the playback range (the length) of the LOOP 2 sample. (Again, you can find full details about these jobs on page 258.) After completing the adjustment, press [OK] to return to the main screen.

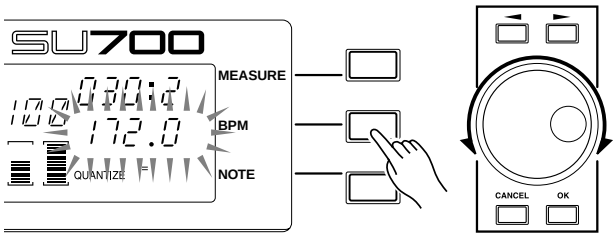
■ Matching the LOOP 1 and LOOP 2 tracks

Press the sequencer ▶ button, and LOOP 1 (drum) and LOOP 2 (bass) samples will playback as loops. Now we will set the tempo (BPM) and the volume balance, and adjust the groove so that the drum and bass match.

● *Setting the Tempo (BPM)*

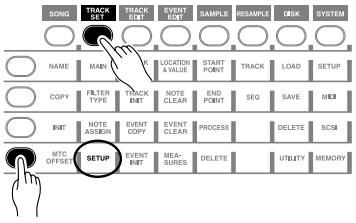
The samples for this song have been designed to be played back at BPM=172.0

Start the sequencer in PLAY mode (press the ▶ button). While listening to both loops play, press the **[BPM]** button, and turn the dial to adjust the BPM. Set the BPM value to 172.0.

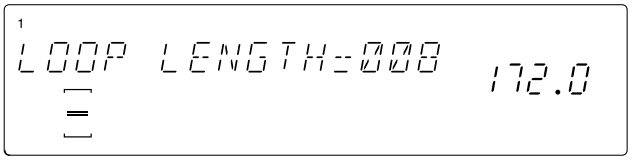


● *Setting the Loop Lengths*

If LOOP 1 and LOOP 2 sound different than the finished example on the included audio CD, use TRACK SET/SETUP/LOOP LENGTH (→ p.238) to check the loop length of the sample.



The sample length of the LOOP 1 and LOOP 2 tracks will be detected automatically by the SU700. In this example of creating a song — if samples were recorded correctly — the SU700 should have detected a LOOP LENGTH of 004 for LOOP 1 and 008 for LOOP 2, and a BPM value in the region of 172 for both. Alternatively, the SU700 may have detected a LOOP LENGTH of 002 for LOOP 1 and 004 for LOOP 2, with a BPM in the region of 86 for both. In this latter case, you will need to set the LOOP LENGTH manually to the correct value.



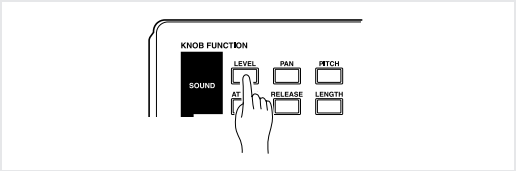
LOOP LENGTH=008 means that the loop is 8 beats long when calculated at BPM=172. If the display indicates the wrong loop length for the two loops, use the dial to correct the settings to LOOP LENGTH = 004 for LOOP 1, and LOOP LENGTH=008 for LOOP 2. The BPM will be recalculated automatically, and should be a value in the region of 172.

● ***Adjusting the volume balance***

Here's how to adjust the volume balance between the LOOP 1 track and the LOOP 2 track.

Procedure

1. **Press the SOUND group [LEVEL] button.**



2. **Press the LOOP 1 pad. The display will numerically indicate the volume level that is currently specified for the LOOP 1 track.**
Use the knob for the LOOP 1 track to set "LEVEL=127."

3. **Next press the LOOP 2 pad, and rotate the knob for the LOOP 2 track to set "LEVEL=075."**

● ***Adjusting the groove***

When you listen to LOOP 1 (drums) and LOOP 2 (bass) together, the groove may not match precisely. There are several possible reasons.

- **Loop point connections**
  If the loop points of the sample do not coincide with beats, the groove will not feel right.

  →Try making fine adjustments to the start/end points of the sample.

  Even if the loop length is identical, the location of the connection between start/end points can affect the groove.

  Moving the start/end point forward will "rush" the overall groove, and moving it backward will "drag" the groove.

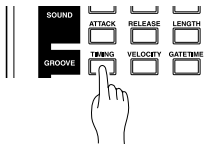
- **Differences in groove unique to each sample**
  Even if a loop by itself has a satisfactory groove, two or more sample loops with differing grooves may sound wrong when they are played back simultaneously.

  →Use the following procedure to adjust the RESOLUTION so that the sample plays in units of an individual note.

  Alternatively, you can adjust the GROOVE function to create new grooves. (→ p.201)

- **Adjusting the RESOLUTION**

  1. Press the GROOVE/**[TIMING]** button.

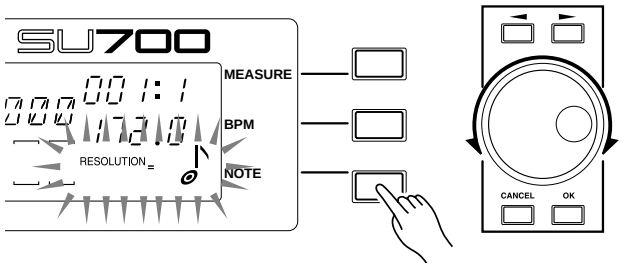


  2. The NOTE area of the display will indicate "RESOLUTION= note value," so press the **[NOTE]** button to make that display blink.

3. Press the sequencer ▶ button to playback the LOOP 1 and LOOP 2 tracks, and use the dial to try various note value settings.

Notice how the groove changes.

For this example, let's set this parameter to an 8th note (♪) .



- **Aligning the left and right channels of a stereo sample**
  In the case of a stereo sample, skewed timing between the left and right channels may impair the groove.

  →This can be solved by converting the stereo sample to a mono sample. (SAMPLE | PROCESS/STEREO TO MONO. p.270)

Here we will end our work on the LOOP 1 and LOOP 2 tracks.
Next let's proceed to the COMPOSED LOOP tracks.

2.3.3 Setting Up The First COMPOSED LOOP track ("CL1")

■ Recording the Sample

Now record the next sample onto the first COMPOSED LOOP track ("COMPOSED LOOP 1", or "CL1"). This time please record Track 81 from the sampling CD.

Record the sample in the same manner that you recorded samples for the two LOOP tracks. Set the recording parameters to 22K, 8BIT, and MONO L.

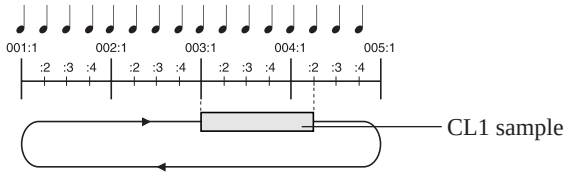
■ Setting the Loop Length

Using the same procedure as you used to set the LOOP 2 track, set the loop length of the sample for the CL1 track to "LOOP LENGTH=016."

■ **Recording to the Sequencer**

Now we will record the CL1 track sample to the sequencer. The sample of a COMPOSED LOOP track will playback as a loop over the specified length (number of measures).

The CL1 track sample will play as a loop of 16 quarter-note beats (i.e., 4 measures), and will sound for five beats starting at the beginning of the third measure. (See diagram below.)



[Setting up the Recording Parameters]

Before beginning recording, you will want to set appropriate values for the following parameters. To keep things as simple as possible, we will leave all of these settings at their factory defaults. But you should be aware that when building your own songs you will want to set these carefully. All of these parameters can be set using the SYSTEM | SETUP job; for information, see pages 298 to 303.

METRONOME: Determines whether the SU700 produces a metronome sound (one click per beat) during playback and/or recording. With the factory settings, the SU700 does not produce this sound.

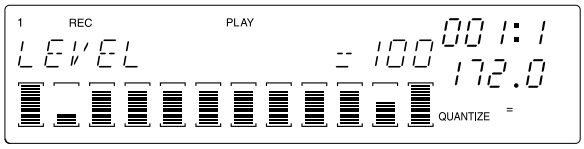
COUNTDOWN: When the metronome is turned on, you can choose whether recording begins immediately (when you engage REC mode) or whether the SU700 will produce a click sound as a 1-measure or 2-measure lead-in. The factory default is a 2-measure lead-in.

REC MODE: Determines whether new recording actions “overdub” or “replace” actions recorded in previous recording sessions. The factory default is “replace.”

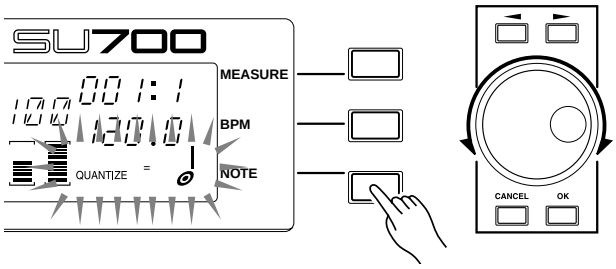
[Recording the Loop Phrase]

1. Press ⏮ to return the song to the top position, then press ● to set the sequencer in REC STANDBY mode. Also press the **[PLAY]** pad-function button to ensure that pads can be used to record notes.

◆ The SU700 displays a function screen (similar to the one shown below). Note that the "REC" and "PLAY" indications appear along the top of the screen.



2. Now we want to set the quantize interval. Press the **[NOTE]** button, so that the QUANTIZE= indication is blinking. Then turn the dial to set the quantize value to quarter note (♩).



NOTE:

- *When recording your input actions, the SU700 automatically adjusts the timing of pad actions and certain knob actions in accordance with you QUANTIZE setting. Since we have set quantize to quarter-note, the SU700 will automatically move all of the quantizable input actions to the nearest quarter-note interval (the nearest beat). For more information about quantizing, see page 174.*
- *If you do not see the QUANTIZE= indication on the screen, you can always get it back by pressing any of the pad-function buttons or the SOUND/**[LEVEL]**, SOUND/**[PAN]**, SOUND/**[LENGTH]**, or FILTER/**[CUTOFF]** knob-function button.*

3. Press [▶] to start song recording (to switch the sequencer into REC mode), and get ready to press the CL1 pad to record the note event for your loop.

Watch the location indicator as the SU700 plays through the lead-in measures and the first two measures of the song. Press the pad when the indicator is reaches 003:1, hold it for five beats, and release it just before the indicator reaches 004:2.

Allow the sequence to keep playing. Since the loop length is set to 16 beats, you should now hear the note played every four measures (measure 7, measure 11, and so on).

NOTE:

- *Be aware that the SU700 quantizes the pad-press event (note-on event), but does not quantize the pad-release event (note-off event). Provided that you hit the pad within a one-eighth note interval on either side of 003:1, the SU700 will record the note-on event at 003:1 exactly. But you want to be more precise when you release the pad, since the SU700 will not adjust the timing of the note-off event.*
- *Since this is a looping track, you can record the pad input at any third measure in the loop: 003:1, or 007:1, or 011:1, etc. (For more details about the COMPOSED LOOP implementation, see page 136.)*
- *If the PAD SENS parameter (in the TRACK SETUP | SETUP job) is set to ON, the COMPOSED LOOP and FREE track pads are velocity sensitive. This means that the loudness of the recorded note will depend on the force with which you hit the pad (stronger force produces a louder sound).*

4. Press [■] to stop recording.

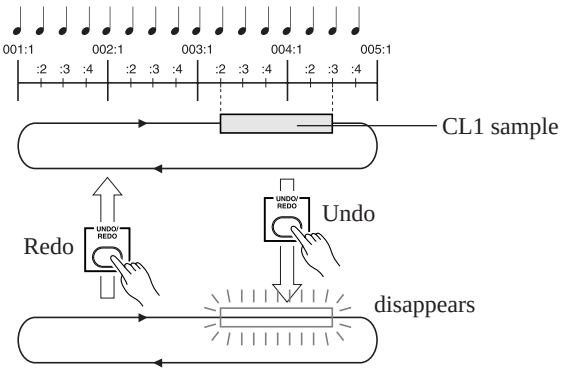
◆ The sequencer stops recording. Press the [⏮] button to return to the point at which you started recording, and the main screen reappears.

Press the [▶] button to start playback, to determine whether the results are acceptable. Confirm that the sound of the CL1 track repeats every fourth measure (at 003:1, 007:1, 011:1, and so on). Then press [■] to stop the playback, returning the SU700 to PLAY STANDBY mode.

● *If you make a mistake while recording*

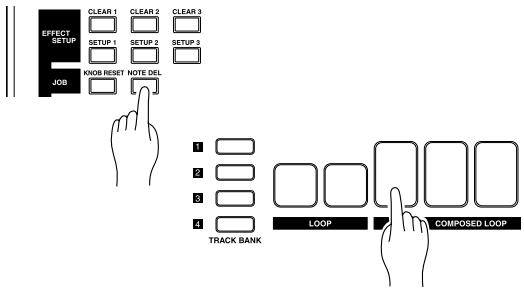
The Undo function lets you cancel the result of a single recording operation (i.e., from stop → recording → stop). If you make a mistake while recording, press the **[UNDO/REDO]** button once. All data recorded by the previous recording operation will be cancelled, and you will return to the state prior to recording. If you then press the **[UNDO/REDO]** button once again, the Undo operation itself will be cancelled. In other words, the data will return to the state prior to when you pressed the **[UNDO/REDO]** button.

- Undo is valid only for the immediately-previous recording operation (stop → recording → stop). When you perform the next recording operation (stop → recording → stop), it will not be possible to Undo any prior recording operations.



● ***To delete a sample that was recorded by mistake***

Put the sequencer in recording mode ([●] + [▶]), and at the location where the sample you wish to delete is played, hold down the JOB group **[NOTE DEL]** button and press the CL1 pad to delete any note-on data for the CL1 sample that occurs in that area. Since the CL1 track is a loop, the samples deleted from that area will disappear from the entire song.



- Since this will delete CL1 note-on data, performing the above operation is enough to stop the sample from playing.

Alternatively, you can set the recording mode to "REPLACE," and then re-record over again while erasing the previously-recorded data.

● ***Tips for recording***

- If the tempo is too fast for you to achieve accurate timing, use the dial to lower the BPM setting and try recording at a slower tempo.
- You can press the **[MEASURE]** button, use the dial to move to the desired measure location, and begin recording from there.
- If you do not wish to listen the sound of other tracks while you record, you can mute those tracks before you begin recording.

● ***Detailed adjustments of the recorded sample***

The sequencer records the timing at which the CL1 track sample is played, its volume, and its duration (gate time). This data is collectively referred to as an "event," and can be edited in detail using the Event Edit group parameters Location and Value. (→ EVENT EDIT / LOCATION & VALUE: p.246)

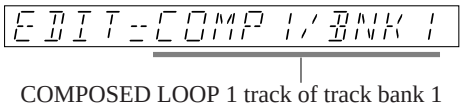
EXAMPLE:

If the CL1 sample was recorded by mistake at 003:2

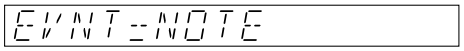
1. Press the **[EVENT EDIT]** button, and then press the top button for **[LOCATION & VALUE]**.

2. A display indicating the track to be edited.

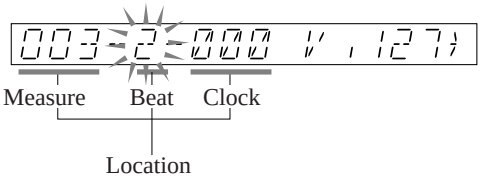
Press the CL1 track pad, and press the **[OK]** button.



3. The display will allow you to specify the type of event to be edited. Rotate the dial to select "NOTE," and press the **[OK]** button.



4. The display will indicate the note event as follows.



Use the cursor buttons (◁, ▷) to make the "beat" field of the location blink, rotate the dial to set it to "1," and press the **[OK]** button.

- If there is more than one note event, use ◀◀ to move to the previous event, ▶▶ to the next event, or |◀ to the first event.
- In addition to the location of a note event, you can also modify its velocity and gate time.

2.3.4 Setting Up The Second COMPOSED LOOP track ("CL2")

■ Sampling

As you did for the LOOP 1 track, sample Track 82 from the included audio CD to COMPOSED LOOP 2 (subsequently referred to as CL2).

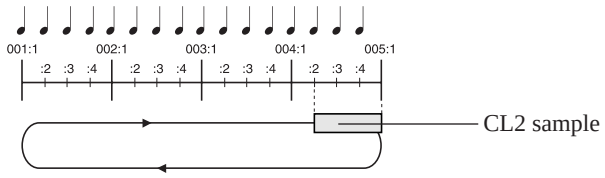
- Set the sampling grade to "22K 8BIT MONO L."

■ Setting the loop length

Using the same procedure as you did for the LOOP 2 track, set the sample of the CL2 track to "LOOP LENGTH=016."

■ Recording the Loop Phrase

The sample for the CL2 track will be in a loop that is 16 quarter-note beats long (four measures), and will play for the final three beats of the loop, starting at beat 004:2 and ending at 005:1, as shown below.



Record this phrase using the same method you used to record on track CL1. Start the sequencer in REC mode, press the pad when the location indicator gets to 004:2, hold it for three beats, and release it just as the indicator is about to change to 005:1.

2.3.5 Setting Up The Third COMPOSED LOOP track ("CL3")

■ Sampling

Using the same procedure as you did for the LOOP 1 track, sample Track 83 of the included audio CD to the COMPOSED LOOP 3 track (hereafter referred to as "CL3").

- Set the sampling grade to "22K 8BIT MONO L."

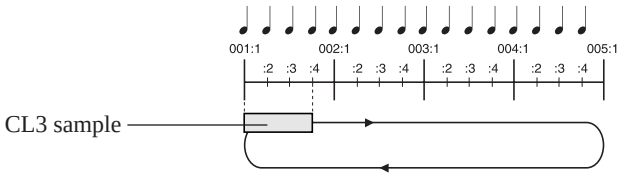
■ Setting the Loop Length

Using the same procedure as you did for the LOOP 2 track, set the CL3 track to "LOOP LENGTH=016."

■ Recording the Loop Phrase

Now we'll record the sample to the CL3 track of the sequencer.

The CL3 track is 16 quarter-notes long (four measures), and we will play the sample over the first three beats of the loop, beats 001:1 to 001:4, as shown below.



Record this phrase using the same method you used to record on the other CL tracks. Start the sequencer in REC mode, press the CL3 pad when the location indicator reaches 001:1, hold it for three beats, and release it just as the indicator reaches 001:4.

2.3.6 Setting Up The Fourth COMPOSED LOOP track ("CL4")

■ Sampling

Using the same procedure as for the LOOP 1 track, sample Track 84 from the included audio CD to the COMPOSED LOOP 4 track (subsequently referred to as "CL4").

- Set the sampling grade to "22K 8BIT MONO L."

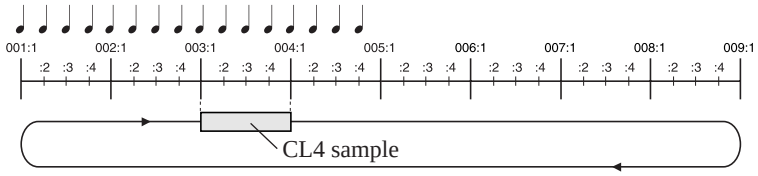
■ Setting the Loop Length

Using the same procedure as you did for the LOOP 2 track, set the CL4 track to "LOOP LENGTH=032."

■ Recording the Loop Phrase

Now we'll record the sample to the CL4 track of the sequencer.

The CL4 track is a loop 32 quarter-notes long (eight measures), and will play the sample starting at the first beat of measure 3 and extending for four beats.



Record this phrase using the same method you used to record on the other CL tracks. Start the sequencer in REC mode, press the CL4 pad when the location indicator reaches 003:1, hold it for four beats, and release it just before the indicator reaches 004:1.

2.3.7 Setting Up The FREE Tracks

Recording onto the FREE tracks of the sequencer will be discussed later. First let's record samples onto FREE tracks 1–4.

- Since the FREE tracks do not loop, we do not need to specify the loop length as we did for the LOOP tracks and COMPOSED LOOP tracks.

■ Sampling

For the FREE tracks 1–4, we will provide different samples for track banks 1 and 2, and use these two samples in different blocks of the song.

For track bank 1 of FREE tracks 1–4, sample the following sources from the included audio CD.

FREE 1 track: Track 85 (*Free 1a)
FREE 2 track: Track 86 (*Free 2a)
FREE 3 track: Track 87 (*Free 3a)
FREE 4 track: Track 88 (*Free 4a)

For track bank 2 of FREE tracks 1–4, sample the following sources from the included audio CD.

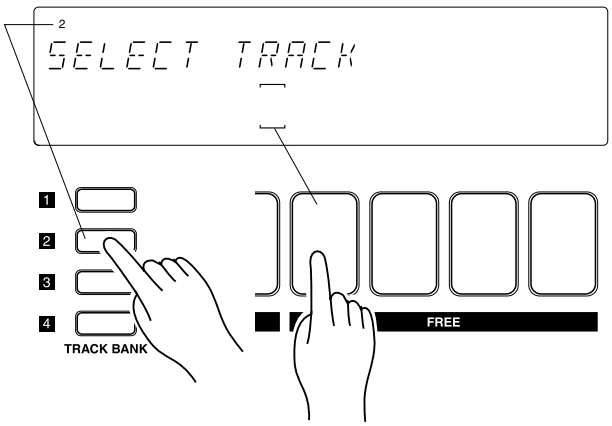
FREE 1 track: Track 89 (*Free 1b)
FREE 2 track: Track 90 (*Free 2b)
FREE 3 track: Track 91 (*Free 3b)
FREE 4 track: Track 92 (*Free 4b)

- For each sample, set the sampling grade to "22K 8BIT MONO L."

The sampling procedure is the same as for the LOOP 1 track. (→ p.50)

When sampling to track bank 1, press the **TRACK BANK** button **[1]** before selecting the sampling track (the "SELECT TRACK" display). When sampling to track bank 2, press the **TRACK BANK** button **[2]**.

Example: to select TRACK BANK=2 and FREE track 1



2.3.8 Adjusting the levels of each track

Now that all samples have been recorded, let's adjust the sound levels on each track, so that the levels are correctly balanced.

Procedure

1. **Set all mutes off. Press the [ON/MUTE] pad-function button, then hit the MASTER pad either once or twice so that the MASTER track's mute is off (so that the MASTER track brackets are visible).**
   ▼ When you set the MASTER mute off, all mutes go off.

2. **Press the [PLAY] pad-function button, so that you can use the pads to play the samples. Then press the SOUND/[LEVEL] button on the Knob Function panel, so that all knobs will control the LEVEL setting.**

3. **Press ▶ to start playback. As playback proceeds you will hear sound coming from both LOOP tracks and all four COMPOSED LOOP tracks.**

4. **Turn the knobs on the LOOP and COMPOSED LOOP tracks to adjust the level on each of these tracks. Adjust so as to get a good balance.**

5. **With the sequencer still playing, adjust the sound for each of the FREE tracks. For each of these tracks, hit the pad to play the sound, and turn the track's knob to adjust the level. (See "Note" below.)**

6. **If you wish to adjust the overall sound, turn the knob on the MASTER track.**

NOTE:

- *You can also adjust the overall sound using the MASTER VOLUME knob. But the MASTER-track setting can be stored into a scene and reproduced each time you play the song. The MASTER VOLUME setting is not stored as song data.*
- *LEVEL settings*

Track bank 1		Track bank 2	
LOOP 1	127	FREE 1	100
LOOP 2	075	FREE 2	055
COMPOSED LOOP 1	085	FREE 3	055
COMPOSED LOOP 1	080	FREE 4	055
COMPOSED LOOP 1	090		
COMPOSED LOOP 1	075	MASTER	127
FREE 1	127		
FREE 2	105		
FREE 3	090		
FREE 4	110		

2.3.9 Adjusting the effects for each track

Now let's adjust the effects for each track.
Here we will make the minimum settings necessary to make this song musically interesting.

Procedure

1. **Press the EFFECT/[EFFECT 2] button.**

2. **Rotate the knob of the track to which you wish to apply an effect, and set the following values.**

Track bank 1: COMPOSED LOOP 3,4, FREE 1
1DELAY = 080
Track bank 2: FREE 1–4
1DELAY = 090

3. **Press the EFFECT/[EFFECT 3] button.**

4. **Rotate the knob of the track to which you wish to apply an effect, and set the following values.**

Track bank 2: FREE 1–4
HALL = 090

2.3.10 Putting the Song Together

Now we'll build a song using the samples we have recorded into our ten sample tracks in bank 1.

The song will consist of ten sections, as outlined on page 49 and again below. For each section we will use a different muting arrangement. For FREE tracks only, we'll prepare two different sound setups (Setup "A" and Setup "B"), and use one or the other of these in each section.

In order to establish the sound changes at the start of each section, we will use *scenes*. Each scene stores an entire environment: all mute settings and all knob settings for all tracks we are using. First we will prepare the environments and store them into scene memory. Then, when recording the song, we will record a scene-button press at the start of each section. This button-press will record a scene-recall event that will automatically recall the required environment.

Note that the *top* scene is a special scene that is automatically recalled whenever you return the song to its top position.

NOTE:
In addition to mute and knob settings, scenes also store the effects setup. For more about scenes, refer to pages 176 to 181.

■ Song Transition Structure

We will assign the following content to each of the eight scene buttons, which correspond with places where the track mute settings change during the song. (For details on the structure of this song, see page 49.)

Measure	Section	Track Mutes *1				FREE-Track Sound Setup	Scene
		TRACK BANK	LOOP 1 2	C. LOOP 1 2 3 4	FREE 1 2 3 4		
001:1 : 009:1	Intro A	[1] × × × × × × × ×				Setup “B”	[TOP]
		[2] × × × × × × × ○ ○ ○ ○					
: 023:1	Intro B	[1] × × ○ ○ × × × × × × ×				Setup “B”	[A]
		[2] × × × × × × × ○ ○ ○ ○					
: 025:1	Break	[1] × × × × × × × ×				Setup “A”	[B]
		[2] × × × × × × × × × × ×					
: 041:1	Section A	[1] ○ ○ ○ ○ × × ○ ○ ○ ○				Setup “A”	[C]
		[2] × × × × × × × × × × ×					
: 057:1	Section B	[1] ○ ○ ○ ○ ○ ○ ○ ○ ○ ○				Setup “A”	[D]
		[2] × × × × × × × × × × ×					
: 071:1	Section C	[1] × × ○ ○ ○ ○ × × × ×				Setup “B”	[E]
		[2] × × × × × × × ○ ○ ○ ○					
: 073:1	Section D	[1] × × × × ○ ○ × × × ×				Setup “B”	[F]
		[2] × × × × × × × ○ ○ ○ ○					
: 105:1	Section E	[1] ○ ○ ○ ○ ○ ○ ○ ○ ○ ○				Setup “A”	[D]
		[2] × × × × × × × × × × ×					
: 121:1	Ending A	[1] × × ○ ○ × × × × × × ×				Setup “B”	[A]
		[2] × × × × × × × ○ ○ ○ ○					
: 130:1	Ending B	[1] × × × × × × × × × × ×				Setup “B”	[G]
		[2] × × × × × × × ○ ○ ○ ○					

*1: ○: ON (track is audible). ×: MUTE (track is silenced).

■ Storing the mute settings of each block to a scene button

Let's store the mute settings of the tracks for each song block to a scene button.

- ***Intro A = scene button [TOP]***
- ***Ending B = scene button [G]***

Intro A and Ending B have the same mute settings.
We will defeat muting only for the FREE 1–4 tracks of track bank [2], and mute all the other tracks.
The same settings will be stored to scene buttons **[TOP]** and **[G]**.

NOTE:
*The settings of the **[TOP]** button are automatically written at the beginning of the song even if you do not record any sequence data. When you start from the beginning of the song, the settings of the [TOP] scene will always be used.*
Since the [TOP] scene is a special case, we will store its settings in another scene button even though they are identical.

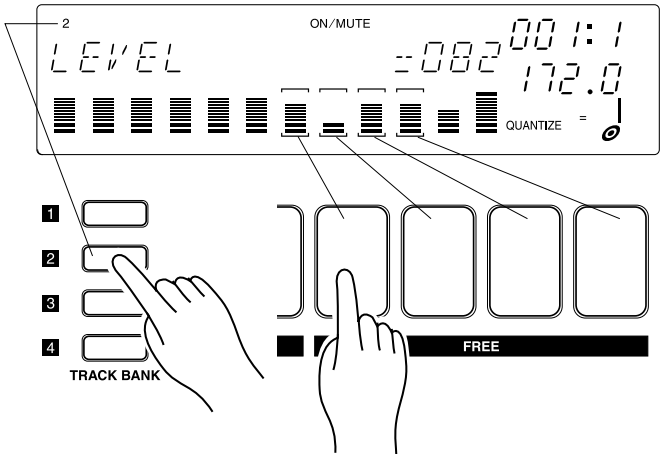
TRACK BANK	LOOP 1	LOOP 2	C.LOOP 1	C.LOOP 2	C.LOOP 3	C.LOOP 4	FREE 1	FREE 2	FREE 3	FREE 4
[1]	×	×	×	×	×	×	×	×	×	×
[2]	×	×	×	×	×	×	○	○	○	○

Procedure

1. **Press the PAD FUNCTION [ON/MUTE] button.**

2. **Press the MASTER track pad to mute all tracks.**
The bracket display (⌷) of all tracks will go dark.All track banks [1]-[4] will be muted.

3. **Press the TRACK BANK [2] button to select track bank [2], and press the FREE 1–4 track pads to un-mute them.**
The bracket display (⌷) of the FREE 1–4 tracks will reappear.

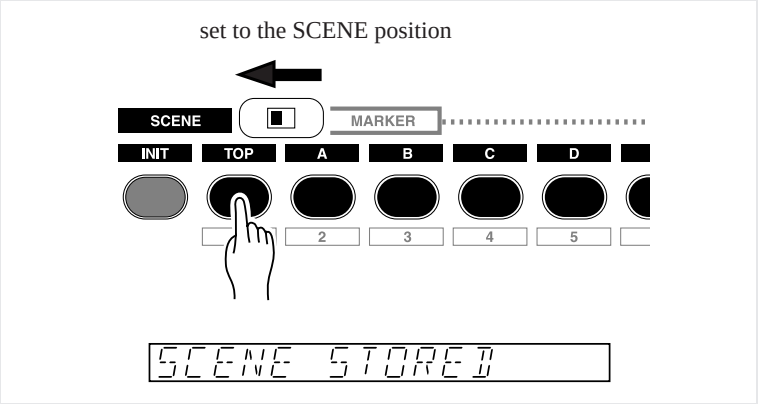


4. Press the PAD FUNCTION [PLAY] button.

▼This completes mute settings.
Now we will store this condition to the **[TOP]** and **[G]** scene buttons.

5. Set the [SCENE/MARKER] switch to the SCENE position.

6. Continue pressing the [TOP] button until the display indicates "SCENE STORED."



7. Release the [TOP] button. The settings have now been stored to the [TOP] button.

8. Next store the same mute settings to the [G] button.
▼Press and hold the **[G]** button until the display indicates "SCENE STORED."

9. Release the [G] button. The settings have now been stored to the [G] button.

● ***Intro B and Ending A = Scene button [A]***

Intro B and Ending A have the same mute settings.
We will defeat muting for the CL1/2 tracks of track bank [1] and the FREE 1–4 tracks of track bank [2]. All other tracks will be muted.
We will store these settings in scene button **[A]**.

TRACK	LOOP		C.LOOP				FREE			
BANK	1	2	1	2	3	4	1	2	3	4
[1]	×	×	○	○	×	×	×	×	×	×
[2]	×	×	×	×	×	×	○	○	○	○

Procedure

1. **Press the PAD FUNCTION [ON/MUTE] button.**
2. **We will start with the settings of the [TOP] and [G] scenes, and un-mute the CL1/2 tracks of track bank [1].**
   ▼ Press the TRACK BANK [1] button to select track bank [1]. Then press the pads of CL1/2 tracks to make the bracket ( ) appear for the CL1/2 tracks.
3. **Press the PAD FUNCTION [PLAY] button.**
4. **Set the [SCENE/MARKER] switch to the SCENE position.**
5. **Continue pressing the [A] button until the display indicates "SCENE STORED."**
6. **Release the [A] button. The settings have now been stored.**

Using the same procedure as you did for Intro A and Ending B, store mute settings for each scene button as described below.

● ***Break = scene button [B]***
All tracks are muted.

TRACK BANK	LOOP 1	LOOP 2	C.LOOP 1	C.LOOP 2	C.LOOP 3	C.LOOP 4	FREE 1	FREE 2	FREE 3	FREE 4
[1]	×	×	×	×	×	×	×	×	×	×
[2]	×	×	×	×	×	×	×	×	×	×

● ***Section A = scene button [C]***
Un-mute the LOOP1/2, CL1/2, and FREE 1–4 tracks of track bank [1], so that they will be heard.
Mute all FREE 1–4 tracks of track bank [2].

TRACK BANK	LOOP 1	LOOP 2	C.LOOP 1	C.LOOP 2	C.LOOP 3	C.LOOP 4	FREE 1	FREE 2	FREE 3	FREE 4
[1]	○	○	○	○	×	×	○	○	○	○
[2]	×	×	×	×	×	×	×	×	×	×

● ***Sections B and E = scene button [D]***
Un-mute all tracks of track bank [1] so that they will be heard.
Mute all FREE 1–4 tracks of track bank [2].

TRACK BANK	LOOP 1	LOOP 2	C.LOOP 1	C.LOOP 2	C.LOOP 3	C.LOOP 4	FREE 1	FREE 2	FREE 3	FREE 4
[1]	○	○	○	○	○	○	○	○	○	○
[2]	×	×	×	×	×	×	×	×	×	×

● ***Section C = scene button [E]***

Un-mute CL 1–4 tracks of track bank [1] and FREE 1–4 tracks of track bank [2] so that they will be heard.

TRACK BANK	LOOP 1	LOOP 2	C.LOOP 1	C.LOOP 2	C.LOOP 3	C.LOOP 4	FREE 1	FREE 2	FREE 3	FREE 4
[1]	×	×	○	○	○	○	×	×	×	×
[2]	×	×	×	×	×	×	○	○	○	○

● ***Section D = scene button [F]***

Un-mute CL3/4 tracks of track bank [1] and FREE 1–4 tracks of track bank [2] so that they will be heard.

TRACK BANK	LOOP 1	LOOP 2	C.LOOP 1	C.LOOP 2	C.LOOP 3	C.LOOP 4	FREE 1	FREE 2	FREE 3	FREE 4
[1]	×	×	×	×	○	○	×	×	×	×
[2]	×	×	×	×	×	×	○	○	○	○

■ Recording Scene-Recall Events Into the Song

Now that we've set up the scenes, we're ready to record the scene-recall events into our songs. We'll record a scene-recall event at the start of each section, so that mutes and sound will change as necessary as we move from section to section.

NOTE:

- *We don't need to record a scene-recall event for Intro A, since the top scene is recalled automatically.*
- *To make it easier for you to press buttons at the correct timing, we recommend that you record with the metronome turned on. (→ p.298)*

Procedure

1. Press the ⏮ button to return the song to its top position. (This will automatically recall the top scene.) Then press the ● button to set the sequencer into REC STANDBY mode.

▼ Confirm that the REC indication appears along the top line of the display

NOTE:

You do not need to worry about the QUANTIZE setting at this point, since scene-recall events are never quantized. When you use a scene button to record an event, the event is recorded into the song at the precise location at which you release the button.

2. Press ▶ to begin recording.

▼ You will hear the song begin playback. Mutes and knobs are now set in accordance with the environment you stored into the top scene.

3. Watch the location indicator. You now want to press and release the Scene [A] button, timing your action so that you *release* the button as the song location is changing from 008:4 to 009:1.
Then press scene buttons to record the remaining scene changes at the measure locations shown below.

NOTE:

- *You can press the button at any time (for example, you can begin pressing it when the song reaches location 008:1), but **you must release it at the exact location at which you want to recall the scene. The event is recorded when you release the button, not when you press it.***
- *Note that when recalling a scene while the sequencer is in PLAY or PLAY STANDBY mode, you want to be very careful that you don't hold the scene button down too long—since doing so will result in a scene-store rather than a scene-recall. During REC STANDBY and REC modes, however, scene storing is disabled; the scene buttons produce recalls only, no matter how long they are held down.*
- *The **[UNDO/REDO]** button can also be used when recording scenes.*
- *To delete a scene event, you can use Location and Value of the Event Edit group. (→ p.246)*

Location	Button
023:1	Scene button **[B]**
025:1	Scene button **[C]**
041:1	Scene button **[D]**
057:1	Scene button **[E]**
071:1	Scene button **[F]**
073:1	Scene button **[D]**
105:1	Scene button **[A]**
121:1	Scene button **[G]**

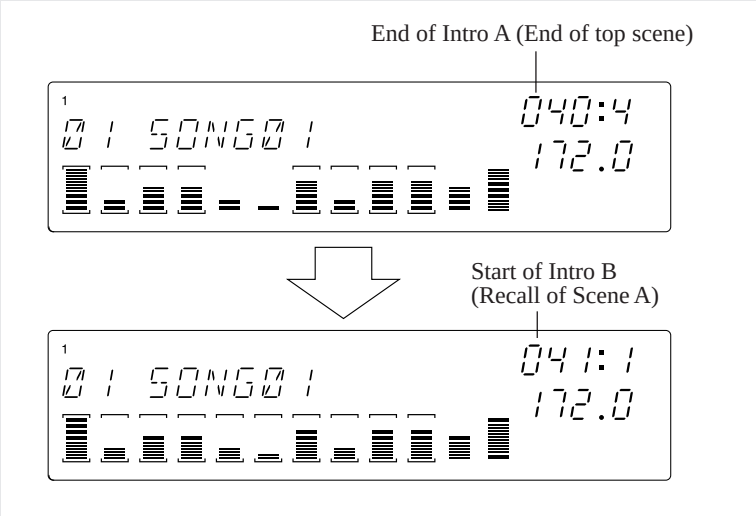
* Depending on the timing at which a scene is recalled, sound may remain at the beginning of a measure, or conversely the beginning of a measure may be omitted. In such cases, use Undo/Redo (→ p.183) or Event Clear (EVENT EDIT/EVENT CLEAR: → p.251) to correct the scene recall event.
The secret to avoiding cutting off the beginning of a measure is to recall the scene a sixteenth note before the measure.

4. Press ■ to stop the sequencer. Then press ⏮ to return to the top of the song. Finally, press ▶ to listen to the result. As playback proceeds, you should see and hear the mute settings and the FREE-track setup (the samples that are played by the FREE 1–4 track pads) change as you move from one section to another.

NOTE:

- *Even if the song returns automatically to the top position when you finish recording, you must nevertheless press the ⏮ button (or the **[TOP]** button, briefly) to restore the top scene.*
- *If you are not happy with the results, you can use the UNDO/REDO feature to remove them. This feature works only while the sequencer is in PLAY STANDBY mode, and only on the events recorded during the last recording pass. (→ p.183)*
- *You can also delete selected scene-recall events using the EVENT EDIT | LOCATION&VALUE job (→ p.246).*

▼ After starting playback, you should notice that the mute-setup changes as follows as the song location changes from 008:4 (end of Intro A) to 009:1 (start of Intro B).



2.3.11 Recording the FREE Tracks

Now that we've set up the basic structure for our song, we'll proceed to record note and ribbon events onto our FREE tracks. This is the final step in the building of our song.

NOTE:

- *If the PAD SENS parameter (in the TRACK SETUP | SETUP job) is set to ON, the COMPOSED LOOP and FREE track pads are velocity sensitive. This means that the loudness of the recorded note depends on the force with which you hit the pad (stronger force produces a louder sound). If you set PAD SENS to OFF, then all pad hits produce the same loudness.*
- *If you are not happy with the results of a recording pass, you can undo them using the UNDO/REDO feature. Alternatively, you are always free to use the EVENT EDIT | LOCATION&VALUE job to delete or adjust the timing, duration, and velocity of any recorded note events.*

■ Building Intro A and Intro B

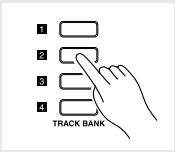
The sample we recorded onto the first FREE track (FREE 1) is quite long—long enough to play continuously for more than 16 measures. We'll hold this note down all the way through Intros A and B. Since we will record it from the beginning of the song (001:1), let's set a count-in of 2 or 1. (→ SYSTEM/SETUP/COUNTDOWN: p.299) For the other FREE tracks (2/3/4), we'll use the ribbon controller to record scratch actions.

Procedure

Recording Note Play on FREE 1 of track bank 2

1. So that the sample we prepared for track bank 2 will sound when we press the FREE 1 track pad, press the TRACK BANK [2] button.

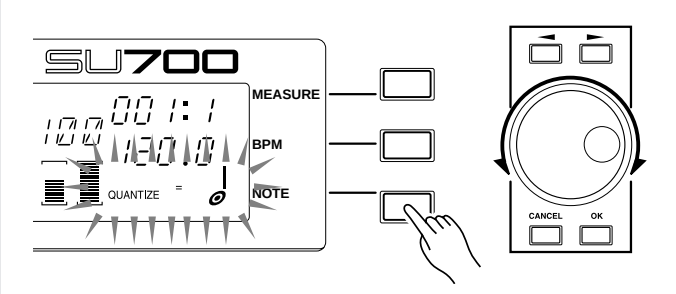
▼ Press the **[PLAY]** PAD FUNCTION button to ensure that the pads can be used to play notes.



2. Press ⏮ to return the song to the top position and restore the main scene. Then press ● to set the sequencer into REC standby mode.

▼ Confirm that the REC and PLAY indications appears along the top line of the display.

3. Press the [NOTE] button, so that the NOTE area of the screen is blinking. This area should now be showing the QUANTIZE= display. Turn the dial to set the quantize value to a quarter note: QUANTIZE=♩.



4. **Press ▶ to begin recording. Allow the lead-in measures to pass, while watching the location indicator. When the position reaches 001:1 (the actual start of the song), press and hold the FREE 1 track pad. Continue to hold the pad down for 22 measures, releasing it when the location reaches 023:1.**

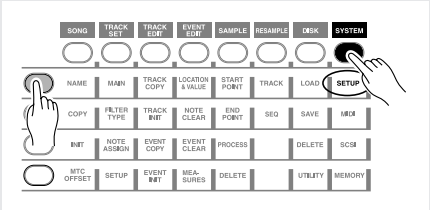
> ***NOTE:***
> *The number of lead-in measures is determined by the COUNTDOWN parameter in the SYSTEM | SETUP job (→ p.299). It is assumed that the SU700 is currently set to give you two lead-in measures (since this is the factory default).*

5. **Press ■ to stop the sequencer. Press ⏮ to restore the top scene.**

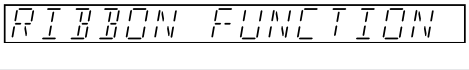
Recording Ribbon Actions on FREE 2, FREE 3, and FREE 4 of track bank 2

First we set the ribbon so that it controls the "scratch" function.

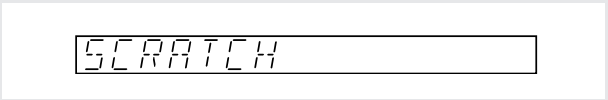
1. **Press the [SYSTEM] job-group selector, and then the top job selector. This opens the SYSTEM | SETUP job.**



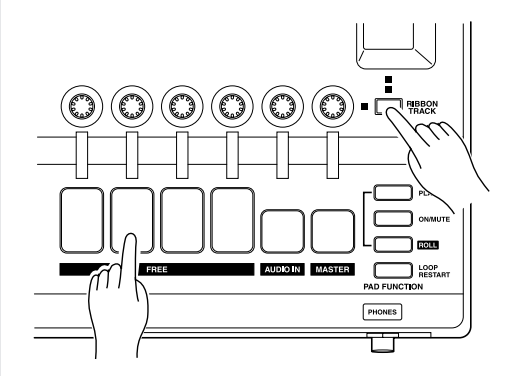
2. **Turn the dial until the screen displays RIBBON FUNCTION, and press [OK].**



3. Turn the dial until the screen indicates that the function is set to SCRATCH, and press [OK].

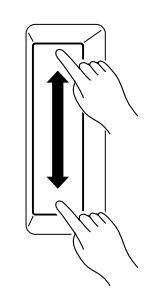


4. Now let's assign the ribbon so that it works with the second FREE track (FREE 2). To do this, hold down the [RIBBON TRACK] button and press and release the FREE 2 pad.



▼ Now you can use the ribbon controller to record scratch actions onto the FREE 2 track.

5. Press [▶] to start recording. Slide your finger up and down the ribbon to record scratch actions at appropriate places as the song moves through Intro A and Intro B (from 001:1 through 022:4).



6. Press [■] to stop the sequencer, and [⏮] to restore the top scene.

▼ Now repeat steps 4–6 to record scratch actions for FREE tracks 3 and 4 wherever desired.

■ Building Sections A and B

Now we will record FREE tracks 1–4 of track bank 1 for sections A and B.

We will play the sample on FREE track 1 at the beginning of each section.

For the other FREE tracks (FREE 2, 3, 4), you can strike pads to record notes (pad presses) at any locations you like while listening to the playback from the other tracks.

- Since the FREE track pads are velocity-sensitive, the force with which you strike the pads can be used to change the volume or record other types of data. If you wish to record each strike at the same volume, turn off the pad sensitivity. (→ p.301: PADSENS)

- The **[UNDO/REDO]** button can also be used when recording the FREE tracks.

Procedure

Recording on FREE 1 of track bank 1

1. Press the [MEASURE] button, and then turn the dial to set the location to 025:1.

NOTE:
If you are not using any lead-in, you may want to set the location to one or two measures before 025:1, so you have adequate lead-time to prepare to enter pad and knob action.

2. Press the ● button to put the sequencer in REC STANDBY mode.

3. Set the quantize interval to quarter-note (QUANTIZE=♩), and press ▶ to begin recording.

4. When the location reaches 025:1, press and hold the FREE 1 pad of track bank 1. Continue holding the pad until 026:2.

▼ At the location 041:1 once again press the FREE 1 pad, and hold it until 042:2. This completes the recording for this track.

Recording on Other Free Tracks (FREE 2, 3, and 4)
Put the sequencer in recording mode, and press the pads for FREE tracks 2/3/4 at the locations shown in the table below.

	MEASURE	FREE Tracks		
		2	3	4
Section A	025:1			
	028:1		●	
	032:1	●		
	032:4			●
	036:1		●	
	040:1	●		
	040:4			●
Section B	041:1			
	044:1		●	
	048:1	●		
	048:4			●
	052:1		●	
	056:1	●		
	056:3			●

■ Building Sections C and D

In sections C and D, the LOOP tracks 1 and 2 are muted. FREE track 1 of track bank 2 will play continuously as in Intro A and B, and we will use FREE tracks 2/3/4 of track bank 2 to record scratch actions.

Procedure

Recording on FREE 1 of track bank 2

1. **Press the [MEASURE] button, and then turn the dial to set the location to 057:1 (the beginning of section C).**
   ▼ If the count-in has been turned off, select a location earlier than 057:1 (such as 055:1).

2. **Press the [●] button to put the sequencer in REC STANDBY mode. Then press [▶] to begin recording.**

3. **Set "QUANTIZE=♩" and then press [▶] to begin recording.**

4. **When the location reaches 057:1, press and hold the FREE 1 pad of track bank 2. Hold the pad down for 16 measures, releasing it at 072:4.**

Recording Ribbon Actions on FREE 2, FREE 3, and FREE 4 of track bank 2
Proceed in the same way as you did when recording these tracks for the Intro A and Intro B sections, and use the scratch function of the ribbon controller to record FREE tracks 2/3/4.

■ Building Section E

Section E is simply two repetitions of Section B (16 measures). Record section E in the same way that you did for Section B.

Record each track as shown in the following table.

MEASURE	FREE Tracks			
	1	2	3	4
073:1	●			
076:1			●	
080:1		●		
080:4				●
084:1			●	
088:1		●		
088:4				●
089:1	●			
092:1			●	
096:1		●		
096:4				●
100:1			●	
104:1		●		
104:3				●

Building the Endings (Ending A and Ending B)

Ending A is identical to Intro B, and Ending B to identical to Intro A.

FREE 1 of track bank 2 is a long sample. Press the pad at 105:1 and hold until 120:2. Then press again at 121:1 and hold until 129:4.
For the other FREE tracks (FREE 2, 3, and 4 of track bank 2), use the ribbon controller to record scratch actions.

Use the same procedure as when recording Intro A and B to record the FREE 1 track of track bank 2 and FREE 2/3/4 tracks.

2.3.12 Adjusting the Finished Song

Finally, playback the song and make adjustments to the overall volume balance or other finishing touches.

- If you are not happy with any of the knob settings recalled from a scene, you can adjust the scene content as follows. With the sequencer stopped (in PLAY STANDBY), press the scene button briefly to recall the scene. Then adjust only the settings that you wish to change. *Then press and hold the same scene button again* until the screen displays the SCENE STORED message.
- You can use the MASTER track LEVEL knob setting to adjust the overall level or to introduce fade-ins and fade-outs. You can record LEVEL knob action on the MASTER track just as you do on other tracks.

- In the same way as for [LEVEL] settings, the parameters set by the **KNOB FUNCTION** buttons can be modified and stored again to a scene button. When the song is played back, the modified settings will be recalled.
- Detailed adjustments to note events can be made using the Event Edit function "LOCATION & VALUE" (→ p.246).
- Note, mute, roll, loop restart, and scene events can be deleted using an Event Edit function (→ p.246).

2.3.13 Assigning a Name to the Song

By default, a newly-created song is assigned a name of "SONG01." Here's how to assign an original name. This example shows how to assign a song name of "1 GROOVE."

Procedure

1. **Open the SONG | NAME job: With the sequencer stopped (in PLAY STANDBY), press the [SONG] job-group selector, and then press the top job selector [NAME].**

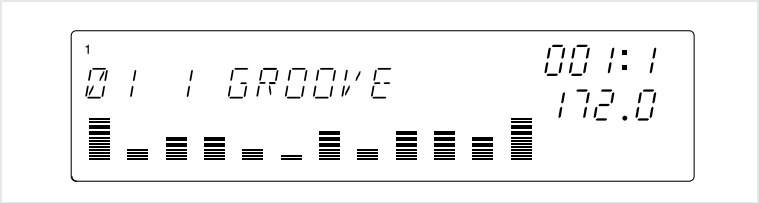
2. **The following display will appear.**

3. **The first character "S" of the name is blinking. Turn the dial until the first letter becomes "1".**

4. **Now press the cursor [▷] button once to move the cursor to the second character position. Then turn the dial all the way to the left so that the "O" character changes to a blinking "_".**

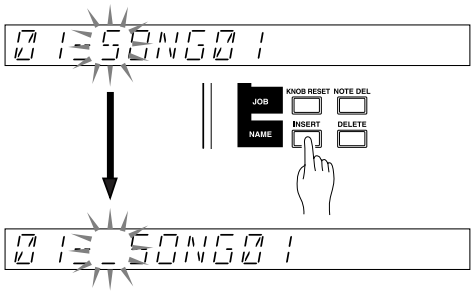
5. **Press the cursor [▷] button once more to move to the third character position and make the "N" blink. Notice that the second character has been set to a blank space. With the third character "N" blinking, turn the dial to change the "N" to "G."**

6. **Use the same procedure to finish entering the name. Then press [OK] to register the song name and return to the main screen. (Or press [CANCEL] at any time to restore the original name and return to the main screen.) The main screen will show the song name that you specified.**

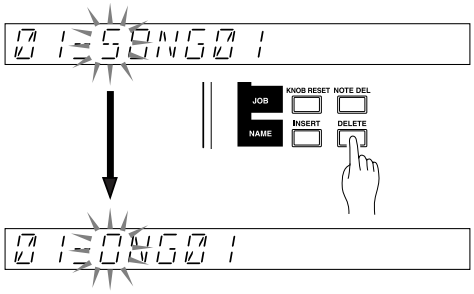


Naming rules

- Names are limited to eight characters.
- The following characters can be used in a song name.
  Numerals: 0–9
  Uppercase alphabet: A–Z
  Symbols: space, _ (underline)
- You can use the JOB/**[INSERT]** button (on the Editing Function panel) to insert a space character at the current cursor position (pushing all subsequent characters ahead one position; the character original in the eighth position, if any, will disappear).



- You can use the JOB/**[DELETE]** button to delete the character at the current position (all subsequent characters will move forward to fill in the gap).



- All names must be unique. If you attempt to use a name already in use by another song in memory, the screen will briefly display the NAME EXISTS message and then return you to the editing screen. You can then re-edit the name, or else press **[CANCEL]** to restore the original name.

- If you press the **[OK]** button when the song name consists only of blank spaces, the display will indicate "ILLEGAL NAME" for several seconds, and will then return you to the song name editing screen.

2.3.14 Saving the Song

The SU700 loses all song data when you switch off the power. So let's save the song to floppy disk.

To save a song, you must execute a *volume save*. This will write all existing song data (all songs currently in SU700 internal memory) to disk. In this case our volume will have only one song—the song we just created.

> Volume: All song data, sample data, markers, and scenes in the memory of the SU700 is collectively referred to as a Volume.

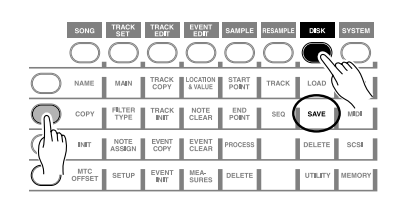
For this procedure, it is assumed that you are using an empty MS-DOS formatted floppy disk (2DD or 2HD type), with the disk's write-protect tab switched off (so that writing is enabled). In fact it is also possible to use an unformatted or non-empty floppy disk, although the procedure flow will differ somewhat.

NOTE:
For detailed information about all aspects of data saving and loading, refer to the explanations of the DISK | LOAD and DISK | SAVE jobs (pages 281 to 292). Note that if you have installed the optional SCSI board (ASIB1 board), you have the option of saving data to an external SCSI hard disk, MO drive, or ZIP disk. While floppy disks are limited to a single volume, external SCSI disks can hold multiple volumes.

Procedure

1. **Insert the floppy disk into the disk slot on the front panel.**
▼ Make sure that the write protect slider of the floppy disk is in the OFF position. (→ p.287)

2. Open the DISK | SAVE job: Press the [DISK] job-group selector, and then press the second job selector.

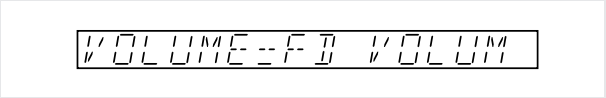


3. Turn the dial as necessary to select the following, and press the [OK] button.

4. Confirm that the display appears as follows.

▼ If you have installed an ASIB1 board and mounted a SCSI drive, you may need to turn the dial to select FDD at the above screen.

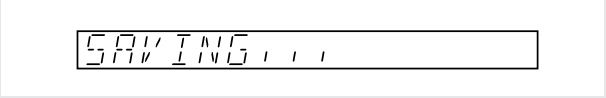
5. Press [OK]. The screen will display the volume name for the volume your are saving. The default volume name for floppy-disk saves is FD VOLUM.



▼ If the inserted disk already contains a volume, or its write protect tab is in the ON position, or is not in MS-DOS format, an appropriate message will appear. (Refer to SAVE, → p.288)

6. Press [OK] to execute the save. While the data is being saved, the display will indicate "SAVING..."

▼ You cannot use **[CANCEL]** to stop the operation while the SU700 is writing to disk.



7. If the volume is too large to fit on a single floppy, the screen will display a slightly different message: SAVING... FD01. When the first disk becomes full, the screen will prompt you for another disk. Exchange floppy disks and press [OK]. The next screen will then display the message SAVING FD02. The SU700 will continue to prompt for new disks until the entire volume has been saved (or until you press [CANCEL] to cancel the operation between disks).

NOTE:
Never switch off power or attempt to eject the disk while writing is in progress. Doing so may cause loss of data and damage to the disk drive.

8. When saving is completed, the main screen will reappear.

2.3.15 Loading a song

Here's how data (a volume) previously saved to a floppy disk can be loaded back into the SU700. When you load a volume, the previously-created song data as well as the SU700 setup data will be loaded.

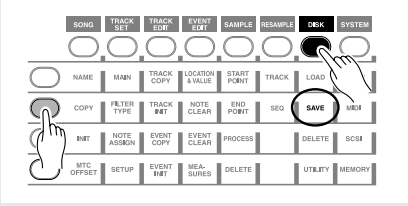
- It is also possible to load individual samples from data that was saved as a volume. (→ p.283)
- If a floppy disk containing a volume is inserted into the disk drive and the SU700's power is turned on, the volume will automatically be loaded from disk.

> ⚠ ***CAUTION***
> ***When a volume is loaded, all data currently in the SU700 will be lost. Be sure that any important data has been saved to disk before you execute the load operation.***

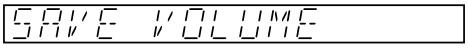
Procedure

1. Insert a floppy disk containing a volume into the floppy disk drive.

2. Press the [DISK] button, and then press the [LOAD] button located at the top.



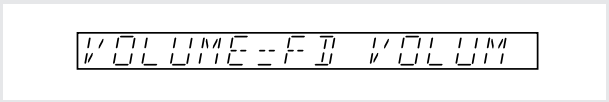
3. Rotate the dial to select "LOAD VOLUME," and press [OK].



4. The following display will appear, allowing you to confirm that the load source drive is the floppy disk drive.

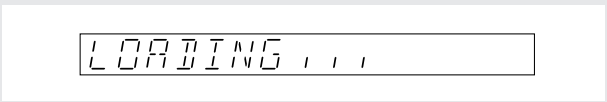
▼ If a SCSI drive is connected, use the dial to select "FDD."

5. Press the [OK] button, and the load source volume select display will appear. Since a floppy disk can contain only one volume, that volume name will be displayed.



6. Press [OK] to load the volume. During this process, the display will indicate "LOADING..."

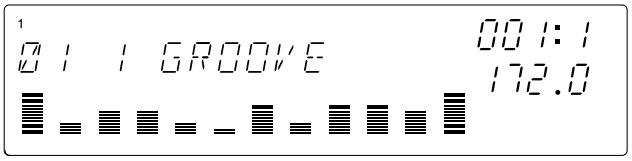
▼ At this time it is not possible to use **[CANCEL]** to cancel the loading process.



7. If you are loading volume data that was distributed across two or more floppy disks, you will need to insert each floppy disk in the correct order, starting with the first (FD 01). The display will prompt you for the required disk. If you insert a disk out of order, the display will indicate "INSERT FD xx" (where xx is the disk number 01–99). Insert the correct floppy disk and press [OK] to continue the loading process.

▼ If you press **[CANCEL]** at the "INSERT FD xx" prompt, the loading process will be canceled, and you will return to the main screen.

8. When loading ends, the main screen will reappear, with the name of the song that was loaded.



2.3.16 Techniques for song playback

By taking advantage of various techniques as you playback a song, you can add variety to the performance.

● ***Using the function knobs***

- When you press a KNOB FUNCTION button, the knobs of all tracks will perform the specified function. When the power is turned on, the knobs will control the volume (LEVEL) of each track.

  → When the [LEVEL] parameter is selected, you can create fade-in/out effects for an individual track. The MASTER track knob will control the master volume, allowing you to fade-in/out the entire song.

  You can use the KNOB FUNCTION buttons to select a parameter, and use the knobs to control the sound while the song plays back.

- If you assign knob functions for each track beforehand in the TRACK SET/MAIN screen (→ p.231), these knob function assignments will be in effect when the main display is shown. This method lets you assign different knob functions for each track.

- If you use SYSTEM/SETUP/REC MODE (→ p.300) to set the sequencer recording mode to "OVERDUB," you can record additional knob movements onto existing song data.

● ***Pad play***

- You can strike pads to play samples during playback. In addition to simply playing samples from the pads, you can also use the [ROLL] or [LOOP RESTART] pad functions.

- The pad function [ON/MUTE] lets you halt playback of a currently-sounding sample, or cause a currently-muted loop to be heard.

● ***Adding an external source (AUDIO IN)***

- While a song plays back, you can mix in an audio source from the ANALOG INPUT. You can use the AUDIO IN track knob to adjust the volume, pan, and effects of the audio input. You can also mute it.

● ***Using the ribbon controller***

- The ribbon controller can be used to control parameters in the same way as the function knobs. Specify the track and the parameter that you wish to control. (→ p.172)

- The ribbon controller has a "SCRATCH" function that is unique to it, and which allows you to play a sample manually by scratching the ribbon controller.

● ***Use scene memory to change the settings of various parameters***

- Function knob data and mute on/off settings can be stored in the scene buttons. (→ p.176)

  The scene buttons offer a wide range of possibilities; for example you might program a scene button to raise the pitch of all non-rhythm instrument by a semitone, or switch the LOOP tracks to other tracks, etc.

- By using SYSTEM/SETUP/REC MODE (→ p.300) to set the sequencer recording mode to "OVERDUB," you can add scene changes to existing song data.

● ***Jump using the marker buttons***

- Measure locations within a song can be stored in the MARKER buttons. Marker button data cannot be recorded in a song, but by pressing a marker button while a song plays, you can make the playback jump. If each location at which the song changes has been stored to a marker button, you can use the marker buttons to jump to any desired section in the song.

● ***Synchronized operation with an external MIDI device***

- The SU700 can be synchronized with an external MIDI device. An external MIDI sequencer synchronized with a SU700 song can be used to play the melody, or you can play SU700 samples along with the playback of an external MIDI device.

● ***Modifying measure, BPM, and note (quantize and grid)***

- When a song is played back, the MEASURE area of the display will show the position (measure number and beat) of the song.

  By pressing the **[MEASURE]** button and using the dial, you can move the position within the song. The position can also be moved by using the sequencer control buttons ⏮, ⏪ and ⏩, or by storing a song position in a MARKER button.

- When a song is played back, the BPM area of the display will indicate the BPM (tempo value) of the currently-playing song.
  You can modify the BPM by pressing **[BPM]** and using the dial. The BPM can also be modified by striking the **[BPM COUNTER]** button at regular intervals.

  * You can specify what will happen when BPM is modified; either the pitch will change (as when you modify the rotational speed of an analog record player), or the pitch will remain unchanged and only the BPM will change. (→ TRACK SET/SETUP/BPM TRACKING: p.237)

- When a song is played back, the NOTE area of the display may indicate "QUANTIZE" or "RESOLUTION," depending on the selected knob function or pad function.

  By setting "QUANTIZE," you can correct the timing at which a sample is played. (The accuracy is specified as a note value.)
  "RESOLUTION" will appear when you use GROOVE to set the groove, or when you set the cyclic frequency of an effect, or when you use the **[ROLL]** button to roll-playback a sample.

2.4 Modifying sampled sounds

The audio tracks (tracks 79–92 of the audio CD) that we sampled in the previous section ("Building Your Own Song") were all created by processing various sources from tracks 1–78 of the audio CD.

In this section, we will sample these original sources, use effects, equalizer, and filter settings to modify them, and finally create a song.

Track Structure

Our song will use ten samples—thereby making use of all tracks in Bank 1. All tracks will use samples recorded from the included sampling CD (SU700 Sampling Audio).

Using the procedure described in "Building Your Own Song," go ahead and sample these unprocessed sources (tracks 79–92).

> In the previous section "Building Your Own Song," we used two banks to provide a total of eight samples for FREE tracks 1–4, but this time we will use only one bank and four samples. We will store two sound settings in the scene buttons, and switch scenes during the song to use a total of eight different samples.

LOOP 1:.....Source: Track 14-2 (Dear John B (Wet) - 102 bpm)

We'll use this track for a drum pattern. We'll apply an amp-simulator effect, and use the equalizer to provide emphasis in the lower frequency range.

LOOP 2:.....Source: Track 77-5 (Jumping Jaks)

On this bass track we'll use an effect-type bass sound. We'll drop down the pitch of the original sample and apply a band-pass filter to get a kind of drunken walking bass.

COMPOSED LOOP 1:...Source: Track 75-1 (Lo Note Rezo C2)

On this bass track we'll use a four-measure (16 beat) loop phrase. We'll raise the pitch and apply a low-pass filter and a delay.

COMPOSED LOOP 2:...Source: Track 75-1 (Lo Note Rezo C2).

Here we'll use the same sample as on COMPOSED LOOP 1 track, but we'll set it to a different pitch.

COMPOSED LOOP 3:...Source: Track 45-1 (*Harp Gliss Down)

We'll build a four-measure effect-type phrase. We'll raise the pitch of the original sample, and apply LFO modulation, filtering, and effects.

COMPOSED LOOP 4: ...Source: Track 45-13 (*Radiator)

We'll build an eight-measure effect-type phrase. We'll drop the pitch of the original sample, and apply LFO modulation, filtering, and effects.

FREE 1:.....Source: Track 64-1 (*Japaneez Rev)

We'll use a long sample, with a duration of at least four measures (16 beats). We'll set the sound up in two different ways, and use the different sounds in different sections of the song.

FREE 2:.....Source: Track 58-10 (*Dance Hall)

FREE 3:.....Source: Track 9-1 (Hooper Looper A-88 bpm)

FREE 4:.....Source: Track 5-6 (Dry Relaxed Loop-97 bpm)

We'll use these tracks to include sound effects, drums, and fills at various locations throughout the song. We'll also use the ribbon controller to scratch out these sounds during the Intro and Ending sections. As with the sample on FREE 1, we'll set the sound up in two different ways, and use them in different sections of the song.

Song structure

The song will be structured in the same ten blocks as in the previous section, "Building Your Own Song." In the following table, the material printed in bold indicates the differences from the song you created in "Building Your Own Song."

Measure	Section	Description
001	Intro A	**Sound type B settings are used for FREE tracks 1–4.** We'll play the sample on FREE 1 continuously (all the way through to the end of Intro B). We'll use the ribbon control to scratch out the sound on FREE tracks 2–4 (both in Intro A and again in Intro B).
009 .	Intro B	FREE tracks continue as in Intro A, **using the sound type B settings**. At start of Intro B, begin bass loop phrases on COMPOSED LOOP 1 and 2.
023 . .	Break	All tracks muted for two measures. Here we switch the sounds of FREE tracks 1–4 to different settings (sound type A) than were used during the intro.
025 . . .	Section A	Start LOOP 1 and LOOP 2 loops at beginning of this section. Also start COMPOSED LOOP 1 and 2 loops at beginning of this section. Hold FREE 1 sound from start of this section for approximately 2 measures. Begin playback of other FREE tracks starting from the middle of this section.
041 .	Section B	Start COMPOSED LOOP 3 and 4 loops at beginning of this section. Other tracks continue as from section A. All tracks are now playing.
057	Section C	Switch mute ON for LOOP 1 and LOOP 2 at beginning of this section. All COMPOSED LOOP tracks continue playing without change (sound is same as in Section B). At start of this section, switch all FREE tracks back to the **sound settings** they had during the Intro sections (**sound type B**), and play them in the same way as during Intro A. All FREE tracks play the same as in Intro A.
071 .	Section D	Switch mute ON for COMPOSED LOOP 1 and 2 at beginning of this section. Continue COMPOSED LOOP 3–4 and all FREE tracks from Section C.
073	Section E	At start of this section, change FREE tracks back to the **type A sound settings**. Also at start of this section, release mutes on LOOP tracks 1 and 2, and on COMPOSED LOOP 1 and 2, so that all tracks are playing. Play the same content as Section B (16 measures) twice in succession (32 measures).
105 . . .	Ending A	At the beginning of this section, switch mute ON for LOOP 1 and 2 tracks and for COMPOSED LOOP 3 and 4. Switch the **sounds** of FREE tracks 1–4 back to **sound type B**, and play FREE tracks 1–4 in the same way as in Intro B.
121 . . 130	Ending B	At the start of this section, switch mutes ON for COMPOSED LOOP 1 and 2, so that all looping tracks are muted and only FREE tracks are unmuted. Play FREE tracks 1–4 as in Intro A. Hold FREE 1 until measure 130, where the song ends.

Before you sample!
Make sure that you have sufficient memory before you begin sampling. If you have loaded the demo song or created a song as described in the previous section, turn the power off and then on again to clear the memory before you begin creating the song described below.

2.4.1 Creating the LOOP 1 track

■ Sampling

On the LOOP 1 track, we will record the last measure from track 14-2 "Dear John B (wet)-102 bpm" (drum phrase) of the included audio CD.

- The sampling procedure is the same as described on page 50 of "Building Your Own Song."
- Set the sampling grade to "44K 16BIT MONO L."

■ Track editing (creating a looped phrase)

Adjust the start/end points of the sample of the LOOP 1 track to create an endless loop.

- The procedure for creating a looped phrase is the same as described on page 55 of "Building Your Own Song."

■ Modifying the sound

You can modify the tone of the sample and the way in which it sounds by playing it back at a different pitch, by applying equalizer or effects, and by modifying the playback timing (attack, release, length).

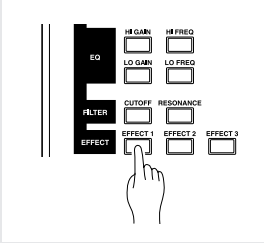
Of the **KNOB FUNCTION** buttons, changes you make to parameters other than the GROOVE parameters can be heard by pressing the pads. You can make as many changes as you wish, even before playing back the sequencer.

● *Effect settings*

First let's apply the amp simulator effect that is assigned to the **[EFFECT 1]** button. The amp simulator effect simulates the result of playing a sound through a guitar amplifier.

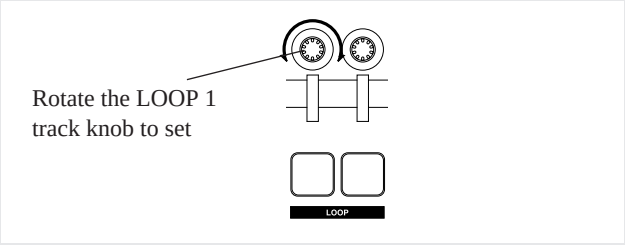
Procedure

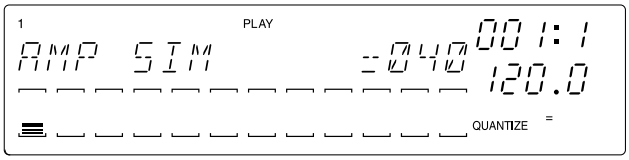
1. **Press the EFFECT/[EFFECT 1] button. The effect type "AMP SIM" that is assigned to EFFECT 1 will be displayed.**



2. **Since the amp simulator effect is a system effect (→ p.189), you can use the knobs to independently adjust the depth of the effect for each track.**

▼ Use the LOOP 1 track knob to set "AMP SIM=040." At this time you can press the pad to hear the result.





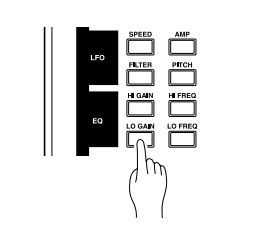
In this example, we simply used the amp simulator that was assigned to **[EFFECT 1]** by default. However you are free to choose from 43 types of effect, and adjust the effect parameters as desired.

● ***Equalizer (EQ) settings***

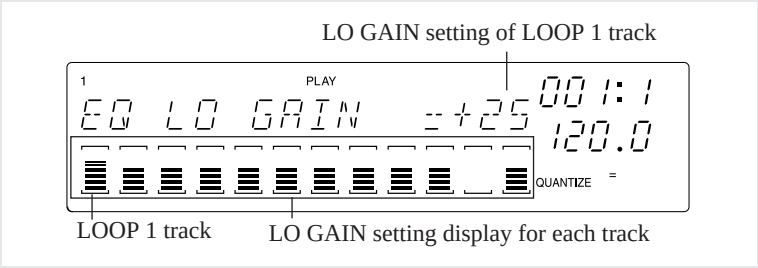
Next we will use the EQ/**[LO GAIN]** button to raise the level of the low-frequency region.

Procedure

1. **Press the EQ/[LO GAIN] button.**



2. **The display will indicate "EQ LO GAIN = +00." Rotate the LOOP 1 track knob to make the display read "EQ LO GAIN = +24." At this time you can press the pad to hear the results.**

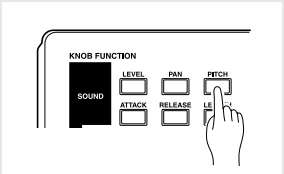


● ***Pitch settings***

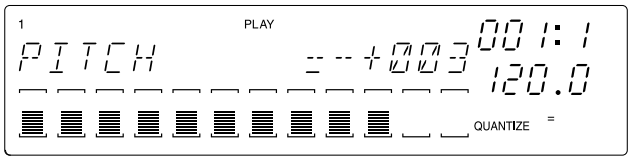
We will raise the playback pitch of the sample.

Procedure

1. **Press the SOUND/[PITCH] button.**



2. **Rotate the LOOP 2 track knob to make the display read "PITCH =+003."**

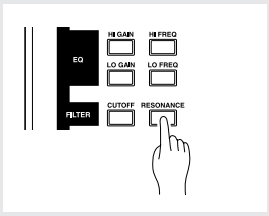


● ***Filter resonance settings***

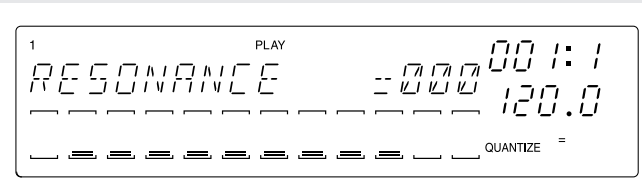
We will raise the filter resonance to emphasize the overtones of the sound.

Procedure

1. **Press the FILTER/[RESONANCE] button.**



2. **Rotate the LOOP 2 track knob to make the display read "RESONANCE=000."**



2.4.2 Creating the LOOP 2 track

■ Sampling

We will sample track 77-5 "Jumping Jaks" from the included audio CD to the LOOP 2 track.

- The sampling procedure is the same as described on page 47 of the preceding section, "Building Your Own Song."
- Set the sampling grade to "22K 8BIT MONO L."

■ Track editing (creating a loop phrase)

The LOOP 2 track is a loop that plays back endlessly, as is the LOOP 1 track. We will adjust the start/end point of the sample to create a loop that is suitable for our song.

- The loop phrase editing procedure is the same as described on page 55 of "Building Your Own Song."

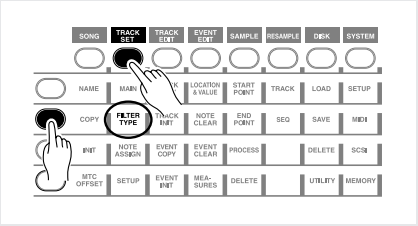
■ Modifying the sound

● *Applying a band-pass filter*

We will use a band-pass filter to modify the sound of the LOOP 2 sample. By default, the FILTER group uses a low-pass filter (LPF), so we will first change this to a band-pass filter (BPF), and then modify the [CUTOFF] and [RESONANCE].

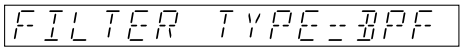
Procedure

1. Press the [TRACK SET] button, and then press the second button from the top to select [FILTER TYPE].

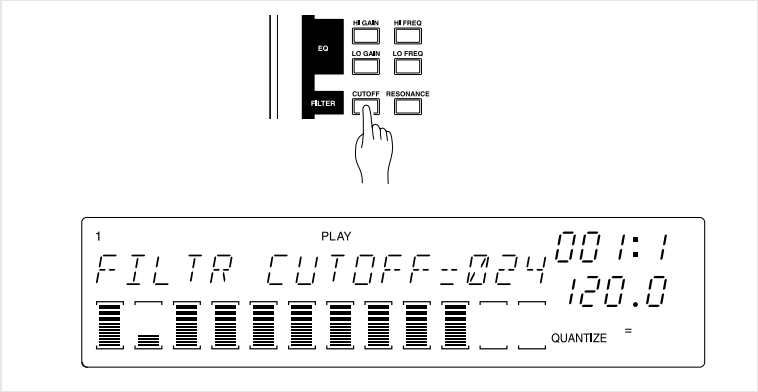


2. The display will indicate "FILTER TYPE=LPF" (default).

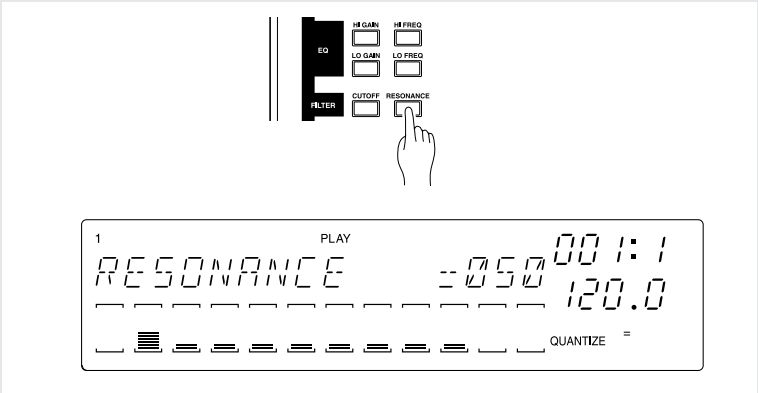
▼ Rotate the dial to select "FILTER TYPE=BPF," and press the **[OK]** button.
The filter type has now been set to BPF.



3. **In the FILTER group of the knob function buttons, press the [CUTOFF] button, and rotate the LOOP 2 track knob to make the display read "FILTER CUTOFF=024."**



4. **Next press the FILTER/[RESONANCE] button, and rotate the LOOP 2 track knob to make the display read "RESONANCE=050."**



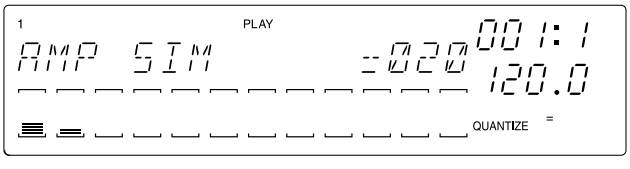
● ***Effect settings***

The amp simulator effect that is assigned to the **[EFFECT 1]** button will be applied to the LOOP 2 track as well.

Procedure

1. **Press the EFFECT/[EFFECT 1] button.**

2. **Rotate the LOOP 2 track knob to make the display read "AMP SIM=020."**



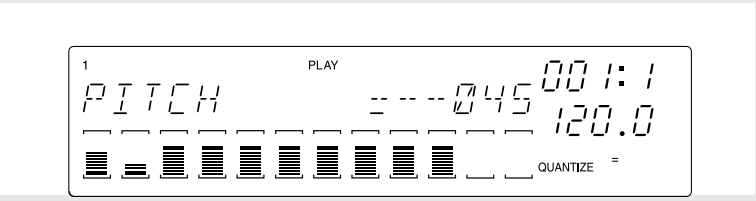
● ***Pitch settings***

Since we want to use the sample of the LOOP 2 track to play the bass, we will lower its pitch.

Procedure

1. Press the SOUND/[PITCH] button.

2. Rotate the LOOP 2 track knob to make the display read "PITCH=-045"



At the location where you want to audition the sound, press the sequencer ▶ button and listen to the LOOP 1 and LOOP 2 tracks. When you start the sequencer, the samples of the LOOP 1 and LOOP 2 tracks will loop repeatedly.

■ Synchronizing with the LOOP 1 track

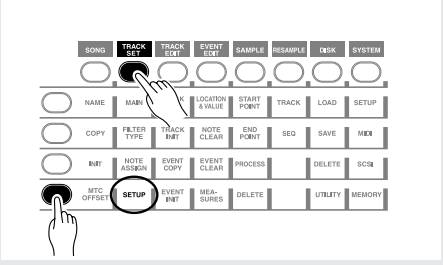
When you press the sequencer ▶ button, the LOOP 1 (drums) and LOOP 2 (bass) samples will each playback in a loop. Make adjustments so that the drums and bass are in sync with each other.

● ***Loop length setting***

Since the LOOP 2 sample is the bass, we will lengthen the loop. For example if we specify a two-measure loop for a one-measure sample, the notes in that one measure will be stretched so that they are played over two measures.

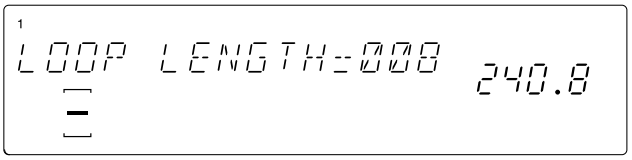
Procedure

1. Press the [TRACK SET] button, and then press the bottom button [SETUP].



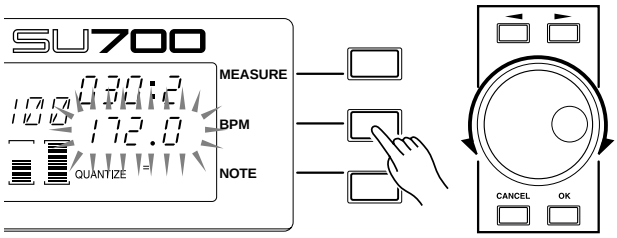
2. **Rotate the dial to select "LOOP LENGTH," and press the [OK] button.**

3. **The current loop length (which was set automatically) will be displayed. Rotate the dial to make the display read "LOOP LENGTH=008," and press the [OK] button.**



● ***BPM setting***

Press the sequencer [▶] button, and while you listen to check that LOOP 1 (drums) and LOOP 2 (bass) are suitably synchronized, set the BPM. Press the **[BPM]** button, and set the BPM display to "172.0."

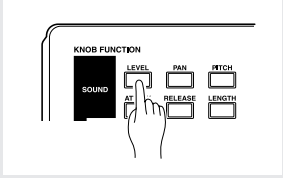


● ***Adjusting the volume balance***

Let's adjust the volume balance between the LOOP 1 track and the LOOP 2 track.

Procedure

1. **Press the SOUND/[LEVEL] button.**



2. **Press the LOOP 1 pad. The display will numerically indicate the volume level that is currently specified for the LOOP 1 track.**
Use the knob for the LOOP 1 track to set "LEVEL=127."

3. **Next press the LOOP 2 pad, and rotate the knob for the LOOP 2 track to set "LEVEL=075."**

This ends our work on the LOOP 1 and LOOP 2 tracks.
Next we will work on the COMPOSED LOOP tracks.

2.4.3 Creating the COMPOSED LOOP 1 track

■ Sampling

We will sample track 75-1"Lo Note Rezo C2" from the included audio CD to the COMPOSED LOOP 1 track (subsequently referred to as CL1).

- The sampling procedure is the same as described on page 50 of the preceding section, "Building Your Own Song."
- Set the sampling grade to "22K 8BIT MONO L."

■ Modifying the sound

For the CL1 track, we will set the following four parameters.

[Settings]

SOUND group	**[PITCH]**	+042
FILTER group	**[CUTOFF]**	+110
	[RESONANCE]	050
EFFECT group	**[EFFECT 2]** (1DELAY)	020

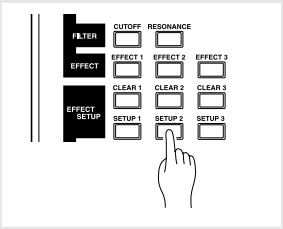
To set PITCH, CUTOFF, and RESONANCE, use the same procedure as you did when making settings for LOOP tracks 1 and 2.
For the CL1 track, we will modify the parameters of EFFECT 2.

● *Adjusting the Effect Parameters*

By default, effect block 2 applies the 1DELAY effect. We will leave this as the effect setting, but we will adjust several of the effect's parameters for the CL1 track.

Procedure

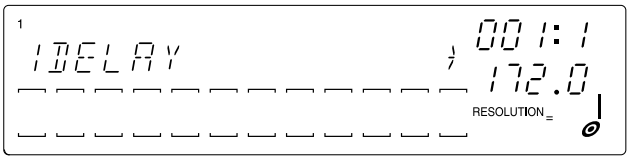
1. Press the EFFECT SETUP/[SETUP 2] button.



2. The display will indicate the effect type that is currently selected for EFFECT 2.

▼ This will be "1DELAY."

Since "1DELAY" is a system effect (→ p.189), brackets ([ ]) will be shown in the meter area for all tracks.

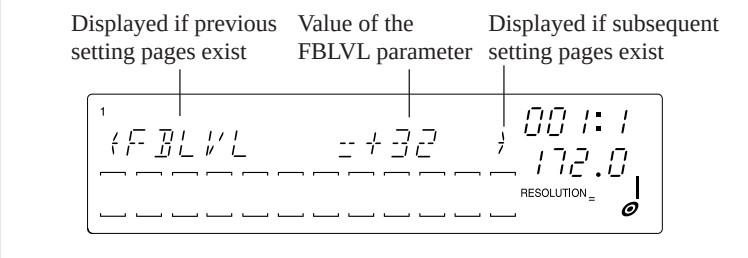


3. Each effect has several parameters which adjust some aspect of the effect. By modifying the parameter settings, you can change the speed or depth etc. of the effect.

▼ Use the cursor buttons ([◁], [▷]) to select the desired parameter, and use the dial to modify its value.

For this example, we will set the parameters of the 1DELAY effect to the following values. (Parameters marked by * differ from their default values.)

FBLVL ..... +32
FBHIDMP 008
LOWGAIN ..... +00
HI GAIN ..... +00
LEVEL 100
PAN C
EF3 SEND 030*



NOTE:

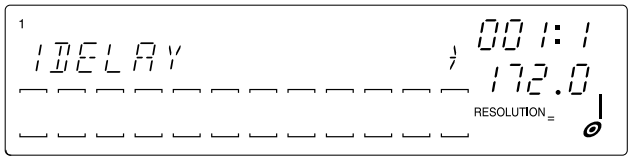
- *Effect parameter settings are made only for the effects themselves, and cannot be set for individual tracks.*
- *The parameters will differ according to the effect type. For details on the parameters of each effect, refer to the "Effect parameter list" (→ p.335).*

4. After setting the parameters, press [OK] to return to the main display.

5. Press the EFFECT/[EFFECT 2] button.

6. **Turn the knob for track CL1 to make the display read "1DELAY=020."**

7. **Now let's set the delay interval of 1DELAY to match the BPM of the song. Press the [NOTE] button to that "RESOLUTION=" is blinking. Then turn the dial to select a note value of ♩.**



■ Loop length setting

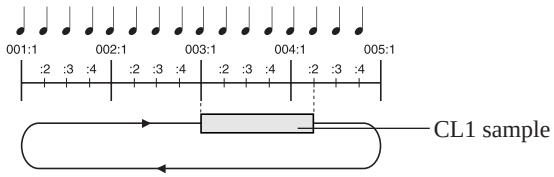
Using the same procedure as you did for LOOP 2, set the sample loop length of the CL1 track to "LOOP LENGTH=016."

■ Recording to the sequencer

Now we will record the sample for the CL1 track on the sequencer.

Samples for COMPOSED LOOP tracks will playback in a loop for the specified length (number of measures).

The sample for the CL1 track will be looped over 16 quarter-note beats (four measures), and will sound for five beats from the beginning of measure 3. (See diagram below.)



The recording procedure is the same as described on page 63 of "Building Your Own Song."

Procedure

1. **Press the sequencer [⏮] button to move to the beginning of the song, and press the [●] button to enter record-ready mode.**

2. **Press the [NOTE] button, and turn the dial to set Quantize to a quarter note (♩).**

3. **Press the sequencer [▶] button to start recording, and at the beginning of measure 3 (MEASURE display 003:1), press and hold the CL1 pad for five beats. Release the pad immediately before you reach 004.2.**

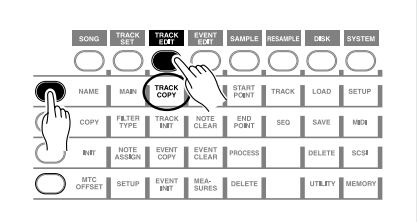
2.4.4 Creating the COMPOSED LOOP 2 track

■ Sampling

The CL2 track will use the same sample as the CL1 track, but we will modify its pitch. For this reason, we won't need to sample a sound for the CL2. We will simply copy the sample from the CL1 track.

Procedure

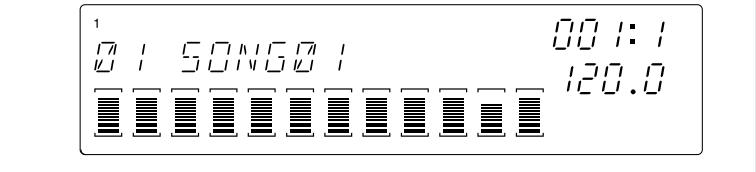
1. **Press the [TRACK EDIT] button, and then press the top button [TRACK COPY].**



2. **The display will indicate "SOURCE TRACK." Press the CL1 pad (the copy source), and then press the [OK] button.**

3. **The display will indicate "DESY. TRACK." Press the CL2 pad (the copy destination), and then press the [OK] button.**

4. **The sample will be copied, and the main display will reappear.**



■ Modifying the sound

For the CL2 track, only the pitch will be different.

[Settings]

SOUND group ..... [PITCH] +100

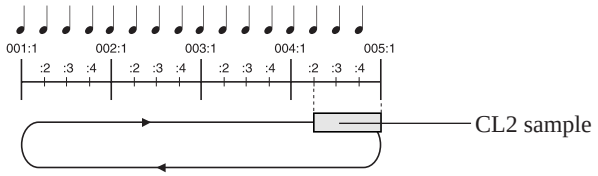
Use the same procedure as for the LOOP 1 and 2 tracks to make settings.

■ Loop length setting

Using the same procedure as when you set the LOOP 2 track, set the sample loop length of the CL2 track to "LOOP LENGTH=016."

■ Recording to the sequencer

Now we will record the sample for the CL2 track on the sequencer.
The sample for the CL2 track will be looped over 16 quarter-note beats (four measures), and will sound for three beats from the second beat of measure 4. (See diagram below.)



Begin recording as you did for the CL1 track. When you reach the second beat of measure 4 (MEASURE display of 004:2), press and hold the CL2 pad. Release it after three beats (immediately before you reach 005:1).

2.4.5 Creating the COMPOSED LOOP 3 track

■ Sampling

We will sample track 45-1 "*Harp Gliss Down" from the included audio CD to the COMPOSED LOOP 3 track (subsequently referred to as CL3).

- The sampling procedure is the same as described on page 47 of the preceding section, "Building Your Own Song."
- Set the sampling grade to "22K 8BIT MONO L."

■ Modifying the sound

For the CL3 track, we will set the following parameters.

[Settings]

SOUND group	**[PAN]**	L30
	[PITCH]	+062
LFO group	**[SPEED]**	026
	[FILTER]	068
FILTER group.....	**[CUTOFF]**	110
	[RESONANCE]	080
EFFECT group	**[EFFECT 1]**	025
	[EFFECT 2]	080
	[EFFECT 3]	070

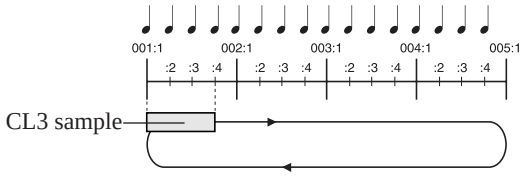
Make these settings using the same procedure as you did for the LOOP 1 and 2 tracks.

■ Loop length setting

Using the same procedure as you did for LOOP 2, set the sample loop length of the CL3 track to "LOOP LENGTH=016."

■ Recording to the sequencer

Now we will record the sample for the CL3 track on the sequencer.
The sample for the CL3 track will be looped over 16 quarter-note beats (four measures), and will sound for three beats from the beginning of measure 1. (See diagram below.)



Begin recording using the same procedure as for the CL1 track, and at the first beat of the first measure (MEASURE display 001:1), press and hold the CL3 pad. Continue holding it for three beats, and release it immediately before 001:4.

2.4.6 Creating the COMPOSED LOOP 4 track

■ Sampling

We will sample track 45-13: "*Radiator" from the included audio CD to the COMPOSED LOOP 4 track (subsequently referred to as CL3).

- The sampling procedure is the same as described on page ?? of the preceding section, "Building Your Own Song."
- Set the sampling grade to "22K 8BIT MONO L."

■ Modifying the sound

For the CL4 track, we will set the following parameters.

[Settings]

SOUND group	**[PAN]**	R20
	[PITCH]	-035
	[ATTACK]	077
	[RELEASE]	070
LFO group	**[SPEED]**	021
	[FILTER]	020
FILTER group.....	**[FILTER TYPE]**	BPF
	[CUTOFF]	082
	[RESONANCE]	122
EFFECT group	**[EFFECT 1]**	010
	[EFFECT 2]	042
	[EFFECT 3]	070

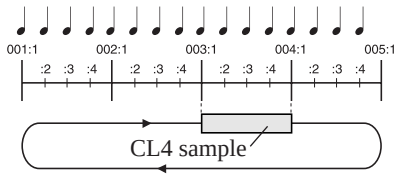
Make these settings using the same procedure as you did for the LOOP 1 and 2 tracks.

■ Loop length setting

Using the same procedure as you did for LOOP 2, set the sample loop length of the CL4 track to "LOOP LENGTH=032."

■ Recording to the sequencer

Now we will record the sample for the CL4 track on the sequencer.
The sample for the CL4 track will be looped over 32 quarter-note beats (eight measures), and will sound for four beats from the beginning of measure 3. (See diagram below.)



Begin recording using the same procedure as for the CL1 track, and at the first beat of the third measure (MEASURE display 003:1), press and hold the CL4 pad. Continue holding it for four beats, and release it immediately before 004:1.

2.4.7 Creating the FREE tracks

Later, we will record all of the FREE tracks into the sequencer. First, let's sample the sounds for the FREE tracks 1–4, and modify the sounds.

NOTE:
Since FREE tracks do not loop, they do not have a loop length setting as the LOOP tracks and COMPOSED LOOP tracks do.

■ Sampling

Using the same procedure as for LOOP 1, we will sample the following sources from the included audio CD to FREE tracks 1–4.

FREE 1 track ..... Track 64-1: *Japaneez Rev
FREE 2 track ..... Track 58-10: *Dance Hall
FREE 3 track ..... Track 9-1: Hooper Looper A-88 bpm
FREE 4 track ..... Track 5-8: Dry Relaxed Loop-97 bpm

- The sampling procedure is the same as described on page 50 of the preceding section, "Building Your Own Song."
- Set the sampling grade to "22K 8BIT MONO L."

■ Modifying the sound

Set the following parameters.
* For the samples of FREE tracks 1–4, we will change parameter settings during the song to switch between two types of sound, but first we will create the settings for sound type A which will be used in sections A/B/E of the song.

[Settings]

- FREE 1 track

SOUND group	**[PITCH]**	+24
FILTER group	**[CUTOFF]**	068
	[RESONANCE]	070
EFFECT group	**[EFFECT 1]**	005
	[EFFECT 2]	080
	[EFFECT 3]	65

- FREE 2 track

SOUND group	**[PITCH]**	+005
	[RELEASE]	088
EFFECT group	**[EFFECT 1]**	041
	[EFFECT 3]	050

- FREE 3 track

SOUND group	**[PITCH]**	+006
	[RELEASE]	086
LFO group	**[SPEED]**	003
	[FILTER]	085
FILTER group	**[CUTOFF]**	115
	[RESONANCE]	070
EFFECT group	**[EFFECT 1]**	075
	[EFFECT 3]	050

- FREE 4 track

SOUND group	**[PITCH]**	-038
	[RELEASE]	065
LFO group	**[SPEED]**	005
	[FILTER]	036
FILTER group	**[CUTOFF]**	122
	[RESONANCE]	042
EFFECT group	**[EFFECT 1]**	080
	[EFFECT 3]	050

2.4.8 Track mixing

Now that we have recorded all of our samples, let's adjust the volume balance between tracks.

Procedure

1. **Press the PAD FUNCTION [ON/MUTE] button, and then press the MASTER track pad twice to defeat muting for all tracks. (All tracks will now be able to sound.)**

2. **Press the PAD FUNCTION [PLAY] button, and then press the SOUND/[LEVEL] button.**

3. **Press the sequencer ▶ button to loop-playback the LOOP 1/2 and COMPOSED LOOP 1/2/3/4 tracks.**

4. **Adjust the volume of the LOOP 1/2 and COMPOSED LOOP 1/2/3/4 tracks, using their respective knobs.**

5. **While you listen to the loop playback of the LOOP and COMPOSED LOOP tracks, press the pads of FREE tracks 1–4, and use their knobs to adjust the volume of each track.**

6. **Use the MASTER track knob to adjust the overall volume.**

NOTE:

- *You can also use the MASTER VOLUME knob located at the upper right of the panel to adjust the overall volume, but the setting of this knob is not recorded in the song. The settings of the MASTER track knob are recorded in the song.*

- ***Level settings used for the finished demo on the CD***
  Settings for section B (0041:1–056:4)

  LOOP 1 127
  LOOP 2 048

  COMPOSED LOOP 1 078
  COMPOSED LOOP 2 078
  COMPOSED LOOP 3 035
  COMPOSED LOOP 4 022

  FREE 1 110
  FREE 2 079
  FREE 3 063
  FREE 4 110

  MASTER 127

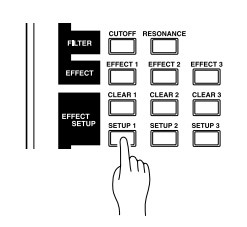
Effect settings

On the SU700, you can assign any desired effect type to each of the three buttons **[EFFECT 1]-[EFFECT 3]**, and then specify how each of the three effects will be applied to each track.

Procedure

- **Select the effect type and the depth of the effect**

1. **Press the EFFECT SETUP/[SETUP 1] (or [SETUP 2] or [SETUP 3]) button.**



2. **The display will indicate the currently selected effect type. Rotate the data dial to select the desired effect type.**

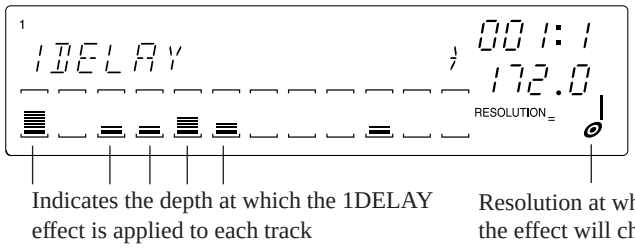
NOTE:
For details on the available effect types and what they do, refer to "Effect type list" (→ p.333).

▼ There are two categories of effect, distinguished by how they are connected; System effects and Insertion effects (→ p.189 to 191).

▼ In the case of a System effect, brackets ( ) will be displayed in the meter display of all tracks. Rotate the knobs of one or more tracks to adjust the depth of the effect for each track. You can strike a pad to hear the sound with the effect applied.

NOTE:
- *The depth at which the effect is applied to each track can also be specified when you press the EFFECT/**[EFFECT 1]-[EFFECT 3]** button. In this case, the display will indicate the value that was set.*
- *If you have selected an effect such as delay that creates cyclic change, the NOTE area of the display will indicate "RESOLUTION=." The cycle (resolution) at which the effect changes will be controlled in units of the note value that you specify here. We will be making this "RESOLUTION=" setting in step 6 of this procedure.*

▼ Example display when a system effect (1DELAY) has been selected

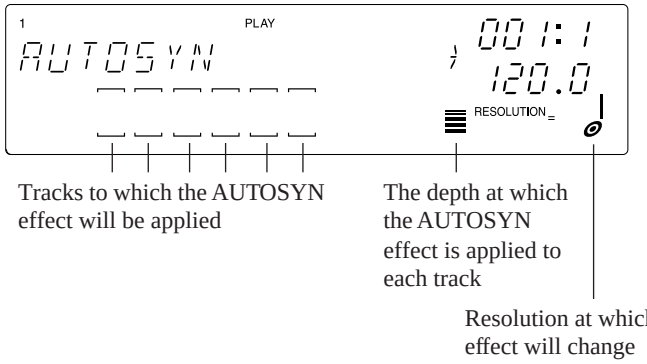


▼ In the case of an Insertion effect, brackets (⌷) will be displayed only in the meter display of the tracks to which the effect is connected. The effect will apply only to the sample of the tracks that you selected by pressing their pad. The effect depth is adjusted by the MASTER track knob. It cannot be adjusted separately for each track (sample). You can strike a pad to hear the sound processed by the effect.

NOTE:

- *The depth at which the effect is applied to each selected track can also be specified using the MASTER knob when you press the EFFECT group [EFFECT 1]-[EFFECT 3] button. In this case, the display will indicate the value that was set.*
- *An insertion effect can be applied to the AUDIO IN track.*
- *If you have selected an effect such as flanger that creates cyclic change, the NOTE area of the display will indicate "RESOLUTION=." The cycle (resolution) at which the effect changes will be controlled in units of the note value you specify here. We will be making this "RESOLUTION=" setting in step 6 of this procedure.*

▼ Example display when an insertion effect (AUTOSYN) has been selected



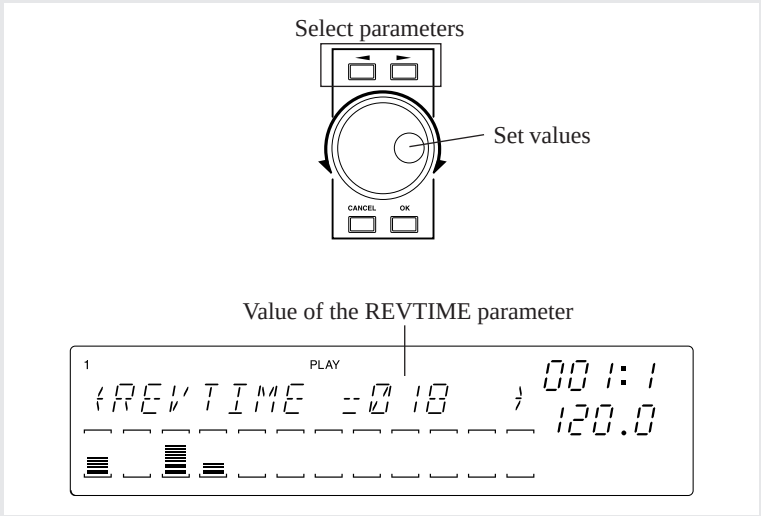
- **Setting the effect parameters**

3. Each effect has several parameters that determine how it will process the sound. By modifying the parameter settings you can change the speed or depth etc. of the effect.

▼ Use the cursor buttons ([◁], [▷]) to access the parameter that you wish to modify, and use the dial to set the value.

NOTE:

- *For details on the parameters of each effect, refer to "Effect parameter list" (→ p.335).*
- *When you change the effect type, the parameters of that effect will be initialized.*



4. After setting the parameters, press the [OK] button to return to the main display.

- **Setting the effect depth and rate of change**

5. When you press an EFFECT/[EFFECT 1]-[EFFECT 3] buttons, the effect type selected for the corresponding button will be displayed.

▼ In the case of a system effect, the specified effect can be applied to all tracks. Turn the knob of the track to which you wish to apply the effect, and specify the effect depth for that track. You can strike the pad and hear the sound processed by the effect.

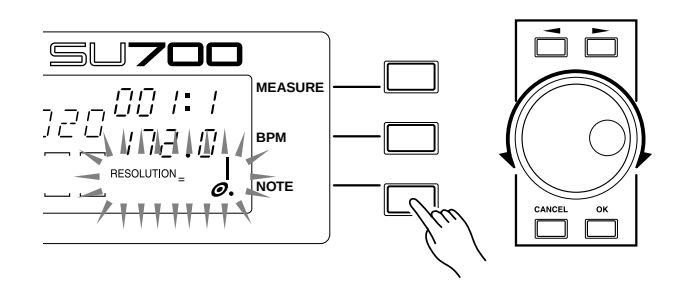
▼ In the case of an insertion effect, the effect will be applied only to the tracks to which the effect was connected in step 2.
Use the MASTER track knob to make adjustments. It is not possible to adjust this independently for each track (sample). You can strike the pad and hear the sound processed by the effect.

NOTE:

- *In the screen that appears when you press an EFFECT/**[EFFECT 1]-[EFFECT 3]** buttons, it is not possible to select the effect type or to modify parameters. You can think of this screen as being a place where you set the send levels from each track to three external effect units, EFFECT 1–3.*
- *If you press the EFFECT SETUP/**[CLEAR 1]-[CLEAR 3]** buttons, the effect send levels will be set to 0 for each track that is using that effect. (→ Effect clear 1/2/3: p.214)*

6. If the selected effect type allows you to specify the resolution (cycle of change), the NOTE area of the display will indicate "RESOLUTION=."

▼ Press the **[NOTE]** button to make "RESOLUTION=" blink, and use the dial to specify the desired note value symbol.



2.4.9 Song structure

Now we have provided samples for the ten pads (tracks) of track bank 1.
In the previous section "Building Your Own Song," we switched between two banks to play a total of eight samples on FREE tracks 1–4. However this time, we will use only the four samples of one bank. We will store two different types of sound settings (knob data) in the scene buttons, and switch scenes during the song to play a total of eight sampled sounds.
We will also modify the mute settings of each track between the various sections (intro, main, ending, etc.). Modifications we make to these samples (knob data) and mute data can be stored in the **[TOP]** and **[A]–[G]** scene buttons. Data for switching the scene buttons will then be recorded in the sequencer, so that scenes will change automatically as the song plays.

■ Scene change structure

We have assigned the following settings to the eight scene buttons, so that scenes will be selected at points in the song where the track mute status changes and where sample sounds (knob data) changes. (Refer to Song Structure: p.97)

Song	Block	Track Mutes Settings *1			FREE-track 1-4 Sound type *2	Scene button dssignment
		LOOP	C. LOOP	FREE		
		1 2	1 2 3 4	1 2 3 4		
001:1 : : 009:1	Intro A	× ×	× × × ×	○ ○ ○ ○	Type "B" Sound	[Top]
: : 023:1	Intro B	× ×	○ ○ × ×	○ ○ ○ ○	Type "B" Sound	[A]
: : 025:1	Break	× ×	× × × ×	× × × ×	Type "A" Sound	[B]
: : 041:1	Section A	○ ○	○ ○ × ×	○ ○ ○ ○	Type "A" Sound	[C]
: : 057:1	Section B	○ ○	○ ○ ○ ○	○ ○ ○ ○	Type "A" Sound	[D]
: : 071:1	Section C	× ×	○ ○ ○ ○	○ ○ ○ ○	Type "B" Sound	[E]
: : 073:1	Section D	× ×	× × ○ ○	○ ○ ○ ○	Type "B" Sound	[F]
: : 105:1	Section E	○ ○	○ ○ ○ ○	○ ○ ○ ○	Type "A" Sound	[D]
: : 121:1	Ending A	× ×	○ ○ × ×	○ ○ ○ ○	Type "B" Sound	[A]
: : 130:1	Ending B	× ×	× × × ×	○ ○ ○ ○	Type "B" Sound	[G]

*1:○ indicates ON (track will sound), X indicated MUTE (track will not sound)
*2:We refer to the samples of FREE tracks 1–4 that were created in the process up through page 119 as type "A" sounds. In the pages that follow, we will specify new type "B" sounds, and store them in scene buttons.

■ Storing settings for type A sounds in the scene buttons

First we will store settings to the scene buttons for the song sections which use type A sounds on FREE tracks 1–4.

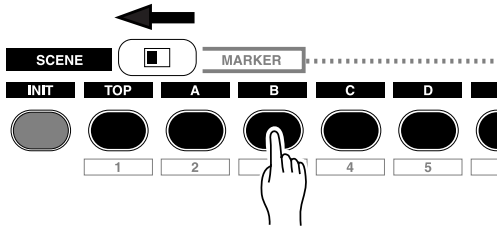
● *Section A = scene button [C]*

We will mute only the CL4 and CL4 tracks, and store these settings to scene button **[C]**.

LOOP		C.LOOP				FREE			
1	2	1	2	3	4	1	2	3	4
○	○	○	○	×	×	○	○	○	○

Procedure

1. **Press the PAD FUNCTION [ON/MUTE] button.**
2. **Press the pads of CL tracks 3 and 4 to mute them (so that they will not sound).**
3. **Press the PAD FUNCTION [PLAY] button.**
   ▼ This completes the mute settings. Since the FREE tracks 1–4 are currently set to type A sounds, we will store these settings in scene button **[B]**.
4. **Set the [SCENE/MARKER] switch to the SCENE position.**
5. **Press and hold the [B] button until the display indicates "SCENE STORED."**



to the SCENE position

6. **Release the [B] button. The scene has been stored.**

For the following song sections, use the same procedure to store the mute settings to scenes.

● ***Sections B and E = scene button [D]***
Defeat muting on all tracks (so that they will sound), and store the settings in scene button **[D]**.

● ***Break = scene button [B]***
Mute all tracks (so that they will not sound), and store the settings in scene button **[B]**.

■ Storing settings for type B sounds in the scene buttons

Now we will create type B sounds for the FREE tracks 1–4, and store them in the scene buttons for song sections that use these type B sounds.

● ***Modifying the sound (type B sounds)***
Modify the following parameters for the samples of the current FREE tracks 1–4 to create our type B sounds.

[Setting] *Only settings which differ from type A sounds

- FREE 1

SOUND group.....	**[LEVEL]**	080
	[PITCH]	-096
	[ATTACK]	083
	[RELEASE]	086
LFO group.....	**[SPEED]**	005
	[FILTER]	012
	[PITCH]	035
EQ group.....	**[HI GAIN]**	-30
	[LO GAIN]	+55
	[LO FREQ]	160
FILTER group.....	**[CUTOFF]**	112
	[RESONANCE]	025
EFFECT group	**[EFFECT 2]**	085
	[EFFECT 3]	085

- FREE 2

SOUND group.....	**[LEVEL]**	037
EFFECT group	**[EFFECT 1]**	020
	[EFFECT 2]	110
	[EFFECT 3]	100

- FREE 3

SOUND group.....	**[LEVEL]**	080
	[PAN]	L57
	[ATTACK]	099

LFO group.....	**[PITCH]**	116
FILTER group.....	**[RESONANCE]**	078
EFFECT group	**[EFFECT 1]**	000
	[EFFECT 2]	110
	[EFFECT 3]	100

- FREE 4

SOUND group.....	**[LEVEL]**	082
	[PAN]	R57
	[ATTACK]	097
LFO group.....	**[SPEED]**	010
EQ group.....	**[HI GAIN]**	+60
	[LO GAIN]	-64
	[LO FREQ]	200
FILTER group.....	**[RESONANCE]**	075
EFFECT group	**[EFFECT 1]**	000
	[EFFECT 2]	120
	[EFFECT 3]	120

Now let's store the settings for song sections of FREE tracks 1–4 which use type B sounds to the appropriate scene buttons.

NOTE:
At this point, the type B sound settings have not yet been stored, so be careful not to move any knobs or press any scene buttons before you perform the following procedure.

● ***Intro A = [TOP] scene button***
● ***Ending B = Scene button [G]***

Using the same procedure as you did for the type A sounds, mute all but the FREE tracks 1–4 and store the mute settings in the **[TOP]** scene button.
Store the same settings in scene button **[G]** as well.

NOTE:
*The settings of the **[TOP]** button are automatically written into the beginning of the song even if you do not store them, and when you start the song from the beginning, it will always start with the **[TOP]** settings.*
*Since **[TOP]** is a special type of scene, we will store the settings separately in a different scene even though they are identical.*

● ***Intro B / Ending A = Scene button [A]***

Intro B and Ending A use the same settings.
Using the same procedure as you did for the type A sounds, mute LOOP tracks 1/2 and CL tracks 3/4, and store the mute settings in scene button **[A]**.

● ***Section C = Scene button [E]***
Using the same procedure as you did for the type A sounds, mute only the LOOP tracks 1 and 2, and store the mute settings in scene button **[E]**.

● ***Section D = Scene button [F]***
Using the same procedure as you did for the type A sounds, mute LOOP tracks 1/2 and CL tracks 1/2, and store the mute settings in scene button **[F]**.

■ Recording scene recall operations on the sequencer

Now we will record scene recall data on the sequencer for these scene buttons.

To make it easier for you to press the buttons at the correct timing, we recommend that you turn on the metronome when you record.

Procedure

1. Press the sequencer ⏮ button to return to the beginning of the song, and press the ⏺ button to enter record-ready mode.
▼ The upper part of the display will indicate "REC."

NOTE:
** The NOTE display will indicate "QUANTIZE=," but quantize will have no effect when you are recording scene changes.*

2. Press the sequencer ▶ button, and recording will start. The song will automatically start with the settings of the [TOP] button.

3. During the time that the MEASURE display changes from 008:4 to 009:1, press scene button [A].
▼ Then in the same way, press the appropriate scene button at the MEASURE locations shown in the following table to record scene changes.

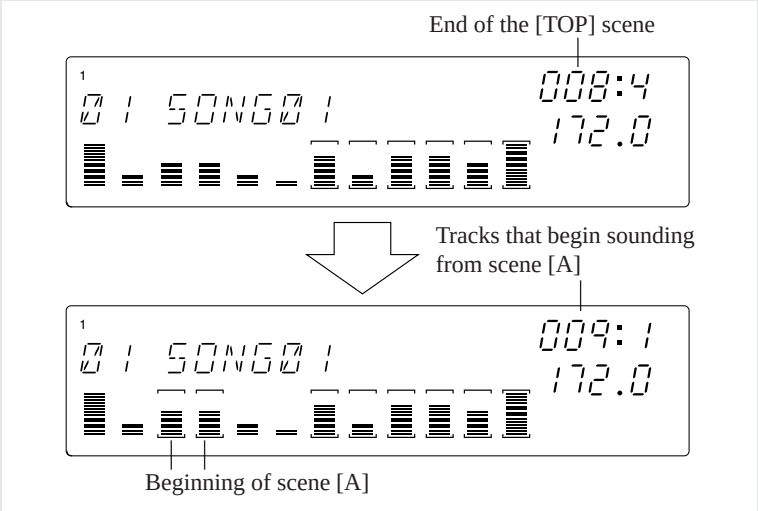
023:1 Scene button **[B]**
025:1 Scene button **[C]**
041:1 Scene button **[D]**
057:1 Scene button **[E]**
071:1 Scene button **[F]**
073:1 Scene button **[D]**
105:1 Scene button **[A]**
121:1 Scene button **[G]**

NOTE:

- *The [UNDO/REDO] is available when recording scene changes.*
- *To delete a scene event, you can use the Event Edit group function Location & Value. (→ p.246)*
- *Depending on the timing at which you recall a scene, sound may remain at the beginning of the measure, or the beginning of a measure may drop out. In such cases, use the Undo/Redo function (→ p.183) or Event Clear (EVENT EDIT/EVENT CLEAR: → p.251) to correct the scene recall data.*
- *The secret to avoiding drop-outs at the beginning of a measure is to recall the scene change an eighth note early.*

4. Press the sequencer [■] button to stop recording. Press the sequencer [⏮] button to return to the beginning of the song, and press the [▶] button to hear the song. When the song reaches a location at which a scene change was recorded, the track mute settings will change automatically, as will the sounds (samples) that are played back when you press the pads of FREE tracks 1–4.

- **Changing from the [TOP] scene to scene [A]**



2.4.10 Recording the FREE tracks

Now that the overall form of the song is complete, we have come to the last step — recording the FREE tracks 1–4 on the sequencer.

■ Recording intro A and B

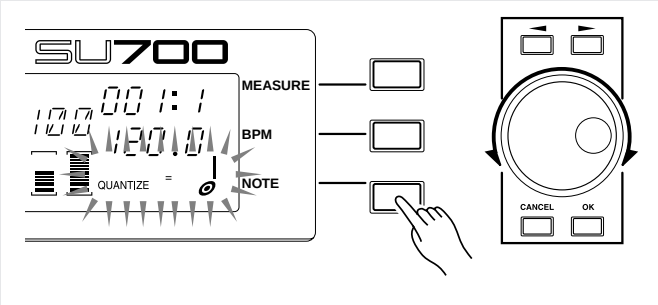
The FREE 1 track sample which is used in Intro A and B is a long sample that plays for more than 16 measures.
Since we want to record this from the beginning of the song (001:1), you should first set a count-in of 2 or 1. (→ SYSTEM/SETUP/COUNTDOWN: p.299)
On FREE tracks 2/3/4, we will use the Scratch function of the ribbon controller to record effect-type sounds at appropriate places.

Procedure

- **Recording the FREE 1 track**

1. Press the sequencer [⏮] to return to the beginning of the song, and press the [●] button to enter record-ready mode. The upper part of the display will indicate "REC."

2. Press the [NOTE] button, and use the dial to set the quantize value. Set this to a quarter note (♩).



3. Press the sequencer [▶] button to start recording.
▼ At MEASURE 001:1, press the pad for the FREE 1 track, and continue holding it until 023:1.

> ***NOTE:***
> The [UNDO/REDO] button is available when you record the FREE tracks.

- **Recording the FREE 2/3/4 tracks**
  The procedure is the same as described on p.80 of "Building Your Own Song."

■ Recording the sections and endings

You can record sections A–E and endings A and B in the same way as explained on pages 83 to 85 of "Building Your Own Song." Refer to these pages and following, and complete your recording.

When you have finished recording the FREE tracks, your song is complete!

- Play back the song, and adjust the overall volume balance and other final adjustments.
- You can assign an original song name to your completed song. (→ p.86)
- It is a good idea to save your song to a floppy disk etc. (→ p.88)

Note timing chart

This table shows the timing of the scene changes and the timing of the pad on/off (note on/off) events for the completed version of the SU700 tutorial song that is included as track 93 of the included audio CD (SU700 Sampling Audio).

Scene event : ●
Note event : ■= == ==
Scratch event : ⚌ ⚌ ⚌

	1				2				3				4				5				6				7				8			
SCENE	(TOP)																															
FREE1	■=	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==
FREE2	⚌	Scratch freely			=	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌
FREE3	⚌	Scratch freely			=	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌
FREE4	⚌	Scratch freely			=	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌

	9				10				11				12				13				14				15				16			
SCENE	●																															
FREE1	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==
FREE2	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌
FREE3	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌
FREE4	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌

	17				18				19				20				21				22				23				24			
SCENE																									●							●
FREE1	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==		■=	==	==
FREE2	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌								
FREE3	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌								
FREE4	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌								

	25				26				27				28				29				30				31				32			
SCENE																																
FREE1	==	==	==	==	=																											
FREE2																													■=	==	==	==
FREE3													■=	==	==	==																
FREE4																															■	==

	33				34				35				36				37				38				39				40			
SCENE																																●
FREE1																																■=
FREE2																															■	==
FREE3													■=	==	==	==																
FREE4																													■=		■	==	==

	41				42				43				44				45				46				47				48			
SCENE																																
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FREE3		⚌	Scratch freely			⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌
FREE4		⚌	Scratch freely			⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌	⚌

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Chapter 3
Basic Concepts, Track Types, and Memory

This chapter explains the relationship between songs, samples, and tracks, and introduces some important concepts required for operating the SU700 effectively. It explains the three different types of sample tracks (LOOP, COMPOSED LOOP, and FREE). Finally, it describes the SU700 memory implementation.

CONTENTS

3.1 Basics

To use the SU700 effectively, you need to understand how songs are generated and how they are related to samples and tracks. In particular, you need to understand the following basic points about SU700 operation.

- The main objective at the SU700 is to build and perform multitrack sequences called *songs*.
- The SU700 can hold up to 20 songs within its internal memory. Each song comprises action on up to 42 tracks of data: 40 *sample tracks* (arranged in four banks), one AUDIO IN track, and one MASTER track. You build the song by setting up appropriate data for each track.
- To build the song, you supply the following data.

Samples

These are the basic sounds for your song. A sample is simply a recorded sound—you can either record it yourself, or you can import a prerecorded sample.

You can place one sample onto each sample track. This means that you can use up to 40 samples per song (one sample per sample track).

For more information, see Chapter 5, "Samples and Sampling." (→ p.149)

Sequence Events

The are the recorded events that determine how the song is played out over time. You record the events by running the sequencer in REC mode (→ p.143) and entering various control actions as the song moves forward. These control actions consist of:

- Pad hits and releases (or equivalent MIDI input)
- Knob actions (or equivalent MIDI input)
- Ribbon actions
- Scene recalls

The SU700 stores these actions as a series of *sequence events*, with each event keyed to the song position (measure, beat, and clock) at which you recorded it. When you replay the song, the SU700 repeats the sequence events so as to reproduce your recorded control actions.

Track Settings

These settings determine basic playback characteristics of each track. For example, you use the LOOP LENGTH setting to select the length (in beats) of the loop on each LOOP and COMPOSED LOOP track.

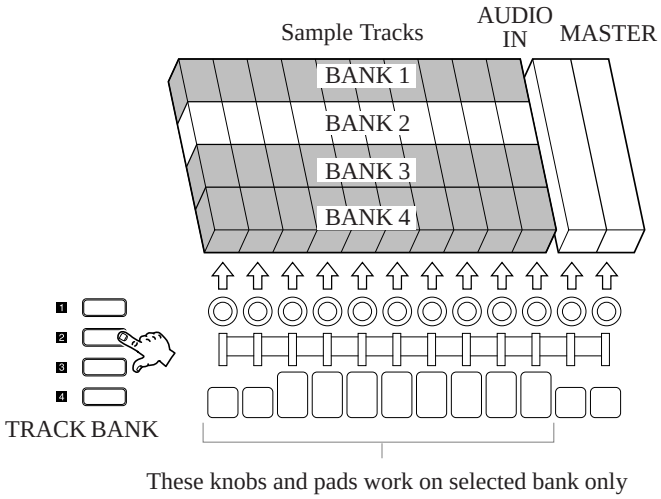
Scenes

Scenes make it possible for you to change the entire song sound with a single button press. Each scene stores an entire *environment*: knob settings, mute settings, and the effects setup. You create the scene by setting up an environment and then storing it into scene memory. Once the scene is stored, you can recall it at any time by pressing the corresponding scene button.

If you store an environment into the *top scene*, the environment will be automatically recalled each time you return the song to its start position.

For detailed information about scenes, see pages 176 to 181.

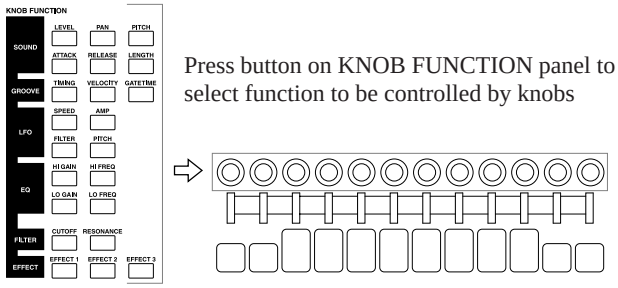
- Only sample tracks can store samples. Sample tracks come in three types—LOOP, COMPOSED LOOP, and FREE—as described in detail below. A sample track is *nonempty* if it contains a sample; *empty* if it does not contain a sample. Empty sample tracks are useless for your song, and cannot retain sequence data.
- The AUDIO IN and MASTER tracks are special tracks that never store samples, but that *can* store sequence data.
  - The AUDIO IN track controls realtime audio input that you can supply during performance. If you record sequence events onto this track, these events will control the realtime input that you provide later during performance.
  - The MASTER track can be used to simultaneously control playback on all other 41 tracks. If you record a level-change event on the MASTER track, for example, the event will cause the level to go up on all other tracks. If you switch the mute on for the MASTER track, then all tracks will be muted.
- When working at the SU700, you can only access the knobs and pads for one bank of sample tracks (ten sample tracks) at any given time. You can change the bank selection by pressing the appropriate track-bank selector. Note that the controls for the AUDIO IN and MASTER track are always available, and are not affected by bank selection.



◆ Each track stores multiple parameters (level, pan, pitch, and so on) that condition its sound. For each track, you control all of these parameters using a single knob. For this reason, these parameters are called *knob settings*.

At any given time, a knob will control only one of the available parameters. You use the **KNOB FUNCTION** buttons to select the parameter to be controlled by the knobs.

Not all knob functions are supported on all tracks. For a list of supported knob functions, see page 195.



◆ You use the pads to execute various realtime actions, and to record pad events into your song. You use the Pad Function selectors to select the type of operation that the pad will carry out. The four pad functions are as outlined below. (For full details about pad events, see pages 166 to 171.)

PLAY: Pad press starts sample playback (Note On). Pad release stops sample playback (Note Off). Effective only on COMPOSED LOOP and FREE tracks.

ON/MUTE: Each press of the pad toggles the mute on or off. Effective on all tracks.

ROLL: Sample sound is drum-rolled while the pad is held down. Effective on all sample tracks.

LOOP RESTART: Each press of the pad causes the loop to jump back to its start point. Effective only on LOOP, COMPOSED LOOP, and MASTER tracks.

◆ You use the BPM (beats-per-minute) setting to control the song's playback tempo dynamically during recording and performance: simply press the **[BPM]** button (so that the BPM value is blinking) and then turn the dial. You can adjust the value from a minimum of 40.0 to a maximum of 299.9. But note that the BPM setting is not stored as part of the song itself.

◆ The SU700 provides many features for editing and adjusting the sound of your songs. You can build up songs one track at a time; you can go back and edit or delete events using various job screens; and you can overdub or replace recording on any track over any selected part of the song. In general, song recording is a repetitive, interactive procedure, as you move back and forth adjusting the sound until you finally achieve the results you want.

You are also free to control the sound of songs in real time during performance: for example, by hitting pads, turning knobs, and adjusting the BPM while playback is in progress. But you should also be aware that realtime adjustments you make on any track may be cancelled by subsequent sequence data recorded on that track; if you wish to make active use of realtime adjustments, therefore, you should set up the song so as to avoid this type of conflict.

- The SU700 internal memory will lose all samples, sequence data, scenes, effect setup, and track settings when power goes off. If you wish to retain your work, you must save your results to disk before turning off the unit. (→ p.287)

3.2 Sample-Track Types

Sample tracks come in three types: LOOP, COMPOSED LOOP, and FREE. Specifically, you get eight LOOP tracks, 16 COMPOSED LOOP tracks, and 16 FREE tracks. Each track type reproduces samples in a different way.

By allowing you to utilize three different playback methods at the same time, the SU700 makes it easy to build effective, multifaceted songs.

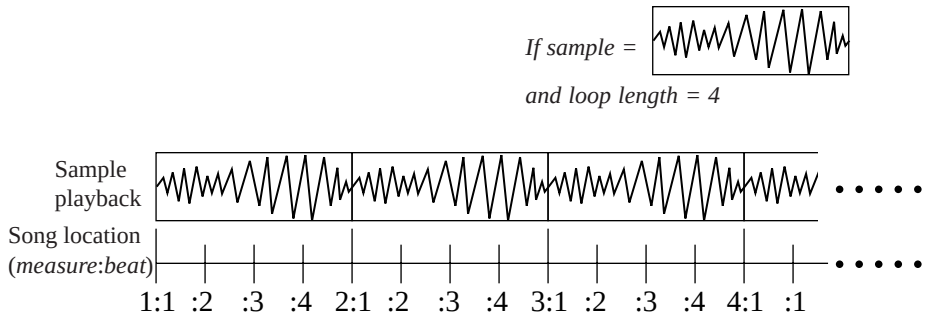
LOOP Tracks

Each loop track automatically plays out its entire sample (from start point to end point) repeatedly, as a continuous loop. The loop is defined by its *loop length*, in beats: if the loop length is 4, for example, then the sample plays out once every four beats. You can set (or change) the loop length using the TRACK SET | SETUP job's LOOP LENGTH setting.

The SU700 automatically adjusts the sample so that it exactly fits the loop-length at the current tempo. (If you increase the loop length or reduce the tempo, for example, then the sample must be prolonged.) The SU700 adjusts the sample either by changing the sample's pitch or else by slicing the sample up and adjusting the pieces; you select the adjustment method using the TRACK SET | SETUP job's BPM TRACKING setting (→p. 237).

Loop generation and playback is automatic: you do not use the pad to record note-on and note-off events. You can, however, use the pad MUTE function to switch the sound on or off at any point in the song.

The following shows what LOOP playback looks like.



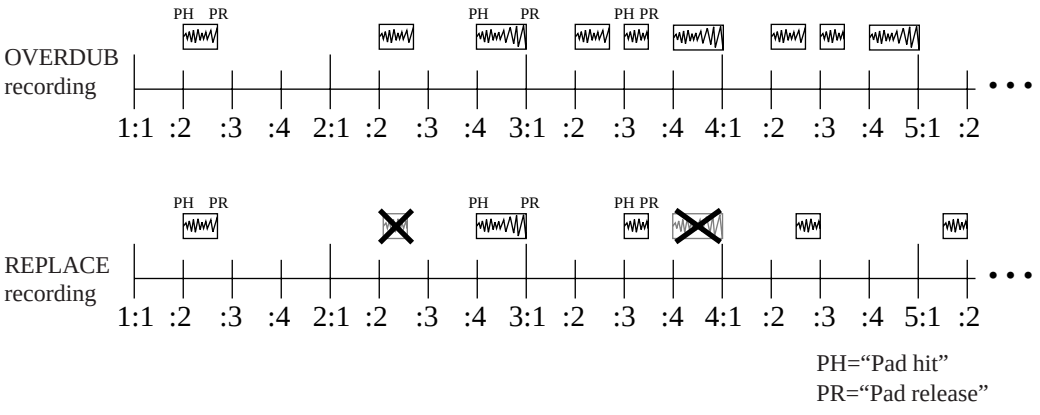
Play back is automatic and continuous. The SU700 automatically adjusts the sample as necessary so that it exactly fills the loop length.

COMPOSED LOOP Tracks

You use this track to record a loop phrase. You can set (or change) the loop length, in beats, using the TRACK SET | SETUP job's LOOP LENGTH setting (→ p.238).

Unlike with LOOP tracks, you must create the pattern yourself by hitting the pad (in PLAY mode) as necessary. Each hit of the pad generates a note-on event, producing the sound of the sample; the sound then continues until you release the pad or until the sample reaches its end point. You can hit the pad as often as necessary to create the pattern that you want to use for your loop.

Although you can enter note-on at any point in the song, *all note-ons are recorded with respect to the loop*. If you are using OVERDUB recording mode (→ p.300), then you can add notes to the loop phrase during any loop cycle. If you are using REPLACE recording mode, then entering a note during any cycle automatically replaces the phrase that you have already recorded.
The following illustration shows the difference between OVERDUB and REPLACE recording in the case where loop length is set to 4 beats.



Once you have recorded one or more notes, loop playback is automatic. Again, you can use the pad MUTE function to switch the sound on or off at any point in the song.

FREE Tracks
The sample in the FREE track is played only when you hit the pad (in PLAY mode) to register a Note On. Playback ends when you release the pad (generating a Note Off) or when the end of the sample is reached. *These tracks do not loop*; you will get sound only in those places where you record a pad press. These pads are great for punctuation your song with odd effect-type sounds.

3.3 Memory Implementation

Internal Memory

The SU700 includes the following types of internal memory.

Sample & Song Memory
Stores the samples (the waveform data) and sequence data for all songs. You can use the SYSTEM | MEMORY job (→ p.309) to check the amount (percentage) of this memory that is currently free.

Sequencer Memory
This is the memory that stores the sequence data (note events, pad events, and so on) for the current song. Again, you can use the SYSTEM | MEMORY job (→00) to check the amount (percentage) of remaining sequencer memory left at any time.

Volatile Settings
These include scene and marker memory, the TRACK SET and MIDI settings, and the current BPM setting for each song. These settings are different for each song. **All of this memory is lost at power-off.**

Nonvolatile Settings
These are system settings that are stored permanently in memory and are not lost at power-off. These settings apply to all songs in common, and cannot be saved to disk. The SYSTEM | SETUP settings are all nonvolatile.

Temporary States
These are state settings that are held during the current session only; they are lost at power-off and cannot be saved to disk. These include the QUANTIZE setting, the ribbon track selection and ribbon-function setting, and the most recent page and parameter position within each job. All of these settings apply in common to all songs.

External Memory

If you wish to retain your samples, sequence data, and volatile settings, you must save these to a volume on disk before switching the power off. (→ p.287).

The SU700 comes standard with a built-in floppy disk drive that you can use to save and load data. The SU700 also supports an optional SCSI board (ASIB1 board) that enables use of external SCSI disk drives.

When saving data to disk, you can select two save types.

- Save the *volume* (save all samples, sequence data, and volatile settings for all songs currently held in the SU700 memory).
- Export a single selected sample in AIFF format (so that it can be used on other machines).

When loading data from disk, you can select from three load types.

- Load entire volume.
- Load single sample.
- Import a foreign sample

Chapter 4 SU700 Operating Modes

This chapter briefly describes each of the SU700's operating modes. When using the SU700 you will be switching modes often, so it will be helpful keep in mind that basic purpose of each mode, the conditions that cause the SU700 to switch from one mode and another, and the basic operations that you can carry out from each mode.

CONTENTS

4.1 Introduction

The SU700 has six operating modes—four sequencer modes, and two modes that temporarily disable use of the sequencer. The six modes are listed below.

Sequencer Modes

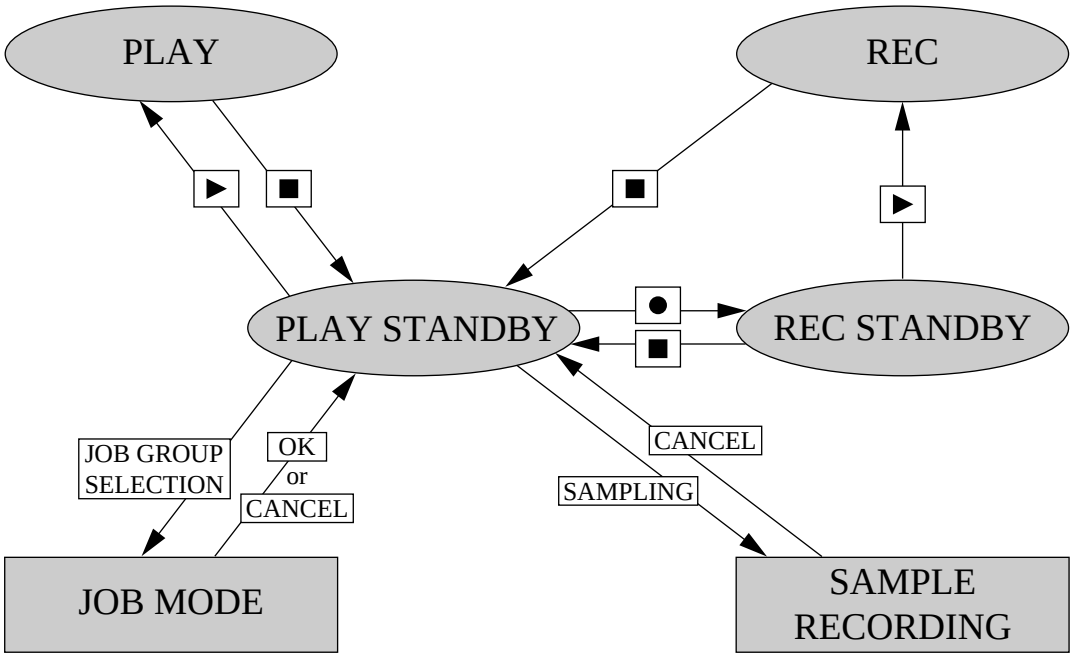
- PLAY STANDBY
- PLAY
- REC STANDBY
- REC

Other Modes

- JOB
- SAMPLE RECORDING

The following diagram shows how the SU700 moves from one mode to another.

Mode Transition Diagram



4.2 Sequencer Modes

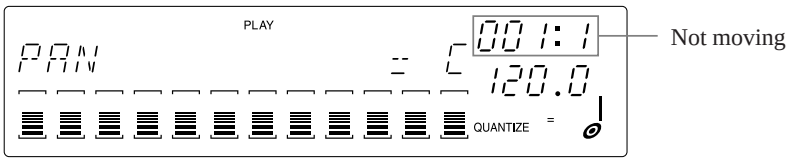
This section briefly describes each of the four sequencer modes. You use these modes to control song setup, recording, and playback. For practical information about how to operate the sequencer during actual recording and playback, refer also to pages 162 to 165.

The table on page 145 shows the operations available from each of the sequencer modes.

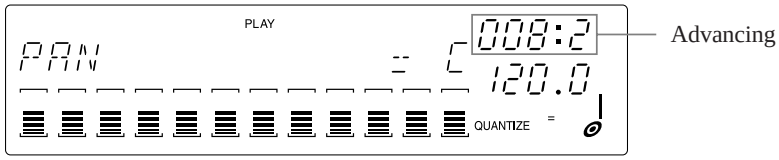
OVERVIEW

The general use for each of these modes is as follows.

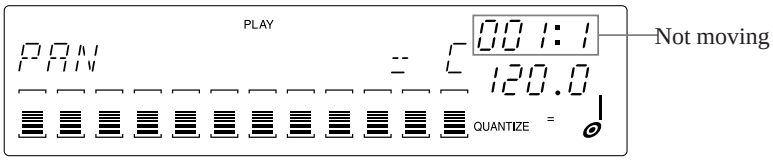
- **PLAY STANDBY** Lets you adjust the song location and set the knob settings, mutes, effects, and tempo to be used for start of playback (or recording). Also can be used to set up scenes and markers. Finally, you must also move through this mode when you want to transition into job mode (to execute a job) or to sample-recording mode (to record a sample).



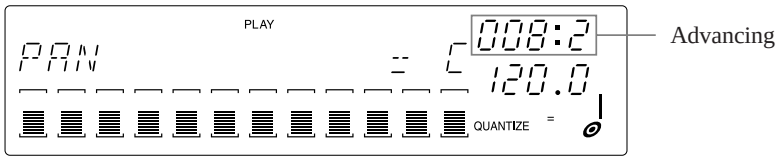
- **PLAY** Plays the song.



- **REC STANDBY** Lets you adjust the song location and set the environment for start of recording. (You can adjust knob settings and mutes, and you can recall any scene.)



- **REC** Plays the song and records your actions into the song.



PLAY STANDBY

DESCRIPTION

This mode becomes active at power-on, and provides direct access to all other operating modes (with the exception of REC mode). While the sequencer is in this mode, the song remains locked at its current location. You use this mode to set up for song playback (or recording).

HOW YOU GET TO THIS MODE

The SU700 automatically enters PLAY STANDBY and displays the main screen for the currently selected song when you do any of the following.

- Turn the power-on. (The SU700 automatically selects and displays the main screen for Song 1.)
- Press the ■ button to escape from REC STANDBY or REC mode, or to terminate PLAY mode while the main screen is on display.
- Exit from job mode (by pressing CANCEL or OK).
- Exit from sample recording mode.

The SU700 automatically enters PLAY STANDBY and displays a function screen in the following case:

- When you press ■ while the sequencer is in play mode and a function screen in on display. (This sequencer goes into PLAY STANDBY and the function screen remains unchanged.)

PLAY

DESCRIPTION

When you press ▶ to enter this mode, the sequencer begins playing the song from the current location. The song location advances at the speed set by the BPM setting. While playback is in progress you can modify the sound by using realtime control.

HOW YOU GET TO THIS MODE

- Press ▶ while the sequencer is in PLAY STANDBY mode.

HOW YOU EXIT THIS MODE

- Press ■ to return to PLAY STANDBY. (The song will stop at its current location.)

REC STANDBY

DESCRIPTION

You must enter this mode before you can begin recording. While the sequencer is in this mode, the song remains locked at its current location. You can use this mode to set up for the start of recording (although in many cases you will complete setup work in PLAY STANDBY mode), and to wait for the appropriate time to move into REC mode.

HOW YOU GET TO THIS MODE

- Press ● while the sequencer is in PLAY STANDBY mode.

HOW YOU EXIT THIS MODE

- Press ▶ to begin recording from the current song location.
- Press ■ to return to PLAY STANDBY (at the current song location).

REC

DESCRIPTION

When you press ▶ to enter this mode from REC STANDBY mode, the sequencer counts out some lead-in beats (if specified; see page 299) and then begins recording from the current location. The song location advances at the speed set by the BPM setting. The sequencer plays out the song. You use the pads, knobs, ribbon, and scene-buttons control the sound; the sequencer records all of these actions as you execute them.

HOW YOU GET TO THIS MODE

- Press ▶ while the sequencer is in REC STANDBY mode.

HOW YOU EXIT THIS MODE

- Press ■ to return to PLAY STANDBY. The song location jumps back to the point at which recording was started.

MAIN SCREEN and FUNCTION SCREEN

When you are working in PLAY STANDBY or PLAY mode, the SU700 may display either the main screen or else a function screen. The main screen shows the song number and song name, while the function screen shows the name of the currently selected knob function. (For a detailed description of the display confent of main and function screens, refer to pages 25 to 26.)

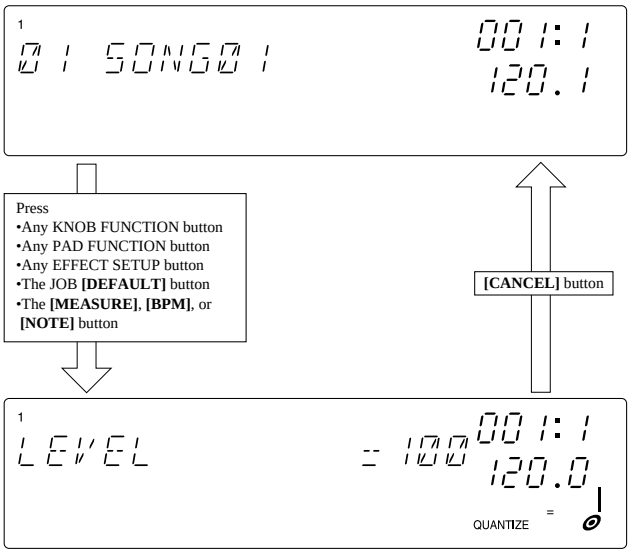
When main screen is displayed:

Knobs and pads do not all control the same functions. Instead, each knob controls the track's default knob function, and each pad controls the track's default pad function, as set up by the TRACK SET | MAIN job (→ p.231). The screen does not indicate the currently selected knob and pad functions-since the functions vary for each track.

You should keep in mind, however, that the bar meters do not show values for different functions at the same time: at any given time, the levels indicate the values for the default knob function of the track you last accessed (the track whose pad or knob you last touched). [On the first screen that comes up following power-on, the meters show the LEVEL values.]

Note that operations available from the main screen are not identical to those available from the function screen: for example, the song can be selected only from the main screen, not from the function screen. For details about operations available under each mode and screen, see the table on page 145.

The following shows typical main and function screens, and indicates how you move from one to the other.



Example shows LEVEL function screen

When function screen is displayed:

All knobs control the same knob function (as selected by the knob-function button), and all pads control the same pad function (as selected by the pad-function button). The screen shows the name of the currently selected knob and pad functions.

Operations Accessible From Each Sequencer Mode

MODE	PLAY STBY		PLAY		REC STBY	REC
Screen Type	Main	Function	Main	Function	Function	Function
Start playback	●*1					
Start recording					●*1	
Store scene	●		●			
Recall scene	●		●		●	●
Store/recall marker	●		●			
Change to different song	●					
Adjust song location with seq. buttons	●		●		●	
Adjust song location with dial		●		●	●	
Adjust BPM and NOTE (Quantize) settings		●		●	●	●*2
Use **[BPM COUNTER]** button	●		●		●	●*2
Each pad and knob controls track's MAIN function (Actions are different on each track.)	●		●			
All pads and knobs control same (selected) function.	●		●		●	
Use pads, knobs, and ribbon to produce and adjust sound (without recording).	●		●		●	
Use pads, knobs, and ribbon to listen to control song play in real time during performance (without recording).			●*4			
Record pad actions, knob actions, scene-change actions, ribbon actions.						●
Use UNDO/REDO	●		●			
Change ribbon-track selection	●		●		●	●
Set up effects assignments	●*3		●*3			
Clear the effects (cancel the use of the effects.)	●*3		●*3			
Change bank selection	●		●		●	●
Change knob or pad function	●*4		●*4		●	●

*1: To start, press [▶].
*2: These changes are not recorded as sequence data.
*3: Although you can access this feature from either the main screen or a function screen; when you exit the feature you are returned to the main screen.
*4: Automatically changes the display to the corresponding function screen.

4.3 Other Modes

The SU700 offers two special modes that you use for work that is not directly related to the sequencer. You can access these modes from the sequencer's PLAY STANDBY mode.

JOB MODE

DESCRIPTION

Use this mode to carry out one or more of the SU700 jobs. For details, see Chapter 10, "Jobs." (→ p.223)

WHAT YOU CAN DO IN THIS MODE

- Carry out any of the SU700 jobs.

  Once you are in this mode you can move from job to job. Note that you select the job by pressing the job group selector first (along the top of the job grid) and then the job button (along the left side of the grid).

  To move from one job to another job in the same group, all you need to do is press the appropriate job button.

  To move from a job in one group to a job in another group, you must press both the job group button and the job button.

HOW YOU GET TO THIS MODE

- Press any job-group selector (along the top of the job grid) while the sequencer is in PLAY STANDBY. You must then press a job selector (along the left of the grid) to select the specific job (or job type).

HOW YOU EXIT THIS MODE

- You leave the mode by completing or aborting the current job (by pressing **[OK]** or **[CANCEL]** at the bottom-level or top-level job screen.) The SU700 automatically returns you to PLAY STANDBY mode, with the song location set to the top of the song (001:1).

SAMPLE RECORDING

DESCRIPTION

Use this mode to record your samples. While you are working in this mode all sequencer operations and all normal pad and knob operations are disabled. For information about how to record samples, see Chapter 5, "Samples and Sampling." (→ p.149)

WHAT YOU CAN DO IN THIS MODE

- Record a sample into a selected sample track.

HOW YOU GET TO THIS MODE

- Press the **[SAMPLING]** button while the sequencer is in PLAY STANDBY mode.

HOW YOU EXIT THIS MODE

- The mode exits when you press the **[SAMPLING]** or **[CANCEL]** button to stop recording, or when recording terminates automatically when memory becomes full. The SU700 automatically returns you to PLAY STANDBY mode, with the song location set to the top of the song (001:1).

Chapter 5
Samples and Sampling

This chapter tells you more than you will want to know about SU700 samples. The chapter's first section explains samples and sample parameters and presents important information about editing and handling of your samples. The second section presents step-by-step instructions for recording your own samples.

CONTENTS

5.1 All about Samples

Introduction

Samples are the sounds you use to build up your songs. You can get samples for the SU700 by recording them yourself, by loading them from commercially available sampling CDs or other such media, by porting them from other samplers, or by *resampling* (re-recording) existing SU700 data.

The SU700 provides you with 40 sample tracks. This means that you can use up to 40 samples for each song (one sample per track). In practice you will probably find that eight or ten samples is often more than enough for building up full, complex songs.

NOTE:
Resampling is not covered in this chapter. For information, see pages 272 to 280.

What is a Sample?

A sample is a sound recording obtained by taking discrete digital "readings" of an acoustic analog signal at a rapid rate. Each reading returns a numerical value giving the amplitude of the acoustic waveform at that point in time; the sample thus consists of a series of numbers that provide a digital picture of the waveform. Once the sample has been recorded, it can be replayed by converting the values back into an analog wave.

NOTE:
Because a sample represents an image of a sound wave, it is sometimes referred to as ***wave data*** *or* ***waveform data****, and editing of samples is often referred to as* ***waveform*** *editing.*

Typical Sample Length

Typical samples are quite short: from a fraction of a second to several seconds in length. Samples are kept quite short for two reasons.

- They are typically used as building blocks for extended sequences, almost never as stand-alone recordings. Sequences consists of multiple short samples that are looped and repeated as necessary.
- They are memory intensive. By keeping samples short, you increase the number of samples you can use to build your sequences.

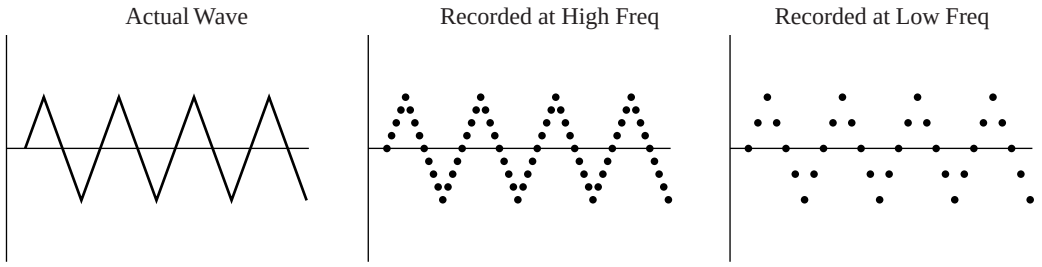
Although samples are generally kept short, you are free to record samples of up to several minutes in length—depending on available memory. (See "Memory Considerations," below.)

Sampling Parameters

SU700 samples are characterized by three parameters: sampling frequency, bit resolution, and format (stereo or monaural). If you are recording a sample from an analog source, you can set values for each of these parameters. If you are recording a digital signal, the values are fixed at time of recording (in accordance with the source signal) but can be changed later using the SAMPLE | PROCESS jobs (→ p.262).

- **Sampling Frequency**

  The rate at which digital readings are taken is referred to as the *sampling rate* or *sampling frequency*. A conventional audio CD uses a sampling frequency of 44.1kHz (44,100 readings per second). The SU700 supports frequencies of 44.1, 22.05, and 11.025 kHz frequencies. Note that higher frequencies produce higher-fidelity sound reproduction, but also consume a greater quantity of sampling memory.



- **Bit Resolution**

  The precision of each reading is restricted by the number of bits used to record the value. A conventional audio CD uses 16 bits to store each value. The SU700 allows you to choose a resolution of either 16 bits or 8 bits. Again, the higher resolution provides higher-fidelity recording, while the lower resolution cuts memory consumption in half.

- **Stereo/Mono**

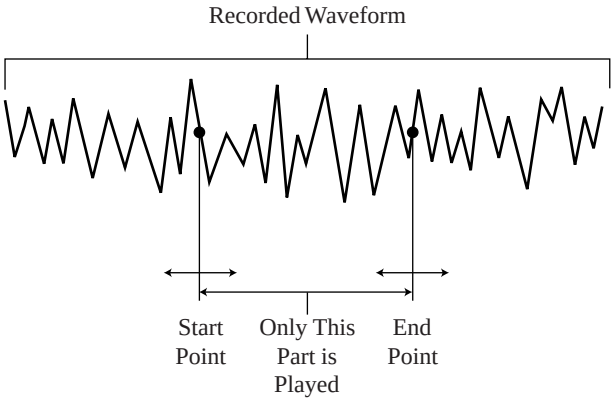
  The SU700 supports both stereo and monaural samples.

Sample Editing

You can use the various SAMPLE jobs to edit the samples that have recorded or imported into the SU700. Editing capabilities are outlined below; for more detailed information, refer to the indicated pages.

● **Start Point and End Point**

The *start point* and *end point* settings determine the points on the recorded waveform at which playback actually begins and ends. You can adjust these values to eliminate playback of unnecessary material recorded at the beginning and end of the waveform, and to fine-tune the playback length for LOOP-track samples. You use the SAMPLE | START POINT and SAMPLE | END POINT jobs to perform this adjustment (→ p.259 to 261).



NOTE:
The applied end point is actually determined by the end-point setting as adjusted by the SOUND/RELEASE and SOUND/LENGTH knob functions. (→ p.199, 200)

● **Waveform Editing (SAMPLE | PROCESS and SAMPLE | DELETE jobs).**

The following editing jobs are available.

NORMALIZE ..... Increase the dynamic range of the recorded waveform. (→ p.265)

REVERSE ..... Reverse the waveform, so that the original sound plays out backwards. (→ p.264)

FREQ. CONVERT ..... Reduce the sampling frequency (number of data values per second). This frees up additional sampling memory, while reducing the sound fidelity. (→ p.267)

BIT CONVERT ..... Reduce the bit resolution (from 16 to 8) of the sampling data. This frees up additional sampling memory, while reducing the sound fidelity. (→ p.268)

STEREO TO MONO .... Convert stereo sample to monaural. This frees up additional memory, and can be used to eliminate clicking sounds that can occasionally occur on stereo samples on LOOP tracks. (→ p.270)

TRIM ..... Delete waveform data existing before the start point and after the end point. This frees up additional sampling memory. (→ p.262)

DELETE ..... Deletes the sample from memory, freeing up additional sampling memory. Also deletes any sequence data stored on the track. (→ p.271)

Selecting the Appropriate Track for the Sample

When recording, loading, or importing a sample, you must select the track that you want to place it on. Placing the sample on an inappropriate track is not a critical error, since you can always move it to a different track using the TRACK | COPY job (→ p.135). But ultimately you need to consider the following two issues when determining the destination track for each sample.

- **Track Type:** Each track type (LOOP, COMPOSED LOOP, and FREE) handles sample playback differently, as explained on page 236. You want to place each sample on the track type that will produce the playback style appropriate for building your song.

  Note also that LOOP tracks cannot accept samples that are too short or too long for generating a loop. (See the next section below.) If you are recording a sample that is unusually short or long, you should place it on one of the other track types.

- **Bank:** If you plan to use realtime control to adjust the sound of multiple samples during song play, you will probably find it convenient to place these samples into the same bank. This will allow you to make your realtime adjustments using only the knobs and pads, without having to worry about constantly switching the bank.

Recording Samples on LOOP Tracks

Since the SU700 will automatically play your LOOP-track samples as continuous loops, it rejects recordings that are too short or too long to generate an acceptable loop.

- **If the length is too short or too long**: The SU700 displays the message CANNOT FIND LOOP. You must then press **[OK]** or **[CANCEL]** to return to the main screen. The SU700 discards the recorded data. If you were attempting to overwrite a sample already present on the LOOP track, that existing sample remains on the track.
- **If the length is acceptable**: The SU700 automatically sets the loop length for you, based on the length of your recorded input. You can view the loop length and corresponding BPM value (and adjust the loop length, if you wish) using the TRACK SET | SETUP job (→ p.236).

Listening to Samples

Once you have recorded, loaded, or imported a sample into the SU700, you can listen to the sample by hitting the corresponding pad—provided that the track mute is off and that the pad function is set to PLAY. In general, you will want to set the sequencer into PLAY STANDBY when using pads to listen to your samples.

In general, you will want to listen to the sample repeatedly to determine whether you need to perform any of the editing operations described above. You will also want to listen to the sample as you set up the various knob-function values and effects when preparing for song recording or playback. Playback will reflect all knob and effect settings, with the exception of the knob GROOVE settings.

If you are playing a sample on a LOOP track, the sample will loop automatically as you hold down the pad. On all other tracks, sample play will stop when the sample reaches its end point.

Moving Samples From Track to Track and From Song to Song

It is easy to move a sample from one track to another track within the same song. Simply use the TRACK EDIT | TRACK COPY job to copy the sample into the destination track, then use the TRACK EDIT | TRACK INIT job to remove the sample from its original track.

If you decide that you need to move one or more samples from one song into another song, proceed as follows. First, save all data into a volume on disk (→ p.287). Then, at the main screen, turn the dial to select the destination song. Then use the DISK | LOAD/ LOAD SAMPLE job (→ p.283) to load the samples you need from the volume you just saved.

If you wish to move one or more samples into a song that is still empty, there is another alternative: Use the SONG | COPY job (→ p.229) to copy all samples and sequence data into the destination song, and then go to the destination song and delete everything you don't need.

Sample Names

The SU700 maintains internal names for all of its samples. Names are seven characters long. The format is:

Sxxyyzz

where

xx is the song number (01 to 20).
yy is the track type (LP for LOOP track, CL for COMPOSED LOOP, FR for FREE).
zz is the track number (01 to 08 if LOOP track, 01 to 16 otherwise, counting from Bank 1 left to right, then Bank 2 left to right, and so on.)

You will notice that these names appear on the screen when you are carrying out certain jobs.

When you save all SU700 data to disk as a volume, each sample is stored as a separate file under its own name within the disk volume. When you use the DISK | LOAD SAMPLE job to reload a sample from a volume, you must select the sample by the name it had at the time the volume was saved.

Memory Considerations

Samples require large quantities of data to produce short intervals of sound, and can fill up available RAM faster than you might think. It is very likely that at some point you will find yourself running up against memory limitations.

The total available sampling time on the SU700 will depend on the amount of installed memory and the sampling parameters that you use, but will in no case exceed more than several minutes. This will be plenty if you are only recording 40 or 50 relatively short samples; but you will need to exercise some care if you wish to use longer samples or large numbers of samples. (Keep in mind that the SU700 can theoretically hold up to 800 samples.)

You can always use the SYSTEM | MEMORY job to percentage of remaining sample memory (→00). While you are recording a sample, the screen keeps you informed about the amount of sampling time remaining before memory becomes full.

If you find that you are running up against memory constraints, there are several things you can do.

- **Install more memory.** The SU700 comes standard with 4MB of memory, but can support up to 68MB.
- **Delete unnecessary songs and samples to free up more memory.** (If you wish to retain the data for later use, save it to disk before deleting it from memory.)
- **Use the SAMPLE jobs to reduce the size of existing samples:** by "trimming" the samples, or by reducing the sampling frequency and bit resolution, or by converting from stereo format to monaural format.

5.2 Sample Recording Procedure

The step-by-step instructions below take you through the entire sample-recording procedure.

Getting Ready

1. **Open the SYSTEM | SETUP job and set the AUDIO IN parameter to match your input source you are going to use. (See page 302.) Then press [OK] to exit the job and return to the main screen.**
   - *If using a microphone:* Set to AUDIO IN=MIC.
   - *If using analog output from an audio device:* Set to AUDIO IN=LINE.
   - *If using digital output:* Set to AUDIO IN=DIGITAL (if coaxial cable) or AUDIO IN=OPTICAL (if optical cable). [Available only if the AIEB1 board is installed.]

2. **Connect your audio input line(s) to the SU700.**
   - *If you are using a microphone for your source:* Connect the microphone plug to either of the ANALOG INPUT jacks (either the L jack or the R jack) on the rear panel.
   - If you are recording stereo analog output from a CD player or similar audio device: Connect the L and R lines from the CD player to the L and R ANALOG INPUT jacks. (If you are recording a monaural signal, connect the line to either of the L or R ANALOG INPUT connectors.)
   - If you are recording digital output from a CD player or similar audio device: Connect the coaxial or optical cable to the DIGITAL IN or OPTICAL IN connector on the rear of the SU700. (Available only if the optional AIEB1 expansion board is installed). ***After making the connection, switch the audio device on.***

3. **To be sure the system is set up correctly, try supplying some sound. Confirm that you can hear the sound on your headphones or speakers.**

Recording

1. **Be sure that the sequencer is stopped (in PLAY STANDBY mode).**

2. **Be sure that you have selected the song into which you want to record the sample. If necessary, turn the dial now to select the song.**

3. Press the [SAMPLING] button.

▼ The screen displays the SELECT TRACK message, instructing you to select the track that you want to record onto. The bank indicator and brackets indicate the currently indicated track.

NOTE:

- *From this point on, you can use the **[CANCEL]** button to move back to a preceding step or to return to the main screen.*
- *If you selected DIGITAL or OPTICAL as your audio input source, the cable must be properly connected and the audio device must be switched on. If the audio device is disconnected or off, the SU700 will display the message DIG-IN UNPLUGGED. If the device is connected incorrectly, the SU700 will display the message DIG-IN PARITY ER. If either of these errors occur, you must press **[OK]** or **[CANCEL]** to abort the recording session. You can then adjust the setup and try again.*

4. Select the sample track you want to use to store the new sample. You can select any of the 40 sample tracks.

In general, you will want to pick the appropriate track type: LOOP, COMPOSED LOOP, or FREE. And if you plan to use realtime control of multiple samples, you will probably want to place these samples into the same bank. For more information, refer to "Selecting the Appropriate Tracks," above.

5. Press [OK].

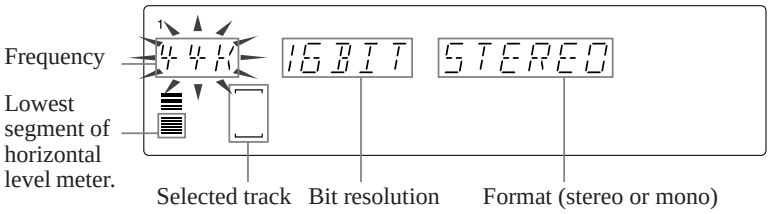
NOTE:

*If the track already contains a sample, the screen displays the REPLACE SAMPLE? message, warning you that the operation will overwrite the existing sample. If you wish to proceed, press **[OK]**; otherwise press **[CANCEL]** once and continue from step 4. Note that actual overwriting of the sample will not occur until recording is successfully completed; canceling the session at any point in the procedure will leave the existing sample unchanged. Note also that replacement of a sample **does not** cause deletion of any sequence data that may already exist on that track.*

6. You are now at the parameter and input-level screen. You use this screen to review or adjust the recording parameters (sampling frequency, bit resolution, and stereo/mono format) and the input level.

NOTE:

If you are using DIGITAL or OPTICAL input, the recording parameters are fixed according to the source signal. Although you cannot change the values during recording, however, you can always change them later using the appropriate SAMPLE | PROCESS jobs; see pages 265 to 271.)



7. Adjust the recording parameters and input level as follows.

<Recording Parameters>

If you have already adjusted these values during the current session, the screen begins by showing your most recent settings; otherwise, the screen will show the defaults (44K, 16BIT, and STEREO).

Use the cursor buttons (◁ and ▷) to select each parameter you wish to change (so that it blinks on the screen), and then turn the dial to set the value.

Available settings are as follows.

- Sampling frequency: 44K (44.1 kHz), 22K (22.05 kHz), or 11K (11.025 kHz).
- Bit resolution: 16BIT (16-bit resolution) or 8BIT (8-bit resolution).
- Stereo/mono handling:
  - STEREO: Record as a stereo signal (two waveforms).
  - L+R: Record as a monaural signal, mixing the left and right inputs.
  - MONO L: Record the left-channel input only. (Ignore any right-channel input.)
  - MONO R: Record the right-channel input only. (Ignore any left-channel input.)

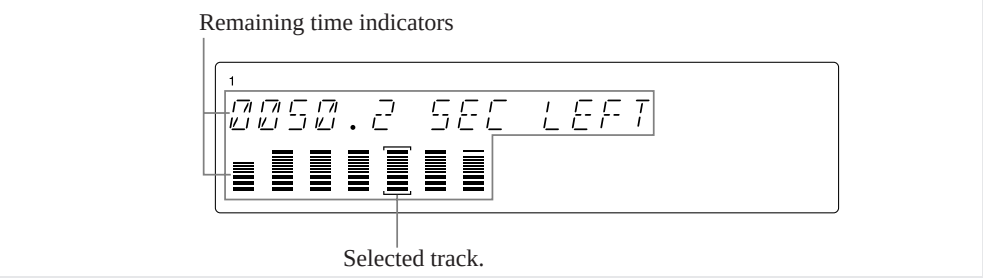
<Analog Input Level>

Input the sound you are planning to record and turn the ANALOG LEVEL SAMPLING dial so that the peak levels bring the meter all the way to the right side without triggering the CLIP warning. You can listen to the sound of the input through your headphones or speakers.

NOTE:
The meter area operates as a two-channel horizontal level meter. The meter grows to the right as the level increases, and the word CLIP appears if the level goes too high. The upper part of the level meter indicates the level for the right channel; the lower part of the meter indicates the level for the left channel. If you have set the recording to STEREO, the upper and lower parts of the meter will move independently. If you have selected L+R, MONO L, or MONO R, the upper and lower parts of the meter will move in unison; indicating that when the sample is replayed it will generate equal levels to both the Left and Right outputs.

8. Hit the [SAMPLING] button again to start the recording, and at the same time begin providing the input that you want to record.

▼ The screen keeps track of remaining available sampling time as the recording proceeds. The meter area also operates as a remaining-time indicator, with vertical segments switch off in sequence from right to left as time runs down.



9. When you reach the point at which you want to stop sampling, hit the [SAMPLING] button one last time.

▼ Sampling stops. If the SU700 requires significant time to post-process the new sample data, it may display the WAIT... message. When post-processing is completed, the SU700 returns you to the main screen.

NOTE:

- *If sampling memory runs out while recording is in progress, the SU700 will terminate sampling, display the MEMORY FULL message for several seconds, and then return you to the main screen. The sound that you have recorded up to that point will be retained.*
- *If you press the **[CANCEL]** button to terminate recording, the SU700 will discard your new data and return you to the track selection screen. If the track you were recording to already contained a sample, that sample is retained.*
- *If you have recorded to a LOOP track but the recorded length is too short or too long, the screen will display the CANNOT FIND LOOP message. (See "Recording Samples onto Loop Tracks," above.) In this case you must press either **[CANCEL]** or **[OK]** to return to the main screen. The SU700 discards the recorded data and returns you to the main screen. If the track already contained a sample, that sample is retained.*

10. You can now listen to the sound of the sample by hitting the pad. If you wish, you can immediately proceed to use the various SAMPLE jobs to edit the sample (→ p.259), and you can investigate how the sample sounds as you adjust the various knob-function values and effects settings.

Chapter 6 Using the Features

This chapter provides detailed information about how to use each of the SU700's main features during song recording, song performance, and song setup work.

Using the Sequencer: Recording, Playing, and Adjusting the Position

This section presents an overview of sequencer operations you will need to use repeatedly when recording and playing songs.

How To Start Recording

1. If the sequencer is not currently in PLAY STANDBY mode, press the ■ or **[CANCEL]** button to set the sequencer into PLAY STANDBY.
2. If necessary, adjust the song to the location at which you want to begin recording. (See "How to Adjust the Location," below.)
3. Press ● to set the sequencer into REC STANDBY mode.

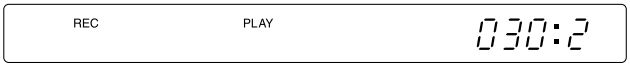
   ▼ The sequencer enters REC standby. The song is stopped at the current location. You can further adjust the location as necessary before starting to record.

4. Press the ▶ button to set the sequencer into REC mode, so that recording starts.

   ▼ The song begins recording from the song location displayed in the MEASURE area. The screen changes to a function screen (the last function screen you were using.)

   ▼ If you have set a countdown value, the sequencer plays one or two lead-in measures before beginning the actual recording. (→ p.299)

   ▼ While the sequencer is running in REC mode, all of your knob actions, pad actions, and scene-button actions will be recorded as sequence data into the song, with each event keyed to the song location at which you entered it (as adjusted by quantizing).



Position is now advancing. Pad, knob, and scene button actions are recorded as sequence data.

How To Stop Recording

Press the ■ button to stop recording.

- The sequencer displays PROCESSING... briefly, then jumps back to the position at which you started the recording session.

NOTE:
The SU700 does not update the environment when jumping back to the earlier position; the knob settings, scenes, and mutes remains exactly as they were when you finished recording. If you wish to restore the song's true environment, you must set up and recall scenes as necessary.

How To Start Playback

1. If the sequencer is not currently in PLAY STANDBY mode, press the ■ or **[CANCEL]** button to set the sequencer into PLAY STANDBY.
2. If necessary, adjust the song to the location at which you want to begin playback.
3. Press ▶ to begin playback.
   - The sequencer begins playback, starting from the current location.

How To Stop Playback

Press the ■ button.

- The sequencer stops playback. The song position location does not change. You can resume playback from the same position simply by pressing ▶.

How to Adjust the Location

You can adjust the position while the sequencer is in PLAY STANDBY, PLAY, or REC STANDBY. You cannot adjust the position while the sequencer is recording.

Using the Buttons

◆ Press ▶▶ to fast-forward.

◆ Press ◀◀ to fast-reverse.

◆ Press |◀ to jump back to the song start (position 001:1).

Using the Dial

1. The screen's MEASURE indication must be blinking. If it is not blinking, press the **[MEASURE]** button once—so that it begins blinking.

2. Turn the dial to the right to advance the song position, or to the left to move back in the song.

Using Markers

If you have stored locations into markers, you can use these markers to jump from location to location. But note that markers can be used only while the sequencer is in PLAY or PLAY STANDBY mode.

Additional Explanation

- Remember that when you adjust the location using any of the methods described above, **the environment at the adjusted location may not match the true environment that would exist if you had played the song through from the beginning.**
- If you use the sequencer buttons or the dial to adjust the location while the sequencer is in PLAY mode, the sequencer will reproduce all knob and mute events already recorded in the area over which you pass (you may see the readings changing on the meters), but will not execute scene changes.

  For example, if you move from location 10:1 to 20:1, the sequencer will reproduce any knob and pad mute events that you previously recorded within these measures, but it will not reproduce any scene changes that you recorded within these measures.
- If you adjust the location while the sequencer is in PLAY STANDBY or REC STANDBY or by using markers, the sequencer will not reproduce any of the sequence events recorded in the area that you pass over. The sequencer's knob settings, mute settings, and effect setup will be exactly the same at the end of the move as they were at the beginning.
- If you move back to the start position, the sequencer will automatically recall the top scene (provided that you have stored a top scene).

How to Adjust the BPM

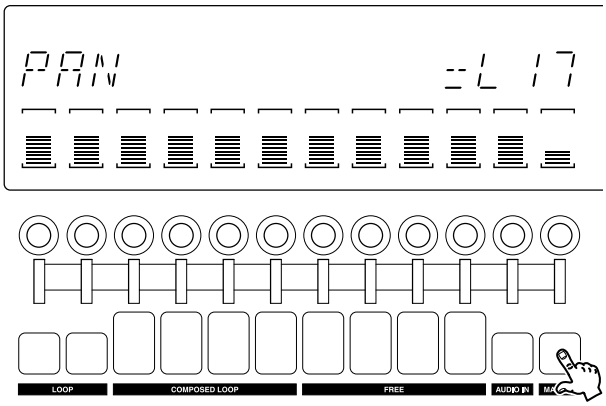
The BPM (beats-per-minute) setting controls the tempo of the song during recording or performance. The current setting is shown in the BPM area at the right of the screen. You can adjust the value in either of two ways:

- Press the **[BPM]** button (so that the BPM display is blinking), and then turn the dial.
- Tap a beat on the **[BPM COUNTER]**. The SU700 detects the tempo you are tapping and displays it in the BPM display area. If you wish to use this tempo, press the **[OK]** button to lock it in. (If you do not press **[OK]** within several seconds, the original BPM setting is restored.)

Using the Knobs

You use the knobs to set and adjust the various knob settings (level, pan, pitch, and so on) on each track. At any given time each knob controls one setting on a single track. For sample tracks, the track-bank selection determines which bank of tracks is currently under control. (→ p.15).

You select the knob's function (the setting that the knob controls) by pressing the appropriate button in the KNOB FUNCTION panel. When you press one of these buttons, the display switches to the corresponding function screen and all knobs take control of the setting that you have selected: if you press the **[PAN]** button, for example, then all the knobs will control the pan on their respective tracks. The track meters indicate the current setting on each track (if you selected PAN, then each meter indicates the current pan value on the track), while the center part of the screen indicates the numerical value of the setting for the track whose pad or knob you last touched.



Press PAN: All knobs control PAN. All meters show PAN values. Screen center shows numerical PAN value of last track you accessed (in this case, the MASTER track.)

While you are working at the main screen, each knob controls the track's default knob function (→ p.144).

For full details about the use of each of the different knob functions, refer to Chapter 8, "Knob Functions" (→ p.193).

KNOB USAGE and SEQUENCER MODE

Knob usage varies according to the sequencer state as follows.

In REC mode: You use the knobs to record knob changes onto each track. If you select the SOUND/[PITCH] function and then turn the knob on the first LOOP track, for example, the sequencer records a pitch-change event onto that track at the current song position (as corrected by quantizing).

In PLAY mode: You use the knobs to change the sound in real time. These changes are transient and are not recorded as sequence data. The changes will cause the actual environment to deviate from the song's "true" environment.

In STANDBY modes: You can use the knobs to arrange the settings that will be applied when you begin or resume operation in REC or PLAY mode. Again, these changes are transient, are not recorded as sequence data, and will cause the actual environment to differ from the song's "true" environment.

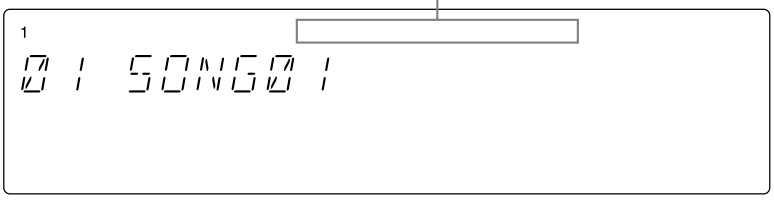
Using the Pads

You use the pads to generate pad events on each track. At any given time each pad controls action on a single track. For sample tracks, the track-bank selection determines which bank of tracks is currently under control (→ p.15)

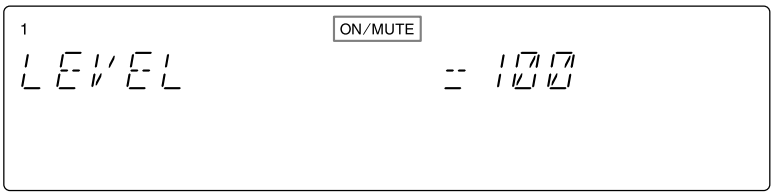
You use pads to control four different functions: PLAY, ON/MUTE, ROLL, and LOOP RESTART. You must switch the controlled function as necessary.

- When you are working at the main screen (during PLAY or PLAY STANDBY only) each pad controls the track's default pad function. You can set the default function using the TRACK SET | MAIN job. The controlled function is not indicated on the screen.

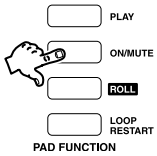
When main screen is on display, each pad controls the track's default function. The pad function is not displayed.



- You can switch the function to PLAY, ON/MUTE, or LOOP RESTART at any time by pressing the corresponding function selector. If you are working at the main screen, pressing the button will move you to a function screen and all pads will be set to control the selected pad function.



Function screen. All pads now control the MUTE function. Press pad once to switch track on; again to switch track mute.



- If you wish to use the ROLL function, you must *hold down* the **[ROLL]** button while pressing the pad(s). When you release the **[ROLL]** button, the function selection automatically switches to PLAY.
- While you are working at a function screen, the top line of the screen indicates the currently selected function (see illustration directly above). But note that the ROLL function is not shown (is indicated as PLAY).

Be aware that **the pads for COMPOSED LOOP and FREE tracks include velocity sensors.** If you set the PAD SENS parameter to ON in the SYSTEM | SETUP job (→ p.301), these pads will be sensitive to velocity (striking force), so that harder presses will generate louder sound. Pad sensitivity works for both the PLAY function and the ROLL function; it has no meaning when you are using the MUTE or LOOP RESTART functions.

The operation of each function varies according to track type and sequencer mode. The following is an explanation of how each function works under each sequencer mode. Refer also to Table x-x for a more detailed breakdown.

PLAY Function

Purpose: Use to play notes (to play the sample sound).

Description: Use the pad to record note-on events (sample-playback events) onto COMPOSED LOOP and FREE tracks, and to play samples out in real time.

Operation in Each Mode:

REC mode

Pad press records a Note-On; pad release records a Note-Off. (Effective only on COMPOSED LOOP and FREE tracks.)

Any other mode

Pad press causes sample to play out; pad release causes sample playback to stop. (Effective on all sample tracks.)

ON/MUTE Function

Purpose: Use to toggle the track mute on or off. Especially useful for temporarily switching off playback from LOOP and COMPOSED LOOP tracks.

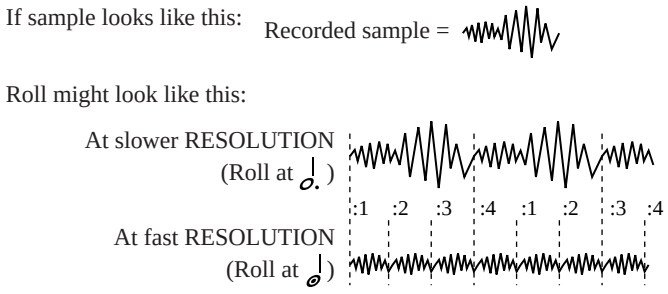
Description: Use the pad to set the track's mute on or off. This pad function works on all tracks, and can be used in all modes. **Note that switching the mute on is the only way to switch off automatic playback from the LOOP and COMPOSED LOOP tracks.**

Additional Information:

- Setting the mute on [or off] for the MASTER track automatically sets the mutes for all other tracks on [or off].
- Although muting a track will shut the track's sound output off, it does not prevent you from recording other events (pad, knob, and scene events) onto that track. Although you will not hear these events as you record them, they will be stored in the song and you can play them later by switching off the mute.

ROLL Function

Purpose: Use to roll a note (to play the initial portion of the sample repeatedly, producing a sound like a drum roll or a machine gun.)



Description: Hold down **[ROLL]** button and press pad to record or play a "roll" sound.

Operation in Each Mode:

REC mode

Holding down the **[ROLL]** button and pressing the pad records a roll onto the track at the current resolution (see below). Note that if you are working on a LOOP or COMPOSED LOOP track, the roll event is not recorded as part of the loop—it is recorded as a sequence event that temporarily overrides the sound of the loop.

PLAY mode

Holding down the **[ROLL]** button and pressing the pad generates playback of a roll, at the current resolution. Any sample play currently recorded on that track is automatically silenced while the roll is in progress.

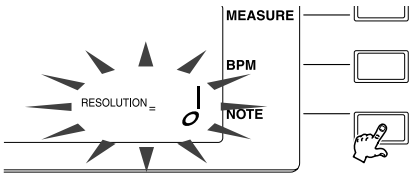
REC STANDBY or PLAY STANDBY mode

Not effective.

Additional Information:

- The RESOLUTION setting selects the roll rate. When you press the **[ROLL]** button, the current roll resolution appears in the NOTE area of the screen. To change the resolution, proceed as follows. (You can change this setting regardless of the sequencer mode.)

  1 Press the **[NOTE]** button on the screen, so that the NOTE display area is flashing.



2 Hold down the **[ROLL]** button and turn the dial to select the new rate. You can select any of the following 18 roll rates:

- Although it is possible to change the roll resolution while you are rolling a note (while you are holding down both **[ROLL]** button and a pad), the roll rate will not change until the pad is released.
- When you press the **[ROLL]** button, the pad-function indicator on the screen displays PLAY (and not ROLL). **When you release the [ROLL] button, the selected function automatically changes to PLAY.**

LOOP RESTART Function

Purpose: Use to restart the loop on a loop track.

Description: Pressing the pad causes the loop to restart.

Operation in Each Mode:

REC mode

Pressing the pad records a loop-restart event, causing the loop on the track to restart. Effective only on LOOP, COMPOSED LOOP, and MASTER tracks. (If you record the event on the MASTER track, then all loops will restart.)

PLAY mode

Pressing the pad causes the loop to restart (if LOOP or COMPOSED LOOP track), or causes all loops to restart (if MASTER track.)

Pad Operations by Function, Track Type, and Sequencer Mode

Pad Function	Sequencer Mode	Track Type	Operation
PLAY	REC	LP	● No event is recorded. ● If track is not muted, plays out sample in accordance with current tempo setting and all current knob and track settings; except that if BPM TRACKING is set to SLICE, the sample will play out at its original speed regardless of the current tempo setting and loop-length setting. If you hold down the pad, the playback will loop.
		CL	● Pressing the pad generates a Note On event; releasing the pad generates a Note Off event. ● These events are recorded with respect to their location within the loop, not with respect to the location in the song.
		FR	● Pressing the pad generates a Note On; releasing it generates a Note Off. ● These events are recorded with respect to their location in the song.
		AU, MA	● The pad does not operate.
	PLAY PLAY STBY REC STBY	LP	● If track is muted, no sound. ● If track is not muted, plays out sample in accordance with current tempo setting and all current knob and track settings; except that if BPM TRACKING is set to SLICE, the sample will play out at its original speed regardless of the current tempo setting and loop-length setting. If you hold down the pad, the playback will loop.
		CL, FR	● If track is muted, no sound. ● If track is not muted, plays out sample in accordance with current knob and track settings.
		AU, MA	● The pad does not operate.
ON/ MUTE	-All-	LP, CL, FR, AU	● Switches track's mute on or off.
		MA	● Switches all mutes on or off.
ROLL	REC	LP, CL, FR	● While you hold down ROLL and press the pad, the sequencer records a "roll" at the current song location, at the speed determined by the roll resolution setting (as of the time the pad was pressed).
		AU, MA	● The pad does not operate.
	PLAY	LP, CL, FR	● While you hold down ROLL and press the pad, the sequencer produces a "roll" sound, at the speed determined by the roll resolution setting (as of the time the pad was pressed). ● Any recorded playback on the track is suppressed while the roll is held.
		AU, MA	● The pad does not operate.
	REC STBY PLAY STBY	-All-	● The pad does not operate.
LOOP RESTART	REC	LP, CL	● Causes the loop to restart. The restart event is recorded in the song.
		FR, AU	● The pad does not operate.
		MA	● Causes all loops to restart. The restart event is recorded in the song.
	PLAY	LP, CL	● Causes the loop to restart.
		FR, AU	● The pad does not operate.
		MA	● Causes all loops to restart.
	REC STBY PLAY STBY	-All-	● The pad does not operate.

Abbreviations: LP: LOOP track; CL: COMPOSED LOOP track; FR: FREE track; AU: AUDIO IN track; MA: MASTER track; STBY: Standby

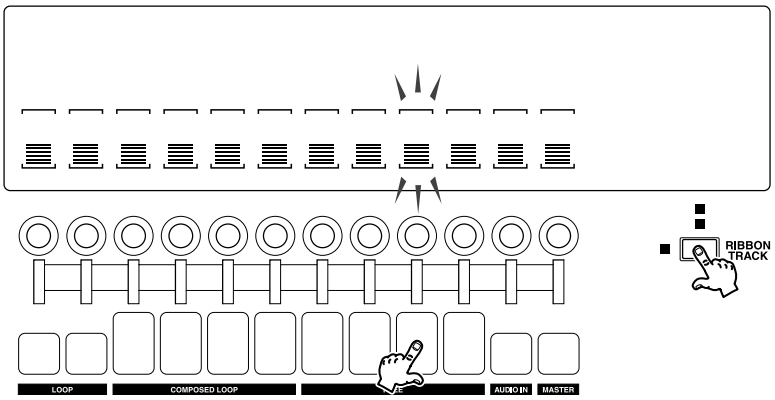
Using the Ribbon Controller

The ribbon controller is a special feature that you can use to control one selected function on a preselected track. Once you have selected the function, you can control it by tapping or rubbing the ribbon. The ribbon gives you a tactile type of control not provided by the knobs.

For the controlled function you can choose one of the knob functions (pitch, pan, etc.) or you can choose a special *scratch* function that emulates the effect you would get by manually rotating a vinyl disc back and forth on a turntable. You select the function using the SYSTEM | SETUP job (→ p.302).

Selecting the Track

Select the track you want to use the ribbon with by holding down the **[RIBBON TRACK]** button and then pressing one of the pads. The meter brackets blink to indicate the pad you have selected.

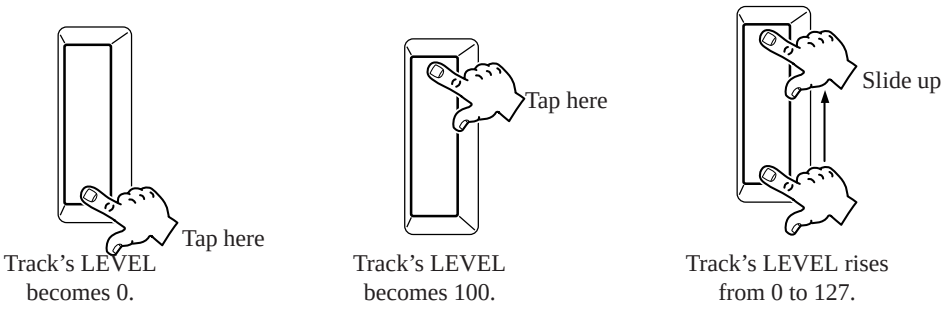


Note that if you press a pad on a sample track, the ribbon will work with the corresponding track in whichever bank is currently selected. If you press the leftmost pad, the ribbon will work with the first LOOP track in whichever bank you select. If you select Bank 1, then ribbon will work with the first LOOP track in bank 1. If you later change to Bank 2, then the ribbon will work with the first LOOP track in bank 2.

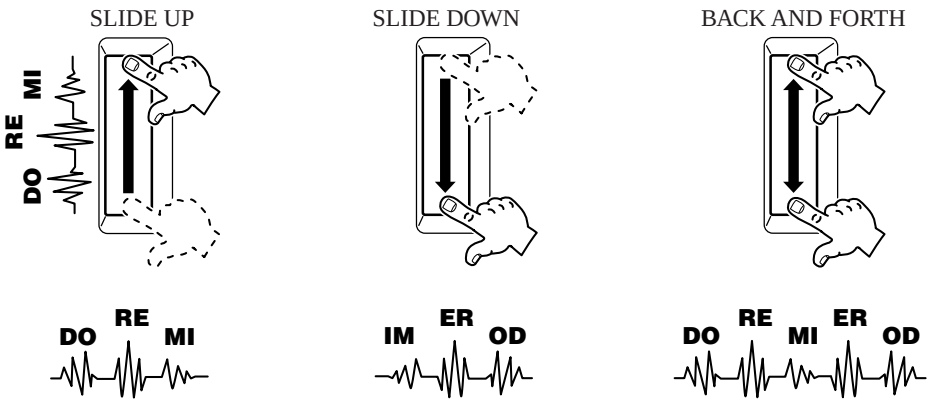
Operating the Ribbon

If Knob Setting: If you set the ribbon to control a knob function, you can adjust the knob setting simply by tapping once on the ribbon. Tap toward the top of the ribbon to change the setting to a high value, or toward the bottom to get a low value. This is a nice feature, as it lets you jump from one value to another instantly, without moving through intermediate settings. But of course you can also slide your finger up or down the ribbon to change the value gradually.

(Example: LEVEL)



If Scratch: If you set the ribbon to control the *scratch* function, the SU700 maps the first part of the sample along the span of the ribbon, starting from the bottom of the ribbon. If you set your finger on the bottom of the ribbon and run it upwards, you can scratch out the sound in the forward direction. If you run your finger in the other direction, you can scratch the sound out backwards.



Recording Ribbon Events

Any ribbon action you apply during song recording will be recorded, just like regular knob action, into the corresponding track. If you select a knob function that supports quantizing (→ p.174), then the ribbon-generated input will be quantized. If you use the "scratch" function on a looping track (LOOP or COMPOSED LOOP track), the handling is the same as for a pad "roll": the scratch sound temporarily cancels out the loop sound.

Using Ribbon Controller in Real Time

You can use the ribbon controller while the sequencer is in STANDBY or PLAY mode to adjust the knob setting or to scratch out the sound. Note that if you use the scratch function while the song is playing, the handling is the same as for a pad "roll": the scratch sound temporarily cancels out the sound recorded on the track.

Using Quantizing

You use the quantizing feature to automatically adjust the timing of knob and pad actions that you input **when recording a song**. The purpose of the quantize feature is to allow you to get clean timing even when your input is slightly off time or sloppy. **Quantizing is particularly useful when you need to record precise rhythm patterns (precise pad PLAY actions) onto your COMPOSED LOOP tracks.**

Quantizing operates in common on all seven of the following event types.

- Pad PLAY presses (Note-On events)
- Pad MUTE presses (Mute-switch events)
- Pad LOOP RESTART presses (Restart-loop events)
- Knob rotation for SOUND/LEVEL function (Level-change events)
- Knob rotation for SOUND/PAN function (Pan-change events)
- Knob rotation for SOUND/PITCH function (Pitch-change events)
- Knob rotation for FILTER/CUTOFF function (Cutoff-change events)

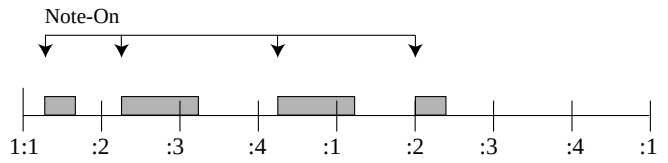
Note that SU700 never quantizes scene recalls (SCENE button presses), pad ROLL action, or knob actions other than those indicated above. Actions that are not quantized are simply recorded at the precise location (measure, beat, and clock) at which they are input.

Quantizing works only during song recording, and automatically adjusts the location of these input actions to the nearest quantize interval. Note that the quantize feature affects new input only; it does not change any sequence data that has already been recorded.

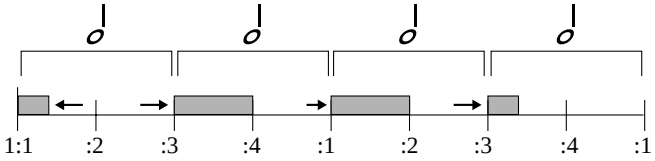
The quantize setting applies in common to all of the inputs mentioned above; you can not set separate settings for different tracks, for example. But you are free to change the quantize setting at any time, even while recording is in progress. For example, you might want to record measures 1 to 20 using  quantize and then switch to  for recording measures 21 and on. Or you might want to record one of your COMPOSED LOOP tracks using  quantizing, and then go back and record another of your COMPOSED LOOP tracks using  quantizing.

For pad input, the quantize feature simply pulls the pad event to the nearest interval. For slow continuous knob changes, the feature breaks the change into discrete pieces and pulls each piece to the nearest interval—so that all changes take place on the interval and no changes occur between the intervals.

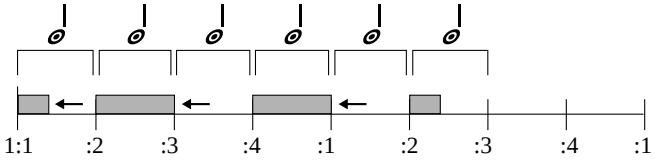
Examples



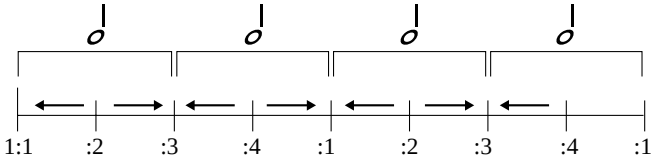
If QUANTIZE = ♩, adjusted as follows :



If QUANTIZE = ♪, adjusted as follows :



If QUANTIZE = ♩, Knob events are pulled as follows :



Once you have used quantizing, there is no direct way to restore your original timing, since **the SU700 the will not remember your original timing.** If you are displeased with the quantizing results, however, you can use the UNDO feature (→ p.183) to cancel your new recording, or you can use the EVENT EDIT | LOCATION & VALUE job (→ p.246) to adjust the location of your recorded pad-PLAY events (note-on events).

If you are concerned that use of quantizing may cause your COMPOSED LOOP patterns to lose swing, keep in mind that you can always use the knob GROOVE functions (→ p.201) to get a more swinging rhythm.

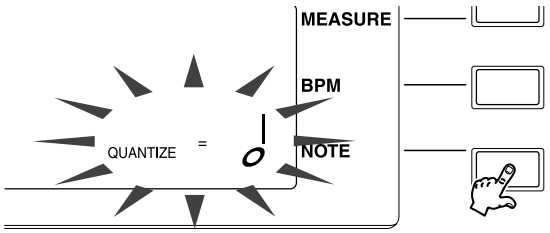
How to Set the Quantize Value

To change the quantize setting, proceed as follows. Note that you can change the quantize setting at any time when working at the main screen or a function screen, regardless of the sequencer's current state.

Note that the quantize setting is a temporary state (→ p.137); it cannot be saved into scenes or onto disk. The SU700 simply retains the current setting until you change it or switch the power off.

1. Hit any pad-function selector, any of the four knob-function buttons that support this feature, or (if you are currently working at a function screen) any pad. The NOTE area of the screen will then display QUANTIZE=*setting* (where setting is either a note image or else is blank, indicating that quantizing is off).

2. Press the **[NOTE]** button (if necessary) so that the QUANTIZE area is blinking.



3. Turn the dial to adjust the value.
The default value (at power-on) is *blank* (quantizing off).

Using Scenes

Scenes are an extremely important feature of the SU700. This feature makes it possible for you to prepare and then instantly recall entire setup environments, both within your recording and during performance. You will probably use scenes extensively both while building and while performing your songs. The SU700 allows you to store up to eight scenes for each song.

What Do I Use Them For?

- To store a "top" or "startup" environment, so that you can be sure that the song will always begin replay using the same setup. If you do not store a top scene, the setup used at the start of song replay will be more or less unpredictable. (See "What is a Top Scene...," below.)

- To change the entire setup instantly, either within the recorded song itself or on the fly during realtime playback. This is extremely useful because:
  1. It makes it possible for you to switch to an environment that you have already tried out and that you know will sound good.
  2. It allows you to change all settings on all tracks instantly: something that is physically impossible to do when operating knobs, knob-function buttons, and pads manually during realtime recording or playback.
- To hold complete or partial environments temporarily as you build your songs, or to create temporary backup environments when testing out new possibilities that you may not want to keep.

Overview

- Each song contains memory space for eight scenes: TOP, A, B, C, D E, F, and G.
- When you begin working on a new song (after setting the power on and loading some samples) all scenes (TOP, A,...,G) are empty.
- As you work on knob settings, mute settings, and effect settings for the song, you will eventually arrange these settings into a configuration that you want to save. You can store this configuration—the current environment—into a scene by holding down one of the scene buttons. (See "How Do I Save A Scene?," below.)
- Once you have saved stored the configuration into the scene, you can recall the configuration at any time by briefly pressing the scene button. (See "How Do I Recall A Scene?," below.) If you record scene-button presses into your song, then the song will automatically recall each stored environment as it plays past each of these recorded button presses (scene-recall events).
- Once you have saved an environment into a scene, it remains in memory until you do any of the following: (1) store a different environment into the same scene, overwriting the previously stored data; (2) initialize the environment (as described below), so that the scene becomes empty, or (3) initialize the entire song or switch off the power, deleting all content from all scenes.
- Like samples, scene contents are stored together with the song. When you copy a song, (from one song number into another), the scene contents are also copied.
- Scene data is lost at power-off. If you wish to save your scenes, you must save all SU700 content to a volume on disk. (→ p.287). When you reload the volume, the SU700 will reload all of the scene data.

What Does the Scene Hold?

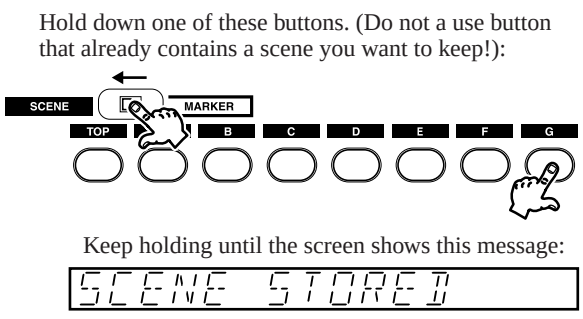
When you store a scene, the scene memory stores the current settings for all of the items listed below. When you recall the scene, the sequencer will recall of these settings.

- All current knob settings (SOUND/LEVEL, SOUND/PAN, SOUND/PITCH, ...,EFFECT/EFFECT 3) for all nonempty sample tracks, and for the AUDIO IN and MASTER tracks.
- The current GROOVE resolution setting (for all nonempty sample tracks).
- The current mute ON/OFF state on all tracks (except for empty sample tracks).
- The three currently assigned effects (the effects assigned to blocks 1, 2, and 3, as set up by the **[EFFECT SETUP]** buttons).
- If one or more of the assigned effects are insertion effects, then the track ON/OFF connections for each of those effects.

How Do I Store a Scene?

Note that the SU700 will store scenes only while the sequencer is in PLAY or PLAY STANDBY (although it can recall scenes under any sequencer mode).

1. Be sure that the SCENE/MARKER switch is set to SCENE.
2. Be sure that knob settings and mute settings for all tracks, and also the current effects assignments, are set up the way you want to store them.
3. If the sequencer is in REC or REC STANDBY mode, press ■ to return it to PLAY STANDBY mode. (If you wish, can then set the press ▶ to set the sequencer into PLAY mode, although there is probably no reason to do this.)
4. Hold down a free or overwritable SCENE button (**[TOP]**, **[A]**,...,**[G]**) for several seconds to store the environment into the corresponding scene. Hold the button down until the screen displays the SCENE STORED message.



NOTE 1:
Remember that when you save data into a scene, you overwrite any data already existing in that scene. ***Do not use a button that contains a scene that you may need later.***

NOTE 2:
Be careful that you do not release the button too soon. If the button already contains a scene, then releasing it too quickly will cause you to lose the settings that you wanted to store.

How Do I Recall a Scene?

You can recall a scene with the sequencer in any mode (REC, REC STANDBY, PLAY, or PLAY STANDBY) by briefly pressing and releasing the corresponding SCENE button (**[TOP]**, **[A]**,...**[G]**). Note the following points.

- The scene change occurs (and is recorded) **when you release the button**, not when you press it.
- **Be careful that you do not hold the button down too long**—or you may inadvertently overwrite the scene data that you wanted to recall.
- If you press the SCENE button for an empty scene, nothing will happen (current settings will be left unchanged.)

What is the TOP scene, and Why Is It So Important?

You will want to set a TOP scene to insure that the song always starts up with the same environment. Note the following points.

- If you store a top scene, then **the scene is recalled automatically each time you return the position to the start of the song** (from measure position 001:1).
- **The TOP scene is the *only* way to store a startup environment.** It is not possible to directly record events at the start position of the song, since you can only record events while the song is moving forward.
- Even though you can *store* the top scene only while the sequencer is in PLAY or PLAY STANDBY, once you have stored it the scene will be automatically *recalled* regardless of the sequencer mode. In other words, the scene operates as if it were actually recorded into the song, even though it isn't.
- **You are free to use the TOP scene also as a regular scene.** While the scene is recalled *automatically* when you go back to the beginning of the song, you can also recall the scene *manually* at any song position, simply by pressing the button. (And you can record these presses into your song, too.)

- If you do not store a top scene (if the top scene is empty), then: When you move back to the start of the song from any other position in the song, settings will simply retain the values they had prior to the move. It will probably be impossible to predict how the song will sound when you begin playback.

How Are Scene Buttons, Scene-Recall Events, and Scene Contents Related?
When you press a scene button during recording, the song records the button press as a scene-recall event on the MASTER track. **Notice that the song does not store the scene content itself; it only stores the scene-recall event.** If the scene is currently empty, for example, then the recall event will not cause anything to happen. If you have recently changed the content of the scene, then the event will recall your newest scene settings.

For example, assume that you press SCENE button **[A]** at location 050:1 while recording a song. This tells the song to go and get the content of scene A whenever it passes position 050:1 during playback. If later you decide that you do not like the content of scene [A], you can delete the scene using the EVENT EDIT/LOCATION & VALUE job.

What Does the [INIT] Button Do?
You can use the **[INIT]** button to initialize (that is, to clear) any scene, so that scene becomes empty and ineffective. If you initialize scene A, for example, then any scene-**[A]** button presses recorded into your song (or executed manually) will simply be ignored—until such time as you decide to store new data into scene A.

To initialize a scene, proceed as follows. Keep in mind, however, that this operation will delete all of the scene's current data.

1. Be sure that the sequencer is in PLAY or PLAY STANDBY mode. (You cannot initialize scenes while in REC or REC STANDBY.)
2. Be sure that the SCENE/MARKER switch is set to SCENE.
3. Hold down the **[INIT]** button, and, while continuing to hold it, press and hold the scene button for the scene you want to initialize.
4. Continue holding both buttons down until the message INITIALIZED appears on the screen.

Where are Scene-Recall Events Stored, and How Can I Delete Them?
Scene recall events are stored on the MASTER track. You can delete them by using the EVENT EDIT | EVENT CLEAR job or the TRACK EDIT | TRACK INIT job to clear the events from the MASTER track.

Usage Tips

- When building a song segment (recording and then re-recording over the same section), you will want to use a scene to store the environment that exists at the start of the section, so that you can recall the environment before re-recording from the start of that segment.
- When building a song, you may want to use scenes **to hold current settings as you continue to adjust these settings**.
- You may want to set up multiple scenes temporarily as possible alternatives. You can then recall each scene and see which one you like, and delete the ones you don't think you will use.
- It's easy to move the content of one scene into another. Assume you want to move the content of scene D into the TOP scene, for example. Simply set the sequencer into PLAY STANDBY, press the Scene D button briefly to recall scene D, and then hold down the TOP scene button to copy the settings into the top scene.

Reviewing and Revising Scene Content

After you have stored a scene, you may at some point want to review or revise its settings. You can carry out the review simply by recalling the (scene/setting in PLAY or PLAY STANDBY) and checking each one of the settings. Change any of the settings that you are not happy with, then store the results back into the same scene.

Additional Information About Scenes

- Remember that SCENE-button actions that you record into the song **are not quantized**. **There is no way to adjust the timing of a recorded scene-recall event.** (If you are unhappy with the timing, delete or undo the event and then record it again.)
- The SU700 does not provide any indication to tell you whether a scene is currently empty. The best way to check whether a scene is empty is to set various knob settings to unusual values and then briefly press the scene button. If none of the knob settings changes, then the scene in empty.
- If you change the song position using ◀◀, ▶▶, or the dial while the sequencer is playing the song (in PLAY mode), the sequencer will execute all recorded knob and pad events that you pass, **but will not execute recorded scene-change events.**
- Scene data is lost at power-off. If you wish to save you scenes, you must save all SU700 content to a volume on disk. (→ p.287).

Using Markers

You can use markers to jump to preset locations in the song. You can memorize up to eight locations for each song. This feature is useful when you want to jump around to different song locations during performance, or if you wish to jump to specific locations when building your song.

Markers can only be used while the sequencer is in PLAY or PLAY STANDBY, and **marker-button presses *cannot* be stored into scenes or otherwise recorded into your song**. All marker setup and all marker jumps must be executed manually.

Marker settings (and scene contents, too) are specific to each song. When you copy a song (from one song number into another), the marker values (and scene contents) are also copied.

The most important thing to keep in mind about using markers is this:

> **When you use a marker to jump from location A to location B, the song will also skip over all sequence events recorded between locations A and B.**

In other words, you need to be careful to avoid jumping over important sequence changes that are essential for the proper development of your song.

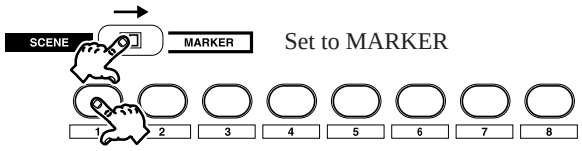
There are two basic uses for markers.

- **When Performing a Song:** Use markers to jump to locations where major scene changes or setup changes occur (or to locations just slightly ahead of such changes), or to jump back if you want to restart your song from an earlier position.
- **When Building a Song:** Use markers to mark the locations where you are planning to record scene changes or other major environment changes in your song. This makes it each for you to jump back and forth among these locations as you continue to design the song.

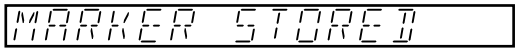
To memorize a marker location

1. Be sure that the SCENE/MARKER switch is set to MARKER.
2. Move the song to the location that you want to memorize.
3. If the sequencer is in REC or REC STANDBY mode, press ■ to return the sequencer into PLAY STANDBY mode.

   If you like, you can then press the ▶ button to set the sequencer into PLAY mode, but you will get better precision if you record your markers while in PLAY STANDBY.)
4. Hold down a free marker button until the screen displays the MARKER STORED message. Do not use a button that already contains a marker that you may want to use again later, since the new location will overwrite any location already stored in the marker.



Hold down until the screen shows message.



New location (123) is stored in marker A.
Previous content of marker A, if any, is lost.

To jump to a marker location

1. Be sure that the sequencer is in PLAY or PLAY STANDBY mode, and that the SCENE/MARKER switch is set to MARKER.
2. Press the appropriate marker button *briefly* to jump to the stored location. Note that the position changes when you *release* the button, not when you press it. Do not hold the button down too long, or you may inadvertently overwrite the stored location with the current location.

Using Undo/Redo

You use this feature to undo or restore all sequence events you recorded during your last recording session. This is useful because:

- It allows you recover from mistakes you make when recording: you can cancel the entire recording session, placing the song back into the state it had before you started the session.
- It allows you to compare the sound both "before" and "after" the changes you made during your last session, so that you can decide whether or not to keep the changes.

Explanation

The SU700 "undo" memory remembers all sequence data—all knob, pad, and scene actions—that you entered during your last recording session (starting when you entered REC mode and ending when you pressed ■). Once you have finished the session, you can press the **[UNDO/REDO]** button once to cancel all of this sequence data you entered during the session, and then you can press the button again to restore all of the data. You can undo and restore the data as many times as you like, listening to the playback each way to determine whether or not you want to keep the results.

The **[UNDO/REDO]** button is effective only while the sequencer is in PLAY STANDBY; you can not execute an undo or redo while playback is in progress. Pressing the button will always return the song to position 001:1.

Note that the "undo" memory will lose its content when you do any of the following:

- Press the **[REC]** button again to enter RECORDING STANDBY.
- Change to a different song.
- Switch off the power.

Example Procedure for Comparing New Recording Results with Previous Sound

Assume that you have finished recording measures 001:1 to 049:4, and that you now want to record some sequence data into the song segment from measures 050:1 to 060:1 and then check the result. Proceed as follows.

1. Play the song normally from 001:1 to 050:1, then press ■ to stop the playback. Then hold down a free scene button (say the Scene-**[B]** button) to store the true environment for 50:1.
2. Press ● ▶ to start recording from 50:1.
3. Record sequence data (using knobs, pads, and scene buttons).
4. Press ■ to stop recording. The sequencer will jump back to the location at you started recording from (in this case 50:1) and go into PLAY STANDBY state.
5. Press ▶ to listen to the results. Press ■ when you have heard enough.
6. Press **[UNDO/REDO]** to remove all of the data you entered at step 3 above. The screen briefly displays UNDO, and the song jumps back to the start position (001:1).
7. Adjust the song position to 050:1, then press the Scene **[B]** button briefly to recall the true environment, and then press ▶ to start playback.
8. When you have heard enough, press ■ to stop the sequencer. You can then press **[UNDO/REDO]** again to restore all of the data you entered. The screen briefly displays REDO, and the data is restored.
9. Continue as necessary, undo and restoring the data and listening to the playback both ways, until you decide whether you want to keep the new data.

Chapter 7 Effects

This chapter tells you what you need to know about setting up and using the SU700's built-in effects.

CONTENTS

7.1 Introduction

The SU700 effects system offers the following features and characteristics:

- A wide variety of built-in effects. Each effect includes a number of dedicated parameters that give you great control over how the effect is actually applied.
- Three effect blocks. You assign a different effect to each block—so that you can have three effects working at any given time.
- Effect blocks are interconnected. You can adjust the level of signal flowing from one effect block into another.
- Effects come in two kinds: *system effects* and *insertion effects*. These two kinds of effects are implemented somewhat differently, and the insertion effects are subject to some special restrictions, as described later in this chapter.

For a full listing of effects and their dedicated parameters, refer to the effect listings starting on page 333.

For detailed instructions about how to assign effects to effect blocks and how to set the parameter values, refer to the explanation for the EFFECT functions (→ p.211). For information about how to set and adjust effect levels on each track (and how to instantly cancel the application of an effect), refer to the explanation of the EFFECT SETUP functions (→ p.214).

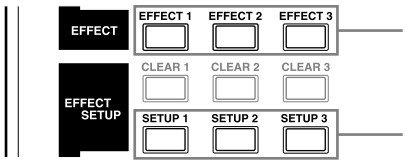
7.2 Using the Effects

In order to use effects, you do the following:

1. Set up the effects.

   Use the EFFECT SETUP functions (SETUP 1, SETUP 2, and SETUP 3) to assign an effect to each block, and to set the various parameters for each of these effects. If you want to use multiple setups, store each setup into a separate scene.

2. Use the EFFECT 1, EFFECT 2, and EFFECT 3 knob functions to adjust the signal level to each block during performance, while recording, or while setting up scenes.



NOTE:
*If you have installed the optional AIEB1 board (I/O expansion board), be aware that effects are **not** applied to signals directed to the analog assignable outputs (although they **are** applied to the signals to the DIGITAL and OPTICAL connectors).*

USING SCENES

There is only one way to preserve the effect assignments and parameter settings that you make with the EFFECT SETUP buttons: you must store these into scenes. If you want to build a song that always starts out with the same setup, you must store this setup into the top scene.

Note also that it is not possible to use the EFFECT SETUP functions to change assignments or parameter values while recording is in progress. If you want to record a song that changes from one effects setup to another, you must store these setups into separate scenes, and recall the scenes while recording the song.

If you do not store a top scene for a song, the effect assignments and parameter values for that song will automatically reset to their defaults when power first comes on, and whenever you switch into that song from another song.

Example

You want to build a song that begins with the PHASER, 1DELAY , and FLANGER effects. At measure 20, you want the PHASER effect to change to a PLATE effect, and you want to the 1DELAY effect to change its sound (by changing its LOWGAIN parameter value from 0 to +12.

What to Do:

Set up two scenes with the following effect settings.

TOP SCENE: SETUP1 = PHASER
SETUP2 = 1DELAY (with LOWGAIN set to +00)
SETUP3 = FLANGER

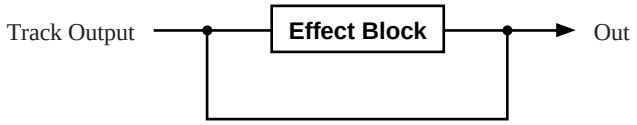
SCENE B: SETUP1 = PLATE
SETUP2 = 1DELAY (with LOWGAIN set to +12)
SETUP3 = FLANGER

After setting up these scenes, start the sequencer in REC mode, and then press the Scene **[B]** button briefly when the song position reaches 20:1.

7.3 Effect Blocks

The SU700 provides three effect blocks, with a separate effect assigned to each block.

An effect is applied by passing the signal output from the tracks through the corresponding effect block. You might want to note that the SU700 will never pass the entire signal through the block; some part of the signal will always bypass the block, as illustrated below.

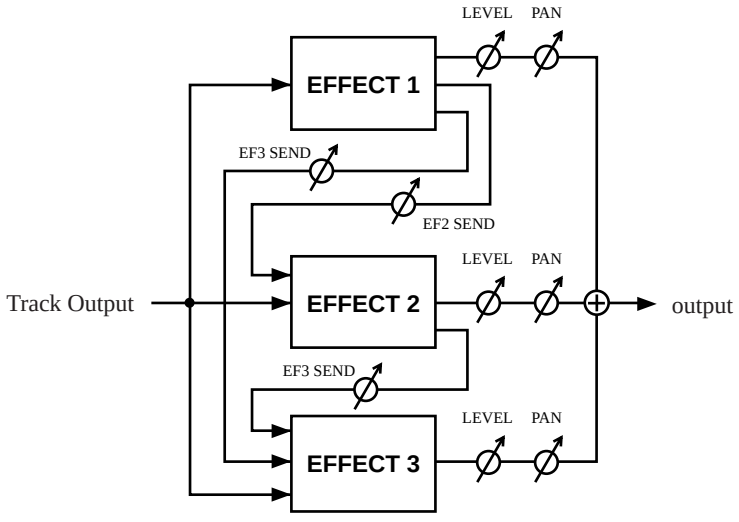


The three blocks are interconnected. Blocks 1, 2, and 3 all transmit their signals directly to the standard STEREO OUT jacks (and phone jacks), but you are also free to pass output from Block 1 through Blocks 2 and 3, and output from Block 2 through Block 3.

Specifically, you can set the following interconnection levels ("send" levels):

- Level of Block 1 signal going to Block 2. (Block 1's EF2SEND parameter)
- Level of Block 1 signal going to Block 3. (Block 1's EF3SEND parameter)
- Level of Block 2 signal going to Block 3. (Block 3's EF3SEND parameter)

You set these parameters using the **[EFFECT SETUP]** buttons. The following illustrates the connection. For more information, refer to page 214.



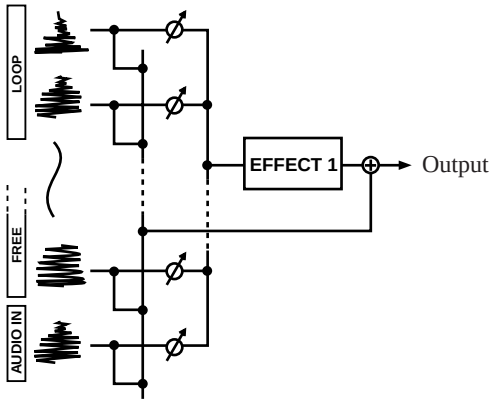
7.4 System Effects

All tracks (with the exception of the MASTER track) connect directly to all blocks that contain system effects. If you place system effects into all three blocks, for example, then all tracks (except for the MASTER track) will pass their output to all three blocks.

When working with a system effect, you can control the effect level separately for each track by pressing the appropriate **[EFFECT]** button (**[EFFECT 1]**, **[EFFECT 2]**, or **[EFFECT 3]**) and then turning the knobs. But note that the MASTER-track's knob in this case is disabled.

The following shows the function screen produced by pressing the **[EFFECT 1]** button, where the function assigned to block 1 is AMP SIM (the default), which is a system effect. When working at this screen you can use the knobs to control the level on all sample tracks and on the AUDIO IN track. But you will notice, if you try it, that the knob for the MASTER track is disabled.

The following shows the connection configuration of system effect.



*** The ø symbol means that that the level can be controlled by the track's knob. The MASTER track does not connect to blocks containing system effects. The MASTER track knob cannot be used to control the levels to the blocks.**

7.5 Insertion Effects

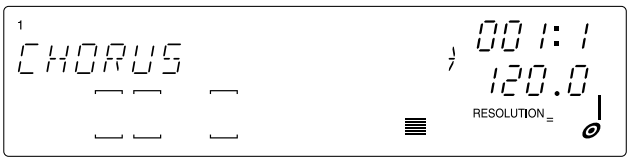
Insertion effects are subject to restrictions that do not apply to system effects. The following conditions apply to insertion effects.

(a) When setting up the effect, you decide which tracks you want to connect to that effect. For each track (other than the MASTER track) you can set the connection either ON or OFF.

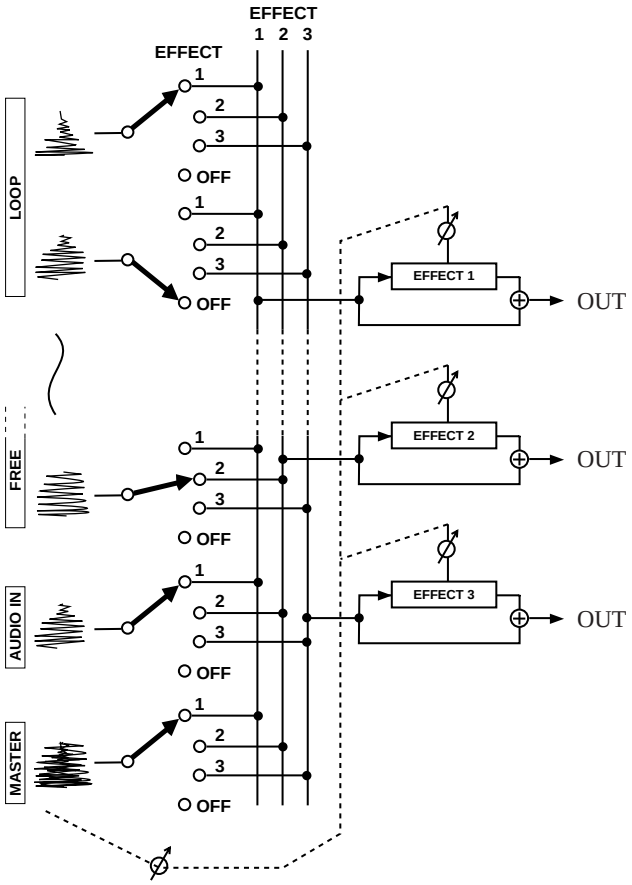
(b) You cannot connect a track to more than a single insertion-effect block. If you place insertion effects into blocks 1, 2, and 3, for example, then for each track (other than the MASTER track) you can connect to (*a*) block 1 only, (*b*) block 2 only, (*c*) block 3 only, or (*d*) none of the blocks.

(c) You cannot control effect levels separately for each track. Instead, you use the knob on the MASTER track to control the overall level through the effect block. The MASTER knob, in other words, simultaneously controls the effect level for all tracks that you have connected to the block.

The following shows the function screen produced by pressing the **[EFFECT 1]** function button, where the function assigned to block 1 is CHORUS (an insertion effect). Note that only the MASTER-track knob can be used to adjust the level; all other knobs are disabled.



The following illustration shows the connection configuration when insertion effects have been assigned to all three blocks.



MASTER knob controls level for all connected tracks.

7.6 Usage Tips

- Remember that when you use the knobs to control the EFFECT levels-during recording, these knob actions are recorded as sequence events. These events apply to the block, not to the assigned effect itself. **If you change the effect assignment (from system effect to a different system effect, or from insertion effect to a different insertion effect), the knob actions will be reproduced even though the effects are different.**
- The easiest way to try out the sound of different effects is as follows:

  1) Record some song data, and start playing the song.

  2) Press the **[SETUP 1]**, **[SETUP 2]**, or **[SETUP 3]** button.

  3) Use the dial to try out the different effects, and use the knobs to adjust the effect levels. You can quickly try out the sound of many effects to see which one best meets your needs.

7.7 Changing the Effect Resolution

Many effects include a resolution setting (note-interval) that determines the effect's timing. It is important to note that the following points:

- You cannot change the resolution setting using the EFFECT SETUP functions. You can only change the resolution setting from the EFFECT screens (**[EFFECT 1]**, **[EFFECT 2]**, **[EFFECT 3]**).
- Changes you make to the resolution setting while recording is in progress *are not recorded into the song*.
- If you wish to record changes in resolution into your songs, you must do this by storing the resolution settings into scenes. Assume, for example, that you want to use resolution changes for the effect assigned to Block 1. Proceed as follows.

  1) Set up the effect as necessary using the EFFECT SETUP/[SETUP 1] function.

  2) Press the EFFECT/**[EFFECT 1]** button.

  3) Press the **[NOTE]** button (so that the resolution setting is blinking), then turn the dial to select one of the resolution values you wish to use. Store the results into a scene—say Scene A. Now turn the dial to select each of the other resolution values you want to use, and save the results into other scenes—say Scene B and Scene C.

  4) This completes the setup procedure. You can now record resolution changes into your song by pressing the **[A]**, **[B]**, and **[C]** scene buttons while recording the song.

Chapter 8 Knob Functions

You use the SU700 control knobs to set or adjust values for up to 22 parameters, or knob settings, on each track. This chapter describes all of the settings that you can control with the knobs and the knob-function buttons.

CONTENTS

8.1 Overview

The SU700 allows you to set and control up to 22 playback parameters (or *knob settings*) on each track. These parameters determine how the track's sound is processed during playback.

For any given track, you control all of these parameters using the track's single control knob. This means that you must switch the knob function (the parameter controlled by the knob) frequently as you carry out setup, recording, and playback.

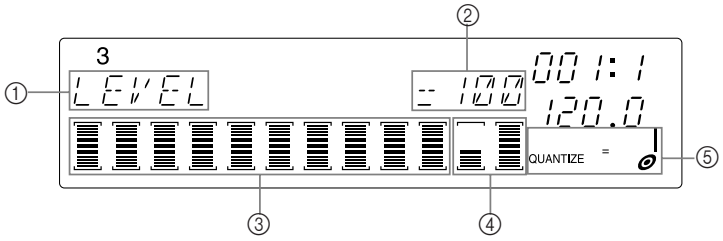
You change the knob function by pressing the appropriate button on the knob-function panel (the buttons from **[LEVEL]** to **[EFFECT 3]**.)

Function buttons are arranged in six groups, as follows.

SOUND	Controls waveform playback.
GROOVE	Adjusts sample playback timing and level to produce a groove.
LFO	Controls LFO modulation.
EQ	Controls equalization.
FILTER	Controls filter cutoff frequency and resonance.
EFFECT	Controls the effect levels.

When you press a knob-function button, the SU700 immediately switches to the corresponding function screen, and all knobs automatically assume control of the selected parameter. The center of the screen shows the parameter name, as well as the parameter's numerical value for the currently selected track (the last track at which you operated a knob or pad). The twelve track meters indicate the selected parameter's value on each track. If the selected parameter supports a QUANTIZE or RESOLUTION setting, then this setting also appears (as a note image) in the NOTE area of the screen.

EXAMPLE:
*Press the SOUND/**[LEVEL]** button and touch this pad (or turn the knob).*



①: Selected knob function = LEVEL
②: LEVEL = 100
③: LEVEL control values for each sample track in Bank 3.
④: LEVEL control values for AUDIO IN and MASTER tracks.
⑤: QUANTIZE or RESOLUTION setting (see below).

Note that the knob function buttons operate during all four sequencer modes. Function switching is disabled only while you are working at a job screen or while you are recording a sample.

NOTE:
When you are working at a function screen, as described above, all knobs control the currently selected function. When you are working at the ***main screen****, however, each knob controls the function assigned to it by the TRACK SET | MAIN job. For general information about the difference between the main screen and function screens, see pages 25 and 144.*

8.2 Knob Settings for Each Track

Although 22 knob parameters are provided, not all tracks can store or accept settings for all parameters. The number of usable parameters depends on the track type, on various job settings, and on the effect configuration. Details are provided in the explanations below. For reference, you may want to note that the maximum number of settings supported by each track type are as follows.

Track Type	Supported Parameters
LOOP	All 22 parameters
COMP. LOOP and FREE	21 parameters (All except SOUND/LENGTH)
AUDIO IN	5 parameters: SOUND/LEVEL, SOUND/PAN and all EFFECT settings
MASTER	9 parameters: SOUND/LEVEL, SOUND/PAN, all EQ settings and all EFFECT settings

8.3 Quantize and Resolution

Some of the knob functions support a QUANTIZE setting, while several others support a RESOLUTION setting.

QUANTIZE Setting

The *quantize* setting determines the interval at which the SU700 sequencer records knob and pad input. For a detailed explanation of quantizing, refer to "Using Quantizing," on page 174.

Quantizing is applied to the SOUND/LEVEL, SOUND/PAN, SOUND/PITCH, and FILTER/CUTOFF knob functions, and to pad presses entered while the pad function is set to PLAY, ON/MUTE, or LOOP RESTART. Pressing any of these knob-function or pad-function selectors causes the NOTE area of the screen to display the quantizing interval. You can then change the interval by holding down the **[NOTE]** button (so that the quantize area of the screen is blinking) and turning the dial.

Remember that the QUANTIZE setting is meaningful only on new knob and pad actions that you input while recording a song. Quantizing has no affect on data that you have already recorded.

RESOLUTION Settings

The GROOVE knob functions utilize a *resolution* setting that determines the groove interval. A number of effects also utilize a resolution setting.

Groove Resolution: When you press any of the GROOVE function buttons, the current groove resolution setting for the most recently accessed track appears in the NOTE area of screen. This setting determines the groove interval used on that track. For detailed information, refer to the explanation of the GROOVE TIMING function, below.

Effect Resolution: Some effects include a resolution value that determines the interval or period used when applying the effect. If you assign such an effect to one of the three effect blocks, the resolution value will appear on the screen when you press the corresponding EFFECT button (**[EFFECT 1]**, **[EFFECT 2]**, or **[EFFECT 3]**.) For more information, refer to the explanation of the EFFECT group, below.

NOTE:
*The pad ROLL function also uses a resolution setting, which appears on the screen whenever you hold down the **[ROLL]** button. This resolution setting is not related to the resolution settings discussed above. For an explanation of the ROLL function, see page 168.*

8.4 Parameter Descriptions

SOUND Group

These parameters control sound output quality by adjusting the waveform playback.

LEVEL

Range: 000 to 127
Default: 100 (on all sample tracks)
077 (on AUDIO IN track)
127 (on MASTER track)
Works on: All tracks

Controls the sound level of the track's playback. Turn the knob right to increase the level, or left to decrease it. A value of 000 cuts off the sound.

On sample tracks: The setting controls the output level to all available output destinations (stereo outputs, headphones, and—if the AIEB1 board is installed—the digital and assignable outputs).

On AUDIO IN: The setting controls the output level to all available output destinations (stereo out and headphones only).

On MASTER: The setting adjusts the output level to the outputs, headphones, and digital outputs—but has no effect on output to the analog assignable outputs.

NOTE:
The MASTER VOLUME dial operates in much the same way as the MASTER-track setting, but does not affect the level to the digital outputs.

PAN

Range: L64,...,L01, C, R0,...,R63
Default: C
Works on: All tracks

Controls the pan (the left/right sound position). The default is C (center). Higher "R" values move the sound to the right; higher "L" values moves the sound to the left. Turn the knob clockwise to move sound to the right, or counterclockwise to move it to the left.

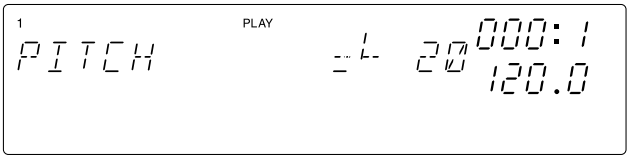
If you are playing a stereo sample, the pan operates like a conventional balance control.

PITCH

Range: -128 to +127
Default: +000
Works on: Sample tracks

Adjusts the pitch of the sample playback. Turn the knob right to increase the pitch, or left to reduce it. Each increment corresponds to 20 cents (where 100 cents is equivalent to 1 semitone).

On LOOP tracks only: If you set the track's BPM TRACKING to CHNG PITCH , this function is disabled and the SU700 automatically controls the pitch so as to match the tempo. In this case the numerical setting is indicated on the screen as "---" and the meter indication is fixed at the zero level. (Refer to the explanation of the TRACK SET | SETUP job on page 236.)

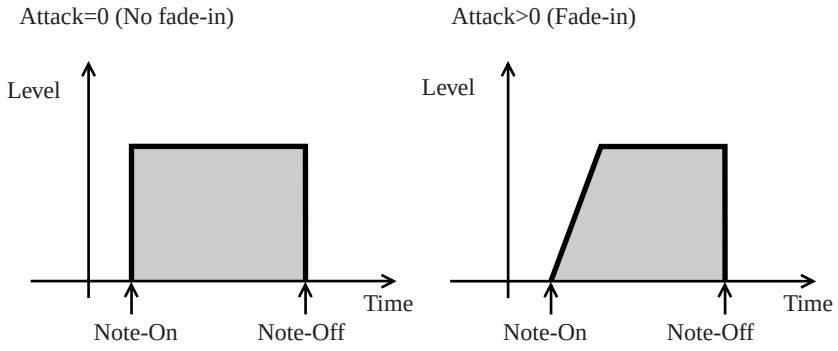


ATTACK

Range: 000 to 127
Default: Loop: 024
C-Loop, Free: 000
Works on: Sample tracks

Applies a fade-in to the sample. Higher values increase the length of the fade; 000 applies no fade at all.

A *fade-in* refers to a gradual rise in the sample level, starting at the note-on event (or pad press). The following illustration shows the concept.

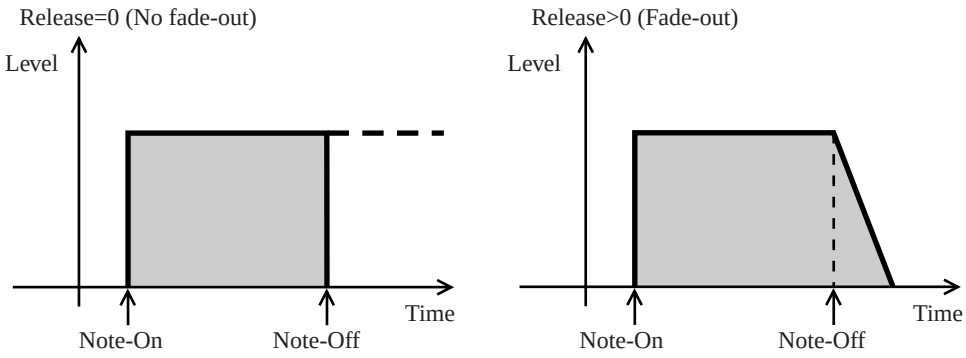


RELEASE

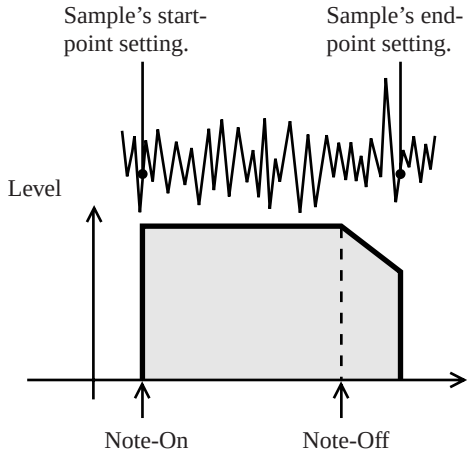
Range: 000 to 127
Default: 45
Works on: Sample tracks

This function applies a fade-out to the sample. Higher values increase the length of the fade; 0 applies no fade at all. This feature is primarily intended for use on COMPOSED LOOP and FREE tracks.

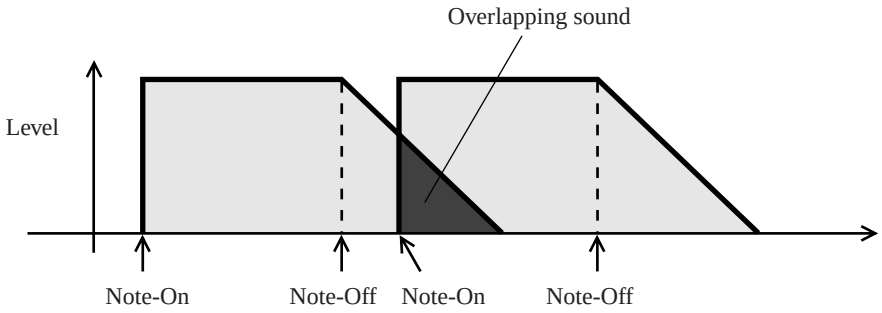
A *fade-out* refers to a gradual drop in the sample level. The following illustration shows the concept.



On COMPOSED LOOP and FREE tracks: The level starts to fade-out at the note off (pad release). Note that the release cannot extend beyond the current end-point setting of the sample. (If you hold the pad until the sample reaches its end point, you will not get a release.)



Note that you can use high RELEASE settings to get a sample to overlap its own sound during playback. In order to enable overlap, you must set the ASSIGN parameter (in the TRACK SET | NOTE ASSIGN job) to MULTI (→ p.234). The following illustration shows the kind of overlap you can get on a COMPOSED LOOP track.

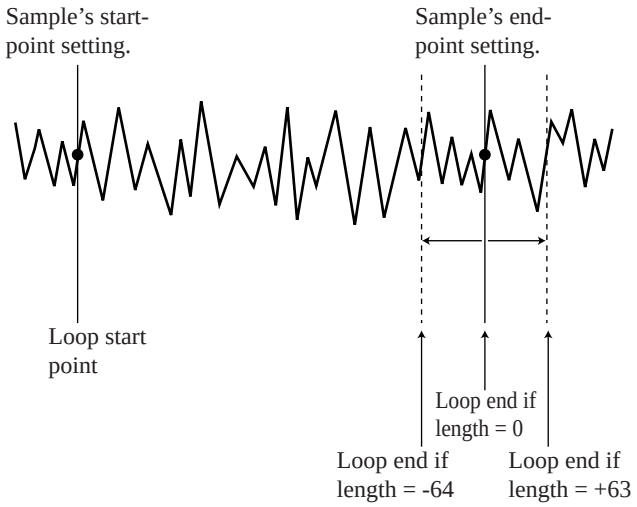


LENGTH

Range: -64 to +63
Default: +00
Works on: LOOP tracks

This function lets you dynamically adjust the length of a LOOP-track sample. The adjustment is available only if BPM TRACKING (in the TRACK SET | SETUP job) is set to SLICE (→ p.237), and only on LOOP tracks. Positive values increase the length, while negative values reduce the length. Note, however, that SU700 cannot lengthen the sample past the actual end of the waveform: once you have reached the end of the waveform, additional lengthening has no effect.

The purpose of this function is to allow you to adjust for loop problems that may occur when you change the BPM setting. When BPM TRACKING is set to SLICE, the SU700 slices the loop into a number of pieces (as determined by the groove resolution) and adjusts the start timing of each piece so as to match the BPM. As you reduce the BPM you will begin to get a gap between adjacent pieces. You can use the LENGTH function to remove the gap and adjust the groove.



GROOVE Group

These functions let you impart a groove, or swing, to the track playback by adjusting note values of notes that fall within every second *interval*. For every four-interval segment, for example, note events located within the second and fourth intervals are adjusted according to the function values you control with the knobs, while all other notes are played without adjustment.

These functions operate only on sample tracks; they do not work on AUDIO IN and MASTER tracks.

- For COMPOSED LOOP and FREE tracks, adjustments are applied directly to the recorded note events.
- On LOOP tracks, the function operates only if the BPM TRACKING (in the TRACK SET | SETUP job) is set to SLICE. If the setting is SLICE, the SU700 breaks the loop phrase into interval-length pieces and applies the groove adjustment to every other piece.

You can set the interval (the RESOLUTION) to quarter-note, eighth-note, sixteenth-note, or 32nd-note, as described below. **The interval setting applies in common to all three groove functions.**

Three groove functions are provided, as follows.

TIMING: Shifts the note start time of notes that fall within every other interval.
VELOCITY: Applies an offset to the velocity values (the loudness) of notes within every other interval.
GATE TIME: Applies an offset to the duration of notes at every other interval.

NOTE:

- *If you change the resolution while recording a song, the change is recorded as a sequence event, and will be repeated during playback. Resolution settings are also stored into scenes.*
- *The RESOLUTION setting must be used to set the number of slices for LOOP-track samples even in cases where you do not want to apply a groove. For information, see the explanation of BPM TRACKING in the description of the TRACK SET | SETUP job.*

To Set the Interval

Procedure

1. Select the track that you want to adjust.

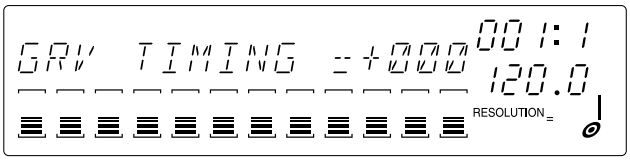
▼ Use the bank selectors to select the bank, and then hit the pad for the track you wish to adjust.

2. Press GROOVE/[TIMING].

▼ The SU700 displays the GRV TIMING function screen. The NOTE area of the screen displays the current resolution setting for the track you just selected.

3. Press the [NOTE] button (so that the RESOLUTION indication on the screen is blinking) and then turn the dial to adjust the resolution on the desired track. You can select (32nd note), (sixteenth-note), (eighth-note), or (quarter note). [The default is].

Example Screen Display:



4. Repeat steps 1 to 3 as necessary to adjust the resolution settings on each track.

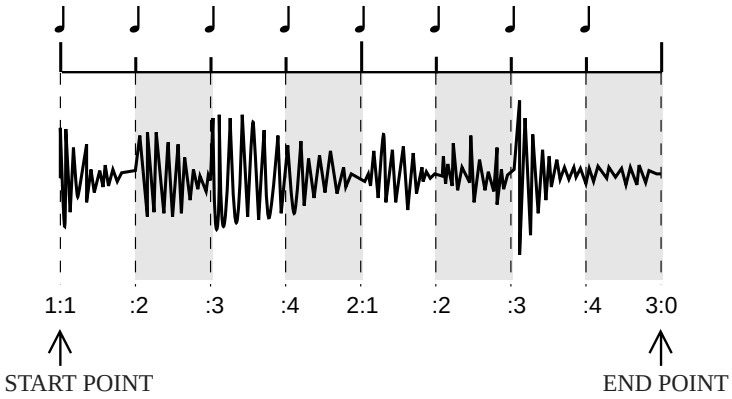
> ***IMPORTANT***
> ***Although you can view the interval setting from any of these function screens, you can only set the value from the GRV TIMING screen.***

SUPPLEMENTARY EXPLANATION

On LOOP tracks:

Assume that your loop phrase is a two-measure waveform that looks like this.

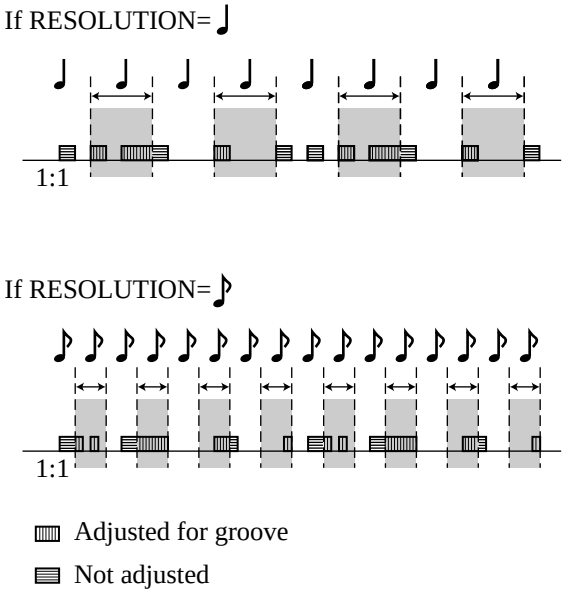
Gray areas indicate groove intervals. All note events that start within the groove interval are adjusted for groove.



If you set RESOLUTION = ♩, the SU700 slices the phrase into eight pieces (four quarter-note intervals per measure), and applies groove adjustments to every other piece.

On COMPOSED LOOP and FREE tracks:

Assume that your original Note-On pattern looks like this.

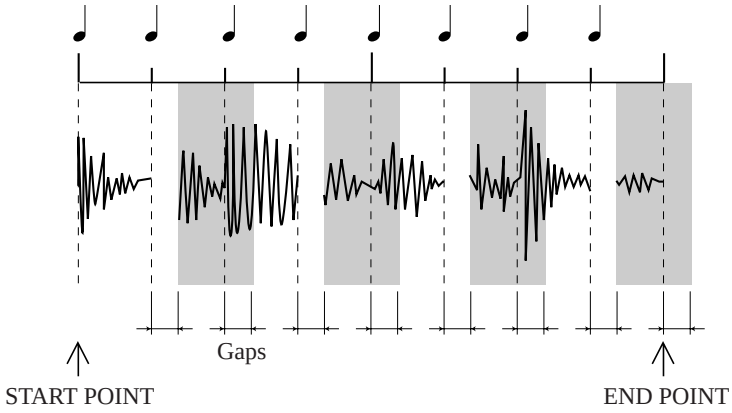


If you set RESOLUTION = ♩, then groove adjustments will target the notes that begin within the indicated intervals.

TIMING [GRV TIMING]
Range: -100 to +100 [%] (if LOOP); +000 to +100[%] (if COMPOSED LOOP or FREE)
Default: +000
Works on: Sample tracks

This function applies an adjustment to the start location of the notes that fall within the groove intervals. Turning the knob to the right increases the timing adjustment, while turning to the left reduces it. Positive values delay the note start.

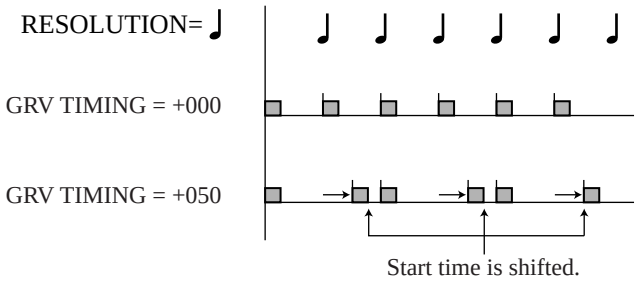
On LOOP tracks:
This function works only if BPM TRACKING is set to SLICE. If the setting is SLICE, the function shifts the start timing of every other phrase slice. Note that slicing will generate a gap at one end of the interval.



If you wish, you can use the SOUND/LENGTH function to adjust the length. Increasing the length will fill in the gaps (and increase the overlap), while reducing the length will expand the gaps (while reducing the overlap).

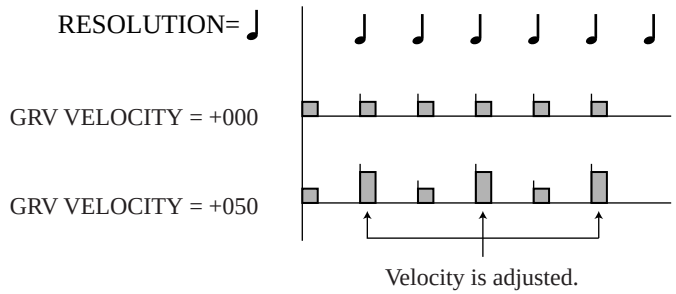
If you allow overlapped playback (by setting ASSIGN=MULTI in the TRACK SET | NOTE ASSIGN) job, then overlapping slices will produce a double sound.

On COMPOSED LOOP and FREE tracks:
The function adjusts the Note On position of the notes within the groove intervals.



VELOCITY [GRV VELOCITY]
Range: -100 to +100
Default: +000
Works on: Sample tracks

This function applies an offset to the velocity values of the notes (or slices) that start within the groove intervals. (The *velocity* determines the loudness at which the note is reproduced.) Turn the knob to the right to increase the velocity, or left to decrease it. Although possible offsets range from -100 to +100, be aware that the applied velocity can never be raised above 127 (maximum loudness) or reduced below 0 (no sound).

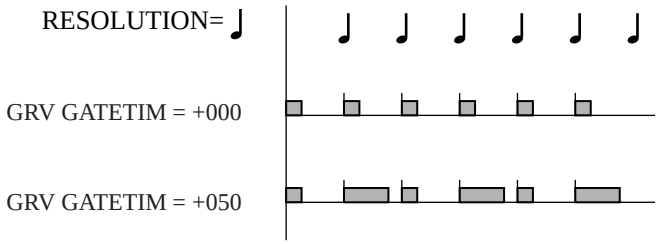


NOTE:
- *The term velocity refers to the force with which a note is played, and therefore corresponds with loudness. Velocity is a standard MIDI parameter, and can take values from 0 to 127. You can edit velocity values directly (on COMPOSED LOOP and FREE tracks only) using the EVENT EDIT | LOCATION & VALUE job (→ p.246).*
- *You cannot set this value on LOOP tracks on which **BPM TRACKING** is set to **CHNG PITCH**.*

GATE TIME [GRV GATETIM]
Range: -100 to +100
Default: +000
Works on: Sample tracks

This function applies an adjustment to the gate time (duration) of the notes (or slices) that start within the groove intervals. Turn the knob to the right to increase the gate time, or left to reduce it.

NOTE:
- *You can edit the gate times directly (on COMPOSED LOOP and FREE tracks only) using the EVENT EDIT | LOCATION & VALUE job (→ p.246).*
- *You cannot set this value on LOOP tracks on which* ***BPM TRACKING*** *is set to* ***CHNG PITCH****.*



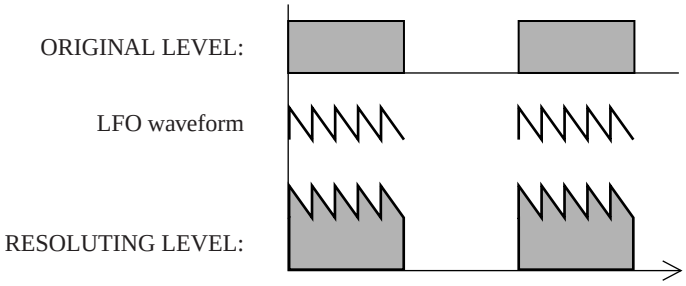
LFO Group

Each sample track includes a built-in low frequency oscillator (LFO) that you can use to modulate the track's volume, filtering, and pitch. You can use the TRACK SET | SETUP job (LFO WAVE parameter) to set the shape of the modulation wave generated by the LFO.

The LFO/SPEED function sets the oscillation rate (the modulation speed), and the AMP, FILTER, and PITCH functions set the amount of modulation applied to the volume, filter, and pitch values, respectively.

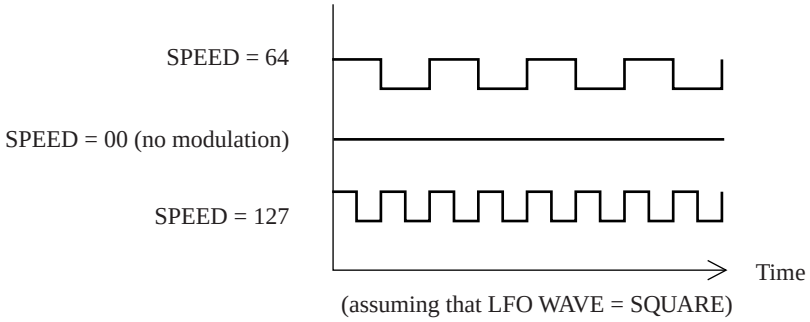
The LFO wave always restarts at each Note On. The following conceptual illustration shows how modulation can be applied to vary the track's output level, assuming that the wave shape is set to SAW DOWN.

Original track output



SPEED [LFO SPEED]
Range: 000 to 127
Default: 025
Works on: Sample tracks

Adjusts the frequency of the LFO wave. Higher values produce faster modulation. A setting of 000 switches modulation off.



AMP [LFO AMP DPTH]
Range: 000 to 127
Default: 000
Works on: Sample tracks

Sets the amount by which the LFO modulates the track's output volume. A setting of 000 switches volume modulation off, while higher values increase the amount of the applied modulation.

NOTE:
- *The function name, LFO AMP DPTH (for **LFO amplitude depth**), refers to the degree (the **depth**) by which the modulation waveform acts as an offset on the track waveform's amplitude.*
- *This function cannot supply a saw-up modulation waveform. If you set the LFO wave to **SAW UP** (in the TRACK SET | SETUP job) this function will supply a saw-down modulation wave. (→ p.240)*

FILTER [LFO FIL DPTH]
Range: 000 to 127
Default: 000
Works on: Sample tracks

Sets the amount by which the LFO modulates the filter cutoff frequency. A filter depth of 000 applies no modulation, while a setting of +127 applies maximum modulation. The LFO modulation is applied as an offset to the filter cutoff value set by the FILTER/CUTOFF function (→ p.210).

PITCH [LFO PIT DPTH]
Range: 000 to 127
Default: 000
Works on: Sample tracks

Sets the amount by which the LFO modulates the pitch. A setting of 000 applies no modulation, while a setting of +127 applies maximum modulation. The LFO modulation is applied as an offset to the pitch value set by the SOUND/PITCH function (→ p.198).

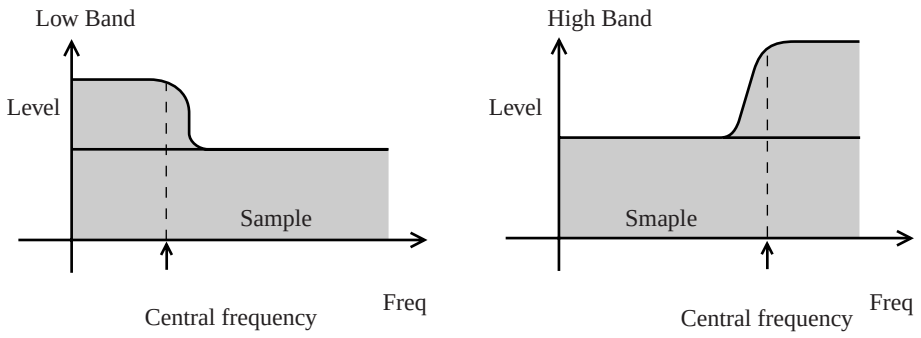
EQ Group

The SU700 includes a built-in 2-band equalizer for each track (except for the AUDIO IN track.)

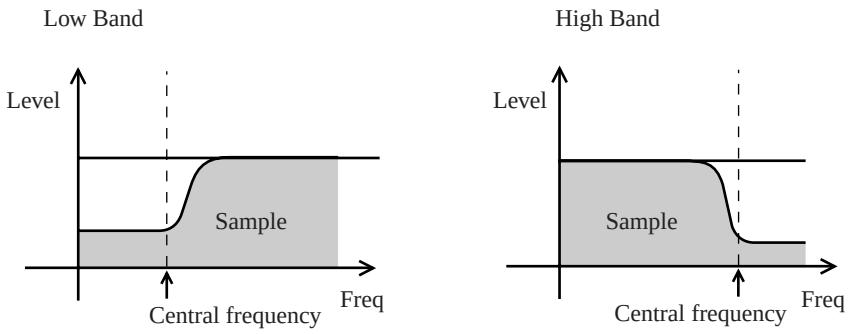
A *2-band equalizer* operates by adjusting the gain at two specified frequency bands: the high band and the low band. For each equalizer, therefore, you must set the location (central frequency) for each band and the gain to be applied at that band.

Note that positive gain values increase the output level (sound volume) within the band, while negative gain settings reduce the output level within the band.

If both gain settings are positive:



If both gain settings are negative:



HI GAIN [EQ HI GAIN]
Range: -64 to +63
Default: +00
Works on: Sample tracks and MASTER track

Sets the gain applied at the equalizer's high band. Positive values apply a positive gain, thereby emphasizing the sound within the high band. Negative values apply a negative gain, suppressing the sound within the high band. The default setting, +00, applies no positive or negative emphasis.

HI FREQ [EQ HI FRQ]
Range: 500 to 16K (in 31 steps)
Default: 10K
Works on: Sample tracks and MASTER track

Sets the central frequency for the high band. The minimum possible setting is 500Hz; the maximum is 16kHz, and the default is 10kHz.

LO GAIN [EQ LO GAIN]
Range: -64 to +63
Default: +00
Works on: Sample tracks and MASTER track

Sets the gain applied at the equalizer's low band. Positive values apply a positive gain, thereby emphasizing the sound within the low band. Negative values apply a negative gain, suppressing the sound within the low band. The default value, +00, applies no positive or negative emphasis.

LO FREQ [EQ LO FRQ]
Range: 32 to 2.0K (in 37 steps)
Default: 80
Works on: Sample tracks and MASTER track

Sets the central frequency for the low band. The minimum possible setting is 32Hz; the maximum is 2.0kHz, and the default is 80Hz.

FILTER Group

The SU700 provides one filter for each sample track. This group lets you dynamically adjust each filter's cutoff frequency and resonance. Note that the filter type itself is set by the TRACK SET | FILTER TYPE job (→ p.233).

CUTOFF [FILTR CUTOFF]
Range: 000 to 127
Default: 127
Works on: Sample tracks

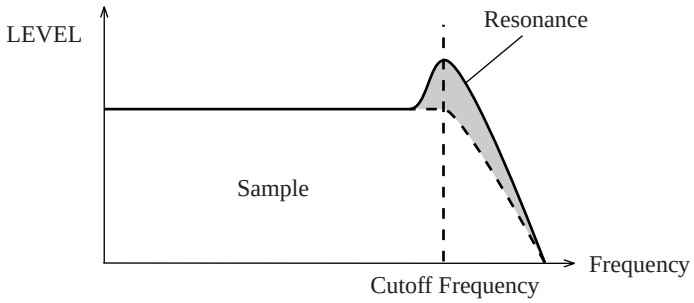
Adjusts the filter's cutoff frequency. Higher values raise the cutoff frequency, while lower values reduce the frequency.

The sound changes produced by this adjustment will depend on the filter type selected by the TRACK SET | FILTER TYPE job. Filter types (and their relation to cutoff frequencies) are illustrated on page 233.

RESONANCE
Range: 000 to 127
Default: 016
Works on: Sample tracks

Filter resonance refers to an increase in the sound level in the vicinity of the cutoff frequency. Higher settings will increase the level in this vicinity, adding emphasis to the sound in the area of the cutoff. Set the value to 000 if you do not want to add any resonance.

The following illustration shows how resonance operates when the filter type is set to LPF (low-pass filter).



EFFECT Group

You use this group to control the effect levels on each track, and to set or change the effect resolution for each effect.

The SU700 includes a sophisticated effects implementation that provides you with three separate effect blocks. You can assign a different effect to each block (from a total of 43 effects), set a variety of parameters for each of these effects, and adjust the configuration of the signal flow among the three blocks. For full details about the effect implementation, refer to Chapter 7, "Effects" (→ p.185). For a listing of the available effects and their parameters, refer to the effect listing starting on page 333.

It is important to remember that there are two different types of effects: *system effects* and *insertion effects*. (Again, see pages 189 and 190.) The difference is as follows.

System effect: You set the effect level separately for each sample track and for the AUDIO IN track. You cannot set the level for the MASTER track.

Insertion effect: You can set the effect level only at the MASTER track. The MASTER-track setting determines the effect level applied to all tracks connected to the effect block. You use the EFFECT SETUP function to switch connection to the effect block either ON or OFF for each track. See page 190.

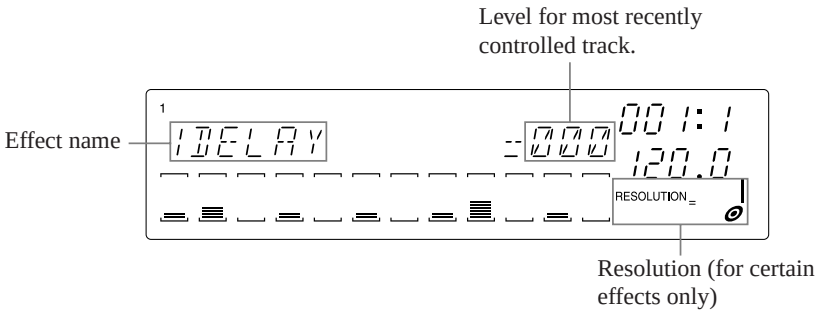
EFFECT 1, EFFECT 2, and EFFECT 3

Range:	000 to 127	
Default:	000	
Works on:	If System Effect:	All tracks except MASTER
	If Insertion Effect:	MASTER only

Press **[EFFECT 1]** to set knobs so that they control the levels for the effect assigned to Effect Block 1. Press **[EFFECT 2]** to set knobs so that they control the levels for the effect assigned to Effect Block 2. Press **[EFFECT 3]** to set knobs so that they control the levels for the effect assigned to Effect Block 3.

The screen displays the name of the effect assigned to the corresponding block, together with the value for the most recently controlled track.

If the effect supports a RESOLUTION setting, then the current setting is indicated at the lower right of the screen. You can change the RESOLUTION value by pressing the **[NOTE]** button and turning the dial. Resolution values can be set separately for each supporting effect.



Resolution (for certain effects only)

If the effect assigned to the block is a system effect, then you can not set a level value for the MASTER track-the MASTER track setting is null, and is indicated on the screen by a pattern of three asterisks. If the effect is an insertion effect, then you can set a value only for the MASTER track; the values for all other tracks are null.

Chapter 9 Editing Functions

You use the editing-function panel to set up the effects and to carry out a number of other tasks. This chapter describes each of the operations that you can access using this panel.

CONTENTS

9.1 Overview

You use the editing function panel to perform the following tasks.

- **Cancel an effect.**
  Instantly switch off operation of an effect.
- **Set up each effect block.**
  Select the effect type for each block, and set the effect's parameters.
- **Reset knob function values.**
  Reset all values for the selected track to their defaults.
- **Delete note events.**
  Delete note events over selected range on selected COMPOSED LOOP or FREE track.
- **Assist in name editing.**
  Insert or remove a character (when editing a name).

9.2 EFFECT SETUP Group

You use this group to set up the effect blocks, and to instantly switch off the effect on any block. (For general information about the SU700's effects implementation, refer to Chapter 7, "Effects," on page 185.)

CLEAR 1, CLEAR 2, and CLEAR 3
Use these buttons when you wish to switch off the sound of an effect during playback. Pressing any of these buttons and then the **[OK]** button will instantly cancel all signal flow to the corresponding effect block, immediately shutting off the effect.

These functions can be accessed only while the sequencer is in PLAY or PLAY STANDBY. You can not record CLEAR operations directly into your song.

Remember that like all control actions carried out with the sequencer in PLAY or PLAY STANDBY, the CLEAR operation will cause the current environment to deviate from the song's true environment. Knob and scene actions recorded later in the song may cause the effect to become audible again.

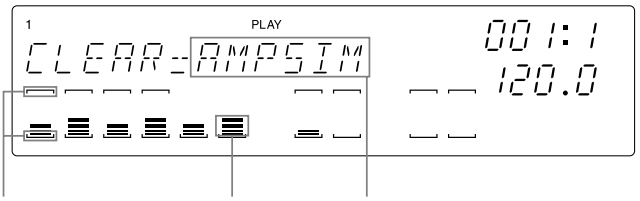
NOTE:
Although you cannot record CLEAR operations directly into your song, you can record them indirectly by storing the results into a scene, and then recording the appropriate scene-change event into your song.

Procedure

1. With the sequencer in PLAY or PLAY STANDBY, press the button corresponding to the effect block whose effect you want to cancel.

▼ The SU700 displays CLEAR=*effect_name*, where *effect_name* is the name of the effect assigned to the block. If the effect supports a RESOLUTION setting, the note area (at the bottom right of the screen) displays the note image corresponding to the current setting.

> ***NOTE:***
> *If you wish to cancel the operation at this point, you can do so by pressing [CANCEL], or by pressing any other knob-function button or edit-function button.*



Brackets indicate muting. (You can operate the mutes while working at this screen.)

Meters show the current effect-level settings.

Currently assigned effect.

2. Press [OK] to cut off the effect.

▼ If system effect: The effect level on all sample tracks and on the AUDIO IN track changes to 0, so that the effect is no longer audible.

▼ If insertion effect: The effect level on the MASTER track changes to 0, and all tracks are disconnected from the effect block. (If you wish to reconnect the tracks, you must use the corresponding EFFECT SETUP/SETUP function; see directly below.)

▼ If the effect supports a resolution setting, the setting changes to ♩.

SETUP 1, SETUP 2, and SETUP 3

Use these functions to set up the effect on each block. To set up the block, you select the effect type and set the effect's parameters. (Some parameters are common to all effects, while others are specific to each effect.) If you select an insertion effect, then you must also select the tracks that you want to connect to the effect. (For more information about insertion effects, see page 190.)

The default effect assignments are as follows.

- Block 1: AMPSIM
- Block 2: 1DELAY
- Block 3: HALL

These functions can be accessed only while the sequencer is in PLAY or PLAY STANDBY.

When you press any of these buttons, the SU700 displays the corresponding setup screen (see illustrations in the procedure below). While working at a setup screen, you can hear results of your new effect settings immediately. Note that when working at these screens you can do any of the following:

- Use the sequencer controls to start and stop song play, or to adjust the song position.
- Use the knobs to adjust the effect levels on each track (if system effect) or on the MASTER track (if insertion effect).
- Use the pads to play the samples. (Pads always produce playback, regardless of the pad-function setting.)

Here are some important points you should keep in mind about using these SETUP functions.

◆ Although you can use these functions to set most of the effect parameters, you cannot use them to set the effect resolution. If you wish to set the resolution, you must use the EFFECT-group functions. (See pages 192 and 211.)

◆ If you wish to record effect selections into your song, you must store these selections into scenes. The TOP scene determines the effects that are selected when song playback starts. If you want your song to automatically change the effects setup during playback, you must store each setup you wish to use in a different scene, and then record the appropriate scene changes into your song.

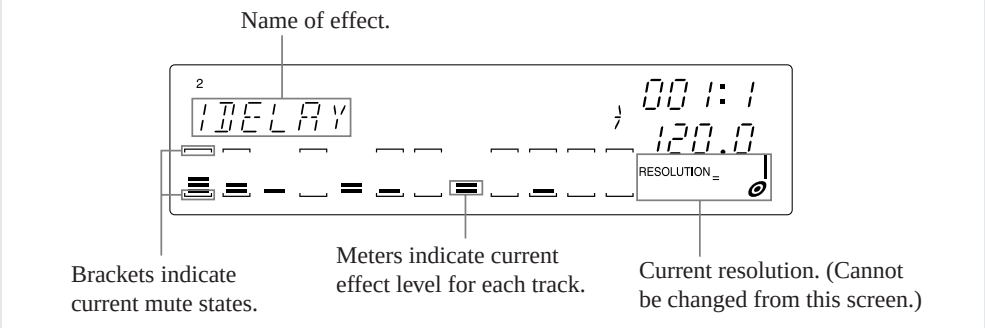
◆ You can easily use this feature to quickly try out the different effects to see which ones you wish to use. Just press **[SETUP 1]**, **[SETUP 2]**, or **[SETUP 3]**, and then turn the dial to try out different effects while turning the knobs to adjust the effect levels.

Procedure

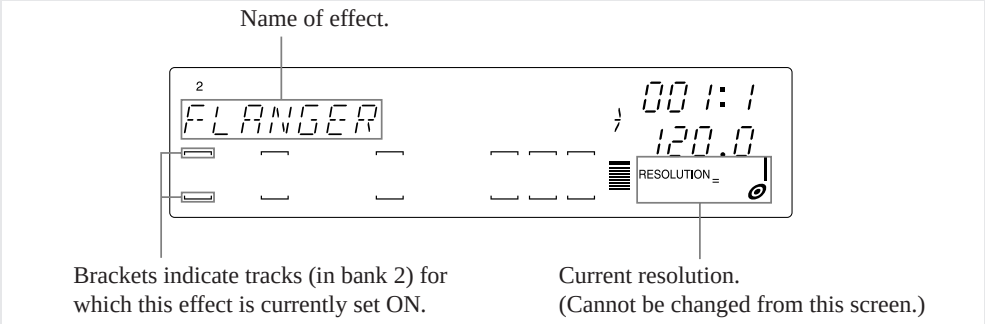
1. **With the sequencer in PLAY or PLAY STANDBY mode, press the button corresponding to the block that you want to set up.**

▼ The SU700 display varies according to whether the effect is an insertion effect or a system effect, as follows.

If system effect:



If insertion effect:



> ***HINT:***
> *Regardless of other settings, you can always tell whether or not an effect is an insertion effect by looking the meter brackets for the MASTER track. If the brackets are off, the effect is an insertion effect; if the brackets are visible, the effect is a system effect.*

2. Turn the dial to select the effect that you wish to assign to the block (so that the effect name appears on the screen).

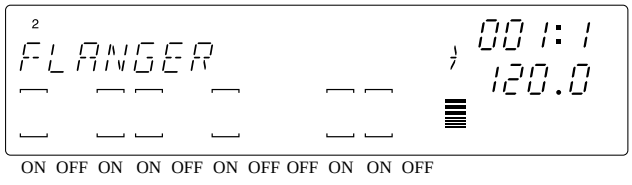
▼ The new selection becomes effective immediately. You will immediately hear the sound produced by the newly selected effect. Note that you can use the MASTER-track knob (if insertion effect) or the other knobs (if system effect) to adjust the effect levels.

3. If you have selected an insertion effect, proceed as follows. Otherwise, jump to Step 4.

Connection Settings for Insertion Effect:

Use the bank selectors and pads to select the tracks that you want to connect to this effect. (You can also set or revise the connections at any of the subsequent parameter-settings pages.) To switch connection on, press the pad so that the track's brackets become visible. To switch connection OFF, press the pad so that the brackets disappear. You can switch connection ON or OFF for all tracks other than the MASTER track.

EXAMPLE:



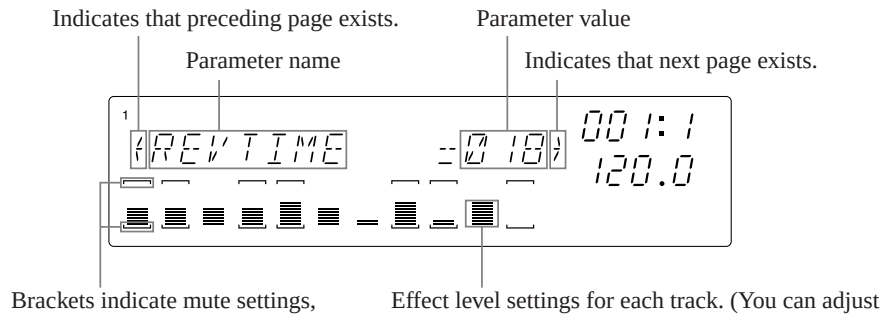
FLANGER is an insertion effect. Only tracks whose brackets are visible will connect to the selected effect block.

IMPORTANT
Note that you cannot connect a given track to more than one insertion effect. (See illustration, page 191.) If you try to switch on the connection for a track that is already connected to an insertion effect on one of the other two effect blocks, the screen will display the REPLACE? ***query. Press [CANCEL] to leave the track's connections unchanged, or press [OK] to switch on connection to the selected block and switch off its connection to the other block.***

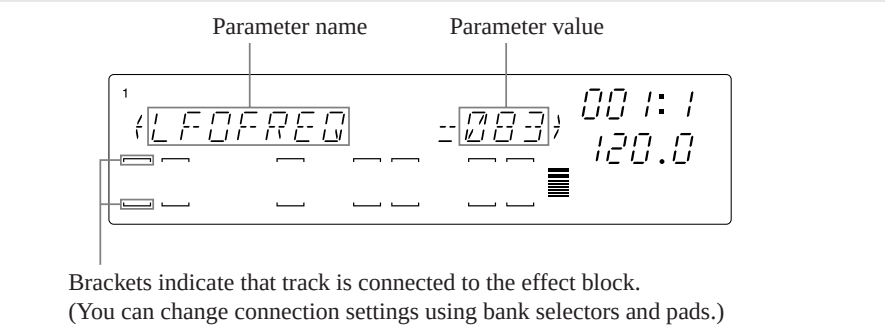
4. Press [▷] to advance to each of the parameter-setting pages.
At each page, turn the dial as necessary to set the value. (If necessary, you can move back to a previous page by pressing [◁]). Each page sets the value for a single parameter.

Note that all settings become effective immediately, and cannot be canceled with the **[CANCEL]** button. For information about parameters, refer to the "Parameters" section at the bottom of this procedure.

EXAMPLE 1: First parameter-setting page for the HALL effect (system effect).



EXAMPLE 2: First parameter-setup page for the TREMOLO effect (insertion effect).



5. When you have finished making settings, press [OK] or [CANCEL] to return to the main screen.

Parameters

The first five parameters are different for each effect. For an explanation of each effect and its parameters, to the effect listings starting on page 333.

The subsequent parameters set up the output from the effect block itself, and are therefore the same regardless of the selected effect. These parameters are as follows. Refer also to the diagram below.

LEVEL Sets the output level from the effect block. (See illustration, page 188.)
Range: 000 to 127
Default: 100

PAN Sets the pan (positioning) for the output from the effect block. (See illustration, page 188.)
Range: L64,...,L01, C, R01,...,R63
Default: C (center)

EF2 SEND This parameter is available only for block 1 (only under the **[SETUP 1]** function). The parameter sets the level for the signal feed from block 1 into block 2. (See illustration, page 188.)
Range: 000 to 127
Default: 000

EF3 SEND This parameter is available only for blocks 1 and 2 (only under the **[SETUP 1]** and **[SETUP 2]** functions. The parameter sets the level for the signal feed from the corresponding block into block 3. (See illustration, page 188.)
Range: 000 to 127
Default: 000

9.3 JOB Group

Use this group to reset knob-function values or delete note events on selected tracks.

KNOB RESET

Use this function to reset all current knob settings on the selected track to their defaults. This function is effective in PLAY and PLAY STANDBY modes only.

Procedure

Hold down the [KNOB RESET] button, and press the pad(s) corresponding to the track(s) that you want to reset.

▼ The SU700 resets all knob-function settings for the selected track.

LEVEL	→ 100	GRV VELOCTY	→ 000	EQ HI FRQ	→ 10K
PAN	→ C	GRV GATETIM	→ 000	EQ LO GAIN	→ 00
PITCH	→ 000	LFO SPEED	→ 064	EQ LO FRQ	→ 80
ATTACK	→ 000	LFO AMP DPTH	→ 000	FILTER CUTOFF	→ 127
RELEASE	→ 050	LFO FIL DPTH	→ 000	RESONANCE	→ 016
SAMPLE LENCTH	→ 00	LFO PIT DPTH	→ 000	EFFECT 1 ~ 3	→ 000
GRV TIMING	→ 000	EQ HI GAIN	→ 000		

NOTE DEL

Use this function to delete note-on events over any span of a selected COMPOSED LOOP or FREE track. This feature is useful for removing inappropriate notes without losing the rest of your recording.

This function works on note-on data only. It does not delete other sequence data (knob adjustments, etc.).

NOTE:
You can also use this button with the EVENT EDIT | LOCATION & VALUE job to delete seleced note and non-note events. For information, see the job explanation on page 246.

Procedure

1. **Begin recording from an appropriate location in the song.**

2. **As the song approaches the location at which you want to start deletion, begin to hold down the [NOTE DEL] button. When you reach the exact position at which you want to begin deletion, press and hold the track pad as well.**

   ▼ Deletion starts at the first Note On following the press of the track pad. (Notes already in play are not deleted.)

3. Continue holding down both the button and the pad until you reach the location at which you want to stop deletion. Then release the track pad to stop the deletion.

NOTE:
You can simultaneously delete note events from multiple tracks (in the same bank) by holding down more than one track pad.

9.4 NAME Group

Use this group to insert a space character or to delete a character when editing a name (song name, sample name, volume name, etc.). These functions operate only when you are working at a name-editing screen.

INSERT

Procedure

Press [INSERT] once to insert a blank character at the current cursor position.

▼ A blank character appears at the character position, and subsequent characters move to the right.

- If the name is already at maximum length, insertion will cause the last letter of the name to be lost.
- In general, name changes do not become effective until you press **[OK]**. If you make an input error, you can cancel your changes by pressing **[CANCEL]**.

DELETE

Procedure

Press [DELETE] once to delete the character at the current cursor position.

▼ The character disappears, and subsequent characters move back to fill in the gap. A blank character is appended at the end of the name (since names are of fixed length).

Chapter 10 Jobs

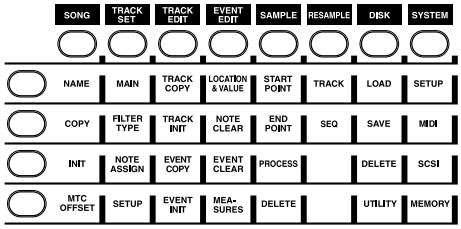
This chapter describes all of jobs available at the SU700 job panel. You use these jobs to carry out editing, data management, and system management tasks.

CONTENTS

10.1 Overview and Job List

You use the SU700 jobs to carry out editing, data management, and utility-type operations.

To select a job, you press the job group selector (along the top of the selector grid) and then the appropriate job selector (along the left of the grid). In some cases you will then need to turn the data-entry dial to select from several related jobs.



The following is a brief description of all available jobs. For detailed explanations of each job, refer to the indicated page. For a general description about how to select and execute jobs, refer to pages 225 to 227.

		Page
SONG: *Song-specific operations*		227
NAME	Set or edit name of current song.	
COPY	Copy current song to different song number.	
INIT	Clear song memory for selected song.	
MTC OFFSET	Set MTC offset for current song.	
TRACK SET: *Set track parameters for each track of current song.*		231
MAIN	Set default knob and pad functions for each track.	
FILTER TYPE	Set filter type for each track.	
NOTE ASSIGN	Set handling of note overlap on each track.	
SETUP	Set BPM tracking, loop length, output destination, and LFO waveform for each track.	
TRACK EDIT: *Edit tracks on current song.*		241
TRACK COPY	Copy sample and knob data from one track to another.	
TRACK INIT	Delete all data on track, and reset track values to defaults.	
EVENT COPY	Copy all recorded sequence data from one track to another.	
EVENT INIT	Delete specified type of sequence data from selected track.	
EVENT EDIT: *Edit events on selected track; or add, delete, or copy measures.*		246
LOCATION&VALUE	Edit location, velocity, and gate-time of recorded notes, or delete selected pad events or scene-recall events	
NOTE CLEAR	Delete all note events recorded on selected track.	
EVENT CLEAR	Delete all events of selected type from selected track.	
MEASURES	Insert measures into song, delete measures from song, or copy segment of sequence data, one or more times, to a specified location on the same track or on another track of the same type.	

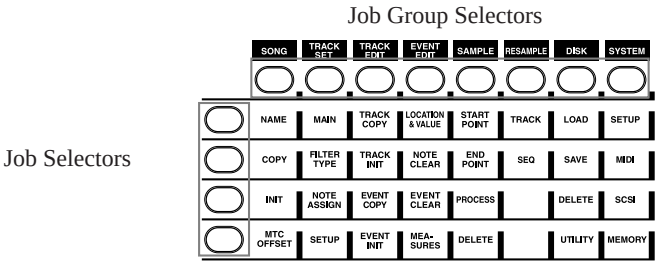
		Page
SAMPLE: *Edit/convert the waveform on the selected track.*		259
START POINT	Set the playback start point on the waveform.	
END POINT	Set the playback end point on the waveform.	
PROCESS		
TRIM	Trim the waveform (remove unused parts at the ends of the waveform), freeing up additional sample memory.	
REVERSE	Reverse the direction of the waveform (so sound goes “backwards”).	
NORMALIZE	Adjust the dynamic range of the waveform.	
FREQ. CONVERT	Reduce the waveform’s sampling frequency (freeing up additional waveform memory).	
BIT CONVERT	Reduce the waveform’s bit resolution (freeing up additional waveform memory).	
STEREO TO MONO	Convert stereo sample to mono (freeing up additional waveform memory).	
DELETE	Delete the sample (and all sequence data) from the selected track.	
RESAMPLE: *Record sample from already recorded track or song.*		272
TRACK	Resample from recorded track.	
SEQ	Resample from recorded song.	
DISK: *Load to disk, save from disk, and manage disks.*		281
LOAD	Load volume or sample from disk.	
SAVE	Save data to disk.	
DELETE	Delete volume from SCSI disk.	
UTILITY		
DISK INFO	View amount of free memory on disk.	
DISK FORMAT	Format disk.	
SYSTEM: *Set system and MIDI parameters; check free memory.*		298
SETUP		
METRONOME	Set up the metronome.	
COUNTDOWN	Set the number of lead-in measures for song recording.	
REC MODE	Set song recording mode to REPLACE or OVERDUB.	
PAD SENS	Set pad velocity sensitivity ON or OFF.	
AUDIO IN	Select the input source for audio input.	
RIBBON FUNCTION	Select the function controlled by the ribbon.	
MIDI		
SYNC	Set the MIDI synchronization type for the current song.	
CHANNELS	Set the MIDI channel numbers for each track.	
CONTROL NUMBERS	Set the MIDI control numbers for each song.	
SCSI	Set remote and local SCSI IDs.	
MEMORY	Show remaining sequence or sampling.	

10.2 General Procedure

To execute a job, you use the following general procedure.

1. **Be sure that the sequencer is in PLAYBACK STANDBY or JOB mode.**

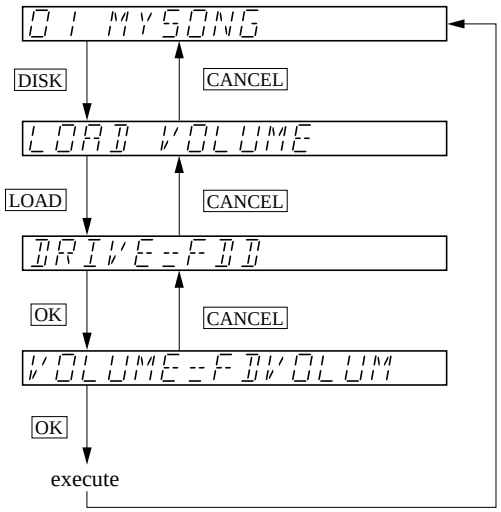
2. **Select the job group** by pressing one of the job group selectors along the top of the job grid. **Then select the job** (or job type) by pressing one of the job selectors along the left of the grid.



- When you press the group selector, the screen displays the name of the group. When you press the job selector, the screen displays the top level of the corresponding job screen.
- You must always press a group selector to begin a job session. Once you have begun a session, you can move among different jobs within that group without pressing the group selector again.
- In the explanations below, an expression such as "press SONG | COPY" means "(a) press the SONG group selector and then (b) press the COPY job selector."

3. **Select the appropriate parameters and set their values**-using the dial and other controls-while referring to the screen. If the job has multiple levels, **press [OK] to move to the next level or press [CANCEL] to move back.** If the job executes an operation, press **[OK]** to execute or press **[CANCEL]** to cancel.

Note that most jobs are multilevel. You always begin at the top level. You press **[OK]** to set the value for the current level and move to the next level. You can press **[CANCEL]** to move back up through the levels or to escape the job. In many cases you can press **[OK]** and **[CANCEL]** repeatedly to navigate back and forth though the levels as you proceed to set multiple values on different tracks.



Some jobs are used to enter new settings, while other are used to execute operations. **Note that most setting changes become effective immediately**—even if you use **[CANCEL]** to escape from the job. To execute an operation, however, you must always press **[OK]**. Details are provided in the procedures below.

Note that you can switch from one job to another at any time by pressing another job group selector or job selector. The SU700 will immediately display the top screen for the new job you have selected.

So long as power remains on, the SU700 will remember "job flow" selections that have no effect on actual operation, and will recall these the next time you run the job. For example, if you open the DISK | LOAD job and then select LOAD SAMPLE at the first level, the SU700 remembers this selection even if you press **[CANCEL]**. The next time you open this job the screen automatically begins by displaying LOAD SAMPLE.

While you are working at a job screen, the SU700 disables use of all buttons other than (a) the job group selectors and job selectors, (b) the [OK] and [CANCEL] buttons, and (c) any controls directly related to the job screen you are working at. Pad-function selectors, knob-function buttons, and sequencer buttons remained disabled for normal use until you terminate the job and return to the main screen.

Be sure to save important data to disk to avoid inadvertent data loss. Remember that the SU700 loses almost all information-including many job settings-when you switch power off.

10.3 Job Explanations

10.3.1 SONG Group

You use song jobs to assign a name to the current song, to copy the current song into another song number, to initialize a selected song, and to set the MTC (MIDI Time Code) offset for the current song.

What The Jobs Do

NAME	Edits the name of the current song.
COPY	Copies song from the current song number into another song number.
INIT	Deletes song data from the selected song number, and returns the song's name and settings to their defaults.
MTC OFFSET	Sets the MIDI Time Code offset for the current song.

SONG | NAME

Use to: **Edit the name of the currently selected song.**

- Maximum name length is eight characters.
- The default song name is SONG*xx*, where *xx* is the song number.
- You cannot use a name that is already assigned to another song.

Procedure

1. **Press SONG | NAME to enter this job.**

▼ The screen shows both the song number (at the left) and the song's current name (at the right). The first character of the name is flashing.

2. **Press [◁] or [▷] to move the "cursor" to the character position at which you want to change, insert, or delete a character. (The cursor location is indicated by flashing character or underscore.)**

3. **You can now change the character as necessary. To delete it, press [NAME/DELETE].** To insert a new (space) character, press **[NAME/INSERT]**. To change the character to a different character (space, number, uppercase letter, or underscore), turn the dial.

NOTE:

- *The **[NAME/INSERT]** and **[NAME/DELETE]** buttons are located below the knob-function selectors, immediately to the left of the display.*
- *Turning the dial from full left to full right selects characters in the following order: space, 0 to 9, A to Z, underscore. (Note that the space character and underscore character look the same during editing, but will look different once you move the cursor to a different position.)*

4. **Repeat steps 2 and 3 as necessary to enter the entire name. (You can press [CANCEL] at any time to cancel the job and retain the original name.)**

5. **Press [OK] to register the new name and return to the main screen.**

NOTE:

*If you enter a name that is already assigned to another song, the screen briefly displays the error message NAME EXISTS and then returns you to the name-entry screen. Enter a unique name and press **[OK]** again, or else press **[CANCEL]** as necessary to escape.*

SONG | COPY

Use to: **Copy the content of the current song into another song.** After completion of this job, you will have two copies of the same song. This feature is useful when you want to edit one copy of the song while retaining another for safekeeping, when you want to edit multiple versions of the same basic song content, or when you want to copy multiple samples from one song to another.

- This job copies all of the song's data (samples, sequence data, MTC offset, track settings, knob settings, ribbon settings, scenes, markers, BPM, quantize, and MIDI settings).
- If you copy over an existing song, all of that song's data (all of its samples, etc.) will be lost.

Procedure

1. **Press SONG | COPY to enter this job.**

▼ (The screen shows COPY TO SONG *xx*, where *xx* is the destination song number. The initial setting for xx is one higher than the source song number (except that if the original song number is 20, then xx is 19).

2. **Turn the dial as necessary to select the destination song number. Then press [OK].**

▼ If the destination song number already contains song data, the screen displays the OVERWRITE? prompt. If you do not mind overwriting (deleting) the song data at the destination side, press **[OK]** again. If not, press **[CANCEL]** to return to the previous screen, so you can select a different destination. (But note that overwriting is not actually executed until data is copied at step 4 below.)

▼ The name-entry screen appears. The screen shows the default name enclosed in brackets: [COPYSONG]. The first character is flashing.

3. **Edit the name for the destination song: use [◁] and [▷] to move to each character position, and use [NAME/INSERT], [NAME/DELETE], and the dial as necessary to set the characters. (See Step 3 of the SONG | NAME job explanation, above.)**

4. **Then press [OK] to execute the copy and register the new name.**

NOTE:
*If you enter a name that is already assigned to another song, the screen briefly displays the error message NAME EXISTS and then returns you to the name-entry screen. Enter a unique name and press **[OK]** again, or else press **[CANCEL]** as necessary to escape.*

▼ The SU700 displays the "working" pattern to indicate that it is copying the data. When copying is completed, the main screen returns.

SONG | INIT

Use to: **Initialize the current song.** This job deletes all song data stored in the specified song number. The following information is deleted or reset: all samples, all sequence data, all knob data, all scene content, all marker settings, MTC offset, track settings, and MIDI settings.

Procedure

1. **Press SONG | INIT to enter this job.**
   ▼ The screen displays INIT SONG xx, where xx is the song number of the song to be initialized (deleted).

2. **Turn the dial as necessary to select the song you wish to delete. Then press [OK] to execute initialization and return to the main screen.**
   ▼ The SU700 initializes the selected song.

SONG | MTC OFFSET

Use to: **Set the MTC (MIDI Time Code) offset for the selected song.** This setting allows you to set a timing offset in cases where you are synchronizing song playback with an externally supplied timecode signal-such as signals recorded on videotape or multitrack tape.

- This setting is effective only if you are using external MIDI time code to synchronize SU700 song play. In particular, the setting is effective only if the SYNC parameter (in the SYSTEM | MIDI job) is set to MTC SLAVE (→ p.303).

Procedure

1. **Press SONG | MTC OFFSET to enter this job.**
   ▼ The screen displays the currently set offset. The default is 00H, 00M, 00S, 00M, where H, M, S, and F refer to hours, minutes, seconds, and frames, respectively. The hour value is flashing.

2. **Press [◁] or [▷] to move the cursor to the value you wish to enter (hours, minutes, seconds, or frames). The value at that position flashes to indicate that it is selected.**

3. **Turn the dial as necessary to set the value.**

4. **Repeat steps 2 and 3 as necessary to enter all values.**

5. **When you are finished, press [OK] or [CANCEL] to return to the main screen.**

10.3.2 TRACK SET Group

You use the jobs to set up the operation of each track for the current song. The settings you make here significantly affect the sound of the song. These settings are stored together with the song when you save the song to volume on disk, and are restored when you reload the song from the volume.

What The Jobs Do

MAIN Sets the default action for the selected track's knob and pad.

FILTER TYPE Sets the type of filter applied to the selected track.

NOTE ASSIGN Selects whether the track is capable of playing multiple (overlapping) instances of itself at the same time.

TRACK SETUP Sets various playback parameters for the track. Specifically, sets the track's BPM tracking method, the loop length, the output destination (if the optional AIEB1 board is installed), and the LFO waveshape.

TRACK SET | MAIN

Use to: **Set (or view) the main knob function and main pad function for each track.**

- *Main functions* refers to the functions assigned to the track's knob and pad when you are playing a song while the main screen is on the display. **When you are playing from a function screen, these main functions are overridden and all knobs and pads perform the actions identified on the screen.** (For more information about the *main screen* and *function screens*, see page 144).
- Default settings (power-on settings) and allowable settings for each track type are as follows.

Track Type	Knob Function		Pad Function	
Sample tracks	**Default**	**Possible**	**Default**	**Possible**
	LEVEL	Any function (LEVEL, PAN, ..., EFFECT2, EFFECT3)*1	PLAY	PLAY, ON/MUTE, LOOPRST*2
AUDIO IN	LEVEL	LEVEL, PAN, EFFECT1, EFFECT2, EFFECT3	NONE*3	ON/MUTE
MASTER	LEVEL	LEVEL, PAN, HI GAIN, HI FREQ, LO GAIN, LO FREQ, EFFECT1, EFFECT2, EFFECT3	NONE*3	ON/MUTE, LOOPRST

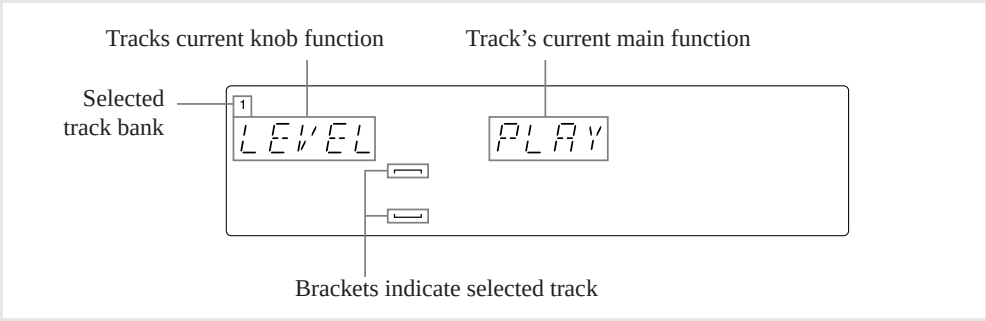
*1: Exception: SOUND/**[LENGTH]** function is available on LOOP tracks only.
*2: For FREE tracks, the LOOPRST setting is meaningless; pad presses will be ignored.
*3: NONE means that pad presses are ignored.

- For information about how the track-meter displays operate when you are working at a main screen, refer to pages 25 and 144.

Procedure

Be sure that you have selected the song containing the track(s) that you want to set up.

1. **Press TRACK SET | MAIN to enter this job.**
▼ The screen appears as follows. The bank number and meter bracket indicate the currently selected track (the last track whose pad you pressed). The left value shows the track's main knob function; the right value shows its main pad function. The left value is flashing, indicating that you can change the setting by turning the dial.



2. **If necessary, change the track selection by pressing the appropriate bank selector and pad.**

3. **To set the main knob function, press the corresponding knob-function key. To set the main pad function, press the corresponding pad-function key.**
As an alternative, you can change these settings using the ◁ and ▷ kbuttons and the dial. Use the ◁ or ▷ button to select either the knob setting or the pad setting (so that the value is flashing on the screen), and then turn the dial as necessary to move to the desired setting. If you wish to set the pad function to NONE (on AUDIO IN or MASTER track only), then you must use the dial-entry method.

4. **Repeat Steps 3 and 4 as necessary to review and change settings on all tracks you are interested in.**

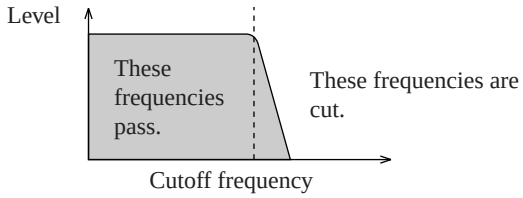
5. **Press [OK] or [CANCEL] to return to the main screen.**

TRACK SET | FILTER TYPE

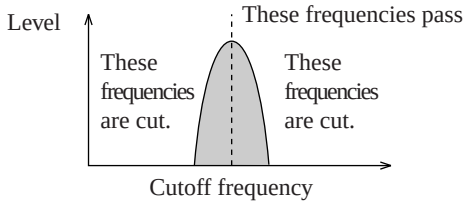
Use to: **Select the filter type for each track.**

- This operation has no affect on the track's current cutoff-frequency and resonance settings. To change the cutoff frequency and resonance, use the corresponding knob functions (→ p.210).
- This operation does not apply to AUDIO IN and MASTER tracks. You cannot select these tracks when working on this job.
- You can select from the following four filter types. The default type is LPF.

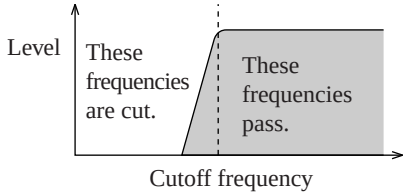
LPF Low-pass filter [12dB/oct]. (Suppresses frequencies above the cutoff frequency.)



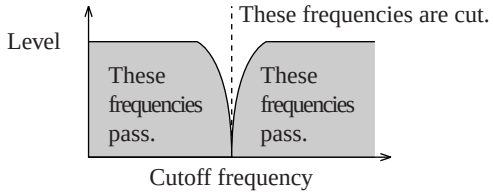
BPF BBand-pass filter [12dB/oct]. (Suppresses frequencies outside the band centered at the cutoff frequency.)



HPF High-pass filter [12dB/oct]. (Suppresses frequencies below the cutoff frequency.)



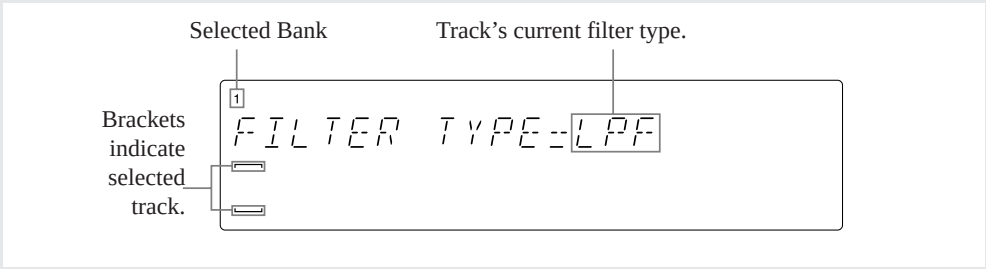
BEF Band-eliminate filter [12dB/oct]. (Suppresses frequencies inside the band centered at the cutoff frequency.)



Procedure

Be sure that you have selected the song containing the track(s) that you want to set up.

1. **Press TRACK SET | FILTER TYPE to enter this job.**
   ▼ The screen appears as follows. The bank number and meter bracket indicate the currently selected track (the last pad you pressed, except that if this was AUDIO IN or MASTER then the fourth FREE track of the current bank).



2. **If necessary, change the track selection by pressing the appropriate bank selector and pad.**

3. **Turn the dial to select the filter type.**

4. **Repeat Steps 2 and 3 as necessary to review and change settings on all tracks you are interested in.**

5. **Press [OK] or [CANCEL] to return to the main screen.**

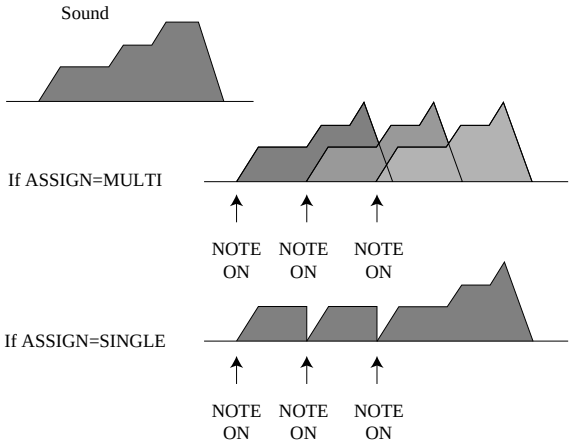
TRACK SET | NOTE ASSIGN

Use to: **Select whether the track can or cannot play overlapping sounds.**

- This feature does not apply to AUDIO IN and MASTER tracks. You cannot select these tracks when working on this job.
- You can set the value to either of the following. The default is MULTI.

MULTI	The track can play overlapping notes. If a new note-on occurs while track is already playing a note event, the track will begin playback for the new Note On while continuing the playback that is already in progress.
SINGLE	The track can only play one note event at a time. Occurrence of a new note-on forces termination of a previously playing note (if any).

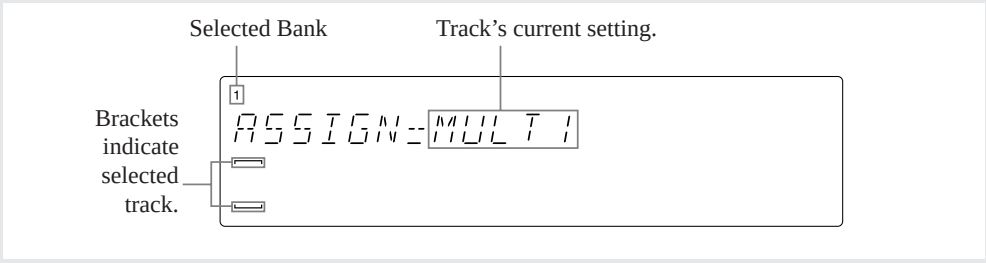
- **The setting works separately for notes recorded in the song (recorded note events) and notes generated by realtime playback.** If you set the value to SINGLE, for example, then the track can actually play two notes at a time: one generated by the song and one played by you in real time.
- The difference between these two settings can be illustrated as follows.



Procedure

Be sure that you have selected the song containing the track(s) that you want to set up.

1. **Press TRACK SET | NOTE ASSIGN to enter this job.**
   ▼ The screen appears as follows. The bank number and meter bracket indicate the currently selected track (the last pad you pressed, except that if this was AUDIO IN or MASTER then the fourth FREE track of the current bank).



2. **If necessary, change the track selection by pressing the appropriate bank selector and pad.**
3. **Turn the dial to select the setting.**
4. **Repeat Steps 2 and 3 as necessary to review and change settings on all tracks you are interested in.**
5. **Press [OK] or [CANCEL] to return to the main screen.**

TRACK SET | SETUP

Use to: **Set various playback parameters for each track, or to view current settings.**

- Parameters are as follows. See below for a detailed explanation of each setting.

BPM TRACKING	Determines how playback reacts to changes in tempo (BPM). Applies to sample tracks only (cannot be set for AUDIO IN or MASTER tracks).
LOOP LENGTH	Sets the length of the loop generated by the track. Applies to LOOP tracks and COMPOSED LOOP tracks only.
OUTPUT TO	Selects the output destination for the track. Applies to sample tracks only. (Available only if optional AIEB1 board is installed.)
LFO WAVE	Selects the waveform for the track's low-frequency oscillator.

Procedure

Be sure that you have selected the song containing the track(s) that you want to set up.

1. **Press TRACK SET | SETUP to enter this job.**

2. **Turn the [mike9]dial to select the parameter you are interested in: BPM TRACKING, LOOP LENGTH, OUTPUT TO, or LFO WAVE. Then press [OK].**
   ▼ The screen moves to the corresponding setup screen, and shows the value for the currently selected track. The bank number and meter bracket indicate the currently selected track (If you were working on a track for which this setting is not available, then the selection will change to the nearest supporting track.)

3. **If necessary, change the track selection by pressing the appropriate bank selector and pad.**

4. **Turn the dial to change the setting.**

5. **Repeat steps 3 and 4 as necessary to set values on multiple tracks. When you have finished making settings, press [OK] once to return to the main display, or press [CANCEL] once to return to step 2.**

Explanation of Settings

BPM TRACKING

MODE = SLICE or CHNG PITCH (on LOOP tracks)
NORMAL or CHNG PITCH (on COMPOSED LOOP and FREE tracks)
(where bold indicates the default)

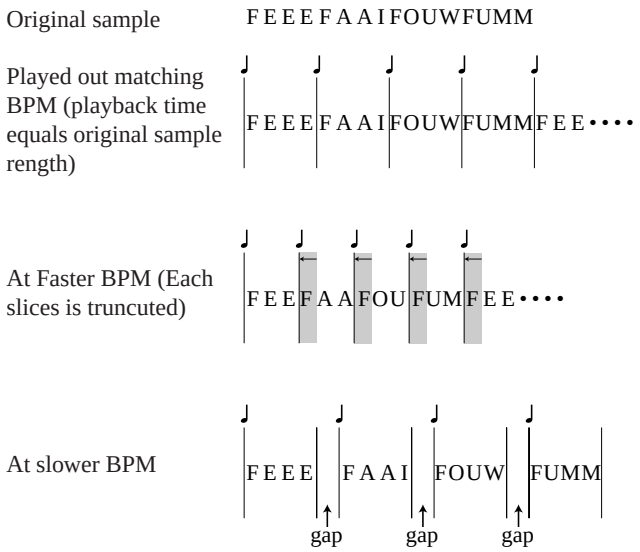
SLICE — The SU700 breaks the track's sample into slices, and spaces the slices so that the sample just fills the specified loop length at the current BPM. The sample always maintains its original pitch. As BPM increases, the slices move close together, cutting off part of the sound at the end of each slice (see illustration). As BPM decreases, the slices move apart, introducing gaps in the sound. The number of slices is set by the groove resolution setting (→ p.201 to 203).

NOTE:
To be precise, this processing is not applied to the entire sample waveform, but only to the playback span of the waveform: the area that begins at the start point (as set by the SAMPLE | START POINT job) and ends at the applied end point (the end point set by the SAMPLE | END POINT job), as adjusted by the SOUND/[LENGTH] knob function.

NORMAL — The track's Note On timing changes in accordance with changes in the BPM, just as on a conventional MIDI sequencer: increasing the BPM causes Note-On events to move closer together. (BPM changes do not cause change in pitch.)

CHNG PITCH — The track's sample changes pitch in accordance with changes in the song's tempo (BPM), in the same way that an analog record's sound changes when you speed up or slow down the record. (On LOOP tracks only: If the setting is CHNG PITCH, the SOUND/[PITCH], SOUND/[LENGTH], and GROOVE-group knob function are all disabled.)

The following illustration shows how the SLICE setting operates on a LOOP-track sample having a four-beat loop length, assuming that groove resolution is set to quarter note (four slices per measure).



LOOP LENGTH

LOOP LENGTH = 001,...,128 (on COMPOSED LOOP tracks) [Default=4]
Variable (on LOOP tracks)
"------" [not available](on FREE tracks)

LOOP track: This value sets the number of beats over which the sample plays out. If you set the length to 4, for example, the sample will play out once every four beats. As described above, the SU700 will adjust the playback (either by slicing or by pitch adjustment) so that the sample exactly fills the loop length.

You will notice that the screen also shows a BPM value, which changes as you adjust the length setting. The BPM value displayed on the screen shows the playback tempo that will reproduce the sample's original sound and speed with no need for adjustment. The SU700 will not allow you to set a length that would bring this BPM indication below 40 or above 299.9.

NOTE:
Remember that the sample plays out only from its start point (as set by the SAMPLE | START POINT job) to its applied end point (the setting in the SAMPLE | END POINT). The maximum and minimum available loop-length settings, and the BPM value displayed on this screen, will vary according to your start and end point settings.

COMPOSED LOOP track: Sets the number of beats for the loop pattern (rhythm pattern).

You can set the length from 1 to 128 beats. (The default is 4.) Once you have recorded a sequence of Note On events, however, the SU700 will not let you set the loop length shorter than the beat at which the final Note On occurs. For example, assume that you first set the length to 10 and then use the pad to produce a loop that has its final Note On at beat 7. In this case you can shorten the loop length to 8 or 9, but you cannot shorten it to 7 unless you first delete the Note On that occurs at beat 7. (You can delete Note On events using the JOB/NOTE DEL editing function or the EVENT EDIT | LOCATION&VALUE job).

OUTPUT TO

OUT = STEREO OUT, AS 1,..., AS 6, AS 1+2, AS 3+4, AS 5+6
[all tracks except AUDIO IN and MASTER]
The default is STEREO OUT.

This value sets the output destination of the selected track. *This setting is available only if you have installed the AIEB1 I/O expansion board.* (If you have not installed the board, the SU700 will not display the OUT= setting screen.) You can direct the output to the standard STEREO OUT jacks, to a single assignable output jack (AS1 to AS6), or to an adjacent pair of assignable output jacks (AS 1+2, AS 3+4, or AS 5+6).

- If you direct output to a single jack (AS1 to AS6): The pan is fixed at the center position, and pan control is ineffective. If the sample is stereo, the two channels are mixed to produce monaural output.
- If you direct output to a pair of jacks (AS 1+2, AS 3+4, or AS 5+6): Pan operates normally. If the sample is stereo, the left channel goes to the lower-numbered jack, and the right channel goes to the higher-numbered jack.

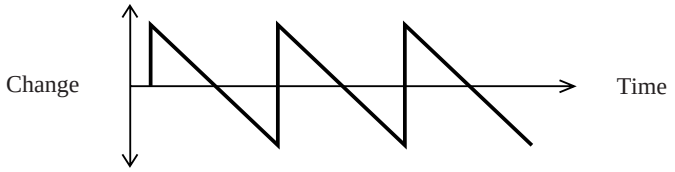
LFO WAVE

LFO WAV = SAW DOWN, SAW UP, TRIANGLE, SQUARE
(Works on sample tracks only. The default is SAW DOWN.)

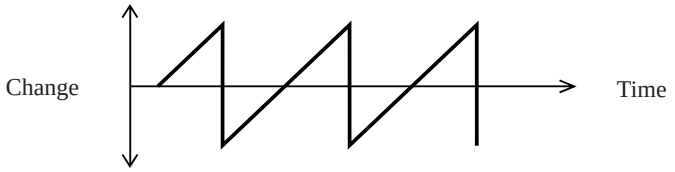
This value selects the LFO waveform. This waveform provides the modulation for the LFO group of knob functions (→ p.206).

Note that the LFO/[AMP] knob function can not generate saw-up modulation. If you select SAW UP, the LFO/[FILTER] and /[PITCH] settings will generate saw-up modulation but the /[AMP] function will generate saw-down modulation.

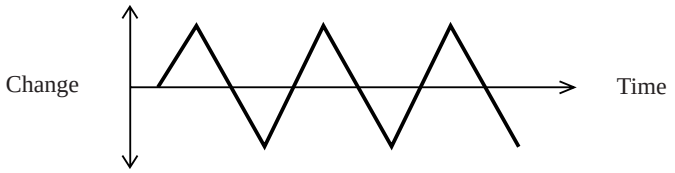
SAWDOWN



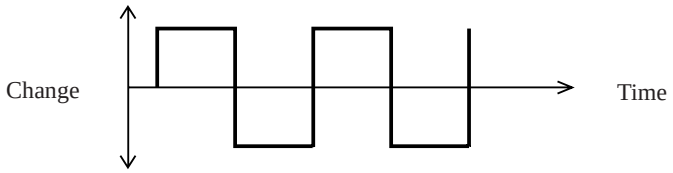
SAWUP



TRIANGLE



SQUARE



10.3.3 TRACK EDIT Group

Use these jobs to copy track data or event data from one track to another, or to reset track data or event data on a selected track. You must select the appropriate song before beginning to run these jobs.

What The Jobs Do

TRACK COPY Copies all non-event track data from one track to another.
TRACK INIT Deletes all data on the track (the sample itself, event data, and non-event data), and returns all track settings to their defaults.
EVENT COPY Copies all events (all sequence data) from one track to another.
EVENT INIT Erases all events (all sequence data) on the selected track.

TRACK EDIT | TRACK COPY

Use to: **Copy track content (sample waveform, sample parameters, and current knob settings and mute setting) from one sample track into another (within the same song).**

- The track you are copying from is called the *source track*. The track you are copying to is the *destination track*.
- The destination track type need not match the source track type. You can copy from any LOOP, COMPOSED LOOP, or FREE track to any other LOOP, COMPOSED LOOP, or FREE track.
- You cannot select the AUDIO IN or MASTER track for either the source or the destination.
- *This job does not copy any of the source track's recorded sequence data.* To copy sequence data, use the TRACK EDIT | EVENT COPY job (→ p.243).
- Specifically, this job copies the following: the sample itself; the sample's start-point and end-point settings; the current SOUND, GROOVE, LFO, EQ, FILTER, and EFFECT settings; the current mute state (ON or MUTE); and the TRACK SET job settings for MAIN, FILTER TYPE, NOTE ASSIGN, OUTPUT TO, LFO WAVE, and BPM TRACKING (the last one is copied only if source and destination tracks are the same type).

Procedure

Be sure that you have selected the appropriate song.

1. **Press TRACK EDIT | TRACK COPY to enter this job.**

▼ The screen displays **SOURCE TRACK**, and the bank number and meter bracket indicate the last track you were working on (the last pad you pressed, except that if this was AUDIO IN or MASTER then the fourth FREE track of the current bank).

2. **Press a bank selector and track pad (as necessary) to select a nonempty source track.**

▼ The bank number and meter bracket move to indicate the track selection. (A double line must appear at the center of the bracket, indicating that the track contains a sample.)

Indicates that the selected track contains a sample.

3. **Press [OK].**

▼ The screen displays **DEST. TRACK**.

NOTE:
If you selected an empty track at step 2 above, then the screen displays NO SAMPLE instead. Go back to Step 2 and select a nonempty track, or else press ***[CANCEL]*** *as necessary to escape.*

4. **Press a bank selector and track pad (as necessary) to select the destination track.**

▼ The bank number and meter bracket move to indicate the track selection.

5. **Press [OK].**

▼ If the destination track already contains a sample, the screen displays the OVERWRITE? prompt. If you do not wish to overwrite, press **[CANCEL]** as necessary to move back to a previous job level or to return to the main screen. If you agree to overwrite, press **[OK]** to execute the copy.

▼ The SU700 displays a "processing" pattern to indicate that it is copying the data. When copying is completed, the main screen returns.

TRACK EDIT | TRACK INIT

Use to: **Erase the track's recorded sample and recorded event data (sequence data), and reset all track settings to their defaults.**

- *Be careful when using this job, as it erases data without issuing any warning or confirmation prompt.* Be sure that you are ready to proceed before you press the **[OK]** button.

Procedure

Be sure that you have selected the appropriate song.

1. **Press TRACK EDIT | TRACK INIT to enter this job.**
   ▼ The screen displays **INIT TRACK**, and the bank number and meter bracket indicate the currently selected track (the last pad you pressed).

2. **Press a bank selector and track pad (as necessary) to select the track you wish to reinitialize.**
   ▼ The bank number and meter bracket move to indicate the track selection.

3. **Press [OK] to reinitialize the track and return to the main screen.**
   Be aware that the SU700 will not generate a confirmation prompt; it will erase and reinitialize the track as soon as you press [OK].

TRACK EDIT | EVENT COPY

Use to: **Copy all recorded sequence data (sequence events) from one nonempty sample track into another nonempty sample track of the same type (within the same song).**

- The source and destination tracks must be of the same type. (It is not possible to select AUDIO IN or MASTER.) Source and destination tracks must both contain samples. It is not possible to copy from or to an empty track
- This job copies all sequence data recorded on the track: all knob actions, all ribbon actions, and all pad actions (note-on, note-off, mute-on, mute-off, roll-on, roll-off, and loop restart actions).
- Note that this job will not necessarily cause the tracks to behave identically during playback, since track behavior is determined not only by sequence events on the track itself but also by scene-recall events stored on the MASTER track. **This job has no effect on recorded scene-recall events**, which will continue to operate independently on each track.
- This operation does not overwrite the sample existing in the destination track, and does not overwrite the destination track's current knob settings and track-related settings. (In particular, the job does not change the settings enumerated in the explanation for the TRACK COPY job above.)

- For you reference, when you select a track the screen will show not only whether that track contains a sample but also whether it contains sequence data. If the track has a sample only, then only the two center bars will light up; if it also contains sequence data, then the six center bars light up. If you select a source track that does not contain any sequence data, then this job will simply delete any sequence data already existing in the destination track.

Procedure

Be sure that you have selected the appropriate song.

1. **Press TRACK EDIT | EVENT COPY to enter this job.**
   ▼ The screen displays **SOURCE TRACK**, and the bank number and meter bracket indicate the currently selected (the last pad you pressed, except that if this was AUDIO IN or MASTER then the fourth FREE track of the current bank).

2. **Press a bank selector and track pad (as necessary) to select a nonempty source track.**
   ▼ The bank number and meter bracket move to indicate the track selection.

3. **Press [OK].**
   ▼ The screen displays **DEST. TRACK**.

> ***NOTE:***
> *If you selected an empty track at step 2 above, then the screen displays NO SAMPLE instead. Go back to Step 2 and select a nonempty track, or else press **[CANCEL]** as necessary to escape.*

4. **Press a bank selector and track pad (as necessary) to select the destination track.**
   ▼ The bank number and meter bracket move to indicate the track selection. Remember that the track type must be the same as the track type of the source track, and must also be nonempty.

5. **Press [OK].**

> ***NOTE:***
> *If you select an empty track and press **[OK]**, the screen will display the message NOSAMPLE. Go back to Step 4 and select a nonempty track, or else press **[CANCEL]** as necessary to escape.*

▼ If the destination track already contains sequence data, the screen displays the OVERWRITE? prompt. If you do not wish to overwrite, press **[CANCEL]** as necessary to move back to a previous job level or to return to the main screen. If you are prepared to overwrite, press **[OK]** to proceed.

▼ The SU700 copies the sequence data and returns you to the main screen.

TRACK EDIT | EVENT INIT

Use to: **Clear all recorded sequence data (sequence events) from a selected track.**

- This job clears all sequence data recorded on the track.
- This operation does not delete the track's sample, its current knob settings, and its other track-related data. (In particular, the job does not change the settings enumerated in the explanation for the TRACK COPY job above.)
- If you execute this job on the MASTER track, it will delete all scene-recall events from the song. **Be aware that this may significantly affect the playback on all other tracks.** (But note that the job will never delete the top-scene recall that occurs automatically when you return the song to its top position.)
- If you execute this job on any track other than the MASTER track, the track will continue to respond to actions generated by scene-recall events.

Procedure

Be sure that you have selected the appropriate song.

1. **Press TRACK EDIT | EVENT INIT to enter this job.**

▼ The screen displays INIT TRACK SEQ, and the bank number and meter bracket indicate the currently selected track (the last pad you pressed).

2. **Press a bank selector and track pad (as necessary) to select the track whose events you wish to clear.**

▼ The bank number and meter bracket move to indicate the track selection.

NOTE:
The job will be meaningful only if you select a track that contains sequence data. The screen indicates that a track contains sequence data by lighting up the six lines at the center of the track meter.

3. **Press [OK] to clear the events and return to the main screen.**

10.3.4 EVENT EDIT

Use these jobs to edit or delete specific sequence data on a selected track, or to add measures to or delete measures from the current song.

What The Jobs Do

LOCATION &VALUE Allows you to edit or delete actions you recorded using the pads and scene buttons. In particular, allows you to (a) edit the location, velocity, and gate time of note events, (b) delete specified pad events (note events, mute events, roll events, and loop restarts), and (c) delete specified scene-recall events from the MASTER track.

NOTE CLEAR Deletes all note events on the selected COMPOSED LOOP or FREE track.

EVENT CLEAR Deletes all occurrences of a selected event type over a selected range on any track.

MEASURES Inserts, deletes, or copies measures. It [mike16]is important to note that when inserting measures you can select the meter (1/2, 2/4, 3/4, or 4/4); this feature allows you to build songs with mixed or non-standard meter.

EVENT EDIT | LOCATION & VALUE

Use to: **Use this job to (a) edit or delete note events recorded on a COMPOSED LOOP or FREE track, or (b) delete one or more instances of any selected pad event from any track, or (c) delete one or more scene-recall events from the MASTER track.**

- You can use this job for two general purposes: (a) to edit the start location, velocity, and duration (gate time) of note events recorded on your COMPOSED LOOP and FREE tracks, or (b) to delete selected pad or scene events from your song.
- When editing note events, you can view and adjust the following values.

  Start Location: Location at which note starts (location of the Note-On event). The location is denoted by three separate values: *measure-beat—clock* counts (where there are 480 clock counts per beat). You can move the note any distance up to the start of the next note or back to the end of the previous note.

  Velocity: Sets the note's velocity (loudness). The value can be set from 000 to 127.

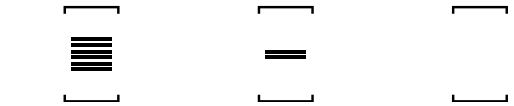
  Gate Time: Sets the notes duration (the time between the note's Note On and Note Off event). The duration is set by beats and clock counts, where there are 480 counts per beat. You can increase the duration an arbitrary amount, provided that Note Off occurs at least one frame prior to the Note On for the next note.

Procedure

Be sure that you have selected the song containing the track you want to edit.

1. **Press EVENT EDIT | LOCATION & VALUE.**

▼ The screen displays EDIT=trackname, where trackname is the name of the track whose pad you last pressed. The bank number and meter bracket also indicate the selected track.



Track contains Sample and sequence data.

Track contains sample only.

Track is empty.

2. **Press a bank selector and track pad (as necessary) to select the track you want to work on. Then press [OK].**

▼ The screen displays EVNT=*event type*, indicating the event type currently selected for editing or deletion.

3. **Turn the dial to select type of event you want to edit or delete. (For any event type other than SCENE, you can also select simply by pressing the corresponding pad-functionselector.) Available choices are as follows.**

Event Type	What You Can Do	Tracks on Which Available
NOTE	Edit/Delete	COMPOSED LOOP and FREE
MUTE	Delete one or more mute-off and mute-on events	ALL
ROLL	Delete one or more roll-off and roll-on events.	All sample tracks
LOOP RESTART	Delete one or more loop-restart events.	LOOP, COMPOSED LOOP, and MASTER
SCENE	Delete one or more scene-recall events	MASTER

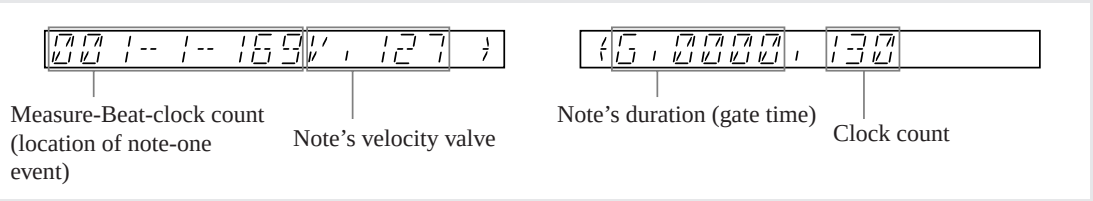
4. **Press [OK].**

▼ If you selected a track that does not contain any events of the selected type, the screen displays NO EVENTS. Press **[CANCEL]** to jump back to Step 2.

Operation now depends on the event type you selected.

If EVNT=NOTE

4. The screen now displays information about the note-on event nearest the current song location, as follows.



5. Select a note you want to edit or delete by pressing the sequencer's ▶▶ or ◀◀ button as necessary. Each press on the ▶▶ button moves you to the next note event; each press on ◀◀ moves you to the preceding note event.

6. You can delete or edit any note events on the selected track as follows.

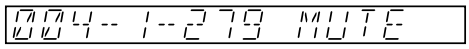
- **To Delete the Note:** Press the JOB/**[DEFAULT]** knob-function button. The information for the displayed note disappears, and the screen now shows information about the next note on the track (if any); or, if there is no next note, the screen shows information about the previous note (if any). If you have deleted all note events, the screen displays NO EVENTS, and you must then press **[CANCEL]** or **[OK]** to terminate the job.
- **To Shift the Start Time:** Press ◁ as necessary so that the initial screen's measure, beat, or clock-count value is flashing, and then turn the dial. (Note that you cannot shift the timing such that note play would overlap the preceding or subsequent note.)
- **To Change the Velocity:** Press ◁ or ▷ so that the velocity value is flashing, and the use the dial to change the value. You can change the velocity to any value from 000 to 127.
- **To Change the Gate Time:** Press ◁ or ▷ as necessary so that the gate-time beat or clock-count value is flashing, and then use the dial to adjust the value. Again, note that you can adjust the gate time such that the note would overlap the subsequent note.

7. Repeat steps 5, 6 , and 7 as necessary to edit or delete all notes you wish to change. When you are finished making changes, press [OK] to register them or else press [CANCEL] to cancel them. (If you press [CANCEL], all data will be returned to its original state.)

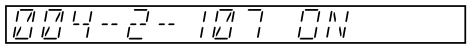
▼ The SU700 returns you to the main screen.

If EVNT=MUTE

4. The screen now displays the location of the mute event nearest the current song location. Two example displays are as follows.



(Indicates that mute was applied at measure 4, beat 1, clock count 279.)



(Indicates that mute was released at measure 4, beat 2, clock count 107.)

5. Select the mute event you want to delete by pressing the sequencer's ⏩ or ⏪ button as necessary. Each press on the ⏩ button moves you to the next mute event (MUTE **or** ON)**; each press on ⏪ moves you to the preceding mute event.**

6. To delete the event, press the JOB/[DEFAULT] knob-function button. The information for the displayed event disappears, and the screen jumps to the next mute event (if any), or else the preceding mute event. Delete as many mute events as you wish. (If you deleted all mute events, the screen displays NO EVENTS**).**

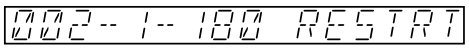
7. When you are finished making changes, press [OK] to register them or else press [CANCEL] to cancel them. (If you press [CANCEL], all data will be returned to its original state.)

▼ The SU700 returns you to the main screen.

If EVNT=LOOP RESTART, ROLL, or SCENE

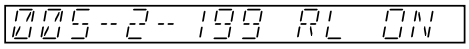
The procedure is essentially the same as the mute-event deletion procedure described above. The differences are as follows.

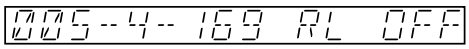
- **If LOOP RESTART:** The event-selection screen looks like this.



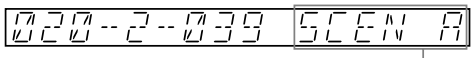
(where the numbers indicate the event location).

- **If ROLL:** The screen identifies both roll on and roll off events. But note these events are always deleted in pairs. If you delete a Roll-On event, the SU700 automatically deletes the subsequent Roll-Off as well; if you delete a Roll-Off, then the SU700 also deletes the preceding Roll-On.





- **If SCENE:** The screen identifies the location and the scene, as in the following example.



Indicates the scene button. A to G for buttons **[A]** to **[G]**, or T for the **[TOP]** scene button.

EVENT EDIT | NOTE CLEAR

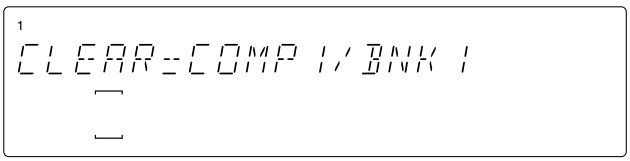
Use to: **Delete all note events on the selected COMPOSED LOOP or FREE track. This job deletes note events only, and leaves all other pad-function events [ON/MUTE, ROLL, LOOP RESTART events]) in place.**

Procedure

Be sure that you have selected the song containing the track you want to edit.

1. **Press EVENT EDIT | NOTE CLEAR.**

▼ The screen displays CLEAR=*trackname*, indicating the selected track. The bank number and meter bracket also indicate the selected track. (If the last pad you pressed was for a COMPOSED LOOP or FREE track, then that track is selected. If the last pad pressed was for the AUDIO IN or MASTER track, then the fourth FREE track of the current bank is selected. If your last pad press was on a LOOP track, then the first COMPOSED LOOP track of the current bank is selected.)



2. **Press a bank selector and track pad (as necessary) to select the FREE or COMPOSED LOOP track that you want to target.**

▼ The bank number, meter bracket, and display lettering change to indicate the track selection.

3. **Press [OK].**

▼ The SU700 deletes the note events from the track, and returns you to the main screen.

EVENT EDIT | EVENT CLEAR

Use to: **Delete all occurrences of a selected event type over a specified range of measures on the selected track.** This job cannot delete note events, but can delete any other type event (knob events, pad events, and ribbon scratch events). But be aware that you cannot use it to delete specific instances of an event—you can only use it to delete all instances over some selected range of measures.

- After selecting the track, you can choose to delete any event type supported by the track (with the exception of note events on LOOP and COMPOSED LOOP tracks). You cannot select an event type that cannot exist on the track. (For example, you cannot choose to delete ROLL events from the AUDIO IN track, since the AUDIO IN track does not support ROLL events.)
- You can select any of the following for deletion (except where not supported by the track).
  - All occurrences of a selected knob function
    EVNT= LEVEL, PAN, PITCH,..., EFFECT 2, EFFECT 3
  - All occurrences of a selected pad-function event type:
    EVNT= MUTE, ROLL, LOOPRESTART
  - All scene-recall events (from MASTER track only)
    EVNT= SCENE

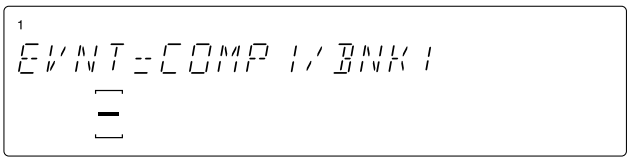
    (Note that this operation does not affect the content of the scene-memory itself; it simply deletes all scene-recall events recorded on the track.)
  - All events on the selected track (with the exception of note events on COMPOSED LOOP and FREE tracks).

Procedure

Be sure that you have selected the song containing the track you want to edit.

1. **Press EVENT EDIT | EVENT CLEAR to enter this job.**

▼ The track whose pad was last pressed is selected. The bank number and meter bracket indicate the selection, and the screen shows the name of the selected track. The screen will look something like this:



2. Press a bank selector and track pad (as necessary) to select the track you want to work on. Then press [OK].

▼ The screen displays EVNT=LEVEL, since LEVEL is the event type that is targeted by default.

3. Select the type of event you wish to delete from the track, using the dial or the appropriate control buttons .

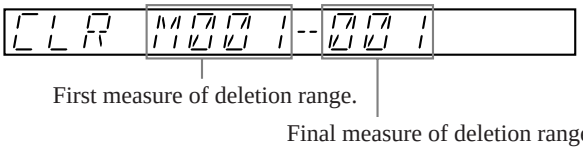
If you wish to select ALL (to delete all events), you must use the dial. Otherwise, you can use the following shortcuts.

- *To select a knob-event type*: Press the corresponding knob-function button.
- *To select pad-event type*: Press the corresponding pad-function selector.
- *To select ribbon scratch events*: Rub on the ribbon. (This will work regardless of the function currently assigned to the ribbon.)
- *To select scene-recall events* (from MASTER track only), press any of the scene buttons.

4. Press [OK].

▼ The screen now displays the first and last measures of the deletion range.

As a default, the SU700 offers to delete events from the first measure of the song only. But you can now adjust the start and end values as necessary, using ◁ and ▷ to move among the two parameters, and the dial to set each value.



NOTE:
The SU700 won't let you set the first value higher than the second, or the second value lower than the first. Once the values become equal, raising the left value or lowering the right value will cause both values to move together.

5. After you have finished setting the values, press [OK].

▼ The screen deletes the events and returns you to the main screen.

EVENT EDIT | MEASURES

Use to: **Insert one or more measures into the current song, or to delete one or more measures from the song, or to take a copy of sequence data and write it (one or more times) into the specified location of the same track or of a different track of the same type.**

- Three jobs are available.

ADD MEASURES	Inserts one or more empty measures into the selected song, at any selected time meter (1/4,...,4/4).
DELETE MEASURES	Deletes one or more measures from the selected song.
COPY MEASURES	Takes a copy of sequence data from specified measures of a track, and writes one or more of these copies at the specified measure location of the same track or of a different track of the same type.

<ADD MEASURES>

This job adds one or more empty measures to the selected song. These measures are added to all 42 tracks.

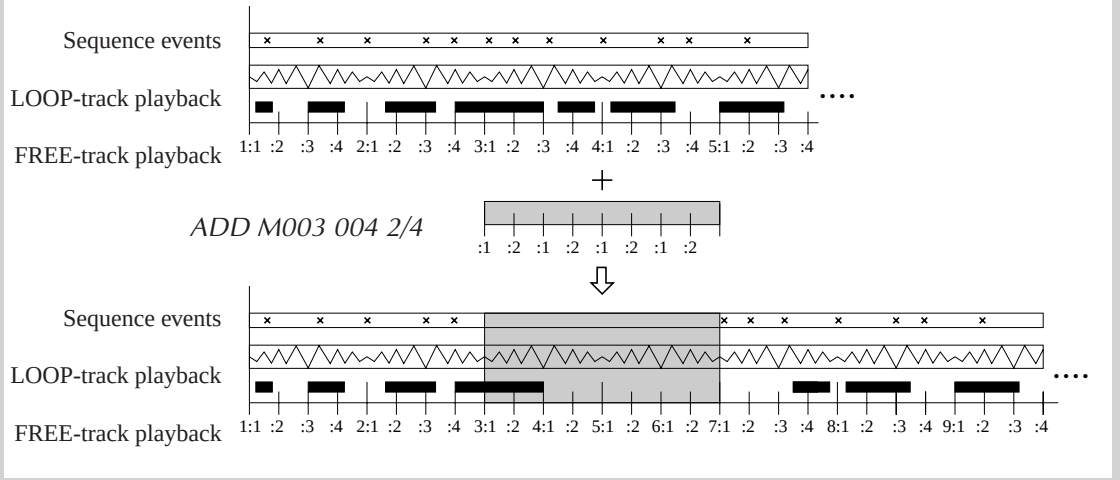
When carrying out this job, you must set the following three parameters.

- Insertion point: The measure position at which new measures are to be inserted. For example, a setting of M003 means that you are inserting new measures starting at measure 3.
- Number of measures: The number of measures to insert. You can insert anywhere from 1 to 999 measures.
- Meter: The meter (the beats per measure) for the new measures. You can set this to 1/4, 2/4, 3/4, or 4/4.

Notice that you can use this feature to set up songs with nonstandard meters. If you want to set up a waltz sequence, for example, then you can insert a large number of 3/4 measures at the beginning of an unrecorded sequence, and then proceed to record a waltz.

EXAMPLE:

Assume you want to insert 4 measures between measures 2 and 3, and that you want these new measures to have a meter of 2/4. You would set the screen values as follows:



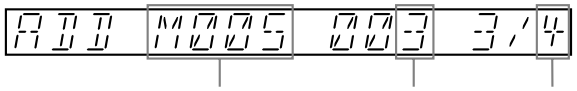
Procedure

1. **Be sure that the song you want to add measures to is currently selected. You may find it convenient to stop the song at the location at which you wish to insert the new measures. (For example, if you want to insert new measures between measure 5 and measure 6 of the song, stop the song at measure 6.)**

2. **Press EVENT EDIT | MEASURES.**

3. **If necessary, turn the dial to select ADD MEASURES. Then press [OK].**

▼ The screen displays the three parameters: insertion position, number of measures to insert, and the meter to be used for the new measures. The first parameter is flashing, indicating that you can change its value by turning the dial.



Insertion position. (Default is the song's current measure location)

Number of measures to be inserted.

Meter for new measures (Number of beats in each new measure).

4. Adjust the values as necessary, using [◁] and [▷] to move among the three parameters, and the dial to set each value.

5. After you have finished setting all values, press [OK].
▼ The measures are inserted. The screen may display a "processing" pattern while processing is in progress. When processing is completed, the job terminates and the SU700 returns you to the main screen.

<DELETE MEASURES>
This job deletes a segment consisting of one ore more measures from the selected song. The measures are deleted from all tracks. Measures following the deleted segment move back to fill in the gap.
When carrying out this job, you specify the measures to be deleted as follows:

M*xxx* - *yyy*

where *xxx* identifies the first measure to be deleted, and *yyy* identifies the last measure to be deleted. If you wanted to delete measures eight to twelve, for example, you would set the parameters to;

M008 -012

As a default, xxx and yyy are both set to the number of the current measure (so that the job will delete the current measure only.

Note that when you delete measures, all FREE track note events that occur in those measures will be lost. Deletion does not alter the note-event structure of the COMPOSED LOOP pattern (the note content of the COMPOSED LOOP pattern remains unchanged).

Procedure

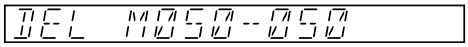
1. Be sure that the song you want to delete the segment from is currently selected.

▼ You may find it convenient to stop the song at the first measure that you want to delete.

2. Press EVENT EDIT | MEASURES.

3. If necessary, turn the dial to select DELETE MEASURES. Then press [OK].

▼ The screen displays the start-measure and end-measure parameters, which you use to select the range of measures you want to delete.
As a default, the screen offers to delete the current measure only. If the song is currently at measure 50, for example, the display will offer you the following default-which would delete measure 50 only.



4. Adjust the values as necessary, using [◁] and [▷] to move among the two parameters, and the dial to set each value.

▼ The SU700 won't let you set the first value higher than the second, or the second value lower than the first. Once the values become equal, raising the left value or lowering the right value will cause both values to move together.

5. After you have finished setting the values, press [OK].

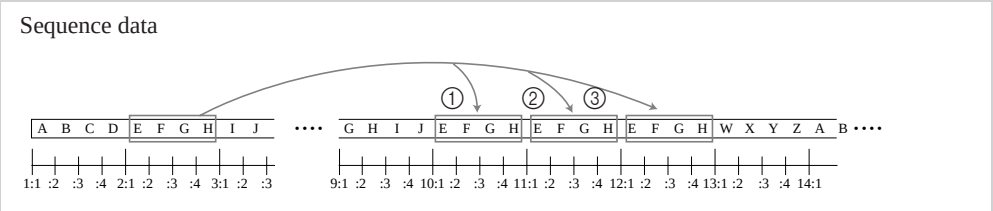
▼ The measures are deleted, and subsequent measures are shifted back to fill in the gap. The screen may display a "processing" pattern while processing is in progress. When processing is completed, the job terminates and the SU700 returns you to the main screen.

<COPY MEASURES>

This job copies sequence data from one segment of a track to another segment on the same track or on a different track of the same type. You can choose to write the copied data into the destination side more than once: the job will place the copies one right after the other, as illustrated below.

The operation copies all sequence events (with the exception of note-on and note-off events) from the specified source segment, and overwrites all sequence events (again, with the exception of note-on and note-off events) already existing in the destination segment.

EXAMPLE:
The following shows what happens when you copy sequence data from a single measure (measure 2) of a given track and insert the copy three times starting from measure 10 of the same track.



Procedure

1. **Be sure that the song you want to work in is currently selected.**
You may find it convenient to stop the song at the first measure from which you want to copy data.

2. **Press EVENT EDIT | MEASURES.**

3. **If necessary, turn the dial to select COPY MEASURES. Then press [OK].**
▼ The screen displays SOURCE TRACK, and the bank number and meter bracket indicate the currently selected track (the last pad you pressed).

4. **Press a bank selector and track pad (as necessary) to select the track from which you want to copy the sequence data. Then press [OK].**
▼ The screen displays FROM M*xxx-yyy*, prompting you to select the measures from which you want to copy data. As the default, *xxx* and *yyy* are both set equal to the song's current location.

5. **Adjust the values to select the segment from which you want to copy sequence data, using [◁] and [▷] to move among the two parameters, and the dial to set each value.**
▼ The first value gives the starting measure; the second value gives the ending measure. If you set the values equal, the job will copy data from one measure only.

EXAMPLES:

FROM M50—50: will copy data from measure 50 only.

FROM M50—59: copies data from measures from 50 to 59 (a ten-measure segment).

▼ The SU700 won't let you set first value higher than the second, or the second value lower than the first. Once the values become equal, raising the left value or lowering the right value will cause both values to move together.

6. Press [OK].

▼ The screen displays DEST. TRACK, and indicates the default destination. (As the default, the job selects the source track as the destination track-so that copying will be into the same track.)

7. If necessary, press a bank selector and track pad to select the destination track. Note that the destination track type must match the source track type. (If your source track is AUDIO IN or MASTER, then you are forced to use the same track as your destination.) When you are ready, press [OK].

▼ The screen now displays TO Mxxx 001 The first value indicates where the copy is to begin on the destination side, and the second value indicates the number of copies to be pasted. As a default, the location is set equal to the start location for the source copy, and the number of copies is set to 001.

8. Adjust the two values as necessary, using [◁] and [▷] to move among the two parameters, and the dial to set each value. (See the example below.)

- The SU700 will not allow you to set values such that the copied data would extend beyond measure 999 on the track.

9. Press [OK] to execute the copy.

▼ The screen may display a "processing" pattern while processing is in progress. When copying is completed, the SU700 returns you to the main screen.

EXAMPLE:

Assume that all measures in the song are four beats long, and assume that you have set values as follows:

Source: FROM M050-059

Dest. TO M100 003

In this case, the job will copy the sequence data from measures 50 to 59 on the source track (10 measures of data), and will paste this copy into measures 100 to 109, and then again into measures 110 to 119, and then again into 120 to 129 on the destination track.

10.3.5 SAMPLE Group

Use these jobs to set a sample's start or end point, to modify the sample waveform in any of various ways, or to delete a waveform.

Several of these jobs (the TRIM, FREQ CONVERT, BIT CONVERT, and DELETE jobs) can be used to increase the amount of memory available for additional sample recording.

These jobs can only be used on sample tracks that already contain recorded samples.

What The Jobs Do

START POINT	Sets the sample's start point (the point on the waveform from which playback begins).
END POINT	Sets the sample's end point (the point on the waveform at which playback ends).
PROCESS	These jobs perform various types of processing on the sample's waveform.
DELETE	Deletes the sample (together with all sequence data) from the selected sample track.

SAMPLE | START POINT
SAMPLE | END POINT

Use to: **Adjust the start point and end point for sample playback, without changing the waveform itself.**

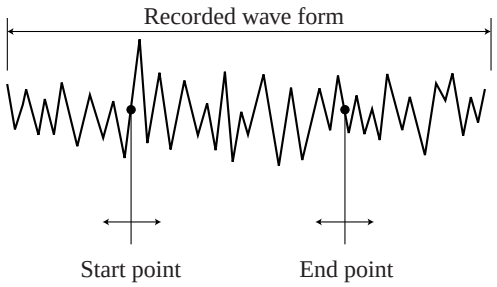
Explanation

As explained elsewhere in this manual, a sample consists of a waveform, together with start-point and end-point values. You can adjust the start point and end point to select the span of the waveform that is played out. This makes it possible to eliminate unnecessary material recorded at the start and end of the waveform. It also makes it possible to adjust the sample to get the attack and length that you need. You will find that even small adjustments to the start and end points (the start point in particular) can have a significant affect on the sound.

Note that adjusting the start and end points simply changes the area of the waveform that is played out; the unplayed waveform data remains in memory unless you delete it using the SAMPLE | PROCESS TRIM job (→ p.262).

The start and end point values themselves are in units of frames, where each frame represents a single reading along the waveform. Samples recorded at 44.1 kHz frequency will consist of approximately 44,100 frames per second; reducing the difference between the start and end points by 100 units would therefore reduce the playback time by 1/441 second (assuming playback at the sample's original speed).

To eliminate the possibility of an unpleasant clicking effect, the SU700 always forces the start and end points to the nearest zero-cross point on the waveform (the nearest location at which the waveform crosses the zero-amplitude line.)



- You can listen to the sample playback as you adjust the start and end points. This makes it easy to set the points to appropriate locations.
- When making adjustments, you can switch freely among samples simply by pressing the appropriate bank selectors and pads. This makes it easy to set up start and end points for all of your samples during a single job session.
- It is not possible to set the end point lower than the start point.
- This operation can be used only on nonempty sample tracks. You cannot select the AUDIO IN or MASTER track (since these tracks never contain samples).
- The start and end points are saved together with the sample waveform when you save the sample to a volume on disk.
- For LOOP tracks only: You can use the SOUND/[LENGTH] knob function (→ p.200) to adjust the applied end point dynamically during playback (provided that the track's BPM TRACKING is set to SLICE). But this adjustment is temporary and has no effect on the end-point setting that you make with the SAMPLE | END POINT job.

Procedure

Be sure that you have selected the song containing the sample(s) you want to work on.

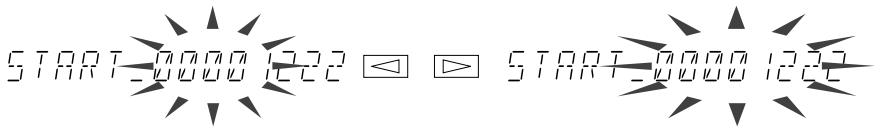
1. **Press SAMPLE | START POINT or SAMPLE | END POINT.**

▼ The track brackets indicate the currently selected sample track. If the track is empty, the screen displays the NO SAMPLE message. If the track contains a sample, the screen shows the eight-digit start-point or end-point value: START=***xxxxxxxx*** or **END=*xxxxxxxx***.

2. **If necessary, change the track selection by pressing the appropriate bank selector and/or pad.**

Remember that you can listen to the sound of the sample simply by hitting the pad. As you make the following adjustments, you should repeatedly hit the pad to monitor how the adjustments are affecting the sound.

3. **Press the ◁ and ▷ to select the adjustment increment you want to use (the number of high-order digits you want to operate on).**
This setting determines the increment at which the value changes when you turn the dial. For example, you can opt to adjust by single units (all eight digits), by increments of 10 (the first seven digits only), by increments of 100 (the first six digits only), and so on up to increments of 10,000,000 (the first digit only). Press ◁ to increase the increment, and ▷ to decrease it. The selected digits flash on the screen.



Increment by thousands of frames — Use to change the increment — Increment by tens of frames

NOTE:
Although the dial will only affect the high-order digits you have selected, you will see the lower digits changing too. This is because the lower digits are adjusted as necessary to move to the next zero-cross point on the waveform.

4. **Turn the dial to adjust the value.**

5. **Continue making adjustments to start and stop values as necessary. You can switch between START POINT and END POINT screens simply by pressing the corresponding buttons on the left of the job grid. (You do not need to press the SAMPLE selector again.) You can switch to different tracks by using the bank selectors and the pads. You can switch the increment range at any time by pressing the cursor keys.**

6. **When you are finished making changes, press [OK] or [CANCEL] to quit the job and return to the main screen.**

SAMPLE | PROCESS

Use to: **Perform various types of processing on sample waveforms.**

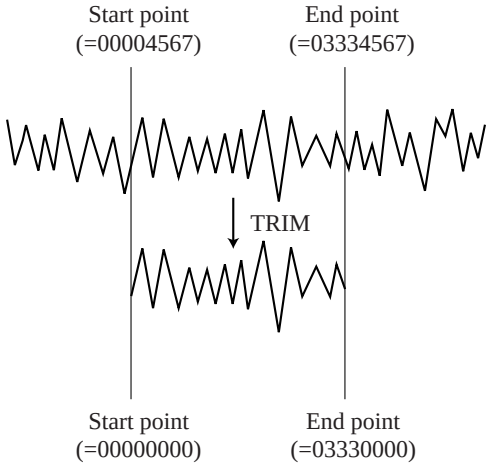
- These jobs can only be used on nonempty sample tracks. You cannot select the AUDIO IN or MASTER track (since these tracks never contain samples).
- Four of these jobs can be used to reduce the size of the selected sample in memory, thereby freeing up additional space for new sample recording. Specifically, the following jobs can be used for this purpose: TRIM, FREQ. CONVERT, BIT CONVERT, and STEREO TO MONO.
- The following jobs are available.

TRIM	Deletes the "unused" parts at the beginning and end of the waveform (the part before the start point and the part after the end point).
REVERSE	Reverses the waveform (so that the sound runs backwards).
NORMALIZE	Proportional adjustment of waveform amplitude (for better dynamic range).
FREQ. CONVERT	Reduces the sampling frequency.
BIT CONVERT	Reduces the bit resolution.
STEREO TO MONO	Changes stereo sample (two waveforms) to monaural sample (one waveform).

<TRIM>

This job erases the extraneous parts or the waveform: specifically, the part of the waveform existing prior to the current start-point setting, and the part of the waveform that follows the current end-point setting. **You can use this job to increase the amount of memory available for new sample recording.**

Following execution, the start-point and end-point settings will coincide with the actual start and end of the waveform. In particular, the start-point value will become 00000000.



Be aware that the deleted parts of the waveform cannot be recovered (unless you restore a previous version of the sample from disk). Note that trimming a LOOP sample may reduce the amount of length adjustment you can get with the SOUND/ [LENGTH] knob function (→ p.200), since the trim operation shortens the actual waveform and therefore reduces the available length.

Procedure

Be sure that you have selected the song containing the sample(s) you want to work on.

1. **Press SAMPLE | PROCESS.**
   ▼ The track brackets indicate the currently selected sample track. The screen briefly displays **PROCESS**, and then displays the name of the last process job that you selected.
2. **If the screen displays a job name other than TRIM, turn the dial so that the name changes to TRIM.**
3. **Select the track containing the sample you want to work on by pressing the appropriate bank selector and/or pad. Then press [OK].**

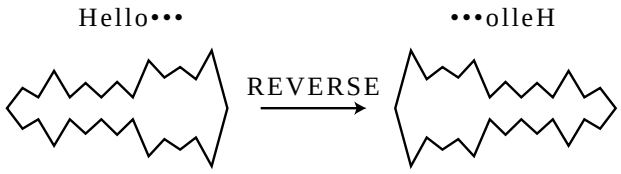
NOTE:
If you select an empty track, the screen displays NO SAMPLE. Select a different, nonempty track.

   ▼ The screen displays the name of the sample existing on the selected track.

4. **Press [OK].**
   ▼ The SU700 trims the waveform. The screen may display a "processing" pattern while processing is in progress. When processing is completed, the job terminates and the SU700 returns you to the main screen.

<REVERSE>

This job reverses the waveform so that the sound is reversed-producing the same type of sound that you would get by rotating a vinyl record backwards or by playing a tape in reverse.



When you run the job, the SU700 reverses the waveform and then gives you a chance to listen to the results to determine whether you wish to keep the change. If you are not pleased with the sound you can cancel the job and retain the original waveform.

Procedure

Be sure that you have selected the song containing the sample(s) you want to work on.

1. **Press SAMPLE | PROCESS.**
   ▼ The track brackets indicate the currently selected sample track. The screen briefly displays **PROCESS**, and then displays the name of the last process job that you selected.

2. **If the screen displays a job name other than REVERSE, turn the dial so that the name changes to REVERSE.**

3. **Select the track containing the sample you want to work on by pressing the appropriate bank selector and/or pad. Then press [OK].**

   NOTE:
   If you select an empty track, the screen displays NO SAMPLE. Select a different, nonempty track.

   ▼ The screen displays the name of the sample existing on the selected track.

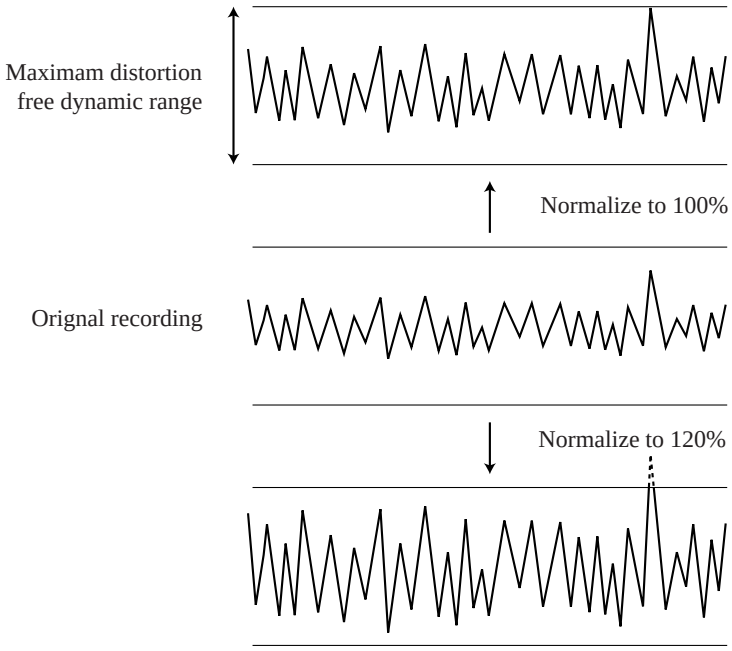
4. **Press [OK].**
   ▼ The SU700 reverses the waveform. The screen may display a "processing" pattern while processing is in progress. When processing is finished, the screen displays the word **FINISHED**.

5. **You can now press the pad to listen to the sound of the reversed waveform. If you are pleased with the result, press [OK] to store the reversed waveform into track memory, overwriting the original waveform. If you are not pleased with the result, press [CANCEL] to discard the result and retain the original (unreversed) waveform.**
▼ The job terminates and the main screen appears.

<NORMALIZE>
This job increases the waveform dynamic range, by multiplying the waveform amplitude at each point along the waveform.

You can set the normalization rate to any value from 100% to 200%, in 1% increments. The default is 100%.

If you set the value to 100%, the job adjusts the waveform so that the peak amplitude exactly reaches the CLIP level (so that there will be no distortion). Setting the value above 100% increase the range even further, although in this case the waveform will spike above the CLIP level-resulting in transient distortions.



After processing the waveform, the SU700 gives you a chance to listen to the results to determine whether you wish to keep the change. If you are not pleased with the sound you can cancel the job and retain the original waveform.

Procedure

Be sure that you have selected the song containing the sample(s) you want to work on.

1. Press SAMPLE | PROCESS.

▼ The track brackets indicate the currently selected sample track. The screen briefly displays **PROCESS**, and then displays the name of the last process job that you selected.

2. If the screen displays a job name other than NORMALIZE, turn the dial so that the name changes to NORMALIZE.

3. Select the track containing the sample you want to work on by pressing the appropriate bank selector and/or pad. Then press [OK].

> ***NOTE:***
> *If you select an empty track, the screen displays NO SAMPLE. Select a different, nonempty track.*

▼ The screen displays the name of the sample existing on the selected track, and the normalization rate.

> ***NOTE:***
> *The default rate is 100%. If you have set a different rate previously during the current session, then the screen will display the most recently set rate.*

4. Press [OK].

▼ The SU700 executes normalization. The screen displays a "processing" pattern while processing is in progress. When processing is finished, the screen displays the word FINISHED.

5. You can now press the pad to listen to the sound of the normalized waveform. If you are pleased with the result, press [OK] to store the normalized waveform into track memory, overwriting the original waveform. If you are not pleased with the result, press [CANCEL] to discard the result and retain the original waveform.

▼ The job terminates and the main screen appears.

<FREQ. CONVERT>

Use this job to decrease the waveform sampling rate. This will produce a rougher sound that you may find more suitable for certain types of sequences. This operation will also reduce the size of the waveform data, thereby increasing the amount of free memory available for additional sample recording.

The *sampling rate* refers to the number of frames (data readings) per unit time. For general information about sampling rates, see page 151. For an explanation about how to set the sampling rate when recording a sample, see page 158.

After processing the waveform, the SU700 gives you a chance to listen to the results to determine whether you wish to keep the change. If you are not pleased with the sound you can cancel the job and retain the original waveform.
Note that it is only possible to reduce the frequency; you cannot choose to increase it. Specifically, the following conversions are available (where rates are in kHz):

Original Freq.	*Target Freq. (as shown on screen)*	
48.0kHz	24.0kHz	(24K)
44.1	22.05 or 11.025	(22K, 11K)
32.0kHz	16.0kHz	(16K)
22.05	11.025	(11K)

Procedure

Be sure that you have selected the song containing the sample(s) you want to work on.

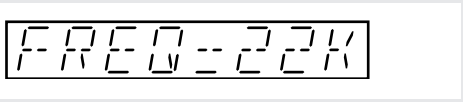
1. **Press SAMPLE | PROCESS.**
   ▼ The track brackets indicate the currently selected sample track. The screen briefly displays PROCESS, and then displays the name of the last process job that you selected.

2. **If the screen displays a job name other than FREQ. CONVERT, turn the dial so that the name changes to FREQ. CONVERT. Then press [OK].**

3. **Select the track containing the sample you want to work on by pressing the appropriate bank selector and/or pad.**

NOTE:
If you select an empty track, the screen displays NO SAMPLE. If you select an irreducible frequency, the screen displays IMPOSSIBLE, indicating that it is not possible to reduce the frequency.

4. Provided that the selected sample has a reducible frequency, the screen prompts you to select the frequency:



5. If necessary, use the dial to select the target frequency. (In many cases only one possibility exists, and the dial is disabled).

6. Press [OK] to execute the conversion.

▼ The SU700 converts the waveform. The screen displays a "processing" pattern while processing is in progress. When processing is finished, the screen displays the word FINISHED.

7. You can now press the pad to listen to the sound of the converted waveform. If you are pleased with the result, press [OK] to store the waveform into track memory, overwriting the original waveform. If you are not pleased with the result, press [CANCEL] to discard the result and retain the original waveform.

▼ The job terminates and the main screen appears.

<BIT CONVERT>

Use this job to decrease the bit resolution of the waveform, from 16 bits to 8 bits. This will produce a rougher sound that you may find more suitable for certain types of sequences. This operation will also reduce the size of the waveform data, thereby increasing the amount of free memory available for additional sample recording.

This job is available only on samples that have a bit resolution of 16 bits.

The *bit resolution* refers to the number of bits used to record each data reading. For general information about bit resolution and about how to set it when recording a new sample, see pages 151 and 158.

After processing the waveform, the SU700 gives you a chance to listen to the results to determine whether you wish to keep the change. If you are not pleased with the sound you can cancel the job and retain the original waveform.

Procedure

Be sure that you have selected the song containing the sample(s) you want to work on.

1. **Press SAMPLE | PROCESS.**

▼ The track brackets indicate the currently selected sample track. The screen briefly displays PROCESS, and then displays the name of the last process job that you selected.

2. **If the screen displays a job name other than BIT CONVERT, turn the dial so that the name changes to BIT CONVERT. Then press [OK].**

3. **Select the track containing the sample you want to work on by pressing the appropriate bank selector and/or pad.**

> ***NOTE:***
> *If you select an empty track, the screen displays NO SAMPLE. If you select a sample that has 8-bit resolution, the screen displays IMPOSSIBLE, indicating that it is not possible to reduce the resolution. In either case, you can simply select a different sample by pressing the appropriate bank selector or pad, or you can cancel by pressing the* ***[CANCEL]*** *key as necessary.*

4. **If the selected sample has a bit resolution of 16 bits, the screen presents the following display to indicate that it is possible to reduce the resolution to 8 bits.**

5. **Press [OK] to execute the conversion.**

▼ The SU700 converts the waveform. The screen displays a "processing" pattern while processing is in progress. When processing is finished, the screen displays the word FINISHED.

6. **You can now press the pad to listen to the sound of the converted waveform. If you are pleased with the result, press [OK] to store the waveform into track memory, overwriting the original waveform. If you are not pleased with the result, press [CANCEL] to discard the result and retain the original waveform.**

▼ The job terminates and the main screen appears.

<STEREO TO MONO>

This job changes a stereo sample (L-channel and R-channel waveforms) into a monaural sample (one waveform). In most cases this operation will reduce the size of the sample in memory, thereby increasing the amount of free memory available for additional sample recording. The amount of size reduction will depend on the size of each channel's waveform and the type of conversion you select.

This operation is available on stereo samples only.

After processing the waveform, the SU700 gives you a chance to listen to the results to determine whether you wish to keep the change. If you are not pleased with the sound you can cancel the job and retain the original waveform.

You can select from four types of conversion, as follows.

CH=L	Deletes the right-channel data. Retains the left-channel data only.
CH=R	Deletes the left-channel data. Retains the right-channel data only.
CH=L+R	Mixes the left-channel and right-channel waveforms (and reduces the resulting level by 3dB).
CH=L-R	Subtracts the right-channel waveform from the left-channel waveform, thereby canceling out the sound component common to both channels. This may be useful, for example, when you want to cancel out a vocal component to produce a karaoke-type instrumental. The effectiveness of this type of conversion depends on the content of the original sample.

Procedure

Be sure that you have selected the song containing the sample(s) you want to work on.

1. **Press SAMPLE | PROCESS.**
   ▼ The track brackets indicate the currently selected sample track. The screen briefly displays PROCESS, and then displays the name of the last process job that you selected.

2. **If the screen displays a job name other than STEREO TO MONO, turn the dial so that the name changes to SAMPLE TO MONO.**

3. **Press [OK].**

4. Select the track containing the stereo sample you want to work on by pressing the appropriate bank selector and/or pad.

> ***NOTE:***
> *If you select an empty track, the screen displays NO SAMPLE. If you select a track containing a monaural sample, the screen displays IMPOSSIBLE, indicating that conversion is not possible. In either case, you can simply select a different sample by pressing the appropriate bank selector or pad, or you can cancel by pressing the* ***[CANCEL]*** *key as necessary.*

5. Having selected a stereo sample, turn the dial to select the conversion type: CH=L, CH=R, CH=L+R, **or** CH=L-R**.**

6. Press [OK] to execute the conversion.
▼ The SU700 converts the waveform. The screen displays a "processing" pattern while processing is in progress. When processing is finished, the screen displays the word FINISHED.

7. You can now press the pad to listen to the sound of the converted waveform. If you are satisfied with the result, press [OK] to store the waveform into track memory, overwriting the original waveform. If you are not satisfied with the result, press [CANCEL] to discard the result and retain the original stereo sample.
▼ The job terminates and the main screen appears.

SAMPLE | DELETE

Use to: **Delete a sample from a selected sample track.**

This job deletes the sample on the selected sample track, together with all sequence data recorded on the track. Note that this deletion will also increase the amount of memory available to record additional samples.

Procedure

Be sure that you have selected the song containing the sample(s) you want to work on.

1. **Press SAMPLE | DELETE.**
   ▼ The track brackets indicate the currently selected sample track. If the track is empty, the screen displays the **NO SAMPLE** message. If the track contains a sample, the screen displays the sample name.

2. **If necessary, change the track selection by pressing the appropriate bank selector and/or pad.**
   ▼ The SU700 plays out the sample each time you hit the pad. You may want to listen to make sure you have selected the correct sample for deletion.

3. **Press [OK].**
   ▼ The screen displays **ARE YOU SURE?**, giving you one last chance to change your mind. If you do not wish to delete the sample, press **[CANCEL]** once and return to step 2, or press twice to exit.

4. **Press [OK].**
   ▼ The SU700 deletes the sample and returns you to the main screen.

10.3.6 RESAMPLE Group

Use these jobs to resample an existing sample or to create a single sample from an entire sequence. When you resample, you record a new sample using the sound of the source track or source sequence as your source.

What The Jobs Do

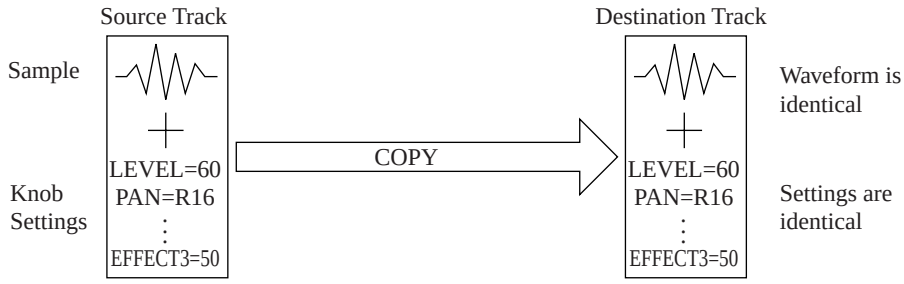
TRACK	Resamples a single track (the track's sample as adjusted by knob data).
SEQ	Generates a sample from an entire sequence (song).

RESAMPLE | TRACK
Use to: **Resample a selected sample.**

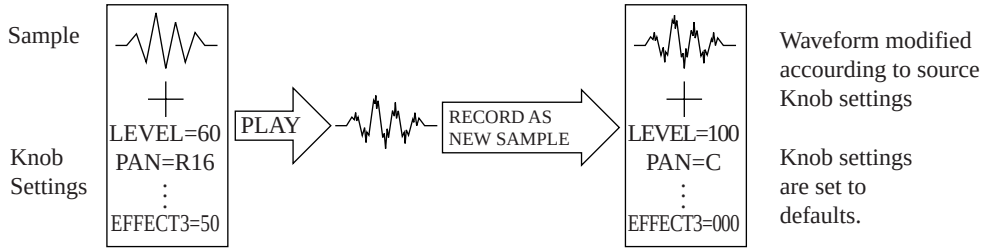
Explanation
This job records a new sample of an existing sample. The new sample will capture the sound of the source sample as modified by the source track's current knob settings. In other words, the knob settings are incorporated directly into the new waveform.

Notice the difference between this job and the TRACK COPY job. For a TRACK COPY job, the SU700 simply copies the sample waveform and the various knob settings from one track into another. For a resample job, however, the SU700 records a new sample, using as its sound source the existing sample as modified by the existing sample's knob settings.

TRACK COPY



TRACK RESAMPLE



Notice that the copy operation replicates the waveform, while the resample operation changes the waveform so as to incorporate the source track's knob settings. Following the resampling, the destination track (with its knob settings set to their defaults) will produce the same sound as the source track under its original, user-adjusted knob settings.

Note that you can use resampling to magnify knob effects to any desired degree. Suppose, for example, that you want to apply an extremely high resonance to a sample recorded on track A. To do this, you can set the track A resonance to its maximum, then resample the sound onto track B. You can then set the resonance on track B to its maximum and resample the sound back onto track A. You can repeat resampling as many times as you like so as to build the desired changes directly into the waveform.

Basic Information

- Resampling is always carried out at 44.1 kHz sampling frequency and 16-bit resolution. The new sample is always monaural. (You cannot change these sampling conditions.)
- When carrying out this job, you are prompted to set the GAIN and the L/R channel mode.
  - The GAIN setting determines the gain applied to the source waveform; positive values will produce a "louder" waveform (higher amplitude) at the destination side, while negative values produce a "quieter" waveform (lower amplitude) at the destination side. You can set the value from -12 to +12. The default gain is +00.
  - The L/R channel mode determines how the source sample's channels are handled. You can select any of three settings. Note that regardless of setting, the result is always a monaural sample.

    L+R — Resample the mix of the source sample's left and right outputs. (This is the default.)

    MONO L — Resample the source sample's left output only.

    MONO R — Resample the source sample's right output only.
- While this job is selected, the track meters operate as a two-channel horizontal level meter, just as during normal sampling recording. The meter grows to the right as the level increases, and the word CLIP appears if the level goes too high. The upper part of the level meter indicates the recording level for the right channel; the lower part of the meter indicates the level for the left channel.
- For the source track, you can use any nonempty sample track (LOOP, COMPOSED LOOP, or FREE) track, or you can use the AUDIO IN track to record direct analog audio input. If you wish to select AUDIO IN, however, the audio input source (the AUDIO IN parameter in the SYSTEM | SETUP job) must be set to MIC or LINE (→ p.302).
- For the destination track, you can use any sample track (with the exception of the source track itself).
- This job does not change any sequence data already existing on the destination track.
- When working at this job, you can listen to the sound of the source track at any time by pressing the pad. While resampling is in progress, the sound will be audible on speakers or headphone. **Note that you cannot adjust knob settings while working within this job, however; you must set the knob values before you enter the job.**
- The new sample is not associated with the destination track until you complete the resampling process (at step 10 below). Canceling the job at any time prior to completion will restore the destination track to its original state.

Procedure

1. **Before entering the job, adjust the knob values on the track you want to resample so as to get the sound that you want to capture. Play the track (hit the pad) as often as necessary while adjusting each of the knob settings as desired.**

2. **Press RESAMPLE | TRACK to enter this job.**

▼ The screen displays the gain setting and the channel mode. The initially displayed settings are the same as those you made the last time you accessed this job. (The defaults are GAIN=+00, *channels*=L+R). The gain setting is flashing, indicating that you can now change this value.

3. **Set the gain.**

Play the source track (hit the pad as often as necessary), while turning the dial to adjust the gain. In general, you want to set the gain so that the maximum level brings the meter all the way to the right side without triggering the CLIP warning.

> ***NOTE:***
> *If you are going to record from the AUDIO IN track, then hit the AUDIO IN pad to select the track. You can then supply a realtime audio signal while adjusting the gain. Remember that in order to use AUDIO IN you must first set the AUDIO IN parameter (in the SYSTEM | SETUP job) to MIC or LINE (→ p.302).*

4. **Press [▷] to move to the L/R channel mode setting, and then turn the dial to select the L/R channel mode. Then press [OK].**

▼ The screen displays **SOURCE TRACK**, prompting you to select the source track.

5. **Select the source track.**

You have probably already selected the source track when adjusting the gain at step 3 above. But if necessary, you can change the setting by pressing a bank selector and/or track pad. The bank number and meter bracket change to indicate the track selection. When you are ready, press [OK].

If you select an empty sample track, the screen displays the NO SAMPLE **message. Change the track selection, or press [CANCEL] as necessary to return to the main screen.**

6. **Press [OK].**
▼ The screen displays DEST. TRACK, prompting you to select the destination track.

7. **Select the destination track.**
You can select any sample track, with the exception of the source track itself.

8. **Press [OK].**

NOTE:
If you select a nonempty destination track, the screen displays the REPLACE SAMPLE? message, warning you that the operation will overwrite the sample already existing on the destination track. If you wish to proceed, press [OK]; otherwise press ***[CANCEL]*** *as necessary to move to a previous level or to escape from the job. Note that the existing sample on the destination track will not be lost until you reach step 10 below.*

▼ The screen displays **PRESS START/STOP**, indicating that you can begin resampling by hitting the **[SAMPLING]** button.

9. **Hit the [SAMPLING] button to begin resampling.**
▼ Resampling begins. You can hear the sound of the playback through your headphones or speakers. The screen updates the available sampling time as sampling proceeds.

NOTE:
If you are not happy with the way recording is going, you can press ***[CANCEL]*** *once to return to step 5 above, or several times to escape from the job. If a sample already exists on the destination track, that sample will not be overwritten until you proceed to step 10 below.*

10. When you reach the point where you wish to terminate resampling, hit the [SAMPLING] button once again.

NOTE:
If you allow resampling to continue until memory runs out, resampling will automatically stop and the ***MEMORY FULL*** *message will briefly appear.*

▼ Sampling stops. If the SU700 requires some time to post-process the new sample data, it may display the **WAIT...** message. When post-processing is completed, the SU700 returns you to the main screen.

RESAMPLE | SEQ

Use to: **Create a sample from a sequence (song).**

Explanation

This job plays out a sequence (song) and records the sound as a sample, placing the sample onto a selected destination track. The new sample captures the sound of the full song. But note that you can not use realtime controls while taking the sample.

Operation is analogous to taking a sample from an external multitrack recorder or sampling CD, except that in this case you are taking the sample directly from a sequence that you have already set up within the SU700 itself.

This operation is useful for capturing the sound of a fully arranged multitrack sequence onto a single destination track.

Basic Information

- Resampling is always carried out at 44.1KHz sampling frequency and 16-bit resolution. The new sample is always monaural. (You cannot change these sampling conditions.)
- When carrying out this job, you are prompted to set the GAIN and the L/R channel mode.
  - The GAIN setting determines the gain applied to the source sound; positive values will produce a "louder" waveform (higher amplitude) at the destination side, while negative values produce a "quieter" waveform (lower amplitude) at the destination side. You can set the value from -12 to +12. The default gain is +00.
  - The L/R channel mode determines how the source sample's channels are handled. You can select any of three settings. Note that regardless of setting, the result is always a monaural sample.

L+R Resample the mix of the source sample's left and right outputs. (This is the default.)
MONO L Resample the source sample's left output only.
MONO R Resample the source sample's right output only.

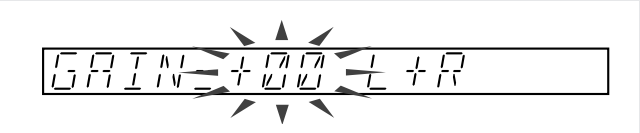
- While this job is selected, the track meters operate as a two-channel horizontal level meter, just as during normal sampling recording. The meter grows to the right as the level increases, and the word CLIP appears if the level goes too high. The upper part of the level meter indicates the recording level for the right channel; the lower part of the meter indicates the level for the left channel.
- The destination track can be any empty sample track (LOOP, COMPOSED LOOP, or FREE track). You can not record to a nonempty track, or to the AUDIO IN or MASTER track.
- Note that the destination track is associated with the same song as the replayed sequence itself. If you are resampling from Song 1, for example, the new sample is placed onto an empty track within Song 1 itself.
- The new sample is not associated with the destination track until you complete the resampling process (at step 10 below). Canceling the job at any time prior to completion will restore the destination track to its original state.
- When working at this job, you can listen to the sound of the sequence at any time by operating the sequencer controls. While resampling is in progress, the sound will be audible on speakers or headphone.

Procedure

1. **Before entering the job, set up the song to get the sound that you want to capture.**

2. **Press RESAMPLE | SEQ to enter this job.**

▼ The screen displays the gain setting and the channel mode. The initially displayed settings are the same as those you made the last time you accessed this job. (The defaults are GAIN=+00, channels=L+R). The gain setting is flashing, indicating that you can now change this value.



3. **Set the gain.**

Play the relevant section of the sequence (operate the sequence buttons so as to play the sequence over the range of measures that you want to record) while turning the dial to adjust the gain. In general, you want to set the gain so that the maximum level brings the meter all the way to the right side without triggering the CLIP warning.

4. Press [▷] to move the L/R channel mode setting, and then turn the dial to select the L/R channel mode. Then press [OK].

▼ The screen displays **SELECT TRACK**, prompting you to select the track on which you want to record the sample.

5. Select the destination track.

Select the track by pressing a bank selector and/or track pad. The bank number and meter bracket change to indicate the track selection. Remember that you must select an empty LOOP, COMPOSED LOOP, or FREE track.

NOTE:
*If you select a track that already has a sample on it, the screen displays the TRACK NOT EMPTY message. Change the track selection, or press **[CANCEL]** as necessary to return to the main screen.*

6. Press [OK].

▼ The screen displays **START SEQ**.

You now have two choices:

(1) You can begin to resample immediately from the current song position, simply by pressing the **[SAMPLING]** button; or...

(2) You can start song playback first by pressing the [▶] button. The song starts from the current position, and the screen displays **PRESS/START STOP**. Wait for the song to reach the location at which you want to start recording, and then press the **[SAMPLING]** button to begin resampling.

NOTE:
In either case you are free to adjust the song position ahead of time using the various sequencer buttons, the dial, or your preset markers. But keep in mind that some positional adjustments may cause the song to jump over important sequence causing the song to sound different from what you'd expect. To avoid this problem, you may want to allow the song to play out normally starting from the location of a recorded scene-recall event (or starting from the top of the song).

7. Begin resampling as described above.

▼ The SU700 begins resampling. The screen keeps you informed of the remaining available recording time and the current song location, and the current BPM setting.

You can hear the sound of the sequence playing back through your headphones. You are free to adjust the location or the tempo while recording is in progress, but you cannot use any of the other sound controls (knobs, etc.).

NOTE:
*If you are not happy with the way recording is going, you can press **[CANCEL]** once to return to step 4 above, or several times to escape from the job.*

8. When you reach the point where you wish to terminate sampling, hit the [SAMPLING] button or the sequencer's stop button (■).

NOTE:
*If you allow resampling to continue until memory runs out, resampling will automatically stop and the **MEMORY FULL** message will briefly appear.*

▼Sampling stops. If the SU700 requires significant time to post-process the new sample data, it may display the **WAIT...** message. When post-processing is completed, the SU700 returns you to the main screen.

10.3.7 DISK Group

Use these jobs to load data from disk, save data to disk, delete data existing on disk, format disks, and review information about disks.

What The Jobs Do

LOAD	Loads data from disk.
SAVE	Saves data to disk
DELETE	Deletes volume from SCSI disk.
UTILITY	Returns disk information; formats the disk

NOTE:
In its standard configuration, the SU700 can access the floppy drive only. If you have installed the optional SCSI board (ASIB1) board, then the SU700 can access both the floppy drive and a single mounted SCSI drive. For information about the SU700's disk storage implementation, *see page 138.*

DISK | LOAD

Use to: **Load selected data from disk.**

Use these jobs to load the selected data from disk. Three types of loading are available.

Load Volume:	Loads entire set of SU700 song data
Load Sample:	Loads a single SU700 sample.
Import:	Loads sample data created by a device other than the SU700.

<LOAD VOLUME>

This job loads all data from the selected volume into the SU700. A volume is an entire set of SU700 song data-all songs existing within the SU700 at the time the volume was saved to disk. The load restores all songs to their original song numbers. For each song, it restores all samples, all sequence data, all scene data, all marker data, all track settings, the song's name, and the song's BPM setting at the time of the save.

⚠ ***CAUTION***
Be aware that this operation overwrites all song data currently held in the SU700 memory. If the SU700 contains any song data that you wish to keep, be sure to save the data before proceeding.

NOTE:
- *Remember that a floppy disk can never hold more than a single volume. (In some cases, a single volume may extend across multiple floppy disks.) SCSI disks, in contrast, can hold multiple volumes.*
- *If a floppy disk with an SU700 volume is in the disk drive when the SU700 first comes on, the SU700 will automatically load the volume from the disk.*

Procedure

1. If you are going to load from floppy disk, insert the disk containing the volume. (If are loading a volume stored on multiple floppy disks, insert the first disk of the set.) If you are loading from an external SCSI disk, be sure that the SCSI is correctly mounted (→ p.32), and that the correct disk is inserted (if applicable).

NOTE:
SCSI drives can be used only if the optional SCSI board (ASIB1 board) is installed.

2. Press DISK | LOAD to enter this job.

3. Turn the dial as necessary to select LOAD VOLUME**, and then press [OK].**
The screen displays DRIVE=*drive_name*.

4. Turn the dial as necessary to select the disk (partition) you wish to load from.
▼ To load from floppy disk, select DRIVE=FDD. (This selection is forced if you have not mounted a SCSI drive.)
▼ To load from a SCSI disk, select DRIVE=SCSI (if the disk is unpartitioned) or DRIVE=SCSI P*x* (where *x* is the partition number).

5. After selecting the drive, press [OK].
▼ The screen shows the volume name of most recently selected volume on the selected drive: VOLUME=*volume name*. (If you are loading from floppy disk, the volume name will be FD_VOLUM.)

- If you have selected FDD or a removable-disk SCSI device and no disk is present, the screen will display NO DISK. If you have selected a disk that does not contain any volumes, the screen will display VOLUME=(NONE). In either case, press [CANCEL] as necessary to return to a previous step or to escape from the job.

6. If you are loading from a SCSI disk or partition, turn the dial as necessary to select the volume. (Remember that floppy disks hold a single volume only; if you are loading from floppy disk, therefore, you will not be able to change the selection.)

7. Press [OK] to execute the load and return to the main screen.

▼ The SU700 clears all of its internal data and begins loading all of the data from the selected volume. The screen displays LOADING... to indicate that loading is in progress. When loading is finished, the main screen appears. The screen displays the lowest-numbered nonempty song of the new volume (or Song 1, if all loaded songs are empty).

- If you are loading a volume stored on multiple floppy disks, you must insert each disk in order, then wait for the prompt to insert the next disk

  INSERT FD xx

  where xx indicates the number of the disk within the set (02, 03, ..., 99). If you insert a disk in the wrong order, the screen will prompt you again. If you like, you can cancel the load between disks by pressing the **[CANCEL]**. This will terminate the job and return you to the main screen.

- If the internal memory becomes full while loading is in progress, the SU700 displays the message MEMORY FULL, and the load is cancelled.

<LOAD SAMPLE>

This job loads a single sample (the waveform data and the start-point and end-point settings) from the selected disk volume into the selected track of the current song. The SU700 sample must have been previously saved to disk from the SU700 using the SAVE VOLUME job (→ p.287).

This operation will overwrite any sample data existing in the destination track.

Procedure

1. If you are going to load from floppy disk, insert the disk containing the sample you need. If you are loading from an external SCSI disk, be sure that the SCSI drive is correctly mounted (→ p.32), and that the correct disk is inserted (if applicable).

- You cannot load a single sample from a volume stored on multiple floppy disks. When reloading from multiple floppy disks, you must load the entire volume.

2. Press DISK | LOAD to enter this job.

3. Turn the dial as necessary to select LOAD SAMPLE**, and then press [OK].**

▼ The screen displays SELECT TRACK, prompting you to select the destination track.

4. **Press a bank selector and track pad (as necessary) to select the destination track.**
   - If you select a track that already contains a sample, the screen displays the REPLACE SAMPLE? warning message, indicating that you will overwrite the existing sample if you proceed. If you do not wish to overwrite the sample, press **[CANCEL]** once. You can then select a different destination.

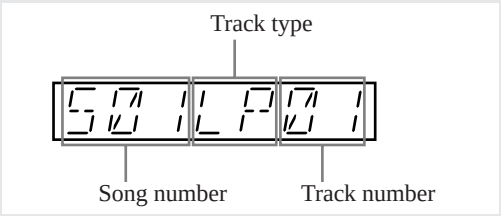
5. **Press [OK].**
   ▼ The screen displays DRIVE=*drive_name*.

6. **Turn the dial as necessary to select the disk (partition) you wish to load from.**
   - To load from floppy disk, select DRIVE=FDD. (This selection is forced if you have not mounted a SCSI drive.)
   - To load from a SCSI disk, select DRIVE=SCSI (if the disk is unpartitioned) or DRIVE=SCSI P*x* (where *x* is the partition number).

7. **After selecting the drive, press [OK].**
   ▼ The screen shows the volume name of most recently selected volume on the selected drive: VOLUME=*volume name*. (If you are loading from floppy disk, the volume name will be FD_VOLUM.)
   - If you have selected FDD or a removable-disk SCSI device and no disk is present, the screen will display NO DISK. If you have selected a disk that does not contain any volumes, the screen will display VOLUME=(NONE). In either case, press **[CANCEL]** as necessary to return to a previous step or to escape from the job.

8. **If you are loading from a SCSI drive, turn the dial as necessary to select the volume containing the sample that you want to load. (Remember that floppy disks hold a single volume only; if you are loading from floppy disk, therefore, you will not be able to change the selection.)**

9. **Press [OK].**
   ▼ The screen displays SAMPLE=*sample name*, where *sample name* is the name of the lowest numbered sample in the selected volume.
   - If the volume on disk contains no samples, the screen displays SAMPLE=(NONE). Press **[CANCEL]** as necessary to return to a previous step or to escape from the job.
   - The sample name is a seven-character string indicating the sample's song and track location at the time you saved the volume to disk. The first three characters indicate the song number (S01 to S20). The next two characters indicate the track type (LP for LOOP track, CL for COMPOSED LOOP, or FR for FREE). The final two characters indicate the track number, where 01 indicates the first track in bank 1, 02 indicates the second track in bank 1, and so on through all four banks.



10. Turn the dial as necessary to select the sample that you wish to load. Then press [OK].

▼ The SU700 displays LOADING... to indicate that loading is in progress. When loading is finished, the main screen appears.

- If internal memory becomes full while loading is in progress, the SU700 displays the message MEMORY FULL, and the load is cancelled.

<IMPORT>

This job loads a standard sample that was generated by a device other than the SU700. You can use it, for example, to load a sample that you have stored into an AIFF file on an MS-DOS-formatted floppy disk.

Operation is similar to the Load Sample job described above. The sample loads into the selected track on the SU700, overwriting any sample that already exists on that track.

Note that this operation loads the waveform data only; it does not load start and end addresses.

Procedure

1. If you are going to import from floppy disk, insert the disk containing the sample you need. If you are importing from an external SCSI disk, be sure that the SCSI drive is correctly mounted (→ p.32), and that the correct disk is inserted (if applicable).

2. Press DISK | LOAD to enter this job.

3. Turn the dial as necessary to select IMPORT**, and then press [OK].**

▼ The screen displays SELECT TRACK, prompting you to select the destination track.

4. Press a bank selector and track pad (as necessary) to select the destination track..

- If you select a track that already contains a sample, the screen displays the REPLACE SAMPLE? warning message, indicating that you will overwrite the existing sample if you proceed. If you do not wish to overwrite the sample, press **[CANCEL]** once. You can then select a different destination.

5. **Press [OK].**
▼ The screen displays DRIVE=*drive_name*.

6. **Turn the dial as necessary to select the disk (partition) you wish to import from.**
- To import from floppy disk, select DRIVE=FDD. (This selection is forced if you have not mounted a SCSI drive.)
- To import from a SCSI disk, select DRIVE=SCSI (if the disk is unpartitioned) or DRIVE=SCSI P*x* (where *x* is the partition number).

7. **After selecting the drive, press [OK].**
▼ The screen shows the volume name of most recently selected volume on the selected drive: VOLUME=*volume name*. (If you are importing from floppy disk, then the name is always FD VOLUM.)
- If you have selected FDD or a removable-disk SCSI device and no disk is present, the screen will display NO DISK. If you have selected a disk that does not contain any volumes, the screen will display VOLUME=(NONE). If you are using a foreign disk with an unsupported format, the screen displays UNKNOWN FORMAT. In any of these cases, press **[CANCEL]** as necessary to return to a previous step or to escape from the job.

8. **If you are importing from a SCSI drive, turn the dial as necessary to select the volume containing the sample that you want. (Remember that floppy disks hold a single volume only; if you are importing from floppy disk, therefore, you will not be able to change the selection).**
▼ The screen displays SAMPLE=*sample_name*, where *sample_name* is the name of one of the samples in the selected volume.
- If the volume on disk contains no samples, the screen displays NO SAMPLES. Press **[CANCEL]** as necessary to return to a previous step or to escape from the job.

9. **Turn the dial as necessary to select the sample that you wish to import, by its filename.**

10. Press [OK] to import the sample and return to the main screen.

- In some cases the displayed filename may not correspond to a supported sample. If such cases the SU700 will display UNKNOWN FORMAT when you attempt to load the file. If this occurs, press **[CANCEL]** as necessary to move back to an earlier step or to exit from the job.
- If internal memory becomes full while loading is in progress, the SU700 displays the message MEMORY FULL, and the import is cancelled.
- The filename itself is not loaded into the SU700. Within the SU700, the sample is renamed according to the SU700's naming standard: the first three characters will indicate the song number, and the next four characters will indicate the track.
- If you are importing to a LOOP track and the sample is too short or too long to meet the SU700's limits for loop generation, the screen will display CANNOT FIND LOOP and will discard the imported data. If you see this message, press **[OK]** or **[CANCEL]** to return to the main screen.

DISK | SAVE

Use to: **Save selected data from disk.**

Use these jobs to save your SU700 data to disk. Two types of saves are available.

Save Volume:	Saves all SU700 song data into a volume on disk.
Export:	Saves a selected sample as an AIFF file onto floppy disk.

<SAVE VOLUME>

This job saves all SU700 song data from SU700 internal memory into the selected disk volume. You will typically want to execute this kind of save before switching SU700 power off-since the SU700 loses all internal song data when power goes off. Loading the volume at a later time will restore all of the SU700 song memory to its current state.

For each song, the following information is saved: the song number, the song name, the BPM setting, all track settings, all sequence data, all scene data, and all marker data.

Note that this job does not save system settings stored in nonvolatile memory.

Be aware that if you save data to a floppy disk, the save operation will overwrite all files already stored in that disk. If you save to an existing volume on a SCSI disk or partition, the operation will overwrite any data already stored in that disk volume.

Procedure

1. If you are going to save to floppy disk, insert a floppy disk. Be sure that the disk contains no data that you need. (If you think the volume will not fit on a single disk, have additional disks ready.) If you are saving to an external SCSI disk, be sure that the SCSI drive is correctly mounted (→ p.32), and that a disk is inserted (if applicable).

> ***NOTE:***
> *SCSI drives can be used only if the optional SCSI board (ASIB1 board) is installed.*

2. Press DISK | SAVE to enter this job.

3. Turn the dial as necessary to select SAVE VOLUME**, and then press [OK].**
▼ The screen displays DRIVE=*drive_name*.

4. Turn the dial as necessary to select the disk (partition) you wish to save to.
- To save to floppy disk, select DRIVE=FDD. (This selection is forced if you have not mounted a SCSI drive.)
- To save to a SCSI disk, select DRIVE=SCSI (if the disk is unpartitioned) or DRIVE=SCSI P*x* (where *x* is the partition number).

Subsequent operation then depends on whether you are saving to floppy disk or SCSI disk, as follows.

If saving to a floppy disk

5. Press [OK].
▼ Operation now depends on whether you have placed a valid disk in the drive, as follows.

- **If the disk in the drive is empty and has a valid MS-DOS format**, the screen displays VOLUME=FD VOLUM. This is the volume name that is automatically assigned to floppy disks. To proceed with the save, simply press **[OK]**. The SU700 begins saving as described in step 6 below.
- **If the disk in the drive has a valid format but contains one or more files**, the screen displays OK TO CLEAR ALL?, warning you that the save operation will overwrite all data in the disk. If you wish to proceed, press **[OK]**. The SU700 will display EXECUTING... as it erases the disk, then briefly display VOLUME=FD VOLUM, and then begins saving as described in Step 6 below.
  If you do not wish to proceed when you see the OK TO CLEAR ALL? message, press **[CANCEL]** once (the screen displays CHANGE DISK), then change the disk and press **[OK]**, and proceed again from the top of step 5. (Or else press **[CANCEL]** twice to abort the job.)

- **If the disk in the drive is unformatted (or has a non-MS-DOS format):** the FORMAT NOW? message appears. If you wish to format the disk, press **[OK]**. (Keep in mind that this will destroy any data already on the disk.) The SU700 will detect whether the disk is 2HD-type or 2DD-type and will format it accordingly. When formatting is completed, the SU700 automatically begins saving as described in step 6 below.
- **If no disk is present in the drive**, the screen will display NO DISK. Insert a disk, then press **[OK]** and proceed again from the top of step 5 (Or else press **[CANCEL]** as necessary to move back to a previous step or quit the job.) When the save is completed, the display returns to the main screen. (If the data doesn't fit on a single disk, you will need to continue on another disk. See step 6 below.)
- **If a disk is present but is write-protected**, the WRITE PROTECTED message appears. Remove the disk, release the write-protect tab (or change to a different, unprotected disk), insert the disk, and then press **[OK]** and proceed again from the top of step 5. (If you press **[CANCEL]** instead, the SU700 will display the CHANGE DISK message. In this case, too, you can simply unprotect and reinsert the disk, or else insert a different disk, and then press **[OK]** to continue.)

6. If the volume will fit on a single disk, the SU700 displays SAVING as it saves the data. When saving is completed, the SU700 returns you to the main screen.

▼ If the volume will not fit on a single disk, the SU700 displays SAVING FD01 as it saves the data into the first disk. When the disk becomes full, the SU700 displays the CHANGE DISK message. Remove the disk, then insert another empty disk and press **[OK]** to proceed with the save. The SU700 will now display SAVING FD02. Continue as necessary until the volume has been saved.

- Although you cannot cancel the save while the SU700 is writing to disk, you are free to cancel whenever the CHANGE DISK message appears. Note that if you cancel during a multi-disk save, you will not be able to reload the saved data.

If saving to a SCSI disk

5. Press [OK].

▼ The screen displays VOLUME=*volume_name*, prompting you to select the volume into which you want to save your data.

6. Turn the dial to select the disk volume into which you want to save your data.

- If you wish to create a new volume for the save, turn the dial to select VOLUME=NEW VOLM. (This selection is forced if the disk does not yet have any volumes on it.)
- If you wish to save into an existing disk volume, turn the dial to select the volume by its name.

> ***IMPORTANT***
> ***If you save into an existing disk volume, all data already stored in that volume will be lost.***

To save into an existing disk volume

7. After selecting the volume by name, press [OK].

▼ The SU700 displays the OK TO CLEAR ALL? message, warning you that the save operation will overwrite any data already existing in the disk volume.

- If you decide that you do not want to overwrite the existing volume, press **[CANCEL]** as necessary to move back to a previous step or to exit from the job.

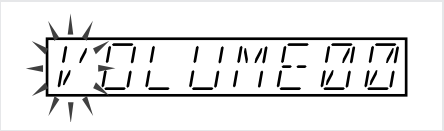
8. To proceed with the overwrite, press [OK].

▼ The SU700 begins saving the data into the existing volume. The screen displays SAVING... to indicate that saving is in progress. When the save is finished, the job terminates and the main screen returns.

To create and save into a new volume

7. After selecting VOLUME=NEW VOLM, press [OK].

▼ The screen displays the following name template.



8. Edit the name to something more appropriate.

- Use ◁ or ▷ to move the cursor to each character position at which you want to delete, insert, or change a character. (The character at that position flashes to indicate that it is selected.) To delete the selected character, press NAME/**[DELETE]** (on the Editing Function panel). To insert a space character, press NAME/**[INSERT]**. To change the character, turn the dial.

9. When you have finished editing the name, press [OK] to execute the save.

▼ If you have entered a unique name, the SU700 begins saving the data into the existing volume. The screen displays SAVING... to indicate that saving is in progress. When saving is finished, the job terminates and the main screen returns.

- If the name you have entered matches the name of an existing disk volume, the screen displays the OVERWRITE? message-asking you if you wish to overwrite the existing volume. In this case you will probably want to press **[CANCEL]** to return to the name-editing screen, where you can adjust the name so that it is unique. If you are absolutely sure you want to overwrite, however, you can press **[OK]** to continue. Note that this will destroy any data already existing in the selected disk volume.
- If you attempt to create a new volume when there are already 128 volumes on the disk, the screen will display TOO MANY VOLUMES. In this case you must press **[OK]** or **[CANCEL]** to terminate the job. Remember that you can always use the DISK | DELETE job to delete unnecessary volumes on disk.

<EXPORT>

This job saves the selected sample as an AIFF file into floppy disk. Once you have exported the sample, you can move it to any of the many machines that recognize this format.

- The SU700 can export to a single floppy disk only. It cannot export onto multiple floppy disks or onto SCSI disks.

Procedure

1. **Insert a floppy disk into the floppy-disk drive.**

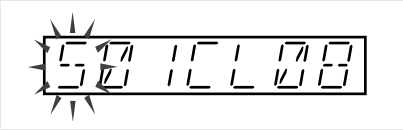
2. **Press DISK | SAVE to enter this job.**

3. **Turn the dial as necessary to select** EXPORT**, and then press [OK].**
   ▼ The screen displays SELECT TRACK, prompting you to select the track containing the sample you wish to export.

4. **Press a bank selector and track pad (as necessary) to select the track.**
   ▼ The bank number and meter bracket move to indicate the track selection. (A double line must appear at the center of the bracket, indicating that the track contains a sample.)
   - If you select an empty track, the screen displays the NO SAMPLE message. If you wish to proceed, press another bank selector and/or track pad to select a nonempty track. If you wish to quit, press **[CANCEL]** as necessary to return to the main screen.

5. **Press [OK].**
   - If the sample is too large for a floppy disk, the SU700 immediately displays the message SAMPLE TOO LARGE. Press **[CANCEL]** as necessary to return to the main screen.
   - If no disk is present in the drive, the screen will display NO DISK. Insert a disk, then press **[OK]** and proceed again from the top of step 5 (Or else press **[CANCEL]** as necessary to move back to a previous step or quit the job.)

   ▼ The screen displays the sample's internal name (a seven-character name, where the first three characters give the song number, the next two characters give the track type, and the final two characters indicate the track number). The first character of the name is flashing, indicating that you are now free to edit the name to be used for the AIFF file.



If you wish to edit the name, press ◁ or ▷ to move the cursor to each character position at which you want to delete, insert, or change a character. (The character at that position flashes to indicate that it is selected.) To delete the selected character, press NAME/**[DELETE]** (on the Editing Function panel). To insert a space character, press NAME/**[INSERT]**. To change the character, turn the dial.

- To ensure compatibility with MS-DOS standards, the SU700 will remove any empty space characters from the name before saving the file to disk. The SU700 will automatically append an ".AIF" file extension to the filename.

6. Press [OK] to execute the export.

▼ If there are no problems (see below), the SU700 displays SAVING... and exports the sample. When export is completed, the job terminates and the main screen reappears.

- If the disk becomes full during the export, the SU700 will display DISK FULL and abort the operation.

▼ In the event of an invalid disk or a name duplication, processing is as follows.

- If a file with the same name already exists on disk, the SU700 will display the OVERWRITE? warning message before carrying out the save. Press **[OK]** to proceed (overwriting the existing file), or press **[CANCEL]** to move back one step, so that you can change the name.
- If the disk in the drive is unformatted (or has a non-MS-DOS format): the FORMAT NOW? message appears. If you wish to format the disk, press **[OK]**. (Keep in mind that this will destroy any data already on the disk.) The SU700 will detect whether the disk is 2HD-type or 2DD-type and will format it accordingly. When formatting is completed, the SU700 will automatically proceed to export the sample.
- If a disk is present but is write-protected, the WRITE PROTECTED message appears. Remove the disk, release the write-protect tab (or change to a different, unprotected disk), insert the disk, and then press **[OK]** and proceed again from the top of step 6. (Or else you can cancel the operation by pressing either **[CANCEL]** or **[OK]**.)

DISK | DELETE

Use to: **Delete an entire volume on external SCSI disk. This job is effective only if you have installed the optional SCSI board (ASIB1 board).**

Procedure

1. **Be sure that the SCSI drive is correctly mounted (→ p.32), and that the correct disk is inserted (if applicable).**

2. **Press DISK | DELETE to enter this job.**
   ▼ The screen shows DISK=SCSI (if your SCSI disk is not partitioned) or DISK=SCSI P*x* (if your SCSI disk includes multiple partitions; where *x* is a partition number).

3. **If you have multiple partitions on your SCSI disk, turn the dial to select the partition containing the volume you want to delete.**

4. **Press [OK].**
   ▼ The screen shows the volume name of one of the volumes on the selected disk (partition): VOLUME=*volum_name*.

5. **Turn the dial as necessary to select the volume you wish to delete. Then press [OK] to execute the deletion.**
   ▼ The screen displays ARE YOU SURE?, giving you one last chance to change your mind. If you do not wish to proceed, press **[CANCEL]** as necessary to move back to a previous step or to escape from the job.

6. **Press [OK] to delete the volume.**
   ▼ The SU700 deletes the volume, and returns you to the main screen.

DISK | UTILITY

Use to: **Format a disk or to find remaining capacity on a disk. Two job types are available.**

DISK INFO	Shows remaining capacity on disk (or SCSI partition)
DISK FORMAT	Formats a disk (or a SCSI partition)

<DISK INFO>

Use this job to find the remaining memory capacity of a floppy disk or SCSI disk or partition. Note that SCSI information is available only if you have installed the optional SCSI board (ASIB1 board) and have correctly mounted a SCSI device (→ p.32).

Procedure

1. **Press DISK | UTILITY to enter this job. Then turn the dial as necessary to select DISK INFO, and press [OK].**
   ▼ The SU700 displays DRIVE =*drive_name*.

2. **Turn the dial to select the disk or partition you are interested in. Selections are as follows.**

   FDD Floppy disk.
   SCSI SCSI disk. (This selection appears only if the mounted SCSI disk is not partitioned [or to be more precise, contains exactly 1 partition]).
   SCSI P*x* SCSI disk partition (where x is the number of an existing partition).

3. **Press [OK].**
   ▼ The screen displays *xxxx.xxx*B LEFT, indicating the amount of memory remaining on the selected disk or partition.

4. **If you wish to review the memory on other devices, press [CANCEL] once and return to Step 3. If you are ready to return to the main screen, press [OK].**

<DISK FORMAT>

Use these jobs to format a floppy disk, a SCSI disk, or a selected SCSI partition. Note that SCSI operations are available only if you have installed the optional SCSI board (ASIB1 board) and have correctly mounted a SCSI device (→ p.32). **Note that all format operations will destroy all information on the disk or partition.**
Specifically, the following format jobs are available.

FD FORMAT	Formats a floppy disk into MS-DOS compatible format. This job will delete any data already stored on the floppy disk.
SCSI QUICK FMT	Logically reformats a SCSI disk into as many as eight partitions. Use this job when you want to reformat a SCSI disk that you have already formatted using the SCSI FORMAT job (see directly below). You cannot use this job if the target disk is completely unformatted or if it was formatted by a device other than the SU700. Since this job generates a logical format only, it executes relatively quickly. This job will delete any data already stored on the disk.
SCSI FORMAT	Formats a SCSI disk into as many as eight partitions. This job generates both the physical format and the logical format, and therefore may take several minutes to execute. You *must* use this job if you are formatting a SCSI disk that has not yet been formatted at the SU700. This job will delete any data already stored on the disk.

PARTITION FMT — Physically reformats an existing SCSI partition. This is a logical format only, and executes rather quickly. This job will delete any data already stored on the selected partition, but will not affect data stored on other partitions.

FD FORMAT (Format a floppy disk.)

This job formats a 2HD or 2DD floppy disk.

Procedure

1. **Insert a floppy disk into the floppy-disk drive.**
2. **Press DISK | UTILITY to enter this job. Then turn the dial as necessary to select** DISK FORMAT**, and press [OK].**
3. **Turn the dial to select** FD FORMAT**, and press [OK].**
   ▼ The SU700 displays FD TYPE=*xxx* (where *xxx* is either 2HD or 2DD).
4. **Turn the dial as necessary to select the format type: either 2HD (1.44MB format) or 2DD (720KB format).**
   ▼ Be sure that your type selection matches the type indicated on the disk. Use of incorrect type (for example, using a 2HD format on a 2DD disk) may result in an unstable disk format that may eventually fail.
5. **Press [OK].**
   ▼ The SU700 displays the ARE YOU SURE? confirmation message. If you do not wish to continue, press **[CANCEL]** several times to return to the main screen.
6. **Press [OK] again to begin the format.**
   ▼ The SU700displays EXECUTING... to indicate that formatting is in progress, then returns you to the main screen when formatting is completed.

SCSI QUICK FMT (Reformat an SU700-formatted SCSI disk)
SCSI FORMAT (Format a SCSI disk)

The SCSI QUICK FMT job rapidly reformats a SCSI disk. This job generates a logical format only. You can use this job only if working on a disk that you have already formatted at the SU700. If you are working with a new disk, or with a disk that was originally formatted at a different machine, you must use the SCSI FORMAT job instead.

The SCSI FORMAT job carries out both physical and logical formatting of the SCSI disk. If you are using a new SCSI disk or a disk that was formatted elsewhere, you need to carry out this procedure to enable the disk to be used with the SU700. Note that the formatting operation itself may take several minutes.

When running either of these jobs, you can select anywhere from 1 to 8 partitions. You cannot select the partition size: the SU700 will automatically generate equal-sized partitions.

> ***IMPORTANT***
> ***SCSI disks formatted at the SU700 cannot be accessed by other devices.***

Procedure

1. **Be sure that the SCSI device is correctly mounted (→ p.32). If the device uses removable disks, be sure that you have inserted the disk that you want to format.**

2. **Press DISK | UTILITY to enter this job. Then turn the dial as necessary to select** DISK FORMAT**, and press [OK].**

3. **Turn the dial to select** SCSI QUICK FMT **or** SCSI FORMAT**, and press [OK].**
   ▼ The SU700 displays PARTITIONS=*x* (where *x* is a value from 1 to 8).

   - If you have not installed the optional SCSI board (ASIB1 board), nothing will happen when you press **[OK]**. In this case you should press **[CANCEL]** as necessary to return to the main screen.

4. **Turn the dial to select the number of partitions you wish to use (1 to 8).**
   The SU700 will automatically divide the disk into the specified number of partitions, allocating equivalent size for each partition.

5. **Press [OK].**
   ▼ The SU700 displays the ARE YOU SURE? confirmation message. If you do not wish to continue, press **[CANCEL]** several times to return to the main screen.

6. **Press [OK] again to begin the format.**
   ▼ The SU700 displays EXECUTING... to indicate that formatting is in progress, then returns you to the main screen when formatting is completed.

   - If the SCSI disk is not correctly mounted, the SU700 will display the message SCSI DRV NOT RDY. In this case, press **[OK]** or **[CANCEL]** to return to the main screen. Then check the SCSI drive setup.

PARTITION FMT (Reformat a SCSI disk partition)

This job reformats a selected partition on the SCSI disk, deleting any information contained in that partition. This job has no effect on information in other partitions. Note that you cannot use this job to add or delete partitions: if you wish to change the number of partitions on the disk, you must use either the SCSI QUICK FMT job or the SCSI FORMAT job.

Procedure

1. **Be sure that the SCSI device is correctly mounted (→ p.32). If the device uses removable disks, be sure that you have inserted the disk that you want to format.**

2. **Press DISK | UTILITY to enter this job. Then turn the dial as necessary to select** DISK FORMAT**, and press [OK].**

3. **Turn the dial to select** PARTITION FMT**, and press [OK].**
   ▼ The SU700 displays PARTITION=P*x* (where x is the number of an existing partition.)

> ***NOTE:***
> *If you have not installed the optional SCSI board (ASIB1 board), nothing will happen when you press **[OK]**. In this case you should press **[CANCEL]** as necessary to return to the main screen.*

4. **Turn the dial to select the partition that you wish to format (**P1 **to** P*y*, **where** P*y* **is the highest existing partition on the disk).**

5. **Press [OK].**
   ▼ The SU700 displays the ARE YOU SURE? confirmation message. If you do not wish to continue, press **[CANCEL]** several times to return to the main screen.

6. **Press [OK] again to begin the format.**
   ▼ The SU700 displays EXECUTING... to indicate that formatting is in progress, then returns you to the main screen when formatting is completed.

> ***NOTE:***
> *If the SCSI disk is not correctly mounted, the SU700 will display the message SCSI DRV NOT RDY. In this case, press **[OK]** or **[CANCEL]** to return to the main screen. Then check the SCSI drive setup.*

10.3.8 SYSTEM Group

Use these jobs to set various system and MIDI parameters and to view remaining sequence memory and sampling time.

What The Jobs Do

SETUP	Selects the ribbon function, and sets the metronome, the recording countdown, the recording mode, the pad sensitivity, and the audio-input type.
MIDI	Sets the various MIDI parameters.
SCSI	Sets SCSI IDs (local ID and remote ID).
MEMORY	Shows remaining sample and sequence memory.

SYSTEM | SETUP

Use to: **Make various system settings.**

- **These settings are stored in nonvolatile memory, and are not lost at power-off.**
- These settings are common to all songs.
- Changes that you make on these screens become effective immediately.
- The following jobs are available.

METRONOME	Sets up the metronome.
COUNTDOWN	Sets the countdown (number of lead-in measures) for song recording.
REC MODE	Selects the mode used to record songs (either “overdub” or “replace”).
PAD SENS	Sets pad velocity sensitivity on or off.
AUDIO IN	Selects the audio input source.
RIBBON FUNCTION	Selects the function to be controlled by the ribbon.

<METRONOME>

Use this job to set up operation of the metronome. The CLICK parameter selects the conditions under which metronome sound is produced, and the OUT parameter selects the output destination for the metronome sound.

CLICK = OFF	Metronome is always off. (No metronome click.) This is the factory default setting.
REC	Metronome click is produced only during song recording.
REC/PLAY	Metronome click is produced during both song recording and song playback.

OUT = STEREO {AS 1, AS 2,..., AS 6, AS 1+2, AS 3+4, AS 5+6}

where STEREO directs the sound to the standard stereo outputs, and AS *x* directs the sound to the corresponding assignable output. The factory default setting is STEREO. Note that the AS *x* settings are available only if the optional AIEB1 board is installed. Note also that it is not possible to direct the metronome sound to the AIEB1 board's digital outputs.

Procedure

1. Press SYSTEM | SETUP to enter this job. Then turn the dial as necessary to select METRONOME, and press [OK].

▼ The screen now looks something like this.

Current "click" setting — Indicates that there is another page.

2. Turn the dial as necessary to select the desired CLICK setting.

3. Press the ▷ button to move to the OUT parameter display screen.

4. Turn the dial as necessary to set the OUT parameter.

If you have not installed the AIEB1 board, the OUT value is fixed at STEREO.

5. Press [OK] to return to the main screen, or press [CANCEL] to move back one level.

<COUNTDOWN>

Use this job to set the number of lead-in measures provided when you begin song recording. Settings are as follows. The factory default setting is 02.

00 No lead-in measures. Recording begins immediately when you press the ▶ button to start recording.

01 One lead-in measure. When you press the ▶ button to start recording, the SU700 moves the MEASURE count one measure back from the current position and gives you a 1-measure lead-in before beginning actual recording.

02 Two lead-in measures. When you press the ▶ button to start recording, the SU700 moves the MEASURE count two measures back from the current position and gives you a 2-measure lead-in before beginning actual recording.

If you have set metronome click to REC or REC/PLAY, the metronome click will begin playing immediately (at the start of the lead-in period).

Procedure

1. **Press SYSTEM | SETUP to enter this job. Then turn the dial as necessary to select COUNTDOWN, and press [OK].**
2. **Turn the dial to set the value to 00, 01, or 02.**
3. **Press [OK] to return to the main screen, or press [CANCEL] to move back one level.**

<REC MODE>

Use this job to set the recording method for song recording. Two modes are available, as follows. The factory default setting is REPLACE.

REPLACE	Entry of a event during a recording pass automatically deletes any events of the same type that were recorded during previous passes. Deletion is track-specific (events only cause deletion of events on the same track) and is limited to the area of the recording pass (see explanation below).
OVERDUB	Newly recorded events are added to previously recorded events.

Supplementary Explanation of Replace Mode

Each knob function and each pad function is recognized as a separate event type. Ribbon scratch and scene-recall are also separate event types.

As an example of operation, assume that you previously recorded a 20 measure song (measures 001:1 to 020:4). The song includes a COMPOSED LOOP track with recorded knob-level events, knob-pan events, and note events. It also includes some scene-recall events (which are always stored on the MASTER track).

Assume that you now record a new pass over measures 1 to 10 of this song, and during this pass you enter one knob-level event and one note-event on the COMPOSED LOOP track, and you also enter one scene-recall. The result is as follows.

- The new knob-level event causes deletion of all previous knob-level events over measures 1 to 10 of the track.
- The new note-event causes deletion of all note events recorded on measures of 1 to 10 of the track. Since this is a COMPOSED LOOP track, this deletion changes the loop phrase itself.
- The new scene-recall event causes deletion of all previous scene-recall events over measures 1 to 10. (This is because all scene-recall events are stored on the same track-the MASTER track.)
- All previously recorded knob-pan events remain unchanged (since you did not record any new events of this type.)
- All events previously recorded on measures 10 to 20 remain unchanged.

Procedure

1. **Press SYSTEM | SETUP to enter this job. Then turn the dial as necessary to select REC MODE, and press [OK].**
2. **Turn the dial to set the mode to** OVERDUB **or** REPLACE**.**
3. **Press [OK] to return to the main screen, or press [CANCEL] to move back one level.**

<PAD SENS>
Sets pad velocity sensitivity ON or OFF. The factory default is ON.

This setting applies to COMPOSED LOOP and FREE tracks only. If you set the sensitivity ON, then the loudness produced by striking a pad (when pad function = PLAY or ROLL) will vary according to the force with which you hit the pad: stronger force will a louder sound. If you set the sensitivity OFF, then the loudness will be the same regardless of the force you use to hit the pad.

Supplementary Explanation
Velocity is a standard MIDI parameter that indicates the force used to play a note. Velocity values range from 0 to 127, where 127 indicates maximum force. Higher velocity values typically produce a louder sound.

On the SU700, each time you hit a pad to play a note during song recording, the SU700 records both a Note On event (indicating the start location of the note) and a velocity value (indicating the force of the note). If PAD SENS=ON, then the velocity values will vary according to the force you used to hit the pads. If PAD SENS=OFF, then all velocity values will be set to 127.

Remember that after you have recorded a song you can always go back and adjust the velocity values as necessary using the EVENT EDIT | LOCATION & VALUE job (→ p.246).

Procedure

1. **Press SYSTEM | SETUP to enter this job. Then turn the dial as necessary to select PAD SENS, and press [OK].**
2. **Turn the dial to desired setting, either** ON **or** OFF**.**
3. **Press [OK] to return to the main screen, or press [CANCEL] to move back one level.**

<AUDIO IN>

This job selects the source for the audio input signal used for recording and for the AUDIO IN track. Available settings are as follows. The factory default setting is LINE.

LINE	Line-level analog input supplied to the L and/or R analog input jacks on the rear panel. Use this setting when supplying line-level input.
MIC	Microphone-level input supplied to the L and/or R analog input jacks on the rear panel. Use this setting when supplying sound through a microphone.
OPTICAL	Optical signal supplied to the AIEB1 board's OPTICAL (fiber-cable) connector. This setting is available only if the optional AEIB1 board is installed. (See Note below.)
DIGITAL	Optical signal supplied to the AIEB1 board's DIGITAL (coaxial) connector. This setting is available only if the optional AEIB1 board is installed. (See Note below.)
OFF	The SU700 does not accept realtime audio input from any source. (During sample-recording mode, the SU700 will accept LINE input.)

NOTE:
The OPTICAL and DIGITAL inputs can only be used for recording of samples. ***They cannot be used as the source for the AUDIO IN track.*** *If you set the source to OPTICAL or DIGITAL, therefore, the SU700 will not accept realtime AUDIO IN input.*

Procedure

1. **Press SYSTEM | SETUP to enter this job. Then turn the dial as necessary to select AUDIO IN, and press [OK].**
2. **Turn the dial to select the desired value.**
3. **Press [OK] to return to the main screen, or press [CANCEL] to move back one level.**

<RIBBON FUNCTION>

This job selects the function controlled by the ribbon controller.

You can set the ribbon to control any one of the 17 settings indicated below. With the exception of the SCRATCH setting (which must be made using the dial), you can make the setting either by turning the dial or by pressing the appropriate knob-functionbutton.

For general information about the ribbon controller and the SCRATCH effect, refer to page 173. For a detailed description of each of the knob functions, refer to Chapter 8, "Knob Functions," on page 193.

Available settings are as follows. The factory default setting is SCRATCH. (Where the name displayed on the screen differs from the button name, the button name is shown in parentheses).

LEVEL, PAN, PITCH, ATTACK, RELEASE, SAMPLE LNGTH ([LENGTH]), LFO SPEED ([SPEED]), LFO AMP DPTH ([AMP]), LFO FIL DPTH ([FILTER]), LFO PIT DPTH (LFO/[PITCH]), EQ HI GAIN ([HI GAIN]), EQ LO GAIN ([LO GAIN]), FILTR CUTOFF ([CUTOFF]), RESONANCE, EFFECT 1, EFFECT 2, EFFECT 3, SCRATCH

Procedure

1. **Press SYSTEM | SETUP to enter this job. Then turn the dial as necessary to select RIBBON FUNCTION, and press [OK].**
2. **Turn the dial or press the appropriate knob function button to make your selection.**
3. **Press [OK] to return to the main screen, or press [CANCEL] to move back one level.**

SYSTEM | MIDI

Use to: **Set the MIDI parameters for each song.**

- The following jobs are provided.

SYNC	Sets the synchronization type.
CHANNELS	Sets the MIDI Receive and Transmit channel for each track.
CONTROL NUMBERS	Sets the MIDI control number for each knob function.

<SYNC>

Use this job to set the MIDI synchronization type. Three settings are available, as follows. The factory default setting is INTERNAL.

SYNC=INTERNAL	The SU700 uses its internal clock to control song-play timing. It outputs the clock signal through the MIDI OUT terminal, so that the signal can be used to synchronize external devices.
EXTERNAL	The SU700 controls song-play timing in accordance with an external clock signal supplied to the SU700's MIDI IN terminal by an external MIDI device. The SU700 does not output any clock signal.
MTC SLAVE	The SU700 controls song-play timing in accordance with MTC (MIDI time code) supplied to the SU700's MIDI IN terminal by an external MIDI device. The SU700 does not recognize any other incoming messages when this setting is in effect. (Note that you can set an MTC time offset to adjust timing with respect to the incoming time code (→ 230).

NOTE:
If you set the value to EXTERNAL or MTC SLAVE, the sequencer will operate only if the corresponding synchronization signal is being received.

Procedure

Be sure that you have selected the song whose synchronization you want to set.

1. **Press SYSTEM | MIDI to enter this job. Then turn the dial as necessary to select SYNC, and press [OK].**
2. **Turn the dial to set the SYNC parameter, the press [OK].**
3. **Turn the dial to select the setting.**
4. **Press [OK] to return to the main screen, or press [CANCEL] to move back one level.**

<CHANNELS>

Use this job to set the MIDI channel settings for each sample track (each LOOP, COMPOSED LOOP, and FREE track). Note that you can not make channel settings for the AUDIO IN and MASTER tracks.

Specifically, for each track you can set a Receive channel (RECEIVE), a Transmit channel (TRANS), and the note number to be transmitted over the Transmit channel. The factory default settings are OFF, OFF, and C3, respectively.

RECEIVE= 1,..,16, OFF

This parameter sets the MIDI channel that drives the selected track. The track will only respond to messages received over the MIDI channel you select here. If you set the value to OFF, the track will not respond to any MIDI channel messages (Note On messages, Control Change messages, etc.).

You cannot assign a RECEIVE channel number more than once: each channel number 1 to 16 can be selected for a maximum of one track only. This means that it is not possible to assign RECEIVE channels for more than 16 of the 40 sample tracks (where each of these 16 tracks must take a different channel number).

TRANS = 1,...,16, OFF

This parameter sets the MIDI channel over which the track sends MIDI messages (Control Change messages, Note On and Note Off messages, etc.). If you set the value to OFF, the track will not transmit any MIDI channel messages. You can set channel values for all 40 sample tracks; there are no restrictions on channel duplication.

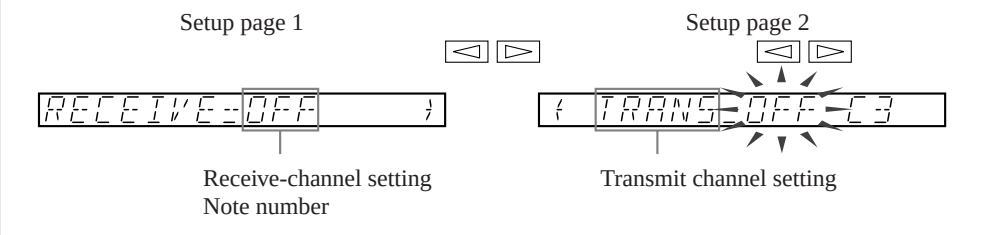
(Note) = Assigns the note number used when transmitting MIDI messages generated by the track. This setting lets you use each track to drive a given note on an external device. (Typically, you would use this setting to arrange pads so that they drive different drum sounds in an external a drum kit.) Note that this setting is effective only for MIDI transmission, and not for reception. The note value is sent over the track's Transmit channel. The setting is meaningless if the track's TRANS setting is OFF.

Procedure

Be sure that you have selected the song whose MIDI values you want to set.

1. **Press SYSTEM | MIDI to enter this job. Then turn the dial as necessary to select CHANNELS, and press [OK].**

▼ Notice that you can now move among the three parameters by pressing the ◁ and ▷ buttons.



2. **Set the parameter values for each track you are interested in.**

▼ Use bank selectors and track pads as necessary to select each track.

▼ Use the ◁ and ▷ to select the parameter you wish to set.

▼ Use the dial to set the parameter value.

NOTE:
For the TRANS channel-number setting, the job will not allow you to select numbers that are already in use on other channels.

3. **When you are finished making settings, press [OK] to return to the main screen, or [CANCEL] to move back one level in the job.**

<CONTROL NUMBERS>

Use this job to set the MIDI controller number (control-change number) associated with each knob function. Specifically, the settings you make here determine (a) the outgoing control-change messages generated by SU700 knob action, and (b) the functions controlled by incoming control-change messages received from an external MIDI device.

As an example, suppose that the LEVEL function is set to 007. (Note that 007 is the standard MIDI controller number for the "main volume" control-change message.) In this case, then, any time you turn a knob that is assigned to the LEVEL function, the SU700 will transmit a 007 control-change message over the track's MIDI Transmit channel (assuming that such a channel is set), thereby changing the main volume at the external device. In addition, any incoming 007 control-change message will change the level on the track (if any) whose MIDI Receive channel matches the channel on which the message is received.

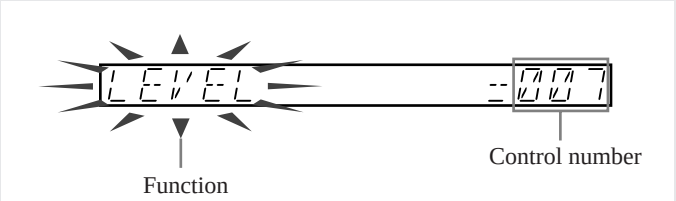
You can set controller numbers for the 17 functions listed along the left below. The values at right are the defaults; available values are OFF, 001,...,095. Note that all numerical settings must be unique; the SU700 will not allow you to set the same number for multiple parameters.

LEVEL	007
PAN	010
PITCH	OFF
ATTACK	073
RELEASE	072
SAMPLE LNGTH	OFF
LFO SPEED	OFF
LFO AMP DPTH	OFF
LFO FIL DPTH	OFF
LFO PIT DPTH	01
EQ HI GAIN	OFF
EQ LO GAIN	OFF
FILTR CUTOFF	074
RESONANCE	071
EFFECT 1	OFF
EFFECT 2	OFF
EFFECT 3	OFF

Procedure

Be sure that you have selected the song whose MIDI values you want to set.

1. **Press SYSTEM | MIDI to enter this job. Then turn the dial as necessary to select CONTROL NUMBERS, and press [OK].**
   ▼ The screen now looks something like this.



2. **The left side of the screen selects the function; the right side assigns the control number for the function. Move from right side to the left side as necessary by pressing [◁] and [▷] buttons (the selected side will blink on the screen). Use the dial or knob function buttons to change the function (on the left side), and use the dial to set the number (on the right side).**

3. **Press [OK] to return to the main screen, or press [CANCEL] to move back one level.**

SYSTEM | SCSI

Use to: **Set the SCSI ID for the SU700 and for the connected SCSI drive.**

This job can be selected only if you have installed the optional SCSI board (ASIB1 board). The settings are stored in nonvolatile memory, and are restored at next power-on.

Note that all devices connected to a SCSI chain must have unique IDs. Be sure to set appropriate, nonmatching IDs on all your interconnected devices.

The job lets you set the following two parameters.

DRIVE= 0,...,7 Set this value to the SCSI ID of the external SCSI drive you wish to access from the SU700. The setting must match the ID setting made at the SCSI device itself. If your configuration includes multiple external devices, you can use this setting to switch among different SCSI drives. (Note that the SU700 can only access one SCSI device at a time.)
The factory default ID is 5. The setting you make here becomes effective immediately. The setting is stored in nonvolatile memory and is not lost at power-off.

SU700= 0,...,7 Sets the SCSI ID of the SU700 itself. The factory default is 6. A change in the setting does not become effective until you restart the SU700. (If you change the value, the job will offer you the chance to restart immediately.) This setting is stored in nonvolatile memory and is not lost at power off.

- All devices connected to a SCSI chain require IDs. Although the SU700 ID is not used to support communication directly with the SU700, it is required to enable other devices on the chain (computers, samplers, etc.) to communicate with one another.

Procedure

1. Press SYSTEM | SCSI to enter this job.

NOTE:
This job will execute only if you have installed the optional SCSI board (ASIB1 board) .

▼ The DRIVE= and SU700= settings appear. The DRIVE setting is flashing, indicating that you can now set this value.

2. Turn the dial as necessary to set the SCSI ID for the external drive.

3. Press the ▷ button to move to the SU700 setting.
▼ The SU700 settings is now flashing.

4. Turn the dial as necessary to set the SCSI ID for the SU700.
If necessary, you can move back and forth between the two settings by pressing ◁ and ▷.

5. Press [OK] or [CANCEL].
▼ A new DRIVE setting becomes effective immediately. If the SU700 setting has not been changed, the job terminates and the main screen appears.
If you have changed the SU700 setting, the screen displays RESTART? Press **[OK]** if you want to restart the SU700 immediately (so that the new SU700 ID setting becomes effective immediately.) Press **[CANCEL]** if you do not wish to restart; in this case, the SU700 will record the new ID setting, but will not activate it until the next power-on.

⚠ CAUTION
Restarting the SU700 will cause loss of all song data currently stored in the SU700.

SYSTEM | MEMORY

Use to: **Check the percentage of free sample/song memory or sequencer memory.**

Use this job to get a estimate of the amount of memory remaining for new samples or for new sequence data. You can view information about two types of memory, as follows.

Sample & Song Memory:	This memory stores the samples (the waveform data) and sequence data for all songs.
Sequencer Memory:	This is the memory that stores the sequence data (note events, pad events, and so on) for the current song. The content is replaced each time you change the song selection.

Procedure

1. **Press SYSTEM | MEMORY to enter this job.**

▼ The screen displays MEMORY for several seconds, and then displays either SAMPLE-SONG MEM or SEQUENCE MEMORY (depending on which of these were viewed most recently).

2. **Turn the dial as necessary to select the memory type you wish to view (either sample/song memory or sequencing memory). Then press [OK].**

▼ The screen displays the amount of remaining memory, by percent.

3. **Press [OK] or [CANCEL] to return to the main screen.**

Appendix

CONTENTS

Installing the Options

This Appendix explains how to install the following SU700 options:
- *Expansion memory (SIMMs)*
- *Expansion I/O board ("AIEB1" board)*
- *SCSI board ("ASIB1" board)*

> ***IMPORTANT***
> *Please read the safety information on the next page carefully before carrying out installation work.*
> *If you are installing more than one option at this time, please follow the sequence given in this Appendix (SIMMs first, then AIEB1, then ASIB1).*

1. Safety Information

⚠ ***WARNING***

Failure to observe the following warnings may lead to fatality or serious injury from fire or electric shock.

- ***Do not attempt to disassemble or modify boards or SIMMs. Do not apply excessive force to connectors or other components. (Damage to components may lead to shock, fire hazard, or equipment failure.)***
- ***Be sure to disconnect the power cable from the SU700 before carrying out installation work (to eliminate shock hazard).***

⚠ ***CAUTION***

Failure to observe the following precautions may lead to personal injury, or may result in damage to equipment or other property.

- *Be sure to disconnect all devices from the SU700 before beginning work.*
- *Be careful to avoid touching the metal connector pins on expansion boards and SIMMs. (Pins are sharp and may cause hand cuts.)*
- *Boards and SIMMs are electrostatic-sensitive. Before handling these components, you should briefly touch the SU700's metal casing with your hand to drain static charge from your body.*
- *Take care to avoid dropping screws into the SU700 during work. If a screw falls in, be sure to remove it before reassembling and powering up the SU700. Starting the SU700 with a loose screw inside may lead to improper operation or to equipment failure.*

NOTE:

Improper handling of an expansion board or SIMM may void the warranties for both the option and the SU700 itself. Yamaha assumes no responsibility for data loss, equipment damage, or injury caused by inappropriate handling or usage.

2. Opening and Closing the SU700

Before you can install an option, you need to open the SU700 by lifting and flipping over its top cover. When you have completed installation, you will need to reattach the cover.

Flipping the Cover

1. **Be sure that you have the following items on hand.**

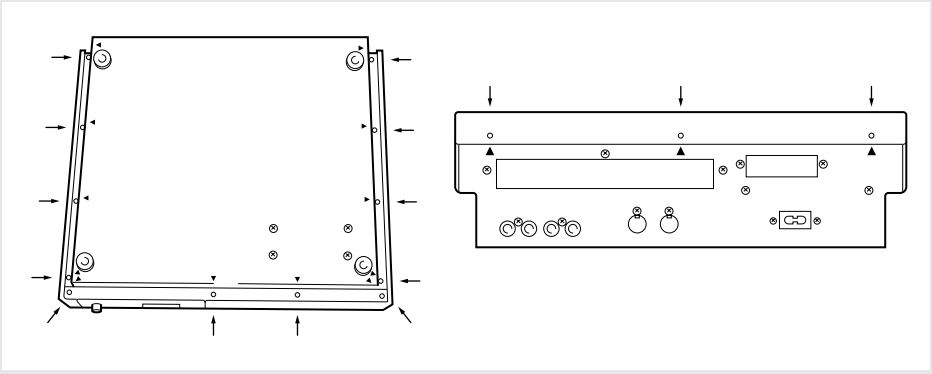
- SU700
- The option(s) that you plan to install
- Phillips screwdriver (preferably with magnetic tip)
- Stable work surface (workbench or table)
- Cloth or other soft material placed on the work surface, to protect the SU700 (and the work surface itself) from damage.

2. **Be sure that the SU700 power switch is in OFF position, and that all cables have been disconnected from the SU700 jacks and external connectors.**

3. **Remove the 15 screws holding the top cover in place (12 screws along the bottom, and 3 smaller screws along the back rim). The screws are indicated by arrow marks printed on the unit.**

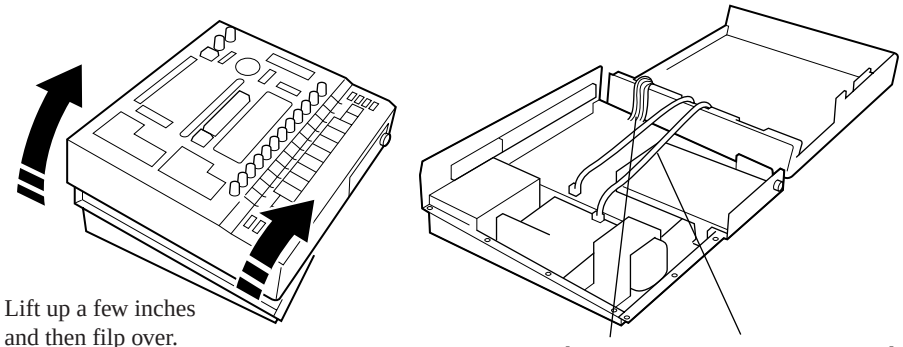
Turn the SU700 upside down, and set it down softly on the cloth laid out on the work surface. Using the screwdriver, remove the 12 screws along the perimeter. Then turn the unit right side up again, slide it so that its rear side is facing toward you, and remove the 3 screws along the back rim of the cover.

Keep the screws in a safe place, as you will need to reinsert them when you have finished the installation. (Keep the 12 larger screws separate from the 3 smaller screws.)



4. Separate the top cover from the lower unit.
Slide the SU700 around so it is facing you (its normal orientation). Grasp the left and right sides of the cover, and lift the cover slightly (about 2 inches) to free it from the lower unit. Then carefully bring the left side of the cover up and over, and lay the cover upside-down along the right side of the lower unit.

> ***IMPORTANT***
> *Be careful not to disturb the cables running between the top cover and the lower unit; these cables should remain connected during the entire installation procedure.*



5. You are now ready to install your option(s). Turn to the appropriate page for further instructions. (If you are installing more than one option, please proceed in the given order.)
▼ SIMMs ..... Page 316
▼ AIEB1 board ..... Page 319
▼ ASIB1 board ..... Page 323

6. When you have finished the installation, replace the top cover as described below.

Closing the Cover

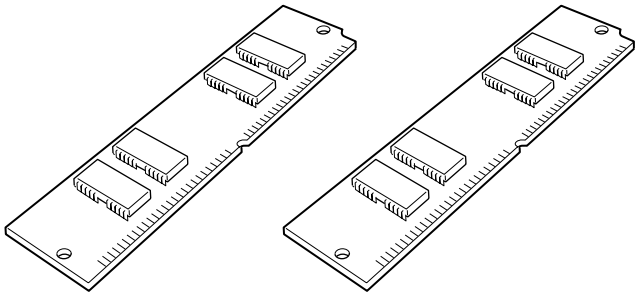
1. Carefully flip the cover over again and place it back in its original position, taking care to keep all cable connections undisturbed.
Proceed slowly and carefully, making sure that cables running between the cover and the lower unit remain connected, and that the cables fall into proper position within the unit. Be sure that cables do not become caught between the top cover and the lower unit.
After setting the cover back in place, confirm that it fits correctly, and that the empty screw holes are in good alignment.

2. Replace the 3 small screws along the back rim of the cover.

3. **Turn the SU700 upside down, and screw in the 12 larger screws along the bottom perimeter.**

4. **Turn the SU700 right side up again.**

3. Installing SIMMs



You can increase the SU700 memory capacity by installing commercially available SIMMs (single in-line memory modules).

IMPORTANT

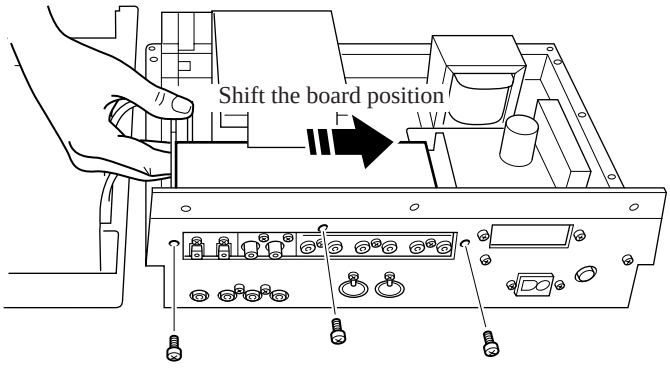
- *The SU700 comes standard with 4MB of (non-SIMM) memory, and can accept up to 64MB of SIMM expansion memory. (Maximum accessible memory space is 68MB.)*
- *You may install 4MB, 8MB, 16MB, or 32MB SIMMs. SIMMs are sold in pairs, and you must install both SIMMs in the pair. (The two SIMMs must have the same size and ratings.)*
- *You need to use 72-pin SIMMs with access time of 70ns or less. The SU700 is designed for use with 32-bit SIMMs, but can also accept 36-bit (parity-type) SIMMs.*
- *If you are also installing an AIEB1 board at this time, please be sure that you install the SIMMs before you install the AIEB1 board.*

Preparation

1. **Make sure that you have your two SIMMs ready to install.**
   Note that SIMMs are extremely sensitive to electrostatic discharge. Please touch the SU700 case with your hand (to remove electrostatic buildup from your body) before you handle the SIMMs.

2. **If you have not yet done so, unfasten and lift off the top cover as described in "Flipping the Cover" on page 314 above.**

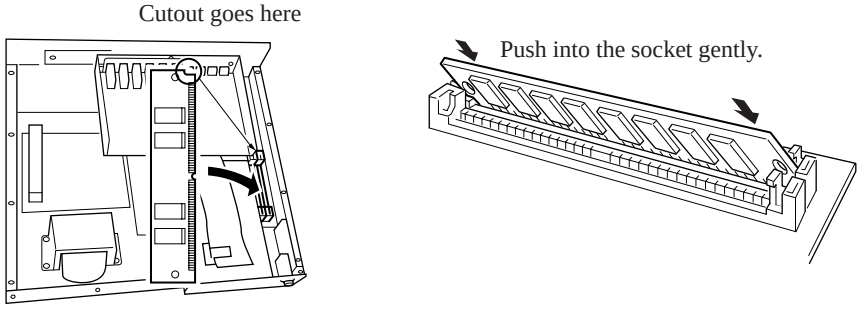
3. Only if an optional AIEB1 board is already installed.
If you have already installed the optional AIEB1 board (I/O board), you will need to push the board out of the way to gain access to the SIMM sockets. To do this, lean over to the rear side of the unit and remove the three screws holding the board in place. Then shift the position of the board, within the lower unit, as necessary to gain access to the sockets.



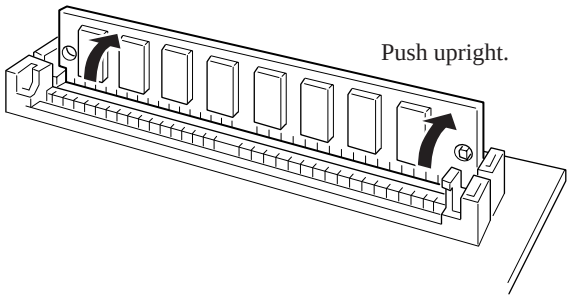
Installation

1. Install one of the SIMMs into the memory socket closest to the side.
You must always install into the side socket first (the socket closest to the right side of the SU700).
Hold the SIMM so that the cutout side is facing down and toward the rear of the SU700. Set the SIMM into the socket at an angle, as shown in Figure (1) below. Then push the SIMM in the direction shown in Figure (2) so that it becomes upright and the hooks snap into place.

(1)



(2)

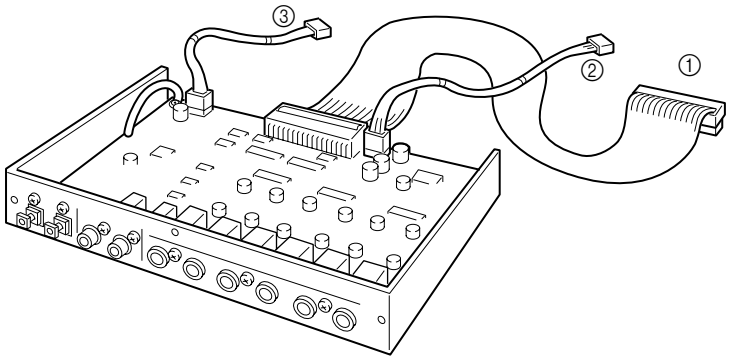


2. Insert the remaining SIMM into the remaining socket.
Again, set the SIMM into the socket at an angle (with the cutout facing down and toward the rear), and then push it upright so that it locks into place.

NOTE:
If for some reason you should need to remove a SIMM from its socket:
Hold open the two hooks on the socket (one at each end) and push on the SIMM so that it moves in the opposite angle from that shown in Figure (2) above. Then pull the SIMM out.

3. SIMM installation is now completed.
If you moved a previously installed AIEB1 board out of the way to gain access to the sockets, move it back into position and refasten it now. (See Step 3 on the preceding page.)
If you need to install a new AIEB1 board or an ASIB1 board, refer to the appropriate procedure on the following pages.
If you are finished with installation, replace and refasten the cover, as described in "Closing the Cover" on page 315 above.

4. Installing the AIEB1 Board



The optional AIEB1 Input/Output expansion board adds digital I/O (both optical and coaxial formats) and six assignable outputs to the SU700.

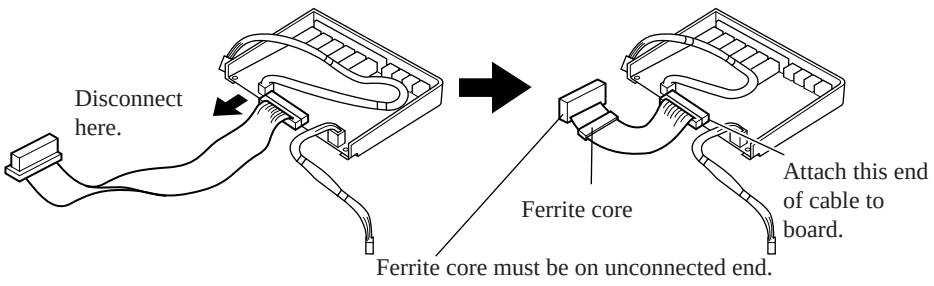
Preparation

1. **The SU700 package includes a short flat cable and a short round 3-wire cable specially designed for use with the AIEB1 board. Be sure that you have these cables on hand.** Note that one end of the short flat cable is "banded" (has a bulging ferrite core near the connector), while the other end has no band.

2. **Remove the AIEB1 board from its package, and check that three cables are attached.** The board ships with three attached cables, as illustrated above.
   ① Long flat cable
   ② Long round 3-wire cable
   ③ Round 4-wire cable

3. **Disconnect the long flat cable and the long round 3-wire cable from the board, and store or discard them. Note the location of the board connectors to which these cables were attached.**
   These cables are not appropriate for use in the SU700.

4. **Connect the non-banded end of the short flat cable (described in Step 1 above) to the now-empty flat-cable connector on the board (connector "CN2").**
   Be sure to connect the non-banded end, leaving the banded end free.



Connect short flat cable and short 3-wire cable (supplied with the SU700 package) here.

5. **Connect one end of the short 3-wire cable (described in Step 1) to the now-empty 3-pin connector on the board (connector "CN3").**

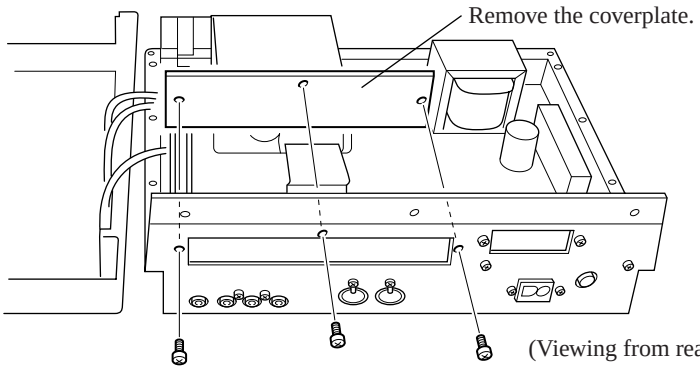
6. **If you have not yet done so, unfasten and lift off the top cover as described in "Flipping the Cover" on page 314 above. Also be sure that you have a Phillips screwdriver at hand.**

7. **Only if an optional ASIB1 board is already installed...**
If you have already installed an optional ASIB1 (SCSI) board, you should temporarily unhook the ASIB1 flat cable from the plastic fastener on the FDD, so that you can work freely with the AIEB1 flat cable. When you are finished installing the AIEB1, you can set the ASIB1 cable back through the fastener-so that it runs over and then under the plastic flap (and above the AEIB1 flat cable) as it moves from the board to the SU700 connector. (See page 325).

Installation

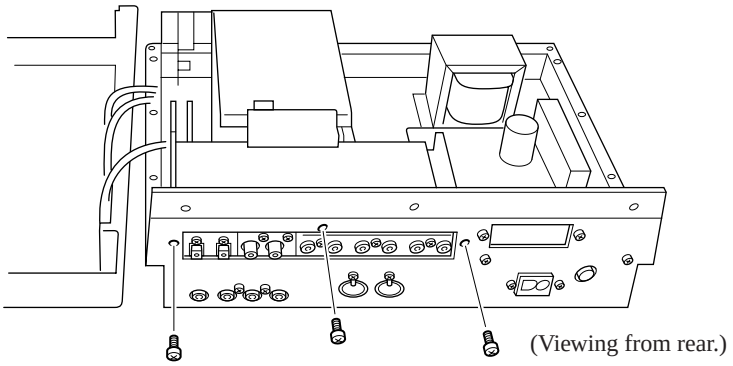
IMPORTANT
Please remember that if you are also installing SIMMs at this time, you must install the SIMMs before you install the AIEB1.

1. **Remove the three screws holding the long coverplate to the rear panel. Take the coverplate out.**
Keep the three screws handy; you will need them in a minute. You will not need the coverplate again unless you decide to remove the expansion board.



2. Fasten the board into the SU700.

Hold the board so that it fits against the open slot along the rear panel (where the coverplate was). Fasten it to the rear panel by screwing in the three screws you removed in Step 1.

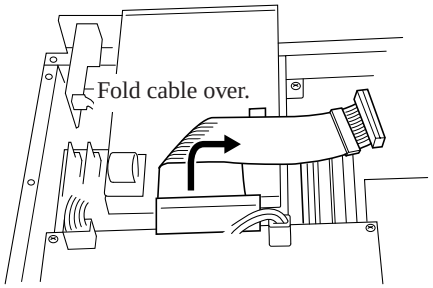


(Viewing from rear.)

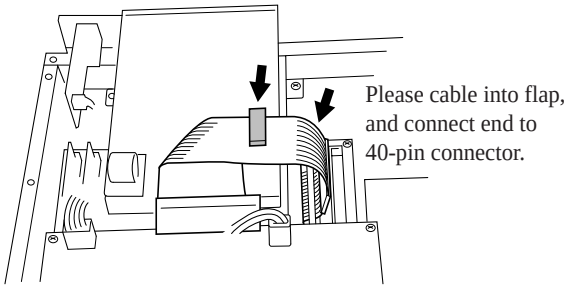
3. Arrange the flat cable so that it passes through the vertical flap on the FD drive, and connect the free end to the black 40-pin connector ("CN4") located next to the FD drive.

Pull the cable toward the front of the SU700, then fold it 90 degrees over and to the left and pass it through the vertical plastic flap mounted on the top left of the FD drive (viewing from the front of the SU700). Connect the end of the cable to the 40-pin connector ("CN4") on the main board. The connectors are notched to ensure that you connect in the right direction.

Fold the cable gently, using a rounded fold. Do not press down strongly to get a sharp fold, as this may damage the internal wiring.



(Viewing from rear.)

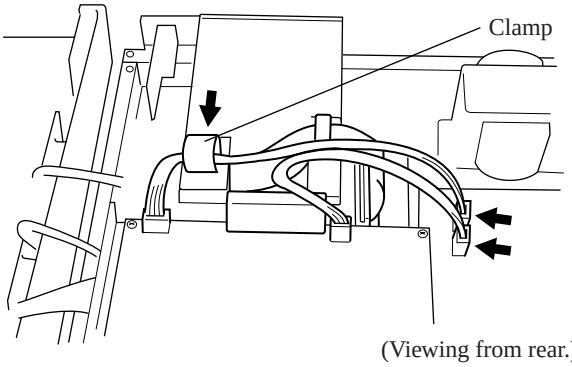


(Viewing from rear.)

4. Connect the free end of the 3-wire cable to the 3-pin connector ("CN6") on the brown board.

5. Connect the free end of the 4-wire cable to the 4-pin connector ("CN5") on the brown board, and pass the cable through the clamp mounted on the corner of the FD drive.

Open the clamp, set the cable inside it, and then close it so that it snaps shut.

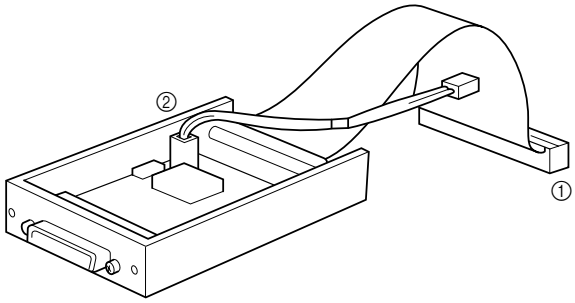


(Viewing from rear.)

6. If you are finished with installation, replace and refasten the cover, as described in "Closing the Cover" on page 315 above.

NOTE:
Once the board is installed, the SU700 should display the message IO BOARD FOUND each time it starts up.

5. Installing the ASIB1 Board



The optional ASIB1 board (SCSI board) allows the SU700 to connect to external SCSI storage devices such as hard drives and MO drives so that you can save and reload large quantities of data quickly and conveniently.

NOTE: *The SU700's factory-default SCSI ID settings are as follows.*
- *SU700 SCSI ID: 6*
- *External device ID: 5*

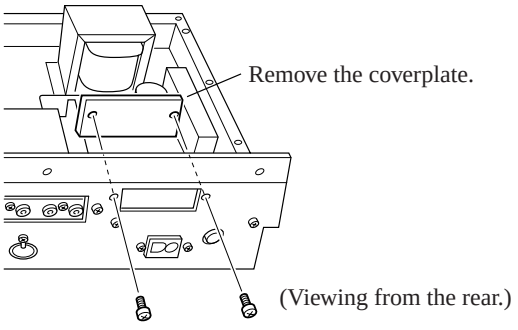
Preparation

1. **Check that the ASIB1 board has both of its cables attached.**
The board should have two bundled cables extending from it, as shown in the illustration above.
① Flat cable, extending from rear center.
② A red/white 2-wire cable.

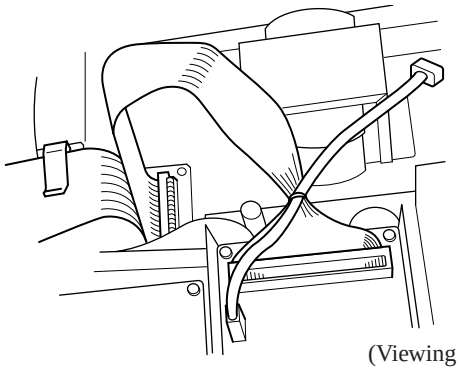
2. **If you have not yet done so, unfasten and lift off the top cover as described in "Flipping the Cover" on page 314 above. Also be sure that you have a Phillips screwdriver at hand.**

Installation

1. **Remove the two screws holding the small coverplate to the rear panel. Take the coverplate out.**
Keep the two screws handy; you will need them in a minute. You will not need the coverplate again unless you decide to remove the board.

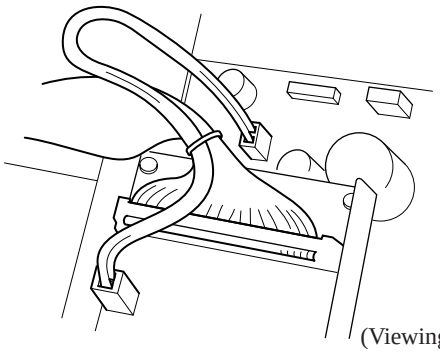


2. Connect up the flat cable.
Connect the free end of the flat cable into the corresponding CN2 in the SU700 (the long black 50-pin connector). The connectors are notched to ensure that you connect in the right direction.



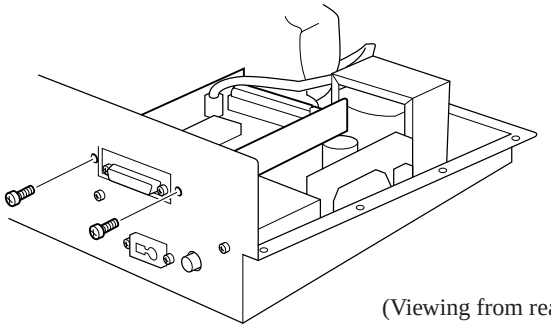
(Viewing from rear.)

3. Connect up the 2-wire cable.
Connect the cable to the 2-pin connector (labeled "CN7 TO SCSI") on the brown board inside the SU700. Note that the cable can attach to the connector in one direction only. Make sure that the direction is correct, and do not try to force the connection.



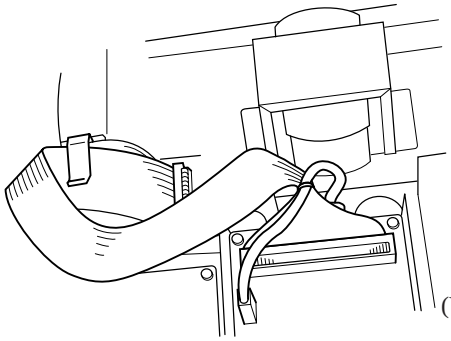
(Viewing from rear.)

4. Fasten the board into the SU700.
Hold the board so that its SCSI connector fits through the open slot along the rear panel (where the coverplate was). Fasten the board to the rear panel by screwing in the two screws you removed in Step 1.



(Viewing from rear.)

5. Arrange the flat cable so that it passes through the nearest plastic fastener on the FD drive.
You want to arrange the cable so that it moves over and then under the fastener on its way from the ASIB1 board to the SU700 connector. The fastener keeps the cable firmly in place so that it can not interfere with the SU700 internals. (Note that if you also install an AIEB1 board, then the flat cable from that board will also pass through this fastener-underneath the flat cable from the ASIB1 board.)



(Viewing from rear.)

6. Be sure that the TERM switch (termination switch) on the ASIB1 board is set to ON.

NOTE:
When you connect up a SCSI device, you must also set that device's terminator ON. (If connecting up multiple devices, you must switch on the terminator for the final device in the chain.)

7. Replace and refasten the cover, as described in "Closing the Cover" on page 315 above.

NOTE:
Once the board is installed, the SU700 should display the message SCSI BOARD FOUND each time it starts up.

Specifications

1. Sequencer

Memory	Approx. 32,000 notes (no backup)
Tempo (BPM)	40.0 to 299.9 (Accurate to 1 decimal place)
Recording Method	Realtime
Synchronization	Internal, MIDI sync, MTC slave
Tracks	42 tracks (10 sample tracks/bank × 4 banks; plus one AUDIO IN track and one MASTER track)
Songs	Holds up to 20 songs.

2. Tone Generator Section

Tone generation method	AWM2
Maximum polyphony	64
Data formats	16-bit linear, 8-bit linear
Signal processing	Stereo sampling supported. A/D 18-bit D/A 18-bit
Sampling frequencies	If analog input: 44.1, 22.05, or 11.025 kHz (Results can be monitored at any frequency prior to recording.) If digital or optical input: 48.0 or 32.0 kHz
Sampling wave memory:	4MB RAM (standard)
Sampling time (with standard 4MB RAM)	At 44.1 kHz, stereo, 16-bit res.: 22.3 sec. At 22.05 kHz, mono, 16-bit res.: 89.3 sec. At 11.025 kHz, mono, 8-bit res.: 357.2 sec.
Effect types	43
Multi-effector	Can apply up to three effects at once. Can be applied directly to analog input.

3. Data Storage

Internal drive	Floppy drive (accepts 2HD [1.44MB] and 2DD [720KB] disks)

4. User Interface

Display	Custom 4-color flourescent (FL) display 16-alphanumeric display area; segment display area; custom display area
Pads	12 pads (8 pads are touch [velocity] sensitive)
Knobs	12 rotary-encoder knobs (non-click type)
Ribbon controller	1

5. Connection Terminals

Line Out	L/MONO and R (standard jacks)
Line/Mic In	L and R (standard jacks)
Headphones	Stereo jack (High output level)
MIDI	MIDI IN and MIDI OUT
AC inlet	

6. Power Ratings

US:	120V, 30W
Europe:	220V to 240V, 30W
UK	220V to 240V, 30W

7. Dimensions

363(w) × 310 (d) × 115 (h) [mm]
14.3(w) × 12.2 (d) × 4.5 (h) [inches]

8. Weight

6.0 kg [13.2 lb]

9. Included Accessories

User's manual, power cord, CD (SU700 Sampling Audio), floppy disk (with demo song); 40-pin flat cable and 3-wire cable for use with optional AIEB1 board (I/O expansion board)

10. Options

Wave memory	Maximum 68MB, installed as paired modules of 4MB, 8MB, 16MB, or 32MB capacity. [FAST PAGE/EDO; with or without parity. ECC is not supported.]
SCSI	Accepts SCSI interface board. Board enables connection to Yamaha-approved external SCSI drives.
Expansion I/O	Option board includes SPDIF digital IN/OUT, optical IN/OUT, six "assignable" analog output jacks

SU700 Usage Hints

How can I change rhythm patterns in the middle of a song?

- Use different mute combinations to switch LOOP and COMPOSED LOOP track groupings on and off.
- Record mute switching directly into the song (as sequence data).
- Store different mute combinations into scenes. Then record appropriate scene-recall events into the song.

  Example:
  Assume that you want to use LOOP 1, CL (COMPOSED LOOP=CL) 1, and CL2 tracks to produce rhythm pattern A, and LOOP 2, CL3, and CL4 tracks to produce rhythm pattern B.

  - First, switch LOOP 1, CL1, and CL2 mutes OFF and switch LOOP 2, CL3, and CL4 mutes ON, and store the results into scene [A].
  - Next, switch LOOP 1, CL1, and CL2 mutes ON and switch LOOP 2, CL3, and CL4 mutes OFF, and store the results into scene [B].

  (**Also**: If you want a particular pattern to start up when you playing the song from the top, then store that pattern into the TOP scene.)

I want to switch between two different loop phrases (composed loops) using the same basic sound (the same sample) but with different note patterns and loop lengths.

1. Record the sample onto one of the COMPOSED LOOP tracks and record the first loop phrase. Also set the appropriate loop length.
2. Copy the results from the first COMPOSED LOOP into a second COMPOSED LOOP track (using the TRACK | COPY job).
3. Mute the first track and record the loop phrase for the second track. Also set the appropriate loop length.
4. You can now use mute actions to switch between the two patterns.

My LOOP-track loop doesn't sound quite right., because…

- **There's noise at the slices.**
  Try using a shorter loop length. (If this results in empty gaps in the playback, try increasing the release (SOUND/[RELEASE] knob function) to fill in the gaps.)
- **I'm losing the attack part (snare sound or initial drum impact) at the top of the loop.**
  Shift the start points and end points back (toward the top of the sample) by the same amount.
- **The sound is overlapping.**
- **The loop doesn't match the rhythm from other tracks or from the metronome.**
  Shift the start points and end points forward or backward as necessary.

I want to adjust the content of an existing scene.

1. Recall the scene.
2. Make the required adjustments.
3. Store the scene back into the same location (the same scene button).

Changing the scene abruptly cuts off the current effect sounds (reverb, delay, etc.). Effects set up within the new scene take a while to become audible.

- It may take the SU700 a few moments to switch the effects. Avoid changing the scene while reverb or other prolonged effect sound is still audible.
- After changing the setup, wait a few moments before playing tracks that depend on the new effects.

How can I quickly select a track for solo play?

Switch the mute on for the MASTER track (so that all tracks are muted), then switch the mute off on the track you want to use for solo play.

How can I get good centering on realtime audio input supplied through a microphone (or other single-channel connection)?

Apply a mono-input insertion effect.

Examples:

- Use the ROTARY effect, with DEPTH=0, LOW GAIN=0, HI GAIN=0, LEVEL=70.
- Use the AUTO PAN effect, with L/R DEPTH=0, F/R DEPTH=0, LEVEL=127.

I want to set up pads so that I can use them to play different notes (pitches) of the same "instrument."

- Use the TRACK EDIT | TRACK COPY job to copy the same sample onto consecutive tracks, and adjust pitch settings so that the pitch increases as you move from one pad to the next.

Example:

1. Record (or load) an appropriate bass sample onto the first FREE track (FREE 1).
2. Press SOUND/[PITCH] on the Knob Function panel, and adjust the PITCH value to get the first sound in your scale. (Example: PITCH=00)
3. Copy the sample from on FREE 1 onto each of the other FREE tracks in the bank (FREE 2, 3, and 4).
4. Set a higher PITCH value on FREE 2. (Perhaps PITCH=20).
5. Set an even higher PITCH value on FREE 3. (Perhaps PITCH=25).
6. Set a still higher PITCH value on FREE 4. (Perhaps PITCH=35).

The sequencer doesn't start playback or recording when I press the ▶ button.

- The SU700 will not respond to the ▶ button if you have set it to work with external synchronization. To restore local control, set the SYNC value (in the SYSTEM | MIDI job) to INTERNAL.

How can I get good distortion sounds?

- Apply distortion-type effects (such as DISTORTION and AMP SIM).
- If you want to build distortion directly into a sample: First set the effects to get the distortion you want, and then resample the result onto another track.
- Using the SAMPLE | PROCESS/NORMALIZE job, normalize the sample to a value greater than 100%.

I'd like to get a rougher, lo-fi sound:

- Apply an appropriate lo-fi effect (such as LO RESO or ATK LOFI).
- Use resampling to capture the sound of lo-fi effects directly into a sample.
- Use the SAMPLE | PROCESS/BIT CONVERT or FREQ CONVERT jobs to reduce the sample resolution or sampling frequency.

I notice that the JOB/[KNOB RESET] button changes the sound more than I expected.

You may have been using a filter type other than LPF.

I'm running out of sample memory.

- Try saving you data to floppy disk and then reloading it.
- Use the SAMPLE | PROCESS/TRIM job to delete the unused leading and trailing ends from your samples.
- Use the SAMPLE | PROCESS/STEREO TO MONO job to convert stereo samples to mono.
- Use the SAMPLE | PROCESS/FREQ CONVERT or BIT CONVERT job to reduce sample resolution or sampling frequency on some or all of your current samples.

I want the sample to continue playing even after I release the pad.(The track contains a snare sound; I want the entire sound to play out even if I touch the pad only briefly.)

- Set a high release value (using the SOUND/[RELEASE] knob function.

The track's playback volume is too low even though the LEVEL setting is at its maximum.

- You probably set the gain too low when recording the sample.
- Use the SAMPLE | PROCESS/NORMALIZE job to increase the sample's volume.

I recorded some note-on and note-off events into the song, but the events are not reproduced during playback.

- You tried recording events over recorded ribbon scratch action.
  The SU700 ignores note events that occur while a scratch event is in progress. When recording songs, do not record note events and ribbon scratch events on the same area of the track.

Error Messages

SIMM CONFIG ERR	Installed SIMM configuration is not supported.
TOO MANY VOLUMES	Tried to create more than 128 volumes on a single SCSI partition. (Maximum is 128 volumes per partition.)
NO DISK	No disk present in floppy drive or in removable-disk SCSI drive; or SCSI drive's power is off.
UNKNOWN DISK	Disk is not formatted, or format is not recognized by the SU700.
NOT SU700 DISK	Disk not formatted for use with the SU700.
BAD DISK	SU700 unable to access disk.
WRITE PROTECTED	Disk's write protection tab is switched on.
CANNOT WRITE	Unable to write to disk.
DISK FULL	Disk has no remaining free capacity.
SAMPLE TOO LARGE	Sample is too large to fit on floppy disk. (Occurs only when attempting to export a sample.)
NO VOLUME	Volume not present on disk.
FILE NOT FOUND	Specified file not found on disk.
ILLEGAL FORMAT	File type not recognized by SU700.
ILLEGAL FILE	File is corrupted.
NAME EXISTS	Attempted to assign a name that is already in use.
OPERATION FAILED	Attempted operation failed.
SCSI DRV NOT RDY	SCSI drive not ready to be accessed.
TRACKS FULL	All sample tracks contain samples. (No empty sample tracks remaining.)
BUFFER FULL	MIDI receive buffer is full. (SU700 received more MIDI data than it can handle.)
MEMORY FULL	No more available sequence memory or sampling memory.
CANNOT FIND LOOP	Recorded sample is too long or too short for loop generation.

TOO LONG	Sample is too long.
TOO SHORT	Sample is too short.
DIG-IN UNPLUGGED	Digital or optical cable not connected or improperly connected; or digital device's power is off.
DIG-IN PARITY ER	Unable to receive digital or optical signal. (Check the connection and try again.)
EFFECT OVERFLOW	Too much effect data. (SU700 unable to fully process the effect data.)
NO SAMPLE	Empty sample track selected for sample editing or as destination for EVENT COPY job.
NO EVENTS	No events available for editing.
IMPOSSIBLE	Requested waveform processing is not possible.

Effect Type List

Display	Effect Name	Mode*	BPM sync*	Description
TECHMOD	TECH MODULATION	INS	FREE	Adds a unique feeling of modulation similar to ring modulation.
AUTOSYN	AUTO SYNTH	INS	SYNC	Processes the input signal into a synthesizer-type sound.
SCRATCH	DIGITAL SCRATCH	INS	SYNC	Adds a scratch sound to the input signal.
JUMP	JUMP	INS	FREE	Cuts apart the input signal and applies extreme modulation to the playback order or speed.
PITCH1	PITCH CHANGE 1	INS	FREE	Changes the pitch of the input signal.
PITCH2	PITCH CHANGE 2	INS	FREE	Changes the pitch of the input signal.
VCECNCL	VOICE CANCELER	INS	FREE	Attenuates the vocal part of a CD or other source.
AMBIENC	AMBIENCE	INS	FREE	Blurs the stereo positioning of the sound to add spatial width.
LO RESO	LOW RESOLUTION	INS	FREE	Simulates a lowered resolution for the input signal. The phase of the Rch can be inverted.
NOISY	NOISY	INS	FREE	Adds a feeling of noise to the input signal.
ATKLOFI	ATTACK LOFI	INS	SYNC	Creates a somewhat LoFi feeling, and emphasizes the attack of the sound. Also has the feel of a flanger.
RADIO	RADIO	INS	FREE	Simulates a radio.
TURNTBL	DIGITAL TURNTABLE	INS	FREE	Simulates the noise of an analog record.
DIST	DISTORTION	INS	FREE	Adds distortion with an edge. Since a Noise Gate is included, this is also suitable for A/D input.
OVERDRV	OVERDRIVE	INS	FREE	Adds mild distortion. Since a Noise Gate is included, this is also suitable for A/D input.
AMPSIM	AMP SIMULATOR	SYS	FREE	Simulates a guitar amp. Since a Noise Gate is included, this is also suitable for A/D input.
COMP	COMPRESSOR	INS	FREE	Holds down the output level when a specified input level is exceeded. A sense of attack can also be added to the sound.
COMP+DS	COMP+DIST	INS	FREE	Since a Compressor is included in the first stage, steady distortion can be produced regardless of changes in input level.
TWAH+DS	TOUCH WAH+DIST	INS	FREE	The output of a Touch Wah can be distorted by Distortion.
TWAH+OD	TOUCH WAH+ODRV	INS	FREE	The output of a Touch Wah can be distorted by Overdrive.
AWAH+DS	AUTO WAH+DIST	INS	SYNC	The output of an Auto Wah can be distorted by Distortion.
AWAH+OD	AUTO WAH+OVD	INS	SYNC	The output of an Auto Wah can be distorted by Overdrive.

- Mode*: Either system (SYS) or insertion (INS).
- BPM sync*: Either SYNC (if effect is sychronized to BPM and takes a resolution setting) or FREE (if effect operates independently of BPM).

Display	Effect Name	Mode*	BPM sync*	Description
AUTO PAN	AUTO PAN	INS	SYNC	Cyclically moves the sound between left and right, front and back.
TREMOLO	TREMOLO	INS	FREE	Cyclically modulates the volume.
TRM_BPM	TREMOLO(BPM)	INS	SYNC	Cyclically modulates the volume. Synchronizes BPM.
ROTARY	ROTARY SPEAKER	INS	FREE	Simulates a rotary speaker.
CHORUS	CHORUS	INS	SYNC	Standard chorus effect.
PHASER	PHASER	INS	SYNC	Cyclically modulates the phase to add modulation to the sound.
FLANGER	FLANGER	INS	SYNC	Creates a sound reminiscent of a jet airplane.
FLNGPAN	FLANGING PAN	INS	SYNC	Flanger and auto-pan are synchronized.
NOISDLY	NOISY MOD DELAY	INS	SYNC	Adds a modulated delay sound.
NOISAMB	NOISE AMBIENT	INS	SYNC	Adds noise to the input signal, and uses a delay to broaden the sound.
FLOWPAN	FLOW PAN	INS	SYNC	Auto-pan is placed in series, moving the sound image in complex ways.
3DELAY	"DELAY L,C,R"	SYS	FREE	Produces three delayed sounds: L, R and C (center).
2DELAY	"DELAY L,R"	SYS	SYNC	Produces two delayed sounds: L and R. Two feedback delays are provided.
1DELAY	1DELAY	SYS	SYNC	Produces a natural stereo delay.
X-DELAY	CROSS DELAY	SYS	SYNC	The feedback of the two delayed sounds is crossed.
DLY+PAN	DELAY+AUTO PAN	SYS	SYNC	Delayed sound is cyclically moved between left and right.
HALL	HALL	SYS	FREE	Reverb simulating the acoustics of a hall.
ROOM	ROOM	SYS	FREE	Reverb simulating the acoustics of a room.
STAGE	STAGE	SYS	FREE	Reverb suitable for a solo instrument.
PLATE	PLATE	SYS	FREE	Reverb simulating a plate reverb unit.
CANYON	CANYON	SYS	FREE	Creates the sound of an imaginary space in which the sound expands limitlessly.

- Mode*: Either system (SYS) or insertion (INS).
- BPM sync*: Either SYNC (if effect is sychronized to BPM and takes a resolution setting) or FREE (if effect operates independently of BPM).

Effect Parameter List

1: TECHMOD [TECH MODULATION]

1	Mod Speed	MOD SPD	0,...,127	Modulation speed
2	Mod Depth	MOD DPTH	0,...,127	Modulation depth
3	Pre Mod HPF Freq	MOD HPF	0,...,52	Frequency at which the high pass filter will cut the low range
4	Mod Gain	MOD GAIN	-12,...,+12	Gain of the modulation signal
5	Dry/Wet Balance	DRY/WET	D63>W,...,D_W, ...,D<W63	Balance between the dry sound and effect sound

2: AUTOSYN [AUTO SYNTH]

1	Mod Speed	MOD SPD	0,...,127	Modulation speed
2	Mod Wave Type	MODWAVE	A,...,D	Modulation wave type
3	Mod Depth	MODDPTH	0,...,127	Modulation depth
4	Mod Depth Ofst R	MODOFSET	-63,...,+63	R ch offset relative to modulation depth
5	Delay Level	DLY LVL	0,...,127	Delay level

3: SCRATCH [DIGITAL SCRATCH]

1	Input Level	INPUT	0,...,127	Scratch depth
2	Initial Delay	DELAY	0,...,127	Delay time
3	HPF Cutoff Freq	HPF FREQ	0,...,52	Frequency at which the high pass filter will cut the low range
4	Auto-Pan Depth	PANDPTH	0,...,127	Autopan depth
5	Dry/Wet Balance	DRY/WET	D63>W,...,D_W, ...,D<W63	Balance between dry sound and effect sound

4: JUMP [JUMP]

1	Depth	DEPTH	0,...,127	Modulation depth
2	Type	TYPE	A, B, C	Modulation type
3	Jump Wave Type	JMPWAVE	A,...,D	Modulation type
4	Resolution	RESOLTN	1, 1/2,...,1/256	Resolution
5	Dry/Wet Balance	DRY/WET	D63>W,...,D_W, ...,D<W63	Balance between the dry sound and effect sound

5: PITCH1 [PITCH CHANGE 1]

1	Pitch	PITCH	-24,...,+24	Pitch change in semitone steps
2	Fine	FINE	-50,...,+50	Fine pitch setting
3	Initial Delay	INITDLY	0,...,127	Delay length
4	Feedback Level	FBLEVEL	-63,...,+63	Amount of feedback
5	Dry/Wet Balance	DRY/WET	D63>W,...,D_W, ...,D<W63	Balance of the dry sound and effect sound

6: PITCH2 [PITCH CHANGE 2]

1	Fine 1	PITCH	-50,...,+50	Fine pitch setting for first unit
2	Fine 2	FINE1	-50,...,+50	Fine pitch setting for second unit
3	Initial Delay	INITDLY	0,...,127	Delay length
4	Feedback Level	FBLEVEL	-63,...,+63	Amount of feedback
5	Dry/Wet Balance	DRY/WET	D63>W,...,D_W, ...,D<W63	Balance of the dry sound and effect sound

7: VCECNCL [VOICE CANCELLER]

1	Low Adjust	LOW ADJ	0,...,26	Adjust the frequency of the lower limit of the mid range that will be attenuated.
2	High Adjust	HI ADJ	0,...,26	Adjust the frequency of the upper limit of the mid range that will be attenuated.

8: AMBIENC [AMBIENCE]

1	Delay Time	DLYTIME	0,...,127	Delay length
2	Wet Output Phase	OUT_PHS	NORMAL, INVERSE	Invert the phase of the effect sound between L/R
3	EQ Low Gain	LOWGAIN	-12,...,+12	Gain with which the EQ will boost/cut the low range
4	EQ High Gain	HI GAIN	-12,...,+12	Gain with which the EQ will boost/cut the high range
5	Dry/Wet Balance	DRY/WET	D63>W,...,D_W, ...,D<W63	Balance of the dry sound and effect sound

9: LO RESO [LOW RESOLUTION]

1	Mod Depth	MODDPTH	0,...,127	Modulation depth
2	Mode Delay Offset	MODOFST	0,...,127	Modulation delay offset
3	Resolution	RESOLTN	1, 1/2,...,1/264	Resolution
4	Phase Invert R	PHASINV	OFF, WET, WET+DRY	Right channel phase reversal
5	Dry/Wet Balance	DRY/WET	D63>W,...,D_W, ...,D<W63	Balance between dry sound and effect sound

10: NOISY [NOISY]

1	Drive	DRIVE	0,...,127	Degree of distortion
2	Mod Depth	MODDPTH	0,...,10	Modulation depth
3	LPF Cutoff Freq	LPF FRQ	34,...,60	Frequency at which the low pass filter will cut the high range
4	LPF Resonance	LPF Q	10,...,120	Resonance of the low pass filter
5	Dry/Wet Balance	DRY/WET	D63>W,...,D_W, ...,D<W63	Balance between the dry sound and effect sound

11: ATKLOFI [ATTACK LOFI]

1	Sensitivity	SENSITV	0,...,127	Sensitivity
2	Resolution	RESOLTN	0, 1/2,...,1/16	Resolution
3	Peak Freq.	PEAKFRQ	14,...,54	Frequency at which a peak will be created in the mid range
4	LPF Cutoff Freq	LPF FRQ	34,...,60	Frequency at which the low pass filter will cut the high range
5	Dry/Wet Balance	DRY/WET	D63>W,...,D_W, ...,D<W63	Balance between dry sound and effect sound

12: RADIO [RADIO, RADIO, INS, FREE]

1	Mod LPF Freq.	MOD LPF	0,...,52	Frequency at which the low pass filter will cut the high range
2	Mod LPF Reso.	MOD LPFQ	10,...,120	Resonance of low pass filter
3	HPF Cutoff Freq	HPF FRQ	0,...,52	Frequency at which the high pass filter will cut the low range
4	LPF Cutoff Freq	LPF FRQ	34,...,60	Frequency at which the low pass filter will cut the high range
5	Dry/Wet Balance	DRY/WET	D63>W,...,D_W, ...,D<W63	Balance between dry sound and effect sound

13: TURNTBL [DIGITAL TURNTABLE]

1	Noise Level	NOISLVL	0,...,127	Noise level
2	Noise Tone	NS TONE	0,...,6	Tone of noise
3	Noise LPF Q	NSLPF Q	10,...,120	Low pass filter resonance
4	Click Level	CLICK	0,...,127	Level of the click sounds
5	Dry Send to Noise	DRY NOIS	0,..,127	Mixture of dry signal into the noise

14: DIST [DISTORTION]

1	Drive	DRIVE	0,...,127	Degree of distortion
2	LPF Cutoff	LPF FRQ	34,...,60	Frequency at which the filter will cut the high range
3	EQ Mid Freq.	MIDFREQ	14,...,54	Frequency at which the EQ will boost/cut the mid range
4	Output Level	OUT LVL	0,...,127	Output level
5	Dry/Wet Balance	DRY WET	D63>W,...,D_W, ...,D<W63	Balance between the dry sound and the effect sound

15: OVERDRV [OVERDRIVE]

1	Drive	DRIVE	0,...,127	Degree of distortion
2	LPF Cutoff	LPF FRQ	34,...,60	Frequency at which the filter will cut the high range
3	EQ Mid Freq.	MIDFREQ	14,...,54	Frequency at which the EQ will boost/cut the mid range
4	Output Level	OUT LVL	0,...,127	Output level
5	Dry/Wet Balance	DRY WET	D63>W,...,D_W, ...,D<W63	Balance between the dry sound and the effect sound

16: AMPSIM [AMP SIMULATOR]

1	Drive	DRIVE	0,...,127	Degree of distortion
2	Amp Type	AMPTYPE	OFF, STACK, COMBO, TUBE	Select the type of amp to be simulated
3	LPF Cutoff Freq	LPF FRQ	34,...,60	Frequency at which the low pass filter will cut the high range
4	Edge	EDGE	0,...,127	Curve of distortion characteristics (sharp (127): distortion begins suddenly; mild (0): distortion begins gradually)
5	Output Level	OUT LVL	0,...,127	Output level

17: COMP [COMPRESSOR]

1	Threshold	THRSHLD	-48,...,-6	Input level at which compression begins to be applied
2	Attack	ATTACK	1,...,40	Time until when the compressor begins to take effect
3	Release	RELEASE	10,...,680	Time until the compressor effect disappears
4	Ratio	RATIO	1.0,...,20.0	Compression ratio of the compressor
5	Output Level	OUT LVL	0,...,127	Output level

18: COMP+DS [COMP+DIST]

1	Threshold	THRSHLD	-48,...,-6	(Compressor) Input level at which compression begins to be applied
2	Ratio	RATIO	1.0,...,20.0	(Compression) Compression ratio of the compressor
3	Drive	DRIVE	0,...,127	Degree of distortion
4	LPF Cutoff	LPF FRQ	34,...,60	Frequency at which the low pass filter will cut the high range
5	Output Level	OUT LVL	0,...,127	Output level

19: TWAH+DS [TOUCH WAH+DIST]

1	Cutoff Freq. Offset	FRQOFST	0,...,127	Offset value for the wah filter control frequency
2	Resonance	RESO	10,...,120	Resonance of the wah filter
3	Drive	DRIVE	0,...,127	(Distortion) Degree of distortion
4	PostDrive LPF Freq.	DR LPF	34,...,60	(Distortion) Frequency at which the filter will cut the high range
5	Dry/Wet Balance	DRY/WET	D63>W,...,D_W, ...,D<W63	Balance between the dry sound and effect sound

20: TWAH+OD [TOUCH WAH+ODRV]

1	Cutoff Freq. Offset	FRQOFST	0,...,127	Offset value for the wah filter control frequency
2	Resonance	RESO	10,...,120	Resonance of the wah filter
3	Drive	DRIVE	0,...,127	(Distortion) Degree of distortion
4	PostDrive LPF Freq.	DR LPF	34,...,60	(Distortion) Frequency at which the filter will cut the high range
5	Dry/Wet Balance	DRY/WET	D63>W,...,D_W, ...,D<W63	Balance between the dry sound and effect sound

21: AWAH+DS [AUTO WAH+DIST]

1	LFO Depth	DEPTH	0,...,127	Depth at which the wah filter will be controlled
2	Cutoff Freq. Offset	FRQOFST	0,...,127	Offset value for the wah filter control frequency
3	Resonance	RESO	10,...,120	Resonance of the wah filter
4	Drive	DRIVE	0,...,127	(Distortion) Degree of distortion
5	Dry/Wet Balance	DRY/WET	D63>W,...,D_W, ...,D<W63	Balance between the dry sound and effect sound

22: AWAH+OD [AUTO WAH+OVD]

1	LFO Depth	DEPTH	0,...,127	Depth at which the wah filter will be controlled
2	Cutoff Freq. Offset	FRQOFST	0,...,127	Offset value for the wah filter control frequency
3	Resonance	RESO	10,...,120	Resonance of the wah filter
4	Drive	DRIVE	0,...,127	(Distortion) Degree of distortion
5	Dry/Wet Balance	DRY/WET	D63>W,...,D_W, ...,D<W63	Balance between the dry sound and effect sound

23: AUTOPAN [AUTO PAN]

1	L/R Depth	L/RDPTH	0,...,127	Left/right depth of panning
2	F/R Depth	F/RDPTH	0,...,127	Front/rear depth of panning
3	Pan Direction	DIRECTN	L<>R, L>R, L<R, L@, R@, L/R	Auto pan type (L<->R is sine wave, L/R is square wave)
4	EQ Low Gain	LOWGAIN	-12,...,+12	Gain with which the EQ will boost/cut the low range
5	EQ High Gain	HI GAIN	-12,...,+12	Gain with which the EQ will boost/cut the high range

24: TREMOLO [TREMOLO]

1	LFO Freq.	LFOFREQ	0,...,127	Modulation frequency
2	AM Depth	AMDEPTH	0,...,127	Amplitude modulation depth
3	EQ Low Gain	LOWGAIN	-12,...,+12	Gain with which the EQ will boost/cut the low range
4	EQ High Gain	HI GAIN	-12,...,+12	Gain with which the EQ will boost/cut the high range
5	Input Mode	INMODE	MONO, STEREO	Mono/stereo selection for the input

25: TRM_BPM [TREMOLO(BPM)]

1	AM Depth	AMDEPTH	0,...,127	Amplitude modulation depth
2	PM Depth	PMDEPTH	0,...,127	Delay modulation depth
3	LFO Phase Dif.	PHASE	-180,...,+180	L/R phase difference of the modulation waveform (no difference at 0 deg (=+000))
4	Input Mode	INMODE	MONO, STEREO	Mono/stereo selection for the input
5	EQ Low Gain	LOWGAIN	-12,...,+12	Gain with which the EQ will boost/cut the low range

26: ROTARY [ROTARY SPEAKER]

1	LFO Freq.	LFOFREQ	0,...,127	Rotation frequency of the speaker
2	LFO Depth	DEPTH	0,...,127	Depth of modulation produced by speaker rotation
3	EQ Low Gain	LOWGAIN	-12,...,+12	Gain with which the EQ will boost/cut the low range
4	EQ High Gain	HI GAIN	-12,...,+12	Gain with which the EQ will boost/cut the high range
5	Dry/Wet Balance	DRY/WET	D63>W,...,D_W, ...,D<W63	Balance of the dry sound and effect sound

27: CHORUS [CHORUS]

1	LFO Depth	DEPTH	0,...,127	Delay modulation depth
2	EQ Low Gain	LOWGAIN	-12,...,+12	Gain with which the EQ will boost/cut the low range
3	EQ High Gain	HI GAIN	-12,...,+12	Gain with which the EQ will boost/cut the high range
4	Dry/Wet Balance	DRY/WET	D63>W,...,D_W, ...,D<W63	Balance of the dry sound and effect sound
5	Input Mode	INMODE	MONO, STEREO	Mono/stereo selection for the input

28: PHASER [PHASER]

1	LFO Depth	DEPTH	0,...,127	Depth of phase modulation
2	Phase-Shift Offset	PHSHIFT	0,...,127	Phase shift offset value
3	Feedback Level	FBLEVEL	-63,...,+63	Level at which phaser output will be returned to the input (negative values invert the phase)
4	Stage	STAGE	4,...,12	Number of phaser shifter stages
5	Dry/Wet Balance	DRY/WET	D63>W,...,D_W, ...,D<W63	Balance of the dry sound and effect sound

29: FLANGER [FLANGER]

1	LFO Depth	DEPTH	0,...,127	Depth of delay modulation
2	Feedback Level	FBLEVEL	-63,...,+63	Level at which delay output is returned to the input
3	Delay Offset	OFFSET	0,...,+63	Offset value for delay modulation
4	LFO Phase Dif.	PHASE	-180,...,+180	L/R phase difference of modulation waveform (no difference at 0 deg (=+000))
5	Dry/Wet Balance	DRY/WET	D63>W,...,D_W, ...,D<W63	Balance of the dry sound and effect sound

30: FLNGPAN [FLANGING PAN]

1	Flanger Delay	FLN DLY	0,...,127	Delay time (offset)
2	FlangPan Delay	PAN DLY	0,...,127	Delay time (offset)
3	FlangPan Feedback	PAN FB	-63,...,+63	Feedback amount of flange pan
4	Delay Level	DLY LVL	0,...,127	Delay level
5	Dry/Wet Balance	DRY/WET	D63>W,...,D_W, ...,D<W63	Balance between the dry sound and the effect sound

31: NOISDLY [NOISY MOD DELAY]

1	Mod Speed	MOD SPD	0,...,127	Delay modulation frequency
2	Mod Depth	MODDPTH	0,...,127	Modulation depth
3	Mod Wave Type	MODWAVE	A,...,D	Modulation type
4	Feedback Level	FBLEVEL	-63,...,+63	Feedback amount
5	Dry/Wet Balance	DRY/WET	D63>W,...,D_W, ...,D<W63	Balance between the dry sound and the effect sound

32: NOISAMB [NOISE AMBIENT]

1	Mod Speed	MOD SPD	1,...,127	Modulation speed
2	Mod Depth	MODDPTH	0,...,127	Modulation depth
3	Delay Level	DLY LVL	A,...,D	Delay level
4	AM Depth	AMDEPTH	0,...,127	Depth of amplitude modulation
5	Dry/Wet Balance	DRY/WET	D63>W,...,D_W, ...,D<W63	Balance between dry sound and effect sound

33: FLOWPAN [FLOW PAN]

1	Auto-Pan Speed	PAN SPD	0,...,127	Autopan frequency
2	Delay Dry/Wet	DLY MIX	0,...,127	Balance between delay sound and effect sound
3	Feedback Level	FBLEVEL	-63,...,+63	Feedback amount
4	Feedback Hi Damp	FBHIDMP	1,...,10	Adjust the high range attenuation (lower values will cause the high range to decay faster)
5	Pre Delay Pan Depth	PRPANDP	0,...,127	Depth of the pre-delay autopan

34: 3DELAY [DELAY L, C, R]

1	Delay Time L	TIME L	0,...,127	Length of left channel delay
2	Delay Time R	TIME R	0,...,127	Length of right channel delay
3	Delay Time C	TIME C	0,...,127	Length of center channel delay
4	Feedback Time	FB TIME	0,...,127	Length of feedback delay
5	Feedback Level	FBLEVEL	-63,...,+63	Feedback amount

35 2DELAY [DELAY L, R]

1	Feedback Level	FBLEVEL	-63,...,+63	Amount of feedback
2	Feedback Hi Damp	FBHIDMP	1,...,10	High range attenuation (lower values cause the high range to decay faster)
3	EQ Low Gain	LOWGAIN	-12,...,+12	Gain with which the EQ will boost/cut the low range
4	EQ High Gain	HI GAIN	-12,...,+12	Gain with which the EQ will boost/cut the high range

36: 1DELAY [1DELAY]

1	Feedback Level	FBLEVEL	-63,...,+63	Amount of feedback
2	Feedback Hi Damp	FBHIDMP	1,...,10	High range attenuation (lower values cause the high range to decay faster)
3	EQ Low Gain	LOWGAIN	-12,...,+12	Gain with which the EQ will boost/cut the low range
4	EQ High Gain	HI GAIN	-12,...,+12	Gain with which the EQ will boost/cut the high range

37: X-DELAY [CROSS DELAY]

1	Feedback Level	FBLEVEL	-63,...,+63	Amount of feedback
2	Feedback Hi Damp	FBHIDMP	1,...,10	High range attenuation (lower values cause the high range to decay faster)
3	Input Select	INSELECT	L, R, L/R	Input select
4	EQ Low Gain	LOWGAIN	-12,...,+12	Gain with which the EQ will boost/cut the low range
5	EQ High Gain	HI GAIN	-12,...,+12	Gain with which the EQ will boost/cut the high range

38: DLY+PAN [DELAY+AUTO PAN]

1	Feedback Level	FBLEVEL	-63,...,+63	Amount of feedback
2	Feedback Hi Damp	FBHIDMP	1,...,10	High range attenuation (lower values cause the high range to decay faster)
3	Auto-Pan Depth	INSELECT	0,...,127	Auto-panning depth
4	EQ Mid Gain	LOWGAIN	-12,...,+12	Gain with which the EQ will boost/cut the mid range
5	EQ Mid Freq.	HI GAIN	4,...,40	Frequency at which the EQ will boost/cut the mid range

39: HALL [HALL]

1	Reverb Time	REVTIME	0,...,69	Reverb length
2	LPF Cutoff Freq.	LPF FRQ	34,...,60	Frequency at which the low pass filter will cut the high range
3	HPF Cutoff Freq.	HPF FRQ	0,...,52	Frequency at which the high pass filter will cut the low range
4	Er/Rev Balance	ER/REV	63>R,...,E_R, ...,E<R63	Level balance of the early reflections and the reverberation
5	Diffusion	DUFFUSN	0,...,10	Spread of the reverb

40: ROOM [ROOM]

1	Reverb Time	REVTIME	0,...,69	Reverb length
2	LPF Cutoff Freq.	LPF FRQ	34,...,60	Frequency at which the low pass filter will cut the high range
3	HPF Cutoff Freq.	HPF FRQ	0,...,52	Frequency at which the high pass filter will cut the low range
4	Er/Rev Balance	ER/REV	63>R,...,E_R, ...,E<R63	Level balance of the early reflections and the reverberation
5	Diffusion	DUFFUSN	0,...,10	Spread of the reverb

41: STAGE [STAGE]

1	Reverb Time	REVTIME	0,...,69	Reverb length
2	LPF Cutoff Freq.	LPF FRQ	34,...,60	Frequency at which the low pass filter will cut the high range
3	HPF Cutoff Freq.	HPF FRQ	0,...,52	Frequency at which the high pass filter will cut the low range
4	Er/Rev Balance	ER/REV	63>R,...,E_R, ...,E<R63	Level balance of the early reflections and the reverberation
5	Diffusion	DUFFUSN	0,...,10	Spread of the reverb

42: PLATE [PLATE]

1	Reverb Time	REVTIME	0,...,69	Reverb length
2	LPF Cutoff Freq.	LPF FRQ	34,...,60	Frequency at which the low pass filter will cut the high range
3	HPF Cutoff Freq.	HPF FRQ	0,...,52	Frequency at which the high pass filter will cut the low range
4	Er/Rev Balance	ER/REV	63>R,...,E_R, ...,E<R63	Level balance of the early reflections and the reverberation
5	Diffusion	DUFFUSN	0,...,10	Spread of the reverb

43: CANYON [CANYON]

1	Reverb Time	REVTIME	0,...,69	Reverb length
2	LPF Cutoff Freq.	LPF FRQ	34,...,60	Frequency at which the low pass filter will cut the high range
3	HPF Cutoff Freq.	HPF FRQ	0,...,52	Frequency at which the high pass filter will cut the low range
4	Er/Rev Balance	ER/REV	63>R,...,E_R, ...,E<R63	Level balance of the early reflections and the reverberation
5	Diffusion	DUFFUSN	0,...,10	Spread of the reverb

MIDI Data Format

1. Channel Messages

1.1 Note Off

- Note-off messages are used to switch off note play, and are typically transmitted in response to releasing of keys on a MIDI keyboard. On the SU700, these messages correspond to releasing of the track pads.
- Only receiving is supported.

Status	Note Number	Value
8*n*H	*kk*H	*vv*H

where:

n:	MIDI channel	0H to FH	(Ch1 to Ch16)
kk:	Note number	0H to 7FH	(C-2 to G8)
vv:	*Ignored.*		

1.2 Note On

- Note-on messages are used to trigger note play, and are typically transmitted in response to striking of keys on a MIDI keyboard. On the SU700, these messages correspond to pressing of the track pads.
- Sending and receiving are both supported.

Status	Note Number	Value
9*n*H	*kk*H	*vv*H

where:

n:	MIDI channel	0H to FH	(Ch1 to Ch16)
kk:	Note number	0H to 7FH	(C-2 to G8)
vv:	Note-on velocity	1H to 7FH	(1 to 127)
	Note-off	0H	(0)

1.3 Control Change

- Corresponds to SU700 knob operation.
- Sending and receiving are both supported.

Status	Note Number	Value
B*n*H	*cc*H	*vv*H

where:

n:	MIDI channel	0H to FH	(Ch1 to Ch16)
cc:	Control number	0H to 77H	(0 to 119)
vv:	Value	0H to 7FH	(0 to 127)

1.4 Program Change

- Not sent.
- Not received.

1.5 Pitchbend

- Not sent.
- Not received.

1.6 Channel Aftertouch

- Not sent.
- Not received.

1.7 Polyphonic Aftertouch

- Not sent.
- Not received.

2. System-Common Messages

2.1 MIDI Time-Code (MTC) Quarter-Frame Message

- Receive only.
- Effective only if MIDI sync is set to MTC SLAVE.

Status	2nd Byte	3rd Byte
F1H	*nn*H	(*none*)

where:

nn: Quarter-frame message
0x: *x* is LS (least significant) nibble of frame
1x: *x* is MS (most significant) nibble of frame
2x: *x* is LS nibble of second
3x: *x* is MS nibble of second
4x: *x* is LS nibble of minute
5x: *x* is MS nibble of minute
6x: *x* is LS nibble of hour
7x: *x* gives MS nibble of hour and SMPTE type (bits 1, 2)

2.2 Song Position Pointer

- This message is used to change the song position.
- Sending and receiving are both supported.

Status	2nd Byte	3rd Byte
F2H	*ll*H	*mm*H

where:
mm, ll: Song position 00H 00H to 7FH 7FH (0 to 16383)

3. System Realtime Messages

3.1 Timing Clock

- Used to synchronize with external MIDI sequencer.
- Sending and receiving are both supported.

Status	2nd Byte	3rd Byte
F8H	(*none*)	(*none*)

3.2 Start

- Used to synchronize with external MIDI sequencer..
- Sending and receiving are both supported.

Status	2nd Byte	3rd Byte
FAH	(*none*)	(*none*)

3.3 Continue

- Used to synchronize with external MIDI sequencer..
- Sending and receiving are both supported.

Status	2nd Byte	3rd Byte
FBH	(*none*)	(*none*)

3.4 Stop

- Used to synchronize with external MIDI sequencer..
- Sending and receiving are both supported.

Status	2nd Byte	3rd Byte
FCH	(*none*)	(*none*)

YAMAHA [Sampling Unit] Date :23-OCT-1998
Model SU700 MIDI Implementation Chart Version : 1.0

Function...	Transmitted	Recognized	Remarks
Basic Default	x	x	
Channel Changed	1 - 16	1 - 16	
Default	x	3	
Mode Messages	x	x	
Altered	**********	x	
Note	0 - 127	0 - 127	
Number : True voice	**********	0 - 127	
Velocity Note ON	o 9nH,v=1-127 *1	o 9nH,v=1-127 *1	
Note OFF	x 9nH,v=0	x	
After Key's	x	x	
Touch Ch's	x	x	
Pitch Bend	x	x	
1	o *1	o *1	Moduration
7	o *1	o *1	Volume
10	o *1	o *1	Pan
71-74	o *1	o *1	Sound Controller
Control 0-95	o *1	o *1	*4
Change			
Prog	x	x	
Change : True #	**********		
System Exclusive	x	x	
: Song Pos.	o	o	
Common : Song Sel.	x	x	
: Tune	x	x	
System : Clock	o *2	o *3	
Real Time: Commands	o *2	o *3	
: All Sound Off	X	X	
Aux : Reset All Cntrls	X	X	
: Local ON/OFF	X	X	
Mes- : All Notes OFF	X	X	
sages : Active Sense	X	O	
: Reset	X	X	

Notes: *1 transmit/receive if switch is on.
*2 transmit if sync mode is INTERNAL, MTC SLAVE
*3 receive if sync mode is EXTERNAL.
*4 Assignable Controller
Recive MTC quarter frame message if sync mode is MTC SLAVE.

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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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

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* This applies only to products distributed by YAMAHA CORPORATION OF AMERICA.

(class B)

CAUTION: TO PREVENT ELECTRIC SHOCK, MATCH WIDE BLADE OF PLUG TO WIDE SLOT, FULLY INSERT.

ATTENTION: POUR ÉVITER LES CHOCS ÉLECTRIQUES, INTRODUIRE LA LAME LA PLUS LARGE DE LA FICHE DANS LA BORNE CORRESPONDANTE DE LA PRISE ET POUSSER JUSQU'AU FOND.

(polarity)

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IMPORTANT NOTICE FOR THE UNITED KINGDOM

Connecting the Plug and Cord

IMPORTANT. The wires in this mains lead are coloured in accordance with the following code:

BLUE : NEUTRAL
BROWN : LIVE

As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured makings identifying the terminals in your plug proceed as follows:

The wire which is coloured BLUE must be connected to the terminal which is marked with the letter N or coloured BLACK.

The wire which is coloured BROWN must be connected to the terminal which is marked with the letter L or coloured RED.

Making sure that neither core is connected to the earth terminal of the three pin plug.

(2 wires)

• This applies only to products distributed by Yamaha-Kemble Music (U.K.) Ltd.

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.

Die Einzelheiten zu Produkten sind bei Ihrer unten aufgeführten Niederlassung und bei Yamaha Vertragshändlern in den jeweiligen Bestimmungsländern erhältlich.

Para detalles sobre productos, contacte su tienda Yamaha más cercana o el distribuidor autorizado que se lista debajo.

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135 Milner Avenue, Scarborough, Ontario, M1S 3R1, Canada
Tel: 416-298-1311

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Yamaha Corporation of America
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Tel: 686-00-33

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Av. Rebouças 2636, São Paulo, Brasil
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BP 70-77312 Marne-la-Vallée Cedex 2, France
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Philippe Nakas S.A.
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Box 30053
S-400 43 Göteborg, Sweden
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DENMARK
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DK-2730 Herlev, Denmark
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FINLAND
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Kluuvikatu 6, P.O. Box 260,
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Tel: 3-703-0900

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VZ14420 812CRIT10.2-01A0 Printed in Japan