YAMAHA

MUSIC SYNTHESIZER

SY85

OWNER'S MANUAL 1

– Getting Started –

The SY85 Music Synthesizer delivers the incredible Yamaha AWM sound with improved quality and performance power. In addition to superior sound, the SY85 features "Quick Edit" modes that provide fast, easy access to the most important voice and performance editing jobs so you can customize the Sound without having to deal with the details. Of course, you still have full programming power when you want to do some serious voicing. For unmatched on-stage expression the SY85 also features a sophisticated real-time control system that lets you modify up to 8 different parameters as you play — in addition to the traditional pitch and modulation wheels. There's even a full-featured sequencer that allows the SY85 to function as a complete music workstation. In terms of sound, real-time control, and total production power, the SY85 offers unprecedented levels of quality and performance.

We urge you to read the owner's manuals thoroughly in order to realize the full potential of the SY85 (see "About the Manuals" on page 7), and keep the manuals in a safe place for future reference.

MAIN FEATURES

● AWM2 Tone Generator System

2nd-generation Advanced Wave Memory (AWM2) technology delivers dazzling, true-to-life sound with 30-note polyphony.

● Large-capacity Waveform ROM

A large 6-megabytc waveform ROM provides plenty of capacity for top-quality samples.

● Expandable Waveform RAM

The SY85 comes supplied with 512 kilobytes of waveform RAM that can be used to load extra waveforms from a supplied waveform disk or disks from other sources. Up to 3-megabytes additional RAM can be installed for dramatically increased capacity.

● 256 Voices and 128 Performance Combinations

4 internal memory banks hold 256 individual voices. Voices can be played individually, or up to four voices can be combined and "layered" to form as many as 128 performance combinations.

● Advanced Digital Filters

Programmable digital filters allow the SY85 sound to be tailored as required. The filters also feature a resonance parameter equivalent to that found on the SY77 and SY99.

● Top-quality Effects

The basic quality of the SY85 voices is further enhanced by a range of programmable effects offering quality rivalling some of the finest separate signal processing systems — these are essentially the same effects that enhance the musical impact of the SY99.

● Extensive Real-time Control

In addition to the pitch and modulation wheels, and dual output level controls, the SY85 has 8 slide controls that can be used to control a range of parameters while performing for unmatched expressive power.

● Easy Editing Interface

8 function keys and slide controls below the large 40-character x 2-line LCD display allow direct selection and control of the parameters appearing directly above them in the display for efficient, intuitive editing. A 5x5 mode selection matrix further enhances operation by allowing fast, easy access to any of the SY85 modes.

● 9-track 10-song Sequencer

Full-function sequencer with 8 standard tracks and 1 dedicated rhythm track. Each sequencer "song" has its own 16-part multi-instrument setup. Rhythm parts can be recorded as "patterns" and then chained to form the complete rhythm track. The SY85 also includes 100 rhythm patterns that you can simply select and use.

● Other Features

- 3.5" floppy disk drive for versatile data management and storage.
- External memory card slots.
- Quick and in-depth editing modes.
- Function select matrix enhances operating ease.
- 61-key initial and after-touch sensitive keyboard.
- 2 assignable stereo outputs.

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Precautions !! PLEASE READ THIS BEFORE PROCEEDING !!

■ Location

Do not expose the instrument to the following conditions to avoid deformation, discoloration, or more serious damage.

- Direct sunlight (e.g. near a window).
- High temperatures (e.g. near a heat source, outside, or in a car during the daytime).
- Excessive humidity.
- Excessive dust.
- Strong vibration.

■ Power Supply

- Turn the power switch OFF when the instrument is not in use.
- The power supply cord should be unplugged from the AC outlet if the instrument is not to be used for an extended period of time. (Reconnecting AC power will re-initialize all settings. As a result, user memory will be erased.)
- Unplug the instrument during electric storms.
- Avoid plugging the instrument into the same AC outlet as appliances with high power consumption, such as electric heaters or ovens. Also avoid using multi-plug adapters since these can result in reduced sound quality and possibly damage.

■ Turn Power OFF When Making Connections

- To avoid damage to the instrument and other devices to which it is connected (a sound system, for example), turn the power switches of all related devices OFF prior to connecting or disconnecting audio and MIDI cables.

■ MIDI Connections

- When connecting the SY85 to MIDI equipment, be sure to use high-quality cables made especially for MIDI data transmission.
- Avoid MIDI cables longer than about 15 meters. Longer cables can pick up electrical noise that can causes data errors.

■ Handling and Transport

- Never apply excessive force to the controls, connectors or other parts of the instrument.
- Always unplug cables by gripping the plug firmly, not by pulling on the cable.
- Disconnect all cables before moving the instrument.
- Physical shocks caused by dropping, bumping, or placing heavy objects on the instrument can result in scratches and more serious damage.

Cleaning

- Clean the cabinet and panel with a dry soft cloth.
- A slightly damp cloth may be used to remove stubborn grime and dirt.
- Never use cleaners such as alcohol or thinner.
- Avoid placing vinyl objects on top of the instrument (vinyl can stick to and discolor the surface).

Electrical Interference

- This instrument contains digital circuitry and may cause interference if placed too close to radio or television receivers. If this occurs, move the instrument further away from the affected equipment.

Data Backup

- The SY85 contains a special long-life battery that retains the contents of its internal voice, performance, song, and non-volatile wave memory even when the power is turned OFF. The backup battery should last for several years. When the backup battery needs to be replaced "Change internal battery !" will appear on the display when the power is turned on. When this happens, have the backup battery replaced by qualified Yamaha service personnel. DO NOT ATTEMPT TO REPLACE THE BACKUP BATTERY YOURSELF!
- Internal memory data can be corrupted due to incorrect operation. Be sure to "save" important data to a floppy disk frequently so you have a backup to revert to if something happens to damage the data in memory. Also note that magnetic fields can damage data on the disk, so it is advisable to make a second back-up copy of disks that contain very important data, and keep backup disks in a safe place away from stray magnetic fields (i.e. away from speakers, appliances containing motors, etc.).

Handle Floppy Disks and the Disk Drive With Care

- Use only 3.5" 2DD type floppy disks.
- Do not bend or apply pressure to the floppy disk. Do not open the shutter and touch the surface of the floppy disk inside.
- Do not expose the disk to high temperatures. (e.g. direct sunlight)
- Do not expose the disk to magnetic fields. Magnetic fields can partially or totally erase data on the disk, rendering the disk unreadable.
- To eject a floppy disk, press the eject button slowly as far as it will go then, when the disk is fully ejected, remove it by hand.
  The disk may not be ejected properly if the eject button is pressed too quickly, or it is not pressed in as far as it will go (the eject button may become stuck in a half-pressed position and the disk extends from the drive slot by only a few millimeters). If this happens, do not attempt to pull out the partially ejected disk. Using force in this situation can damage the disk-drive mechanism or the floppy disk. To remove a partially ejected disk, try pressing the eject button once again, or push the disk back into the slot and then repeat the eject procedure carefully.
- Do not insert anything but floppy disks into the disk drive. Other objects may cause damage to the disk drive or the floppy disk.

■ Data Card and Wave Card

- Never attempt to force a voice card into the waveform slot, or vice versa. Doing so can cause serious damage to the card connectors.

■ Service and Modification

- The SY85 contains no user serviceable parts. Opening it or tampering with it in anyway can lead to irreparable damage and possibly electric shock. Refer all servicing to qualified YAMAHA personnel.

■ Third-party Software

- Yamaha can not take any responsibility for software produced for this product by third-party manufacturers. Please direct any questions or comments about such software to the manufacturer or their agents.

YAMAHA is not responsible for damage caused by improper handling or operation.

About the Manuals

The SY85 comes with two manuals — Getting Started and Feature Reference.

■ The Getting Started Manual (this manual)

In addition to an overview of the SY85 controls and connectors (page 10), the Getting Started manual contains six chapters that take you through the main procedures you will need to know to become familiar with your SY85:

1. Setting Up Your System [Page 17]
   Basic system connections, powering up, loading and playing the demo, and loading the pre-programmed voice and performance data.

2. Selecting And Playing Voices [Page 21]
   Selecting and playing voices from the INTERNAL 1, INTERNAL 2 and CARD memories, and using the real-time controls.

3. The Performance Mode [Page 30]
   Selecting and playing performance combinations from the INTERNAL 1, INTERNAL 2 and CARD memories, and programming original performance combinations.

4. Voice Editing & Effects [Page 40]
   Fast, easy voice editing and effect setup using the VOICE QUICK EDIT mode.

5. The Sequencer [Page 47]
   Recording and playing sequences and patterns.

6. Data Management [Page 64]
   Some ideas on how to efficiently manage your SY85 data.

We recommend that you go through the tutorials in sequence while actually carrying out procedures on your SY85. Once you've gone through the entire TUTORIALS section in this way, you should be familiar enough with the SY85 to need only the Feature Reference manual in future.

Icons

The following simple icons are used throughout the Getting Started manual to draw attention to important points and information where necessary. The icons also make it easier to differentiate between information that you should read immediately and information that can be skipped until later, hopefully helping you to become familiar with the SY85 in the quickest, most efficient manner possible.

This icon warns of possible hardware damage, software malfunction, or any other serious problem that may occur due to improper operation or set up.

This icon marks information that you must read — i.e. important steps or procedures that are essential for proper, efficient, or easy operation.

The magnifying-glass icon indicates information that may not be essential for general operation, but is a more detailed explanation of a feature, a description of the principle involved, etc. You can skip this information if full details are not required immediately.

Hints or ideas that are not specifically musical but may make operation easier or more interesting are marked by the lightbulb icon.

The Feature Reference Manual

The Feature Reference manual is the “nuts and bolts” reference for the SY85, individually describing its many functions in detail. The Feature Reference manual is divided into 7 main sections, each describing the various functions within a particular SY85 edit or utility mode.

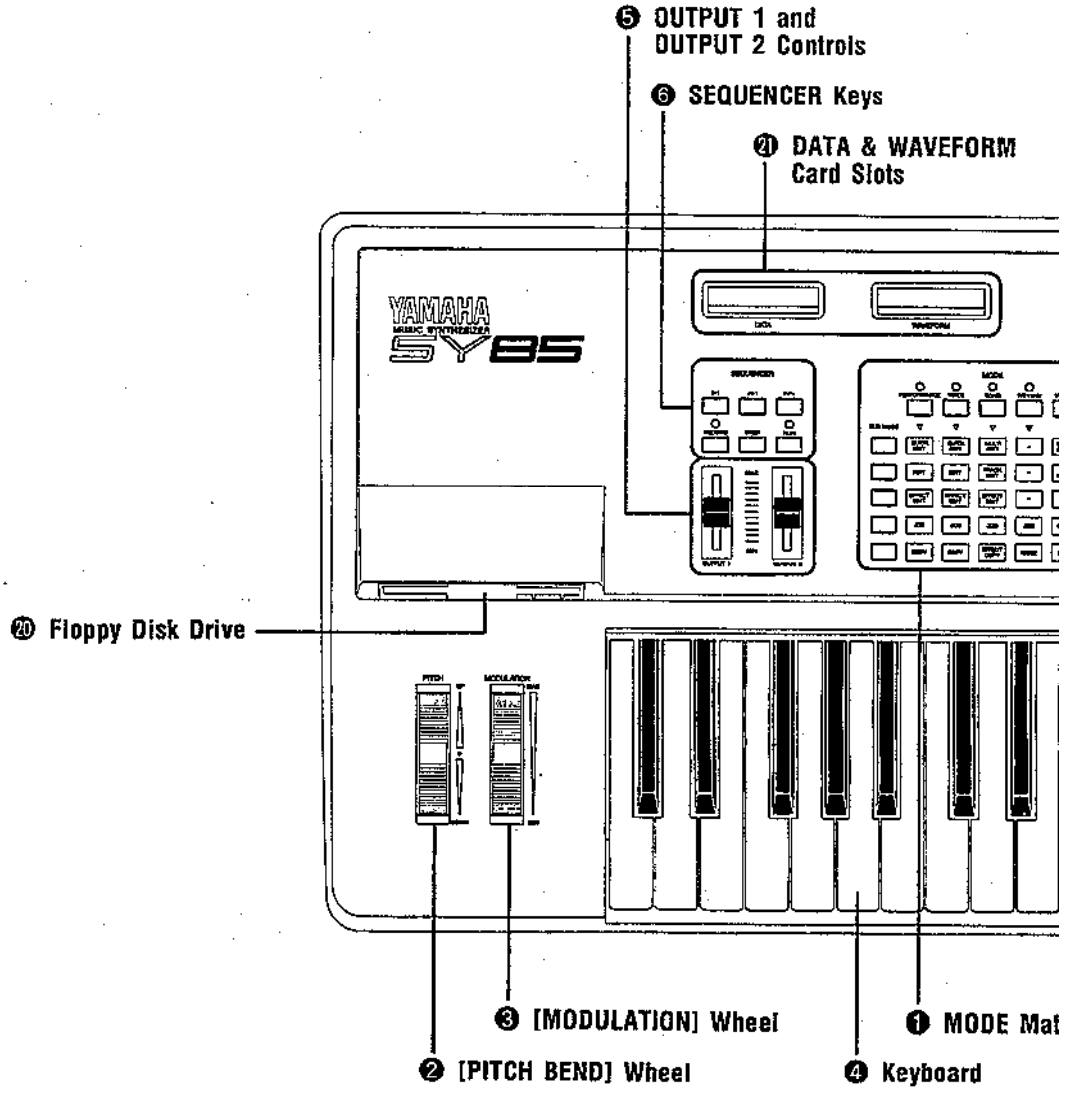
1. Performance Edit Mode ..... [Page 13]
2. Voice Edit Mode ..... [Page 57]
3. Drum Voice Edit Mode..... [Page 119]
4. Song Edit Mode ..... [Page 147]
5. Pattern Edit Mode ..... [Page 201]
6. Utility Mode ..... [Page 209]
7. Wave Edit Mode ..... [Page 237]

Once you have become familiar with the way the SY85 works by going through the Getting Started manual, you should only need to refer to the Feature Reference manual from time to time to get details on functions you’ve never used before, or refresh your memory about functions that you don’t use very often.

Each section of the Feature Reference manual has its own table of contents, so you should be able to locate any particular function quickly and easily. Functions and references can also be located by referring to the index at the back of the manual.

The Controls & Connectors

■ Front Panel



❶ MODE Matrix

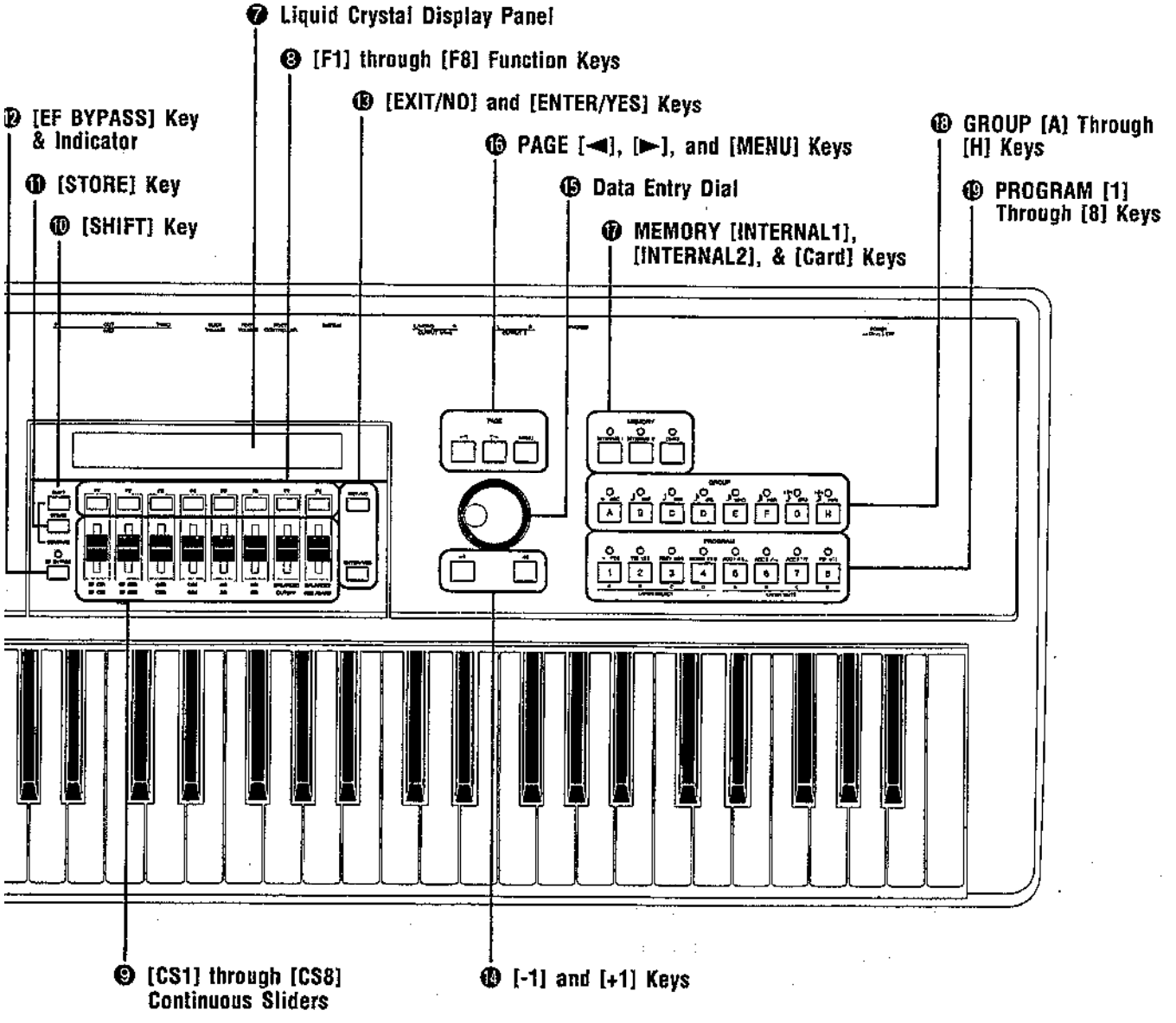
The [PERFORMANCE], [VOICE], [SONG], [PATTERN], and [UTILITY] keys across the top of the matrix select the various SY85 modes, while the SUB MODE keys select the various sub-modes related to each main mode. This system provides direct, easy access to any mode without the need for a complex multi-level control interface.

Getting Started: page 21. / Feature Reference: page 8.

❷ [PITCH BEND] Wheel

This self-centering pitch wheel allows smooth upward and downward pitch bends.

Getting Started: page 27. / Feature Reference: page 82.



❸ [MODULATION] Wheel

Can be assigned to apply pitch modulation, amplitude modulation, frequency modulation, envelope generator bias, and filter cutoff frequency control for a range of expressive effects.

Getting Started: page 27. / Feature Reference: page 31.

❹ Keyboard

The SY85 has a 61-key keyboard that is both velocity and after-touch sensitive for broad, intimate expressive control.

❺ OUTPUT 1 and OUTPUT 2 Controls

Adjust the volume of the sound delivered via the rear-panel OUTPUT1 and OUTPUT 2 jacks as well as the PHONES jack.

❻ SEQUENCER Keys

Control the recording and playback functions of the internal sequencer.

Getting Started: page 51.

❼ Liquid Crystal Display Panel

This 40-character x 2-line backlit liquid crystal display panel shows all essential information for easy operation and programming.

Getting Started: page 21.

❽ [F1] through [F8] Function Keys

The functions of these keys depend on the selected mode. They are used to engage a function indicated on the display immediately above the key, or select a parameter immediately above the key for editing.

Getting Started: page 19. Feature Reference: page 10.

❾ [CS1] through [CS8] Continuous Sliders

In the voice and performance play modes these controls are used for real-time expressive control. In the edit and utility modes, however, they are used to edit the parameters that appear immediately above each continuous slider on the display.

Getting Started: page 28. Feature Reference: page 10.

❿ [SHIFT] Key

The [SHIFT] key is sometimes used to access secondary functions, parameters, or displays. It is also used in conjunction with the [STORE] key to call the edit compare function.

Getting Started: page 35. Feature Reference: page 14.

⓫ [STORE] Key

Used to store edited data to an internal or card memory location. It is also used in conjunction with the [SHIFT] key to call the edit compare function.

Getting Started: page 38. Feature Reference: page 55.

⓬ [EF BYPASS] Key & Indicator

This key is used to bypass the SY85's internal digital effect system, turning all effects off. Effects are off when the [EF BYPASS] key indicator is lit.

⓭ [EXIT/NO] and [ENTER/YES] Keys

The [EXIT/NO] key can generally be used to exit from any sub-mode or function, while the [ENTER/YES] key is used to engage a variety of sub-modes and functions. These keys are also used to respond to the "Are you sure?" confirmation prompt when saving or initializing data.

Getting Started: page 27. / Feature Reference: page 9.

⓮ [-1] and [+1] Keys

Can be used to select voices, performance combinations, sequencer songs, and patterns. These keys can also be used to edit parameter values in any of the SY85 edit modes. Either key can be pressed briefly for single stepping in the specified direction, or held for continuous scrolling.

Getting Started: page 23. / Feature Reference: page 9.

⓯ Data Entry Dial

The data entry dial provides a fast, efficient way to cover a broad range of voice or performance numbers when, for example, you're looking for a voice but don't know the voice number. It's also handy for making large value changes in any of the edit modes.

Getting Started: page 23. / Feature Reference: page 9, 10.

⓰ PAGE [◄], [►], and [MENU] Keys

In any of the edit and utility modes these keys are used to select the various edit screens. The [◄] and [►] are used to scroll backward or forward through the available screens one at a time, while the [MENU] key calls a menu that allows the desired screen to be directly specified and accessed by number.

Getting Started: page 19. / Feature Reference: page 8.

⓱ MEMORY [INTERNAL1], [INTERNAL2], & [Card] Keys

Select the memory area — internal 1, internal 2, or card — from which voices or performance combinations will be selected.

Getting Started: page 21. / Feature Reference: page 14.

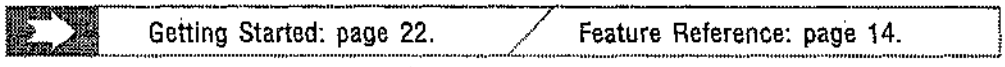
⓲ GROUP [A] Through [H] Keys

In addition to their function in selecting voice or performance numbers, the GROUP keys are used to enter characters for voice, performance, song, and pattern names. They are also used to enter note lengths when recording with the internal sequencer.

Getting Started: page 22. / Feature Reference: page 14.

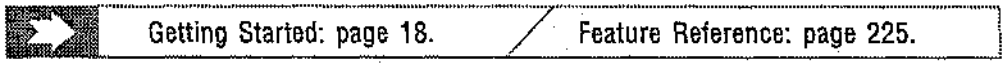
⓳ PROGRAM [1] Through [8] Keys

The PROGRAM keys are used in conjunction with the MEMORY and GROUP keys to select voices and performance combinations. They are also used to enter characters for voice, performance, song, and pattern names, and to enter ties, rests, and accents when recording with the internal sequencer. When editing performance combinations they are also used to select the layer to be edited, and to mute specific layers as required.



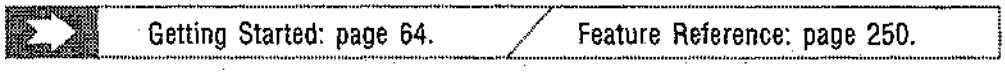
⓴ Floppy Disk Drive

The SY85's built-in floppy disk drive allows easy, economical, high-volume storage of voice, performance, sequencer, and wave data. The disk-in-use indicator below the drive slot lights while any disk operation is in progress (NEVER attempt to remove a disk or turn the power off while a disk operation is in progress.) The eject button, also below the disk slot, is used to remove disks from the drive.

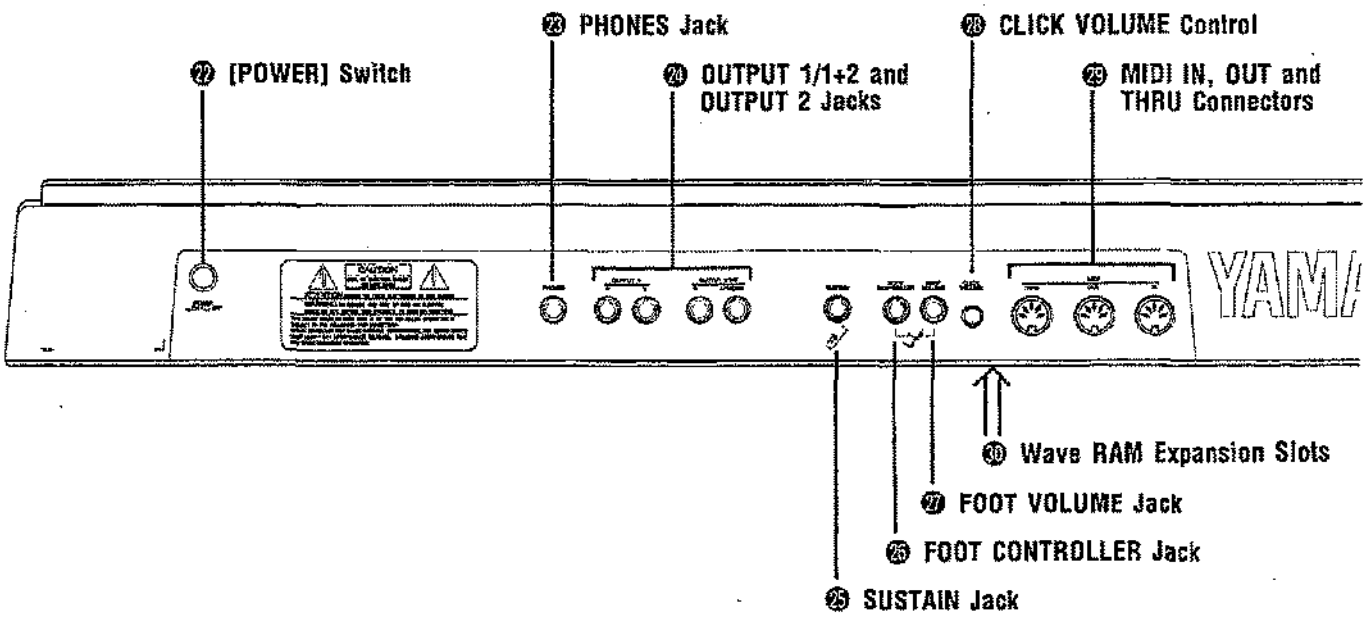


㉑ DATA & WAVEFORM Card Slots

The DATA slot accepts Yamaha MCD64 Memory Cards for storage and retrieval of SY85 voices and performance combinations. It will also accept pre-programmed ROM voice/performance cards. The WAVEFORM slot accepts pre-programmed ROM cards containing wave data that can be used by the SY85. The card wave data can be loaded into the SY85's internal wave RAM memory.



■ Rear Panel



㉒ [POWER] Switch

Press to turn power ON or OFF.

Getting Started: page 18.

㉓ PHONES Jack

Accepts a standard pair of stereo headphones (1/4" stereo phone plug) for headphone monitoring of the SY85 sound without the need for external amplification equipment.

㉔ OUTPUT 1/1+2 and OUTPUT 2 Jacks

These are the main stereo outputs from the SY85. If plugs are only inserted into the OUTPUT 1/1+2 jacks, then the OUTPUT 2 signals are combined with the OUTPUT 1 signals and delivered via the OUTPUT 1/1+2 jacks. Further, if a plug is inserted only into the L/MONO jack, the left and right-channel signals are combined and delivered via this jack (for connection to a monaural sound system).

Getting Started: page 17.

㉕ SUSTAIN Jack

An optional Yamaha FC4 or FC5 footswitch can be connected here for press-on/release-off sustain control.

Getting Started: page 17.

㉖ FOOT CONTROLLER Jack

An optional Yamaha FC7 or FC9 foot controller connected here can be used for amplitude modulation, pitch modulation, frequency modulation, envelope generator bias, and filter cutoff frequency control.

Getting Started: page 17.

㉗ FOOT VOLUME Jack

An optional Yamaha FC7 or FC9 foot controller connected here can be used for volume control.

Getting Started: page 17.

㉘ CLICK VOLUME Control

This knob adjusts the volume of the click (metronome) produced by the sequencer.

Feature Reference: page 217.

㉙ MIDI IN, OUT and THRU Connectors

The MIDI IN connector receives the data from an external sequencer or other MIDI device which is to control or transmit data to the SY85. The MIDI THRU connector simply re-transmits the data received at the MIDI IN connector, allowing convenient chaining of MIDI devices. The MIDI OUT connector transmits data corresponding to all SY85 performance operations, or bulk data when one of the MIDI data transmission functions are activated.

㉚ Wave RAM Expansion Slots

You can insert extra memory modules into these slots to expand the wave memory to a maximum of 3 Megabytes.

Feature Reference: page 285.

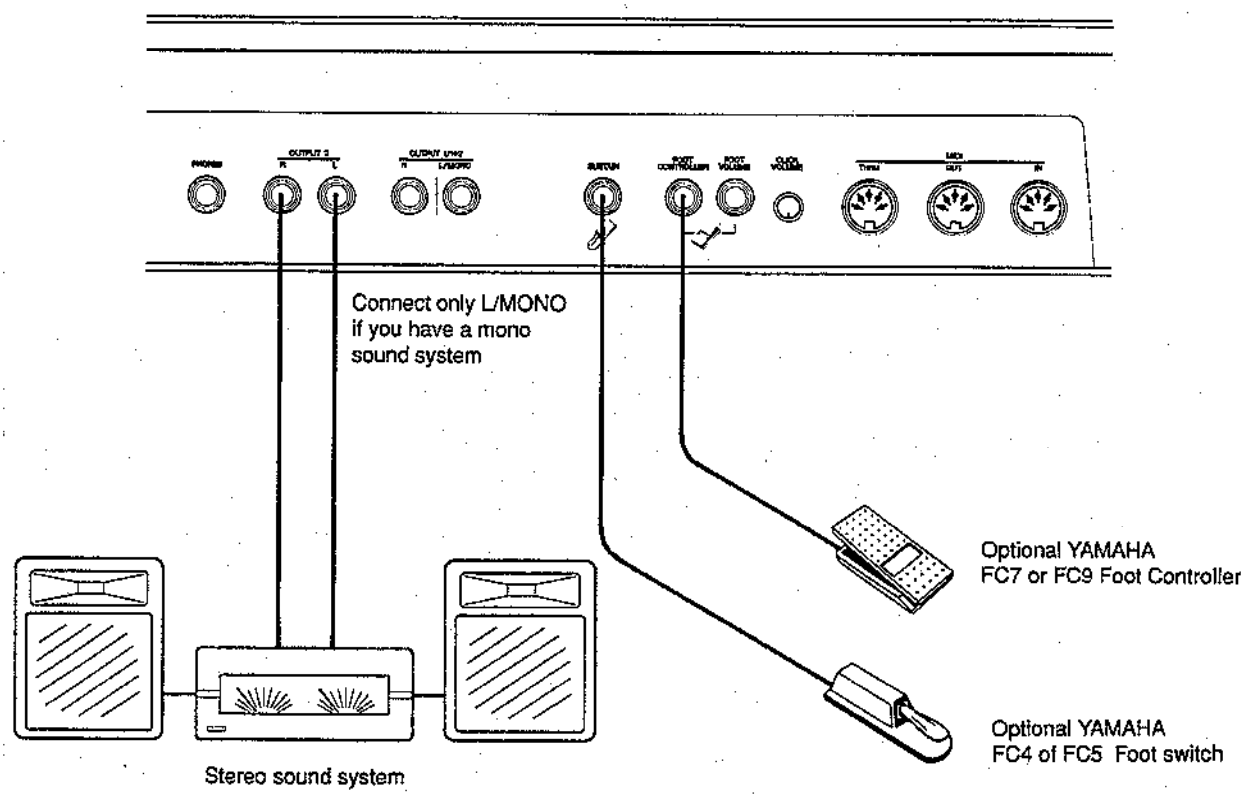
1. Setting Up Your System

■ Connections

The diagram below shows the basic connections in a setup using only the SY85 and a stereo sound system.

CAUTION

Make sure that both the SY85 and your sound system are turned OFF when making connections.



■ Power-on Procedure

Believe it or not, there's actually a "right" way to turn on a sound system that will minimize the possibility of damage to the equipment (and your ears!).

1. Make sure your sound system's volume control and the SY85 volume controls are turned all the way down prior to turning power on.

2. Turn on the SY85.

3. Turn on the sound system.

4. Raise the sound system volume to a reasonable level.

5. Gradually raise the SY85 OUTPUT1 and OUTPUT2 controls while playing the keyboard to set the desired listening level.

The SY85 automatically transmits MIDI control change data corresponding to its control status when its power switch is turned ON or OFF. This can interfere with operation of other MIDI equipment connected to the SY85 MIDI OUT connector. If the SY85 is connected to other MIDI equipment, the SY85 power switch should be turned ON first, and turned OFF last.

■ Load & Play the Sequencer Demo

Once you've set up your SY85 system, you might like to load and play the demo sequence provided on the "DEMO" disk.

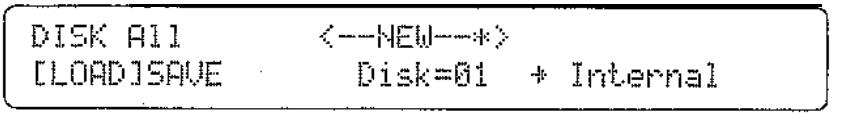
Loading the demo data overwrites the sequencer, wave, and voice memory, so if you have any important data in either of these memory areas make sure it is safe/y stored to disk before loading the demo data.

1. Insert the DEMO Disk

Insert the DEMO disk into the disk drive. The sliding disk shutter should go in first, and the label side of the disk should face upward.

2. Select the Utility DISK ALL LOAD Function

Press the [UTILITY] button so that its indicator lights, then press the SUB MODE [DISK] key (the lowest SUB MODE key). A display with the word "DISK" in the upper left corner should appear.



If necessary, press the PAGE [◄] key a few times until the "DISK ALL" display shown above appears. Also press the [F1] key to make sure that the LOAD function is selected (the square brackets should appear around "LOAD" on the display).

3. Load the Demo Data

Press the [ENTER/YES] once. "Are you sure?" will appear on the display. Press [ENTER/YES] a second time to actually begin loading the data.

```
DISK All          <--NEW--*>
        ** BUSY ** Now executing !
```

"** BUSY ** Now executing !" will appear on the display while the data is being loaded.

4. Engage the SONG Mode

When the data has finished loading, press the [SONG] key to engage the song mode.

```
SONG PLAY        Meas Tempo Time      (TR1)
 01:Demo          001  120  4/ 4      [Tch]
```

5. Play the Demo

Press the SEQUENCER [RUN] key to play the demo sequence. You can stop playback at any time by pressing the [STOP] key.

6. Eject the Disk

Press the eject button, below the disk drive slot, to eject the DEMO disk, then store the disk in a safe place.

■ Load the Pre-programmed Voice, Performance, & Pattern Data

Although the factory pre-programmed voices, performance combinations, and patterns are stored in the SY85 internal memory when the instrument is initially shipped, there is always a possibility that all or part of the memory has been erased or modified by the time the instrument gets to you. Here's how you can re-load all the pre-programmed data.

Loading the pre-programmed data overwrites any other data that is in the SY85 internal memory, so if you have any important data in memory make sure it is safely stored to disk before loading the demo data.

1. Insert the DATA Disk

Insert the DATA disk into the disk drive. The sliding disk shutter should go in first, and the label side of the disk should face upward.

2. Select the Utility DISK ALL LOAD Function

Press the [UTILITY] button so that its indicator lights, then press the SUB MODE [DISK] key (the lowest SUB MODE key). A display with the word "DISK" in the upper left corner should appear.

```
DISK All          <--NEW--*>
[LOAD]SAVE          Disk=01  * Internal
```

If necessary, press the PAGE [◄] key a few times until the "DISK ALL" display shown above appears. Also press the [Fl] key to make sure that the LOAD function is selected (the square brackets should appear around "LOAD" on the display).

3. Load the Data

Press the [ENTER/YES] once. "Are you sure?" will appear on the display. Press [ENTER/YES] a second time to actually begin loading the data.

```
DISK All          <--NEW--*>
        ** BUSY ** Now executing !
```

"** BUSY ** Now executing !" will appear on the display while the data is being loaded.

4. Eject the Disk

When the data has finished loading press the eject button, below the disk drive slot, to eject the DATA disk, then store the disk in a safe place.

2. Selecting And Playing Voices

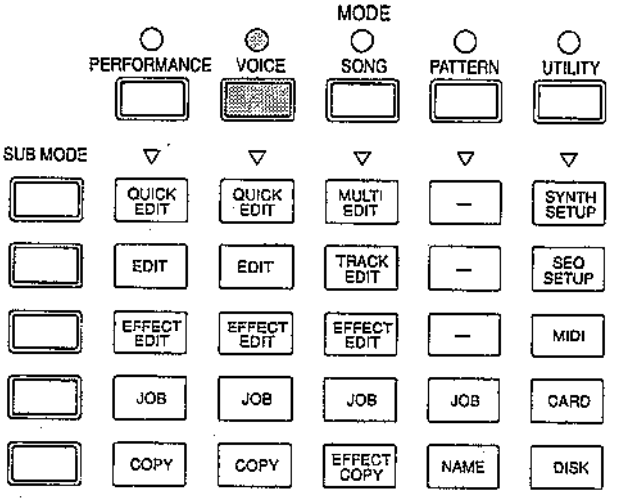
One of the first things you'll want to do with your SY85 is select and play some of its outstanding voices . . . this section will show you how to do just that.

■ Play the Internal Voices.

The SY85 can access three different voice memories - INTERNAL 1, INTERNAL 2, and CARD. Let's begin by selecting and playing some of the internal voices.

1. Select the Voice Play Mode

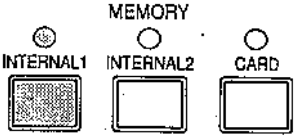
Press the [VOICE] key so that its indicator lights and the words "VOICE PLAY" appear on the top line of the LCD panel.



The information displayed on the bottom display line tells you about the current effect mode and what effects are assigned to the SY85's two effect processors. See the "Effects" section beginning on page 254 of the Feature Reference manual for more details.

2. Select an Internal Voice Memory & Bank

Each INTERNAL memory key accesses two banks of 64 voices. Try pressing the [INTERNAL 1] key a few times while watching the voice number on the display.



The voice number and name appear in the upper right-hand corner of the display. Notice that the roman-numeral subscript below the "I" at the beginning of the voice number alternates between "I" and "II" ($I_I \leftrightarrow I_{II}$) each time the [INTERNAL 1] key is pressed. Now try the same with the [INTERNAL 2] key. The display should alternate between I_{III} and I_{IV}. These are the symbols for internal voice banks 1, 2, 3 and 4:

[INTERNAL 1]

I_I .....Internal voice bank 1.
I_{II}.....Internal voice bank 2.

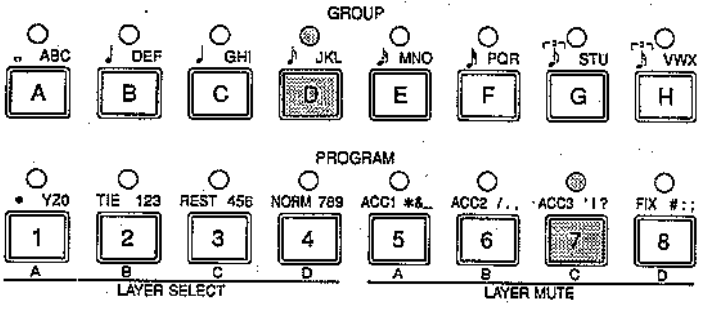
[INTERNAL 2]

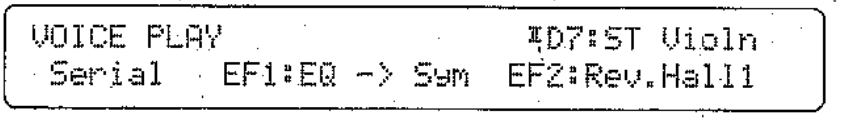
I_{III} .....Internal voice bank 3.
I_{IV} .....Internal voice bank 4.

3. Select a Voice

After selecting an internal voice bank, you can select any of the 64 voices it contains. The 64 voices are organized into 8 groups of 8 voices each (8 x 8 = 64). Any voice can be selected by specifying its group using the GROUP keys ([A] through [H]), and its number using the PROGRAM keys ([1] through [8]).

To select voice "D7", for example, first press the GROUP [D] key and then the PROGRAM [7] key. The GROUP [D] key indicator will flash until the PROGRAM [7] key is pressed and the D7 voice is actually engaged.





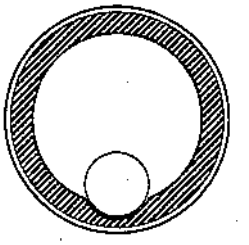
To select a different voice within the same group. it is only necessary to press the appropriate PROGRAM key. To select a different group, however, you'll always have to press both a GROUP key and a PROGRAM key. In the same way, to select a different internal bank you'll have to press a MEMORY, BANK, and PROGRAM key. The indicators for the selected MEMORY and GROUP will flash, and no change will occur until the PROGRAM number is selected. This prevents unwanted voices from being selected until you've actually specified the number of the voice you want to use.

Alternate Voice Selection Methods

- **The [+l] and [-1] Keys** are best used for small, step-wise changes - e.g. selecting adjacent voice numbers, or numbers that are only a few steps away.

  Press the [-1] or [+l] key briefly to decrement or increment the voice number by one, or hold either key for continuous decrementing or incrementing in the corresponding direction. The GROUP will switch automatically if you cross a bank voice-number boundary.

- **The Data Entry Wheel** provides a fast, efficient way to cover a broad range of voice numbers when, for example, you're looking for a voice but don't know the voice number. As usual, use the MEMORY keys to select the memory group, then rotate the data entry wheel while watching the display.



  The groups are automatically switched as the voice numbers are changed.

4. Play

Try playing the selected voice on the keyboard. Select a number of different voices and try them out. Here's an abbreviated voice list for easy reference.

■ Internal Voice List

● INTERNAL VOICE 1

No.	Voice Name	No.	Voice Name
A1	SP Makro	E1	SC Wondr
A2	SP Movie	E2	SC Ecko
A3	SP SawSt	E3	SC Perc
A4	SP Poly	E4	SC Clav
A5	SP Sweet	E5	SC Fingr
A6	SP Phaze	E6	SC SPike
A7	SP Abyss	E7	SC Housy
A8	SP Glass	E8	SC Pan
B1	AP Grand	F1	BR Trump
B2	AP Rock	F2	BR Mute
B3	AP Tack	F3	BR Tromb
B4	AP Chors	F4	BR Horn
B5	AP Dance	F5	BR Tuba
B6	AP Touch	F6	BR TpSfz
B7	KY EP1	F7	BR EnsSF
B8	KY EP2	F8	BR TpEns
C1	BA Wood	G1	GT Steel
C2	BA Pitz	G2	GT Dark
C3	BA Fingr	G3	GT Nylon
C4	BA Pick1	G4	GT 12Str
C5	BA Pick2	G5	GT Strt1
C6	BA Frtls	G6	GT Strt2
C7	BA Thump	G7	GT Mute
C8	BA Slap	G8	GT Comp1
D1	ST Power	H1	ME Mello
D2	ST Sectn	H2	ME Orch1
D3	ST Arco	H3	ME Orch2
D4	ST Pizz	H4	ME Kali
D5	ST Deep	H5	ME Hand
D6	ST Sfz	H6	ME Tink
D7	ST Violn	H7	ME OrchR
D8	ST JeanL	H8	DR PTN

◐ INTERNAL VOICE 2

No.	Voice Name	No.	Voice Name
A1	SP Sweep	E1	SC Jrney
A2	SP Space	E2	SC Mute
A3	SP Nasty	E3	SC Metal
A4	SP Smoky	E4	SC Vox
A5	SP Goner	E5	SC Aha!
A6	SP Vizon	E6	SC Topia
A7	SP Slow	E7	SC Wires
A8	SP Sqare	E8	SC Vocal
B1	KY EP3	F1	BR Tpts
B2	KY EP4	F2	BR Stab
B3	KY EP5	F3	BR Toto
B4	KY EP6	F4	BR Rezz
B5	KY EP7	F5	BR Saw
B6	KY EP8	F6	BR SawSF
B7	KY EP9	F7	BR Wow
B8	KY EP10	F8	BR Swell
C1	BA Syn1	G1	GT Harm
C2	BA Syn2	G2	GT Strt3
C3	BA Syn3	G3	GT Dist
C4	BA Syn4	G4	GT Warm
C5	BA Syn5	G5	GT Comp2
C6	BA Syn6	G6	GT Wah
C7	BA Syn7	G7	GT Feed
C8	BA Syn8	G8	GT Jazz
D1	ST Sizzl	H1	ME Voics
D2	ST Brite	H2	ME Tomi
D3	ST Thin	H3	ME Soro
D4	ST Dark	H4	ME Grind
D5	ST Synth	H5	ME Gizmo
D6	ST Anlog	H6	ME Bottl
D7	ST Combo	H7	ME Templ
D8	ST Tron	H8	DR Zones

● INTERNAL VOICE 3

No.	Voice Name	No.	Voice Name
A1	SP Paddy	E1	SC Synnr
A2	SP Nehan	E2	SC Digi1
A3	SP Wine	E3	SC Bari
A4	SP Hyper	E4	SC Sqiff
A5	SP Big	E5	SC Bell
A6	SP Exita	E6	SC Digi2
A7	SP Freqs	E7	SC Rezz
A8	SP Mello	E8	SC Digi3
B1	KY EP11	F1	BR Syn1
B2	KY EP12	F2	BR Syn2
B3	KY Clav1	F3	BR Syn3
B4	KY Clav2	F4	BR Syn4
B5	KY Hrpsi	F5	WN Tenor
B6	KY Acrdn	F6	WN Alto
B7	KY Cali1	F7	WN Sopr
B8	KY Cali2	F8	WN Bari
C1	BA Syn9	G1	SE Rain
C2	BA Syn10	G2	SE Star
C3	BA Syn11	G3	SE BDup
C4	BA Syn12	G4	SE Templ
C5	SL Digi	G5	MI Ride
C6	SL Lead	G6	SE Alert
C7	SL Saw1	G7	BR East
C8	SL Saw2	G8	BR Tooth
D1	TP Timp	H1	SE Indus
D2	TP Glock	H2	SE Chou
D3	TP Hands	H3	SE Demon
D4	TP Mrmba	H4	SE Dropr
D5	TP Steel	H5	SE Wind
D6	TP Tubal	H6	SE Rezo
D7	TP Vibes	H7	SE Noize
D8	TP Xylo	H8	DR GMIDI

● INTERNAL VOICE 4

No.	Voice Name	No.	Voice Name
A1	CH Aah	E1	FI Blue1
A2	CH Ooh	E2	FI Kalim
A3	CH Ghost	E3	FI Sitar
A4	CH Vespa	E4	FI Harp
A5	CH Vocod	E5	FI DulcM
A6	CH Pure	E6	FI DulcD
A7	CH Quire	E7	FI Dudel
A8	CH Breth	E8	FI Blue2
B1	OR JazB	F1	WN Pan
B2	OR Perc	F2	WN Clari
B3	OR Smoke	F3	WN Basso
B4	OR Dist	F4	WN Oboe
B5	OR Cheap	F5	WN Picc
B6	OR Click	F6	WN Recor
B7	OR Pipes	F7	WN Flute
B8	OR Airy	F8	WN Breth
C1	SL Squar	G1	FI Lip
C2	SL Sync	G2	WN SaxSF
C3	SL Cutty	G3	SE Heli
C4	SL Hamma	G4	MW EGBia
C5	SL Pulse	G5	AT EGBia
C6	SL Dist	G6	MI EPNP
C7	SL Lyle	G7	MI Hiss
C8	SL Whisl	G8	MI Crash
D1	TP SynDr	H1	SE Gobln
D2	TP Loggy	H2	SE Up&Up
D3	TP Angle	H3	SE S&H
D4	TP Bambu	H4	SE Hyena
D5	TP Syn	H5	SE It
D6	TP Siam	H6	SE Hell
D7	TP Tinkl	H7	SE Pops
D8	TP Agone	H8	DR Efect

Note that the voices are arranged in categories for easier access. The category of each voice is identified by a two-character prefix, as follows:

AP ..... Acoustic Piano
OR ..... Organ
KY ..... Keyboard
BR ..... Brass
ST ..... Strings
BA ..... Bass
GT ..... Guitar
WN ..... Wind
FI ..... Folk instrument
CH ..... Chorus
TP ..... Tuned Percussion
SP ..... Synth Pad
SC ..... Synth Comp
SL ..... Synth Lead
ME ..... Musical Effect
SE.. ..... Sound Effect
DR ..... Drums
MI ..... Miscellaneous Instrument
AT ..... After Touch
MW ..... Modulation Wheel

A more detailed voice list is provided in the Feature Reference manual appendix (page 306 through 309).

If you don't get any sound at this point: Make sure your sound system is turned ON and the volume is turned up to a reasonable level, make sure that the SY85 OUTPUT 1 and OUTPUT 2 controls are turned up to a reasonable level, and check all connections carefully.

■ CARD Voice Memory

The CARD memory is an optional Yamaha MCD64 Memory Card (or preprogrammed voice card) plugged into the SY85 DATA slot. Memory cards are convenient for external storage and transportation of voices you or others create. You can also store sets of related voices on different memory cards. An MCD64 Memory Card holds four banks of 64 voices each - a total of 256 voices per card.

CARD voice numbers are preceded by the letter "C". The four voice banks are selected in sequence by repeatedly pressing the [CARD] key:

$$\ldots C_{I} \rightarrow C_{II} \rightarrow C_{III} \rightarrow C_{IV} \rightarrow C_{I} \ldots$$

Individual voices are then selected by using the GROUP and PROGRAM keys (or the [-l]/[+l] keys or data dial) in exactly the same way as the INTERNAL voices.

A properly formatted Yamaha MCD64 memory card (or an appropriate pre-programmed voice card) must be inserted in the CARD slot before the CARD memory can be selected. If no memory card is present, the "Data Card not ready!" display will appear when you attempt to select the card voice memory. If this happens, press the [EXIT/NO] key to return to the voice play mode.

■ Real-time Control

The SY85 provides a number of controllers that can be used for real-time musical control. Some, such as the pitch bend wheel, have a fixed function, while others can be set to control a wide range of parameters including amplitude and pitch modulation, filter modulation, and direct control of effect parameters.

Each voice has its own completely independent set of controller assignments, so any assignments you make using the appropriate VOICE EDIT mode functions (described in the Features Reference manual) will apply only to the current voice.

● PITCH BEND WHEEL

Rolling the PITCH wheel upward (away from you) will raise the pitch of notes played on the keyboard, while rolling the wheel in the opposite direction will lower the pitch. The PITCH wheel is self-centering and will always return to center position (normal pitch) when released.

The maximum range of the PITCH wheel can be set using the PITCH function described on page 82 of the Feature Reference manual.

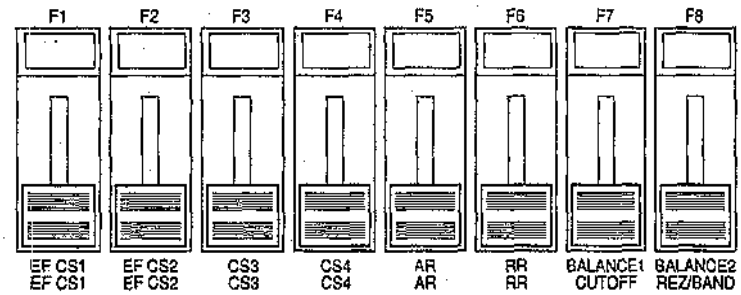
● MODULATION WHEEL

Rolling the MODULATION wheel upward (away from you) will increase the depth of the type of modulation set for the currently selected voice. The MODULATION wheel stays wherever it is set, so you can set it and leave it at any position that produces the desired modulation effect.

The MODULATION wheel can control pitch, amplitude, and frequency modulation, as well as envelope generator bias and filter cutoff frequency. The type of control applied can be independently programmed for each voice using the parameters described on page 83 of the Feature Reference manual.

● CONTINUOUS SLIDERS

Each of the continuous sliders below the SY85 display panel - [CSl] through [CS8] - has a specific real-time control function when playing in the VOICE mode (and the PERFORMANCE mode, described in the next section). The VOICE mode control slider functions are indicated by the white labels below each control.



[CS1] EF & [CS2] EF are assigned to control specific parameters of the effects produced by the SY85 EFFECT 1 and EFFECT 2 processors, respectively. They could control reverb, chorus depth or speed, or just about any parameter that produces a useful real-time sound variation with the selected effect. Although initial assignments are factory-programmed for the voices provided with the SY85, they can be changed to suit your specific musical requirements by using the VOICE EFFECT EDIT mode CONTROL PARAMETERS function descibed on page 110 of the Feature Reference manual. See the “Effects” section beginning on page 254 for details about the effect system.

[CS3] & [CS4] are assignable to just about any voice parameters. Although initial assignments are factory-programmed for the voices provided with the SY85, they can be changed to suit your specific musical requirements by using the VOICE EDIT mode CS3 PARAMETER EDIT and CS4 PARAMETER EDIT functions descibed on pages 89 and 91 of the Feature Reference manual.

[CS5] AR controls the attack rate of the amplitude envelope generator, producing a faster or slower attack, as required.

[CS6] RR controls the release rate of the amplitude envelope generator, producing a faster or slower release, as required.

[CS7] CUTOFF varies the cutoff frequency of the digital filter, making it easy to produce real-time filter sweep effects.

[CS8] REZ/BAND increases or decreases the amount of resonance at the filter cutoff frequency, generally producing a sharper or broader tone. Higher resonance also tends to emphasize the effect of the **[CS7] CUTOFF** control.

Effect and voice changes produced by the continuous sliders while playing in the VOICE and PERFORMANCE modes are temporary, and are not stored by the SY85.

● FOOT CONTROLLER

An optional Yamaha FC7 or FC9 Foot Controller plugged into the rear-panel FOOT CONTROLLER jack can be assigned to amplitude modulation, pitch modulation, frequency modulation, envelope generator bias depth, and filter cutoff frequency depth control via the VOICE EDIT mode FOOT CONTROLLER DEPTH functions described on page 85 of the Feature Reference manual.

● KEYBOARD AFTERTOUCH

Keyboard aftertouch response is most frequently used for vibrato control: the harder you press the keys the more vibrato is applied. This makes it possible to control vibrato without having to remove one hand from the keyboard to use the MODULATION wheel. For the same reason, aftertouch is also often used for pitch control. Many of the internal voices provided with the SY85 have preset aftertouch functions (see the voice list on page 306 through 309), but you can assign aftertouch to a number of different functions by using the VOICE EDIT mode AFTER TOUCH DEPTH functions described on page 87 of the Feature Reference manual.

3. The Performance Mode

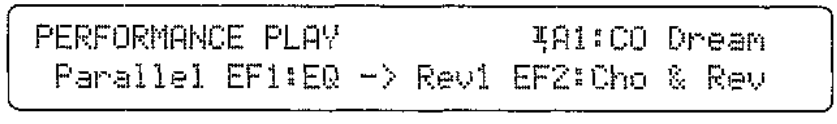
The SY85 PERFORMANCE mode makes it possible to combine up to four voices in "performance combinations" that significantly enhance the instrument's performance capabilities. 128 performance combinations can be stored in internal memory and recalled in the same way as the voices. Before we look at how you can create your own performance combinations, try selecting and playing some of the combinations provided with the SY85.

■ Play the Internal Performance Combinations

The SY85 can access three different performance memories - INTERNAL 1, INTERNAL 2, and CARD.

1. Select the Performance Mode

Press the [PERFORMANCE] key so that its indicator lights and the words "PERFORMANCE PLAY" appear on the top line of the LCD panel.



The information displayed on the bottom display line tells you about the current effect mode and what effects are assigned to the SY85's two effect processors. See the "Effects" section beginning on page 254 of the Feature Reference manual for more details.

2. Select an Internal Performance Memory

In the PERFORMANCE mode, each INTERNAL memory key accesses a single bank of 64 performance combinations.

[INTERNAL 1]
I_I ..... Internal performance bank 1.

[INTERNAL 2]
I_{II} ..... Internal performance bank 2.

3. Select a Performance Combination

After selecting an internal performance bank, you can select any of the 64 performance combinations it contains in exactly the same way as you select voices. See page 21 for voice selection details.

4. Play

Try playing the selected performance combination on the keyboard. In some cases you'll hear several voices "layered" on top of one another, in others you'll get a split keyboard effect with one voice on the left-hand side of the keyboard and another on the right. Select a number of different performance combinations and try them out. Here's an abbreviated performance list for easy reference.

■ Internal Performance List

• **INTERNAL PERFORMANCE 1**

No.	Voice Name
A1	CO Dream
A2	KY Piano
A3	SP Aztec
A4	SC Wyrz
A5	CH Choir
A6	BA Pick1
A7	ST Rosin
A8	BR Stab
B1	CO Soire
B2	OR Bee
B3	SP Lush
B4	SC Rude
B5	CH Breth
B6	BA Swap
B7	ST Octvs
B8	BR Pro5
C1	CO Orch
C2	KY Digi1
C3	SP Faery
C4	SC Talk
C5	CH OohAh
C6	BA Pick2
C7	ST Pitz
C8	BR Sfz
D1	CO Sable
D2	KY Roady
D3	SP Slide
D4	SC Klav
D5	CH Vespa
D6	BA -Fret
D7	ST Rings
D8	BR Forte

No.	Voice Name
E1	CO Jazzr
E2	OR Gimme
E3	SP Lite
E4	SC Buzz
E5	CH Munch
E6	BA Rezzo
E7	ST Dark
E8	BR Saw
F1	CO E.S.P
F2	KY Elek
F3	SP Stars
F4	SC Snaps
F5	CH Abyss
F6	BA Mini
F7	ST 2002
F8	BR Obie
G1	CO Pnooh
G2	OR Nave
G3	SP Ace
G4	SC Point
G5	CH Comet
G6	BA Guppy
G7	ST Big
G8	BR Fatti
H1	CO Inca
H2	KY Funky
H3	SP Vekta
H4	SC Pizza
H5	CH Oral
H6	BA Doom
H7	ST Tron
H8	BR Swell

• **INTERNAL PERFORMANCE 2**

No.	Voice Name
A1	CO Ncert
A2	KY Loud
A3	SP Carol
A4	SL Mitey
A5	ME Orion
A6	GT Amped
A7	SE Rolls
A8	WN Tenor
B1	CO DXStr
B2	OR Sine
B3	SP Venus
B4	SL Chick
B5	ME Glitz
B6	GT Strat
B7	SE C-tar
B8	WN Sacks
C1	CO Stass
C2	KY Digi2
C3	SP Whino
C4	SL L7
C5	ME Honto
C6	GT Phunk
C7	SE Xeno
C8	WN Alto
D1	CO Megin
D2	KY Jerry
D3	SP Hinx
D4	SL Eazy
D5	ME Mars
D6	GT Rock
D7	SE Storm
D8	WN Panic

No.	Voice Name
E1	CO Gospl
E2	OR Cheap
E3	SP Pluto
E4	SC Clank
E5	ME Ecko
E6	GT Harm
E7	SE Zoom
E8	BR Reeds
F1	CO Ethos
F2	KY PnoMW
F3	SP Synth
F4	FI Santo
F5	ME Alien
F6	GT El12
F7	SE Delay
F8	BR Lips
G1	CO Kings
G2	KY Calio
G3	SP Anlog
G4	SC Wind
G5	ME Spark
G6	GT 12Str
G7	SE Flies
G8	BR Miles
H1	CO Happi
H2	KY Digi3
H3	SP Arpeg
H4	TP Bells
H5	ME Hit
H6	GT Acstc
H7	SE Hero
H8	BR Fanfr

* In addition to the voice categories described on page 26, the performance mode has a "CO" (combination) category.

■ CARD Performance Memory

Any Yamaha MCD64 Memory Card used for voice storage can be used for performance storage as well. An MCD64 Memory Card holds two banks of 64 performance combinations each - a total of 128 performance combinations in addition to 256 voices per card.

CARD performance numbers are preceded by the letter "C". The two performance banks are selected in sequence by repeatedly pressing the [CARD] key:

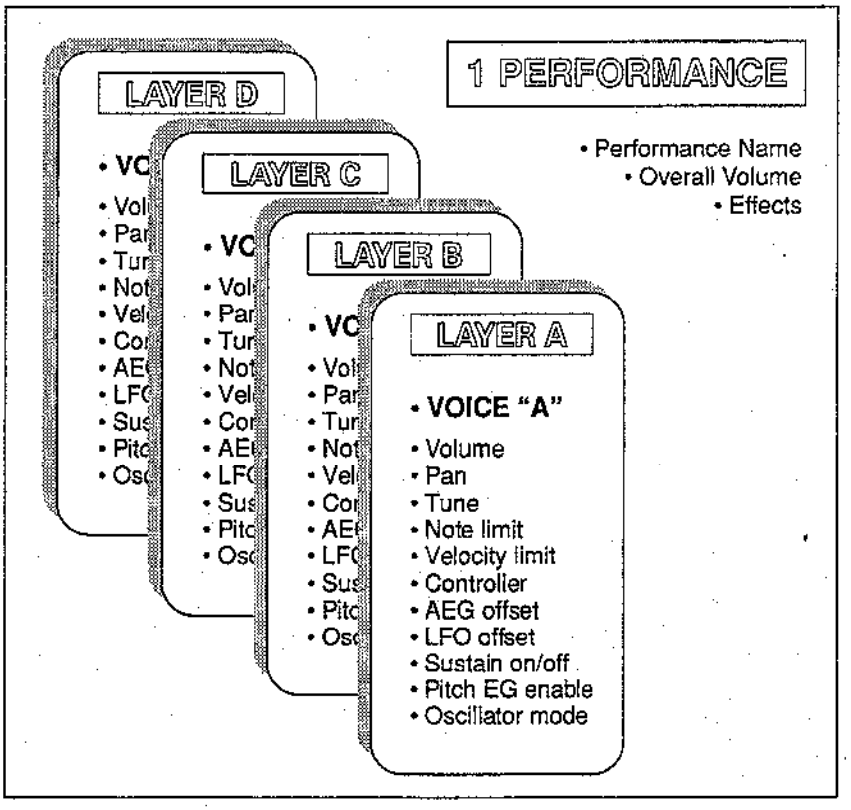
... $C_I \rightarrow C_{II} \rightarrow C_I$ ...

Individual performance combinations are then selected by using the GROUP and PROGRAM keys (or the [-1]/[+1] keys or data dial) in exactly the same way as the INTERNAL voices and performance combinations.

A properly formatted Yamaha MCD64 memory card (or an appropriate pre-programmed voice card) must be inserted in the CARD slot before the CARD memory can be selected. If no memory card is present, the "Data Card not ready!" display will appear when you attempt to select the card memory. If this happens, press the [EXIT/NO] key to return to the performance play mode.

■ Programming Your Own Performance Combinations

A single SY85 "performance combination" can have one, two, three, or four "layers," each having a different voice and several other important attributes.

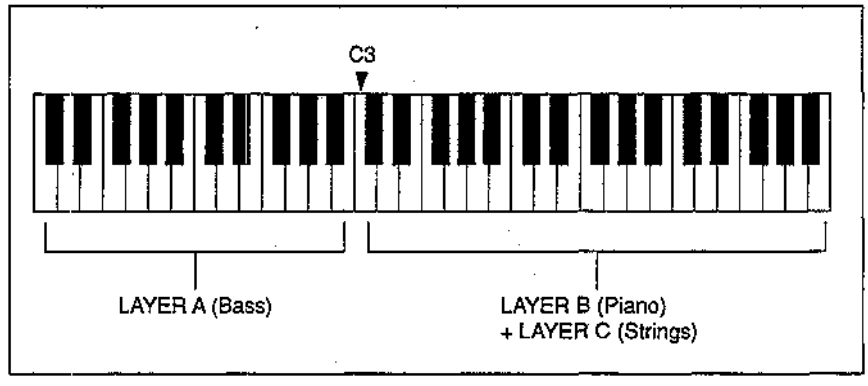


In addition to the individual attributes that can be programmed for each layer, overall characteristics such as volume, effects, and the performance name can also be programmed.

Layers can be played simultaneously across the entire keyboard, limited to specific ranges to create split keyboard setups, or overlapped in any way required. It's also possible to use "velocity switching" to assign different velocity ranges to different layers so that, for example, one voice sounds when you play softly and a completely different voice takes over (or overlaps the first voice) when you play harder.

● AN EXAMPLE

Follow these steps to create a 3-layer voice in which you play a bass voice on the lower two octaves of the keyboard, and piano plus strings on the upper octaves.



Although we won't use anywhere near the SY85's full complement of performance parameters, this exercise will help you get a feel for the performance mode and standard editing procedures.

1. Select a Performance Combination

Engage the PERFORMANCE mode and select any internal performance combination, as described in the preceding section.

2. Initialize the Selected Performance Combination

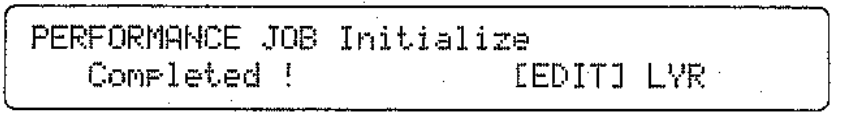
Make sure that the [PERFORMANCE] key indicator is lit, and then press the SUB MODE [JOB] key. Press the PAGE[►] a few times to select the "PERFORMANCE JOB Initialize" screen.

```
PERFORMANCE JOB Initialize
                          [EDIT] LYR
```

Press the [F6] function key to ensure that the entire performance combination is initialized (the square brackets should be around "EDIT" above the [F6] key), then press [ENTER/YES].

```
PERFORMANCE JOB Initialize
Are you sure ?            [EDIT] LYR
```

Respond to “Are you sure?” on the display by pressing the [ENTER/YES] key again. “Completed” will appear for a few seconds when the initialization job has finished.



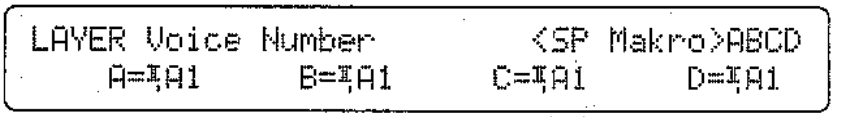
3. Select the Performance Edit “LAYER” Mode

Press the SUB MODE [EDIT] key. This selects the performance edit mode. Use the PAGE [◄] and [►] keys to select the “LAYER” entry screen (if it doesn’t appear immediately).

When you’ve located this screen, press [ENTER/YES] to engage the performance edit LAYER mode.

4. Select the Voices for Each Layer

If the “LAYER Voice Number” display doesn’t appear as soon as you engage the performance edit mode, press the PAGE [◄] key a few times until it does appear (see the “HINT”, below).



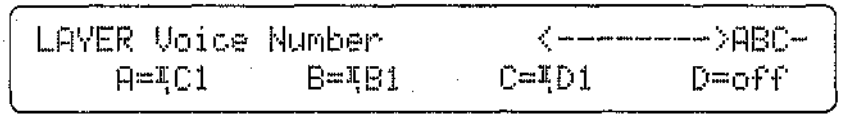
The voice numbers assigned to each layer are shown across the bottom of the display. After initialization, voice “I:A1” is assigned to all four layers.

Press the [F2] function key to place the underline cursor under the layer-A voice number (note that the voice name is shown between parentheses in the upper right corner of the display), then use the [CS2] control slider or any of the voice selection methods already described to select voice number “I:C1” (BA Wood).

Next press the [F4] function key to select the layer-B voice number, and use the [CS4] control slider or any other voice selection method to select voice number “I:B1” (AP Grand).

Next press the [F6] function key to select the layer-C voice number, and use the [CS6] control slider or any other voice selection method to select voice number “I:D1” (ST Power).

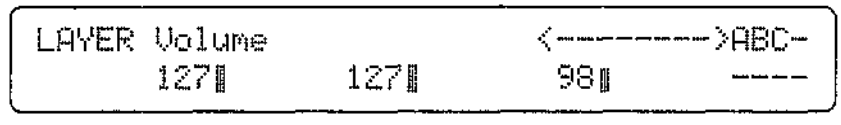
Finally, press the [F8] function key to select the layer-D voice number and, while holding the [SHIFT] key, press the [-1] key to turn layer-D “off”.



The PAGE [◄] and [►] keys can usually be used to select the various parameter and function screens in any edit mode. There is another way, however, that can be more direct is some cases. To call the "LAYER Voice Number screen", for example, press the [MENU] key, use either the data entry dial or the [-1] and [+1] keys to select "1:Voice Number", and then press [ENTER/YES].

5. Set the Volume of Each Layer

Press the PAGE [►] key to move to the "LAYER Volume" screen.



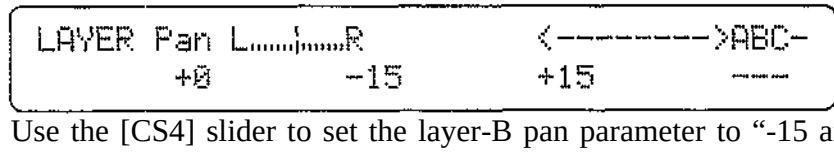
You can now use the [CS2] slider to adjust the volume of the layer-A voice, the [CS4] slider to adjust the volume of the layer-B voice, and the [CS6] slider to adjust the volume of the layer-C voice. The volume range is from "0" to "127", with "127" being maximum volume. The bars to the right of the volume parameters indicate volume level - the longer the bar the higher the volume.

For now, just use [CS6] to lower the volume of the layer-C strings voice to "98". Notice that since layer D is turned "off", no parameter appears for the layer-D voice.

In addition to using the control sliders, these and most other parameters can be adjusted by first pressing the function key immediately below the parameter in order to select that parameter (the underline cursor will appear below the selected parameter), and then using either the data entry dial for large changes or the [-1] and [+1] keys for small stepwise changes.

6. Set the Pan Position of Each Layer

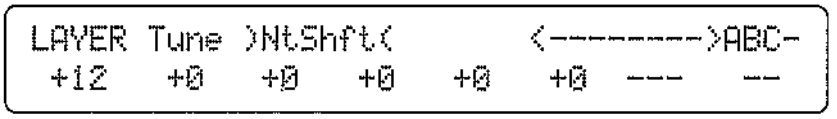
Press the PAGE [►] key to move to the "LAYER Pan" screen.



Use the [CS4] slider to set the layer-B pan parameter to "-15 and [CS6] to set the layer-C pan parameter to "+l5". This pans the piano voice slightly to the left and the strings voice slightly to the right for a broader, more spacious sound (the bass voice is left in the center - "+0"). Note the position of the marker in the graphic pan display on the upper display line as you set these parameters.

7. Tune Each Layer

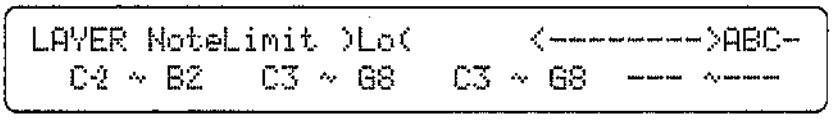
Press the PAGE [►] key to move to the "LAYER Tune" screen.



Since the bass voice we have selected will sound too low if played only on the lower two octaves of the keyboard, we'll shift its pitch up one octave. Use the [CS1] slider to set the layer-A "NtShft" (Note Shift) parameter to "+12".

8. Set the Note Limits for Each Layer

Press the PAGE [►] key to move to the "LAYER Note Limit" screen.



Although the note limit parameters can be adjusted via the appropriate control sliders or other data entry controls, there is an easier way. Press [F2] to select the upper note limit for the layer-A voice then, while holding the [SHIFT] key, press the B2 key on the keyboard. Now press [F3] to select the layer-B lower note limit and, while holding [SHIFT], press the C3 key on the keyboard. Using the same technique, set the layer-C lower note limit to C3.

Although the current layer-A lower limit (C-2) as well as the layer-B and layer-C upper limits (G8) extend beyond the keyboard, these settings won't adversely affect our performance combination so we won't bother to change them.

9. Play

Try playing our new performance combination on the keyboard. You should hear only the BA Wood voice when playing on the lower two octaves (Cl through B2), and a combination of the AP Grand and ST Power voices when playing on the upper three octaves (C3 through C6).

The COMPARE Function

The COMPARE function lets you compare the sound of the edited performance combination with that of the original performace combination. To engage the COMPARE mode, press the [STORE] key while holding the [SHIFT] key. The [PERFORMANCE] key indicator will flash and you'll hear the original pre-edit performance combination when you play on the keyboard.

Press the [EXIT/NO] key to exit from the COMPARE mode and return to the edited data.

10. Go Back And Customize the Parameters

Now you know what the parameters we've just edited do, go back and modify them to create a performance combination that suits your musical needs (use the PAGE [◄] and [►] keys to locate the various edit screens).

11. Store Your Performance Combination

Once you're satisfied with the sound of your original performance combination, you can store it to an internal performance memory location as follows:

Press the [STORE] key.

```
PERFORMANCE STORE      LayerA:<BA Wood >
  To  ↑A1:CO Dream   ↑C1u ↑B1u ↑D1u off
```

Select the performance memory location to which you want to store your new performance combination using any standard performance selection procedure (e.g. MEMORY, GROUP, and PROGRAM keys).

```
PERFORMANCE STORE      LayerA:<BA Wood >
  To  ↑D7:SE Storm   ↑C1u ↑B1u ↑D1u off
```

Press [ENTER/YES].

```
PERFORMANCE STORE          Are you sure ?
  To  ↑D7:SE Storm   ↑C1u ↑B1u ↑D1u off
```

Press [ENTER/YES] again.

```
PERFORMANCE STORE            Completed !
  To  ↑D7:SE Storm   ↑C1u ↑B1u ↑D1u off
```

"Completed !" will appear briefly when the data has been stored, then the SY85 will return to the PERFORMANCE PLAY mode.

If you return to the PERFORMANCE PLAY mode before storing the edited performance combination, either by pressing the [EXIT/NO] key or the [PERFORMANCE] key, an inverse letter "E" will appear to the right of the performance number, indicated that it has been edited but not stored. You can call the STORE function at this point and proceed as described above. If you select a different performance combination before storing, however, the edited data will be lost. Also note that any previous data in the performance memory location you store to will be overwritten by the new data.

You can use the PERFORMANCE NAME function described on page 25 of the Feature Reference manual to give your performance combination an original name before storing it.

■ Further Possibilities ...

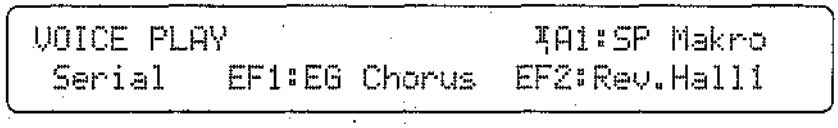
When you're ready to explore the many other possibilities the SY85 provides for performance programming, read through the "PERFORMANCE EDIT MODE" section of the Feature Reference manual (page 13).

4. Voice Editing & Effects

For the programmer who wants to get serious about voice programming, the SY85 offers an extensive range of parameters that allow extremely fine control. All parameters are discussed in detail in the Feature Reference manual VOICE EDIT section (page 57), and we recommend that the dedicated programmer study the Feature Reference manual carefully before embarking on any major voicing projects. The SY85's dual-processor effect system is also quite complex, allowing detailed effect setups to be programmed for each voice. The effect system is described in detail in the feature Reference manual (page 254). For now, however, let's see how you can create a new voice quickly and easily using the VOICE QUICK EDIT mode.

1. Select a Voice

In the VOICE PLAY mode, select the voice you want to edit using the normal voice selection procedure.

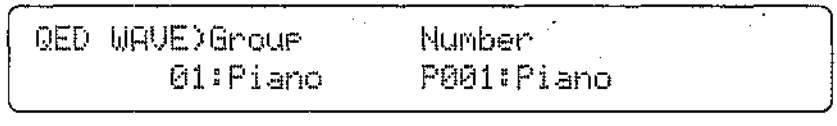


2. Press [QUICK EDIT]

Press the SUB MODE [QUICK EDIT] key to engage the voice quick edit mode.

3. Select and Set the WAVE Parameters

If it doesn't appear immediately when the QUICK EDIT mode is engaged, use the PAGE [◄] and [►] keys to locate the "QED WAVE" screen.



These parameters provide a fast, easy way to select a new AWM wave for the current voice, and automatically set the main amplitude envelope generator parameters to values that produce good results with the selected wave.

For fast, easy selection of the preset SY85 waves, the "Group" parameter, edited via [CS2], selects 16 different wave categories or "groups", each containing a number of waves that can be individually selected by using the "Number" parameter.

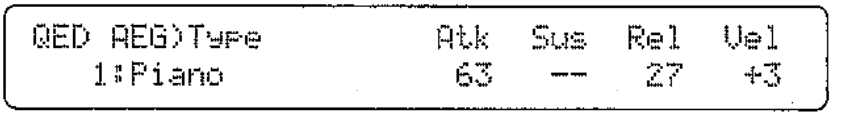
Quick Edit Wave Groups

1: Piano	Acoustic pianos.
2: Key	Other keyboards.
3: Brass	Brass instruments.
4: Wind	Wind instruments.
5: Strings	Strings.
6: A.Guitar	Acoustic guitars.
7: E.Guitar	Electric guitars.
8: Bass	Acoustic & electric bass.
9: Folk	Folk & ethnic instruments.
10: Synth	Synthesizer sounds.
11: Choir	Choir & human voice.
12: TPerc	Tuned percussion.
13: Drum	Drums.
14: Perc	Percussion instruments.
15: SE	Sound effects.
16: Osc	Basic oscillator waveforms.

Once the desired group has been selected, use [CS5] to select the wave to be used in the current voice. The [INTERNAL 1], [INTERNAL 2], and [CARD] keys can also be used to select the memory area from which the wave is to be selected. A complete listing of the internal waves is given in the Feature Reference manual appendix (page 310).

4. Select and Set the Amplitude Envelope Generator Parameters

Use the PAGE [◄] and [►] keys to locate the "QED AEG Type" screen.



Rather than having to set numerous level and rate values via the full-edit amplitude envelope generator parameters, these parameters let you select from a range of preset envelope types, and then modify the overall attack, sustain, and release characteristics as required.

[CS1] selects either the envelope defined by the current amplitude envelope parameter settings, or one of 21 preset amplitude envelope types for the current voice. The envelope types are:

Quick Edit Envelope Types

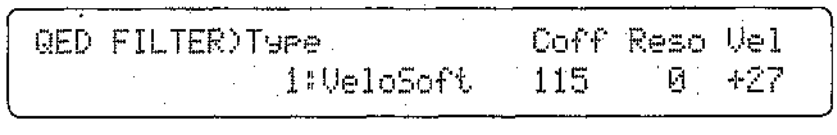
0: --------	Full-edit envelope.
1: Piano	Acoustic piano.
2: Brass	Brass.
3: SfzBrass	Sforzando brass.
4: SynBrass	Synthesizer brass.
5: StFast	Fast-attack strings.
6: StSlw/Pd	Slow-attack strings (pad).
7: E.Bass	Electric bass.
8: SynBass1	Synthesizer bass 1.
9: SynBass2	Synthesizer bass 2.
10: Organ	Organ.
11: Guitar	Guitar.
12: Pluck1	Plucked instrument 1.
13: Pluck2	Plucked instrument 2.
14: SynPad	Synthesizer pad.
15: SynComp	Synthesizer comping (backing).
16: Percusiv	Percussive.
17: S.Ideal1	Sound envelope 1.
18: S.Ideal2	Sound envelope 2.
19: S.Ideal3	Sound envelope 3.
20: S.Ideal4	Sound envelope 4.
21: Init	Initialized envelope.

[CS5] sets the attack rate for the selected envelope. “63” produces the fastest attack, while “0” produces the slowest attack. [CS6] sets the sustain level for the selected envelope, and [CS7] sets the release rate for the selected envelope.

[CS8] determines how the output level of the voice changes in response to velocity changes (e.g. keyboard dynamics). Plus “+” settings produce higher output level in response to higher velocity values — i.e. the harder a key is played, the louder the sound. The maximum setting of “+7” produces the maximum level variation in response to velocity changes. Minus “-” settings produce the opposite effect: lower level in response to higher velocity. A setting of “+0” results in no level variation.

5. Select and Set the FILTER Parameters

Use the PAGE [◄] and [►] keys to locate the “QED FILTER Type” screen.



Although the SY85 includes a sophisticated digital filter system that can be precisely controlled via the full-edit parameters, the simplified filter parameters provided here have been specifically created for fast, efficient filter programming.

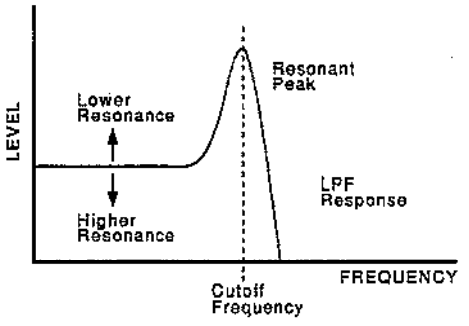
[CS3] selects either the filter defined by the current filter parameter settings, or one of 15 preset filter types for the current voice. The filter types are:

Quick Edit Filter Types

0: --------	Full-edit filter.
1: VeloSoft	Velocity sensitive, soft response.
2: VeloWide	Velocity sensitive, wide response.
3: VeloHard	Velocity sensitive, hard response.
4: VeloReso	Velocity sensitive, resonant.
5: SynBass1	Synthesizer bass 1.
6: SynBass2	Synthesizer bass 2.
7: SynBras1	Synthesizer brass 1.
8: SynBras2	Synthesizer brass 2.
9: Sweep	Sweep-frequency filter.
10: SlowAtak	Slow-attack filter.
11: LPF_Init	Initialized LPF.
12: HPF_nit	initialized HPF.
13: BPF_Init	Initialized BPF.
14: BEF_Init	Initialized BEF.
15: Thru	No filter.

[CS6] sets the cutoff frequency of the selected filter (0 ... 127). Lower cutoff values produce a lower cutoff frequency and higher values produce a higher cutoff frequency. If the "Thru" filter type is selected, no cutoff frequency can be set and "---" appears on the display in place of the parameter.

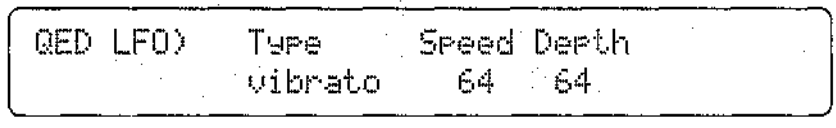
[CS7] determines the degree of filter resonance (00 ... 99). This parameter has a similar effect to the "resonance" settings on traditional analog synthesizer filters — i.e. it determines the height of a peak in the filter response at the cutoff frequency. Higher resonance values produce a higher resonant peak and reduce the overall bandwidth of the filter, passing a narrow band of frequencies at the filter's cutoff. If a filter type other than "LPF" is selected, no resonance can be produced and "--" appears on the display in place of the parameter.



[CS8] determines how the filter cutoff frequency changes in response to velocity changes (e.g. keyboard dynamics). The range is from -63 to +63. Plus "+" settings produce higher cutoff frequencies in response to higher velocity values — i.e. the harder a key is played, the higher the cutoff frequency. The maximum setting of "+63" produces the maximum level variation in response to velocity changes. Minus "-" settings produce the opposite effect: lower cutoff in response to higher velocity. A setting of "+0" results in no cutoff variation.

6. Select and Set the LF0 Parameters

Use the PAGE [◄] and [►] keys to locate the "QED LFO" screen.



Here, the main LFO parameters are simplified and concentrated in a single screen for quick, easy programming.

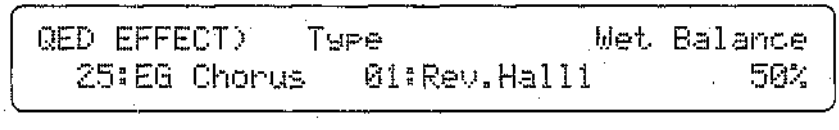
[CS3] determines whether the LFO will produce vibrato (pitch modulation), tremolo (amplitude modulation), or wahwah (filter cutoff modulation) effects. The current LFO parameter settings (page 78) are selected when this parameter is set to "-------".

[CS5] sets the speed of the LFO (0 ... 99). "0" is the slowest speed setting, producing an LFO speed of approximately 0 Hertz. The fastest setting of 99 produces an LFO speed of approximately 25 Hertz.

[CS6] sets the maximum amount of amplitude (tremolo), pitch (vibrato), or filter cutoff (wahwah) modulation that can be applied to the current voice. A "0" setting produces no modulation while a setting of "127" produces maximum modulation.

7. Select and Set the EFFECT Type & Balance Parameters

Use the PAGE [◄] and [►] keys to locate the "QED EFFECT" screen.



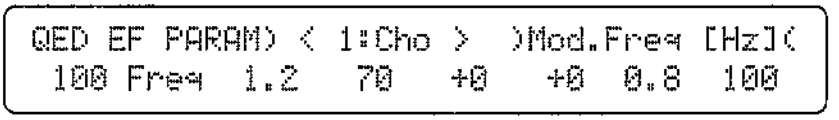
The SY85 features a complex, high-performance effect system that can be programmed easily via the parameters presented here and in the following screen.

[CS1] selects any of the SY85's 90 effect types for the EFFECT 1 processor, and [CS4] does the same for the EFFECT 2 processor. See page 254 of the Feature Reference manual for more details on the SY85 effect system.

[CS8] controls the balance between the direct no-effect sound and the effect sound. The maximum setting of "100" produces maximum effect depth.

8. Select and Set the Main Effect Parameters

Use the PAGE [◄] and [►] keys to locate the "QED EF PARAM" screen.



This screen provides access to the four main parameters each for the current selected effect 1 and effect 2. The four effect 1 parameters are edited via [CS1] through [CS4], while the four effect 2 parameters are edited via [CS5] through [CS8]. The name of the corresponding effect and parameter are shown on the upper display line when one of these parameters are edited.

The parameters are different for each effect (refer to page 274 of the Feature Reference manual for details).

9. Play

Try playing your new voice on the keyboard (of course, you can play at any time while editing to hear how it's progressing).

The COMPARE Function

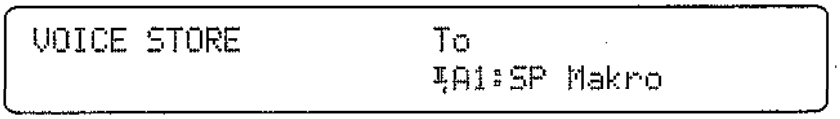
The COMPARE function lets you compare the sound of the edited voice with that of the original voice. To engage the COMPARE mode, press the [STORE] key while holding the [SHIFT] key. The [VOICE] key indicator will flash and you'll hear the original pre-edit voice when you play on the keyboard.

Press the [EXIT/NO] key to exit from the COMPARE mode and return to the edited data.

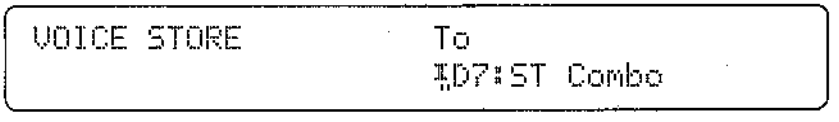
10. Store Your New Voice

Once you're satisfied with the sound of your original voice, you can store it to an internal voice memory location as follows:

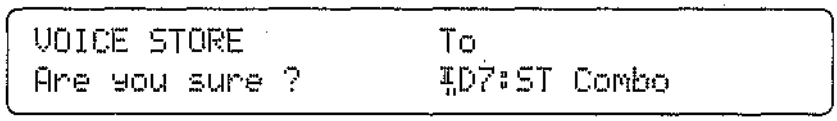
Press the [STORE] key.



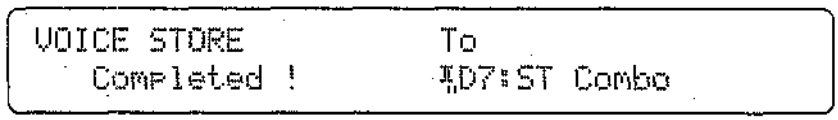
Select the voice memory location to which you want to store your new voice using any standard voice, selection procedure (e.g. MEMORY, GROUP, and PROGRAM keys).



Press [ENTER/YES].



Press [ENTER/YES] again.



"Completed !" will appear briefly when the data has been stored, then the SY85 will return to the VOICE PLAY mode.

If you return to the VOICE PLAY mode before storing the edited voice, either by pressing the [EXIT/NO] key or the [VOICE] key, an inverse letter "E" will appear to the right of the voice number, indicated that it has been edited but not stored. You can call the STORE function at this point and proceed as described above. If you select a different voice before storing, however, the edited data will be lost. Also note that any previous data in the voice memory location you store to will be overwritten by the new data.

You can use the VOICE NAME function described on page 95 of the Feature Reference manual to give your voice an original name before storing it.

■ Further Possibilities ...

When you're ready to explore the many other possibilities the SY85 provides for voice programming, read through the "VOICE EDIT MODE" section of the Feature Reference manual (page 57).

5. The Sequencer

The SY85 sequencer has 8 “normal” tracks and a special rhythm track. Each of the normal sequencer tracks can control a separate “instrument”. Which track controls which instrument is determined by the multi-play setup instrument assignments and the sequencer track transmit channel assignments (both are described below). Normally, sequencer tracks 1 through 8 are assigned to the correspondingly numbered MIDI transmit channels, so tracks 1 through 8 control the multi-play instruments assigned to MIDI channels 1 through 8, respectively. Track 9, the rhythm track, plays a sequence of rhythm “patterns” — any of the 100 preset rhythm patterns provided with the SY85, or original patterns you record in the PATTERN mode.

The SY85 sequencer can hold up to 10 separate “songs” that can be selected and recorded or played as required. Completed songs can also be saved to external floppy disks for long-term storage.

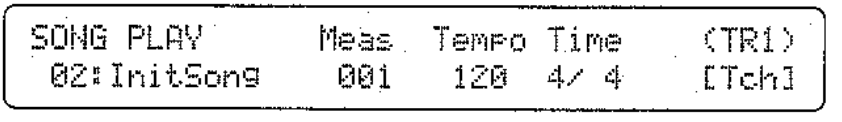
There are basically two ways to record using the sequencer — realtime or step write. Both of these methods are described below.

■ Real-time Recording (Tracks 1 ... 8)

Realtime recording allows you to directly record anything you play on the keyboard, capturing the spontaneous timing, keyboard dynamics and controller operations of the performance. Using the realtime recording mode is, in fact, very much like using a conventional tape recorder. Realtime recording is best for parts you can play easily on the keyboard, and for passages in which you want to retain the human “feel” of naturally varying timing and other musical factors.

1. Engage the Song Mode and Select a Song Number

Press the [SONG] key to engage the song mode.

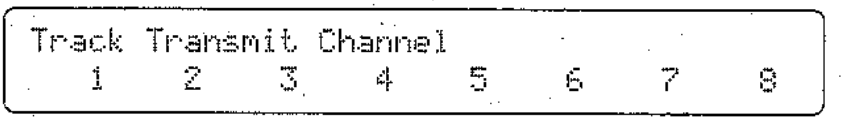


The SY85 can hold up to 10 different “songs” in memory at the same time. Use [CS1] to select a song number from 1 to 10. If this is the first song you’ve recorded, “1” is a logical choice.

Optional Set the Transmit Channel For Each Track.

This step is only necessary if you want to change the default track transmit channel settings: tracks 1 through 8 normally transmit on MIDI channels 1 through 8, respectively.

Press [F8] to call the Track Transmit Channel display.



Here you can specify which MIDI channel (1 ... 16) each of the sequencer's 8 main tracks will transmit on. Functions keys [F1] through [F8] correspond to tracks 1 through 8. Press a function key to move the underline cursor to the MIDI channel parameter for that track, then use the corresponding control slider (e.g. [CS3] for track 3) to set the MIDI transmit channel for that track. The MIDI transmit channel for the rhythm track (track 9) can be set by holding the [SHIFT] key and using the [CS8] control slider (note that "RH9" appears above [CS8] while the [SHIFT] key is held). The rhythm track is normally set to transmit on channel 16.

This function is obviously important if you will be using the SY85 sequencer to drive an external tone generator that has specific channel requirements.

2. Program the MULTI Setup For the Selected Song

Each SY85 "song" has an independent "multi setup" that can have up to 16 voices assigned to "instruments" 1 through 16. Each instrument is controlled via the correspondingly numbered MIDI channel.

Press the SUB MODE [MULTI EDIT] key, and then use the PAGE [◄] and [►] keys to locate the "MULTI Voice Select" screen shown below. This screen lets you select the voices that are to be played via the various multi-setup channels.

```
MULTI Voice Select 1- 8        <SP Makro>
P1A1 P1A1 P1A1 P1A1 P1A1 P1A1 P1A1 P1A1
```

Only eight voice numbers are shown on the display at one time. Use the PAGE [◄] and [►] keys while holding the [SHIFT] key to switch between multi instruments "1 ... 8" and "9 ... 16". The currenty selected group of voices is indicated on the upper display line.

After moving the cursor to the instrument you want to edit by pressing the appropriate function key, use the same function key to toggle between PERFORMANCE or VOICE memory ("P" or "V" at the beginning of the voice number). Then use the [INTERNAL 1], [INTERNAL 2], and [CARD] keys to select the memory area from which the voice is to be selected, and finally the GROUP and PROGRAM keys to select the voice. Voices within the selected memory bank can also be selected directy for each channel by the appropriate CS sliders. Internal and card voices cannot be mixed.

The voices can individually turned on or off by using the [-] (off) and [+] (on) keys while holding the [SHIFT] key.

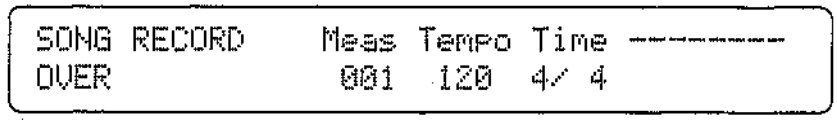
The name of the currently selected voice is shown in the upper right corner of the display.

To make locating voices for multi assignment faster and easier, a "voice search" function can be accessed from the "MULTI Voice Select" screen by pressing the SUB MODE [COPY] key.

3. Return to the SONG Mode and Set the Record Parameters

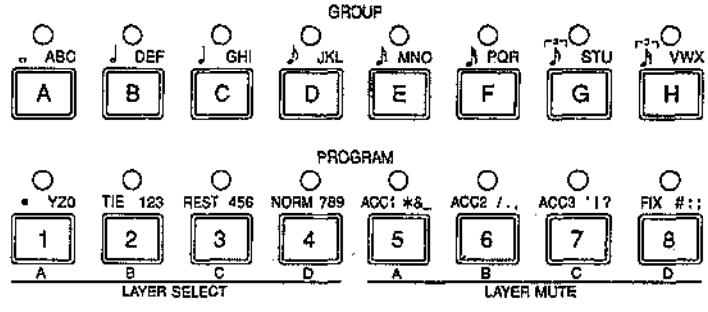
3-1 Engage the Record Mode.

Press [SONG] or [EXIT] to return to the song play mode, then press the sequencer [RECORD] key to engage the record standby mode. The red [RECORD] indicator will light.



3-2 Select the Record Track.

GROUP keys [A] through [H] correspond to sequencer tracks 1 through 8, while PROGRAM key [1] is used to select the rhythm track (the rhythm track will be described in detail in "Rhythm Patterns and the Rhythm Track"). When the song mode is engaged, the indicators corresponding to tracks that already contain some recorded data glow green. The inidcator of the track to be recorded, selected by pressing the appropriate GROUP or PROGRAM key, glows red.



When the desired record track is selected, the corresponding instrument in the current multi-play setup will sound when the keyboard is played.

3-3 Select a Record Mode.

Use [CS1] to select the desired record mode. The different record modes are:

- OVER (Real-time Overdub)
  Material recorded in the overdub mode is recorded "over" any previous material, so you end up with a combination of the previous and newly-recorded data.

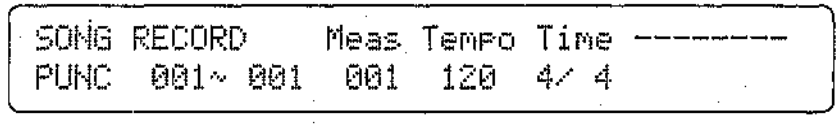
- REPL (Real-time Replace)
  Anything recorded in this mode replaces previously recorded material. That is, previous data on the current track is erased and replaced by the new material.

● STEP

The STEP record mode will be described in “STEP RECORDING” beginning on page 52.

● PUNC (Real-time Punch-in)

Punch-in recording makes it possible to re-record (replace) a section of a previously-recorded track without affecting the data before and after the punch-in section. All operations are the same as for replace recording, except that you must specify the measure numbers for the beginning and end of the punch-in segment. If you select “punc” instead of “over” or “rep1,” (see step 3, above) the display will appear as follows:



Use the [CS2] and [CS3] control sliders to set the punch-in and punch-out measures, respectively, prior to recording. Other parameters within this display can be set in the same way as for replace or overdub recording.

Once recording is started the sequence will play back until the punch-in point is reached, then the replace record mode will be activated until the punch-out point is reached, allowing you to record the new material. If recorded material exists following the punch-out point, playback will continue until the end of the sequence.

3-4 Set the Record Tempo.

Use [CS5] to set the tempo you want to record at (shown in beats per minute on the display). The tempo can be set from 30 to 240 beats per minute.

3-5 Set the Time Signature.

Use [CS6] to set the time signature of the song to be recorded. The time signature can only be set if the song selected for recording is “clear” and does not contain any previous data. See “CLEAR SONG” on page 179 of the Feature Reference manual for instructions on how to clear one or all songs.

Optional Set the Start Measure.

Before actually begin recording you can use the [CS4] slider to set the measure from which you want to start recording, if the track being recorded already contains recorded material.

4. Press [RUN] To Start Recording

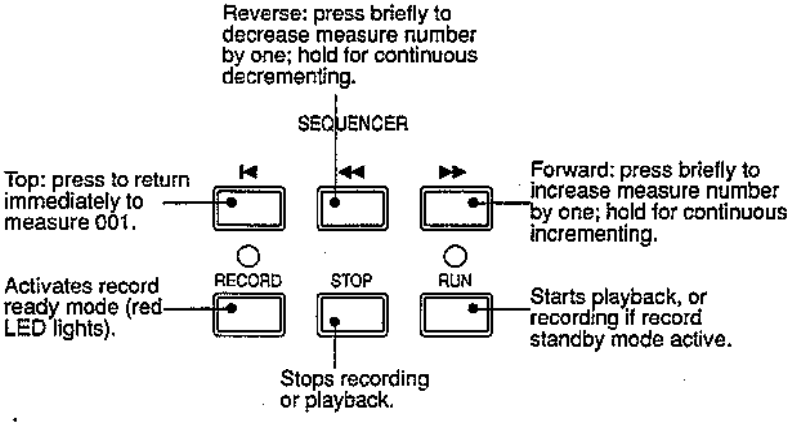
Press the [RUN] key and start recording after a two-measure count-in. The count-in is indicated visually on the LCD by "minus" measure numbers — e.g. recording will actually begin after a two-measure count-in from -8 to 0 if 4/4 time is selected, -16 to 0 if 8/8 time is selected, etc. The "click" metronome will also sound as long as the "CLICK MODE" function is set appropriately ("REFERENCE" section, page 217) and the rear-panel [CLICK VOLUME] control is set to an appropriate level. After the count-in, the measure numbers will increase as recording progresses. The [RUN] key indicator also flashes to indicate the tempo — red on the first beat of every measure and green on all other beats.

5. Press [STOP] To Stop Recording

When you have finished playing the part for the current track, press the [STOP] key to stop recording. Both the [RUN] and [RECORD] key indicators will go out, and "Executing!" will appear on the display briefly while recorded data is being processed. After this, the SY85 will return to the sequencer play mode.

6. Check the Part just Recorded

You can now listen to the part you've just recorded by pressing the sequencer **[⏮]** "top" key (see illustration below) to return to the first measure, and then the [RUN] key. You can also use the forward and reverse keys to move to any measure and listen to playback from that point.



Playback will stop automatically when the end of the recorded sequence is reached, or it can be stopped at any time by pressing the [STOP] key.

While a sequence is playing, the [CS1] through [CS8] sliders can be used to adjust the volume of-multi instruments 1 through 8, respectively. Also, since the cursor is located at the "Tempo" parameter, the data entry dial or [-1] and [+1] keys can be used to change the tempo during playback.

7. Record the Next Part

When you're satisfied that the first track is OK, go back to step 3-2 and select a new record track, then record. Continue this process until your composition is complete. For difficult tracks you might want to use the step record mode, described below.

■ Step Recording (Tracks 1 ... 8)

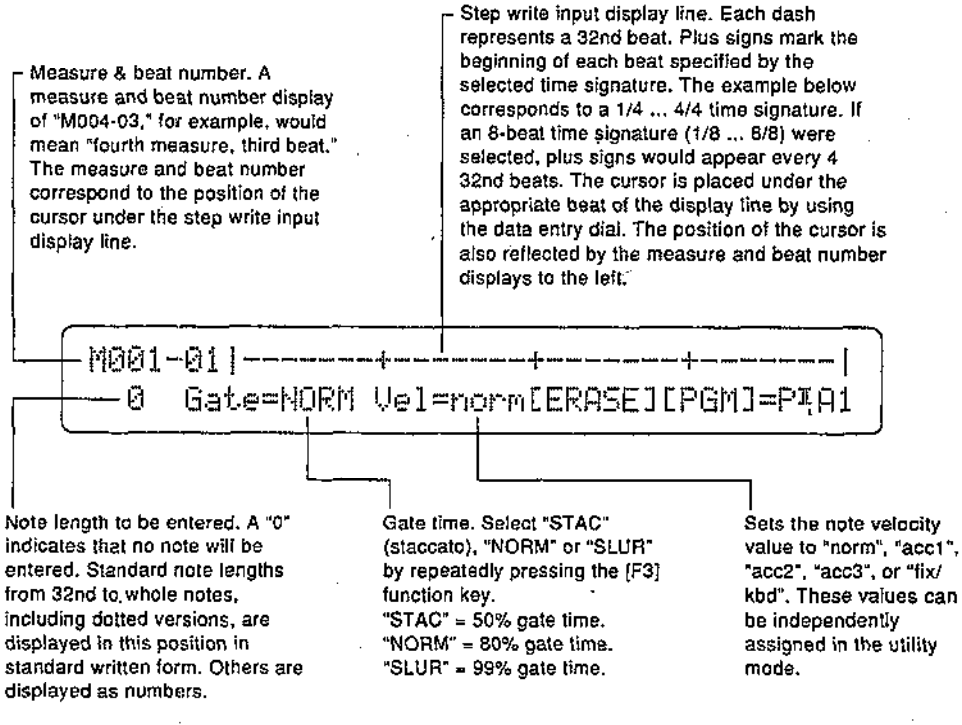
Step recording allows you to input parts note by note, rest by rest, without having to actually play the part on the keyboard. This is ideal for entering difficult parts from written music, or for extremely complex or fast passages that would be impossible to play in real time.

1. Select the "Step" Record Mode

The sequencer record mode is entered in the same was as described in the "REALTIME RECORDING" section, above. Instead of choosing the "repl" or "over" record mode, select "step." You can also select a time signature at this point if nothing has been recorded yet.

2. Press [RUN]

Press the [RUN] key to call the step record display.



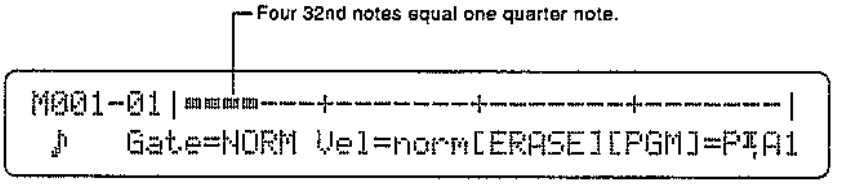
3. Set the Gate Time and Velocity

Use the [F3] function key to select the gate time of the first note to be entered: "STAC" for short, staccato notes "NORM" for normal-length notes; or ; "SLUR" for long notes that run into each other.

The velocity of the notes to be entered is set via the "NORM" (PROGRAM [4]),1"ACC1" through "ACC3" (PROGRAM [5] through [7]), and "FIX" (PROGRAM [8]) keys. The actual velocity values of the accents — "ACC1" through "ACC3 "- can be set via the UTILITY SEQ SETUP mode SEQUENCER Accent screen, described on page 220 of the Feature Reference manual. If the "Fix" parameter is set to "kbd", then "kbd" will appear on the display when you press the FIX (PROGRAM [8]) key, and the notes will be entered at the velocity with which they are played on the keyboard.

4. Select the Desired Note Length

Select the note length for the first note by pressing the corresponding GROUP key (standard notes are displayed above the keys), or by incrementing/decrementing using the [-1] and [+1] keys. The number of 32nd-note segments corresponding to the selected note length will be emphasized on the display. If you select 8th notes in 4/4 time, for example, the display will look something like this:



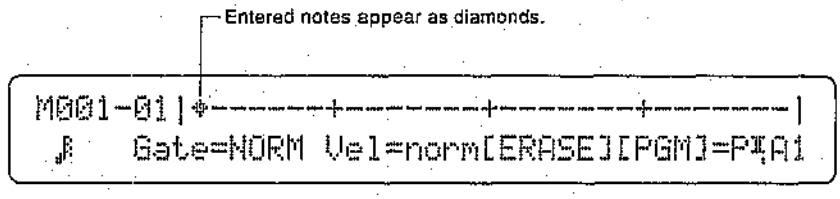
- **Dotted Notes**
  Pressing the dot key (PROGRAM key [1]) adds half the value of the currently displayed note length. If this results in a standard note length, it is displayed as a dotted note. Otherwise it is displayed as a numeric value.

- **Triplets**
  8th and 16th-note triplets can be entered via the GROUP [G] and [H] keys, respectively. When a note is being displayed "-3-" appears to the right of the note, while numeric values are divided by two-thirds (since triplets squeeze three notes in the space normally occupied by two, triplet notes are two-thirds the length of their standard counterparts). You should normally enter triplet notes in groups of 3, 6, 9, 12 or other multiples of 3, in order to end up with standard note lengths.

- **Ties**
  Press the TIE key (GROUP key [2]) immediately after entering a note to tie that note to the next note entered. The tie function is cancelled if you move the cursor between pressing the TIE key and entering the second note.

5. Enter the Required Notes and Rests

When you've selected the required note length, play the note to be entered on the keyboard. The entered note will appear as a diamond (u) on the step record input display line. The cursor will move to the beginning of the next note.



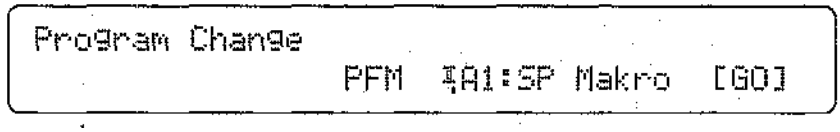
Press the REST key (PROGRAM key [3]) instead of playing a note if you want to enter a rest of the currently specified length.

6. Continue Until the Track Is Complete

Repeat steps 3 through 5 until the required material is entered. You can move the cursor back and forth using the data entry dial, adding notes wherever you like — even on top of other notes to create chords. The SEQUENCER [◀◀] and [▶▶] keys can be used to move backward and forward a measure at a time.

- **Erasing Notes**
  To erase a note, move the cursor to that note and press the [F6] function key, immediately below "[ERASE]" on the display. The diamond note marker will disappear. If the diamond marks a chord, the entire chord will be erased.

- **Switching Voices Mid-track**
  You can switch to a different voice anywhere in a track by entering a program change command at the required point. After moving the cursor to the point at which you want to change voices in the step record edit display, press the [F7] function key.



Use [CS4] to select "PFM" if you want to switch to a performance combination or "VCE" if you want to switch to a voice, select the performance combination or voice in the normal way, the press [F8] (under "[GO]" on the display) to enter the specified program change (or [EXIT] to quit and return directly to the step-record display). The display will return to the step record edit display, and a "p" will occur at the point at which the program change command was. entered. Program change commands can be erased in the same was as notes by using the [ERASE] key.

7. Press [STOP]

When the track is finished, press [STOP] to return to the SONG play mode. Now you can press [RUN] and hear how the sequence sounds.

■ Creating A Rhythm Track

SY85 rhythm tracks are most easily and efficiently created by creating a sequence of rhythm "patterns". The SY85 has memory for 100 internal patterns, initially containing 100 pre-programmed patterns covering a wide variety of musical styles. You can use these patterns as they are, edit them, or record totally new ones as required (the pre-programmed patterns can be re-loaded from the disk supplied with the SY85 at any time).

● LISTEN TO THE INTERNAL PATTERNS

1. Press [PATTERN]

Press the [PATTERN] key to engage the pattern mode.

```
PATTERN PLAY    Meas Tempo Time
I00w:Funk   V      1  120  4/ 4
```

2. Select a Pattern

Use [CS1] (or any of the other data entry controls as long as the cursor is below the pattern number) to select a pattern number (00 ... 99). The name of the pattern appears to the right of the number. The letter to the right of the pattern name indicates whether it is a verse ("V"), fill-in ("F'), or chorus ("C") pattern. The number below "Meas" on the display indicates how many measures long the patterns is (1 ... 4). [CS5] can be used to adjust the tempo, below "Tempo" on the display. The number below "Time" is the pattern's time signature.

Three variations are provided for most of the pre-programmed patterns (verse, fill-in, and chorus) so you can create complete songs with minimum editing.

3. Play the Selected Pattern

Press the SEQUENCER [RUN] key to play the selected pattern. The pattern will repeat continuously unil the [STOP] key is pressed. You can select a different pattern while a pattern is playing, and the new pattern will only begin playing as soon as the current pattern finishes (the new pattern number will flash in the meantime).

● RECORDING AN ORIGINAL PATTERN — REAL TIME

1. Select a Pattern Number

In the PATTERN mode, select the number of the pattern you want to edit or record.

Optional Clear the Current Pattern.

If you want to record a totally new pattern from scratch, clear the existing pattern: press the SUB MODE [JOB] key, use the PAGE [◄] and [►] keys to locate the "PTN JOB Clear Pattern" screen.

```
PTN JOB Clear Pattern      ptn
[PTN] ALL  KEY <Funk   U> I00w
```

Press [F1] so that the square brackets appear around “PTN” on the display. This means that you want to clear a single pattern. If necessary, use [CS6]. to select the pattern you want to clear, then press [ENTER/YES].

```
PTN JOB Clear Pattern      Are you sure ?
[PTN] ALL  KEY <Funk   U> I00w
```

Respond to this “Are you sure ?” display by pressing [ENTER/YES] again if you want to go ahead and clear the pattern, or press [EXIT/NO] to cancel the operation.

2. Set the Pattern Record Parameters

2-1 Engage the Record Mode.

Press the sequencer [RECORD] key to engage the record standby mode. The red [RECORD] indicator will light.

```
PATTERN RECORD Meas Tempo Time Qntz Vel
 REAL  PTN=I00    1  120  4/ 4  1/4 norm
```

2-2 Select a Record Mode.

Use [CS1] to select the desired record mode. The different record modes are:

- REAL (Real-time Overdub)
  Material recorded in the overdub mode is recorded “over” any previous material, so you end up with a combination of the previous and newly-recorded data.

- **STEP**

  The STEP record mode will be described in “Recording an Orignal Pattern — Step Record” beginning on page 58.

2-3 Select the Pattern Number to Be Recorded.

If necessary, use [CS3] to select the pattern number to be recorded.

2-4 Set the Number of Measures.

Use [CS4] to set the length of the pattern in measures (1 ... 4).

2-5 Set the Record Tempo.

Use [CS5] to set the tempo you want to record at (shown in beats per minute on the display). ‘The tempo can be set from 30 to 240 beats per minute.

2-6 Set the Time Signature.

Use [CS6] to set the time signature of the pattern to be recorded. The time signature can only be set if the pattern selected for recording is “clear” and does not contain any previous data.

2-7 Set the Quantize Value.

Use [CS7] to set the quantize value at which you want to enter the pattern data. The available quantize values are 1/4, 1/6, 1/8, 1/12, 1/16, 1/24, and 1/32. Quantization can also be turned “off’ if you want maximum note resolution.

2-8 Set the Velocity Value.

The velocity of the notes to be entered is set via the “NORM” (PROGRAM [4]), “ACC1” through ACC3” (PROGRAM [5] through [7]), and “FIX” (PROGRAM [8]) keys. The actual velocity values of the accents — “ACC1” through “ACC3” - can be set via the UTILITY SEQ SETUP mode SEQUENCER Accent screen, described on page 220 of the Feature Reference manual. If the “Fix” parameter is set to “kbd”, then “kbd” will appear on the display when you press the FIX (PROGRAM [8]) key, and the notes will be entered at the velocity with which they are played on the keyboard.

3. Press [RUN] To Start Recording

Press the [RUN] key and start recording. The [RUN] key indicator flashes to indicate the tempo — red on the first beat of every measure and green on all other beats.

4. Record

The voice assigned to sequencer rhythm track (page ??) is automatically selected when the PATTERN mode is engaged. While the metronome (or the existing pattern data) is playing, anything you play on the keyboard will be recorded. Of course, you don't have to record everything at once. The pattern continuously cycles as you record. You can start with just the bass drum, for example, then record the snare, cymbals, and so on until your pattern is complete.

- Erasing Notes

  To erase a note while recording, hold the [SHIFT] key ("ERASE" will flash in the lower left corner of the display) and press the key on the keyboard corresponding to the instrument you want to erase, for the duration of the notes you want to erase.

While recording you can change the tempo, quantize value, or velocity value as required.

5. Press [STOP] To Stop Recording

When you have finished playing the part for the current track, press the [STOP] key to stop recording. Both the [RUN] and [RECORD] key indicators will go out and the SY85 will return to the pattern play mode.

6. Check the Pattern just Recorded

You can now listen to the part you've just recorded by pressing the sequencer [RUN] key.

You can also use the PATTERN NAME function, described on page 207 of the "Feature Reference" manual, to give your pattern an original pettern name.

● RECORDING AN ORIGINAL PATTERN — STEP RECORD

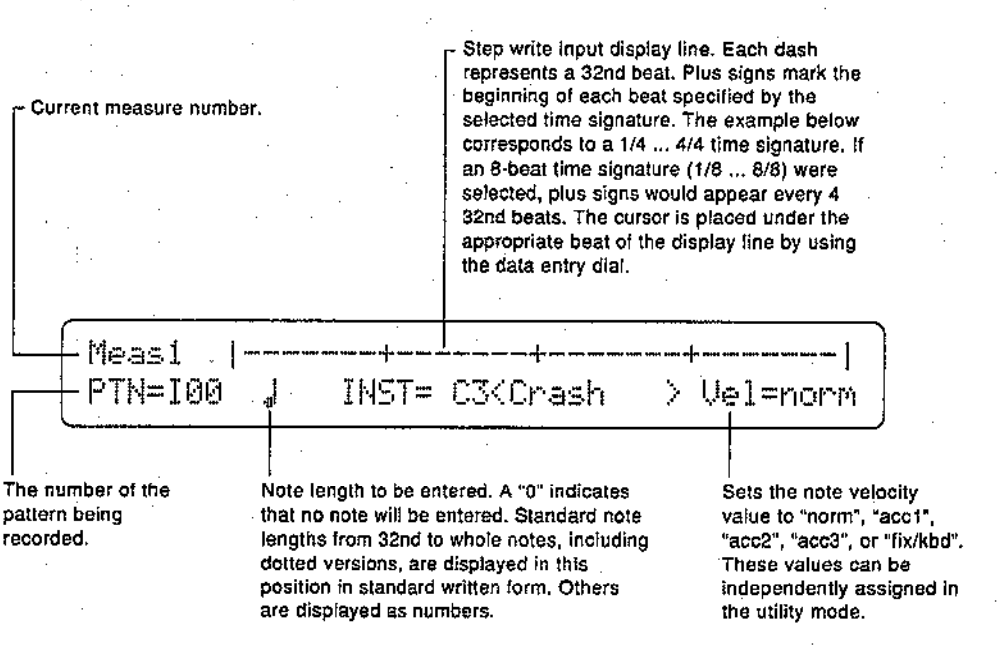
Step recording in the pattern mode is much the same as step recording in the song mode.

1. Select the "Step" Record Mode

The record mode is entered in the same was as described in the "RECORDING AN ORIGINAL PATTERN — REAL TIME" section, above. Instead of choosing the "real" record mode, select "step" and set the other record parameters as rquired.

2. Press [RUN]

Press the [RUN] key to call the step record display:



3. Set the Velocity

The velocity of the notes to be entered is set via the “NORM” (PROGRAM [4]), “ACC1” through ACC3” (PROGRAM [5] through [7]), and “FIX” (PROGRAM [8]) keys. The actual velocity values of the accents — “ACC1” through “ACC3” — can be set via the UTILITY SEQ SETUP mode SEQUENCER Accent screen, described on page 220 of the Feature Reference manual. If the “Fix” parameter is set to “kbd”, then “kbd” will appear on the display when you press the FIX (PROGRAM [8]) key, and the notes will be entered at the velocity with which they are played on the keyboard.

4. Select the Desired Note Length

Select the note length for the first note by pressing the corresponding GROUP key (standard notes are displayed above the keys), or by incrementing/decrementing using the [-1] and [+1] keys. Dotted notes, triplets, and ties are entered in the same was as they are in the song step record mode (page 53).

5. Enter the Required Notes and Rests

When you’ve selected the required note length, play the key corresponding to the instrument to be entered on the keyboard. The cursor will move to the beginning of the next note.

Instrument Display Selection

Only one instrument is shown on the step write display line at a time. The name of the instrument (and the key via which it is played) is displayed following "INST=" on the lower display line. To change the displayed instrument, press the key corresponding to the desired instrument on the keyboard while holding the [F4] key. Entered notes appear as a do (●) if they fall precisely on a beat, or as a cross (**X**) if slightly off the beat.

6. Continue Until the Track Is Complete

Repeat steps 3 through 5 until the required material is entered. You can move the cursor back and forth using the data entry dial, adding notes wherever you like — even on top of other notes.

Erasing Notes

To erase a note at the current cursor position, hold the [SHIFT] key ("ERASE" will flash on the display) and press the key on the keyboard correpsonding to the instrument to be erased.

7. Press [STOPI

When the pattern is finished, press [STOP] to return to the PATTERN play mode. Now you can press [RUN] and hear how the pattern sounds.

● BUILDING A RHYTHM TRACK

A rhythm track is built up as a sequence or "parts," each part corresponding to a single pattern. The part sequence is specified in the SONG EDIT mode.

When the track edit mode is engaged while the rhythm track (track 9) is selected, or when the rhythm track is selected while the track edit mode is engaged, the following display will appear:

```
SONG EDIT
Part: 001  ptn  *** [INS][DEL][CPY][SCH]
```

This initial display allows any existing rhythm part to be selected via [CS2] (001 ... 999), the event located at that part to be changed via [CS3], and the parameter associated with the event to be changed via [CS4]. The various event types and their parameters are as follows:

- ptn (Pattern number)
  Use [CS4] to select a different pattern number as required (I00 ... I99).

- ||: (Begin repeat)
  This symbol indicates the beginning of a range of rhythm parts to be repeated. The begin repeat event has no other parameter.

- :|| (End repeat)
  A "||:" must always be followed at some point by a ":||" symbol signifying the end of the range of parts to be repeated. Use [CS4] to set the number of times the specified section is to be repeated (x 0 ... x99).

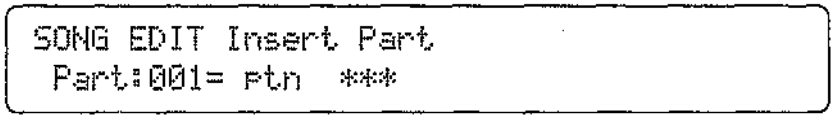
- **vol** (Volume change)
  This event produces a volume change at the selected part. The [CS4] slider sets the new volume level (0 ... 127).

- **tmp** (Tempo change)
  This event indicates a tempo change to occur over a specified number of beats. The numbers above the [CS4] slider define the tempo change: the number to the left of the slash (-99 ... 0 ... +99, or atmp for "a tempo") sets the number of beats per minute by which the tempo will decrease or increase, and the number to the right of the slash (0 ... 99) sets the number of beats from the "tmp" mark over which the change will occur. A setting of "+20/8", for example, would increase the tempo by 20 beats per minute over 8 beats (2 measures of 4/4 time). The [F4] function key is used to toggle the cursor between the left and right numbers, and [CS4] is used to change the selected number.

- **mark** (Search mark)
  This sets one of 16 markers to be used by the rhythm track search function described on page 63. [CS4] is used to specify the marker (A ... P).

The [F5] through [F8] function keys are used to access the rhythm track edit functions described below:

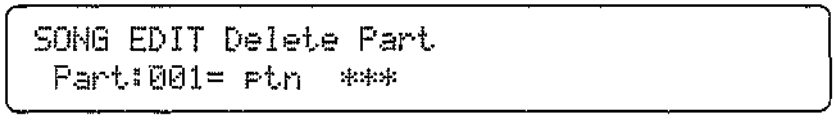
- [F5]: "INS" = Rhythm Track Insert



This function is used to insert a new part at any point in an existing rhythm track. Press [F5] to engage the rhythm track insert function after locating the desired insert point via the main rhythm track edit screen, described above. Then use [CS3] and [CS4] to specify the event to be inserted. The event types that can be inserted and their parameters are exactly the same as those described for the main rhythm track edit screen, above. Once the event to be inserted has been specified, press [ENTER/YES] to begin the insert procedure. "Are you sure?" will appear on the display. Press [ENTER/YES] again to confirm that you want to go ahead with the insert operation, or press [EXIT/NO] to cancel.

When the event has been inserted, "Completed!" will appear briefly on the display, then the display will return to the main rhythm track edit mode.

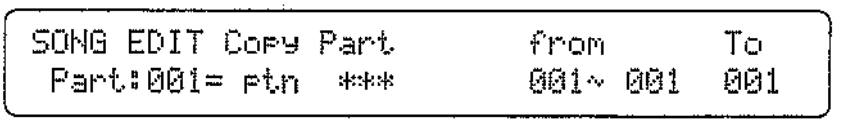
- [F6]: "DEL" = Rhythm Track Delete



This function is used to delete a part from an existing rhythm track. Press [F6] to engage the rhythm track delete function after locating the part to be deleted via the main rhythm track edit screen, described above, the press [ENTER/YES]. Press [ENTER/YES] again to confirm that you want to go ahead with the delete operation, or press [EXIT/NO] to cancel.

When the part has been deleted, "Completed!" will appear briefly on the display, then the display will return to the main rhythm track edit mode.

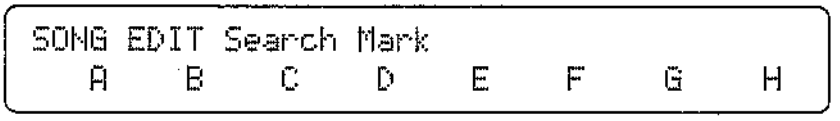
- [F7]: “CPY” = Rhythm Track Copy



This function is used to copy a part or a range of parts to any other point in a rhythm track. Press [F7] to engage the rhythm track copy function. Then use [CS6] to select the number of the first part in the range of parts to be copied (001 ... 999), [CS7] to select the number of the last part in the range of parts to be copied (001 ... 999), and [CS8] to select the part number to which the source parts will be copied (001 ... 999). Press [ENTER/YES] to begin the copy procedure. “Are you sure?” will appear on the display. Press [ENTER/YES] again to confirm that you want to go ahead with the copy operation (which will overwite existing parts from the destination part number), or press [EXIT/NO] to cancel.

When the parts have been copied, “Completed!” will appear briefly on the display, then the display will return to the main rhythm track edit mode.

- [F8]: “SCH” = Rhythm Track Search



This function makes it possible to directly locate “marks” entered in the track using the "mark" event in the main rhythm track edit screen. The [SHIFT] key is used to toggle between marks A through H and I through P. Square brackets appear around marks that exist within the rhythm track. To go directly to a marked location, simply press the function key immediately below the desired mark. The main rhythm track edit screen will appear with the marked part selected.

6. Data Management

In this section we'll offer a few hints on how to efficiently organize and manage your SY85 data for performance applications.

Refer to the THE UTILITY MODE section beginning on page 209 of the Feature Reference manual for complete information on card and disk operations.

Cards or Disks?

The SY85 allows data to be saved to and loaded from 3.5" floppy disks or Yamaha MCD64 RAM data cards. Whether you use disks or RAM cards will depend on your individual needs.

● MCD64 RAM Cards

RAM cards are the right choice if you will be dealing with relatively small amounts of data. They are also an excellent supplement to a disk-based data library — see "Make Separate Performance Disks or Cards," below.

[Advantages]
- Compact and convenient to carry.
- Fast data transfer.
- Reliable:

[Disadvantages]
- More expensive than disks.
- Only stores synthesizer data (this is not a problem for most performance applications).
- Limited capacity.

Never attempt to force a voice card into the waveform slot, or vice versa. Doing so can cause serious damage to the card connectors.

● Floppy Disks

There's no substitute for floppy disks if you need to store and organize large amounts of data. Make sure you keep backup disks of important data in a safe place so accidental loss or erasure of disks doesn't' completely wipe out all your data.

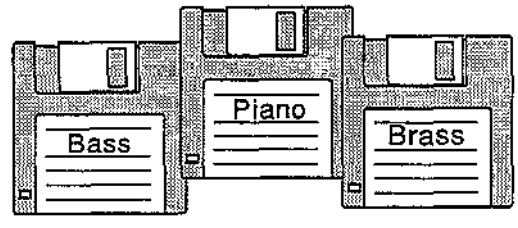
[Advantages]
- Compact and convenient to carry.
- Inexpensive.
- Large data capacity.
- Data can be grouped in files.
- Can store synthesizer, sequencer, and all other SY85 data.

[Disadvantages]
- Slower data transfer than card.
- Improper handling or storage (i.e. exposure to magnetic fields) can result in lost or damaged data.

Create a Well-organized Data Library

It's amazing how quickly you can lose track of what voices, performance combinations, and sequences you've stored where. A well-organized data library is essential.

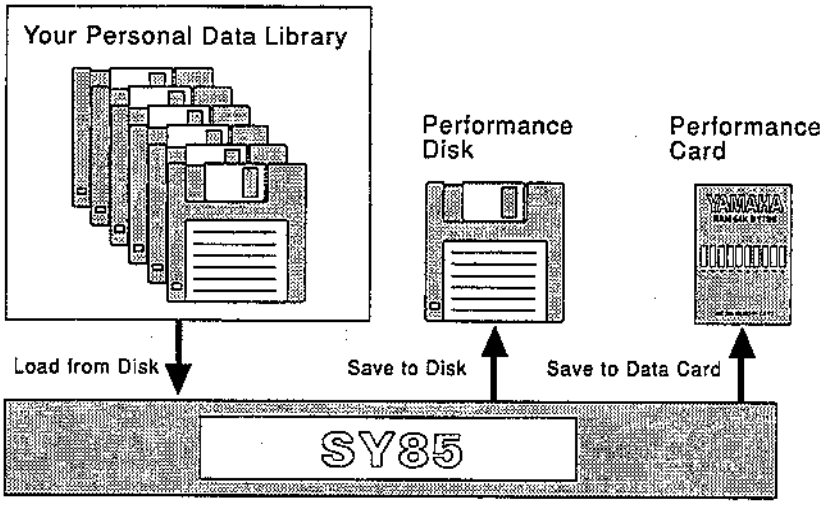
It's a good idea to store different categories of voices or performance combinations on different disks (or at least in different files). In the same way, it's obviously a good strategy to store voices/performance combinations, and sequences on separate disks. If you're looking for a particular bass voice, for example, you can simply load your "Bass" disk (make sure your disks are labelled) and select the requisite voice. You could even have further categories — acoustic bass, fretless bass, funky bass, and so on. The bigger your data library is, the more you should categorize and organize.



Make Separate Performance Disks or Cards

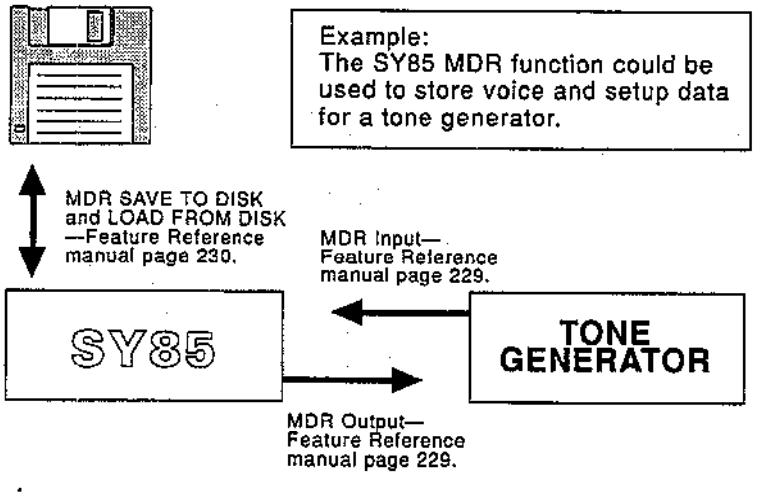
If you will be working in the studio or some other situation in which you don't know exactly what data you'll need, it's probably a good idea to take your entire data library along. (Actually, it's better to take a copy of your data library and leave the master disks at home so all your data can't be lost or destroyed at once.) If you will be performing on stage or in any situation involving predetermined sets and voices, it's far more efficient to make separate "performance" disks or cards specifically tailored to the job.

Ideally, you want all the voices, performance combinations, and perhaps sequences you'll be using for a performance or set loaded into the SY85 INTERNAL memory. Loading each voice individually from your data library is not practical when time is limited — and time is severely limited in most performance situations. If you prepare by transferring the voices you need from your library to a separate performance disk or card, you can load everything you need from a single disk file or card in one operation.



■ MIDI Data Recorder Capabilities

In addition to handling data that will be used by the SY85 itself, the SY85 features an MDR (MIDI Data Recorder) function that allows data from other MIDI equipment to be retained in memory or saved to disk, and then transferred back to the appropriate MIDI devices as required. This means the SY85 can serve as a central data storage facility for your entire performance system.



Refer to the “MDR” section beginning on page 228 of the Feature reference manual for operational details.

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YAMAHA

MUSIC SYNTHESIZER

SY85

OWNER'S MANUAL 2

– Feature Reference –

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, CA 90620

   The above statements apply ONLY to those products distributed by Yamaha Corporation of America or its subsidiaries.

* This applies only to products distributed by YAMAHA CORPORATION OF AMERICA.

Dette apparat overholder det gaeldende EF-direktiv vedrørende radiostøj.

Cet appareil est conforme aux prescriptions de la directive communautaire 87/308/CEE.

Diese Geräte entsprechen der EG-Richtlinie 82/499/EWG und/oder 87/308/EWG.

This product complies with the radio frequency interference requirements of the Council Directive 82/499/EEC and/or 87/308/EEC.

Questo apparecchio è conforme al D.M.13 aprile 1989 (Direttiva CEE/87/308) sulla soppressione dei radiodisturbi.

Este producto está de acuerdo con los requisitos sobre interferencias de radio frequencia fijados por el Consejo Directivo 87/308/CEE.

YAMAHA CORPORATION

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 markings identifying the terminals in your plug proceed as follows:

The wire which is coloured BLUE must be connected to the terminal which is marked with the letter N or coloured BLACK.

The wire which is coloured BROWN must be connected to the terminal which is marked with the letter L or coloured RED.

Making sure that neither core is connected to the earth terminal of the three pin plug.

* This applies only to products distributed by YAMAHA - KEMBLE MUSIC (U.K.) LTD.

Litiumbatteri!
Bör endast bytas av servicepersonal.
Explosionsfara vid felaktig hantering.

VAROITUS!
Lithiumpariston, Räjähdysvaara.
Pariston saa vaihtaa ainoastaan alan ammattimies.

ADVARSEL!
Lithiumbatteri!
Eksplosionsfare. Udskiftning må kun foretages af en sagkyndig, – og som beskrevet i servicemanualen.

CANADA

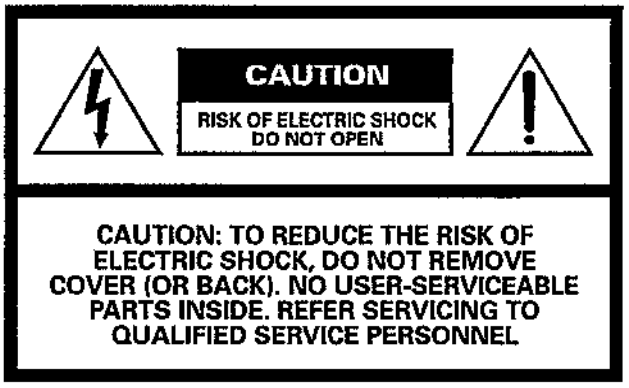
THIS DIGITAL APPARATUS DOES NOT EXCEED THE "CLASS B" LIMITS FOR RADIO NOISE EMISSIONS FROM DIGITAL APPARATUS SET OUT IN THE RADIO INTERFERENCE REGULATION OF THE CANADIAN DEPARTMENT OF COMMUNICATIONS.

LE PRESENT APPAREIL NUMERIQUE N'EMET PAS DE BRUITS RADIOELECTRIQUES DEPASSANT LES LIMITES APPLICABLES AUX APPAREILS NUMERIQUES DE LA "CLASSE B" PRESCRITES DANS LE REGLEMENT SUR LE BROUILLAGE RADIOELECTRIQUE EDICTE PAR LE MINISTERE DES COMMUNICATIONS DU CANADA.

* This applies only to products distributed by YAMAHA CANADA MUSIC LTD.

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.



● Explanation of Graphical Symbols

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 approvend 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.

SPECFICATIONS 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:

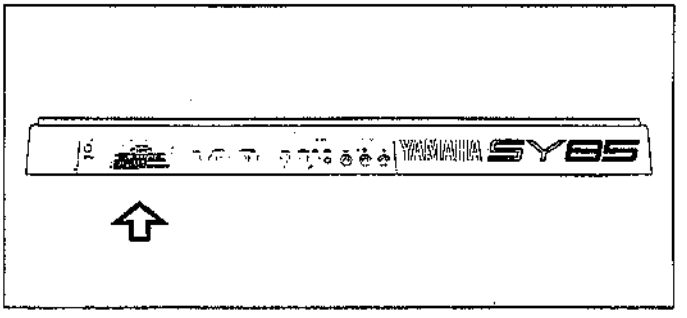
Battery Notice: This product MAY contain a small non-rechargeable battery which (if applicable) is soldered in place. The average life span of this type of battery is approximately five years. When replacement becomes neccessary, contact a qualified service representative to perform the replacement.

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 _____

IMPORTANT SAFETY INSTRUCTIONS

INFORMATION RELATING TO PERSONAL INJURY, ELECTRICAL SHOCK, AND FIER 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 Suplly Verifications: 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 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 minimume 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 does not operate, exhibits a marked change in performance; or
    e. The product has been dropped, or the enclosure of the product has been damaged.
13. 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 cars, you should cousult 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

GENERAL EDITING PROCEDURE

PERFORMANCE EDIT MODE

VOICE EDIT MODE

DRUM VOICE EDIT MODE

SONG EDIT MODE

PATTERN EDIT MODE

UTILITY MODE

WAVE EDIT MODE

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GENERAL EDITING PROCEDURE

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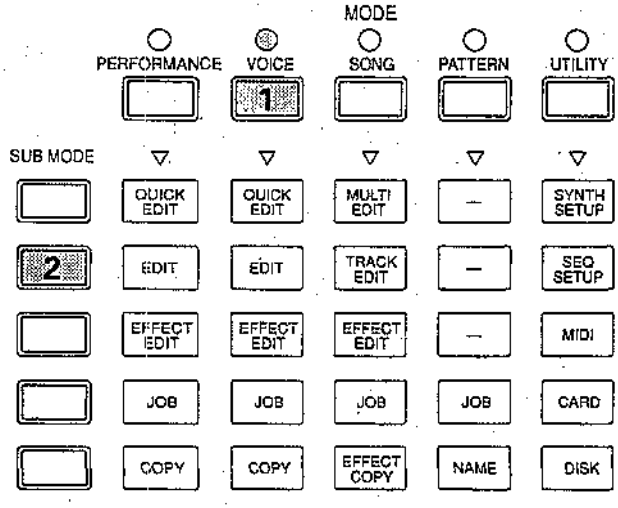
The SY85 makes editing easy by providing a consistent, logical control interface via which parameters can be located and edited. Once you've learned the general procedure, you can locate and edit any of the SY85's many parameters quickly and easily.

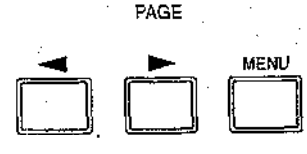
■ Mode Selection

All SY85 edit modes are selected via the MODE matrix keys. To select the VOICE EDIT mode, for example, press the VOICE mode key so that its indicator lights, than press the second SUB MODE key in the VOICE column (EDIT).

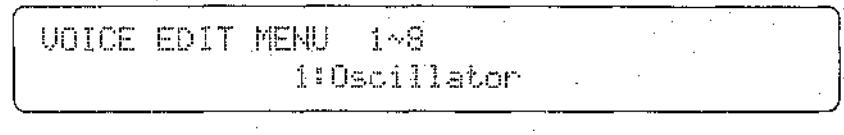


■ Selecting Specific Edit Functions

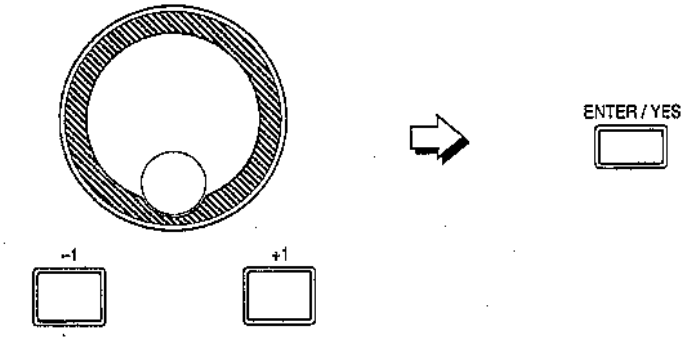
Once you've selected an edit mode, one way to select the various edit screens and functions it contains is to use the PAGE [◄] and [►] keys. The [◄] and [►] keys step backward and forward through the available screens, respectively. Hold either of these keys for continuous stepping in the specified direction.



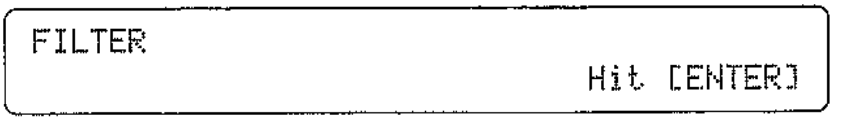
An alternative method is to use the [MENU] key. If you press the [MENU] key ion the VOICE EDIT mode, for example, you'll see a display something like this:



From this display you can use either the data entry dial or the [-1] and [+1] keys to directly select any of the 8 available functions, then press the [ENTER/YES] key to actually select the specified function.



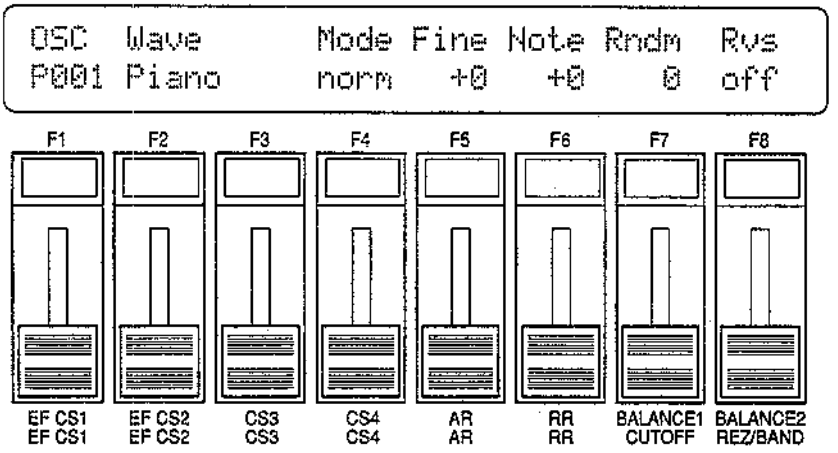
In some cases the PAGE [◄] and [►] or [MENU] keys will take you to another entry screen. If you select "3: Filter" after pressing the [MENU] key in the VOICE EDIT mode, and then press [ENTER/YES], you'll see the following display:



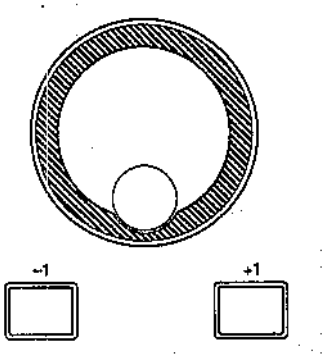
"Hit [ENTER]" will be flashing. In this case press [ENTER/YES] again to access the filter functions. Once in the filter "sub-mode", you can use the PAGE [◄] and [►] or [MENU] keys to select the various filter functions, as described above. When you have finished with the filter functions, press [EXIT/NO] to return to the normal VOICE EDIT mode.

■ Selecting & Editing Parameters

Most SY85 edit screens contain several parameters that can be selected and edited. In most cases you can simply operate the continuous slider immediately below the parameter you want to edit on the display. Operating a slider automatically moves the underline cursor to the corresponding parameter. In the example below, for example (this is the VOICE EDIT mode Oscillator screen), the [CS5] slider can be used to adjust the "Fine" parameter.



The parameters can also be edited by first moving the cursor to the required parameter by pressing the corresponding function key ([F7], for example, would select the "Rndm" parameter in the above display), and then by using either the data entry dial or the [-1] and [+1] keys to adjust the parameter's value.

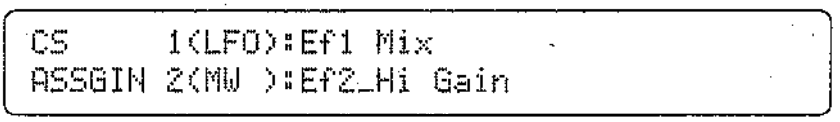


In some special cases you'll also use the function keys as parameter "switches," and the [SHIFT] key is sometimes called into play to access secondary functions. Such exceptions are described in the appropriate sections of the manual.

■ Controller Assignment Display

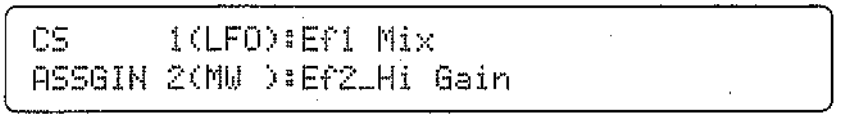
It is possible to assign a wide range of parameters to be controlled by the [CS1] through [CS4] sliders when playing in the VOICE or PERFORMANCE PLAY modes. Since it is easy to forget what parameters have been assigned to which sliders, the SY85 features a controller assignment display that can be selected temporarily by pressing the [SHIFT] key in the VOICE or PERFORMANCE PLAY mode.

● PERFORMANCE PLAY mode



● VOICE PLAY mode

● DRUM VOICE PLAY mode



This display shows the names of the parameters assigned to sliders [CS1] through [CS4] for the current voice or performance combination, so you can take a quick peek to refresh your memory even while playing.

PERFORMANCE EDIT MODE

Edit
- 1: Layer
  - 1: Voice Number 14
  - 2: Volume 15
  - 3: Pan 16
  - 4: Tune 17
  - 5: Note Limit 18
  - 6: Velocity Limit 20
  - 7: CS Enable 22
  - Layer Data Copy 23
- 2: Performance Total Level 24
- 3: Performance Name 25
- 4: Layer Voice Edit
  - 1: Oscillator 26
  - 2: Amplitude EG 26
  - 3: Filter 26
  - 4: Pitch EG 26
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  - 8: Voice Name 26

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- 1: Amplitude EG Offset 27
- 2: LFO & Filter Offset 29
- 3: Controller Conditions 31
- 4: Other Conditions 33
- 5: Effect Type 35
- 6: Effect Parameter 36

Effect Edit
- 1: Mode, Type 37
- 2: Send Select & Level 38
- 3: Layer Dry Output Select 40
- 4: Output Level 41
- 5: Wet : Dry Balance 42
- 6: Send & Effect 2 Mix Level 43
- 7: Effect 1 Parameters 44
- 8: Effect 2 Parameters 44
- 9: Control Parameters 45
- 10: Control LFO 47
- Effect Data Copy 48
- Effect Signal Flow Display 49

Job
- 1: Layer Controller Sync 50
- 2: Layer Exchange 51
- 3: Performance Edit Recall 52
- 4: Performance Initialize 53

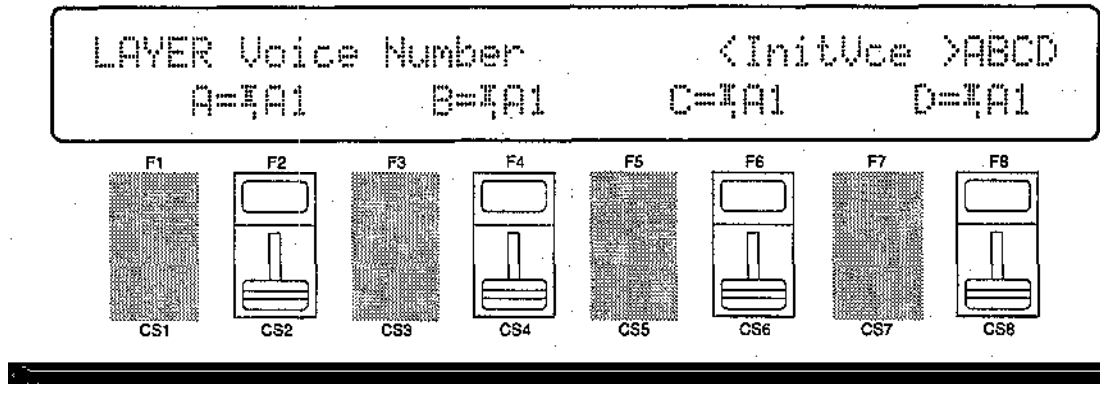
Performance Compare 54

Performance Store 55

1: VOICE NUMBER

[PERFORMANCE] → [EDIT] → [MENU] → 1:Layer → [ENTER/YES] → [ENTER/YES] → → [MENU] → 1:Voice Number → [ENTER/YES]

SY85 performance combinations can have up to four voices assigned to different "layers" — A, B, C and D. This screen lets you assign voices to the layers.



Voice Number A, B, C, D

Range: off, A1 ... H7 (internal & card)
Controls: MEMORY, GROUP, PROGRAM, [CS2], [CS4], [CS6], [CS8], [-1] [+1], Dial

After moving the cursor to the layer you want to edit by pressing the [F2], [F4], [F6] or [F8] function key, use the [INTERNAL 1], [INTERNAL 2], and [CARD] keys to select the memory area from which the voice is to be selected, and then use the GROUP and PROGRAM keys to select the voice. Voices within the selected. memory bank can also be selected directy for each layer by the [CS2], [CS4], [CS6], and [CS8] keys. Internal and card voices cannot be mixed.

The voices can individually turned on or off by using the [-] (off) and [+] (on) keys while holding the [SHIFT] key.

The name of the currently selected voice is shown in the upper right corner of the display. The characters "ABCD" to the right of the voice name indicate the status of each voice:

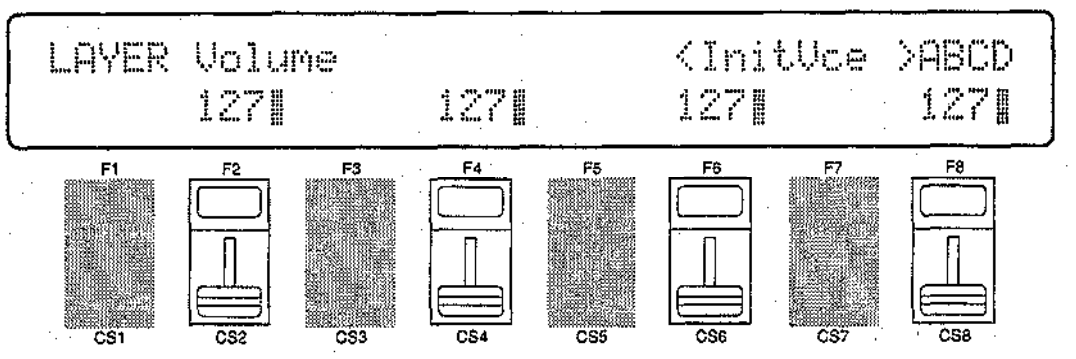
- Capital letter = voice on.
- Lower-case letter = voice muted.
- "-" = voice is off.

For example, "Ab-D" indicates that voices A and D are on, voice B is muted, and voice C is off.

2: VOLUME

[PERFORMANCE] → [EDIT] → [MENU] → 1:Layer → [ENTER/YES] → [ENTER/YES] → → [MENU] → 2:Volume → [ENTER/YES]

For optimum balance between the voices in a performance combination, this screen allows the volume of each voice to be adjusted individually.



The name of the currently selected voice/layer is shown in the upper right corner of the display. The characters “ABCD” to the right of the voice name indicate the status of each voice: a capital letter if the voice is on, a lower-case letter if the voice is muted, and a dash if the voice is off.

Volume

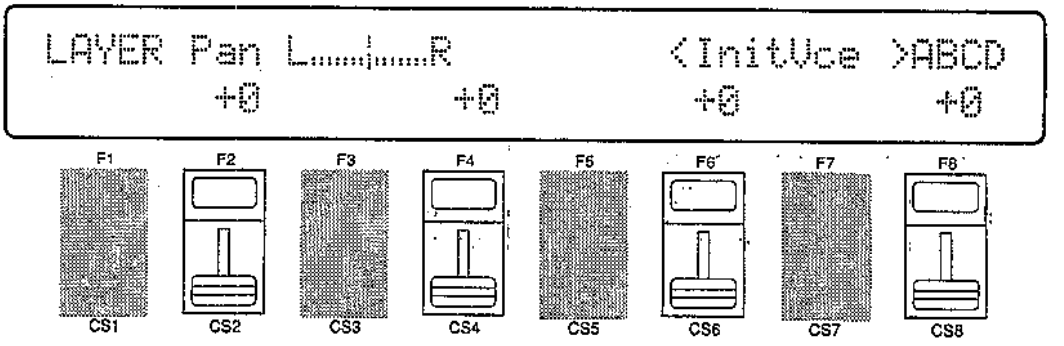
Range: 0 ... 127
Controls: [CS2], [CS4], [CS6], [CS8], [-1] [+1], Dial

Use the [CS2], [CS4], [CS6], and [CS8] sliders to adjust the volume levels of the A, B, C, and D layer voices, respectively. A setting of “0” produces no sound, while a setting of “127” produces maximum volume. The vertical bar graphs next to each parameter provide a visual indication of volume levels — the longer the bar the higher the volume. Voices that are turned off are indicated by “----” on the display.

3: PAN

[PERFORMANCE] → [EDIT] → [MENU] → 1:Layer → [ENTER/YES] → [ENTER/YES] → → [MENU] → 3:Pan → [ENTER/YES]

In multi-layer performance combinations, interesting stereo effects can be produced by placing the output from different layers at different locations in the stereo sound field. The parameters in this screen determine the position in the stereo sound field in which the sound from each active layer will be heard (left to right).



The name of the currently selected voice/layer is shown in the upper right corner of the display. The characters “ABCD” to the right of the voice name indicate the status of each voice: a capital letter if the voice is on, a lower-case letter if the voice is muted, and a dash if the voice is off.

Pan

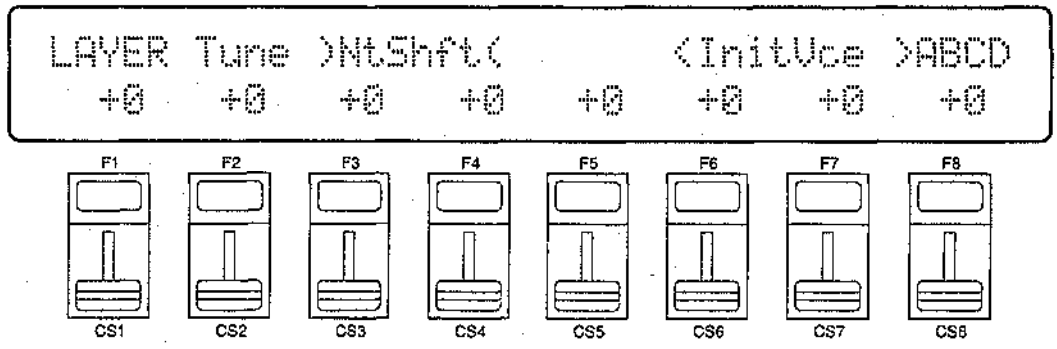
Range: -31 ... +31
Controls: [CS2], [CS4], [CS6], [CS8], [-1] [+1], Dial

Use the [CS2], [CS4], [CS6], and [CS8] sliders to adjust the pan positions of the A, B, C, and D layer voices, respectively. Minus values represent panning to the left, and positive values represent panning to the right. “0” positions the sound of the selected layer in the center of the stereo sound field. Voices that are turned off are indicated by “---” on the display. The upper line of the display also shows a graphic representation of the stereo sound field with “L” representing “left” and “R” representing “right.” As you change the pan value the vertical bar will appear at the corresponding position on the graphic display.

4: TUNE

[PERFORMANCE] → [EDIT] → [MENU] → 1:Layer → [ENTER/YES] → [ENTER/YES] → → [MENU] → 4:Tune → [ENTER/YES]

More than just simple tuning, the note shift and fine tune parameters make it possible to create harmony and voice-thickening detune effects between layers.



The name of the currently selected voice/layer is shown in the upper right corner of the display. The characters "ABCD" to the right of the voice name indicate the status of each voice: a capital letter if the voice is on, a lower-case letter if the voice is muted, and a dash if the voice is off.

NtShft (Note shift)

Range: -63 ... +63
Controls: [CS1], [CS3], [CS5], [CS7], [-1] [+1], Dial

Individually shifts the pitch of each active element up or down in semitone steps.

Use the [CS1], [CS3], [CS5], and [CS7] sliders to shift the pitch of the A, B, C, and D layer voices, respectively. A setting of "-12," for example, shifts the pitch of the selected layer down by one octave; a setting of "+4" shifts the pitch up by a major third.

The Note Shift parameter can be used to transpose a voice to its most useful range, or to create harmony (intervals) between different layers in a performance combination..

Voices that are turned off are indicated by "---" on the display.

Fine (Fine tuning)

Range: -7 ... +7
Controls: [CS2], [CS4], [CS6], [CS8], [-1] [+1], Dial

Allows slight upward or downward pitch adjustment of each active element.

Use the [CS2], [CS4], [CS6], and [CS8] sliders to fine tune the A, B, C, and D layer voices, respectively.

The maximum minus setting of "-7" produces a downward pitch shift of approximately 2 cents (a "cent" is 1/100th of a semitone), and the maximum plus setting of "+7" produces an upward pitch shift of approximately 2 cents. A setting of "0" produces no pitch change.

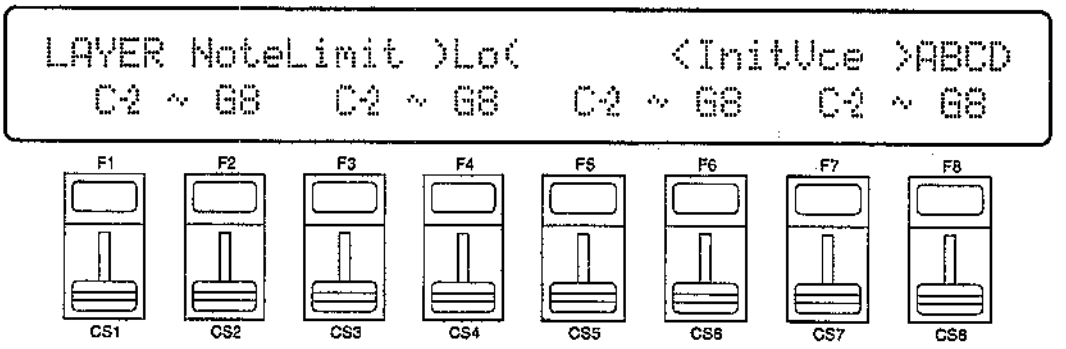
The Fine parameter allows different layers in a performance combination to be slightly detuned in relation to each other, thereby "thickening" the overall sound.

Voices that are turned off are indicated by "--" on the display.

5: NOTE LIMIT

[PERFORMANCE] → [EDIT] → [MENU] → 1:Layer → [ENTER/YES] → [ENTER/YES] → → [MENU] → 5:Note Limit → [ENTER/YES]

The low and high note limit parameters make it possible to create a range of split keyboard effects using the performance layers. You could have two layers on either side of a single split point, a four-way split keyboard, or any other possible combination.



The name of the currently selected voice/layer is shown in the upper right corner of the display. The characters "ABCD" to the right of the voice name indicate the status of each voice: a capital letter if the voice is on, a lower-case letter if the voice is muted, and a dash if the voice is off.

Lo (Low note limit)

Range: C-2 ... G8
Controls: [CS1], [CS3], [CS5], [CS7], [-1] [+1], Dial, [SHIFT]+keyboard

Individually sets the low note limit for each active layer (the lowest note that each layer will produce).

Use the [CS1], [CS3], [CS5], and [CS7] sliders to set the low note limits of the A, B, C, and D layer voices, respectively. It is also possible to press the desired note on the keyboard while holding the [SHIFT] key.

The C-2 to G8 range of this parameter covers a full 10-1/2 octaves. "C3" corresponds to "middle C" on a keyboard.

This parameter, in conjunction with the High Note Limit parameter described below, allows the sound from a layer to be limited to a specific region of the keyboard. If the Low Note Limit is set to C3 and the High Note Limit for the same layer is set to C4, for example, the sound from that layer will only be produced between C3 and C4 — the octave immediately above middle C. This makes it simple to produce split voices.

If the High Note Limit is set to a note that is lower than the Low Note Limit for the: same layer, the notes between the high and low limits will not sound.

Voices that are turned off are indicated by "---" on the display.

Hi (High note limit)

Range: C-2 ... G8
Controls: [CS2], [CS4], [CS6], [CS8], [-1] [+1], Dial, [SHIFT]+keyboard

Individually sets the high note limit for each active layer (the highest note that each layer will produce).

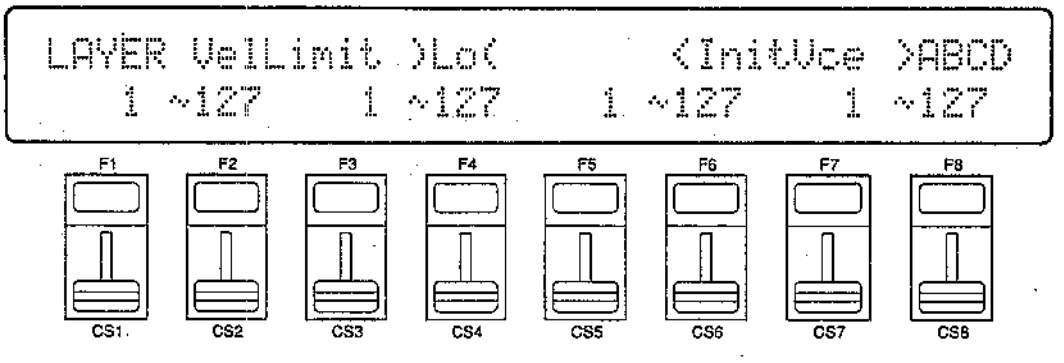
Use the [CS2], [CS4], [CS6], and [CS8] sliders to set the high note limits of the A, B, C, and D layer voices, respectively. It is also possible to press the desired note on the keyboard while holding the [SHIFT] key.

See the "Lo" parameter, above, for more details.

6: VELOCITY LIMIT

[PERFORMANCE] → [EDIT] → [MENU] → 1:Layer → [ENTER/YES] → [ENTER/YES] → → [MENU] → 6:VelocityLimit → [ENTER/YES]

The high and low velocity limit parameters make it possible to produce a range of "velocity switching" effects in which different layers of a performance combination are set up to produce sound only when the keyboard is played at a certain velocity. You could, for example, produce a flute sound by playing softly, and a horn sound by playing harder.



The name of the currently selected voice/layer is shown in the upper right corner of the display. The characters "ABCD" to the right of the voice name indicate the status of each voice: a capital letter if the voice is on, a lower-case letter if the voice is muted, and a dash if the voice is off.

Lo (Low velocity limit)

Range: 1 ... 127
Controls: [CS1], [CS3], [CS5], [CS7], [-1] [+1], Dial, [SHIFT]+keyboard

Sets the lowest velocity value for a range of velocity values over which each active 1ayer will produce output.

Use the [CS1], [CS3], [CS5], and [CS7] sliders to set the low velocity limits of the A, B, C, and D layer voices, respectively. It is also possible to play any note on the keyboard at the desired velocity while holding the [SHIFT] key.

Every note played on the keyboard (or external MIDI controller) produces a "velocity" value that tells the tone generator how hard the note has been played. The range of MIDI velocity values is from 1 to 127 — thus the 1 ... 127 range of this parameter.

The Low Velocity Limit parameter, in conjunction with the High Velocity Limit parameter described below, makes it possible to specify a range of velocity values over which the selected layer will produce sound. You could, for example, set Low Velocity Limit to "60" and High Velocity Limit to "127." This would cause that layer to produce output only when a velocity value between 60 and 127 was received — i.e. when a fairly loud note is played. A second layer could then be set to produce output only when velocity values below 60 are received, so that completely different sounds are produced on soft and loud notes.

Voices that are turned off are indicated by "---" on the display.

Hi (High velocity limit)

Range: 1 ... 127
Controls: [CS2], [CS4], [CS6], [CS8], [-1] [+1], Dial, [SHIFT]+keyboard

Sets the highest velocity value for a range of velocity values over which each active layer will produce output.

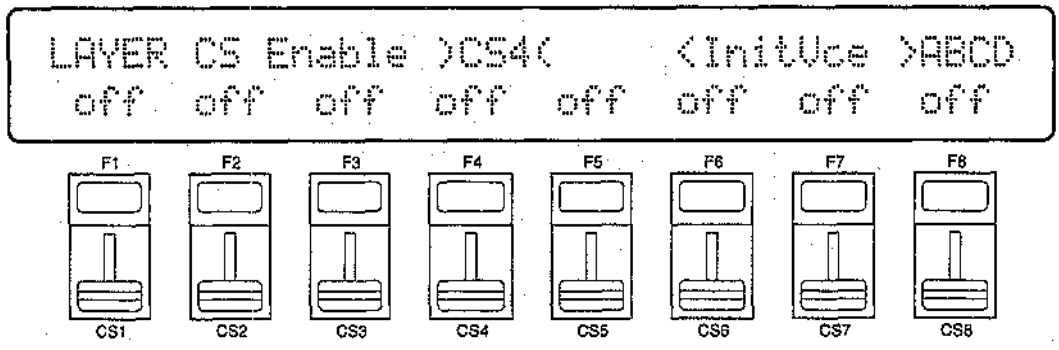
Use the [CS2], [CS4], [CS6], and [CS8] sliders to set the high velocity limits of the A, B, C, and D layer voices, respectively. It is also possible to play any note on the keyboard at the desired velocity while holding the [SHIFT] key.

See the “Lo” parameter, above, for more details.

7: CS ENABLE

[PERFORMANCE] → [EDIT] → [MENU] → 1:Layer → [ENTER/YES] → [ENTER/YES] →
→ [MENU] → 7:CS Enable → [ENTER/YES]

The CS3 and CS4 sliders can be used to control the level of individual layers or specified groups of layers in the performance play mode. This screen specifies which slider controls which layers.



The name of the currently selected voice/layer is shown in the upper right corner of the display. The characters "ABCD" to the right of the voice name indicate the status of each voice: a capital letter if the voice is on, a lower-case letter if the voice is muted, and a dash if the voice is off.

CS3 Enable

Range: on, off
Controls: [CS1], [CS3], [CS5], [CS7], [-1] [+1], Dial

The [CS1], [CS3], [CS5], and [CS7] sliders turn CS3 control of layers A, B, C, and D on or off, respectively.

Voices that are turned off and are not available for editing are indicated by "---" on the display.

CS4 Enable

Range: on, off
Controls: [CS2], [CS4], [CS6], [CS8], [-1] [+1], Dial

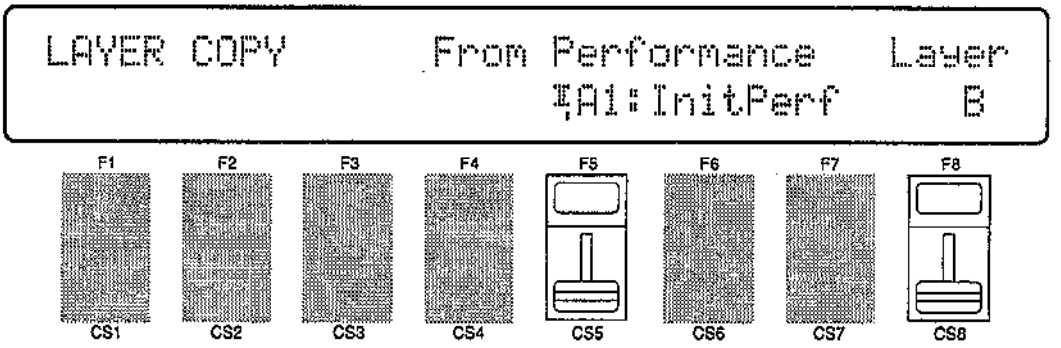
The [CS2], [CS4], [CS6], and [CS8] sliders turn CS4 control of layers A, B, C, and D on or off, respectively.

Voices that are turned off and are not available for editing are indicated by "---" on the display.

LAYER DATA COPY

[PERFORMANCE] → [EDIT] → [MENU] → 1:Layer → [ENTER/YES] → [COPY]

This function facilitates performance editing by allowing the layer parameters from any layer in any other performance (the "source" performance) to be copied to the current layer. You can copy a layer setup that is close to the type you want, then edit it to produce the required sound.



From Performance

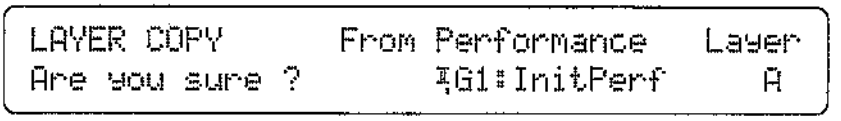
Range: Any INTERNAL or CARD performance
Controls: MEMORY, GROUP, PROGRAM, [CS5], [-1] [+1], Dial

Layer

Range: A, B, C, D
Controls: [CS8], [-1] [+1], Dial

Use the [INTERNAL 1], [INTERNAL 2], and [CARD] MEMORY keys to select the memory area from which the source performance is to be selected. Use the GROUP keys to select the source performance bank, then use the PROGRAM keys to select the source performance number. The [CS5] slider and other data entry controls can also be used to select the source performance number. Use the [CS8] slider to select the source layer.

Once the source performance and layer has been selected, press the [ENTER/YES] key. "Are you sure?" will appear on the display.

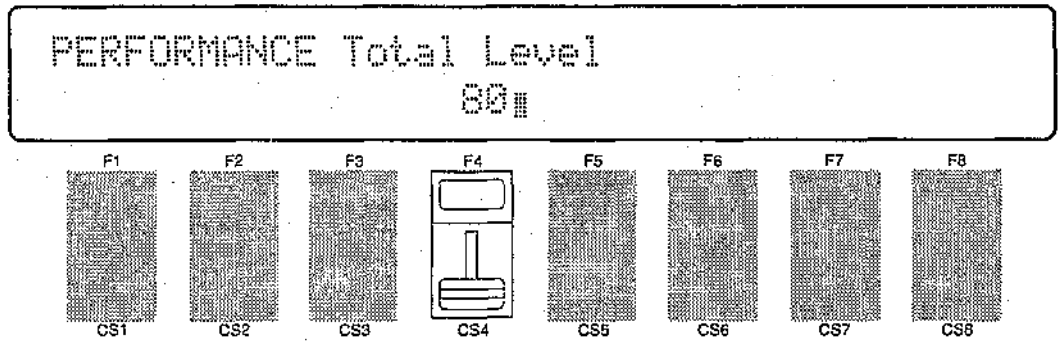


Press the [ENTER/YES] key again to copy the layer data, or press [EXIT/NO] to cancel the copy operation. Once the copy operation has finished, "Completed!" will appear on the display briefly, then the display will return to the layer edit mode.

PERFORMANCE TOTAL LEVEL

[PERFORMANCE] → [EDIT] → [MENU] → 2:Total Level → [ENTER/YES]

This parameter sets the overall volume of the current performance combination in relation to the others, making it possible to match levels for smooth transition when switching between performance combinations.



Total Level

Range: 0 ... 127
Controls: [CS4], [-1] [+1], Dial

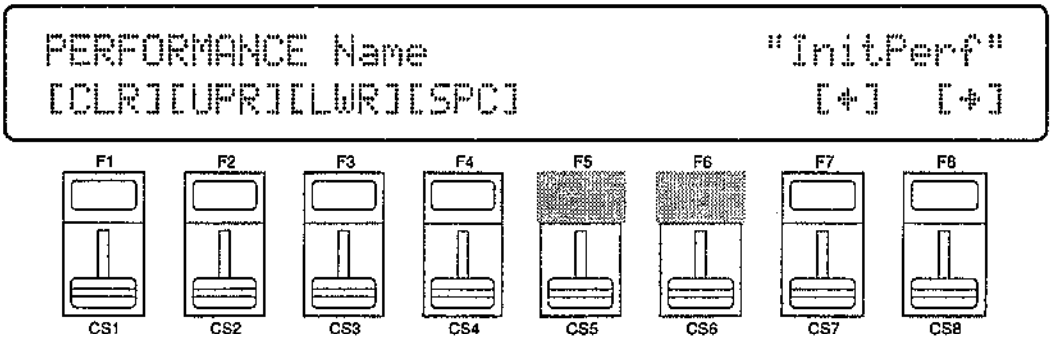
Adjusts the volume of the current performance.

A setting of “0” produces no sound while a setting of “127” produces maximum volume. A bar graph to the right of the parameter provides a visual indication of volume level — the longer the bar, the higher the volume.

PERFORMANCE NAME

[PERFORMANCE] → [EDIT] → [MENU] → 3:Name → [ENTER/YES]

Your original performance combinations should naturally have original names. This function can be used to assign a name of up to 8 characters to the current performance.



Name

Range: See character list, below
Controls: GROUP, PROGRAM, [F1] ... [F4], [F7], [F8], [CS1] ... [CS8], [-1] [+1], Dial

Assigns a name of up to 8 characters to the current performance.

Use the [F7] function key to move the character cursor to the left, and the [F8] function key to move the cursor to the right. Use the GROUP and PROGRAM keys to input a character at the cursor position. Each GROUP or PROGRAM key selects the three characters printed above it in sequence. It is also possible to use the [-1] and [+1] keys or dial to scroll through the available characters (see list below).

The sliders, [CS1] through [CS8], independently select characters for the corresponding character position: [CS1] selects the first character, [CS2] selects the second character, and so on.

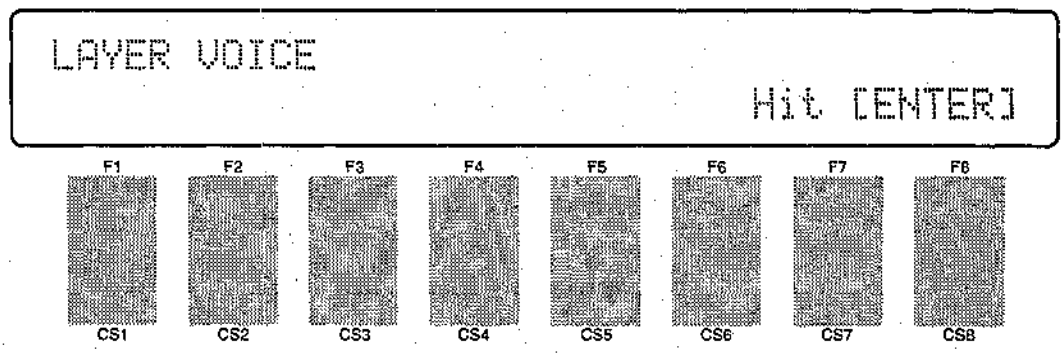
The first four function keys also perform important functions: [F1] clears the entire name, [F2] selects upper-case characters for GROUP and PROGRAM key entry, [F3] selects lower-case characters for GROUP and PROGRAM key entry, and [F4] inserts a space at the cursor position.

GROUP key	PROGRAM key
[A]: A → B → C	[1]: Y → Z → 0
[B]: D → E → F	[2]: 1 → 2 → 3
[C]: G → H → I	[3]: 4 → 5 → 6
[D]: J → K → L	[4]: 7 → 8 → 9
[E]: M → N → O	[5]: * → & → _
[F]: P → Q → R	[6]: / → . → ,
[G]: S → T → U	[7]: ' → ! →?
[H]: V → W → X	[8]: # → : → ;

LAYER VOICE EDIT MENU

[PERFORMANCE] → [EDIT] → [MENU] → 4:Layer Voice → [ENTER/YES]

The Layer Voice Edit menu allows you to access any of the voice edit parameters for the voice assigned to the currently selected performance layer, without having to leave the performance edit mode,



Press [ENTER/YES] from the entry display (above) to access the layer voice edit menu.

Use the [CS3] slider, the [-1] and [+1] keys, or the data entry dial to select the desired voice edit screen, then press [ENTER/YES] to jump to selected screen. Other voice edit screens can then be selected by using the **[◄]** and **[►]** keys. The available voice edit screens are listed below:

1: Oscillator
2: Amplitude EG
3: Filter
4: Pitch EG
5: LFO
6: Controller
7: VOICE Total Level
8: VOICE Name

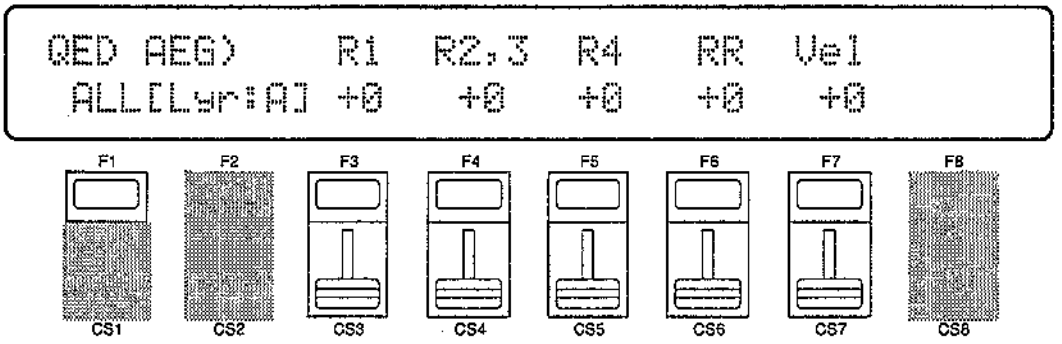
While editing the voice parameters in voice edit screens 2 through 7, above, the PROGRAM keys [1] through [4] (LAYER SELECT A, B, C, and D) can be used to select a different layer for editing. PROGRAM keys [5] through [8] can also be used for layer muting.

Press [EXIT/NO] to return to the performance edit mode when you're finished with the voice edit parameters. Refer to pages 58 through 95 in the "Voice Edit Mode" section for details on the voice edit parameters.

1: AMPLITUDE EG OFFSET

[PERFORMANCE] → [QUICK EDIT] → [MENU] → 1:AEG Offset → [ENTER/YES]

These parameters allow the amplitude envelopes of the voices assigned to each layer to be modified to some degree. The actual amplitude EG of the voices are not affected, these "offset" values are only effective in the performance mode.



Use PROGRAM keys [1] through [4] (LAYER SELECT A, B, C, and D) to select the layer to be edited.

Hold the [F1] function key ("ALL") while editing any of the following parameters to change its value by the same amount for all layers simultaneously.

R1 (Attack rate)

Range: -63 ... +63
Controls: [CS3], [-1] [+1], Dial

Modifies the "R1" parameter of the voice amplitude EG — see page 60. Plus (+) values produce a faster attack rate while minus (-) values produce a slower attack rate.

No matter how much offset is applied, the minimum and maximum EG attack rates cannot be exceeded.

R2,3 (Decay 1 rate)

Range: -63 ... +63
Controls: [CS4], [-1] [+1], Dial

Modifies the "R2" and "R3" parameters of the voice amplitude EG — see page 60. Plus (+) values produce a faster decay rate while minus (-) values produce a slower decay rate.

No matter how much offset is applied, the minimum and maximum EG decay rates cannot be exceeded.

R4 (Decay 2 rate)

Range: -63 ... +63
Controls: [CS5], [-1] [+1], Dial

Modifies the "R4" parameter of the voice amplitude EG — see page 60. Plus (+) values produce a faster decay rate while minus (-) values produce a slower decay rate.

No matter how much offset is applied, the minimum and maximum EG decay rates cannot be exceeded.

RR (Release rate)

Range: -63 ... +63
Controls: [CS6], [-1] [+1], Dial

Modifies the "RR" parameter of the voice amplitude EG — see page 60. Plus (+) values produce a faster release rate while minus (-) values produce a slower release rate.

No matter how much offset is applied, the minimum and maximum EG release rates cannot be exceeded.

Vel (Velocity sensitivity)

Range: -14 ... +14
Controls: [CS7], [-1] [+1], Dial

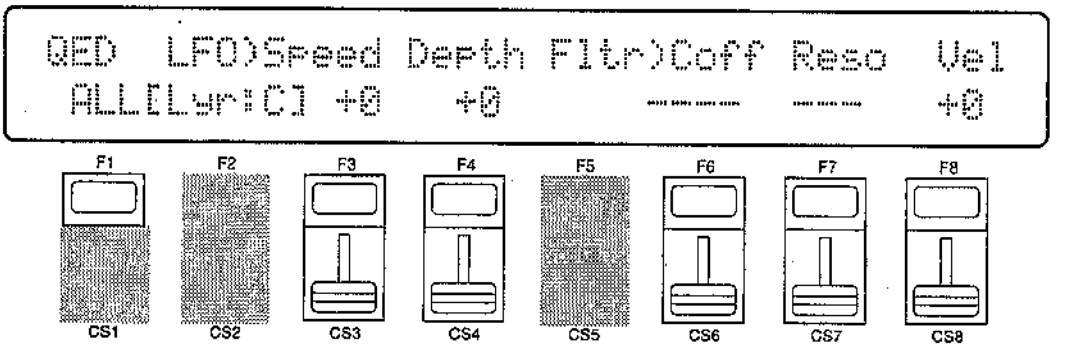
Modifies the amplitude EG velocity sensitivity setting (see page 63). Plus "+" settings increase sensitivity while minus "-" settings reduce sensitivity.

No matter how much offset is applied, the minimum and maximum velocity values cannot be exceeded.

2: LFO & FILTER OFFSET

[PERFORMANCE] → [QUICK EDIT] → [MENU] → 2:LFO,Filter Offset → [ENTER/YES]

These parameters allow the main LFO and filter parameters of the voices assigned to each layer to be modified to some degree. The actual LFO and filter parameters of the voices are not affected, these "offset" values are only effective in the performance mode.



Use PROGRAM keys [1] through [4] (LAYER SELECT A, B, C, and D) to select the layer to be edited.

Hold the [F1] function key ("ALL") while editing any of the following parameters to change its value by the same amount for all layers simultaneously.

Speed (LFO speed)

Range: -99 ... +99
Controls: [CS3], [-1] [+1], Dial

Modifies the speed of the LFO (this corresponds to the "Speed" parameter of the main voice LFO — see page 78). Plus (+) values increase the LFO speed while minus (-) values reduce the speed.

No matter how much offset is applied, the minimum and maximum LFO speeds cannot be exceeded.

Depth (LFO depth)

Range: -99 ... +99
Controls: [CS4], [-1] [+1], Dial

Modifies, the amplitude, pitch, and frequency modulation depth of the LFO (this corresponds to the "Pmod", "Amod", and "Fmod" parameters of the main voice LFO — see page 78 and 79). Plus (+) values produce greater modulation depth while minus (-) values reduce the modulation depth.

No matter how much offset is applied, the minimum and maximum LFO depth values cannot be exceeded.

Coff (Filter cutoff frequency)

Range: -127 ... +127
Controls: [CS6], [-1] [+1], Dial

Modifies the filter cutoff frequency (this corresponds to the voice filter "Cutoff" parameter — see page 65). Plus (+) values increase the cutoff frequency while minus (-) values lower the cutoff frequency. This parameter cannot be used if the filter is set to "Thru". In this case "---" appears in place of the parameter value.

No matter how much offset is applied, the minimum and maximum cutoff frequency values cannot be exceeded.

Reso (Filter resonance)

Range: -99 ... +99
Controls: [CS7], [-1] [+1], Dial

Modifies the height of the filter's resonant peak (this corresponds to the filter "Resonance" parameter — see page 68). Plus (+) values increase resonance while minus (-) values reduce resonance. This parameter cannot be used if the filter is not set to "LPF". In this case "---" appears in place of the parameter value.

No matter how much offset is applied, the minimum and maximum resonance values cannot be exceeded.

Vel (Velocity sensitivity)

Range: -127 ... +127
Controls: [CS8], [-1] [+1], Dial

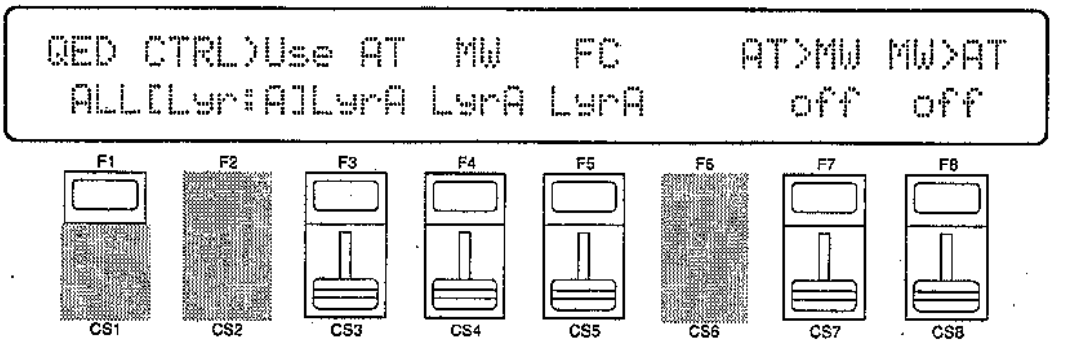
Modifies the filter velocity sensitivity setting (see page 72). Plus "+" settings increase sensitivity while minus "-" settings reduce sensitivity.

No matter how much offset is applied, the minimum and maximum velocity values cannot be exceeded.

3: CONTROLLER CONDITIONS

[PERFORMANCE] → [QUICK EDIT] → [MENU] → 3:Controller Condition → [ENTER/YES]

These parameters determine how the performance layers are affected by keyboard aftertouch response, the modulation wheel, and the foot controller.



Use PROGRAM keys [1] through [4] (LAYER SELECT A, B, C, and D) to select the layer to be edited.

Hold the [F1] function key ("ALL") while editing any of the following parameters to change its value by the same amount for all layers simultaneously.

AT (Aftertouch)

Range: off, LyrA, LyrB, LyrC, LyrD
Controls: [CS3], [-1] [+1], Dial

The aftertouch control settings from the voice assigned to the selected layer (LyrA, LyrB, LyrC, or LyrD) are applied to the layer being edited (i.e. the layer selected via PROGRAM keys [1] through [4]). Select "off" to turn aftertouch control off for the layer being edited.

MW (Modulation wheel)

Range: off, LyrA, LyrB, LyrC, LyrD
Controls: [CS4], [-1] [+1], Dial

The modulation wheel control settings from the voice assigned to the selected layer (LyrA, LyrB, LyrC, or LyrD) are applied to the layer being edited (i.e. the layer selected via PROGRAM keys [1] through [4]). Select "off" to turn modulation wheel control off for the layer being edited.

FC (Foot controller)

Range: off, LyrA, LyrB, LyrC, LyrD
Controls: [CS6], [-1] [+1], Dial

The foot controller control settings from the voice assigned to the selected layer (LyrA, LyrB, LyrC, or LyrD) are applied to the layer being edited (i.e. the layer selected via PROGRAM keys [1] through [4]). Select "off" to turn foot control off for the layer being. edited.

AT>MW (Aftertouch → modulation wheel)

Range: off:, on
Controls: [CS7], [-1] [+1], Dial

When this parameter is turned "on," aftertouch can be used to prouce the same effect as the modulation wheel, in addition to any parameters assigned to aftertouch.

MW>AT (Modulation wheel → after-touch)

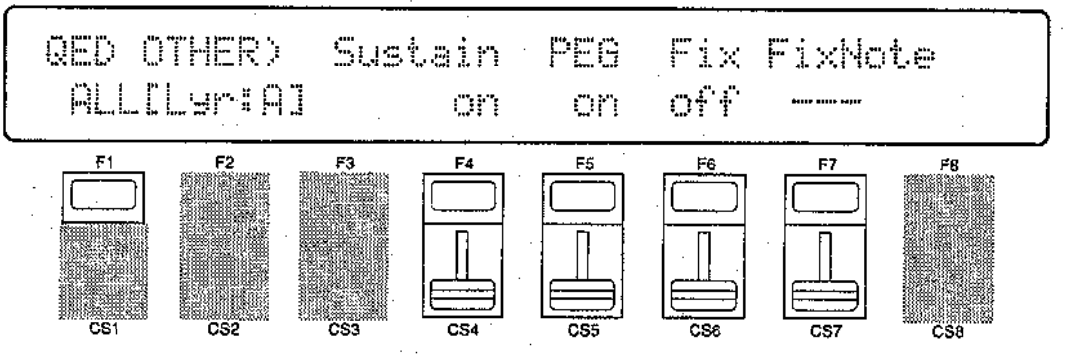
Range: off, on
Controls: [CS8], [-1] [+1], Dial

When this parameter is turned "on," the modulation wheel can be used to produce the same effect as aftertouch, in addition to any parameters assigned to the modulation wheel.

4: OTHER CONDITIONS

[PERFORMANCE] → [QUICK EDIT] → [MENU] → 4:Other Condition → [ENTER/YES]

Other parameters that can be individually set for each performance layer are provided in this screen: sustain enable, pitch envelope generator enable, oscillator fixed note mode and note number.



Use PROGRAM keys [1] through [4] (LAYER SELECT A, B, C, and D) to select the layer to be edited.

Hold the [F1] function key ("ALL") while editing any of the following parameters to change its value by the same amount for all layers simultaneously.

Sustain

Range: off, on
Controls: [CS4], [-1] [+1], Dial

Turns sustain off or on for the selected layer. Interesting effects can be produced by setting some layers to respond to the sustain footswitch in the normal way, while others do not sustain at all.

PEG (Pitch EG enable)

Range: off, on
Controls: [CS5], [-1] [+1], Dial

Turns pitch envelope generator control of the selected layer off or on.

Fix (Oscillator fix)

Range: off, on
Controls: [CS6], [-1] [+1], Dial

Turns the oscillator fixed-pitch mode on or off (see page 58). The FixNote parameter described below can be used to set the note produced when the "fix" mode is turned on.

FixNote (Oscillator fix note number)

Range: C-2 ... G8
Controls: [CS7], [-1] [+1], Dial

Sets the frequency (note) at which the selected layer will be played when the “fix” mode is turned on (“---” is displayed in place of the note when the “fix” mode is turned off).

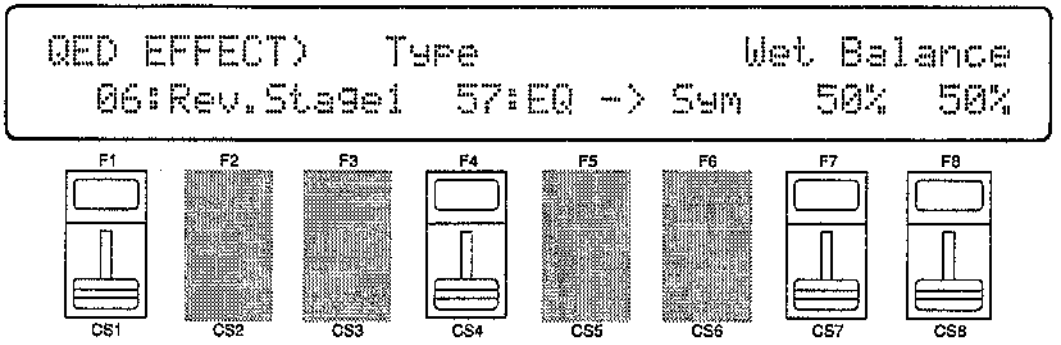
The C-2 to G8 range of this parameter covers a full 10-1/2 octaves. “C3” corresponds to “middle C” on a keyboard.

5: EFFECT TYPE

[PERFORMANCE] → [QUICK EDIT] → [MENU] → 5:Effect Type → [ENTER/YES]

The SY85 features a complex, high-performance effect system that can be programmed easily via the parameters presented here and in the following screen.

For a complete list of effect parameters see page 274.



Effect Type 1/2

Range: 0 ... 90
Controls: [CS1]/[CS4], [-1] [+1], Dial

[CS1] selects any of the SY85's 90 effect types for the EFFECT 1 processor, and [CS4] does the same for the EFFECT 2 processor. See page 254 for more details on the SY85 effect system.

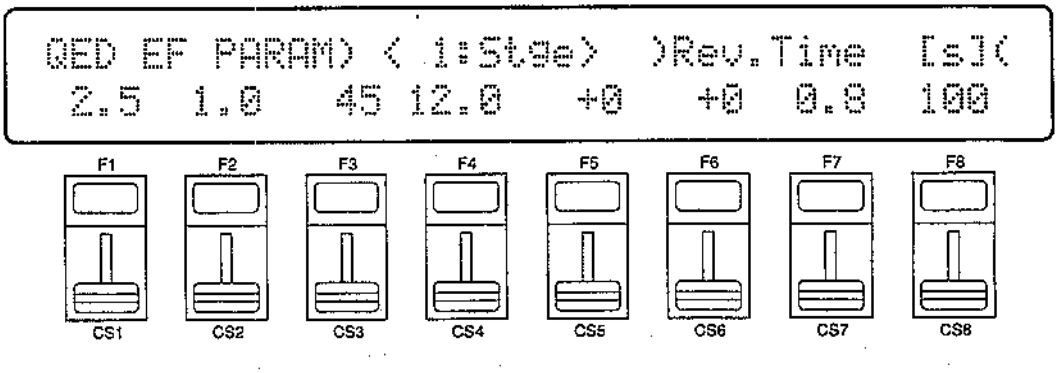
Wet Balance 1/2

Range: 0 ... 100
Controls: [CS7]/[CS8], [-1] [+1], Dial

[CS7] controls the balance between the direct no-effect sound and the effect sound of the EFFECT 1 processor, while [CS8] does the same for the EFFECT 2 processor. The higher the value the deeper the effect. See page 254 for more details on the SY85 effect system.

6: EFFECT PARAMETER

[PERFORMANCE] → [QUICK EDIT] → [MENU] → 6:Effect Param → [ENTER/YES]



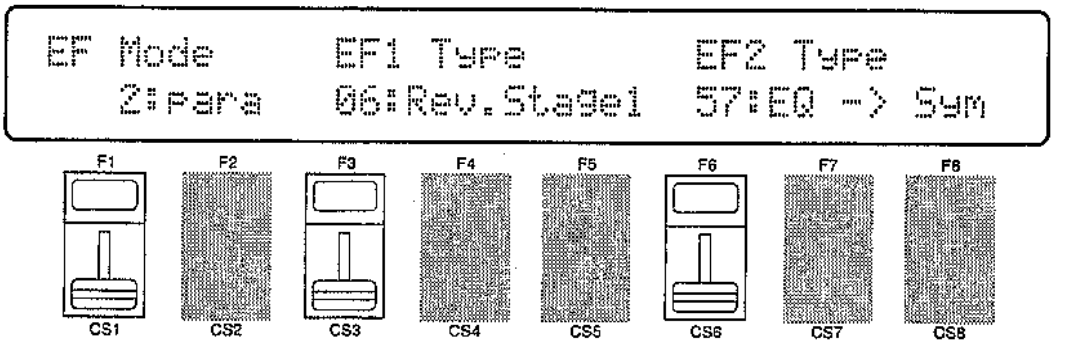
This screen provides access to the four main parameters each for the current selected effect 1 and effect 2. The four effect 1 parameters are edited via [CS1] through [CS4], while the four effect 2 parameters are edited via [CS5] through [CS8].

The parameters are different for each effect (refer to page 274 for details). The EFFECT mode PARAMETERS screen described on page 44 provides full access to all 8 effect parameters.

1: MODE, TYPE

[PERFORMANCE] → [EFFECT EDIT] → [MENU] → 1:Mode, Type → [ENTER/YES]

The SY85 features a dual-processor effect system that includes 90 top-quality digital effects. Two different effects can be connected in series or parallel, providing an extensive range of possible configurations.



Mode

Range: 0:off, 1:seri, 2:para
Controls: [CS1], [-1] [+1], Dial

Determines whether the SY85's two effect processors are connected in series ("1:seri") or in parallel ("2:para"), or whether the entire effect system is turned off ("0:off").

EF1 Type

Range: 0 ... 90
Controls: [CS3], [-1] [+1], Dial

Selects any of the SY85's 90 effect types for the EFFECT 1 processor. See page 254 for more details on the SY85 effect system, and page 274 for a complete list of the available effects.

EF2 Type

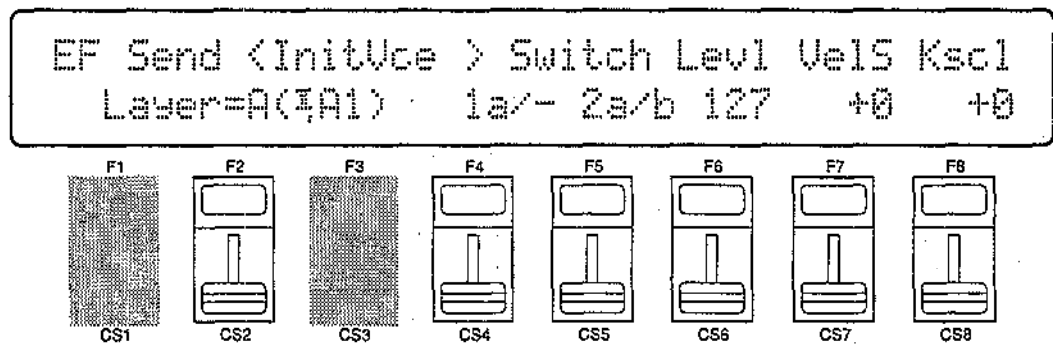
Range: 0 ... 90
Controls: [CS6], [-1] [+1], Dial

Selects any of the SY85's 90 effect types for the EFFECT 2 processor. See page 254 for more details on the SY85 effect system, and page 274 for a complete list of the available effects.

2: SEND SELECT & LEVEL

[PERFORMANCE] → [EFFECT EDIT] → [MENU] → 2:Send → [ENTER/YES]

The parameters provided here determine to which of the SY85 effect stages the output from the voice assigned to each layer is sent, and at what level. It is also possible to control the effect send level via keyboard dynamics and key scaling.



Layer

Range: A, B, C, D
Controls: [CS2], PROGRAM [1] ... [4], [-1] [+1], Dial

Selects the layer to be edited. The name of the voice assigned to the selected layer is shown between parentheses on the upper line. of the display.

Switch 1a, 1b/2a, 2b

Range: See text below.
Controls: [CS4]/[CS5], [-1] [+1], Dial

Determines to which of the EFFECT 1 and EFFECT 2 effect stages the output from the current layer is sent. The [-1] and [+1] keys can then be used to turn the stage on (“a” or “b”) or off (“.“). The [CS4] and, [CS5] sliders select the following settings in sequence:

CS4 (EFFECT 1)	CS5 (EFFECT 2)
1./. (a and b off)	2./. (a and b off)
1a/. (a on, b off)	2a/. (a on, b off)
1a/b (a and b on)	2a/b (a and b on)
1./b (a off, b on)	2./b (a off, b on)

If a “single” type effect is selected then only stage “a” can be selected. If a “dual” or “cascade” type effect is selected, then both stages “a” and “b” can be selected. An effect stage that cannot be selected is represented by “-” on the display.

Send (Send level)

Range: 0 ... 127
Controls: [CS6], [-1] [+1], Dial

This parameter adjusts the amount of direct voice signal that is sent to the effect processors, determining the strength of the final effect sound. A setting of "0" results in no effect, leaving only the "dry" sound of the voice. The maximum setting of "127" produces the maximum amount of effect.

VelS (Send velocity sensitivity)

Range: -7 ... +7
Controls: [CS7], [-1] [+1], Dial

Determines how the send level from the selected layer is affected by velocity changes (e.g. keyboard dynamics).

Plus "+" settings produce higher send levels in response to higher velocity values — i.e. the harder a key is played, the higher the send level, and therefore the deeper the effect. The maximum setting of "+7" produces the maximum level variation in response to velocity changes. Minus "-" settings produce the opposite effect: lower send level in response to higher velocity. A setting of "+0" results in no send level variation.

Kscl (Send key scaling)

Range: -7 ... +7
Controls: [CS8], [-1] [+1], Dial

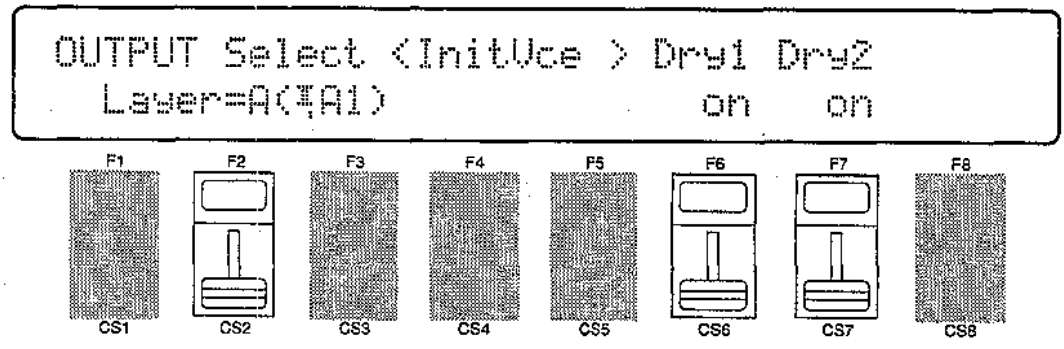
Allows the send level for the selected layer to be varied across the entire pitch range (i.e. keyboard range).

Plus ("+") settings produce a higher send level for the low notes and a lower send level for the high notes. The maximum "+7" setting produces the greatest send level variation across the pitch range. Minus ("-") settings produce the opposite effect — a lower low-note send level and higher high-note send level. A setting of "+0" results in no send level variation.

3: LAYER DRY OUTPUT SELECT

[PERFORMANCE] → [EFFECT EDIT] → [MENU] → 3:Layer Dry Out Select → [ENTER/YES]

These parameters determine turn the “dry lines” (i.e. the signal paths which bypasses each effect processor) on or off, determining whether any dry signal output can occur at OUTPUT 1 and OUTPUT 2.



Layer

Range: A, B, C, D
Controls: [CS2], PROGRAM [1] ... [4], [-1] [+1], Dial

Selects the layer to be edited. The name of the voice assigned to the selected layer is shown between parentheses on the upper line of the display.

Dry1

Range: off, on
Controls: [CS6], [-1] [+1], Dial

Turns the “dry line” bypassing the EFFECT 1 signal processor on or off. When this parameter is turned “off,” the “WET:DRY BALANCE” parameters (page 42) have no effect.

Dry2

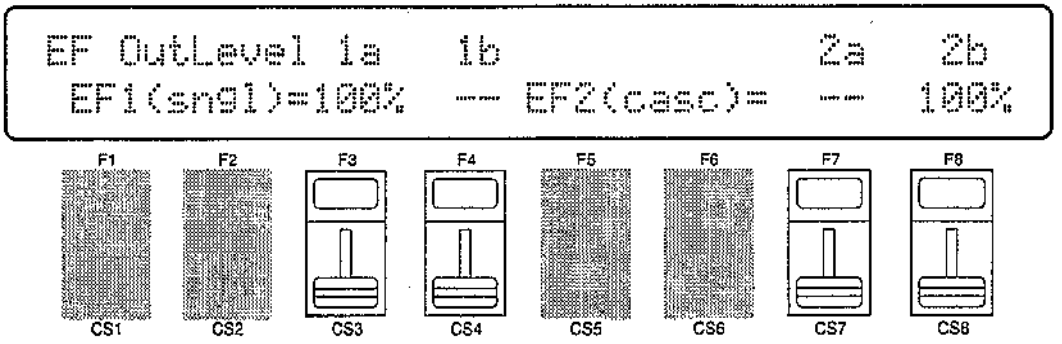
Range: off, on
Controls: [CS7], [-1] [+1], Dial

Turns the “dry line” bypassing the EFFECT 2 signal processor on or off. When this parameter is turned “off,” the “WET:DRY BALANCE” parameters (page 42) have no effect.

4: OUTPUT LEVEL

[PERFORMANCE] → [EFFECT EDIT] → [MENU] → 4:Output Level → [ENTER/YES]

Depending on the selected effects the SY85 effect system can have up to four separate output levels that are adjusted by the parameters provided in this screen.



1a, 1b, 2a, and 2b (Effect output levels)

Range: 0 ... 100

Controls: [CS3], [CS4], [CS7], [CS8], [-1] [+1], Dial

The [CS3] and [CS4] sliders adjust the output levels of the effect 1 “la” and “lb” stages, respectively, while the [CS7] and [CS8] sliders adjust the output levels of the effect 2 “2a” and “2b” stages. A setting of “0” turns output from the corresponding effect stage off, while a setting of “100” produces maximum output level.

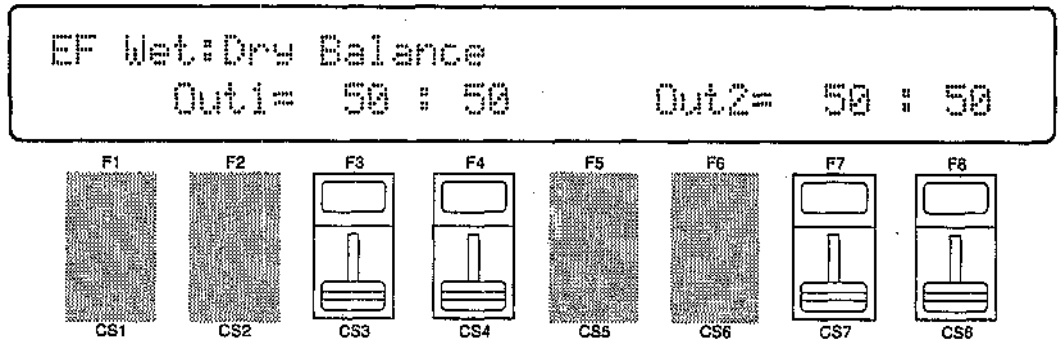
If the selected effect is a “single” type, then only the “la” or “2a” output level is available. If it is a “cascade” type, then only the “1b” or “2b” output level is available. Both the “la” and “lb” or “2a” and “2b” levels are available only if the selected effect is a “dual” type. The type of the effects currently selected for the effect 1 and effect 2 processors are shown in parentheses on the bottom line of the display. See page 254 for details on the effect stages and the SY85 effect system in general.

If a controller is assigned to any of the output level parameters (page 45), an inverse “c” will appear to the right of the parameter.

5: WET:DRY BALANCE

[PERFORMANCE] → [EFFECT EDIT] → [MENU] → 5:Wet:Dry Balance → [ENTER/YES]

The balance between the direct sound of the voice and the effect sound is a delicate thing. Even slight changes can make a big difference to the final sound. The parameters provided in this screen provide precise balance control.



Out1 Wet/Out2 Wet

Range: 0 ... 100
Controls: [CS3]/[CS7], [-1] [+1], Dial

These parameters and the corresponding "Out1 Dry" and "Out2 Dry" parameters, below, work together to balance the effect ("wet") and direct ("dry") signals delivered via the EFFECT 1 and EFFECT 2 processors. Higher "Wet" values produce more effect sound in relation to the direct, dry sound of the voice.

Although the "Wet" and "Dry" parameters can be set independently, adjusting one will cause the other to change so that their total is always 100(%).

If a controller is assigned to the "Out1 Wet" or "Out2 Wet" parameter (page 45), an inverse "c" will appear to the right of the parameter.

Out1 Dry/Out2 Dry

Range: 0 ... 100
Controls: [CS4]/[CS8], [-1] [+1], Dial

These parameters and the corresponding "Out1 Wet" and "Out2 Wet" parameters, above, work together to balance the effect ("wet") and direct ("dry") signals delivered via the EFFECT 1 and EFFECT 2 processors, respectively. Higher "Dry" values produce more direct, dry sound in relation to the effect sound.

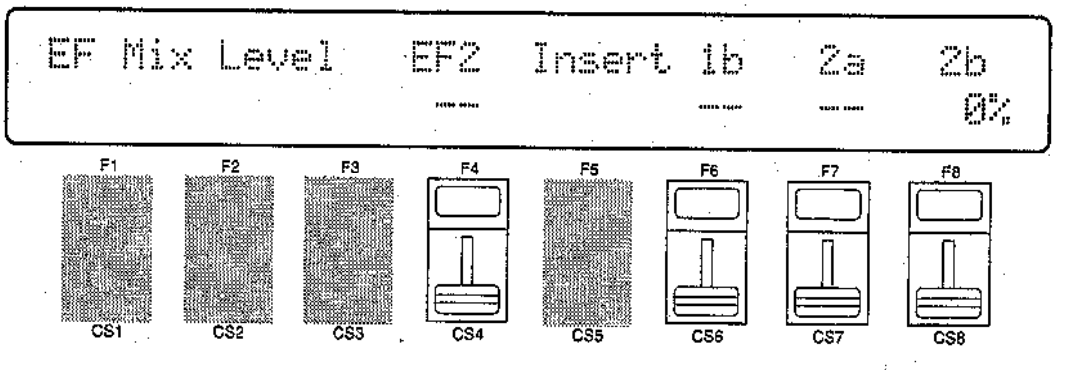
Although the "Wet" and "Dry" parameters can be set independently, adjusting one will cause the other to change so that their total is always 100(%).

If a controller is assigned to the "Out1 Dry" or "Out2 Dry" parameter (page 45), an inverse "c" will appear to the right of the parameter.

6: SEND & EFFECT 2 MIX LEVEL

[PERFORMANCE] → [EFFECT EDIT] → [MENU] → 6:Mix Level → [ENTER/YES]

These parameters determine the mix level between each effect send and the output of the preceding effect stage. Refer to the section beginning on page 254 for details on the overall SY85 effect system.



EF2 Mix (Effect 2 mix level)

Range: 0 ... 100
Controls: [CS4], [-1] [+1], Dial

Mixes the output of the EFFECT 2 processor with that of the EFFECT 1 processor. This parameter can only be used with the "serial" effect mode is selected. If any other mode is selected ("off' or "para"); "---" appears on the display in place of the value.

If a controller is assigned to the EF2 Mix parameter (page 45), an inverse "c" will appear to the right of the parameter.

Insert 1b, 2a, 2b (Insert level)

Range: 0 ... 100
Controls: [CS6], [CS7], [CS8], [-1] [+1], Dial

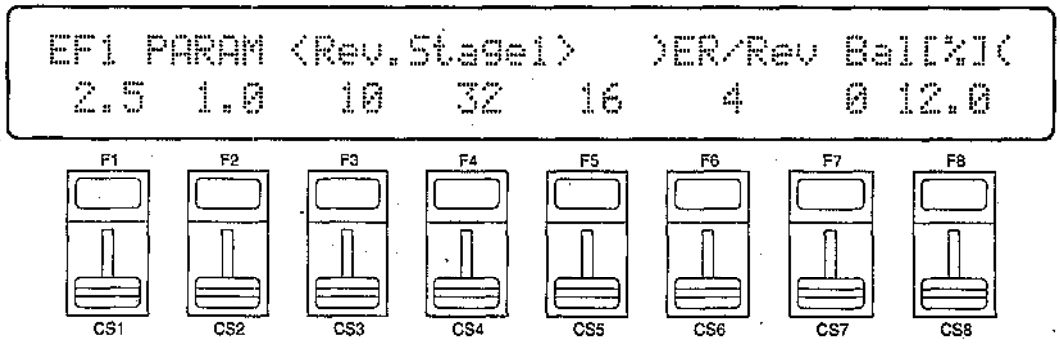
These parameters mix the dry signal sent to the corresponding effect stage with the output of the preceding effect stage. The higher the value the greater mix level. If the current effect configuration does not allow one of these mix parameters, "--" will appear in place of the mix level parameter.

If a controller is assigned to the one of these parameters (page 45), an inverse "c" will appear to the right of the parameter.

7: EFFECT 1 PARAMETERS
8: EFFECT 2 PARAMETERS

[PERFORMANCE] → [EFFECT EDIT] → [MENU] → 7:EF1 Parameter → [ENTER/YES]
                                       → 8:EF2 Parameter → [ENTER/YES]

Each of the SY85's 90 effects has 8 parameters that can be edited via the parameters in this screen to fine-tune the effect.



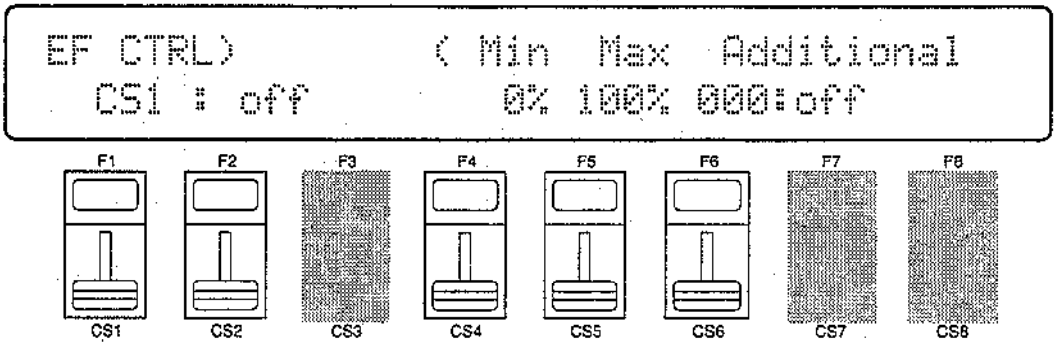
Each parameter is controlled by the corresponding slider (i.e. the slider immediately below each parameter). The [-1]/[+1] keys and data entry dial can also be used to edit the parameter at which the cursor is currently located.

Refer to page 274 for a complete listing of the parameters provided for each effect.

9: CONTROL PARAMETERS

[PERFORMANCE] → [EFFECT EDIT] → [MENU] → 9:Control Parameter → [ENTER/YES]

The SY85 [CS1] and [CS2] sliders can be assigned to control different effect parameters in real time while playing in the voice or performance modes. The parameters provided in this screen determine which effect parameters are to be controlled by the [CS1] and [CS2] sliders, the minimum and maximum parameter values, and assign MIDI control numbers to the same parameters for MIDI effect control.



CS1/CS2 (CS1/CS2 switch)

Range: CS1, CS2
Controls: [CS1], [-1] [+1], Dial

Selects [CS1] or [CS2] for assignment.

Parameter (Effect parameter)

Range: Depends on selected effects.
Controls: [CS2], [-1] [+1], Dial

Selects the effect parameter to be controlled by the currently selected slider. Since each effect has as many as 8 different parameters, the maximum number of settings available for this parameter will be 8: “Ef1prm1” through “Ef1prm8” on the display, for example, stands for “effect 1 parameter 1” through “effect 1 parameter 8”. The parameters available for each effect are different, but the name of the selected parameter will be shown between the parentheses on the top line of the display. Parameters that can not be assigned to the sliders are indicated by dashes (“--------”) instead of a parameter name.

Min (Minimum parameter value)

Range: 0 ... 100
Controls: [CS4], [-1] [+1], Dial

Sets the lower limit of the [CS1] or [CS2] control range. A setting of “0”, for example, means that when the slider is set to its lowest position the assigned parameter will also be set to its lowest value. A setting of “50” means that the lowest slider position will set the assigned parameter to about 50% of its range (a parameter with a range of 0 to 127, for example, would be set to about 63).

If a controller is assigned to the “Min” parameter, an inverse “c” will appear to the right of the parameter.

Max (Maximum parameter value)

Range: 0 ... 100
Controls: [CS5], [-1] [+1], Dial

Sets the upper limit of the [CS1] or [CS2] control range. A setting of "100", for example, means that when the slider is set to its highest position the assigned parameter will also be set to its highest value. A setting of "80" means that the highest slider position will set the assigned parameter to about 80% of its range (a parameter with a range of 0 to 127, for example, would be set to about 102).

If a controller is assigned to the "Max" parameter, an inverse "c" will appear to the right of the parameter.

Additional (Additional MIDI control)

Range: 000 ... 120, AfterTch, Velocity, KeyScale, LFO
Controls: [CS6], [-1] [+1], Dial

This parameter allows MIDI control change numbers to be assigned to the selected effect parameters, so that they can be controlled from the SY85 controllers (modulation wheel, foot controller, etc) or an external MIDI device that is capable of transmitting control change messages. Additional settings include "AfterTch" for keyboard aftertouch control, "Velocity" for keyboard velocity control, "KeyScale" for key scaling control, and "LFO" for internal LFO control. This is in addition to control via the [CS1] and [CS2] sliders. MIDI control change numbers 000 through 120 can be assigned. Some control change numbers are already defined, while others are not assigned to any specific controller (see: chart below).

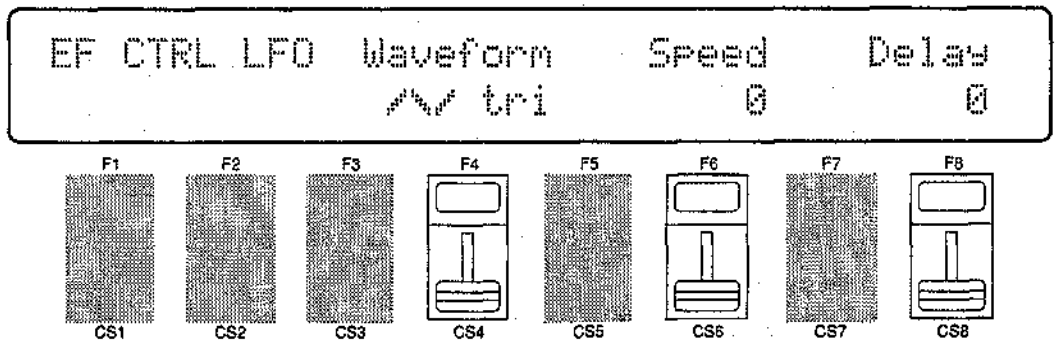
MIDI CONTROL CHANGE NUMBER/DEVICE

0:	"--------"	91:	"Effect D"
1:	"Mod.Whl."	92:	"TremoloD"
2:	"Breath C"	93:	"Chorus D"
4:	"Foot Cnt"	94:	"CelesteD"
5:	"Porta.Tm"	95:	"Phaser D"
6:	"Data Ent"	96:	"Inc. "
7:	"Main Vol"	97:	"Dec. "
8:	"Balance "	98:	"NRPN LSB"
10:	"Panpot "	99:	"NRPN MSB"
11:	"Express."	100:	"RPN LSB"
64:	"Hold 1 "	101:	"RPN MSB"
65:	"Porta.Sw"	121:	"AfterTch"
66:	"Sostenut"	122:	"Velocity"
67:	"Soft "	123:	"KeyScale"
69:	"Hold 2 "	124:	"LFO "

10: CONTROL LFO

[PERFORMANCE] → [EFFECT EDIT] → [MENU] → 10:Control LFO → [ENTER/YES]

All of the modulation-type effects – chorus, flanging, etc. – require LFO control. The SY85 has an independent effect LFO that is set up by the following parameters.



Wave (LFO waveform)

Range: tri, dwn, up, squ, sin, S/H, 1tm
Controls: [CS4], [-1] [+1], Dial

Determines the waveform of the effect LFO.

"tri" = Triangle.	"dwn" = Downward sawtooth.
"up" = Upward sawtooth.	"squ" = Square.
"sin" = Sine.	"S/H" = Sample and hold.
	"1tm" = Upward 1-shot.

If a controller is assigned to the "Wave" parameter (page 45), an inverse "c" will appear to the right of the parameter.

Speed (LFO speed)

Range: 0 … 99
Controls: [CS6], [-1] [+1], Dial

Sets the speed of the effect LFO.

"0" is the slowest speed setting, producing an LFO speed of approximately 0 Hertz. The fastest setting of 99 produces an LFO speed of approximately 25 Hertz.

If a controller is assigned to the "Speed" parameter (page 45), an inverse "c" will appear to the right of the parameter.

Delay

Range: 0 … 99
Controls: [CS8], [-1] [+1], Dial

Sets the delay time between the beginning of a note and the beginning of effect LFO operation for the selected element.

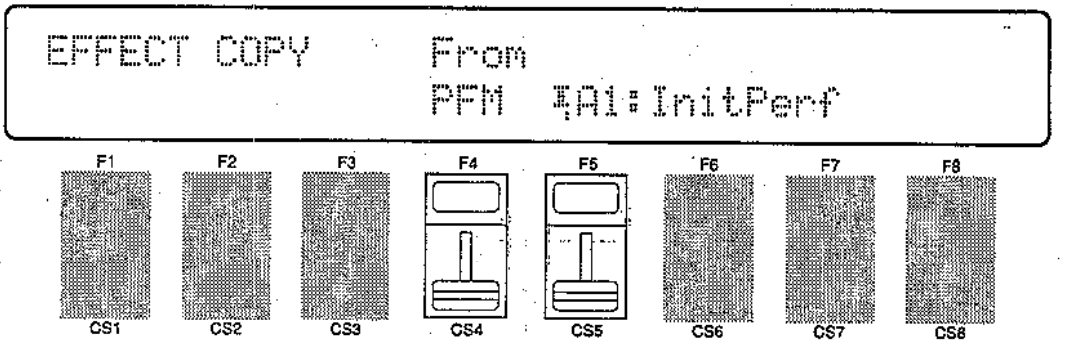
The minimum setting "0" results in no delay, while the maximum setting of "99" produces a delay of approximately 2.66 seconds before the effect LFO begins operation.

If a controller is assigned to the "Delay" parameter (page 45), an inverse "c" will appear to the right of the parameter.

EFFECT DATA COPY

[PERFORMANCE] → [EFFECT EDIT] → [COPY]

This function facilitates performance effect editing by allowing the effect parameters from any other song, voice, or performance combination to be copied to the current performance combination. You can copy an effect setup that is close to the type you want, then edit it to produce the required sound.

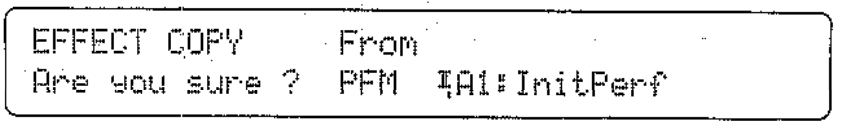


From

Range: Any song, voice or performance combination
Controls: MEMORY, GROUP, PROGRAM, [CS5], [-1] [+1], Dial

Use the [INTERNAL 1], [INTERNAL 2], and [CARD] MEMORY keys to select the memory area from which the source voice is to be selected. Use the GROUP keys to select the source voice bank, then use the PROGRAM keys to select the source voice number. The [CS5] slider and other data entry controls can also be used to select the source voice number.

Once the source voice has been selected, press the [ENTER/YES] key. “Are you sure?” will appear on the display



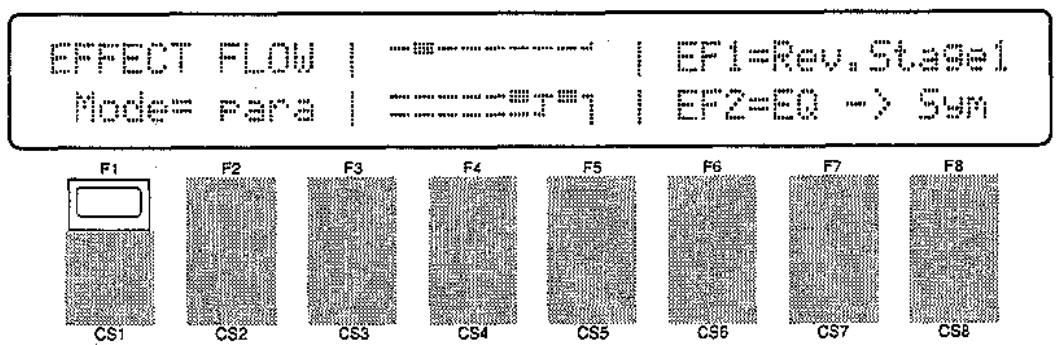
Press the [ENTER/YES] key again to copy the effect data, or press [EXIT/NO] to cancel the copy operation. Once the copy operation has finished, “Completed!” will appear on the display briefly, then the display will return to the effect edit mode.

EFFECT SIGNAL FLOW DISPLAY

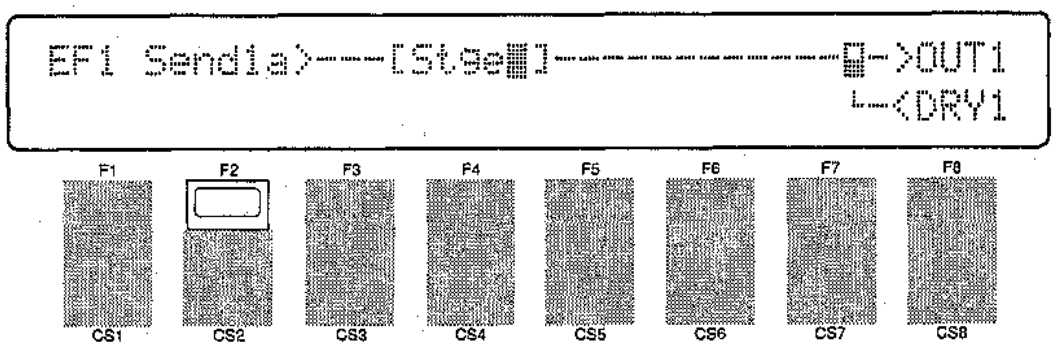
[PERFORMANCE] → [EFFECT EDIT] → [SHIFT] + [F1] ~ [F3]

This function provides a graphic indication of the current effect system configuration while in the effect edit mode.

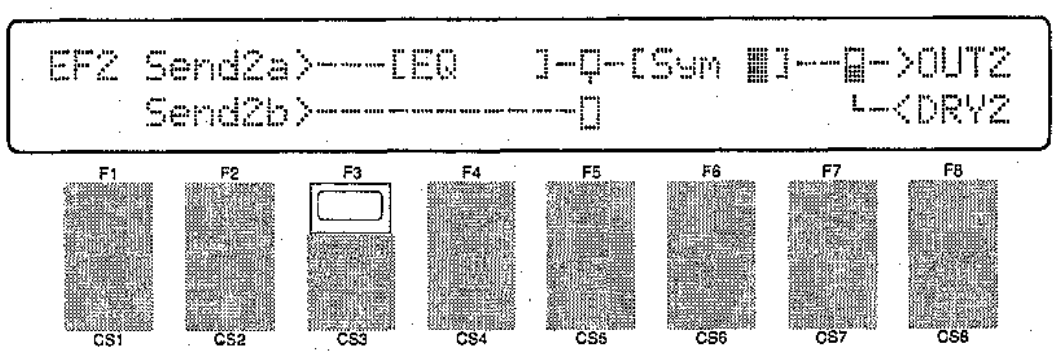
● Overall Effect Flow



● Effect 1 Configuration



● Effect 2 Configuration



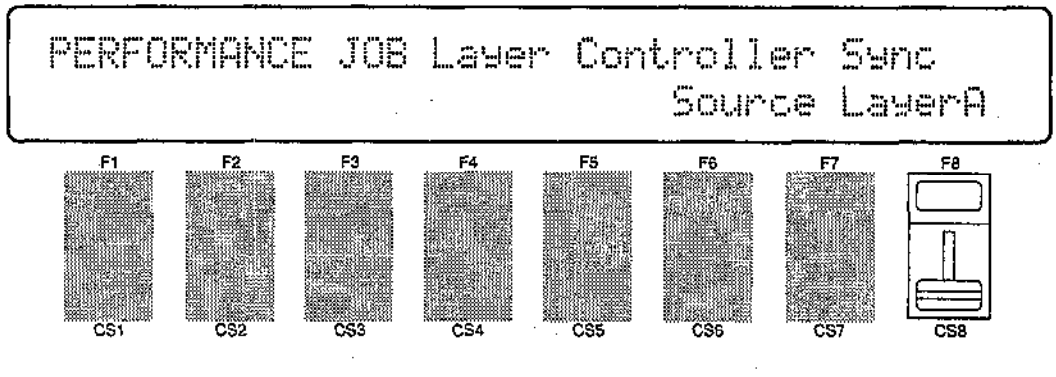
Press [SHIFT] + [F1] to see the overall effect system signal flow. Press [SHIFT] + [F2] to see the effect 1 section configuration, and [SHIFT] + [F3] for the effect 2 section configuration.

Refer the to section beginning on page 254 for details on the effect system.

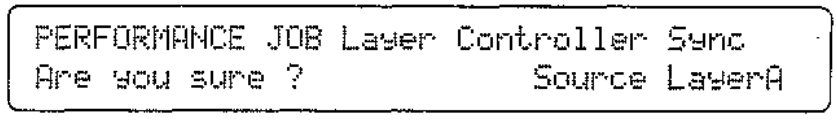
1: LAYER CONTROLLER SYNC

[PERFORMANCE] → [JOB] → [MENU] → 1:Layer Controller Sync → [ENTER/YES]

This function changes the controller parameters of all voices in the selected perfomance combination to match those of the voice assigned to the specified "source" layer.



Use the [CS8] slider to select the source layer (A, B, C, or D) from which the controller data is to be copied, then press [ENTER/YES] to begin the layer controller sync procedure. The following confirmation display will appear:



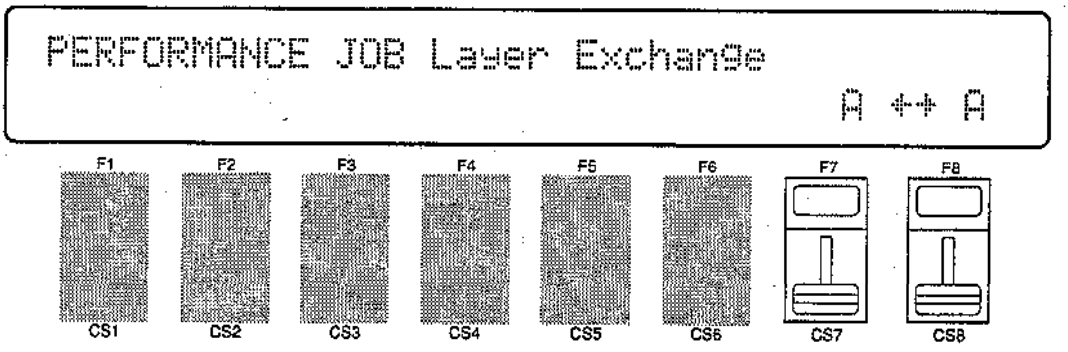
Press [ENTER/YES] again to confirm that you want to go ahead with the operation (which will overwrite all controller data for the voices assigned to all layers other than the source layer), or press [EXIT/NO] to cancel.

When the data has been copied, "Completed!" will appear briefly on the display, then the display will return to the mode that was engaged prior to calling the layer controller sync function.

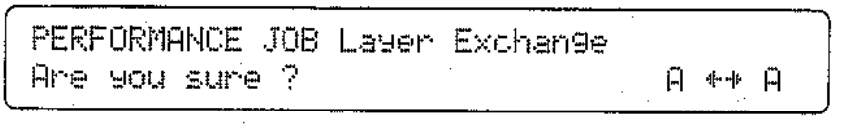
2: LAYER EXCHANGE

[PERFORMANCE] → [JOB] → [MENU] → 2:Layer Exchange → [ENTER/YES]

This function can be used to eliminate the audible effects of slight note delays that can occur in the performance play mode. The notes played by layers A, B, C, and D are sounded in sequence in the performance play mode. Normally the delay is so slight that it is not audible. If a voice with a sharp attack is assigned to one of the later layers (C or D), however, the delay can "soften" the attack of the voice. The problem can be overcome by using this function to exchange layers A and D, for example, so that the voice with the strong attack is assigned to layer A instead of layer D. Since layer A is sounded first, the sharpness of the attack will be retained.



Use the [CS7] and [CS8] sliders to select the layers to be exchanged (A through D), then press [ENTER/YES] to begin the layer exchange procedure. The following confirmation display will appear:



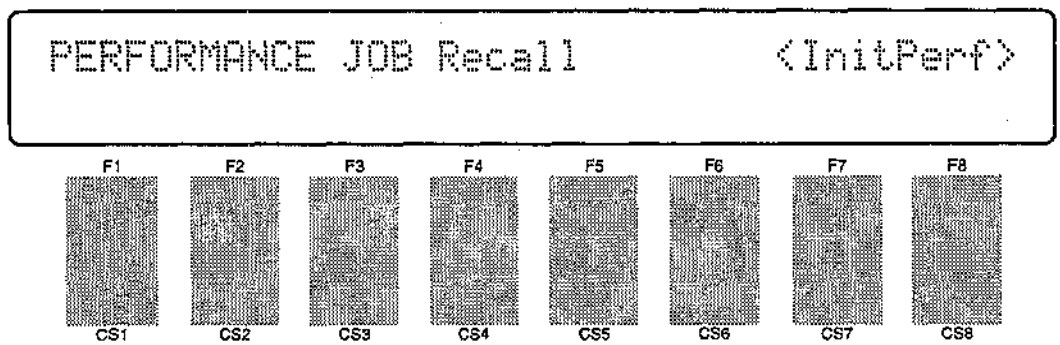
Press [ENTER/YES] again to confirm that you want to go ahead with the layer exchange operation, or press [EXIT/NO] to cancel.

When the data has been exchanged, "Completed!" will appear briefly on the display, then the display will return to the mode that was engaged prior to calling the layer exchange function.

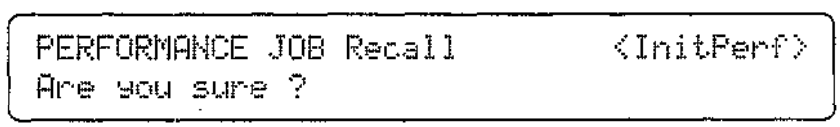
3: PERFORMANCE EDIT RECALL

[PERFORMANCE] → [JOB] → [MENU] → 3:Recall → [ENTER/YES]

If you're dissatisfied with the results of edits you've made to a performance combination, or have accidentally lost track of changes made, use the PERFORMANCE EDIT RECALL function to recall the pre-edit performance data from the SY85's backup buffer memory.



Press [ENTER/YES] to begin the recall procedure. The following confirmation display will appear:



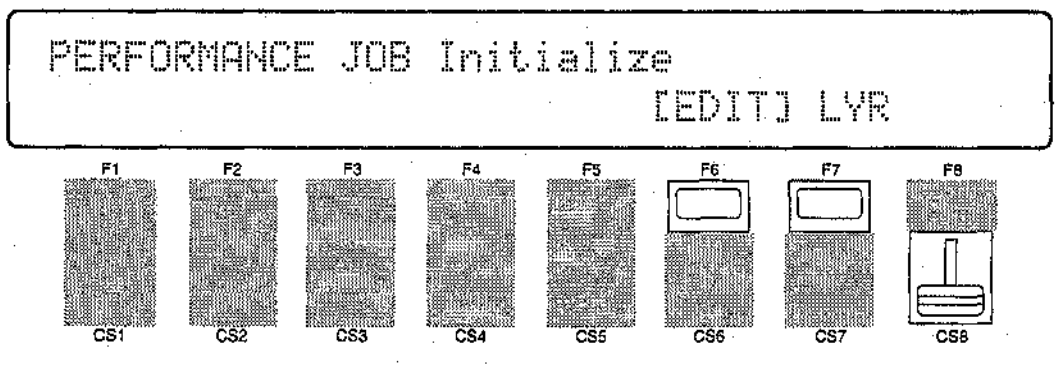
Press [ENTER/YES] again to confirm that you want to go ahead with the recall operation (which will erase all current edited data), or press [EXIT/NO] to cancel.

When the original voice data has been recalled, "Completed!" will appear briefly on the display, then the display will return to the mode that was engaged prior to calling the performance edit recall function.

4: PERFORMANCE INITIALIZE

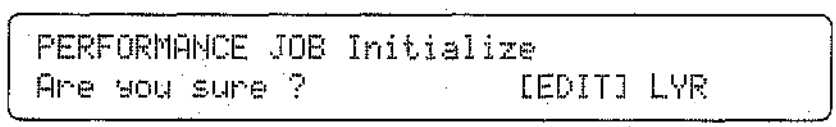
[PERFORMANCE] → [JOB] → [MENU] → 4:Initialize → [ENTER/YES]

When you want to program a totally new performance combination "from scratch," rather than editing an existing combination, use this function to initialize all performance parameters.



Press [F6] if you want to initialize the entire performance combination currently in the edit buffer, or [F7] if you only want to initialize one specific layer. If you choose [F7], use the [CS8] slider to select the layer you want to initialize.

Press [ENTER/YES] to begin the initialize procedure. The following confirmation display will appear:



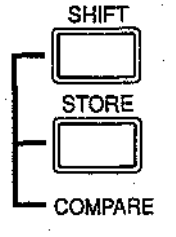
Press [ENTFR/YES] again to confirm that you want to go ahead with the initialize operation (which will erase all current edited data), or press [EXIT/NO] to cancel.

When the performance data has been initialized, "Completed!" will appear briefly on the display, then the display will, return to the mode that was engaged prior to calling the performance initialize function.

PERFORMANCE COMPARE

[SHIFT] + [STORE]

The performance compare function makes it possible to compare the sound of a performance combination being edited with the same performance combination prior to editing.

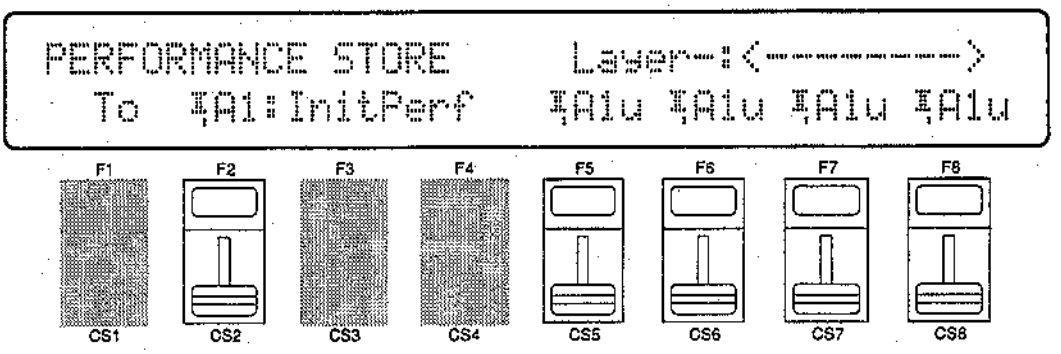


To temporarily recall the original performance data while editing, press the [STORE] key while holding the [SHIFT] key. The [PERFORMANCE] LED will flash, indicating that the compare mode is engaged. Although you can select different edit mode display screens, data cannot be edited in the compare mode. Press [EXIT/NO] to return to the edit mode and the performance combination being edited.

PERFORMANCE STORE

[STORE]

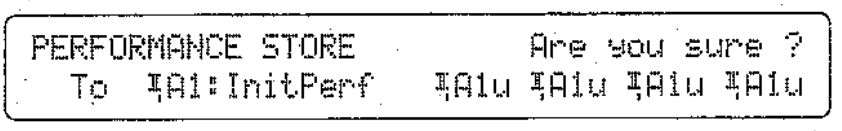
When you're satisfied with a new performance combination you've created in the performance edit mode, use the store function described below to store the new performance combination to an internal or card memory location.



When you've finished editing, return to the normal performance play mode (press the [PERFORMANCE] key), and before selecting a different mode or performance combination press the [STORE] key. You can now use the MEMORY, GROUP, and NUMBER keys (or the [CS2] slider) to select the memory location to which your new performance combination is to be stored.

Since any changes you have made via the LAYER VOICE EDIT MENU (page 26) will be stored as voice data, it is also possible to specify the voice memory loactions to which the voice data from each layer will be stored. The [F5], [F6], [F7], and [F8] function keys select the layer A, B, C, and D layer voices, respectively. The corresponding layer and voice name appears on the upper display line. With the cursor in the appropriate position you can use the MEMORY, GROUP, and NUMBER keys (or the corresponding slider) to select the memory location to which each voice is to be stored. A "u" appearing next to one of these voice numbers means that the voice is currently used by another performance combination, and therefore any changes to that voice will affect the performance combination in which it is used. For more information press the [SHIFT] key for a list of names of other performance combinations that use the voices assigned to each layer.

Once the store location has been specified, press [ENTER/YES] to begin the store procedure. The following confirmation display will appear:



Press [ENTER/YES] again to confirm that you want to go ahead with the store operation (which will erase all previous data in the specified memory location), or press [EXIT/NO] to cancel.

When the performance data has been stored, "Completed!" will appear briefly on the display, then the display will return to the mode that was engaged prior to calling the store function.

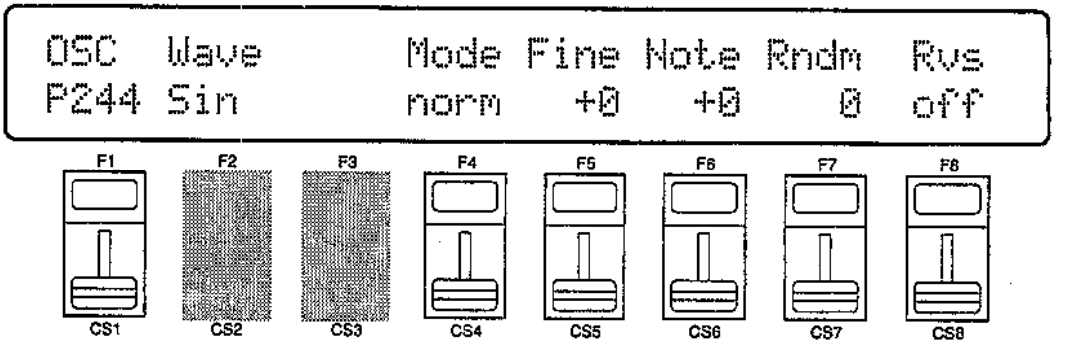
VOICE EDIT MODE

- Edit
  - 1: Oscillator 58
  - 2: Amplitude EG
    - 1: AEG Level & Rate 60
    - 2: Level Scaling 62
    - 3: Sensitivity 63
    - AEG Data Copy 64
  - 3: Filter
    - 1: Type, Cutoff Frequency ... 65
    - 2: Cutoff Scaling 69
    - 3: FEG Level & Rate 70
    - 4: Filter Sensitivity 72
    - Filter Data Copy 73
  - 4: Pitch EG
    - 1: Level & Rate 74
    - 2: Range, Sensitivity 76
    - Pitch EG Data Copy 77
  - 5: LFO
    - 1: LFO 78
    - 2: LFO Speed Sensitivity 80
    - LFO Data Copy 81
  - 6: Controller
    - 1: Pitch Bend Range 82
    - 2: Modulation Wheel Depth . 83
    - 3: Foot Controller Depth 85
    - 4: After Touch Depth 87
    - 5: CS3 Parameter Edit 89
    - 6: CS4 Parameter Edit 91
    - Controller Data Copy 93
  - 7: Voice Total Level 94
  - 8: Voice Name 95
- Quick Edit
  - 1: Wave 96
  - 2: Amplitude EG 98
  - 3: Filter 100
  - 4: LFO 102
  - 5: Effect Type 103
  - 6: Effect Parameter 104
- Effect Edit
  - 1: Mode, Type 105
  - 2: Send, Mix, Wet : Dry 106
  - 3: Output Level 108
  - 4: Effect 1 Parameters 109
  - 5: Effect 2 Parameters 109
  - 6: Control Parameters 110
  - 7: Effect LFO 112
  - Effect Data Copy 113
  - Effect Signal Flow Display 114
- Job
  - 1: Voice Edit Recall 115
  - 2: Voice Initialize 116
- Voice Compare 117
- Voice Store 118

OSCILLATOR

[VOICE] → [EDIT] → [MENU] → 1:Oscillator → [ENTER/YES]

This screen contains 6 parameters that determine the fundamental sound of the voice being edited - including the number of the waveform on which the voice will be based.



Wave

Range: P001 ... P244, I00 ... I63, C00 ... C63
Controls: [CS1], [-1] [+1], Dial

Selects the wave (AWM waveform) to be used in the current voice. Use the [INTERNAL 1], [INTERNAL 2], and [CARD] keys to select the memory area from which the wave is to be selected. Please note that when SIMM memory is wave memory installed, wave data can not be loaded into memory from a waveform card. A complete listing of the internal waves is given in the Appendix, on page 310.

Mode

Range: fix, norm
Controls: [CS4], [-1] [+1], Dial

Determines whether the selected wave is reproduced in the normal (variable pitch) or fixed-pitch mode.

Normally you want the pitch of the AWM wave (or waves) used in a voice to be controllable from a keyboard or other type of controller, in which case the “norm” mode should be selected. In some cases – sound effects in particular – you might want the same pitch to be produced no matter what note you play on the keyboard or other controller. In this case, the “fix” mode is appropriate. The Note parameter described below can be used to set the note produced when the “fix” mode is selected.

Fine

Range: -63 ... 0 ... +63
Controls: [CS5], [-1] [+1], Dial

Allows fine tuning of the selected AWM wave. Each increment corresponds to approximately 1.17 cents (a “cent” is 1/100th of a semitone) so the lowest setting (-63) shifts the pitch down by almost three quarters of a semitone, while the highest setting (+63) shifts the pitch up by the same amount. A setting of “+0” produces standard concert pitch (A3 = 440 Hertz).

Please note that this parameter is used to individually tune the current voice. Overall tuning control is provided by the MASTER TUNE function available in the UTILITY mode.

Note

Range: C-2 … G8, -64 … +63
Controls: [CS6], [-1] [+1], Dial

When the "fix" mode is selected this parameters sets the frequency (note) at which the selected wave will be played. The C-2 to G8 range of this parameter covers a full 10-1/2 octaves. "C3" corresponds to "middle C" on a keyboard.

When the "norm" mode is selected, this parameter is used to shift the overall pitch of the entire keyboard up or down in semitone increments (i.e. a "note shift" function). In this case the range of the parameters is from -64 through 0 to +63. A setting of "-12," for example, shifts the pitch down by one octave; a setting of "+4" shifts the pitch up by a major third.

Rndm (Random pitch)

Range: 0 … 7
Controls: [CS7], [-1] [+1], Dial

Sets the amount of random pitch variation produced each time a note is played.

When this parameter is set to a value other than "0," the pitch changes randomly each time a note is played. The random pitch change is applied independently to each note in a chord. A setting of "7" produces the greatest amount of random pitch change.

This function is ideal for simulating the sound of instruments like the clavichord, string sections or other ensembles in which the pitch of each note is rarely in perfect tune with the others.

Rvs (Reverse)

Range: off, on
Controls: [CS8], [-1] [+1], Dial

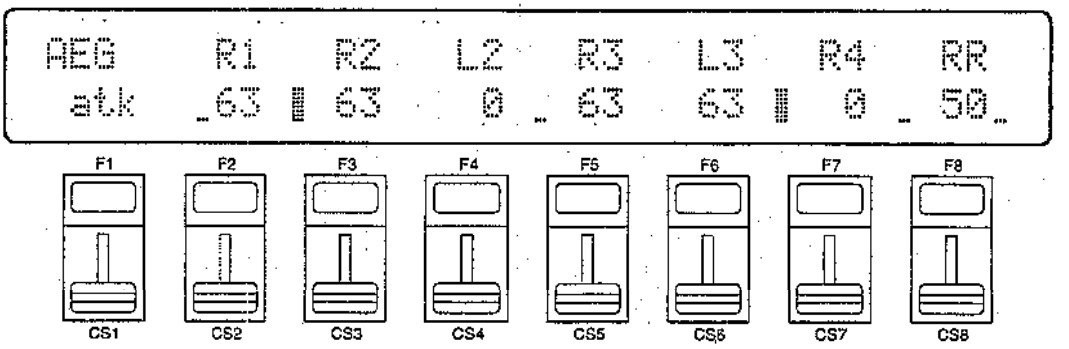
When this parameter is turned "on," the selected wave is played in reverse.

When Rvs is "on," the pitch EG "Loop" parameter described on page 75 is automatically turned "off."

1: AEG LEVEL & RATE

[VOICE] → [EDIT] → [MENU] → 2:Amlitude EG → [ENTER/YES] → [ENTER/YES] → → [MENU] → 1:Level&Rate → [ENTER/YES]

The SY85's main AEG (Amplitude Envelope generator) has five individually programmable rates and two levels for exceptional envelope programming flexibility. Next to the fundamental waveform used, the amplitude envelope is one of the most important factors determining the overall sound of a voice.



Atk/Hld (Amplitude EG attack/hold mode)

Range: atk, hold
Controls: [CSI], [-1] [+1], Dial

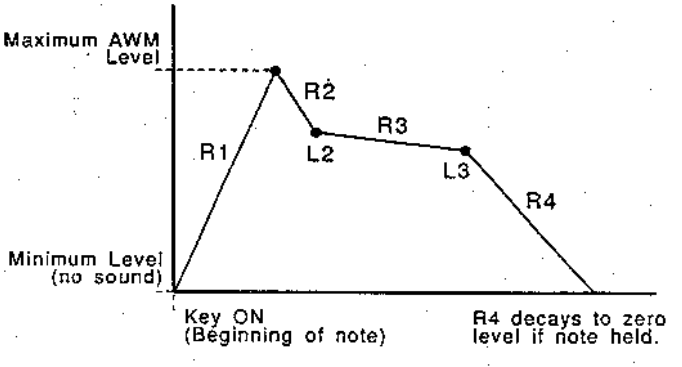
The "Atk" and "Hld" mode settings affect the initial attack of the sound, determining how the amplitude envelope begins. In the "Atk" mode, the envelope begins from zero level, reaching the maximum AWM level at a rate determined by the R1 (Rate 1) parameter. In this mode there will always be a slight delay between the initiation of a note and maximum level.

R1 ... RR, L2 ... L3 (Rates & levels)

Range: 0 ... 63
Controls: [CS2] ... [CS8], [-1] [+1], Dial

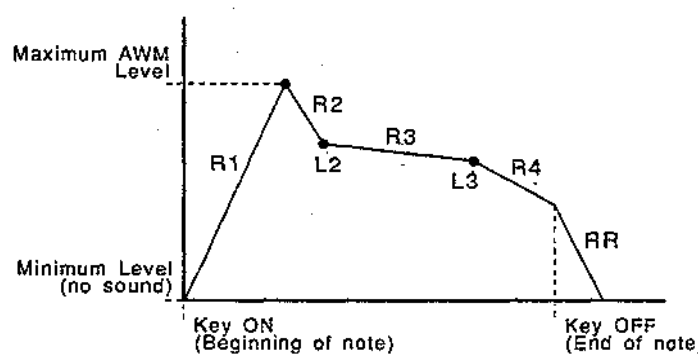
The following diagrams illustrate how the AEG rate and level parameters determine the overall shape of the amplitude envelope.

● "Atk" Mode



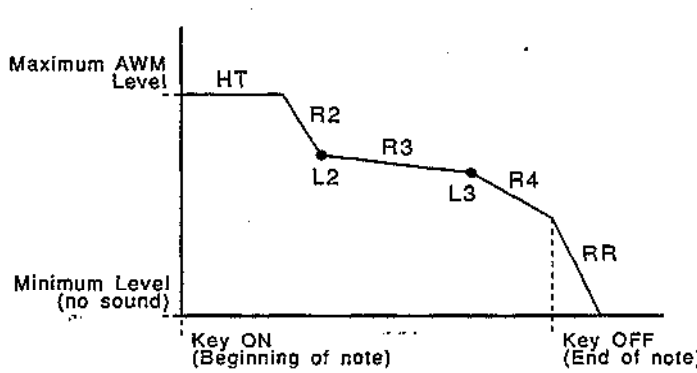
The envelope begins at zero level, reaches maximum level at the rate determined by the R1 parameter, moves to L2 (Level 2) at R2 (Rate 2), moves on to L3 (Level 3) at R3 (Rate 3), and finally decays to zero level at R4 (Rate 4) if the note is held the entire time.

If the note is released before the end of the envelope described above, then the sound decays to zero level from the point at which the note is released at the rate determined by the RR (Release Rate) parameter.



- **"Hld" Mode**

If the "hold" mode is selected, the envelope begins immediately from maximum AWM level, allowing the fast attack transients of waveforms to pass unaffected. In this case the R1 parameter is replaced by the HT (Hold Time) parameter. The HT parameter determines the length of time between the beginning of the envelope and the point at which the envelope begins to move towards L2 (Level 2) at R2 (Rate 2), as shown below.

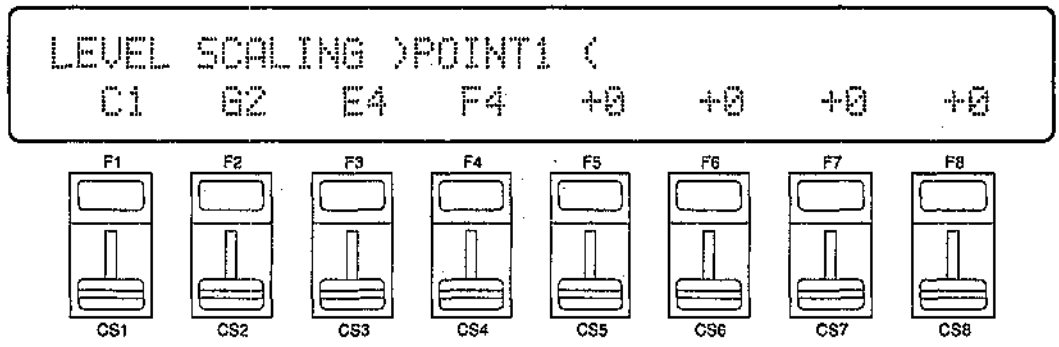


For the level parameters, a setting of "0" corresponds to the lowest possible level (no sound) while a setting of 63 produces the highest output level. A "0" rate parameter setting produces the slowest rate between levels, while the maximum setting of "63" produces the fastest (almost instantaneous) change.

2: LEVEL SCALING

[VOICE] → [EDIT] → [MENU] → 2:Amlitude EG → [ENTER/YES] → [ENTER/YES] →
→ [MENU] → 2:Level Scaling → [ENTER/YES]

Level scaling produces natural level variations across the range of the keyboard by allowing different level "offset" values to be applied to each of four "breakpoints" set at appropriate keys.



Point 1 ... 4

Range: C-2 ... G8
Controls: [CS1] ... [CS4], [-1] [+1], Dial, [SHIFT] + Keyboard

Allows four separate amplitude envelope generator level-scaling breakpoints to be set at any notes between C-2 and G8 for the selected element.

To use the keyboard for breakpoint entry, simply select a breakpoint parameter by pressing the corresponding function key or moving the corresponding continuous slider, then press the key at which you want to set the breakpoint while holding the [SHIFT] key.

No breakpoint can be set to a key lower than the breakpoint to its left.

Offset 1 ... 4

Range: -127 ... +127
Controls: [CS5] ... [CS8], [-1] [+1], Dial

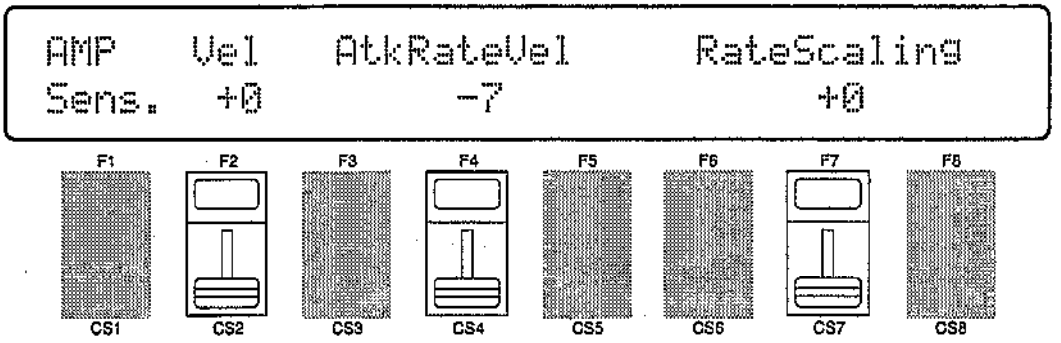
Sets the amount of level offset for each of the four level-scaling breakpoints set by the "Point" parameters described above.

Negative values reduce the level, and positive values increase the level at the corresponding breakpoint. No matter what value is chosen, the EG level will never exceed its minimum or maximum levels. When different offset values are applied to adjacent breakpoints, the level varies smoothly between the breakpoints.

3: SENSITIVITY

[VOICE] → [EDIT] → [MENU] → 2:Amlitude EG → [ENTER/YES] → [ENTER/YES] →
→ [MENU] → 3:Sensitivity → [ENTER/YES]

The parameters provided here determine how the amplitude envelope generator responds to changes in keyboard velocity and range.



Vel (Velocity sensitivity)

Range: -7 ... +7
Controls: [CS2], [-1] [+1], Dial

Determines how the output level of the current voice changes in response to velocity changes (e.g. keyboard dynamics).

Plus "+" settings produce higher output level in response to higher velocity values — i.e. the harder a key is played, the louder the sound. The maximum setting of "+7" produces the maximum level variation in response to velocity changes. Minus "-"settings produce the opposite effect: lower level in response to higher velocity. A setting of "+0" results in no level variation.

AtkRateVel (Attack rate velocity sensitivity)

Range: -7 ... +7
Controls: [CS4], [-1] [+1], Dial

Determines how key velocity (keyboard dynamics) affect the attack time of the amplitude envelope generator.

Plus ("+") settings produce an increase in attack time in proportion to key velocity, while minus ("-") settings produce a decrease in attack time in proportion to key velocity. The greater the value the greater the change in envelope length.

RateScaling

Range: -7 ... +7
Controls: [CS7], [-1] [+1], Dial

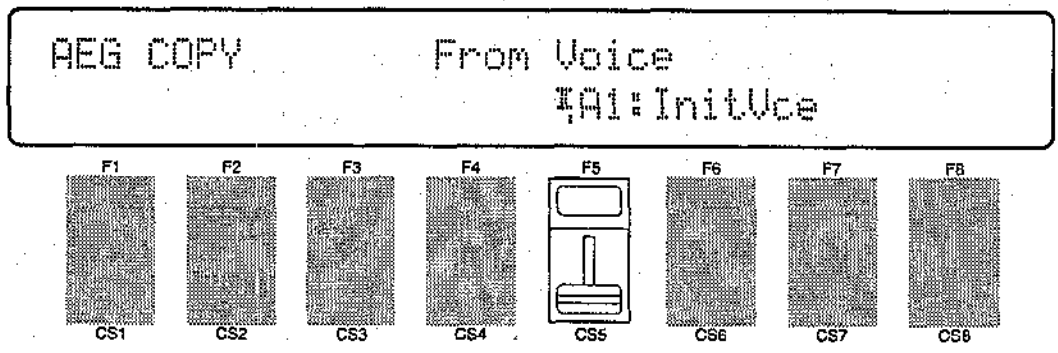
Allows the overall amplitude envelope generator decay rate for the selected element to be varied across the entire pitch range.

Plus ("+") settings produce a longer overall envelope time for the low notes and a shorter envelope time for the high notes. This is useful for simulating instruments such as piano, in which the low notes take much longer to decay than the high notes. The maximum "+7" setting produces the greatest envelope length variation across the pitch range. Minus ("-") settings produce the opposite effect — short low notes and long high notes. A setting of "+0" results in no envelope length variation.

AEG DATA COPY

[VOICE] → [EDIT] → [MENU] → 2:Amplitude EG → [ENTER/YES] → [ENTER/YES] → [COPY]

This function facilitates voice editing by allowing the amplitude EG data from any other voice (the "source" voice) to be copied to the current voice. You can copy an envelope that is close to the type you want, then edit it to produce the required sound.

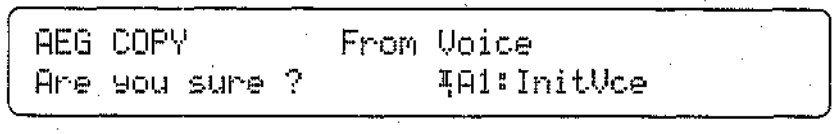


From Voice

Range: Any INTERNAL or CARD voice
Controls: MEMORY, GROUP, PROGRAM, [CS5], [-1] [+1], Dial

Use the [INTERNAL 1], [INTERNAL 2], and [CARD] MEMORY keys to select the memory area from which the source voice is to be selected. Use the GROUP keys to select the source voice bank, then use the PROGRAM keys to select the source voice number. The [CS5] slider and other data entry controls can also be used to select the source voice bank and number.

Once the source voice has been selected, press the [ENTER/YES] key. "Are you sure?" will appear on the display.

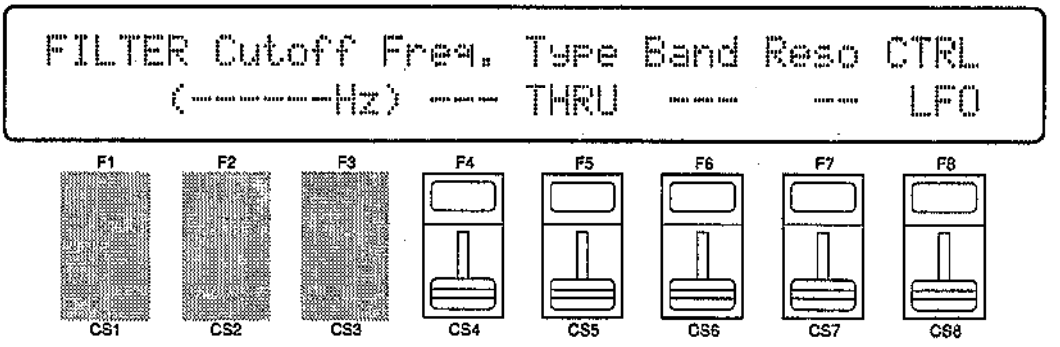


Press the [ENTER/YES] key again to copy the AEG data, or press [EXIT/NO] to cancel the copy operation. Once the copy operation has finished, "Completed!" will appear on the display briefly, then the display will return to the amplitude EG edit mode.

1 :TYPE, CUTOFF FREQUENCY

[VOICE] → [EDIT] → [MENU] → 3:Filter → [ENTER/YES] → [ENTER/YES] →
→ [MENU] → 1:Cutoff Frequency → [ENTER/YES]

The SY85 features a sophisticated digital filter system that can be used to shape the timbre of the voice being edited in a number of ways. Changes in the response and cutoff frequency can be used to define the basic timbre of the voice, while EG-controlled filter sweeps can produce a virtually unlimited range of time-based timbre variations.

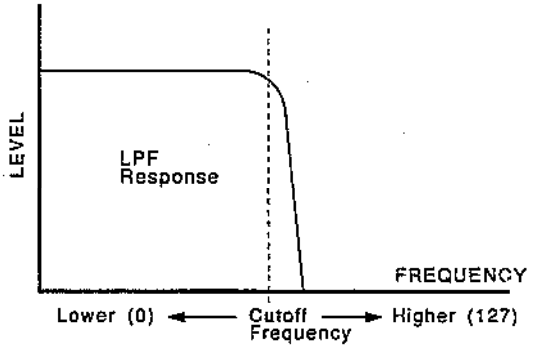


Cutoff Freq. (Cutoff frequency)

Range: 0 ... 127
Controls: [CS4], [-1] [+1], Dial

Sets the cutoff frequency of the selected filter.

Lower cutoff values produce a lower cutoff frequency and higher values produce a higher cutoff frequency.



With an LPF response (selected by the “Type” parameter, below), a lower cutoff frequency reduces the range of high frequencies passed, making the sound “darker” or “rounder.”

With a HPF response, a higher cutoff frequency reduces the range of low frequencies passed, making the sound “thinner” or “sharper.”

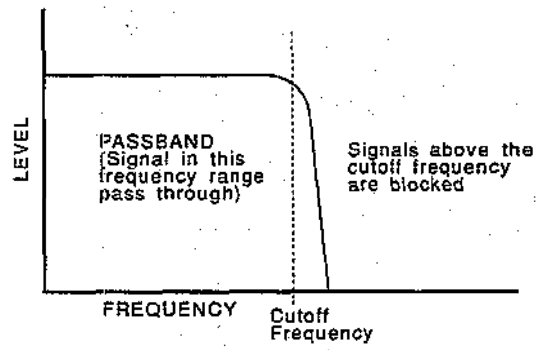
Type (Filter type)

Range: THRU, LPF, LPF12, HPF, BPF, BEF
Controls: [CS5], [-1] [+1], Dial

Determines the type of filter response used.
The "THRU" (THROUGH) setting turns the filter OFF.

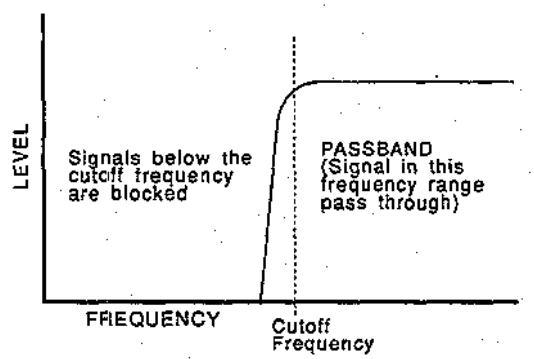
- **"LPF" and "LPF12" Types**

The "LPF" (Low Pass Filter) and "LPF12" settings produces a filter response that allows only frequencies below the cutoff frequency (See "Cutoff" above) to pass. The "LPF" filter type has a steep 24-dB/octave cutoff slope, while the "LPF12" type has a gentler 12-dB/octave slope.



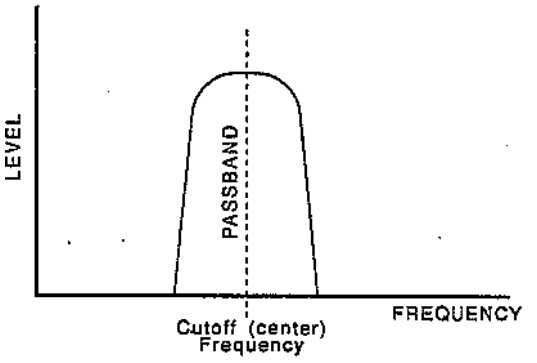
- **"HPF" Type**

The "HPF" (High Pass Filter) setting produces a filter response that allows only frequencies above the cutoff frequency (See "Cutoff" above) to pass.



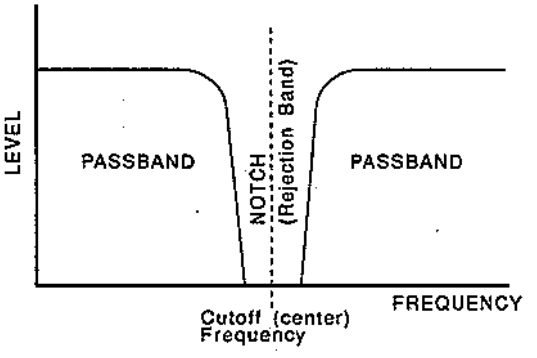
- **"BPF" Type**

The "BPF" (Band Pass Filter) setting produces a filter response that allows only a band of frequencies centered at the cutoff frequency (See "Cutoff" above) to pass. The "Band" parameter (below) determines the width of the pass band.



- **"BEF" Type**

The "BEF" (Band Elimination Filter) setting produces a filter response that eliminates a band of frequencies centered at the cutoff frequency (See "Cutoff" above) to pass. The "Band" parameter (below) determines the width of the elimination band.



Band (BPF & BEF bandwidth)

Range: 0 … 127
Controls: [CS6], [-1] [+1], Dial

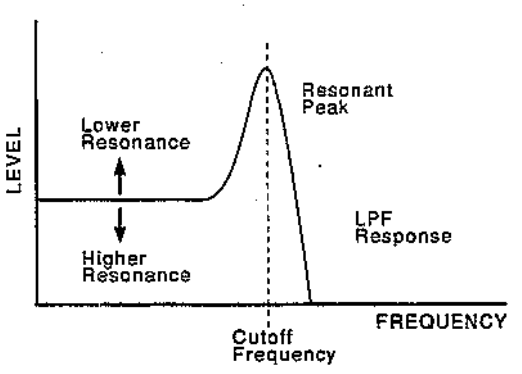
Determines the width of the frequency pass or elimination band for the BPF and BEF filter types, respectively. The minimum setting of "0" produces an extremely narrow pass or elimination band, while the maximum setting of "127" produces a wide band.

Reso (Resonance)

Range: 0 ... 99
Controls: [CS7], [-1] [+1], Dial

Determines the degree of filter resonance when the "LPF" filter type is selected ("--" appears in place of the resonance parameter when any other filter type is selected).

This parameter has a similar effect to the "resonance" settings on traditional analog synthesizer filters — i.e. it determines the height of a peak in the filter response at the cutoff frequency.



Higher resonance values produce a higher resonant peak and reduce the overall bandwidth of the filter, passing a narrow band of frequencies at the filter's cutoff.

CTRL (Filter control)

Range: EG, LFO
Controls: [CS8], [-1] [+1], Dial

Determines whether the cutoff frequency of the selected filter will be controlled by the LFO or by the filter envelope generator (EG).

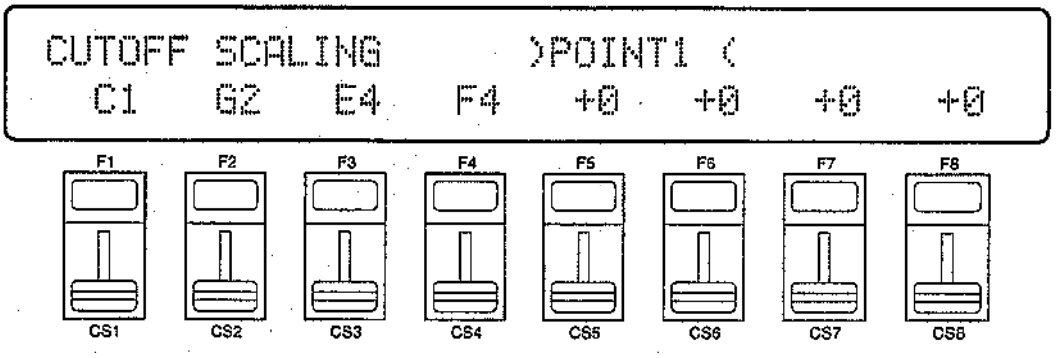
Varying the filter cutoff frequency can create "sweep" or "wah-wah" type effects. If the cutoff is controlled via the LFO a cyclic variation based on the "shape" of the selected LFO waveform is produced. If EG control is selected, the filter envelope generator (see "FILTER EG LEVEL & RATE" below) can be set up to produce a wide range of time-based variations.

Please note that if "LFO" is selected, the filter cutoff envelope generator parameters have no effect on the sound.

2: CUTOFF SCALING

[VOICE] → [EDIT] → [MENU] → 3:Filter → [ENTER/YES] → [ENTER/YES] →
→ [MENU] → 2:Cutoff Scaling → [ENTER/YES]

Cutoff scaling produces natural timbre variations across the range of the keyboard by allowing different filter cutoff frequency "offset" values to be applied to each of four "breakpoints" set at appropriate keys.



POINT 1 ... 4

Range: C-2 ... G8
Controls: [CS1] ... [CS4], [-1] [+1], Dial, [SHIFT] + Keyboard

Allows four separate cutoff envelope generator level-scaling breakpoints to be set at any notes between C-2 and G8 for the selected filter.

To use the keyboard for breakpoint entry, simply select a breakpoint parameter by pressing the corresponding function key or moving the corresponding continuous slider, then press the key at which you want to set the breakpoint while holding the [SHIFT] key.

No breakpoint can be set to a key lower than the breakpoint to its left.

OFFSET 1 ... 4

Range: -127 ... +127
Controls: [CS5] ... [CS8], [-1] [+1], Dial

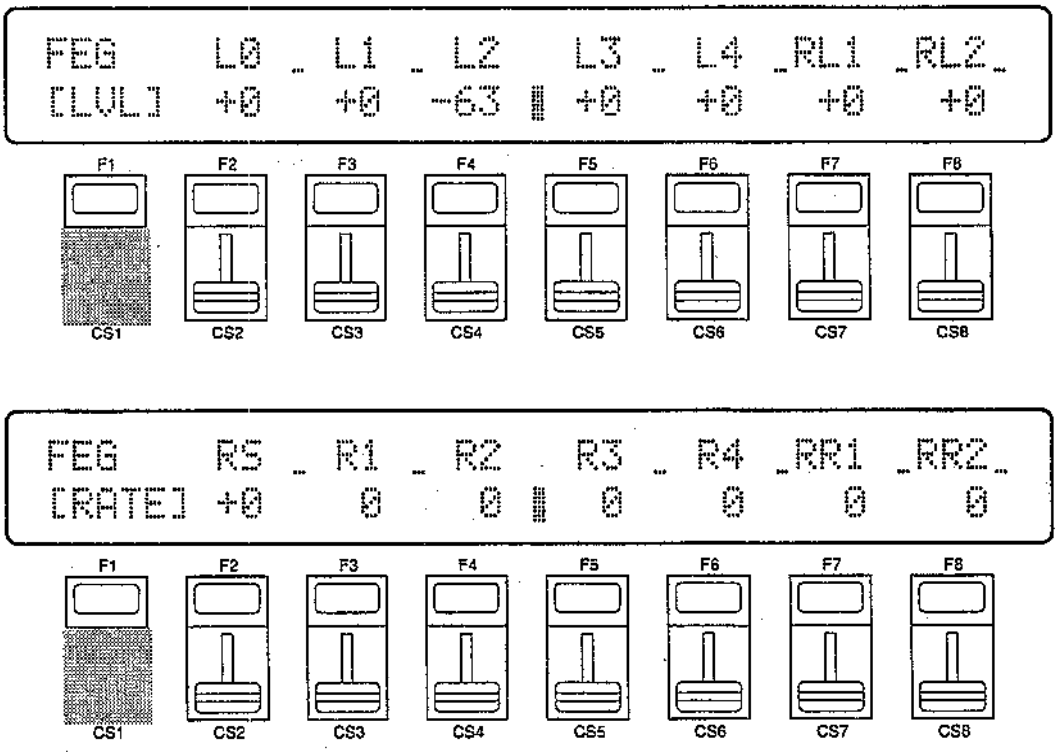
Sets the amount of level offset for each of the four level-scaling breakpoints set by the "Point" parameter described above.

Negative values lower the cutoff frequency, and positive values increase the cutoff frequency at the corresponding breakpoint. No matter what value is chosen, the cutoff frequency will never exceed its minimum or maximum value. When different offset values are applied to adjacent breakpoints, the cutoff frequency varies smoothly between the breakpoints.

3: FEG LEVEL & RATE

[VOICE] → [EDIT] → [MENU] → 3:Filter → [ENTER/YES] → [ENTER/YES] →
→ [MENU] → 3:FEG Level&Rate → [ENTER/YES]

The filter envelope generator is entirely separate from the amplitude EG, and is used specifically to create time-based timbre variations. It can be used to simulate the natural timbre variations produced by acoustic instruments, or to create more pronounced electronic effects.



LVL/RATE (Level/Rate switch)

Range: LVL, RATE
Controls: [F1]

This "switch" determines whether the level parameters (L0 … L4, RL1, and RL2) or the rate parameters (RS, R1 … R4, RR1, and RR2), described below, are selected for editing.

L0 ... L4, RL1, RL2 (Levels 0 ... 4, Release levels 1 & 2)

Range: -63 ...+63
Controls: [CS2] ... [CS8], [-1] [+1], Dial

These parameters are available when the Level/Rate switch parameter is set to "LVL".

The level parameters work in conjunction with the rate parameters described below to determine the "shape" of the cutoff envelope generator for the selected filter. This function is only available if the "CTRL" parameter (page 68) is set to "EG."

The cutoff envelope generator level parameters correspond to cutoff frequency. Plus "+" values produce higher cutoff frequencies while minus "-"

values produce lower cutoff frequencies. “0” level values produce the normal cutoff frequency as determined by the cutoff parameter (See “Cutoff” on page 65).

RS (Rate scaling)

Range: -7 ... +7
Controls: [CS2], [-1] [+1], Dial

Allows the overall cutoff envelope generator rate for the selected filter to be varied across the entire pitch range (i.e. keyboard range). This function is only available if the “CTRL” parameter (page 68) is set to “EG.”

Plus (“+”) settings produce a longer overall envelope time for the low notes and a shorter envelope time for the high notes. The maximum “+7” setting produces the greatest envelope length variation across the pitch range. Minus (“-”) settings produce the opposite effect — a shorter low-note envelope and longer high-note envelope. A setting of “+0” results in no envelope length variation.

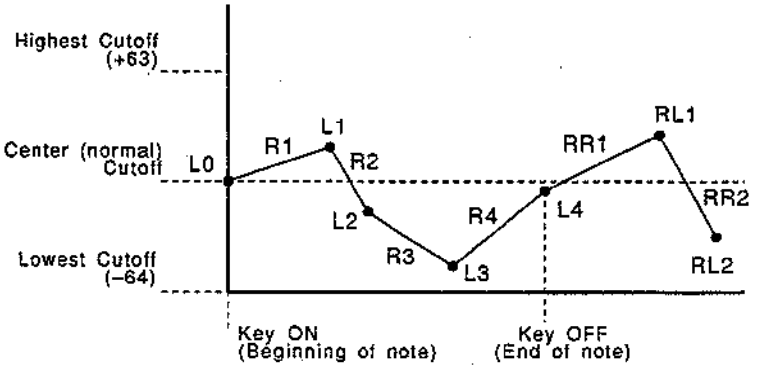
R1 ... R4, RR1, RR2 (Rates 1 ... 4, Release rates 1 & 2)

Range: 0 ... 63
Controls: [CS3] ... [CS8], [-1] [+1], Dial

These parameters work in conjunction with the level parameters described above to determine the “shape” of the cutoff envelope generator for the selected filter. This function is only available if the “CTRL” parameter (page 68) is set to “EG.”

The “Rate” parameters work in the same way as the amplitude and pitch envelope generator rate parameters: a setting of “63” produces the fastest (almost instantaneous) rate between levels, while the minimum setting of “0” produces the slowest change.

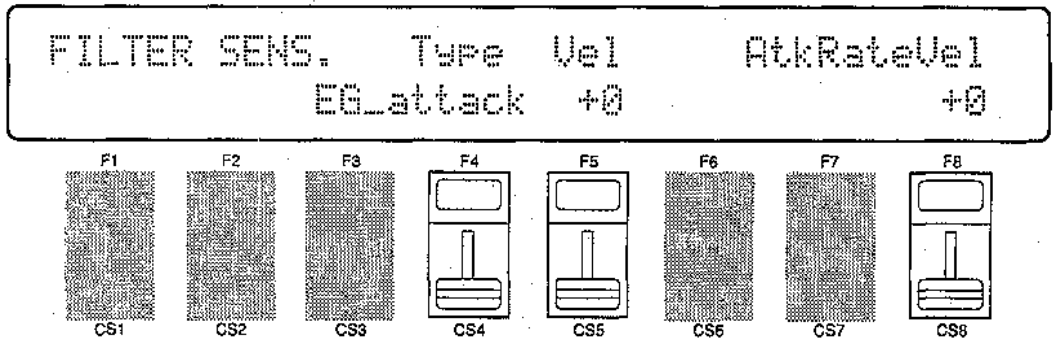
The filter envelope begins at L0 (Level 0), moves to L1 (Level 1) at a rate determined by the setting of R1, then to L2 (Level 2) at R2 (Rate 2), then to L3 (Level 3) at R3 (Rate 3), and then to L4 (Level 4) at R4 (Rate 4). The cutoff stays at L4 until the key is released, and then moves to RLl (Release Level 1) at the rate determined by RR1 (Release Rate 1), and finally to RL2 (Release Level 2) at RR2 (Release Rate 2).



4: FILTER SENSITIVITY

[VOICE] → [EDIT] → [MENU] → 3:Filter → [ENTER/YES] → [ENTER/YES] →
→ [MENU] → 4:Filter Sensitivity → [ENTER/YES]

These parameters determine how the filter envelope generator is affected by keyboard dynamics.



Type (Velocity sensitivity type)

Range: EG_attack, EG_shift
Controls: [CS4], [-1] [+1], Dial

Determines whether changes in key velocity (keyboard dynamics) affect the attack level of the filter EG or its cutoff frequency. When set to "EG_attack", velocity affects filter EG attack level, and when set to "EG_shift", velocity affects the filter cutoff frequency.

Vel (Velocity sensitivity)

Range: -63 ... +63
Controls: [CS5], [-1] [+1], Dial

Determines how the filter cutoff frequency changes in response to velocity changes (e.g. keyboard dynamics).

Plus "+" settings produce higher cutoff frequencies in response to higher velocity values — i.e. the harder a key is played, the higher the cutoff frequency. The maximum setting of "+63" produces the maximum level variation in response to velocity changes. Minus "-" settings produce the opposite effect: lower cutoff in response to higher velocity. A setting of "+0" results in no cutoff variation.

AtkRateVel (Attack rate velocity sensitivity)

Range: -63 ... +63
Controls: [CS8], [-1] [+1], Dial

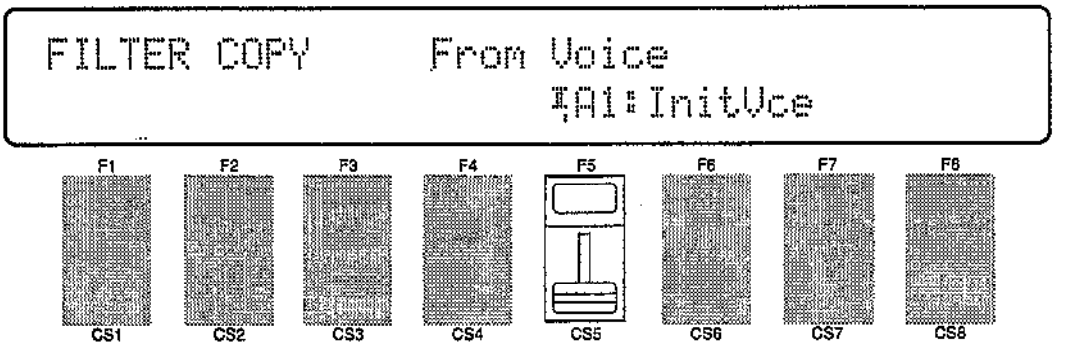
Determines how key velocity (keyboard dynamics) affect the attack portion of the filter EG envelope.

Plus ("+") settings produce an increase in attack time in proportion to key velocity, while minus ("-") settings produce a decrease in attack time in proportion to key velocity. The greater the value the greater the change in attack time.

FILTER DATA COPY

[VOICE] → [EDIT] → [MENU] → 3:Filter → [ENTER/YES]→ [ENTER/YES]→ [COPY]

This function facilitates voice editing by allowing the filter parameters from any other voice (the “source” voice) to be copied to the current voice. You can copy a filter setup that is close to the type you want, then edit it to produce the required sound.



From Voice

Range: Any INTERNAL or CARD voice
Controls: MEMORY, GROUP, PROGRAM, [CS5], [-1] [+1], Dial

Use the [INTERNAL 1], [INTERNAL 2], and [CARD] MEMORY keys to select the memory area from which the source voice is to be selected. Use the GROUP keys to select the source voice bank, then use the PROGRAM keys to select the source voice number. The [CS5] slider and other data entry controls can also be used to select the source voice number.

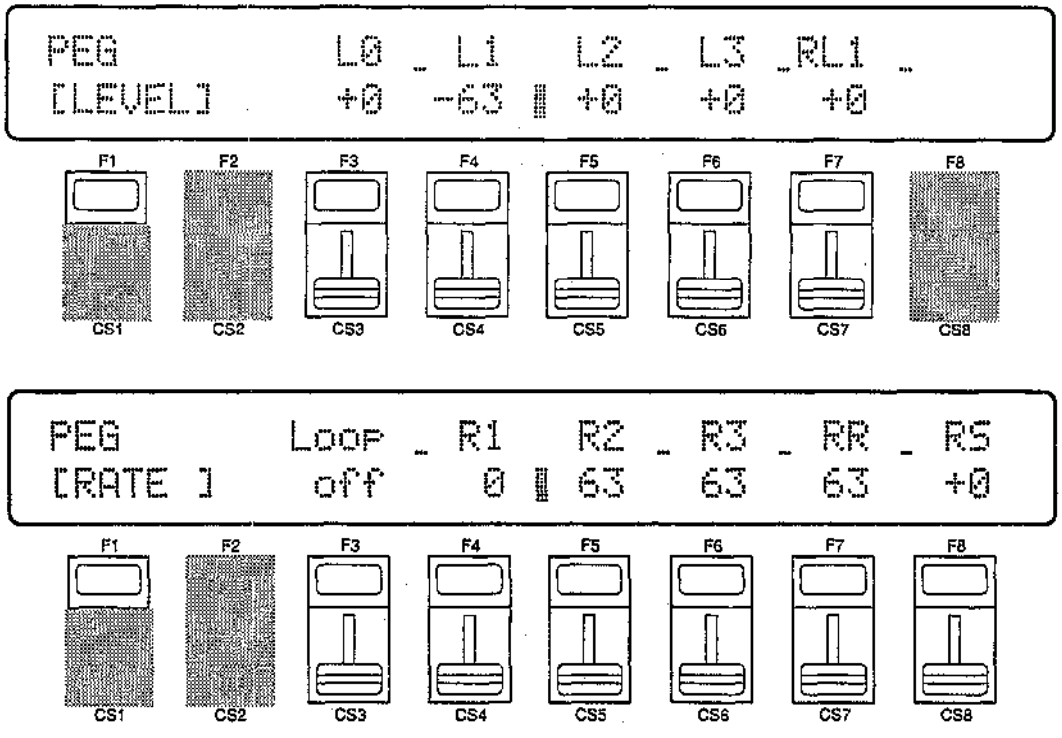
Once the source voice has been selected, press the [ENTER/YES] key. “Are you sure?” will appear on the display.

Press the [ENTER/YES] key again to copy the filter data, or press [EXIT/NO] to cancel the copy operation. Once the copy operation has finished, “Completed!” will appear on the display briefly, then the display will return to the filter edit mode.

1: LEVEL & RATE

[VOICE] → [EDIT] → [MENU] → 4:Pitch EG → [ENTER/YES] → [ENTER/YES] →
→ [MENU] → 1:Level&Rate → [ENTER/YES]

In addition to the amplitude and filter envelope generators, the SY85 has an independent pitch EG that can be used to produce subtle or pronounced time-based pitch variations. The pitch EG has 5 programmable levels and 4 rates for extended flexibility.



Level/Rate

Range: LEVEL, RATE
Controls: [F1]

This "switch" determines whether the level parameters (L0 … L3, RL1) or the rate parameters (Loop, R1 … R3, RR, and RS), described below, are selected for editing.

L0 ... L3, RL1 (Levels 0 - 3, release level 1)

Range: -63 … +63
Controls: [CS3] … [CS7], [-1] [+1], Dial

These parameters work in conjunction with the rate parameters described below to determine the "shape" of the pitch envelope generator for the selected element.

Unlike the amplitude envelope generator, the "Level" parameters of which actually correspond to volume levels, the pitch envelope generator level parameters correspond to pitch. Plus "+" values produce higher pitch while minus "-" values produce lower pitch. "0" level values produce normal pitch.

Loop

Range: off, on
Controls: [CS3], [-1] [+1], Dial

When the Loop parameter is set to "on" the pitch EG cycle repeats from the beginning (L0) to the L3 level until the keys being played are released. When set to "off," the L3 level is maintained until the keys being played are released.

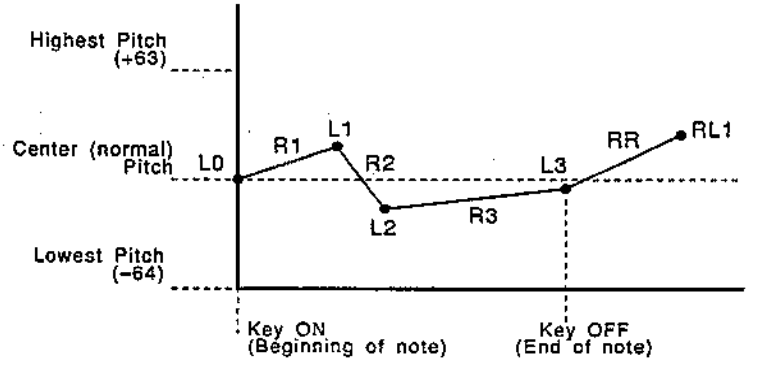
R1 ... R3, RR (Rates 1 ... 3, release rate)

Range: 0 ... +63
Controls: [CS4] ... [CS7], [-1] [+1], Dial

These parameters work in conjunction with the level parameters described above to determine the "shape" of the pitch envelope generator for the selected element.

The "Rate" parameters work in the same way as the amplitude envelope generator rate parameters: a setting of "63" produces the fastest (almost instantaneous) rate between levels, while the minimum setting of "0" produces the slowest change.

The pitch envelope begins at L0 (Level 0), moves to L1 (Level 1) at a rate determined by the setting of R1, then to L2 (Level 2) at R2 (Rate 2), and then to L3 (Level 3) at R3 (Rate 3). The pitch stays at L3 until the key is released, and then moves to RL1 (Release Level 1) at the rate determined by RR (Release Rate).



RS (Pitch EG rate scaling)

Range: -7 ...+7
Controls:' [CS8], [-1] [+1], Dial

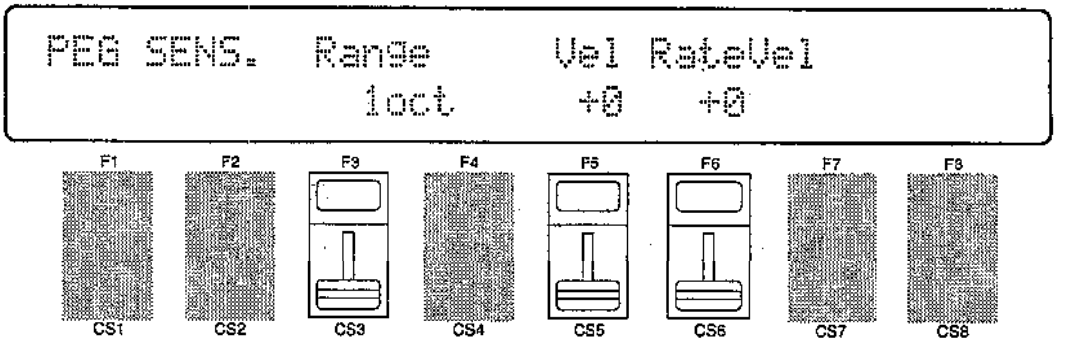
Allows the overall pitch envelope generator rate for the selected element to be varied across the entire pitch range.

Plus ("+") settings produce a longer overall envelope time for the low notes and a shorter envelope time for the high notes. The maximum "+7" setting produces the greatest envelope length variation across the pitch range. Minus ("-") settings produce the opposite effect — a shorter low-note envelope and longer high-note envelope. A setting of "+0" results in no envelope length variation.

2: RANGE, SENSITIVITY

[VOICE] → [EDIT] → [MENU] → 4:Pitch EG → [ENTER/YES] → [ENTER/YES] →
→ [MENU] → 2:Sensitivity → [ENTER/YES]

These parameters determined the overall range of the pitch EG, and how it is affected by variations in keyboard velocity.



Range

Range: 1/8oct, 1/2oct, 1oct, 2oct
Controls: [CS3], [-1] [+1], Dial

Sets the maximum range of pitch envelope generator pitch variation.

This parameter determines the total maximum range of the pitch envelope generator, so a setting of "2oct" means that the maximum range is +1 octave. That is, if a level parameter is set to +63, for example, the pitch at that point will be one octave above normal pitch.

Vel (Pitch EG velocity sensitivity)

Range: -7 ... +7
Controls: [CS5], [-1] [+1], Dial

Determines how the overall envelope depth of the pitch envelope generator is controlled by velocity information.

Plus ("+") values produce a deeper pitch envelope in response to higher velocity, while minus ("-") values produce a shallower pitch envelope in response to higher velocity values. The greater the value the greater the change in pitch envelope depth.

RateVel (Pitch EG rate velocity sensitivity)

Range: -7 ... +7
Controls: [CS6], [-1] [+1], Dial

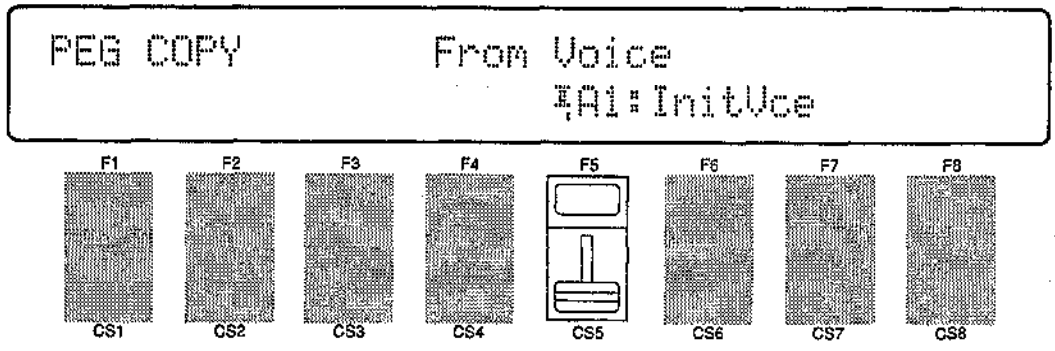
Determines how the overall envelope length of the pitch envelope generator is controlled by velocity information.

Plus ("+") values produce a longer pitch envelope in response to higher velocity, while minus ("-") values produce a shorter pitch envelope in response to higher velocity values. The greater the value the greater the change in pitch envelope length.

PITCH EG DATA COPY

[VOICE] → [EDIT] → [MENU] → 4:Pitch EG → [ENTER/YES] → [ENTER/YES] → [COPY]

This function facilitates voice editing by allowing the pitch EG parameters from any other voice (the "source" voice) to be copied to the current voice. You can copy a pitch EG setup that is close to the type you want, then edit it to produce the required sound.

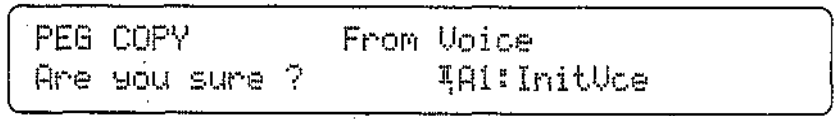


From Voice

Range: Any INTERNAL or CARD voice
Controls: MEMORY, GROUP, PROGRAM, [CS5], [-1] [+1], Dial

Use the [INTERNAL 1], [INTERNAL 2], and [CARD] MEMORY keys to select the memory area from which the source voice is to be selected. Use the GROUP keys to select the source voice bank, then use the PROGRAM keys to select the source voice number. The [CS5] slider and other data entry controls can also be used to select the source voice number.

Once the source voice has been selected, press the [ENTER/YES] key. "Are you sure?" will appear on the display.

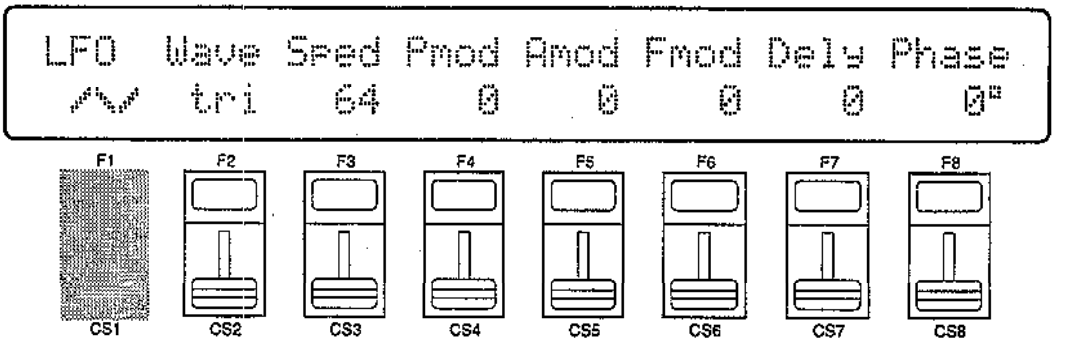


Press the [ENTER/YES] key again to copy the pitch EG data, or press [EXIT/NO] to cancel the copy operation. Once the copy operation has finished, "Completed!" will appear on the display briefly, then the display will return to the pitch EG edit mode.

1: LFO

[VOICE] → [EDIT] → [MENU] → 5:LFO → [ENTER/YES] → [ENTER/YES] →
→ [MENU] → 1:LFO → [ENTER/YES]

These parameters define the operation of the SY85's main LFO (Low Frequency Oscillator). The main LFO controls amplitude, pitch, frequency, and filter cutoff modulation applied via the modulation wheel, the foot controller, and keyboard aftertouch response.



Wave (LFO waveform)

Range: tri, dwn, up, squ, sin, S/H
Controls: [CS2], [-1] [+1], Dial

Determines the waveform of the LFO.

"tri" = Triangle.	"dwn" = Downward sawtooth.
"up" = Upward sawtooth.	"squ" = Square.
"sin" = Sine.	"S/H" = Sample and hold.

Speed (LFO speed)

Range: 0 ... 99
Controls: [CS3], [-1] [+1], Dial

Sets the speed of the LFO.

"0" is the slowest Speed setting, producing an LFO speed of approximately 0 Hertz. The fastest setting of 99 produces an LFO speed of approximately 25 Hertz.

Pmod (Pitch modulation depth)

Range: 0 ... 127
Controls: [CS4], [-1] [+1], Dial

Sets the maximum amount of pitch modulation that can be applied to the current voice.

A "0" setting produces no modulation while a setting of "127" produces maximum modulation. Pitch modulation produces a periodic pitch variation, thereby creating a vibrato effect.

Please note that the pitch modulation depth parameter for the controller which is to be used to apply pitch modulation (see page 83, 85, and 87) must also be set to an appropriate value before pitch modulation can be applied.

Amod (Amplitude modulation depth)

Range: 0 ... 127
Controls: [CS5], [-1] [+1], Dial

Sets the maximum amount of amplitude modulation that can be applied to the current voice.

A “0” setting produces no modulation while a setting of “127” produces maximum modulation. Amplitude modulation produces a periodic variation in the volume of the sound, thus creating a tremolo effect.

Please note that the amplitude modulation depth parameter for the controller which is to be used to apply amplitude modulation (see page 83, 85, and 87) must also be set to an appropriate value before amplitude modulation can be applied.

Fmod (Filter cutoff frequency modulation depth)

Range: 0 ... 127
Controls: [CS6], [-1] [+1], Dial

Sets the maximum amount of filter cuttoff modulation that can be applied to the current voice.

A “0” setting produces no modulation while a setting of “127” produces maximum modulation. Filter cutoff modulation produces wah-wah type effects.

Please note that the filter cutoff modulation depth parameter for the controller which is to be used to apply cutoff modulation (see page 84, 86, and 88) must also be set to an appropriate value before cutoff frequency modulation can be applied.

Dely (Delay)

Range: 0 ... 99
Controls: [CS7], [-1] [+1], Dial

Sets the delay. time between the beginning of a note and the beginning of LFO operation for the selected element.

The minimum setting “0” results in no delay, while the maximum setting of “99” produces a delay of approximately 2.66 seconds before the LFO begins operation (5.3 seconds before it reaches maximum depth).

Phase

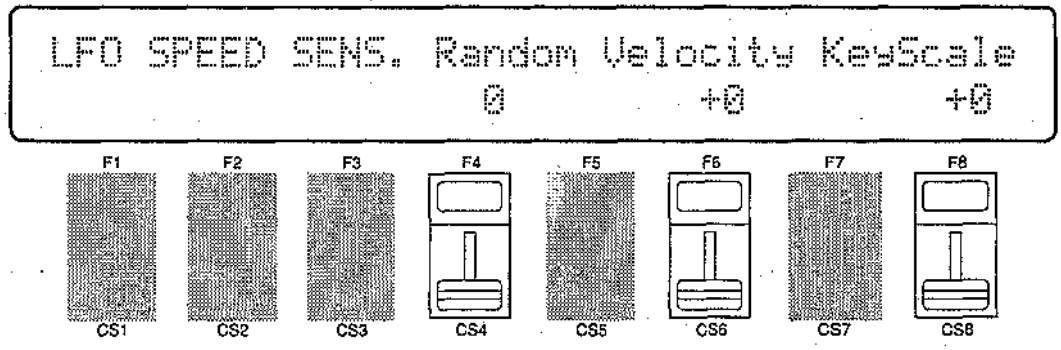
Range: 0 ... 180
Controls: [CS8], [-1] [+1], Dial

Determines at which point in the LFO waveform the LFO will begin operation for the selected element. The values 0 through 180 correspond to phase angles in degrees. The illustration below shows how the various phase angles correspond to points on the LFO waveform (a sine wave is used for clarity).

2: LFO SPEED SENSITIVITY

[VOICE] → [EDIT] → [MENU] → 5:LFO → [ENTER/YES] → [ENTER/YES] →
→ [MENU] → 2:LFO Speed Sensitivity → [ENTER/YES]

The speed of the SY85 LFO can be varied randomly, and according to variations in keyboard velocity and range. Such variations can produce more natural, musical effects.



Random

Range: 0 ... 7
Controls: [CS4], [-1] [+1], Dial

Sets the amount of random LFO speed variation produced each time a note is played.

When this parameter is set to a value other than "0," the LFO speed changes randomly each time a note is played. A setting of "7" produces the greatest amount of random speed change.

Velocity

Range: -7 ... +7
Controls: [CS6], [-1] [+1], Dial

Determines how the LFO speed changes in response to velocity changes (e.g. keyboard dynamics).

Plus "+" settings produce higher LFO speed in response to higher velocity values — i.e. the harder a key is played, the higher the LFO speed. The maximum setting of "+7" produces the maximum speed variation in response to velocity changes. Minus "-" settings produce the opposite effect: lower speed in response to higher velocity. A setting of "+0" results in no speed variation.

KeyScale

Range: -7 ... +7
Controls: [CS8], [-1] [+1], Dial

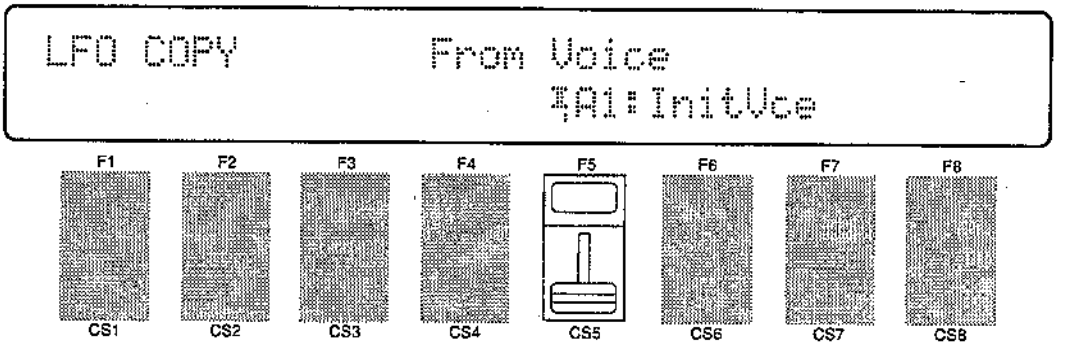
Determines how the LFO speed changes in response to the key played.

Plus "+" settings produce higher LFO speed when higher notes on the keyboard are played. The maximum setting of "+7" produces the maximum speed variation. Minus "-" settings produce the opposite effect: lower speed when higher notes are played. A setting of "+0" results in no speed variation.

LFO DATA COPY

[VOICE] → [EDIT] → [MENU] → 5:LFO → [ENTER/YES] → [ENTER/YES] → [COPY]

This function facilitates voice editing by allowing the LFO parameters from any other voice (the "source" voice) to be copied to the current voice. You can copy an LFO setup that is close to the type you want, then edit it to produce the required sound.

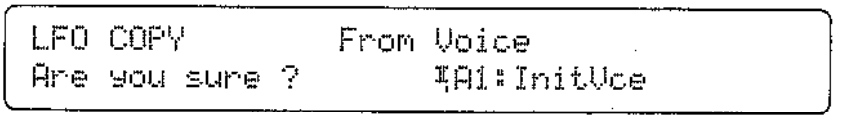


From Voice

Range: Any INTERNAL or CARD voice
Controls: MEMORY, GROUP, PROGRAM, [CS5], [-1] [+1], Dial

Use the [INTERNAL 1], [INTERNAL 2], and [CARD] MEMORY keys to select the memory area from which the source voice is to be selected. Use the GROUP keys to select the source voice bank, then use the PROGRAM keys to select the source voice number. The [CS5] slider and other data entry controls can also be used to select the source voice number.

Once the source voice has been selected, press the [ENTER/YES] key. "Are you sure?" will appear on the display.

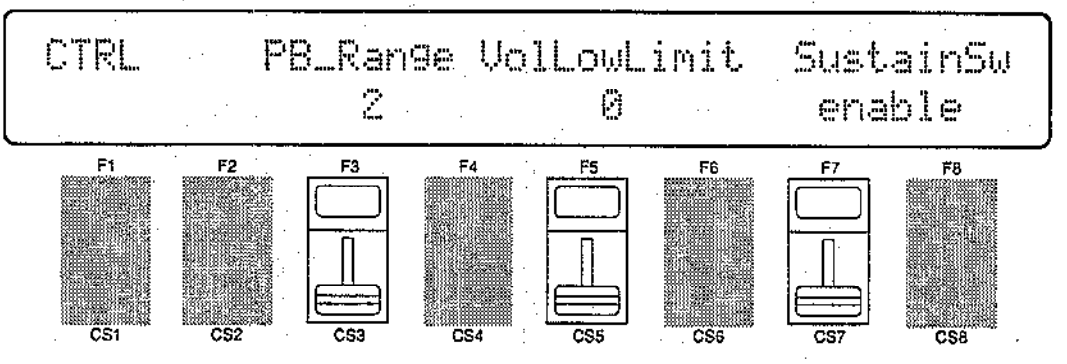


Press the [ENTER/YES] key again to copy the LFO data, or press [EXIT/NO] to cancel the copy operation. Once the copy operation has finished, "Completed!" will appear on the display briefly, then the display will return to the LFO edit mode.

1: PITCH BEND RANGE

[VOICE] → [EDIT] → [MENU] → 6:Controller → [ENTER/YES] → [ENTER/YES] →
→ [MENU] → 1:Pitch Bend Range → [ENTER/YES]

This screen includes parameters that set the SY85's pitch bend range, the minimum volume attainable with the foot volume controller, and the sustain switch enable/disable mode.



PB Range (Pitch bend range)

Range: 0 ... 12
Controls: [CS3], [-1] [+1], Dial

Sets the maximum pitch bend range.

Each increment from "0" to "12" represents a semitone. A setting of "0" produces no pitch bend. A setting of "12" allows a maximum pitch bend of plus or minus one octave, while a setting of "4" allows a maximum pitch bend of plus or minus a major third.

VolLoLimit (Minimum foot volume level)

Range: 0 ... 127
Controls: [CS5], [-1] [+1], Dial

Determines the minimum volume level that can be set by the foot volume control. If this parameter is set to "0," the minimum foot volume control position will produce no sound. A setting of "63" will result in about half volume when the control is set to its minimum position.

SustainSw (Sustain switch enable)

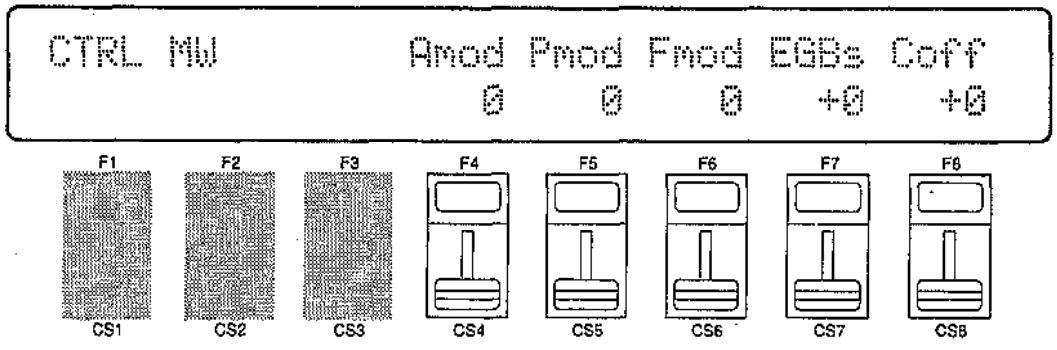
Range: enable, disable
Controls: [CS7], [-1] [+1], Dial

Enables or disables sustain footswitch operation. The sustain footswitch operates normally when this parameter is set to "enable," but has no effect when set to "disable."

2: MODULATION WHEEL DEPTH

[VOICE] → [EDIT] → [MENU] → 6:Controller → [ENTER/YES] → [ENTER/YES] → → [MENU] → 2:MW Depth → [ENTER/YES]

The modulation wheel can be used to control a wide range of modulation effects. The parameters provided in this screen set the depth of each effect type.



Amod (Amplitude modulation depth)

Range: 0 ... 127
Controls: [CS4], [-1] [+1], Dial

Sets the maximum depth of amplitude modulation (tremolo effects) applied via the modulation wheel.

A setting of "0" allows no amplitude modulation, while a setting of 127 results in maximum amplitude modulation depth.

When setting up the low-frequency oscillator to apply amplitude modulation, this parameter must be set to a value other than "0" if amplitude modulation is to be applied via the modulation wheel.

Pmod (Pitch modulation depth)

Range: 0 ... 127
Controls: [CS5], [-1] [+1], Dial

Sets the maximum depth of pitch modulation (vibrato effects) applied via the modulation wheel.

A setting of "0" allows no pitch modulation, while a setting of 127 results in maximum amplitude modulation.

When setting up the low-frequency oscillator to apply pitch modulation, this parameter must be set to a value other than "0" if pitch modulation is to be applied via the modulation wheel.

Fmod (Frequency modulation depth)

Range: 0 ... 127
Controls: [CS6], [-1] [+1], Dial

Sets the maximum depth of filter cutoff frequency modulation (wah-wah type effects) applied via the modulation wheel.

A setting of "0" allows no frequency modulation, while a setting of 127 results in maximum frequency modulation.

When setting up the LFO (low-frequency oscillator) to apply cutoff modulation, this parameter must be set to a value other than "0" if cutoff modulation is to be applied via the modulation wheel. Also, the filter "CTRL" parameter (page 68) must be set to "LFO" in order to vary the cutoff frequency continuously.

EGBs (EG bias depth)

Range: -127 ... +127
Controls: [CS7], [-1] [+1], Dial

Sets the depth and "direction" of EG bias produced by the modulation wheel. EG bias increases or decreases the amplitude envelope generator levels, simulating the dynamic variations that can be produced on an acoustic instrument more accurately than simple volume control.

A setting of "0" produces no change in EG levels. Plus ("+") settings produce an increase in level when the modulation wheel is rolled upward, and minus ("-") settings produce a decrease in level when when the modultion wheel is rolled upward. The greater the value, the greater the change in level.

Coff (Cutoff frequency depth)

Range: -127 ... +127
Controls: [CS8], [-1] [+1], Dial

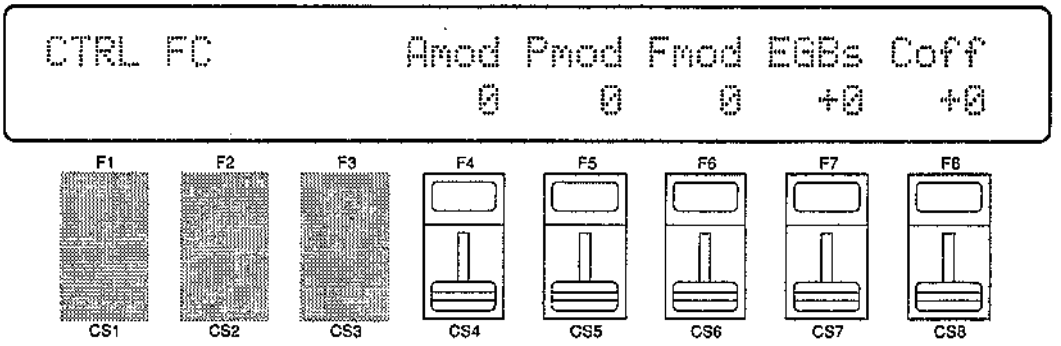
Sets the maximum depth of filter cutoff frequency variation applied via the modulation wheel.

Plus "+" settings produce higher cutoff frequencies in response to modulation wheel operation — i.e. the higher the modulation wheel position, the higher the cutoff frequency. The maximum setting of "+127" produces the maximum cutoff variation. Minus "-" settings produce the opposite effect: lower cutoff in response to higher modulation wheel positions. A setting of "+0" results in no cutoff variation. The filter "CTRL" parameter (page 68) must be set to "LFO" in order to vary the cutoff frequency continuously.

3: FOOT CONTROLLER DEPTH

[VOICE] → [EDIT] → [MENU] → 6:Controller → [ENTER/YES] → [ENTER/YES] →
→ [MENU] → 3:FC Depth → [ENTER/YES]

The SY85 allows modulation control via a foot controller connected to th rear-panel FOOT CONTROLLER jack as well as the modulation wheel. This allows modulation effects to be applied while playing with both hands. The parameters in this screen set the depth of the foot controller modulation effects.



Amod (Amplitude modulation depth)

Range: 0 ... 127
Controls: [CS4], [-1] [+1], Dial

Sets the maximum depth of amplitude modulation (tremolo effects) applied via the foot controller.

A setting of "0" allows no amplitude modulation, while a setting of 127 results in maximum amplitude modulation depth.

When setting up the low-frequency oscillator to apply amplitude modulation, this parameter must be set to a value other than "0" if amplitude modulation is to be applied via the foot controller.

Pmod (Pitch modulation depth)

Range: 0 ... 127
Controls: [CS5], [-1] [+1], Dial

Sets the maximum depth of pitch modulation (vibrato effects) applied via the foot controller.

A setting of "0" allows no pitch modulation, while a setting of 127 results in maximum amplitude modulation.

When setting up the low-frequency oscillator to apply pitch modulation, this parameter must be set to a value other than "0" if pitch modulation is to be applied via the foot controller.

Fmod (Frequency modulation depth)

Range: 0 ... 127
Controls: [CS6], [-1] [+1], Dial

Sets the maximum depth of filter cutoff frequency modulation (wah-wah type effects) applied via the foot controller.

A setting of "0" allows no frequency modulation, while a setting of 127 results in maximum frequency modulation.

When setting up the LFO (low-frequency oscillator) to apply cutoff modulation, this parameter must be set to a value other than "0" if cutoff modulation is to be applied via the foot controller. Also, the filter "CTRL" parameter (page 68) must be set to "LFO" in order to vary the cutoff frequency continuously.

EGBs (EG bias depth)

Range: -127 ... +127
Controls: [CS7], [-1] [+1], Dial

Sets the depth and "direction" of EG bias produced by the foot controller. EG bias increases or decreases the amplitude envelope generator levels, simulating the dynamic variations that can be produced on an acoustic instrument more accurately than simple volume control.

A setting of "0" produces no change in EG levels. Plus ("+") settings produce an increase in level when the foot controller is applied, and minus ("-") settings produce a decrease in level when the foot controller is applied. The greater the value, the greater the change in level.

Coff (Cutoff frequency depth)

Range: -127 ... +127
Controls: [CS8], [-1] [+1], Dial

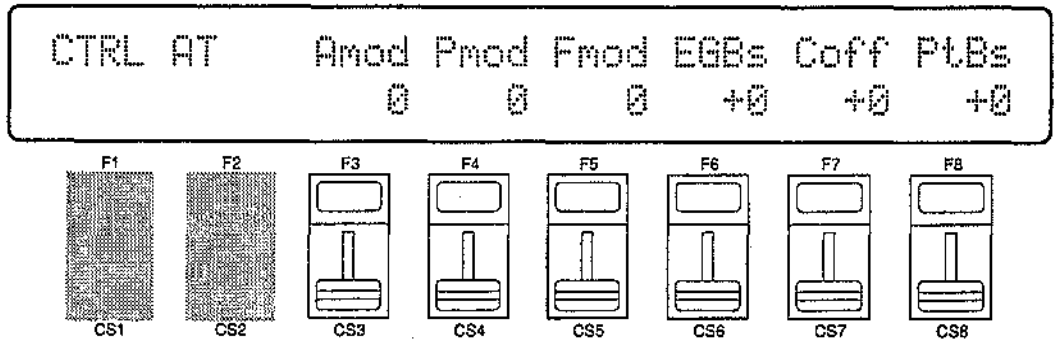
Sets the maximum depth of filter cutoff frequency variation applied via the foot controller.

Plus "+" settings produce higher cutoff frequencies in response to foot controller operation — i.e. the more the foot controller is depressed, the higher the cutoff frequency. The maximum setting of "+127" produces the maximum cutoff variation. Minus "-" settings produce the opposite effect: lower cutoff in response to higher foot controller positions. A setting of "+0" results in no cutoff variation. The filter "CTRL" parameter (page 68) must be set to "LFO" in order to vary the cutoff frequency continuously.

4: AFTER TOUCH DEPTH

[VOICE] → [EDIT] → [MENU] → 6:Controller → [ENTER/YES] → [ENTER/YES] → → [MENU] → 4:AT Depth → [ENTER/YES]

For truly “intimate” modulation control, the SY85 allows a number of modulation effects to be controlled via keyboard aftertouch response. The parameters in this screen set the depth of the aftertouch modulation effects.



Amod (Amplitude modulation depth)

Range: 0 ... 127
Controls: [CS3], [-1] [+1], Dial

Sets the maximum depth of amplitude modulation (tremolo effects) applied via keyboard aftertouch.

A setting of “0” allows no amplitude modulation, while a setting of 127 results in maximum amplitude modulation depth.

When setting up the low-frequency oscillator to apply amplitude modulation, this parameter must be set to a value other than “0” if amplitude modulation is to be applied via keyboard after touch.

Pmod (Pitch modulation depth)

Range: 0 ... 127
Controls: [CS4], [-1] [+1], Dial

Sets the maximum depth of pitch modulation (vibrato effects) applied via keyboard aftertouch.

A setting of “0” allows no pitch modulation, while a setting of 127 results in maximum amplitude modulation.

When setting up the low-frequency oscillator to apply pitch modulation, this parameter must be set to a value other than “0” if pitch modulation is to be applied via keyboard aftertouch.

Fmod (Frequency modulation depth)

Range: 0 ... 127
Controls: [CS5], [-1] [+1], Dial

Sets the maximum depth of filter cutoff frequency modulation (wah-wah type effects) applied via keyboard aftertouch.

A setting of "0" allows no frequency modulation, while a setting of 127 results in maximum frequency modulation.

When setting up the LFO (low-frequency oscillator) to apply cutoff modulation, this parameter must be set to a value other than "0" if cutoff modulation is to be applied via keyboard aftertouch. Also, the filter "CTRL" parameter (page 68) must be set to "LFO" in order to vary the cutoff frequency continuously.

EGBs (EG bias depth)

Range: -127 ... +127
Controls: [CS6], [-1] [+1], Dial

Sets the depth and "direction" of EG bias produced by aftertouch response. EG bias increases or decreases the amplitude envelope generator levels, simulating the dynamic variations that can be produced on an acoustic instrument more accurately than simple volume control.

A setting of "0" produces no change in EG levels. Plus ("+") settings produce an increase in level when aftertouch is applied, and minus ("-") settings produce a decrease in level when aftertouch is applied. The greater the value, the greater the change in level.

Coff (Cutoff frequency depth)

Range: -127 ... +127
Controls: [CS7], [-1] [+1], Dial

Sets the maximum depth of filter cutoff frequency variation applied via keyboard aftertouch.

Plus "+" settings produce higher cutoff frequencies in response to aftertouch — i.e. the greater the aftertouch pressure, the higher the cutoff frequency. The maximum setting of "+127" produces the maximum cutoff variation. Minus "-" settings produce the opposite effect: lower cutoff in response to greater aftertouch pressure. A setting of "+0" results in no cutoff variation. The filter "CTRL" parameter (page 68) must be set to "LFO" in order to vary the cutoff frequency continuously.

PtBs (Pitch bias depth)

Range: -12 ... +12
Controls: [CS8], [-1] [+1], Dial

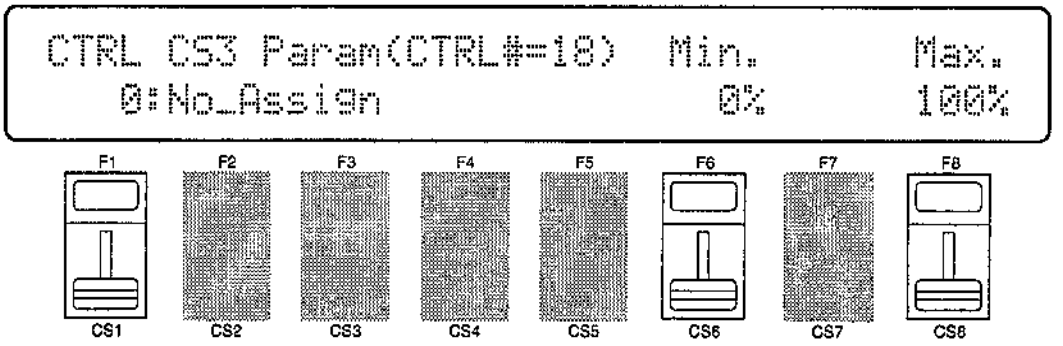
Sets the maximum pitch variation range achievable via after-touch control.

Each increment represents a semitone. A setting of "0" produces no pitch variation. A setting of "+12" allows a maximum pitch variation of one octave up, while a setting of "-12" allows a maximum pitch variation of one octave down corresponding to aftertouch key pressure.

5: CS3 PARAMETER EDIT

[VOICE] → [EDIT] → [MENU] → 6:Controller → [ENTER/YES] → [ENTER/YES] → → [MENU] → 5:CS3 Parameter → [ENTER/YES]

The [CS3] and [CS4] sliders can be assigned to control a wide range of voice parameters in real time while playing the SY85. These parameters assign a voice parameter to the [CS3] slider, and set the maximum and minimum limits of the control range.



CS3 Param (CS3 parameter)

Range: 0 ... 75
Controls: [CS1], [-1] [+1], Dial

Assigns any of 75 different voice parameters to be controlled via the [CS3] slider.

The numbers and abbreviations associated with each voice parameter are listed below:

CS3 PARAMETER LIST (0 ... 39)

0:	"No_Assign "	20:	"EF_SendLvl"
1:	"CT_MW_Pmod"	21:	"OS_FrqFine"
2:	"CT_MW_Amod"	22:	"OS_Random "
3:	"CT_MW_Fmod"	23:	"PEG_Rate1 "
4:	"CT_MW_Coff"	24:	"PEG_Rate2 "
5:	"CT_MW_EGBs"	25:	"PEG_Rate3 "
6:	"CT_FC_Pmod"	26:	"PEG_RlsRt "
7:	"CT_FC_Amod"	27:	"PEG_Level0"
8:	"CT_FC_Fmod"	28:	"PEG_Level1"
9:	"CT_FC_Coff"	29:	"PEG_Level2"
10:	"CT_FC_EGBs"	30:	"PEG_Level3"
11:	"CT_AT_Pmod"	31:	"PEG_RlsLvl"
12:	"CT_AT_Amod"	32:	"PEG_Range "
13:	"CT_AT_Fmod"	33:	"PEG_LvlVel"
14:	"CT_AT_Coff"	34:	"PEG_RtVel "
15:	"CT_AT_EGBs"	35:	"LFO_Speed "
16:	"CT_AT_PtBs"	36:	"LFO_Delay "
17:	"CT_PBRange"	37:.	"LFO_Pmod "
18:	"CT_VLLoLim"	38:	"LFO_Amod "
19:	"TotalLevel"	39:	"LFO_Fmod "

CS3 PARAMETER LIST (40 ... 75)

40: "LFO_Wave "	60: "FLT_Rate3 "
41: "LFO_Phase"	61: "FLT_Rate4 "
42: "LFO_SpdVel"	62: "FLT_RlsRt1"
43: "LFO_SpdRnd"	63: "FLT_RlsRt2"
44: "AEG_Rate1 "	64: "FLT_Level0"
45: "AEG_Rate2 "	65: "FLT_Level1"
46: "AEG_Rate3 "	66: "FLT_Level2"
47: "AEG_Rate4 "	67: "FLT_Level3"
48: "AEG_RlsRt "	68: "FLT_Level4"
49: "AEG_Level2"	69: "FLT_RlsLv1"
50: "AEG_Level3"	70: "FLT_RlsLv2"
51: "AEG_LvlVel"	71: "OS_NoteSft"
52: "AEG_RtVel "	72: "FLT_BPLvl1"
53: "FLT_Reso "	73: "FLT_BPLvl2"
54: "FLT_CofVel"	74: "FLT_BPLvl3"
55: "FLT_ARVel "	75: "FLT_BPLvl4"
56: "FLT_Band "	
57: "FLT_CofFrq"	
58: "FLT_Rate1 "	
59: "FLT_Rate2 "	

The parameter assigned to [CS3] can also be controlled from an external MIDI controller via MIDI control number 18. Operation of the [CS3] slider in the VOICE or PERFORMANCE mode also transmits corresponding MIDI control change data using control number 18.

Min.

Range: 0 ... 100
Controls: [CS6], [-1] [+1], Dial

Sets the lower limit of the [CS3] control range. A setting of "0", for example, means that when the [CS3] slider is set to its lowest position the assigned parameter will also be set to its lowest value. A setting of "50" means that the lowest [CS3] position will set the assigned parameter to about 50% of its range (a parameter with a range of 0 to 127, for example, would be set to about 63).

Max.

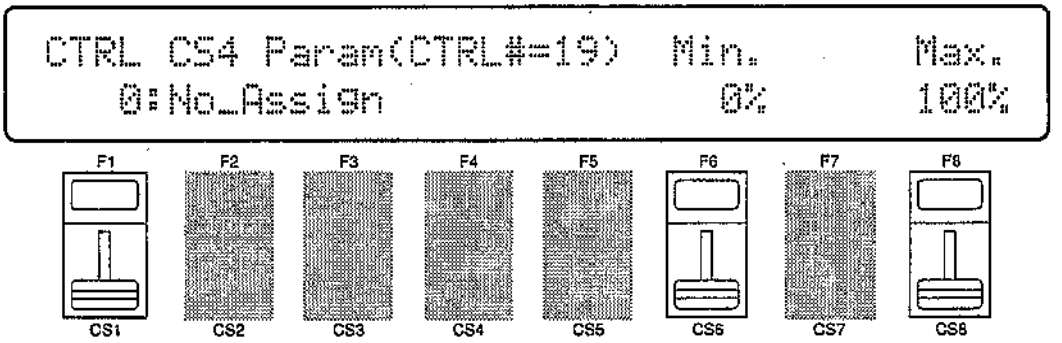
Range: 0 ... 100
Controls: [CS8], [-1] [+1], Dial

Sets the upper limit of the [CS3] control range. A setting of "100", for. example, means that when the [CS3] slider is set to its highest position the assigned parameter will also be set to its highest value. A setting of "80" means that the: highest [CS3] position will set the assigned parameter to about 80% of its range (a parameter with a range of 0 to 127, for example, would be set to about 102).

6: CS4 PARAMETER EDIT

[VOICE] → [EDIT] → [MENU] → 6:Controller → [ENTER/YES] → [ENTER/YES] → → [MENU] → 6:CS4 Parameter → [ENTER/YES]

The [CS3] and [CS4] sliders can be assigned to control a wide range of voice parameters in real time while playing the SY85. These parameters assign a voice parameter to the [CS4] slider, and set the maximum and minimum limits of the control range.



CS4 Param (CS4 parameter)

Range: 0 ... 75
Controls: [CS1], [-1] [+1], Dial

Assigns any of 75 different voice parameters to be controlled via the [CS4] slider.

The numbers and abbreviations associated with each voice parameter are listed below:

CS4 PARAMETER LIST (0 ... 39)

0:	"No_Assign "	20:	"EF_Sendlvl"
1:	"CT_MW_Pmod"	21:	"OS_FrqFine"
2:	"CT_MW_Amod"	22:	"OS_Random "
3:	"CT_MW_Fmod"	23:	"PEG_Rate1 "
4:	"CT_MW_Coff"	24:	"PEG_Rate2 "
5:	"CT_MW_EGBs"	25:	"PEG_Rate3 "
6:	"CT_FC_Pmod"	26:	"PEG_RlsRt "
7:	"CT_FC_Amod"	27:	"PEG_Level0"
8:	"CT_FC_Fmod"	28:	"PEG_Level1"
9:	"CT_FC_Coff"	29:	"PEG_Level2"
10:	"CT_FC_EGBs"	30:	"PEG_Level3"
11:	"CT_AT_Pmod"	31:	"PEG_RlsLvl"
12:	"CT_AT_Amod"	32:	"PEG_Range "
13:	"CT_AT_Fmod"	33:	"PEG_LvlVel"
14:	"CT_AT_Coff"	34:	"PEG_RtVel "
15:	"CT_AT_EGBs"	35:	"LFO_Speed "
16:	"CT_AT_PtBs"	36:	"LFO_Delay "
17:	"CT_PBRange"	37:	"LFO_Pmod "
18:	"CT_VLLoLim"	38:	"LFO_Amod "
19:	"TotalLevel"	39:	"LFO_Fmod "

CS4 PARAMETER LIST (40 ... 75)

40: "LFO_Wave "	60: "FLT_Rate3 "
41: "LFO_Phase"	61: "FLT_Rate4 "
42: "LFO_SpdVel"	62: "FLT_RlsRt1"
43: "LFO_SpdRnd"	63: "FLT_RlsRt2"
44: "AEG_Rate1 "	64: "FLT_Level0"
45: "AEG_Rate2 "	65: "FLT_Level1"
46: "AEG_Rate3 "	66: "FLT_Level2"
47: "AEG_Rate4 "	67: "FLT_Level3"
48: "AEG_RlsRt "	68: "FLT_Level4"
49: "AEG_Level2"	69: "FLT_RlsLv1"
50: "AEG_Level3"	70: "FLT_RlsLv2"
51: "AEG_LvlVel"	71: "OS_NoteSft"
52: "AEG_RtVel "	72: "FLT_BPLvl1"
53: "FLT_Reso "	73: "FLT_BPLvl2"
54: "FLT_CofVel"	74: "FLT_BPLvl3"
55: "FLT_ARVel "	75: "FLT_BPLvl4"
56: "FLT_Band "	
57: "FLT_CofFrq"	
58: "FLT_Rate1 "	
59: "FLT_Rate2"	

The parameter assigned to [CS4] can also be controlled from an external MIDI controller via MIDI control number 19. Operation of the [CS4] slider in the VOICE or PERFORMANCE mode also transmits corresponding MIDI control change data using control number 19.

Min (Minimum parameter value)

Range: 0 ... 100
Controls: [CS6], [-1] [+1], Dial

Sets the lower limit of the [CS4] control range. A setting of "0", for example, means that when the [CS4] slider is set to its lowest position the assigned parameter will also be set to its lowest value. A setting of "50" means that the lowest [CS4] position will set the assigned parameter to about 50% of its range (a parameter with a range of 0 to 127, for example, would be set to about 63).

Max (Maximum parameter value)

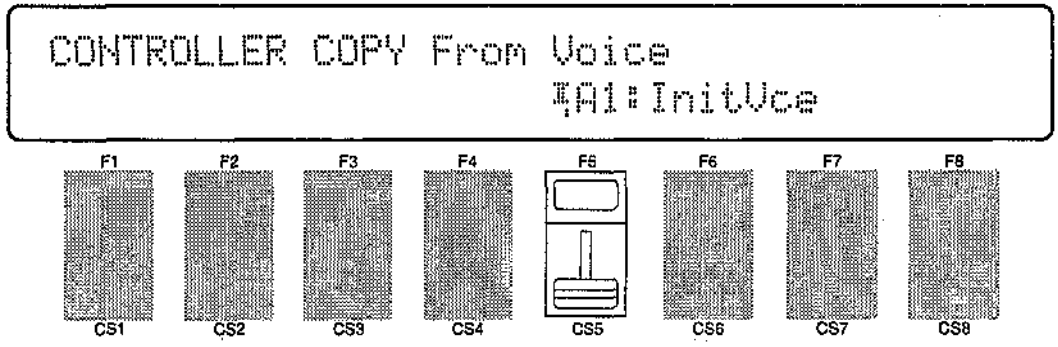
Range: 0 ... 100
Controls: [CS8], [-1] [+1], Dial

Sets the upper limit of the [CS4] control range. A setting of "l00", for example, means that when the [CS4] slider is set to its highest position the assigned parameter will also be set to its highest value. A setting of "80" means that the highest [CS4] position will set the assigned parameter to about 80% of its range (a parameter with a range of 0 to 127, for example, would be set to about 102).

CONTROLLER DATA COPY

[VOICE] → [EDIT] → [MENU] → 6:Controller → [ENTER/YES] → [ENTER/YES] → [COPY]

This function allows the controller parameters from any other voice (the "source" voice) to be copied to the current voice. You can copy a controller setup that is close to the type you want, then edit it to produce the required sound.

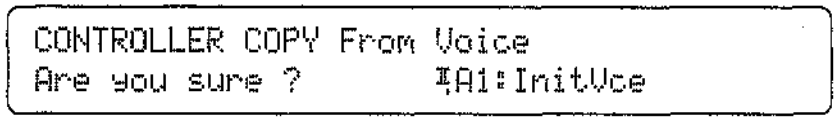


From Voice

Range: Any INTERNAL or CARD voice
Controls: MEMORY, GROUP, PROGRAM, [CS5], [-1] [+1], Dial

Use the [INTERNAL 1], [INTERNAL 2], and [CARD] MEMORY keys to select the memory area from which the source voice is to be selected. Use the GROUP keys to select the source voice bank, then use the PROGRAM keys to select the source voice number. The [CS5] slider and other data entry controls can also be used to select the source voice number.

Once the source voice has been selected, press the [ENTER/YES] key. "Are you sure?" will appear on the display.

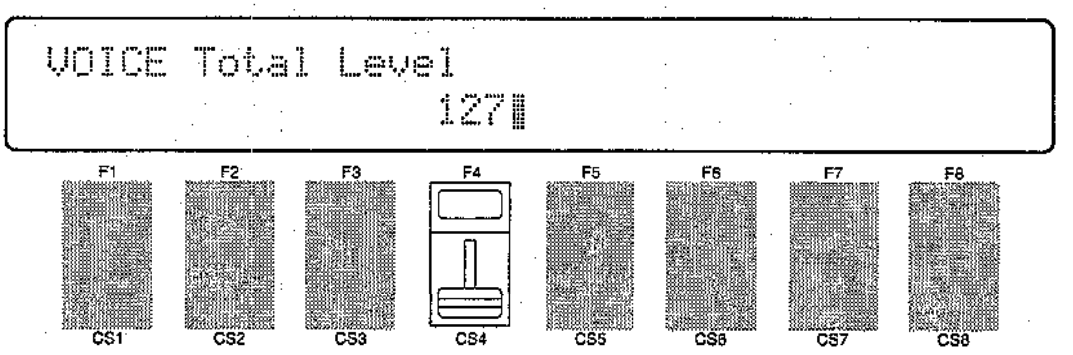


Press the [ENTER/YES] key again to copy the controller data, or press [EXIT/NO] to cancel the copy operation. Once the copy operation has finished, "Completed!" will appear on the display briefly, then the display will return to the controller edit mode.

VOICE TOTAL LEVEL

[VOICE] → [EDIT] → [MENU] → 7:Total Level → [ENTER/YES]

The ability to independently adjust the volume of each voice makes it possible to match levels for smooth transition when switching between voices.



Total Level

Range: 0 ... 127
Controls: [CS4], [-1] [+1], Dial

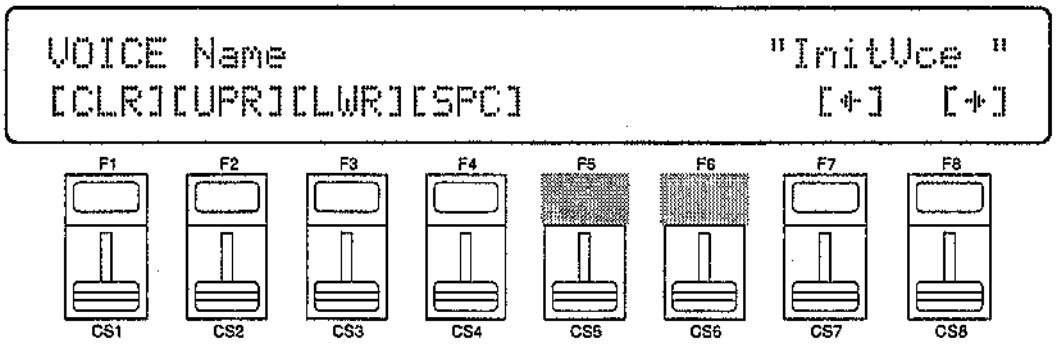
Adjusts the volume of the current voice.

A setting of “0” produces no sound while a setting of “127” produces maximum volume. A bar graph to the right of the parameter provides a visual indication of volume level — the longer the bar, the higher the volume.

VOICE NAME

[VOICE] → [EDIT] → [MENU] → 8:Name → [ENTER/YES]

Your original voices should naturally have original names. This function can be used to assign a name of up to 8 characters to the current voice.



Name

Range: See character list, below
Controls: [F1] ... [F4], [F7], [F8], [CS1] ... [CS8], [-1] [+1], Dial, GROUP, PROGRAM

Assigns a name of up to 8 characters to the current voice.

Use the [F7] function key to move the character cursor to the left, and the [F8] function key to move the cursor to the right. Use the GROUP and PROGRAM keys to input a character at the cursor position. Each GROUP and PROGRAM key selects the three characters printed above it in sequence. It is also possible to use the [-1] and [+1] keys or dial to scroll through the available characters (see list below).

The sliders, [CS1] through [CS8], independently select characters for the corresponding character position: [CS1] selects the first character, [CS2] selects the second character, and so on.

The first four function keys also perform important functions: [F1] clears the entire name, [F2] selects upper-case characters, [F3] selects lower-case characters, and [F4] inserts a space at the cursor position.

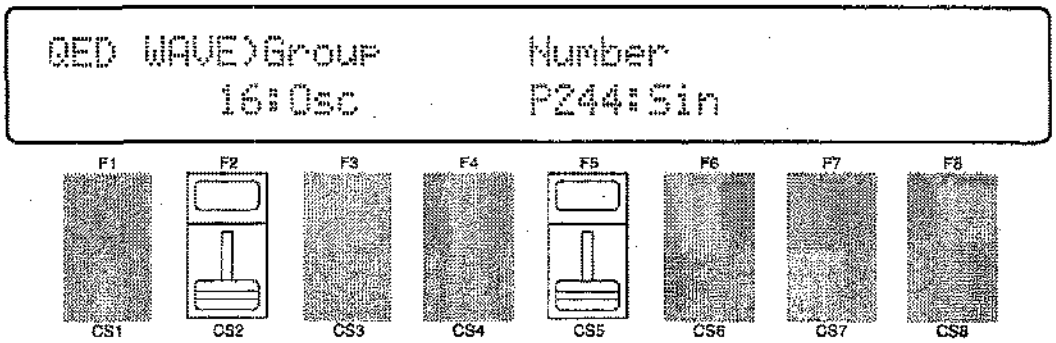
GROUP key	PROGRAM key
[A]: A → B → C	[1]: Y → Z → 0
[B]: D → E → F	[2]: 1 → 2 → 3
[C]: G → H → I	[3]: 4 → 5 → 6
[D]: J → K → L	[4]: 7 → 8 → 9
[E]: M → N → O	[5]: * → & → _
[F]: P → Q → R	[6]: / → . → ,
[G]: S → T → U	[7]: ' → ! → ?
[H]: V → W → X	[8]: # → : → ;

1: WAVE

[VOICE] → [QUICK EDIT] → [MENU] → 1:Wave → [ENTER/YES]

These parameters provide a fast, easy way to select a new wave for the current voice, and instantly set the main amplitude envelope generator parameters to values that produce good results with the selected wave.

For full oscillator parameters see page 58.



Group

Range: 1 ... 16

Controls: [CS2], [-1] [+1], Dial

For fast, easy selection of the preset SY85 waves this parameter selects 16 different wave categories or "groups", each containing a number of waves that can be individually selected by using the "Number" parameter, below.

Quick Edit Wave Groups

1:Piano	Acoustic pianos
2:Key	Other keyboards
3:Brass	Brass instruments
4:Wind	Wind instruments
5:Strings	Strings
6:A.Guitar	Acoustic guitars
7:E.Guitar	Electric guitars
8:Bass	Acoustic & electric bass
9:Folk	Folk & ethnic instruments
10:Synth	Synthesizer sounds
11:Choir	Choir & human voice
12:TPerc	Tuned percussion
13:Drum	Drums
14:Perc	Percussion instruments
15:SE	Sound effects
16:Osc	Basic oscillator waveforms

Number

Range: P001 ... P244, I00 ... I63, C00 ... C63
Controls: MEMORY, [CS5], [-1] [+1], Dial

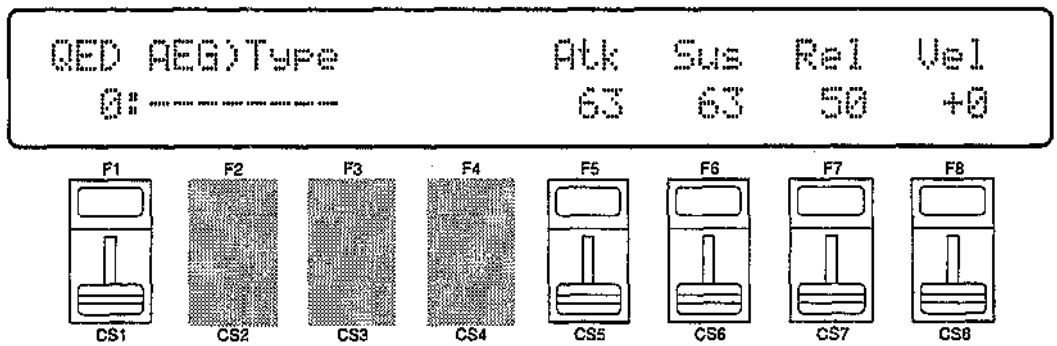
Selects the wave (AWM waveform) to be used in the current voice. Use the "Group" parameter, above, to select the group containing the wave that is to be selected. The [INTERNAL 1], [INTERNAL 2], and [CARD] keys can also be used to select the memory area from which the wave is to be selected. A complete listing of the internal waves is given in the Appendix, on page 310.

2: AMPLITUDE EG

[VOICE] → [QUICK EDIT] → [MENU] → 2:AEG → [ENTER/YES]

Rather than having to set numerous level and rate values via the full-edit amplitude EG parameters, these parameters let you select from a range of preset envelope types, and then modify the overall attack, sustain, and release characteristics as required.

For full amplitude EG parameters see page 60.



Type (Envelope type)

Range: 00 ... 21
Controls: [CS1], [-1] [+1], Dial

Selects either the envelope defined by the current amplitude envelope parameter settings (page 60), or one of 21 preset amplitude envelope types for the current voice. The envelope types are:

Quick Edit Envelope Types

00:--------	Full-edit envelope
01:Piano	Acoustic piano
02:Brass	Brass
03:SfzBrass	Sforzando brass
04:SynBrass	Synthesizer brass
05:StFast	Fast-attack strings
06:StSlw/Pd	Slow-attack strings (pad)
07:E.Bass	Electric bass
08:SynBass1	Synthesizer bass 1
09:SynBass2	Synthesizer bass 2
10:Organ	Organ
11:Guitar	Guitar
12:Pluck1	Plucked instrument 1
13:Pluck2	Pluched instrument 2
14:SynPad	Synthesizer pad
15:SynComp	Synthesizer comping (backing)
16:Percusiv	Percussive
17:S.Ideal1	Sound envelope 1
18:S.Ideal2	Sound envelope 2
19:S.Ideal3	Sound envelope 3
20:S.Ideal4	Sound envelope 4
21:Init	Initialized envelope

Atk (Attack rate)

Range: 0 ... 63
Controls: [CS5], [-1] [+1], Dial

Sets the attack rate for the selected envelope. “63” produces the fastest attack, while “0” produces the slowest attack.

Sus (Sustain level)

Range: 0 ... 63
Controls: [CS6], [-1] [+1], Dial

Sets the sustain level for the selected envelope.

Rel (Release rate)

Range: 0 ... 63
Controls: [CS7], [-1] [+1], Dial

Sets the release rate for the selected envelope.

Velo (Velocity sensitivity)

Range: -7 ... +7
Controls: [CS8], [-1] [+1], Dial

Determines how the output level of the current voice changes in response to velocity changes (e.g. keyboard dynamics).

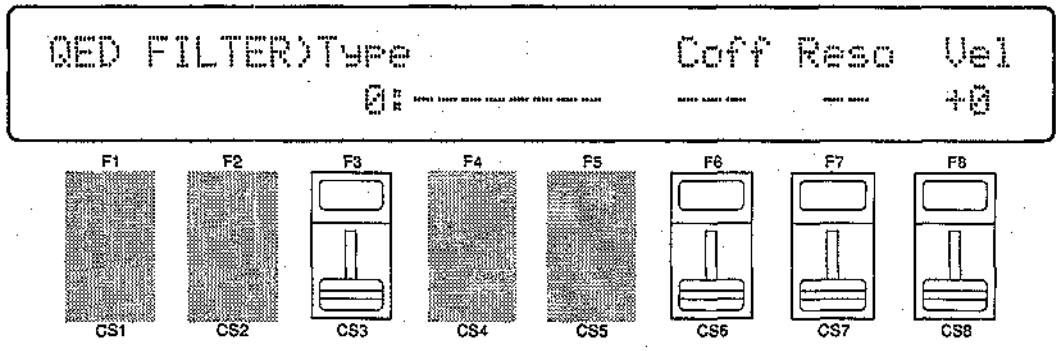
Plus “+” settings produce higher output level in response to higher velocity values — i.e. the harder a key is played, the louder the sound. The maximum setting of “+7” produces the maximum level variation in response to velocity changes. Minus “-” settings produce the opposite effect: lower level in response to higher velocity. A setting of “+0” results in no level variation.

3: FILTER

[VOICE] → [QUICK EDIT] → [MENU] → 3:Filter → [ENTER/YES]

The simplified filter parameters provided here have been specifically created for fast, efficient filter programming.

For full filter parameters see page 65.



Type (Filter type)

Range: 0 ... 15
Controls: [CS3], [-1] [+1], Dial

Selects either the filter defined by the current filter parameter settings (page 65), or one of 15 preset filter types for the current voice. The filter types are:

Quick Edit Filter Types

0:--------	Full-edit filter
1:VeloSoft	Velocity sensitive, soft response
2:VeloWide	Velocity sensitive, wide response
3:VeloHard	Velocity sensitive, hard response
4:VeloReso	Velocity sensitive, resonant
5:SynBass1	Synthesizer bass 1
6:SynBass2	Synthesizer bass 2
7:SynBras1	Synthesizer brass 1
8:SynBras2	Synthesizer brass 2
9:Sweep	Sweep-frequency filter
10:SlowAtak	Slow-attack filter
11:LPF_Init	Initialized LPF
12:HPF_Init	Initialized HPF
13:BPF_Init	Initialized BP
14:BEF_Init	Initialized BEF
15:Thru	No filter

Coff (Cutoff frequency)

Range: 0 ... 127
Controls: [CS6], [-1] [+1], Dial

Sets the cutoff frequency of the selected filter.

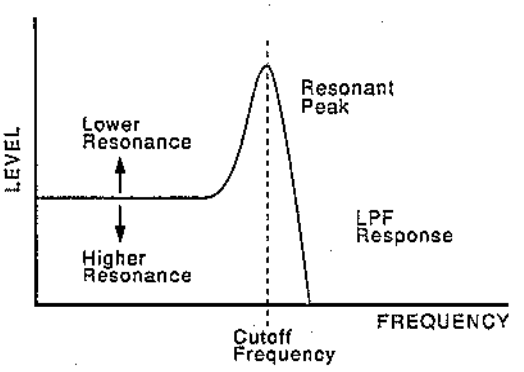
Lower cutoff values produce a lower cutoff frequency and higher values produce a higher cutoff frequency. If the "Thru" filter type is selected, no cutoff frequency can be set and "---" appears on the display in place of the parameter.

Reso (Resonance)

Range: 0 ... 99
Controls: [CS7], [-1] [+1], Dial

Determines the degree of filter resonance.

This parameter has a similar effect to the "resonance" settings on traditional analog synthesizer filters — i.e. it determines the height of a peak in the filter response at the cutoff frequency. If a filter type other than "LPF" is selected, no resonance can be produced and "---" appears on the display in place of the parameter.



Higher resonance values produce a higher resonant peak and reduce the overall bandwidth of the filter, passing a narrow band of frequencies at the filter's cutoff.

Vel (Velocity sensitivity)

Range: -63 ... +63
Controls: [CS8], [-1] [+1], Dial

Determines how the filter cutoff frequency changes in response to velocity changes (e.g. keyboard dynamics).

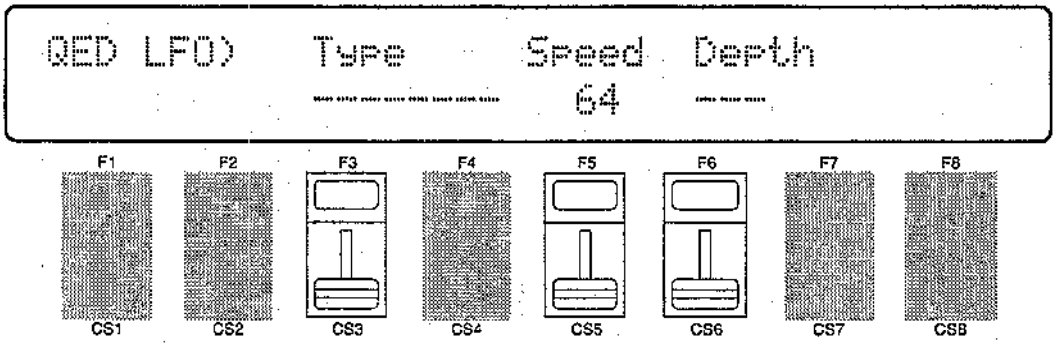
Plus "+" settings produce higher cutoff frequencies in response to higher velocity values — i.e. the harder a key is played, the higher the cutoff frequency. The maximum setting of "+63" produces the maximum level variation in response to velocity changes. Minus "-" settings produce the opposite effect: lower cutoff in response to higher velocity. A setting of "+0" results in no cutoff variation.

4: LFO

[VOICE] → [QUICK EDIT] → [MENU] → 4:LFO → [ENTER/YES]

Here, the main LFO parameters are simplified and concentrated in a single screen for quick, easy programming.

For full LFO parameters see page 78.



Type (LFO modulation type)

Range: -----, vibrato, tremolo, wahwah
Controls: [CS3], [-1] [+1], Dial

Determines whether the LFO will produce vibrato (pitch modulation), tremolo (amplitude modulation), or wahwah (filter cutoff modulation) effects. The current LFO parameter settings (page 78) are selected when this parameter is set to "--------".

Speed

Range: 0 ... 99
Controls: [CS5], [-1] [+1], Dial

Sets the speed of the LFO.

"0" is the slowest speed setting, producing an LFO speed of approximately 0 Hertz. The fastest setting of 99 produces an LFO speed of approximately 25 Hertz.

Depth

Range: 0 ... 127
Controls: [CS6], [-1] [+1], Dial

Sets the maximum amount of amplitude (tremolo), pitch (vibrato), or filter cutoff (wahwah) modulation that can be applied to the current voice.

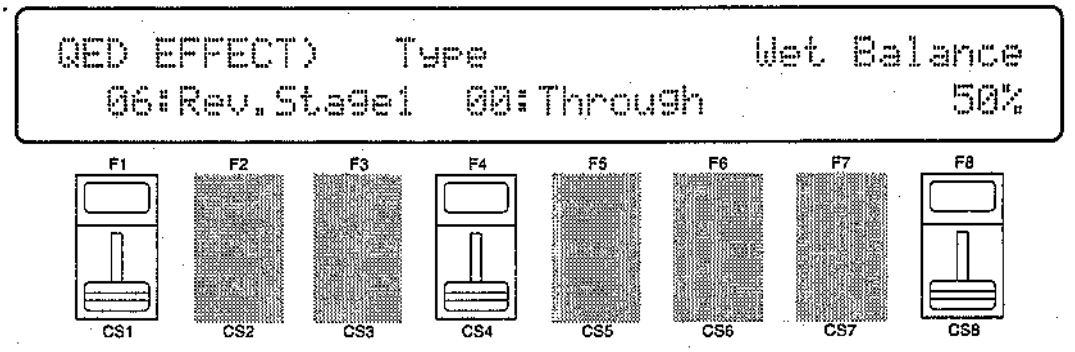
A "0" setting produces no modulation while a setting of "127" produces maximum modulation.

5: EFFECT TYPE

[VOICE] → [QUICK EDIT] → [MENU] → 5:Effect Type → [ENTER/YES]

The SY85 features a complex, high-performance effect system that can be programmed easily via the parameters presented here and in the following screen.

For a complete list of effect parameters see page 274.



Effect Type 1/2

Range: 0 ... 90
Controls: [CS1]/[CS4], [-1] [+1], Dial

[CS1] selects any of the SY85's 90 effect types for the EFFECT 1 processor, and [CS4] does the same for the EFFECT 2 processor. See page 254 for more details on the SY85 effect system.

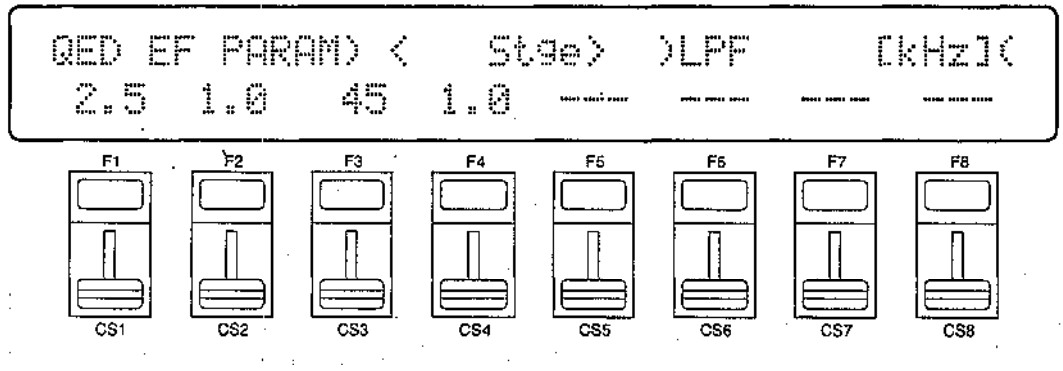
Wet Balance

Range: 0 ... 100
Controls: [CS8], [-1] [+1], Dial

[CS8] controls the balance between the direct no-effect sound and the effect sound delivered via the OUTPUT 1 jacks. The maximum setting of "100" produces maximum effect depth.

6: EFFECT PARAMETER

[VOICE] → [QUICK EDIT] → [MENU] → 6:Effect Param → [ENTER/YES]



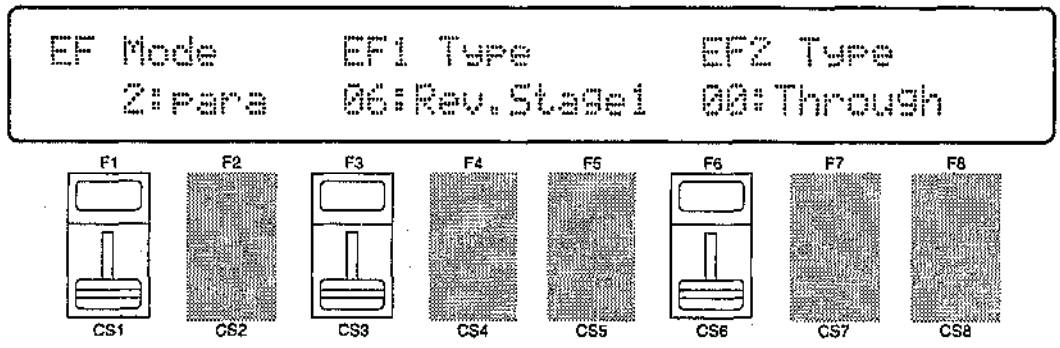
This screen provides access to the four main parameters each for the current selected effect 1 and effect 2. The four effect 1 parameters are edited via [CS1] through [CS4], while the four effect 2 parameters are edited via [CS5] through [CS8].

The parameters are different for each effect (refer to page 274 for details). The EFFECT mode PARAMETERS screen described on page 109 provides full access to all 8 effect parameters.

1: MODE, TYPE

[VOICE] → [EFFECT EDIT] → [MENU] → 1:Mode, Type → [ENTER/YES]

The SY85 features a dual-processor effect system that includes 90 top-quality digital effects. Two different effects can be connected in series or parallel, providing an extensive range of possible configurations.



Mode

Range: 0:off, 1:seri, 2:para
Controls: [CS1], [-1] [+1], Dial

Determines whether the SY85's two effect processors are connected in series ("1:seri") or in parallel ("2:para"), or whether the entire effect system is turned off ("0:off").

EF1 Type

Range: 0 ... 90
Controls: [CS3], [-1] [+1], Dial

Selects any of the SY85's 90 effect types for the EFFECT 1 processor. See page 254 for more details on the SY85 effect system, and page 274 for a complete list of the available effects.

EF2 Type

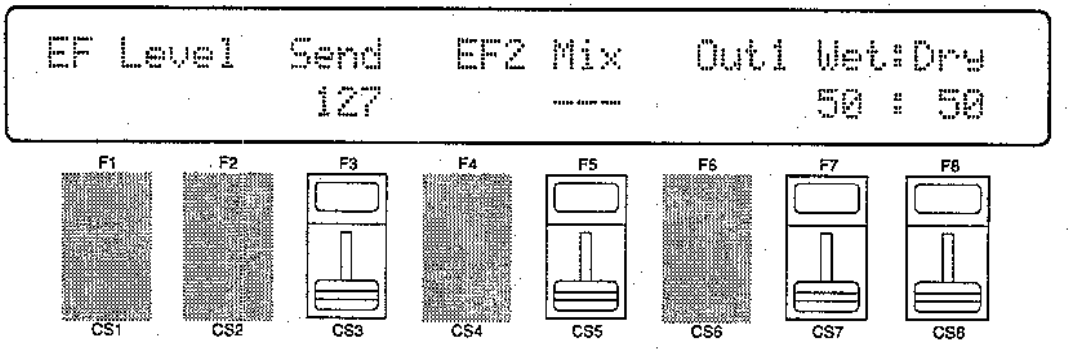
Range: 0 ... 90
Controls: [CS6], [-1] [+1], Dial

Selects any of the SY85's 90 effect types for the EFFECT 2 processor. See page 254 for more details on the SY85 effect system, and page 274 for a complete list of the available effects.

2: SEND, MIX, WET:DRY

[VOICE] → [EFFECT EDIT] → [MENU] → 2:Send, Mix, Wet:Dry → [ENTER/YES]

The balance between the direct sound of the voice and the effect sound is a delicate thing. Even slight changes can make a big different to the final sound. The parameters provided in this screen provide precise balance control.



Send (Send level)

Range: 0 ... 127
Controls: [CS3], [-1] [+1], Dial

This parameter adjusts the amount of direct voice signal that is sent to the effect processors, determining the strength of the final effect sound. A setting of "0" results in no effect, leaving only the "dry" sound of the voice. The maximum setting of "127" produces the maximum amount of effect.

EF2 Mix (Effect 2 mix level)

Range: 0 ... 100
Controls: [CS5], [-1] [+1], Dial

This parameter can only be used with the "serial" effect mode is selected. If any other mode is selected ("off' or "para"), "---" appears on the display in place of the value.

If a controller is assigned to the EF2 Mix parameter (page 110), an inverse "c" will appear to the right of the parameter.

Out1 Wet

Range: 0 ... 100
Controls: [CS7], [-1] [+1], Dial

This parameter and the "Out1 Dry" parameter, below, work together to balance the effect ("wet") and direct ("dry") signals delivered via the OUTPUT 1 jacks. Higher "Out1 Wet" values produce more effect sound in relation to the direct, dry sound of the voice.

Although; the "Wet" and "Dry" parameters can be set independently, adjusting one will cause the other to change so that their total is always 100(%).

If a controller is assigned to the "out1 Wet" parameter (page 110), an inverse "c" will appear to the right of the parameter.

Out1 Dry

Range: 0 ... 100
Controls: [CS8], [-1] [+1], Dial

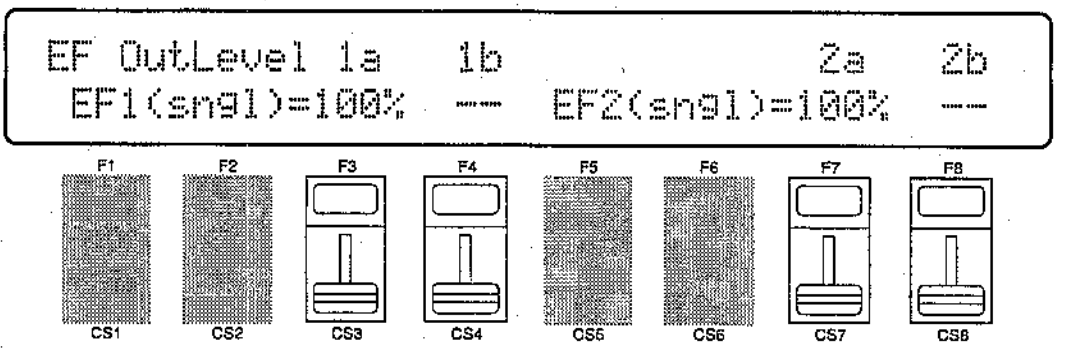
This parameter and the “Out1 Wet” parameter, above, work together to balance the effect (“wet”) and direct (“dry”) signals delivered via the OUTPUT 1 jacks. Higher “Out1 Dry” values produce more direct, dry sound in relation to the effect sound.

Although the “Wet” and “Dry” parameters can be set independently, adjusting one will cause the other to change so that their total is always 100(%).

3: OUTPUT LEVEL

[VOICE] → [EFFECT EDIT] → [MENU] → 3:Output Level → [ENTER/YES]

Depending on the selected effects the SY85 effect system can have up to four separate output levels that are adjusted by the parameters provided in this screen.



1a, 1b, 2a, and 2b (Effect output levels)

Range: 0 ... 100
Controls: [CS3], [CS4], [CS7], [CS8], [-1] [+1], Dial

The [CS3] and [CS4] sliders adjust the output levels of the effect 1 “1a” and “1b” stages, respectively, while the [CS7] and [CS8] sliders adjust the output levels of the effect 2 “2a” and “2b” stages. A setting of “0” turns output from the corresponding effect stage off, while a setting of “100” produces maximum output level.

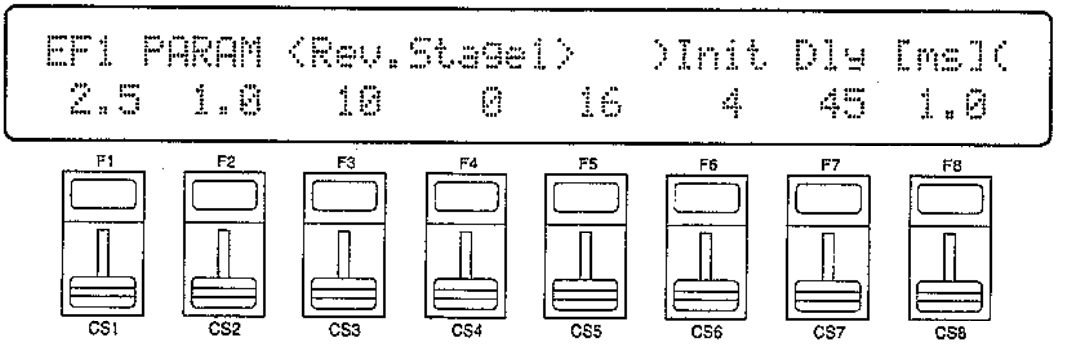
If the selected effect is a “single” type, then only the “1a” or “2a” output level is available. If it is a “cascade” type, then only the “1b” or “2b” output level is available. Both the “1a” and “1b” or “2a” and “2b” levels are available only if the selected effect is a “dual” type. The type of the effects currently selected for the effect 1 and effect 2 processors are shown in parentheses on the bottom line of the display. See page 254 for details on the effect stages and the SY85 effect system in general.

If a controller is assigned to any of the output level parameters (page 110), an inverse “c” will appear to the right of the parameter.

4: EFFECT 1 PARAMETERS
5: EFFECT 2 PARAMETERS

[VOICE] → [EFFECT EDIT] → [MENU] → 4:EF1 Parameter → [ENTER/YES]
→ 5:EF2 Parameter → [ENTER/YES]

Each of the SY85's 90 effects has 8 parameters that can be edited via the parameters in this screen to fine-tune the effect.



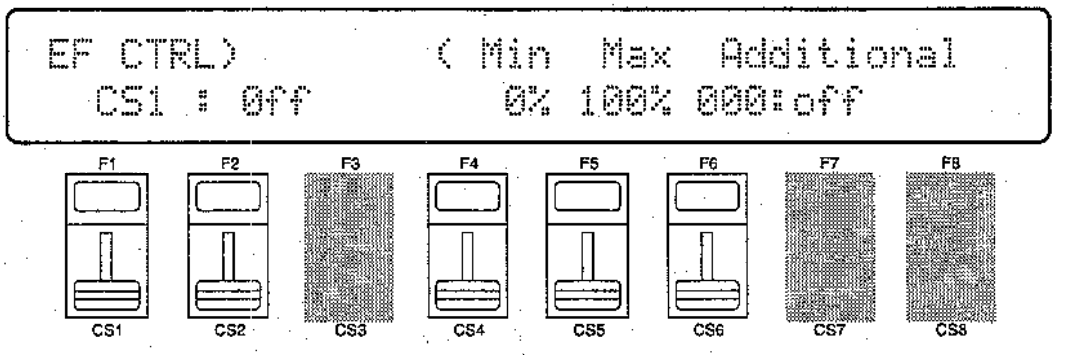
Each parameter is controlled by the corresponding slider (i.e. the slider immediately below each parameter). The [-1]/[+1] keys and data entry dial can also be used to edit the parameter at which the cursor is currently located.

Refer to page 274 for a complete listing of the parameters provided for each effect.

6: CONTROL PARAMETERS

[VOICE] → [EFFECT EDIT] → [MENU] → 6:Control Parameter → [ENTER/YES]

The SY85 [CS1] and [CS2] sliders can be assigned to control different effect parameters in real time while playing in the voice or performance modes. The parameters provided in this screen determine which effect parameters are to be controlled by the [CS1] and [CS2] sliders, the minimum and maximum parameter values, and assign MIDI control numbers to the same parameters for MIDI effect control.



CS1/CS2 (CS1/CS2 switch)

Range: CS1, CS2
Controls: [CS1], [-1] [+1], Dial

Selects [CS1] or [CS2] for assignment.

Parameter (Effect parameter)

Range: Depends on selected effects.
Controls: [CS2], [-1] [+1], Dial

Selects the effect parameter to be controlled by the currently selected slider. Since each effect has as many as 8 different parameters, the maximum number of settings available for this parameter will be 8: “Ef1prm1” through “‘Ef1prm8” on the display, for example, stands for “effect 1 parameter 1” through “effect 1 parameter 8”. The parameters available for each effect are different, but the name of the selected parameter will be shown between the parentheses on the top line of the display. Parameters that can not be assigned to the sliders are indicated by dashes (“--------”) instead of a parameter name.

Min (Minimum parameter value)

Range: 0 ... 100
Controls: [CS4], [-1] [+1], Dial

Sets the lower limit of the [CS1] or [CS2] control range. A setting of “0”, for example, means that when the slider is set to its lowest position the assigned parameter will also be set to its lowest value. A setting of “50” means that the lowest slider position will set the assigned parameter to about 50% of its range (a parameter with a range of 0 to 127, for example, would be set to about 63).

If a controller is assigned to the “Min” parameter, an inverse “c” will appear to the right of the parameter.

Max (Maximum parameter value)

Range: 0 ... 100
Controls: [CS5], [-1] [+1], Dial

Sets the upper limit of the [CS1] or [CS2] control range. A setting of "100", for example, means that when the slider is set to its highest position the assigned parameter will also be set to its highest value. A setting of "80" means that the highest slider position will set the assigned parameter to about 80% of its range (a parameter with a range of 0 to 127, for example, would be set to about 102).

If a controller is assigned to the "Max" parameter, an inverse "c" will appear to the right of the parameter.

Additional (Additional MIDI control)

Range: 000 ... 120, AfterTch, Velocity, KeyScale, LFO
Controls: [CS6], [-1] [+1], Dial

This parameter allows MIDI control change numbers to be assigned to the selected effect parameters, so that they can be controlled from the SY85 controllers (modulation wheel, foot controller, etc) or an external MIDI device that is capable of transmitting control change messages. Additional settings include "AfterTch" for keyboard aftertouch control, "Velocity" for keyboard velocity control, "KeyScale" for key scaling control, and "LFO" for internal LFO control. This is in addition to control via the [CS1] and [CS2] sliders. MIDI control change numbers 000 through 120 can be assigned. Some control change numbers are already defined, while others are not assigned to any specific controller (see chart below).

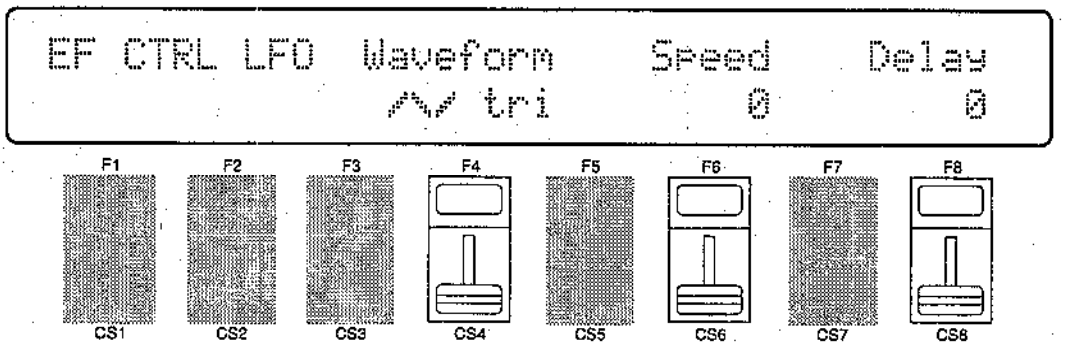
MIDI CONTROL CHANGE NUMBER/DEVICE

0:	"--------"	91:	"Effect D"
1:	"Mod.Whl."	92:	"TremoloD"
2:	"Breath C"	93:	"Chorus D"
4:	"Foot Cnt"	94:	"CelesteD"
5:	"Porta.Tm"	95:	"Phaser D"
6:	"Data Ent"	96:	"Inc. "
7:	"Main Vol"	97:	"Dec. "
8:	"Balance "	98:	"NRPN LSB"
10:	"Panpot "	99:	"NRPN MSB"
11:	"Express."	100:	"RPN LSB"
64:	"Hold 1 "	101:	"RPN MSB"
65:	"Porta.Sw"	121:	"AfterTch"
66:	"Sostenut"	122:	"Velocity"
67:	"Soft "	123:	"KeyScale"
69:	"Hold 2 "	124:	"LFO "

7: EFFECT LFO

[VOICE] → [EFFECT EDIT] → [MENU] → 7:Control LFO → [ENTER/YES]

All of the modulation-type effects — chorus, flanging, etc. — require LFO control. The SY85 has an independent effect LFO that is set up by the following parameters.



Wave (LFO waveform)

Range: tri, dwn, up, squ, sin, S/H, 1tm
Controls: [CS4], [-1] [+1], Dial

Determines the waveform of the effect LFO.

"tri" = Triangle	"dwn" = Downward sawtooth
"up" = Upward sawtooth	"squ" = Square
"sin" = Sine	"S/H" = Sample and hold
	"1tm" = Upward l-shot

If a controller is assigned to the "Wave" parameter (page 110), an inverse "c" will appear to the right of the parameter.

Speed (LFO speed)

Range: 0 ... 99
Controls: [CS6], [-1] [+1], Dial

Sets the speed of the effect LFO.

"0" is the slowest Speed setting, producing an LFO speed of approximately 0 Hertz. The fastest setting of 99 produces an LFO speed of approximately 25 Hertz.

If a controller is assigned to the "Speed" parameter (page 110), an inverse "c" will appear to the right of the parameter.

Delay

Range: 0 ... 99
Controls: [CS8], [-1] [+1], Dial

Sets the delay time between the beginning of a note and the beginning of effect LFO operation for the selected element.

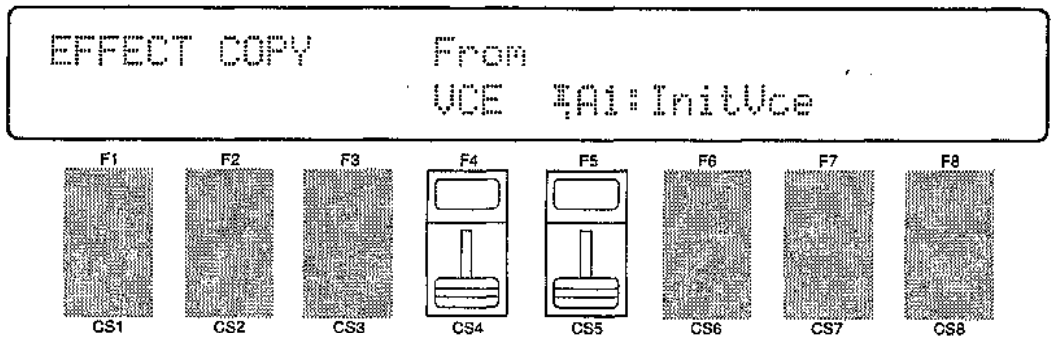
The minimum setting "0" results in no delay, while the maximum setting of "99" produces a delay of approximately 2.66 seconds before the LFO begins operation (5.3 seconds before it reaches maximum depth).

If a controller is assigned to the "Delay" parameter (page 110), an inverse "c" will appear to the right of the parameter.

EFFECT DATA COPY

[VOICE] → [EFFECT EDIT] → [COPY]

This function facilitates voice effect editing by allowing the effect parameters from any other song, voice, or performance combination to be copied to the current voice. You can copy an effect setup that is close to the type you want, then edit it to produce the required sound.

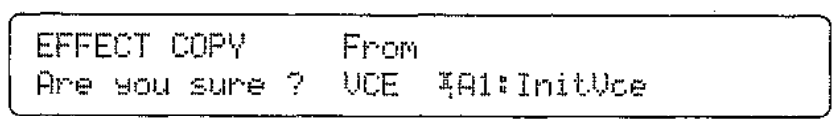


From Voice

Range: Any song, voice or performance combination
Controls: MEMORY, GROUP, PROGRAM, [CS4], [CS5], [-1] [+1], Dial

Use the [CS4] slider to select the mode containing the desired voice and effect data ("PFM" = PERFORMANCE, "VCE" = VOICE, and "MLT" = MULTI). Use the [INTERNAL 1], [INTERNAL 2], and [CARD] MEMORY keys to select the memory area from which the source voice is to be selected. Use the GROUP keys to select the source voice bank, then use the PROGRAM keys to select the source voice number. The [CS5] slider and other data entry controls can also be used to select the source voice number.

Once the source voice has been selected, press the [ENTER/YES] key. "Are you sure?" will appear on the display.



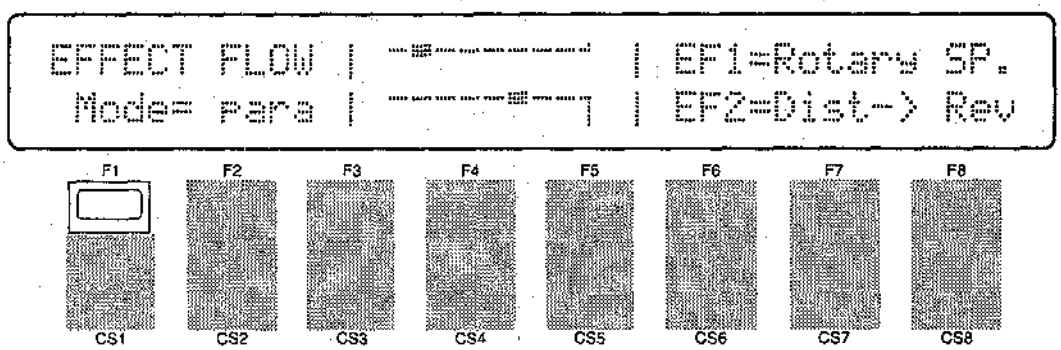
Press the [ENTER/YES] key again to copy the effect data, or press [EXIT/NO] to cancel the copy operation. Once the copy operation has finished, "Completed!" will appear on the display briefly, then the display will return to the effect edit mode.

EFFECT SIGNAL FLOW DISPLAY

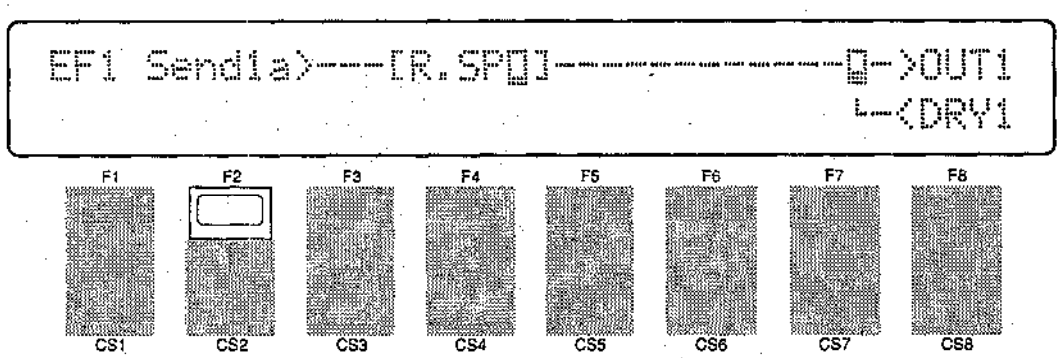
[VOICE] → [EFFECT EDIT] → [SHIFT] + [F1] ~ [F3]

This function provides a graphic indication of the current effect system configuration while in the effect edit mode.

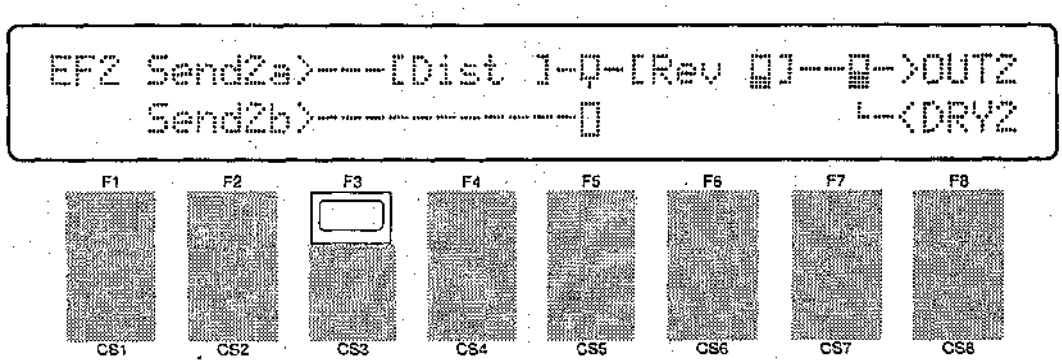
● Overall Effect Flow



● Effect 1 Configuration



● Effect 2 Configuration



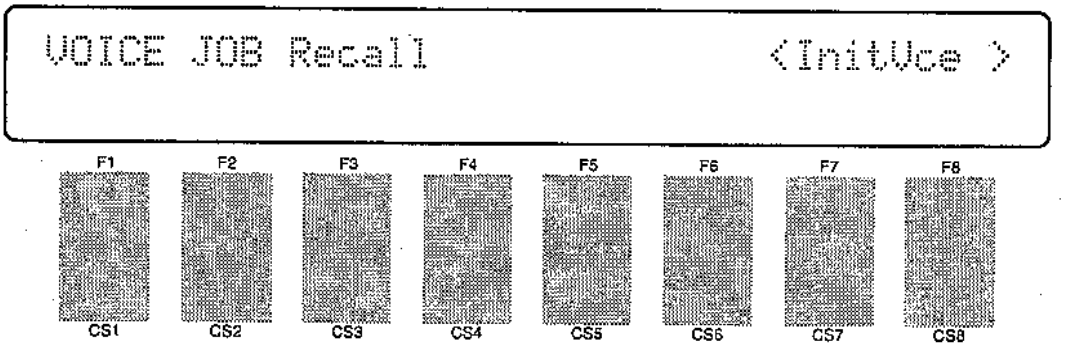
Press [SHIFT] + [F1] to see the overall effect system signal flow. Press [SHIFT] + [F2] to see the effect 1 section configuration, and [SHIFT] + [F3] for the effect 2 section configuration. Press the [EXIT/NO] key to exit from the effect signal flow display.

Refer the to section beginning on page 254 for details on the effect system.

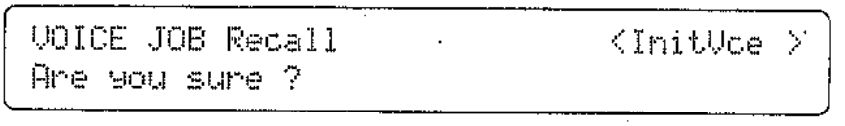
1: VOICE EDIT RECALL

[VOICE] → [JOB] → [MENU] → 1:Recall → [ENTER/YES]

If you're dissatisfied with the results of edits you've made to a voice, or have accidentally lost track of changes made, use the VOICE EDIT RECALL function to recall the pre-edit voice data from the SY85's voice backup buffer memory.



Press [ENTER/YES] to begin the recall procedure. The following confirmation display will appear:



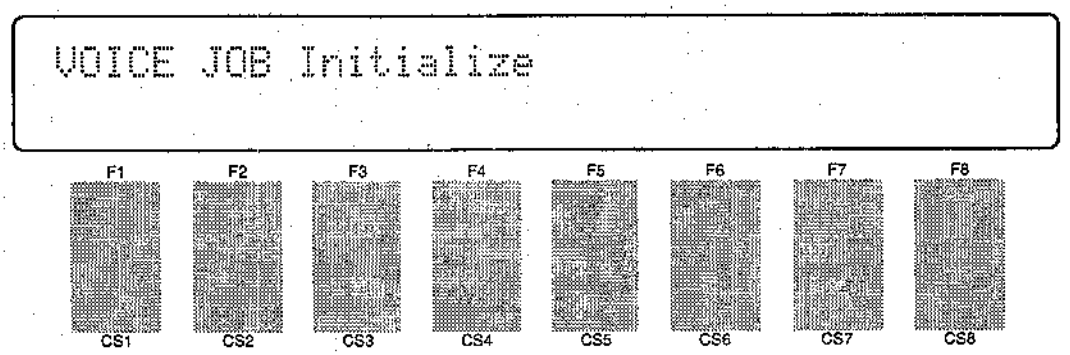
Press [ENTER/YES] again to confirm that you want to go ahead with the recall operation (which will erase all current edited data), or press [EXIT/NO] to cancel.

When the original voice data has been recalled, "Completed!" will appear briefly on the display, then the display will return to the mode that was engaged prior to calling the voice edit recall function.

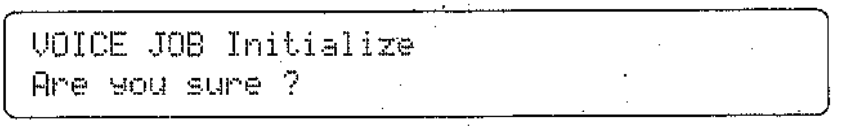
2: VOICE INITIALIZE

[VOICE] → [JOB] → [MENU] → 2:Initialize → [ENTER/YES]

When you want to program a totally new voice "from scratch," rather than editing an existing voice, use this function to initialize all voice parameters..



Press [ENTER/YES] to begin the initialize procedure. The following confirmation display will appear:



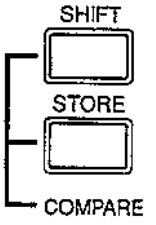
Press [ENTER/YES] again to confirm that you want to go ahead with the initialize operation (which will erase all current edited data), or press [EXIT/NO] to cancel.

When the voice data has been initialized, "Completed,!" will appear briefly on the display, then the display will return to the mode that was engaged prior to calling the voice initialize function.

VOICE COMPARE

[SHIFT] + [STORE]

The voice compare function makes it possible to compare the sound of a voice being edited with the same voice prior to editing.

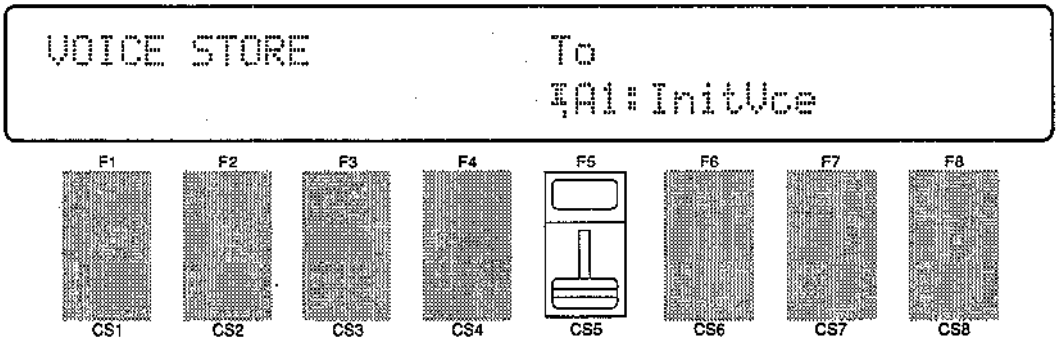


To temporarily recall the original voice while editing, press the [STORE] key while holding the [SHIFT] key. The [VOICE] LED will flash, indicating that the compare mode is engaged. Data cannot be edited in the compare mode. Press [EXIT/NO] again to return to the edit mode and the voice being edited.

VOICE STORE

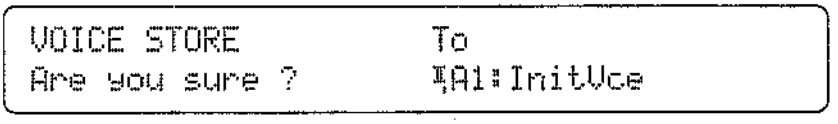
[STORE]

When you're satsfied with a new voice you've created in the voice edit mode, use the store function described below to store the new voice to an internal or card memory location.



When you've finished editing, return to the normal voice play mode (press the [VOICE] key), and before selecting a different voice press the [STORE] key. You can now use the MEMORY, GROUP, and NUMBER keys to select the memory location to which your new voice is to be stored.

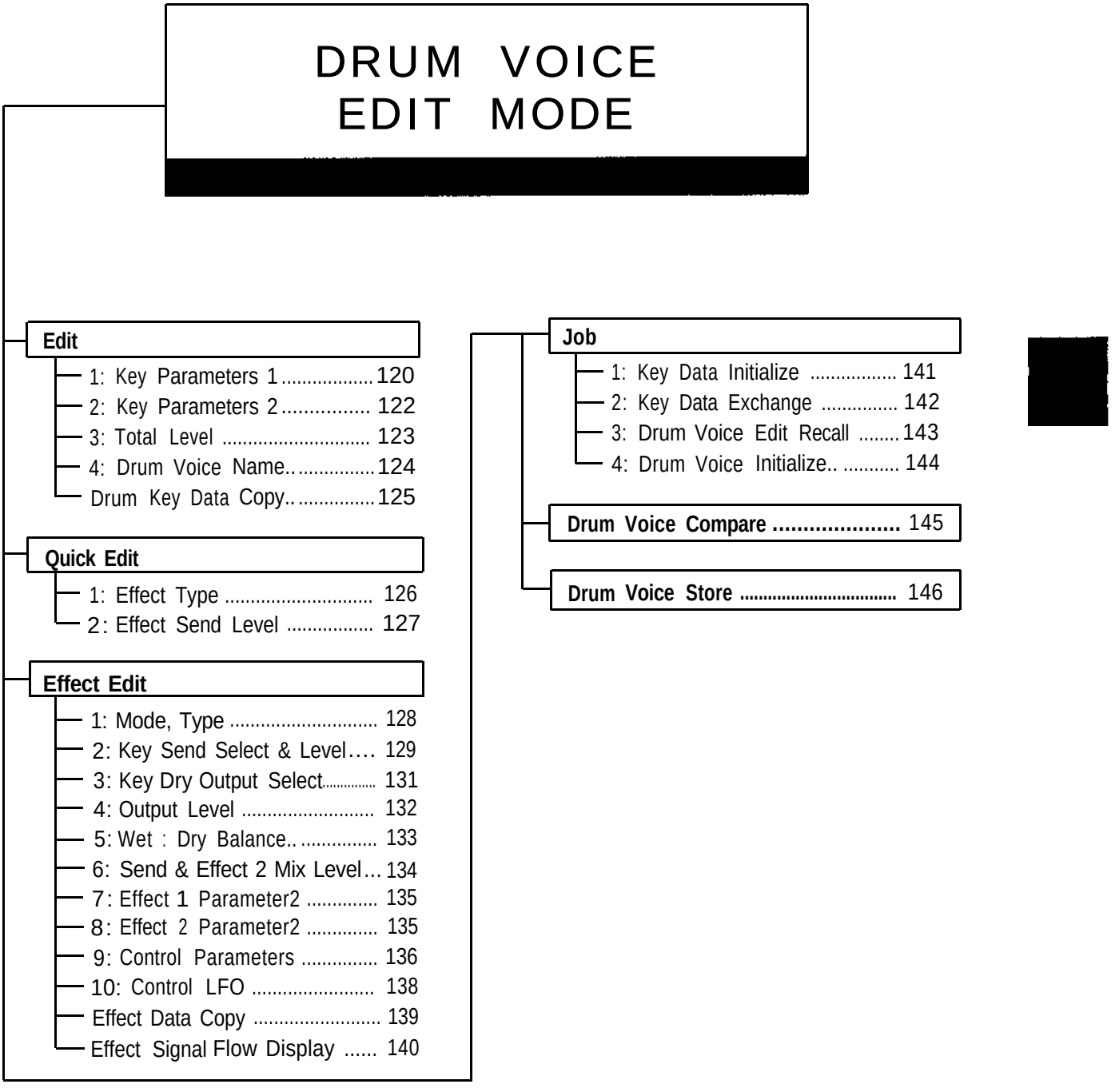
Once the store location has been specified, press [ENTER/YES] to begin the store procedure. The following confirmation display will appear:



Press [ENTER/YES] again to confirm that you want to go ahead with the store operation (which will erase all previous data in the specified memory location), or press [EXIT/NO] to cancel.

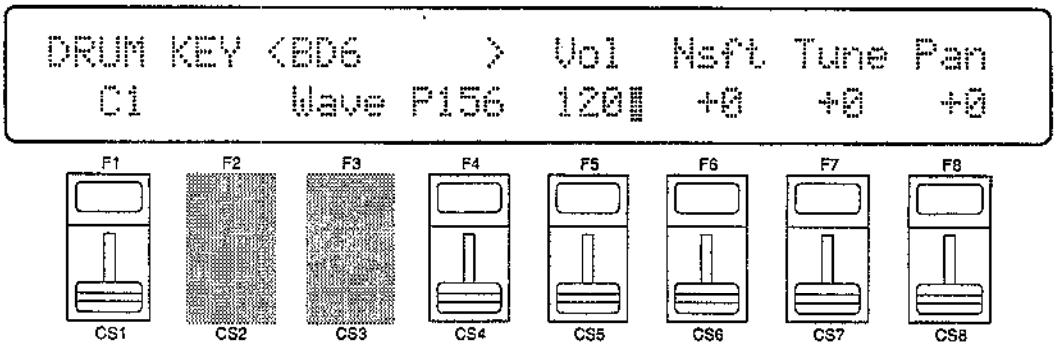
When the voice data has been stored, "Completed!" will appear briefly on the display, then the display will return to the mode that was engaged prior to calling the store function.

DRUM VOICE EDIT MODE



1: KEY PARAMETERS 1

[VOICE] → [EDIT] → [MENU] → 1:Key Param1 → [ENTER/YES]



Key Number

Range: C1 ... C5
Controls: [CS1], [-1] [+1], Dial, Keyboard

Selects the the drum key to be edited. In addition to using the [CS1] slider, data entry dial, and [-1] and [+1] keys, the drum key can be selected by simply pressing the appropriate key on the keyboard.

Wave

Range: P001 ... P244, I00 ... I63, C00 ... C63
Controls: MEMORY, [CS4], [-1] [+1], Dial

Selects the wave (AWM waveform) to be played by the current drum key. Use the [INTERNAL 1], [INTERNAL 2], and [CARD] keys to select the memory area from which the wave is to be selected. A complete listing of the internal waves is given in the Appendix, on page 310.

Vol

Range: 0 ... 127
Controls: [CS5], [-1] [+1], Dial

For optimum balance between the instruments in a drum “kit,” this parameter allows the volume of the current drum key to be adjusted independently. A setting of “0” produces no sound, while a setting of “127” produces maximum volume.

Nsft

Range: -48 ... +36
Controls: [CS6], [-1] [+1], Dial

Shifts the pitch of selected drum key up or down in semitone steps.

A setting of “-12,” for example, shifts the pitch of the selected layer down by one octave; a setting of “+4” shifts the pitch up by a major third.

Tune

Range: -63 ... +63
Controls: [CS7], [-1] [+1], Dial

Allows upward or downward pitch adjustment of the current drum key in approximately 1.7-cent steps (a “cent” is 1/100th of a semitone).

The maximum minus setting of “-63” produces a downward pitch shift of approximately three quarters of a semitone, and the maximum plus setting of “+63” shifts the pitch up by the same amount. A setting of “0” produces no pitch change.

Pan

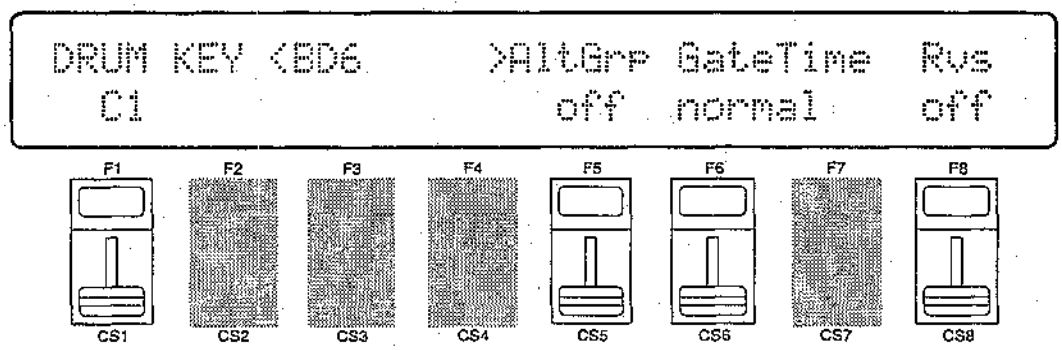
Range: -31 ... +31
Controls: [CS8], [-1] [+1], Dial

Interesting stereo effects can be produced by placing the sound of different drum instruments at different locations in the stereo sound field. This parameter determines the position in the stereo sound field in which the sound from the current drum key will be heard (left to right).

Minus values represent panning to the left, and positive values represent panning to the right. “0” positions the sound of the selected layer in the center of the stereo sound field.

2: KEY PARAMETERS 2

[VOICE] → [EDIT] → [MENU] → 2:Key Param2 → [ENTER/YES]



Key Number

Range: C1 ... C5
Controls: [CS1], [-1] [+1], Dial, Keyboard

Selects the the drum key to be edited. In addition to using the [CS1] slider, data entry dial, and [-1] and [+1] keys, the drum key can be selected by simply pressing the appropriate key on the keyboard.

AltGrp

Range: off, 1 ... 5
Controls: [CS5], [-1] [+1], Dial

Assigns the selected drum key to an “alternate group” numbered between 1 and 5. No two drum keys assigned to the same alternate group number can sound at the same time. This is most commonly used to create a realistic hi-hat cymbal effect: the closed and open hi-hat keys are assigned to the same alternate group, so that when the closed hi-hat key is played the open hi-hat sound is immediately cut off. Turn this parameter “off” if you don’t want the current drum key to be assigned to any alternate group.

GateTime

Range: short, normal, long, very-long
Controls: [CS6], [-1] [+1], Dial

Sets the length of the note played by the selected drum key to short, normal, long, or very long. Please note that this parameter will not extend the length of the waveform assigned to the current drum key, so no change may be heard even if you select the “very long” gate time for a short wave.

Rvs (Reverse)

Range: off, on
Controls: [CS8], [-1] [+1], Dial

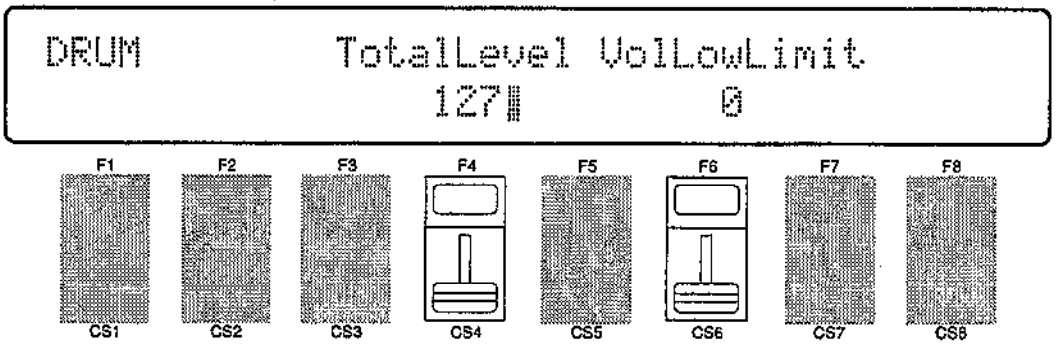
When this parameter is turned “on,” the selected wave is played in reverse.

When Rvs is “on,” the pitch EG “Loop” parameter described on page 75 is automatically turned “off.”

3: TOTAL LEVEL

[VOICE] → [EDIT] → [MENU] → 3:Total Level → [ENTER/YES]

This parameter sets the overall volume of the current drum voice in relation to the others, making it possible to match levels for smooth transition when switching between voices.



Total Level

Range: 0 ... 127
Controls: [CS4], [-1] [+1], Dial

Adjusts the volume of the current drum voice.

A setting of "0" produces no sound while a setting of "127" produces maximum volume. A bar graph beside the parameter provides a visual indication of volume level — the longer the bar, the higher the volume.

VolLoLimit (Minimum volume level)

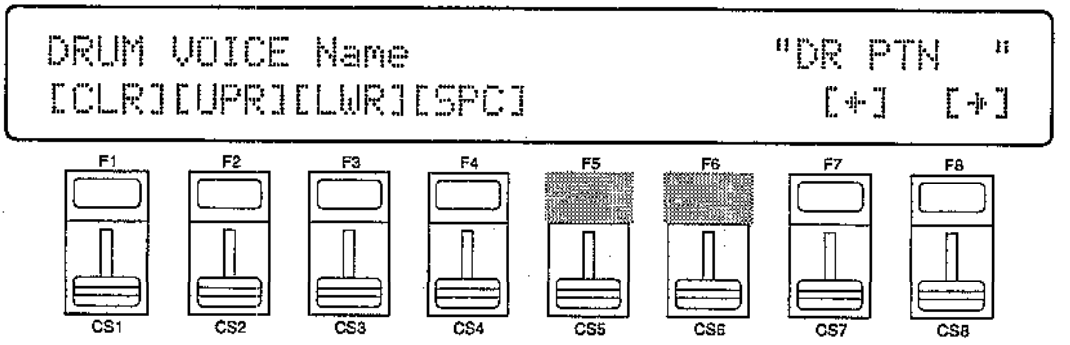
Range: 0 ... 127
Controls: [CS6], [-1] [+1], Dial

Determines the minimum volume level that can be set by the foot volume control MIDI volume control data. If this parameter is set to "0," the minimum foot volume control position will produce almost no sound. A setting of "63" will result in about half volume when the control is set to its minimum position. This parameter does not affect keyboard velocity response.

4: DRUM VOICE NAME

[VOICE] → [EDIT] → [MENU] → 4:Name → [ENTER/YES]

Your original drum voices should naturally have original names. This function can be used to assign a name of up to 8 characters to the current drum voice.



Name

Range: See character list, below
Controls: GROUP, PROGRAM, [F1] ... [F4], [F7], [F8]
[CS1] ... [CS8], [-1] [+1], Dial

Assigns a name of up to 8 characters to the current drum voice.

Use the [F7] function key to move the character cursor to the left, and the [F8] function key to move the cursor to the right. Use the GROUP and PROGRAM keys to input a character at the cursor position. Each GROUP or PROGRAM key selects the three characters printed above it in sequence. It is also possible to use the [-1] and [+1] keys or dial to scroll through the available characters (see list below).

The sliders, [CS1] through [CS8], independently select characters for the corresponding character position: [CS1] selects the first character, [CS2] selects the second character, and so on.

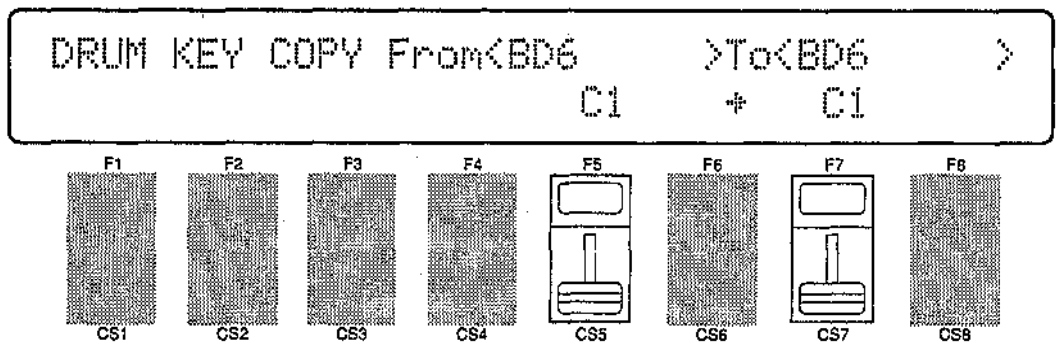
The first four function keys also perform important functions: [F1] clears the entire name, [F2] selects upper-case characters for GROUP and PROGRAM key entry, [F3] selects lower-case characters for GROUP and PROGRAM key entry, and [F4] inserts a space at the cursor position.

GROUP key	PROGRAM key
[A]: A → B → C	[1]: Y → Z → 0
[B]: D → E → F	[2]: 1 → 2 → 3
[C]: G → H → I	[3]: 4 → 5 → 6
[D]: J → K → L	[4]: 7 → 8 → 9
[E]: M → N → O	[5]: * → & → _
[F]: P → Q → R	[6]: / → . → ,
[G]: S → T → U	[7]: ' → ! → ?
[H]: V → W → X	[8]: # → : → ;

DRUM KEY DATA COPY

[VOICE] → [EDIT] → [COPY]

This function facilitates drum voice editing by allowing the data from one drum key (the "source" key) to be copied to any other drum key. You can copy the data from a key that is close to the sound you want, then edit it as required.



From

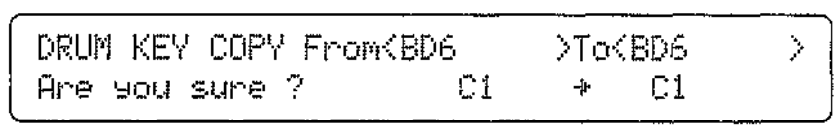
Range: C1 ... C5
Controls: [CS5], [-1] [+1], Dial, Keyboard

To

Range: C1 ... C5
Controls: [CS7], [-1] [+1], Dial Keyboard

Use the [CS5] slider to select the source ("From") key, and the [CS7] slider to select the destination ("To") key. The source and destination keys can also be selected by simply pressing the appropriate key on the keyboard after placing the cursor at the "From" or "To" parameter position by pressing the [F5] or [F7] function key, respectively. The names of the waves currently assigned to the "From" and "To" keys are displayed above the key numbers.

Once the source and destination keys have been selected, press the [ENTER/YES] key. "Are you sure?" will appear on the display.



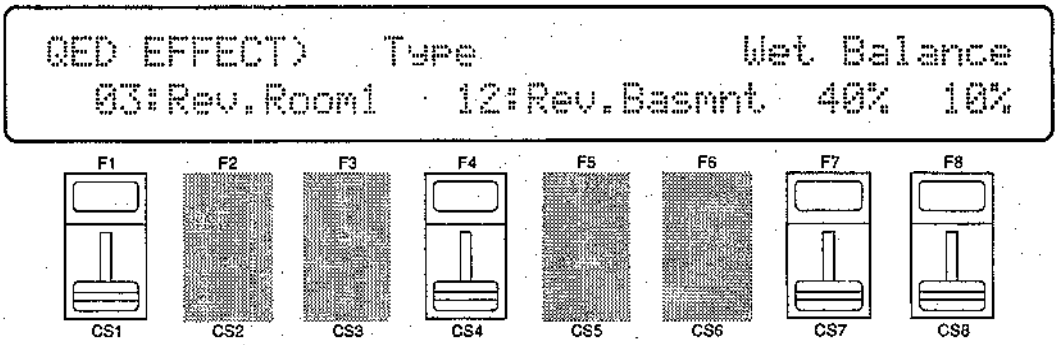
Press the [ENTER/YES] key again to copy the drum key data, or press [EXIT/NO] to cancel the copy operation. Once the copy operation has finished, "Completed!" will appear on the display briefly, then the display will return to the drum edit mode.

1: EFFECT TYPE

[VOICE] → [QUICK EDIT] → [MENU] → 1:Effect Type → [ENTER/YES]

The SY85 features a complex, high-performance effect system that can be programmed easily via the parameters presented here and in the following screen.

For a complete list of effect parameters see page 274.



Effect Type 1/2

Range: 0 ... 90
Controls: [CS1]/[CS4], [-1] [+1], Dial

[CS1] selects any of the SY85's 90 effect types for the EFFECT 1 processor, and [CS4] does the same for the EFFECT 2 processor. See page 254 for more details on the SY85 effect system.

Wet Balance 1/2

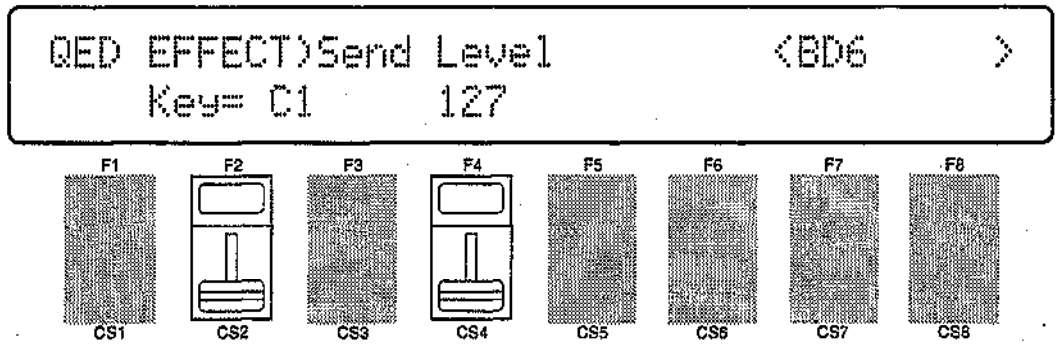
Range: 0 ... 100
Controls: [CS7]/[CS8], [-1] [+1], Dial

[CS7] controls the balance between the direct no-effect sound and the effect sound of the EFFECT 1 processor, while [CS8] does the same for the EFFECT 2 processor. The higher the value the deeper the effect; See page 254 for more details on the SY85 effect system.

2: EFFECT SEND LEVEL

[VOICE] → [QUICK EDIT] → [MENU] → 2:Effect Send → [ENTER/YES]

The ability to set different effect send levels for each drum key provides extremely fine control over the drum effect sound.



Key

Range: C1 ... C5
Controls: [CS2], [-1] [+1], Dial, keyboard

Selects the drum key (C1 ... C5) for which the send level is to be adjusted. Use either the [CS2] slider or the keyboard to enter the key number.

Send Level

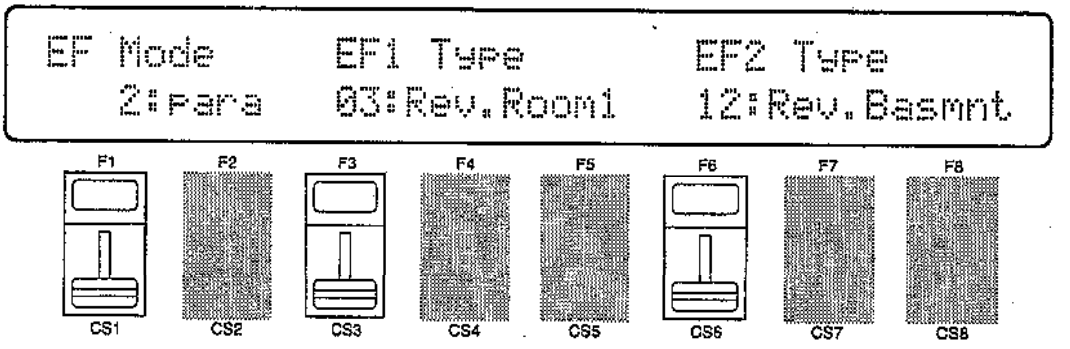
Range: 0 ... 127
Controls: [CS4], [-1] [+1], Dial

Sets the effect send level for the selected drum key.

1: MODE, TYPE

[VOICE] → [EFFECT EDIT] → [MENU] → 1:Mode Type → [ENTER/YES]

The SY85 features a dual-processor effect system that includes 90 top-quality digital effects. Two different effects can be connected in series or parallel, providing an extensive range of possible configurations.



Mode

Range: 0:off, 1:seri, 2:para
Controls: [CS1], [-1] [+1], Dial

Determines whether the SY85's two effect processors are connected in series ("1:seri") or in parallel ("2:para"), or whether the entire effect system is turned off ("0:off").

EF1 Type

Range: 0 ... 90
Controls: [CS3], [-1] [+1], Dial

Selects any of the SY85's 90 effect types for the EFFECT 1 processor. See page 254 for more details on the SY85 effect system, and page 274 for a complete list of the available effects.

EF2 Type

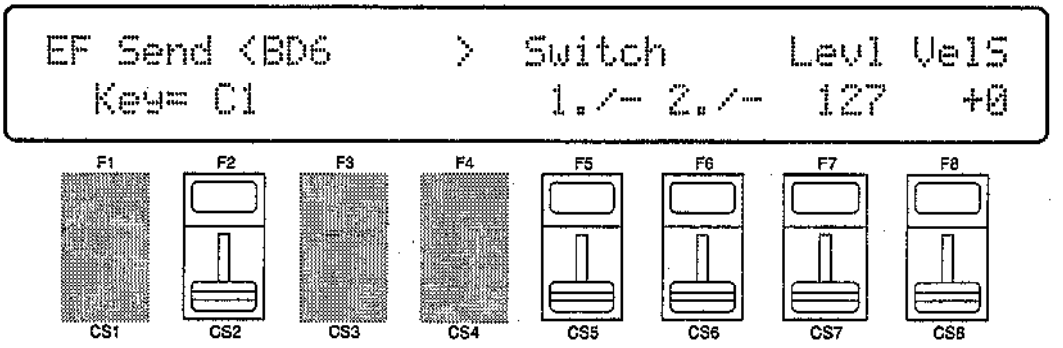
Range: 0 ... 90
Controls: [CS6], [-1] [+1], Dial

Selects any of the SY85's 90 effect types for the EFFECT 2 processor. See page 254 for more details on the SY85 effect system, and page 274 for a complete list of the available effects.

2: KEY SEND SELECT & LEVEL

[VOICE] → [EFFECT EDIT] → [MENU] → 2:Send → [ENTER/YES]

The parameters provided here determine to which of the SY85 effect stages the output from each drum key is sent, and at what level. It is also possible to control the effect send level via keyboard dynamics.



Key

Range: C1 ... C5
Controls: [CS2], [-1] [+1], Dial, Keyboard

Selects the drum key (C1 ... C5) for which the send select and level parameters are to be adjusted. Use either the [CS2] slider or the keyboard to enter the key number.

Switch 1a, 1b/2a, 2b

Range: See text below
Controls: [CS5]/[CS6], [-1] [+1], Dial

Determines to which of the EFFECT 1 and EFFECT 2 effect, stages the output from the current layer is sent. Each time the [F5] or [F6] function key is pressed, the cursor alternately moves to the corresponding “a” or “b” parameter. The [-1] and [+1] keys can then be used to turn the stage on (“a” or “b”) or off (“.”). The [CS5] and [CS6] sliders select the following settings in sequence:

CS5 (EFFECT 1)	CS6 (EFFECT 2)
1 ./. (a and b off)	2./. (a and b off)
1a/. (a on, b off)	2a/. (a on, b off)
1a/b (a and b on)	2a/b (a and b on)
1./b (a off, b on)	2./b (a off, b on)

If a “single” type effect is selected then only stage “a” can be selected. If a “cascade” type effect is selected, then only stage “b” can be selected. If a “dual” type effect is selected, then both stages “a” and “b” can be selected. An effect stage that cannot be selected is represented by “-” on the display.

Send (Send level)

Range: 0 ... 127
Controls: [CS7], [-1] [+1], Dial

This parameter adjusts the amount of direct voice signal that is sent to the effect processors, determining the strength of the final effect sound. A setting of "0" results in no effect, leaving only the "dry" sound of the voice. The maximum setting of "127" produces the maximum amount of effect.

VelS (Send velocity sensitivity)

Range: -7 ... +7
Controls: [CS8], [-1] [+1], Dial

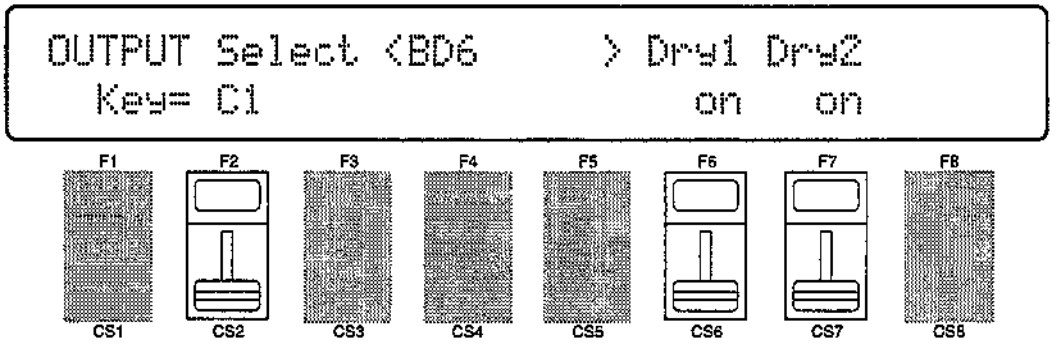
Determines how the send level from the selected drum key is affected by velocity changes (e.g. keyboard dynamics).

Plus "+" settings produce higher send levels in response to higher velocity values — i.e. the harder a key is played, the higher the send level, and therefore the deeper the effect. The maximum setting of "+7" produces the maximum level variation in response to velocity changes. Minus "-" settings produce the opposite effect: lower send level in response to higher velocity. A setting of "+0" results in no send level variation.

3: KEY DRY OUTPUT SELECT

[VOICE] → [EFFECT EDIT] → [MENU] → 3:Key Dry Out Select → [ENTER/YES]

These parameters determine turn the “dry lines” (i.e. the signal paths which bypasses each effect processor) on or off, determining whether any dry signal output can occur at OUTPUT 1 and OUTPUT 2.



Key

Range: C1 ... C5
Controls: [CS2], GROUP [A] ... [D], [-1] [+1], Dial

Selects the key to be edited. The name of the voice assigned to the selected key is shown between parentheses on the upper line of the display.

Dry1

Range: off, on
Controls: [CS6], [-1] [+1], Dial

Turns the “dry line” bypassing the EFFECT 1 signal processor on or off. When this parameter is turned “off,” the “WET:DRY BALANCE” parameters (page 133) have no effect.

Dry2

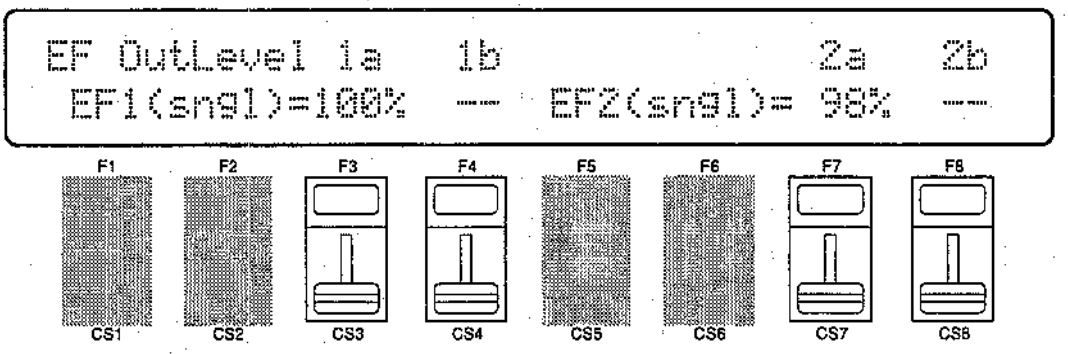
Range: off, on
Controls: [CS7], [-1] [+1], Dial

Turns the “dry line” bypassing the EFFECT 2 signal processor on or off. When this parameter is turned “off,” the “WET:DRY BALANCE” parameters (page 133) have no effect.

4: OUTPUT LEVEL

[VOICE] → [EFFECT EDIT] → [MENU] → 4:Output Level → [ENTER/YES]

Depending on the selected effects the SY85 effect system can have up to four separate output levels that are adjusted by the parameters provided in this screen.



1a, 1b, 2a, and 2b (Effect output levels)

Range: 0 ... 100
Controls: [CS3], [CS4], [CS7], [CS8], [-1] [+1], Dial

The [CS3] and [CS4] sliders adjust the output levels of the effect 1 “1a” and “1b” stages, respectively, while the [CS7] and [CS8] sliders adjust the output levels of the effect 2 “2a” and “2b” stages. A setting of “0” turns output from the corresponding effect stage off, while a setting of “100” produces maximum output level.

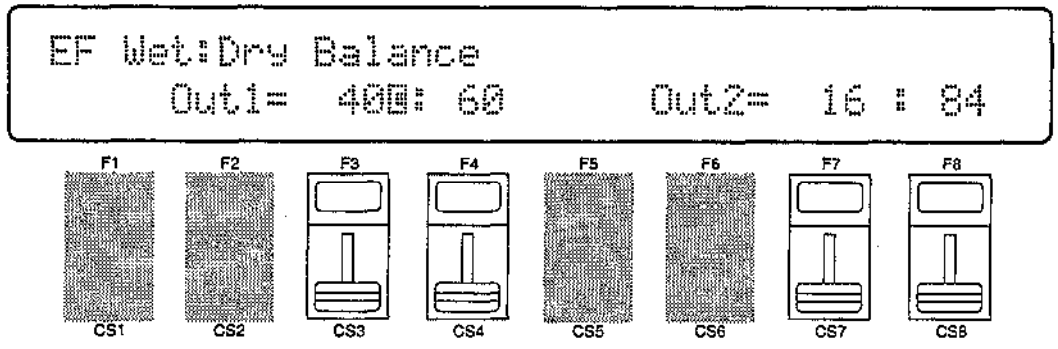
If the selected effect is a “single” type, then only the “la” or “2a” output level is available. If it is a “cascade” type, then only the “1b” or “2b” output level is available. Both the “1a” and “1b” or “2a” and “2b” levels are available only if the selected effect is a “dual” type. The type of the effects currently selected for the effect 1 and effect 2 processors are shown in parentheses on the bottom line of the display. See page 254 for details on the effect stages and the SY85 effect system in general.

If a controller is assigned to any of the output level parameters (page 136), an inverse “c” will appear to the right of the parameter.

5: WET:DRY BALANCE

[VOICE] → [EFFECT EDIT] → [MENU] → 5:Wet:Dry Balance → [ENTER/YES]

The balance between the direct sound of the voice and the effect sound is a delicate thing. Even slight changes can make a big difference to the final sound. The parameters provided in this screen provide precise balance control.



Out1 Wet/Out2 Wet

Range: 0 ... 100
Controls: [CS3]/[CS7], [-1] [+1], Dial

These parameters and the corresponding "Out1 Dry" and "Out2 Dry" parameters, below, work together to balance the effect ("wet") and direct ("dry") signals delivered via the EFFECT 1 and EFFECT2 processors. Higher "Wet" values produce more effect sound in relation to the direct, dry sound of the voice.

Although the "Wet" and "Dry" parameters can be set independently, adjusting one will cause the other to change so that their total is always 100(%).

If a controller is assigned to the "Out1 Wet" or "Out2 Wet" parameter (page 136), an inverse "c" will appear to the right of the parameter.

Out2 Dry/Out2 Dry

Range: 0 ... 100
Controls: [CS4]/[CS8], [-1] [+1], Dial

These parameters and the corresponding "Out1 Wet" and "Out2 Wet" parameters, above, work together to balance the effect ("wet") and direct ("dry") signals delivered via the EFFECT 1 and EFFECT 2 processors, respectively. Higher "Dry" values produce more direct, dry sound in relation to the effect sound.

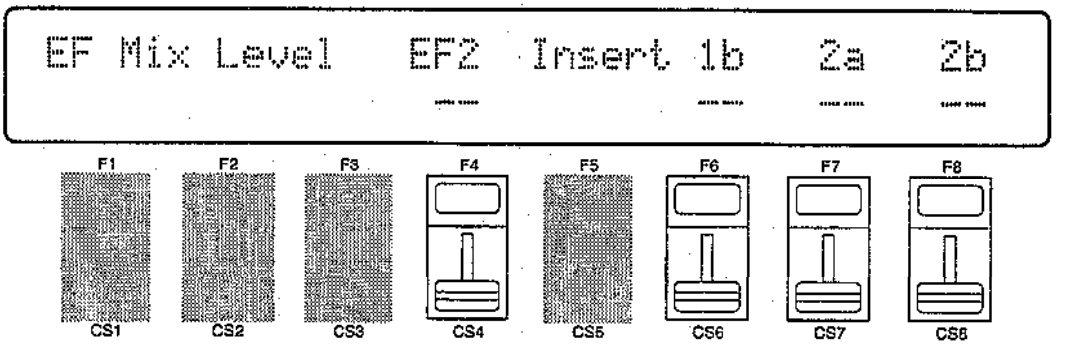
Although the "Wet" and "Dry" parameters can be set independently, adjusting one will cause the other to change so that their total is always 100(%).

If a controller is assigned to the "Out1 Dry" or "Out2 Dry" parameter (page 136), an inverse "c" will appear to the right of the parameter.

6: SEND & EFFECT 2 MIX LEVEL

[VOICE] → [EFFECT EDIT] → [MENU] → 6:Mix Level → [ENTER/YES]

These parameters determine the mix level between each effect send and the output of the preceding effect stage. Refer to the section beginning on page 254 for details on the overall SY85 effect system.



EF2 Mix (Effect 2 mix level)

Range: 0 ... 100
Controls: [CS4], [-1] [+1], Dial

Mixes the output of the EFFECT 2 processor with that of the EFFECT 1 processor. This parameter can only be used with the "serial" effect mode is selected. If any other mode is selected ("off" or "para"), "---" appears on the display in place of the value.

If a controller is assigned to the EF2 Mix parameter (page 136), an inverse "c" will appear to the right of the parameter.

Send 1b, 2a, 2b (Send level)

Range: 0 ... 100
Controls: [CS6], [CS7], [CS8], [-1] [+1], Dial

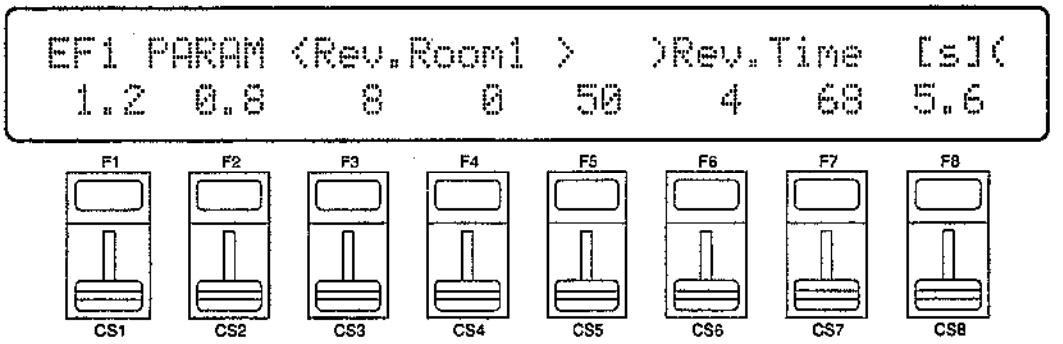
These parameters mix the dry signal sent to the corresponding effect stage with the output of the preceding effect stage. The higher the value the greater mix level. If the current effect configuration does not allow one of these mix parameters, "--" will appear in place of the mix level parameter.

If a controller is assigned to the one of these parameters (page 136), an inverse "c" will appear to the right of the parameter.

7: EFFECT 1 PARAMETERS
8: EFFECT 2 PARAMETERS

[VOICE] → [EFFECT EDIT] → [MENU] → 7:EF1 Parameter → [ENTER/YES]
                                 → 8:EF2 Parameter → [ENTER/YES]

Each of the SY85's 90 effects has 8 parameters that can be edited via the parameters in this screen to fine-tune the effect.



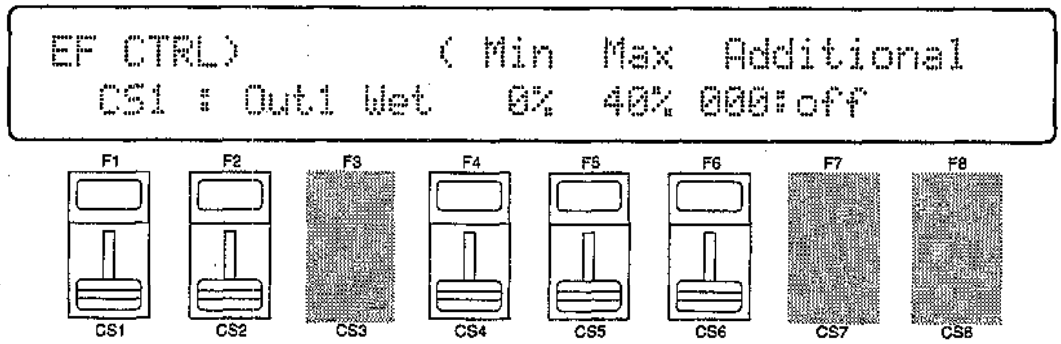
Each parameter is controlled by the corresponding slider (i.e. the slider immediately below each parameter). The [-1]/[+1] keys and data entry dial can also be used to edit the parameter at which the cursor is currently located.

Refer to page 274 for a complete listing of the parameters. provided for each effect.

9: CONTROL PARAMETERS

[VOICE] → [EFFECT EDIT] → [MENU] → 2:Key Param2 → [ENTER/YES]

The SY85 [CS1] and [CS2] sliders can be assigned to control different effect parameters in real time while playing in the voice or performance modes. The parameters provided in this screen determine which effect parameters are to be controlled by the [CS1] and [CS2] sliders, the-minimum and maximum parameter values, and assign MIDI control numbers to the same parameters for MIDI effect control.



CS1/CS2 (CS1/CS2 switch)

Range: CS1, CS2
Controls: [CS1], [-1] [+1], Dial

Selects [CS1] or [CS2] for assignment.

Parameter (Effect parameter)

Range: Depends on selected effects.
Controls: [CS2], [-1] [+1], Dial

Selects the effect parameter to be controlled by the currently selected slider. Since each effect has as many as 8 different parameters, the maximum number of settings available for this parameter will be 8: “Ef1prm1” through “Ef1prm8” on the display, for example, stands for “effect 1 parameter 1” through “effect 1 parameter 8”. The parameters available for each effect are different, but the name of the selected parameter will be shown between the parentheses on the top line of the display. Parameters that can not be assigned to the sliders are indicated by dashes (“--------”) instead of a parameter name.

Min (Minimum parameter value)

Range: 0 ... 100
Controls: [CS4], [-1] [+1], Dial

Sets the lower limit of the [CS1] or [CS2] control range. A setting of “0”, for example, means that when the slider is set to its lowest position the assigned parameter will also be set to its lowest value. A setting of “50” means that the lowest slider position will set the assigned parameter to about 50% of its range (a parameter with a range of 0 to 127, for example, would be set to about 63).

If a controller is assigned to the “Min” parameter, an inverse “c” will appear to the right of the parameter.

Max (Maximum parameter value)

Range: 0 ... 100
Controls: [CS5], [-1] [+1], Dial

Sets the upper limit of the [CS1] or [CS2] control range. A setting of "100", for example, means that when the slider is set to its highest position the assigned parameter will also be set to its highest value. A setting of "80" means that the highest slider position will set the assigned parameter to about 80% of its range (a parameter with a range of 0 to 127, for example, would be set to about 102).

If a controller is assigned to the "Max" parameter, an inverse "c" will appear to the right of the parameter.

Additional (Additional MIDI control)

Range: 000 ... 120, AfterTch, Velocity, KeyScale, LFO
Controls: [CS6], [-1] [+1], Dial

This parameter allows MIDI control change numbers to be assigned to the selected effect parameters, so that they can be controlled from the SY85 controllers (modulation wheel, foot controller, etc) or an external MIDI device that is capable of transmitting control change messages. Additional settings include "AfterTch" for keyboard aftertouch control, "Velocity" for keyboard velocity control, "KeyScale" for key scaling control, and "LFO" for internal LFO control. This is in addition to control via the [CS1] and [CS2] sliders. MIDI control change numbers 000 through 120 can be assigned. Some control change numbers are already defined, while others are not assigned to any specific controller (see chart below).

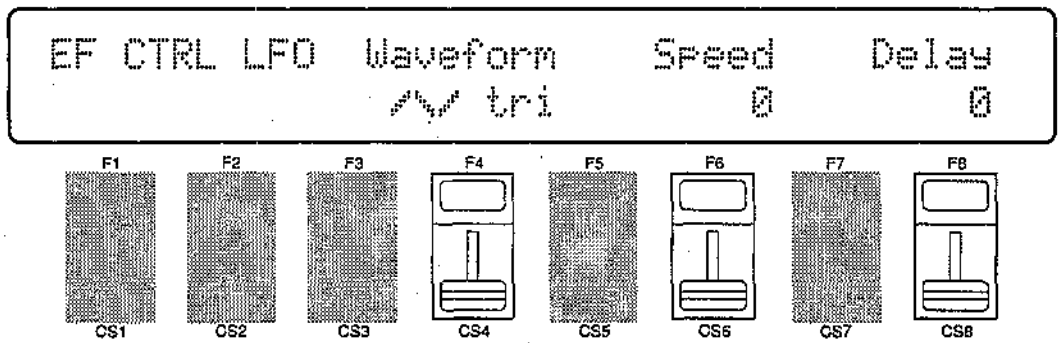
MIDI CONTROL CHANGE NUMBER/DEVICE

0:	"--------"	91:	"Effect D"
1:	"Mod.Whl."	92:	"TremoloD"
2:	"Breath C"	93:	"Chorus D"
4:	"Foot Cnt"	94:	"CelesteD"
5:	"Porta.Tm"	95:	"Phaser D"
6:	"Data Ent"	96:	"inc. "
7:	"Main Vol"	97:	"Dec. "
8:	"Balance "	98:	"NRPN LSB"
10:	"Panpot "	99:	"NRPN MSB"
11:	"Express."	100:	"RPN LSB"
64:	"Hold 1 "	101:	"RPN MSB"
65:	"Porta.Sw"	121:	"AfterTch"
66:	"Sostenut"	122:	"Velocity"
67:	"Soft "	123:	"KeyScale"
69:	"Hold 2 "	124:	"LFO "

10: CONTROL LFO

[VOICE] → [EFFECT EDIT] → [MENU] → 10:Control LFO → [ENTER/YES]

All of the modulation-type effects — chorus, flanging, etc. — require LFO control. The SY85 has an independent effect LFO that is set up by the following parameters.



Wave (LFO waveform)

Range: tri, dwn, up, squ, sin, S/H, 1tm
Controls: [CS4], [-1] [+1], Dial

Determines the waveform of the effect LFO.

"tri" = Triangle.	"dwn" = Downward sawtooth.
"up" = Upward sawtooth.	"squ" = Square.
"sin" = Sine.	"S/H" = Sample and hold.
	"1tm" = Upward 1-shot.

If a controller is assigned to the "Wave" parameter (page 136), an inverse "c" will appear to the right of the parameter.

Speed (LFO speed)

Range: 0 ... 99
Controls: [CS6], [-1] [+1], Dial

Sets the speed of the effect LFO.

"0" is the slowest speed setting, producing an LFO speed of approximately 0 Hertz. The fastest setting of 99 produces an LFO speed of approximately 25 Hertz.

If a controller is assigned to the "Speed" parameter (page 136), an inverse "c" will appear to the right of the parameter.

Delay

Range: 0 ... 99
Controls: [CS8], [-1] [+1], Dial

Sets the delay time between the beginning of a note and the beginning of effect LFO operation for the selected element.

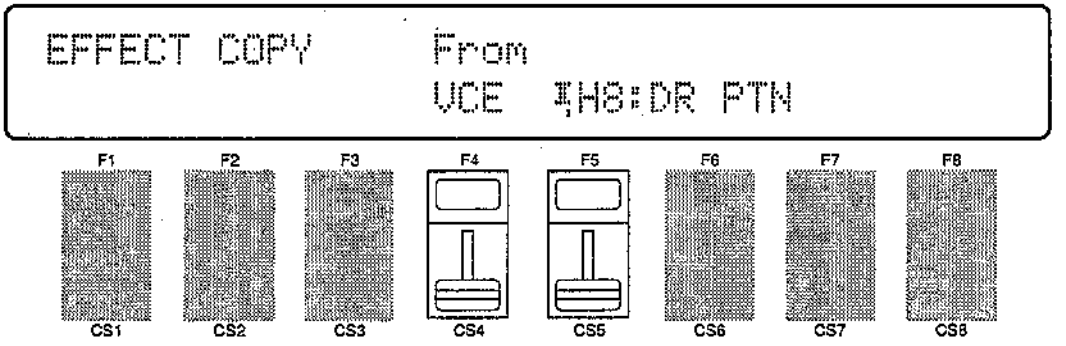
The minimum setting "0" results in no delay, while the maximum setting of "99" produces a delay of approximately 2.66 seconds before the effect LFO begins operation.

If a controller is, assigned to the "Delay" parameter (page 136), an inverse "c" will appear to the right of the parameter.

EFFECT DATA COPY

[VOICE] → [EFFECT EDIT] → [COPY]

This function facilitates drum voice effect editing by allowing the effect parameters from any other song, voice, or performance combination to be copied to the current drum voice. You can copy an effect setup that is close to the type you want, then edit it to produce the required sound.

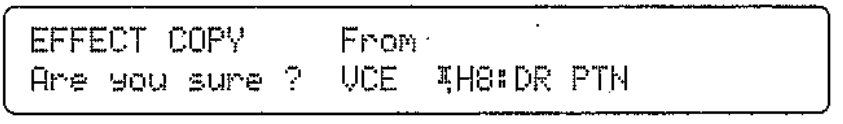


From

Range: Any song, voice or performance combination
Controls: MEMORY, GROUP, PROGRAM, [CS4], [CS5], [-1] [+1], Dial

Use the [CS4] slider to select the mode containing the desired voice and effect data ("PFM" = PERFORMANCE, "VCE" = VOICE, and "MLT" = MULTI). Use the [INTERNAL 1], [INTERNAL 2], and [CARD] MEMORY keys to select the memory area from which the source voice is to be selected. Use the GROUP keys to select the source voice bank, then use the PROGRAM keys to select the source voice number. The [CS5] slider and other data entry controls can also be used to select the source voice number.

Once the source voice has been selected, press the [ENTER/YES] key. "Are you sure?" will appear on the display.



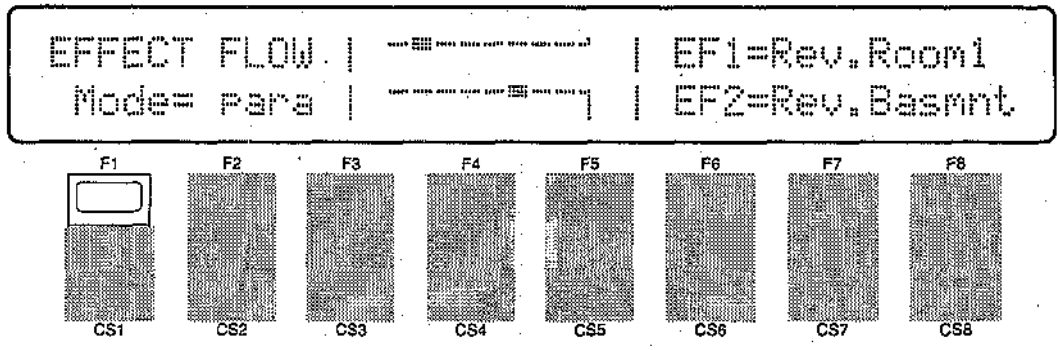
Press the [ENTER/YES] key again to copy the effect data, or press [EXIT/NO] to cancel the copy operation. Once the copy operation has finished, "Completed!" will appear on the display briefly, then the display will return to the effect edit mode.

EFFECT SIGNAL FLOW DISPLAY

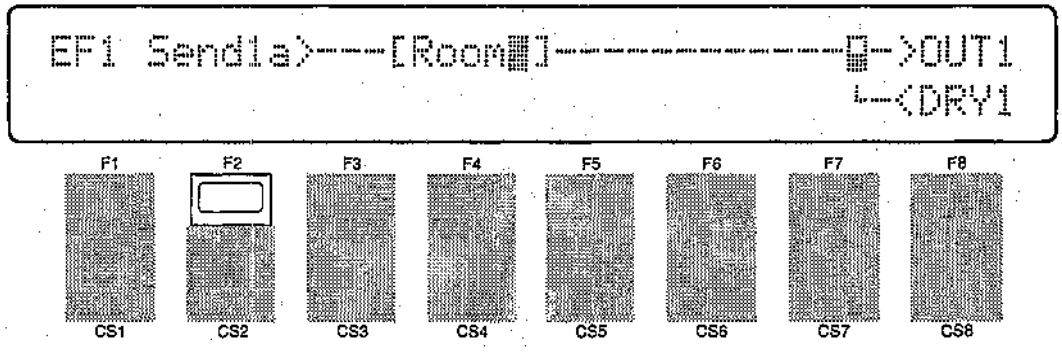
[VOICE] → [EFFECT EDIT] → [SHIFT] + [F1] ~ [F3]

This function provides a graphic indication of the current effect system configuration while in the effect edit mode.

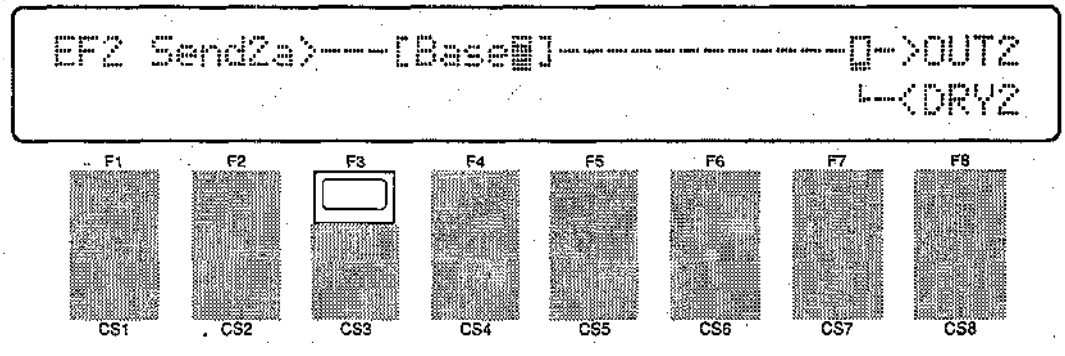
- **Overall Effect Flow**



- **Effect 1 Configuration**



- **Effect 2 Configuration**



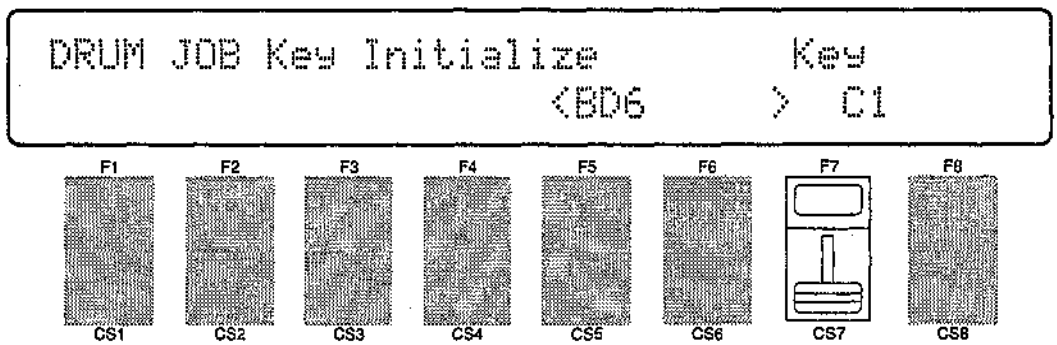
Press [SHIFT] + [F1] to see the overall effect system signal flow. Press [SHIFT] + [F2] to see the effect 1 section configuration, and [SHIFT] + [F3] for the effect 2 section configuration.

Refer the to section beginning on page 254 for details on the effect system.

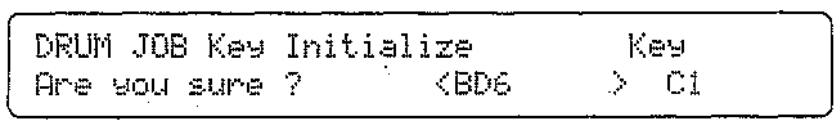
1: KEY DATA INITIALIZE

[VOICE] → [JOB] → [MENU] → 1:Key Data Initialize → [ENTER/YES]

When you want to program a single drum key "from scratch," rather than editing an existing key, use this function to initialize all data for the specified drum key.



Use the [CS7] slider or the keyboard to enter the drum key you want to initialize (C1 ... C5), then press [ENTER/YES] to begin the initialize procedure. The following confirmation display will appear:



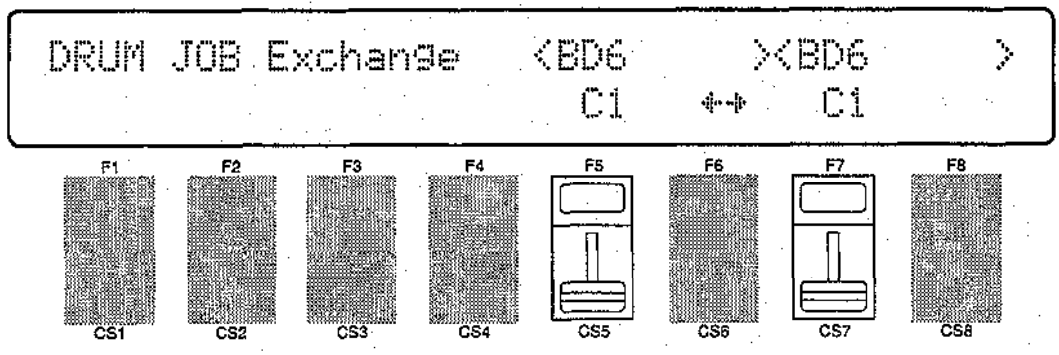
Press [ENTER/YES] again to confirm that you want to go ahead with the initialize operation (which will erase all current edited data), or press [EXIT/NO] to cancel.

When the drum key data has been initialized, "Completed!" will appear briefly on the display, then the display will return to the mode that was engaged prior to calling the key data initialize function.

2: KEY DATA EXCHANGE

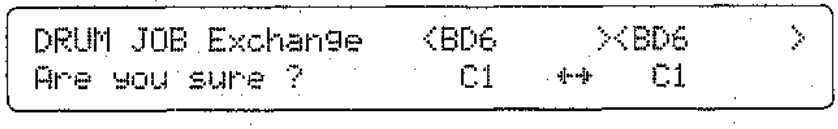
[VOICE] → [JOB] → [MENU] → 2:Key Data Exchange → [ENTER/YES]

This function makes it simple to re-arrange you drum key layout by directly exchanging the data between any two specifed drum keys.



Use the [CS5] and [CS7] sliders to select the drum keys to be exchanged (C1 ... C5), or use the keyboard to enter the keys after pressing the [F5] or [F7] function key to move the cursor to the appropriate parameter.

Press [ENTER/YES] to begin the layer exchange procedure. The following confirmation display will appear:



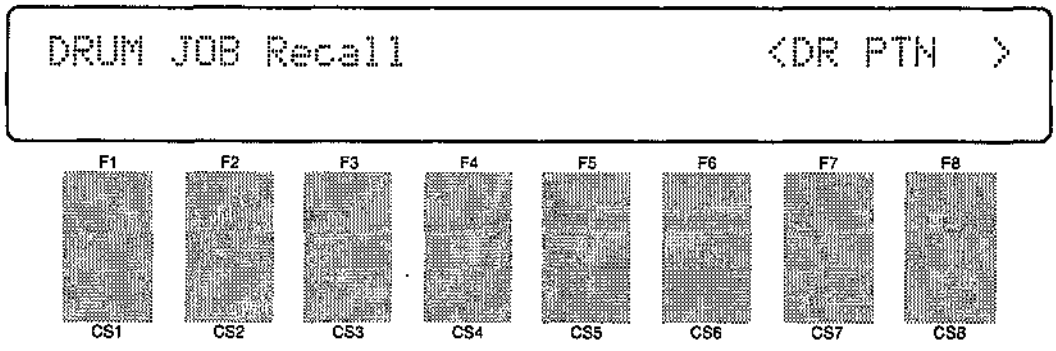
Press [ENTER/YES] again to confirm that you want to go ahead with the key data exchange operation, or press [EXIT/NO] to cancel.

When the data has been exchanged, “Completed!” will appear briefly on the display, then the display will return to the mode that was engaged prior to calling the key data exchange function.

3: DRUM VOICE EDIT RECALL

[VOICE] → [JOB] → [MENU] → 3:Recall → [ENTER/YES]

If you're dissatisfied with the results of edits you've made to a drum voice, or have accidentally lost track of changes made, use the DRUM VOICE EDIT RECALL function to recall the pre-edit drum voice data from the SY85's backup buffer memory.



Press [ENTER/YES] to begin the recall procedure. The following confirmation display will appear:

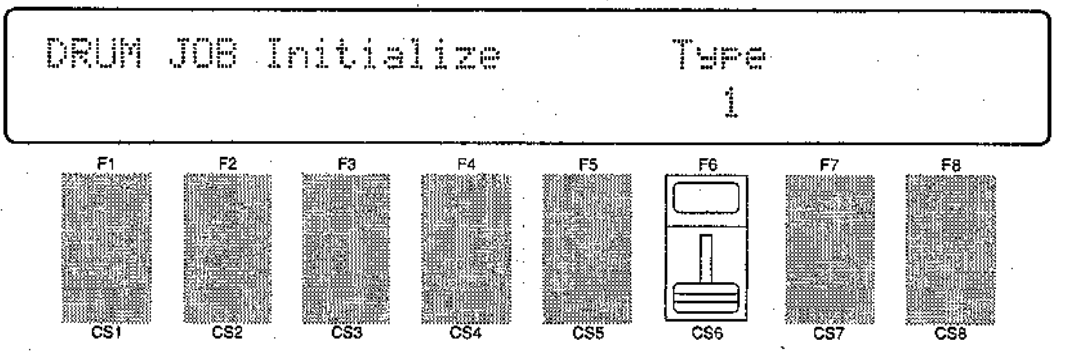
Press [ENTER/YES] again to confirm that you want to go ahead with the recall operation (which will erase all current edited data), or press [EXIT/NO] to cancel.

When the original drum voice data has been recalled, "Completed!" will appear briefly on the display, then the display will return to the mode that was engaged prior to calling the performance drum voice edit recall function.

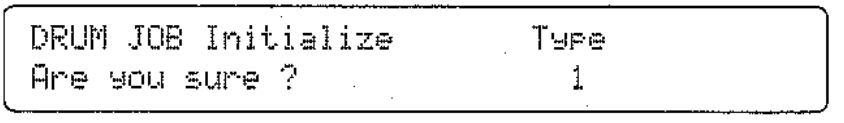
4: DRUM VOICE INITIALIZE

[VOICE] → [JOB] → [MENU] → 2:Initialize → [ENTER/YES]

When you want to program a totally new drum voice "from scratch," rather than editing an existing voice, use this function to initialize all drum voice parameters.



Use [CS6] to select the type of drum voice to be initialized. Press [ENTER/YES] to begin the initialize procedure. The following confirmation display will appear:



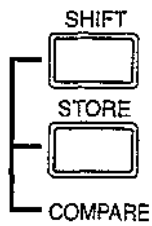
Press [ENTER/YES] again to confirm that you want to go ahead with the initialize operation (which will erase all current edited data), or press [EXIT/NO] to cancel.

When the drum voice data has been initialized, "Completed!" will appear briefly on the display, then the display will return to the mode that was engaged prior to calling the drum voice initialize function.

DRUM VOICE COMPARE

[SHIFT] + [STORE]

The drum voice compare function makes it possible to compare the sound of a drum voice being edited with the same drum voice prior to editing.

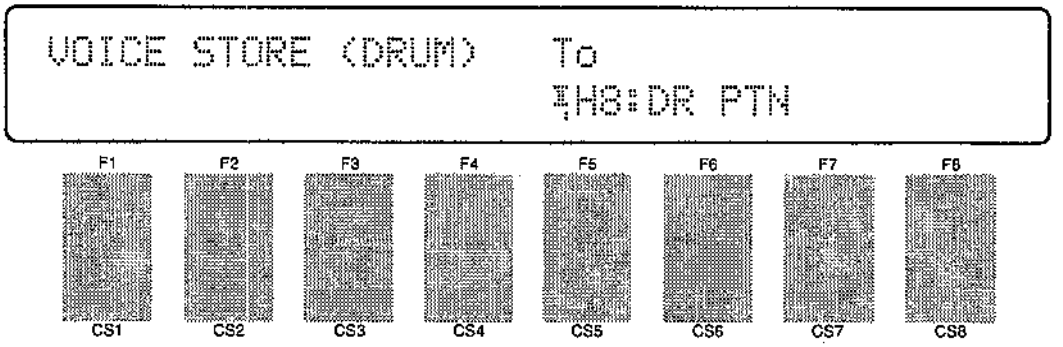


To temporarily recall the original drum voice data while editing, press the [STORE] key while holding the [SHIFT] key. The [VOICE] LED will flash, indicating that the compare mode is engaged. Although you can select different edit mode display screens, data cannot be edited in the compare mode. Press [EXIT/NO] to return to the edit mode and the drum voice being edited.

DRUM VOICE STORE

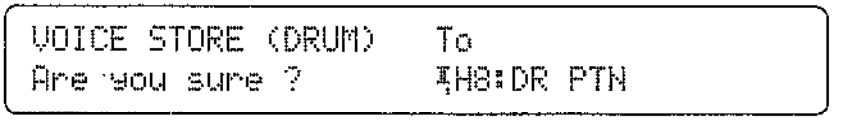
[STORE]

When you're satisfied with a new drum voice you've created in the drum voice edit mode, use the store function described below to store the new voice to an internal or card memory location.



When you've finished editing, return to the normal play mode (press the [VOICE] key), and before selecting a different voice press the [STORE] key. You can now use the MEMORY, GROUP, and NUMBER keys to select the memory location to which your new drum voice is to be stored.

Once the store location has been specified, press [ENTER/YES] to begin the store procedure. The following confirmation display will appear:



Press [ENTER/YES] again to confirm that you want to go ahead with the store operation (which will erase all previous data in the specified memory location), or press [EXIT/NO] to cancel.

When the voice data has been stored, "Completed!" will appear briefly on the display, then the display will return to the mode that was engaged prior to calling the store function.

SONG EDIT MODE

Multi Edit
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Effect Edit
- 1: Mode, Type 166
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- 6: Send & Effect 2 Mix Level 172
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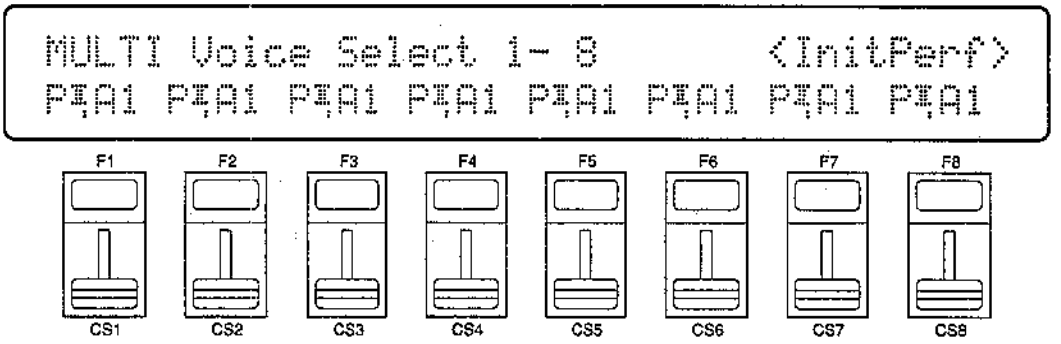
1: VOICE SELECT

[SONG] → [MULTI EDIT] → [MENU] → 1:Voice Select → [ENTER/YES]

Each SY85 "song" has an independent "multi setup" that can have up to 16 voices assigned to "instruments" 1 through 16. Each instrument is controlled via the correspondingly numbered MIDI channel. This screen lets you select the voices that are to be played via the various multi-setup channels.



Voice Select 1... 16

Range: off, Any voice or performance combination.
Controls: [SHIFT] + [◄]/[►], MEMORY, GROUP, PROGRAM, [CS1] ... [CS8], [-1] [+1], Dial

Only eight voice numbers are shown on the display at one time. Use the PAGE [◄] and [►] keys while holding the [SHIFT] key to switch between multi instruments "1 ... 8" and "9 ... 16". The currenty selected group of voices is indicated on the upper display line.

After moving the cursor to the instrument you want to edit by pressing the appropriate function key, use the same function key to toggle between PERFORMANCE or VOICE memory ("P" or "V" at the beginning of the voice number). Then use the [INTERNAL 1], [INTERNAL 2], and [CARD] keys to select the memory area from which the voice is to be selected, and finally the GROUP and PROGRAM keys to select the voice. Voices within the selected memory bank can also be selected directy for each channel by the appropriate CS sliders, the data entry dial, and the [-] and [+] keys.

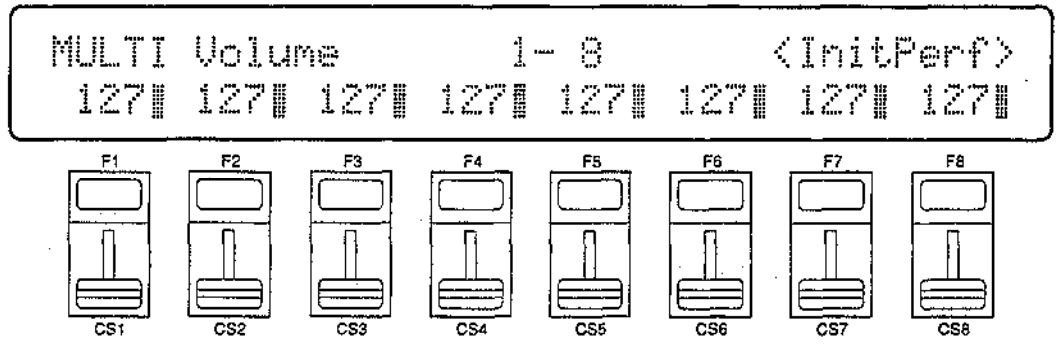
The voices can individually turned on or off by using the [-] (off) and [+] (on) keys while holding the [SHIFT] key.

The name of the currently selected voice is shown in the upper right corner of the display.

2: VOLUME

[SONG] → [MULTI EDIT] → [MENU] → 2:Volume → [ENTER/YES]

For optimum balance between the instruments in a multi setup, this screen allows the volume of each voice to be adjusted individually.



Volume

Range: 0 ... 127
Controls: [SHIFT] + [◄]/[►], [CS1] ... [CS8], [-1] [+1], Dial

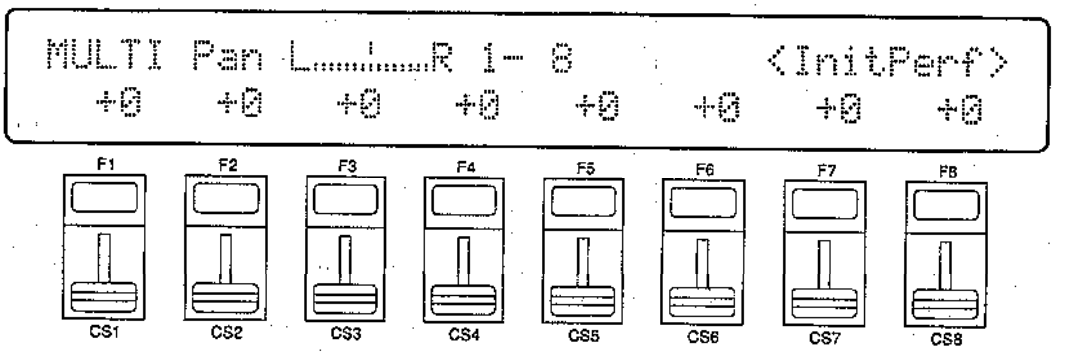
Only eight voice numbers are shown on the display at one time. Use the PAGE [◄] and [►] keys while holding the [SHIFT] key to switch between multi instruments “1 ... 8” and “9 ... 16”. The currenty selected group of voices is indicated on the upper display line.

Use the [CS1] through [CS8] sliders to adjust the volume levels of voices 1 through 8 or 9 through 16, respectively. The name of the currently selected voice is shown in the upper right corner of the display. Voices that are turned off are indicated by “---” on the display. A setting of “0” produces no sound, while a setting of “127” produces maximum volume. The vertical bar graphs next to each parameter provide a visual indication of volume levels — the longer the bar the higher the volume.

3: PAN

[SONG] → [MULTI EDIT] → [MENU] → 3:Pan → [ENTER/YES]

In a multi setup, interesting stereo effects can be produced by placing the output from different voices at different locations in the stereo sound field. The parameters in this screen determine the position in the stereo sound field in which the sound from each active voice will be heard (left to right).



Pan

Range: -31 ... +31, vce
Controls: [SHIFT] + [◄]/[►], [CS1] ... [CS8], [-1] [+1], Dial

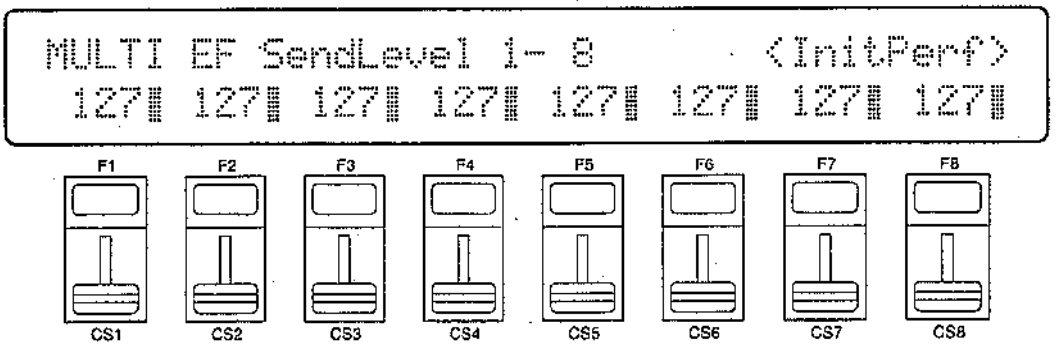
Only eight voice numbers are shown on the display at one time. Use the PAGE [◄] and [►] keys while holding the [SHIFT] key to switch between multi instruments “1 ... 8” and “9 ... 16”. The currenty selected group of voices is indicated on the upper display line.

Use the [CS1] through [CS8] sliders to adjust the pan positions of voices 1 through 8 or 9 through 16, respectively. The name of the currently selected voice is shown in the upper right corner of the display. Voices that are turned off are indicated by “---” on the display. Minus values represent panning to the left, and positive values represent panning to the right. “0” positions the sound of the selected layer in the center of the stereo sound field. The next setting above “+31” is “vce.” When “vce” is selected the preset pan position for the selected voice or performance combination is used. The upper line of the display also shows a graphic representation of the stereo sound field with “L” representing ‘“left” and “R” representing “right.” As you change the pan value the vertical bar will appear at the corresponding position on the graphic display.

4: EFFECT SEND LEVEL

[SONG] → [MULTI EDIT] → [MENU] → 4:Effect Send Level → [ENTER/YES]

The ability to individually adjust the effect send level for each voice in a multi setup allows the optimum amount of effect to be applied to each voice.



SendLevel

Range: 0 ... 127
Controls: [SHIFT] + [◄]/[►], [CS1] ... [CS8], [-1] [+1], Dial

Only eight voice numbers are shown on the display at one time. Use the PAGE [◄] and [►] keys while holding the [SHIFT] key to switch between multi instruments "1 ... 8" and "9 ... 16". The currenty selected group of voices is indicated on the upper display line.

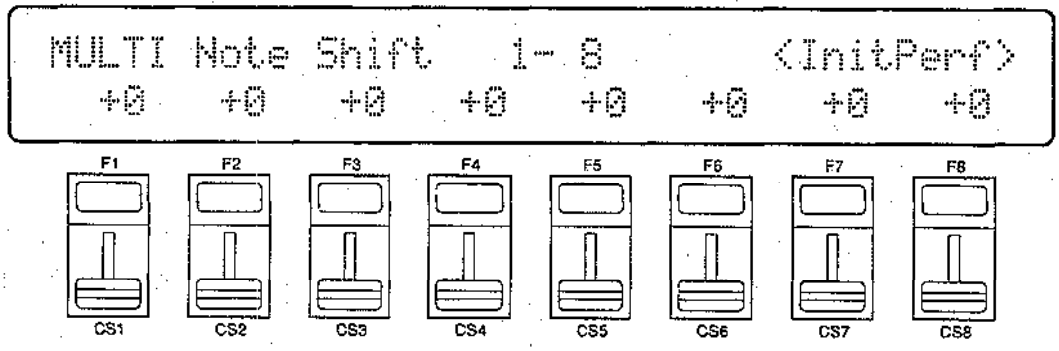
Use the [CS1] through [CS8] sliders to adjust the effect send levels of voices 1 through 8 or 9 through 16, respectively. The name of the currently selected voice is shown in the upper right corner of the display. Voices that are turned off are indicated by "---" on the display. A setting of "0" produces no effect, while a setting of "127" produces maximum send level and therefore maximum effect sound. The vertical bar graphs next to each parameter provide a visual indication of send levels — the longer the bar the higher the send level.

Please note that if the "Source" parameter in the "2: SEND SELECT & LEVEL" screen (page 167) is set to "VCE" or "PFM" for any instrument, the send level of that instrument cannot be changed. In this case "(vce)" will appear on the display in place of the send level value.

5: NOTE SHIFT

[SONG] → [MULTI EDIT] → [MENU] → 5:Note Shift → [ENTER/YES]

Individually shifts the pitch of each active voice up or down in semitone steps.



Note Shift

Range: -63 ... +63
Controls: [SHIFT] + [◄]/[►], [CS1] ... [CS8], [-1] [+1], Dial

Only eight voice numbers are shown on the display at one time. Use the PAGE [◄] and [►] keys while holding the [SHIFT] key to 'switch between multi instruments "1 ... 8" and "9 ... 16". The currenty selected group of voices is indicated on the upper display line.

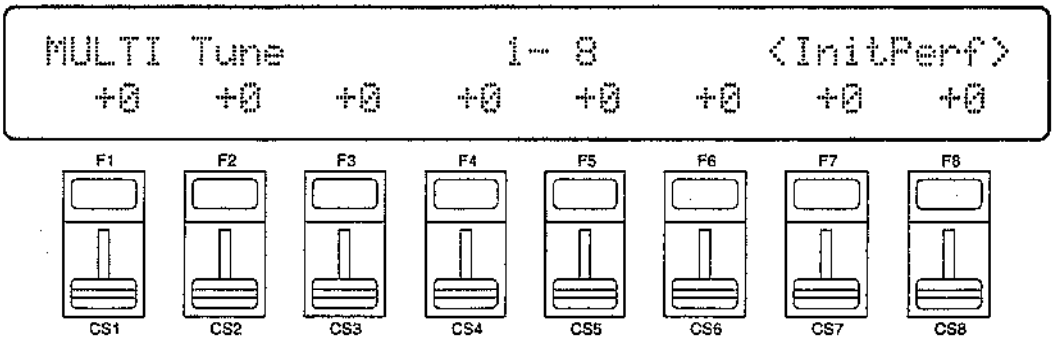
Use the [CS1] through [CS8] sliders to shift the pitch of voices 1 through 8 or 9 through 16, respectively. The name of the currently selected voice is shown in the upper right corner of the display. Voices that are turned off are indicated by "---" on the display. A setting of "-12," for example, shifts the pitch of the selected layer down by one octave; a setting of "+4" shifts the pitch up by a major third. Please note that note shift cannot be applied to drum/percussion voices (the Note Shift value is fixed at "+0").

The Note Shift parameter can be used to transpose a voice to its most useful range, or to create harmony (intervals) between different voices in a multi setup.

6: TUNE

[SONG] → [MULTI EDIT] → [MENU] → 6:Tune → [ENTER/YES]

Allows slight upward or downward pitch adjustment of each active voice. More than just simple tuning, the tune parameters make it possible to create sound-thickening detune effects between voices.



Tune (Fine tuning)

Range: -63 ... +63
Controls: [SHIFTS] + [◄]/[►], [CS1] ... [CS8], [-1] [+1], Dial

Only eight voice numbers are shown on the display at one time. Use the PAGE [◄] and [►] keys while holding the [SHIFT] key to switch between multi instruments “1 ... 8” and “9 ... 16”. The currenty selected group of voices is indicated on the upper display line.

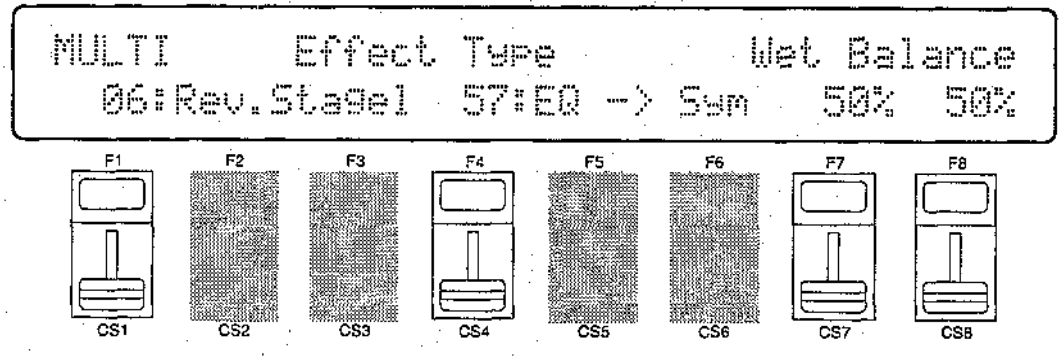
Use the [CS1] through [CS8] sliders to fine tune voices 1 through 8 or 9 through 16, respectively. The name of the currently selected voice is shown in the upper right corner of the display. Voices that are turned off are indicated by “---” on the display. Each increment corresponds to approximately 1.17 cents (a “cent” is 1/100th of a semitone). The maximum minus setting of “-63” produces a downward pitch shift of almost three-quarters of a semitone, and the maximum plus setting of “+63” produces an upward pitch shift of the same amount. A setting of “0” produces no pitch change. Please note that tuning cannot be applied to drum/percussion voices (the Tune value is fixed at “+0”).

7: EFFECT TYPE, OUT BALANCE

[SONG] → [MULTI EDIT] → [MENU] → 7:Effect Type → [ENTER/YES]

The SY85 features a complex, high-performance effect system that can be programmed easily via. the parameters presented here and in the following screen.

For a complete list of effect parameters see page 274.



Effect Type 1/2

Range: 0 ... 90
Controls: [CS1]/[CS4], [-1] [+1], Dial

[CS1] selects any of the SY85's 90 effect types for the EFFECT 1 processor, and [CS4,] does the same for the EFFECT 2 processor. See page 254 for more details on the SY85 effect system.

Wet Balance 1/2

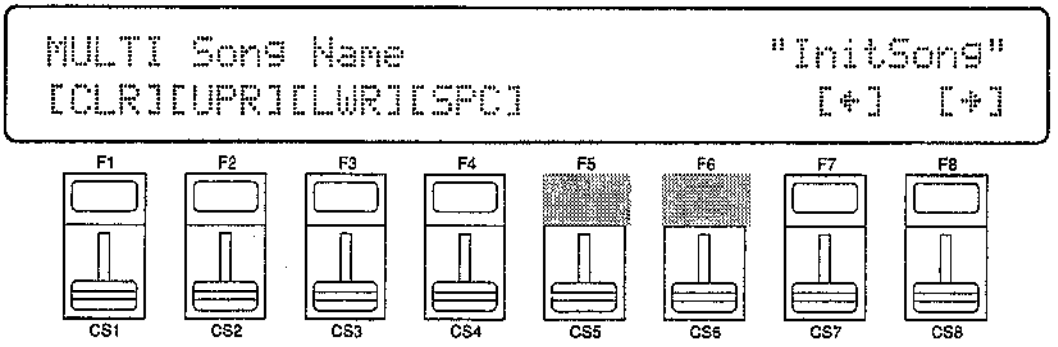
Range: 0 ... 100
Controls: [CS7]/[CS8], [-1] [+1], Dial

[CS7] controls the balance between the direct no-effect sound and the effect sound of the EFFECT 1 processor, while [CS8] does the same for the EFFECT 2 processor. The higher the value the deeper the effect. See page 254 for more details on the SY85 effect system.

8: SONG NAME

[SONG] → [MULTI EDIT] → [MENU] → 8:Name → [ENTER/YES]

Your original songs should naturally have original names. This function can be used to assign a name of up to 8 characters to the current song.



Name

Range: See character list, below
Controls: GROUP, PROGRAM, [F1] ... [F4], [F7], [F8], [CS1] ... [CS8], [-1] [+1], Dial

Assigns a name of up to 8 characters to the current performance.

Use the [F7] function key to move the character cursor to the left, and the [F8] function key to move the cursor to the right. Use the GROUP and PROGRAM keys to input a character at the cursor position. Each GROUP or PROGRAM key selects the three characters printed above it in sequence. It is also possible to use the [-1] and [+1] keys or dial to scroll through the available characters (see list below).

The sliders, [CS1] through [CS8], independently select characters for the corresponding character position: [CS1] selects the first character, [CS2] selects the second character, and so on.

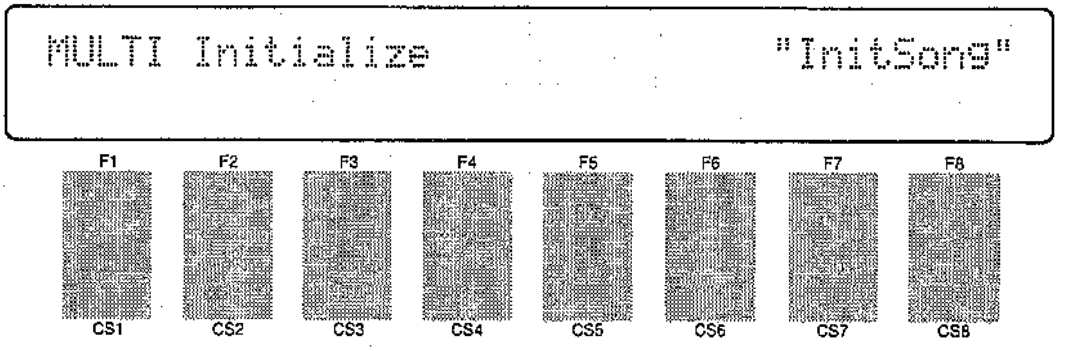
The first four function keys also perform important functions: [F1] clears the entire name, [F2] selects upper-case characters for GROUP and PROGRAM key entry, [F3] selects lower-case characters for GROUP and PROGRAM key entry, and [F4] inserts a space at the cursor position.

GROUP key	PROGRAM key
[A]: A → B → C	[1]: Y → Z → 0
[B]: D → E → F	[2]: 1 → 2 → 3
[C]: G → H → I	[3]: 4 → 5 → 6
[D]: J → K → L	[4]: 7 → 8 → 9
[E]: M → N → O	[5]: * → & → _
[F]: P → Q → R	[6]: / → . → ,
[G]: S → T → U	[7]: ' → ! → ?
[H]: V → W → X	[8]: # → : → ;

9: SONG INITIALIZE

[SONG] → [MULTI EDIT] → [MENU] → 9:Initialize → [ENTER/YES]

When you want to program a totally new multi setup "from scratch," rather than editing an existing setup, use this function to initialize all multi parameters.



Press [ENTER/YES] to begin the initialize procedure. The following confirmation display will appear:

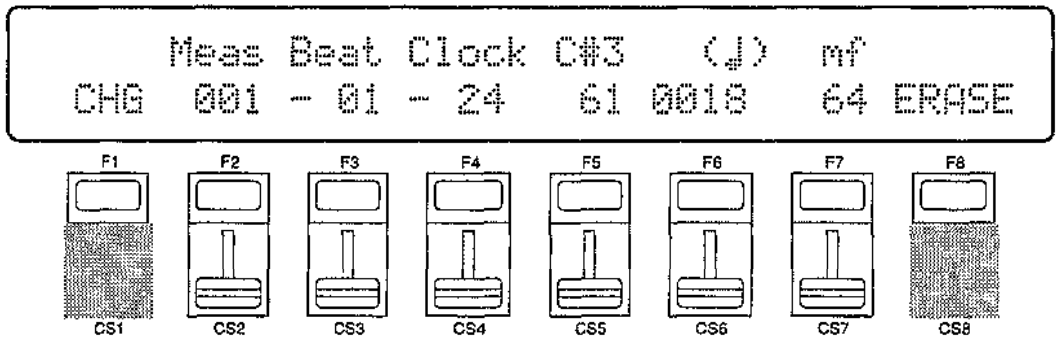
Press [ENTER/YES] again to confirm that you want to go ahead with the initialize operation (which will erase all current edited data), or press [EXIT/NO] to cancel.

When the multi data has been initialized, "Completed!" will appear briefly on the display, then the display will return to the mode that was engaged prior to calling the multi initialize function.

TRACK EDIT

[SONG] → [TRACK EDIT] → [A]~[H]

The track edit mode is used to edit material already recorded on the sequencer tracks. Individual notes and other events can be deleted, changed, or inserted as required, providing precise musical control.



The track edit mode has two sub-modes — change and insert — which will be described below. Use the [F1] key to toggle between the change ("CHG" on the display) and insert ("INS" on the display) modes. The change mode is always selected when the track edit mode is initially engaged.

■ THE CHANGE MODE (Tracks, 1 ... 8)

Change edit (“CHG”) allows note, control change, program change, pitch bend, and aftertouch data to be changed or erased as required.

Use the GROUP [A] through [H] keys to select the track you want to edit (A = track1, B = track 2, etc.). The LED of the selected track will glow red while the LEDs of all other tracks containing data glow green.

Use the data entry dial to step through the events on the selected track. The displays and parameters corresponding to the various event types are described below. When the event to be changed is located, use the appropriate slider to change it as required (or move the cursor to the desired parameter by pressing the corresponding function key and then use the [-] and [+] keys). The selected event can be erased by pressing the [F8] key (“Top of Track”, “Measure Bar”, and “End of Track” can not be deleted). After changing a value the [ENTER/YES] key must be pressed to actually enter the new value.

When done, press the [EXIT/NO] key to return to the song mode menu.

● Top of the Track, Measure Dividers, & End of Track

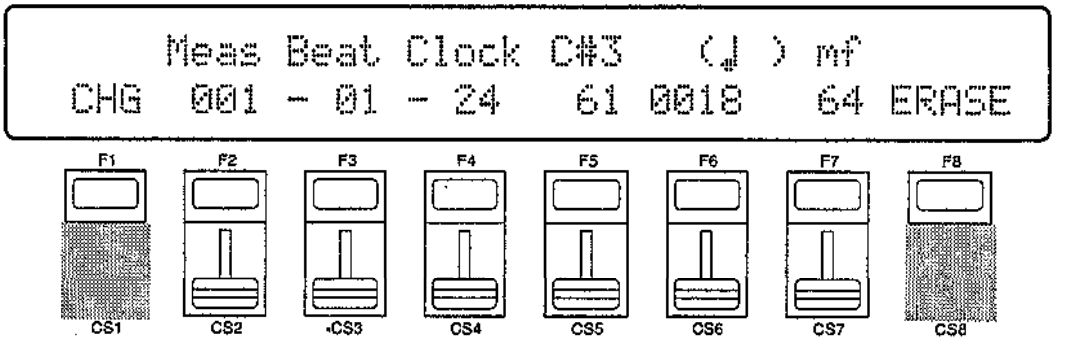
```
     Meas Beat Clock == Top of Track ==
CHG   001 - 01 - 24
```

```
     Meas Beat Clock == Measure Bar ==
CHG   001 - 01 - 24
```

```
     Meas Beat Clock == End of Track ==
CHG   001 - 01 - 24
```

These displays indicated the beginning of the track, measure lines, and the end of the track, respectively. Since they are not actually musical events, they can not be edited.

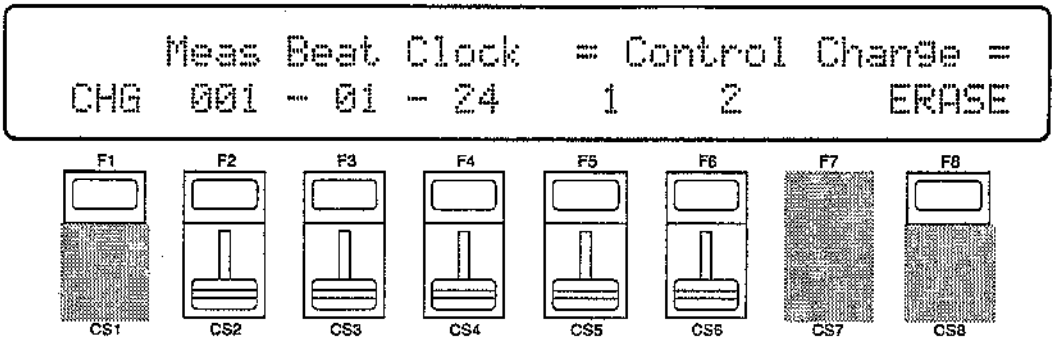
- **Notes**



Note events appear with three parameters:

- The note itself, edited by [CS5]. Range: 0 (C-2) ... 111 (D#7). The note name appears on the upper display line while the corresponding MIDI note number appears on then lower line. In addition to using [CS5] or the [-1] and [+1] keys, note events can be change by pressing the desired key on the keyboard while holding the [SHIFT] key.
- The gate time of the note, edited by [CS6]. Range: 0000 (j) ... 8190 (j). The note length is shown graphically on the upper display line while the corresponding length in clocks is shown on the lower line.
- The velocity of the note, edited by [CS7]. Range: 1 (ppp) ... 127 (fff). The velocity is displayed in approximate musical dynamic markings on the upper display line, while the corresponding MIDI velocity value is shown on the lower line.

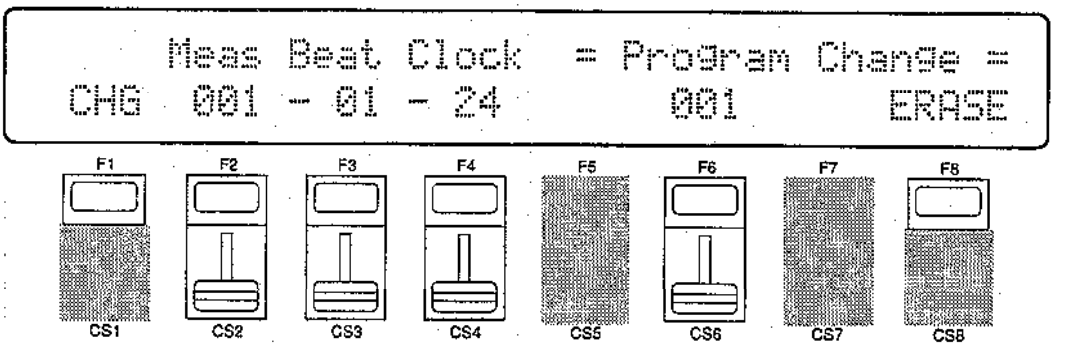
- **Control Change**



Control change events appear with 2 parameters:

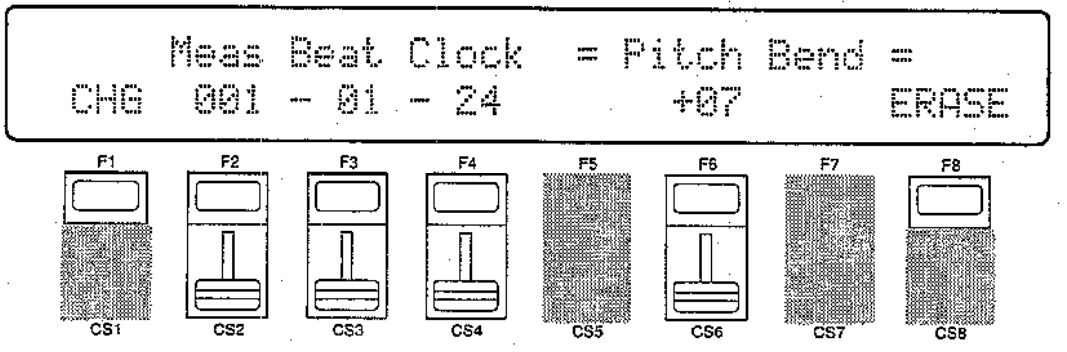
- The control number, edited by [CS5]. Range: 0 ... 120. This specifies what controller was used (modulation wheel, foot controller, etc.).
- The control value, edited by [CS6]. Range: 0 ... 127. This specifies the actual controller setting, and therefore how the sound is modified.

- **Program Change**



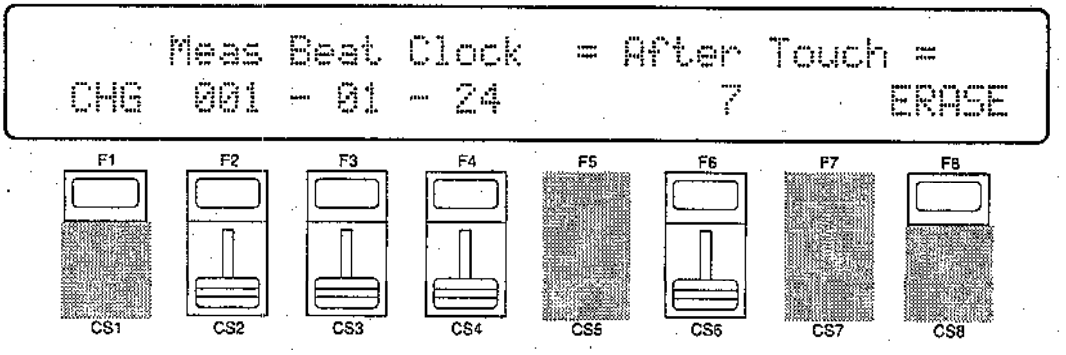
Program change events have a single parameter: the program change number itself, edited via [CS6]. Range: 000 ... 127. Program change numbers normally specify a voice change.

- **Pitch Bend**



Pitch change events appear with a single parameter: the new pitch bend value, edited via [CS6]. Range: -64 ... +63.

- **Aftertouch**



Aftertouch events appear with a single parameter: the new aftertouch value, edited via [CS6]. Range: 0 ... 127. The effect of aftertouch events depends on how aftertouch control is assigned in the voice edit mode.

● The Meas, Beat, and Clock Parameters

These three parameters are common to all the displays described above. In addition to indicating the location of the current event, they can be edited to move the event as required:

- The “Meas” parameter, edited via [CS2], indicates the number of the current measure. Range: 001 ... 999. The length of each measure depends on the time signature of the song.
- The “Beat” parameter, edited via [CS3], indicates the current beat within the current measure. The value of each beat and the number of beats in each measure depend on the selected time signature. If the time signature is 4/4, for example, each beat will equal one quarter-note, and there will be four beats per measure. If the time signature is 6/8, however, each beat will equal an eighth-note, and there will be six beats per measure.
- The “Clock” parameter, edited via [CS4], indicates the current clock within the current beat within the current measure. There are 48 clocks per quarter note, 24 per eighth note, 12 per sixteenth note, and so on.

If the “Top of Track”, “Measure Bar”, or “End of Track” display is showing, changing these parameters and pressing the [ENTER/YES] key takes you directly to the specified location.

■ THE INSERT MODE (Tracks 1 ... 8)

Insert edit (INS) allows note, control change, program change, pitch bend, and aftertouch events to be inserted at any point in the sequencer tracks.

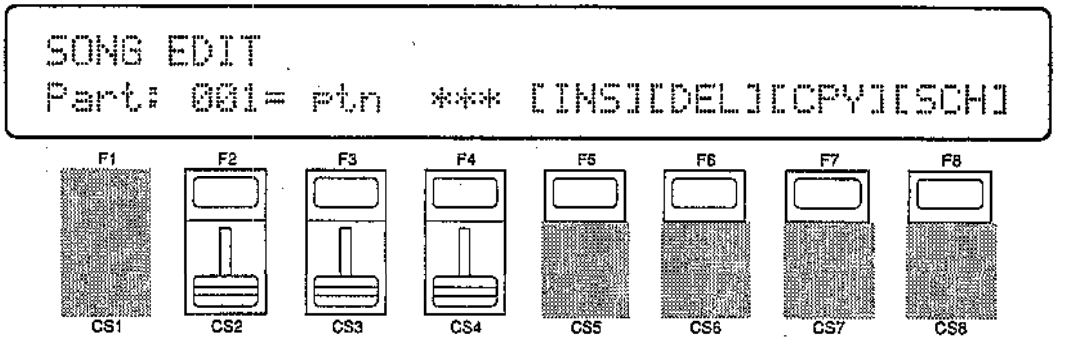
Normally, the insert mode is entered by pressing the [F1] key after locating the desired insert point in the change mode. The type of event to be inserted can then be selected by pressing the [F8] key until the desired event appears on the display (“NOTE” = note; “CTRL” = control change; “PGM” = program change; “PB” = pitch bend; “AT” = aftertouch). The various event types have the same parameters and ranges as in the change mode (see above). Set the parameters for the selected event as required, then press the [ENTER/YES] key to insert the event.

The insert location can be changed while in the insert mode by using the data entry dial. The [F3] key determines whether the dial changes the measure (“MEAS”), beat (“BEAT”), or clock (“CLOCK”) value.

Press the [F1] key to return to the change mode, or the [EXIT/NO] key to return to the song play mode.

■ RHYTHM TRACK EDIT

When the track edit mode is engaged while the rhythm track (track 9) is selected, or when the rhythm track is selected while the track edit mode is engaged, the following display will appear:



This initial display allows any existing rhythm part to be selected via [CS2] (001 ... 999), the event located at that part to be changed via [CS3], and the parameter asociated with the event to be changed via [CS4]. The various event types and their parameters are as follows:

- **ptn (Pattern number)**

  Use [CS4] to select a different pattern number as required (P00 ... P99 or I00 ... I99).

- **||: (Begin repeat)**

  This symbol indicates the beginning of a range of rhythm parts to be repeated. The begin repeat event has no other parameter.

- **:|| (End repeat)**

  A "||:" must always be followed at some point by a **":||"** symbol signifying the end of the range of parts to be repeated. Use [CS4] to set the number of times the specified section is to be repeated (x00 ... x99).

- **vol (Volume change)**

  This event produces a volume change at the selected part. The [CS4] slider sets the new volume level (0 ... 127).

- **tmp (Tempo change)**

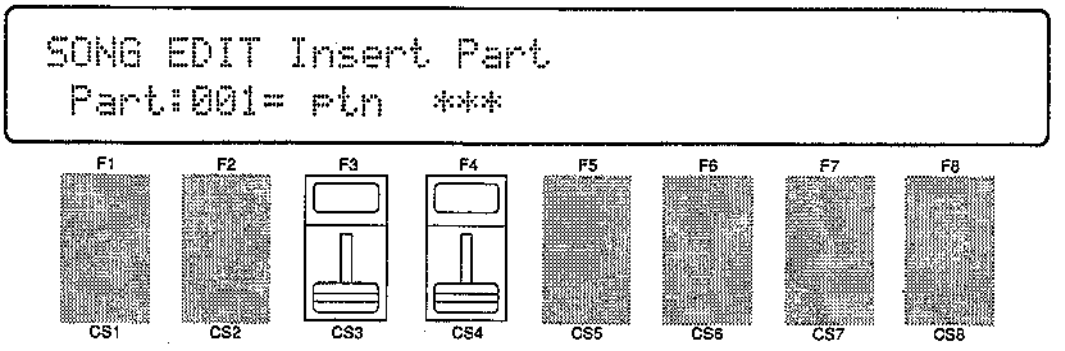
This event indicates a tempo change to occur over a specified number of beats. The numbers above the [CS4] slider define the tempo change: the number to the left of the slash (-99 ... 0 ... +99, or atmp for "a tempo") sets the number of beats per minute by which the tempo will decrease or increase, and the number to the right of the slash (0 ... 99) sets the number of beats from the "tmp" mark over which the change will occur. A setting of "+20/8", for example, would increase the tempo by 20 beats per minute over 8 beats (2 measures of 4/4 time). The [F4] function key is used to toggle the cursor between the left and right numbers, and [CS4] is used to change the selected number.

- **mark (Search mark)**

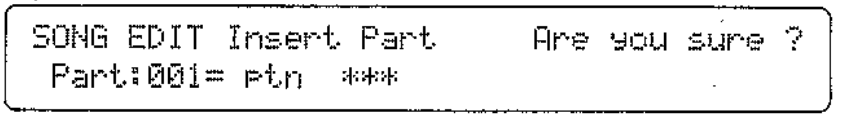
This sets one of 16 markers to be used by the rhythm track search function described on page 165. [CS4] is used to specify the marker (A ... P).

The [F5] through [F8] function keys are used to access the rhythm track edit functions described below:

• [F5]: "INS" = Rhythm Track Insert



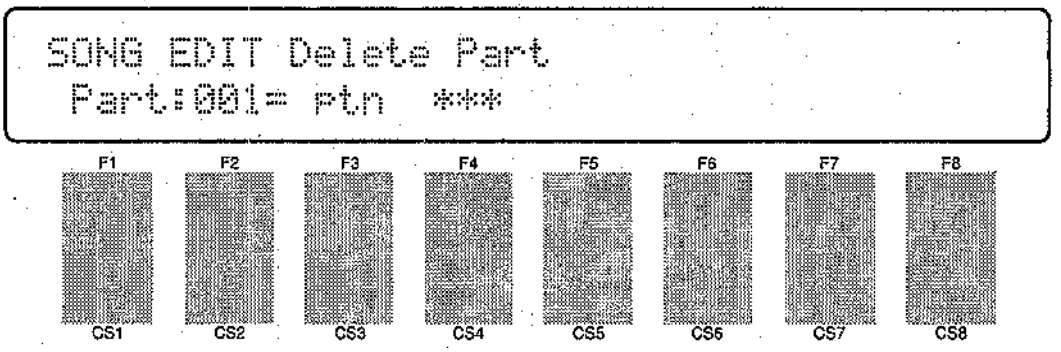
This function is used to insert a new part at any point in an existing rhythm track. Press [F5] to engage the rhythm track insert function after locating the desired insert point via the main rhythm track edit screen, described above. Then use [CS3] and [CS4] to specify the event to be inserted. The event types that can be inserted and their parameters are exactly the same as those described for the main rhythm track edit screen, above. Once the event to be inserted has been specified, press [ENTER/YES] to begin the insert procedure. The following confirmation display will appear:



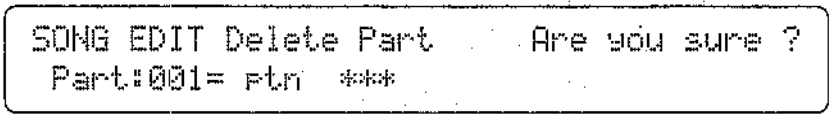
Press [ENTER/YES] again to confirm that you want to go ahead with the insert operation, or press [EXIT/NO] to cancel.

When the event has been inserted, "Completed!" will appear briefly on the display, then the display will return to the main rhythm track edit mode.

- **[F6]: "DEL" = Rhythm Track Delete**



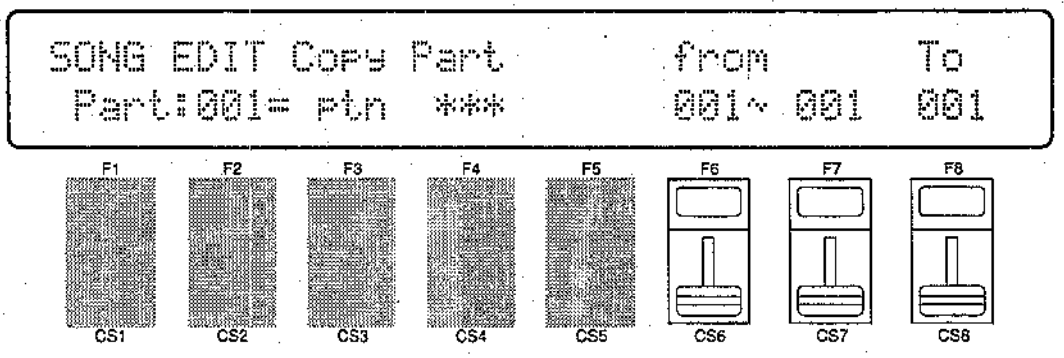
This function is used to delete a part from an existing rhythm track. Press [F6] to engage the rhythm track delete function after locating the part to be deleted via the main rhythm track edit screen, described above. The following confirmation display will appear:



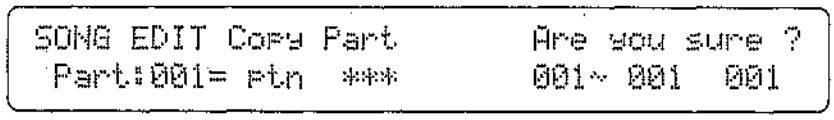
Press [ENTER/YES] again to confirm that you want to go ahead with the delete operation, or press [EXIT/NO] to cancel.

When the part has been deleted,, "Completed!" will appear briefly on the display, then the display will return to the main rhythm track edit mode.

- **[F7]: "CPY" = Rhythm Track Copy**



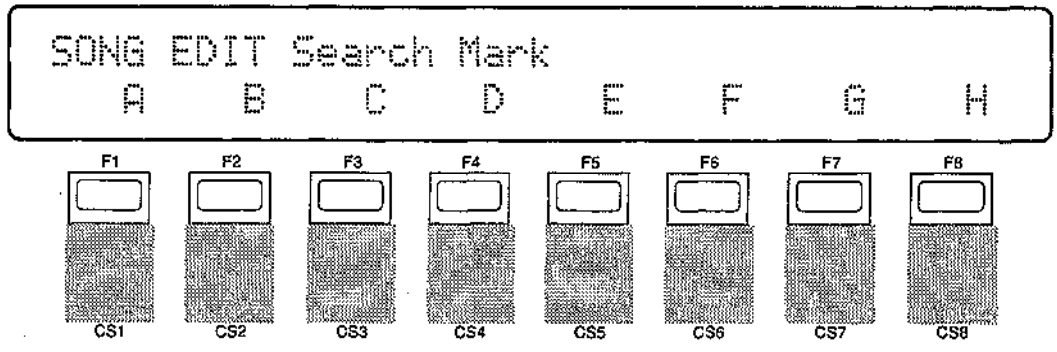
This function is used to copy a part or a range of parts to any other point in a rhythm track. Press [F7] to engage the rhythm track copy function. Then use [CS6] to select the number of the first part in the range of parts to be copied (001 ... 999), [CS7] to select the number of the last part in the range of parts to be copied (001 ... 999), and [CS8] to select the part number to which the source parts will be copied (001 ... 999). Press [ENTER/YES] to begin the copy procedure. The following confirmation display will appear:



Press [ENTER/YES] again to confirm that you want to go ahead with the copy operation (which will overwite existing parts from the destination part number), or press [EXIT/NO] to cancel.

When the parts have been copied, “Completed!” will appear briefly on the display, then the display will return to the main rhythm track edit mode.

- **[F8]: “SCH” = Rhythm Track Search**



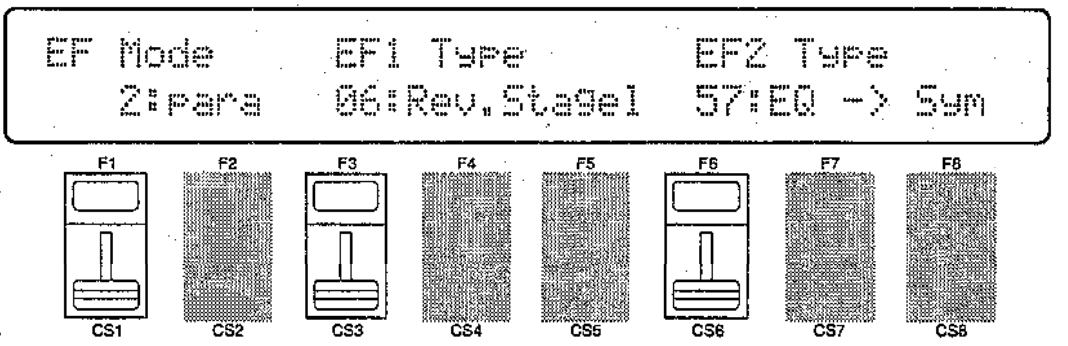
This function makes it possible to directly locate “marks” entered in the track using the “mark” event in the main rhythm track edit screen. The [SHIFT] key is used to toggle between marks A through H and I through G. Square brackets appear around marks that exist within the rhythm track. To go directly to a marked location, simply, press the function key immediately below the desired mark. The main rhythm track edit screen will appear with the marked part selected.

If you select a mark that has not been specified, “Mark Not Used!” will appear on the display. Press [EXIT/No] to return to the Search Mark display.

1: MODE, TYPE

[SONG] → [EFFECT EDIT] → [MENU] → 1:Mode, Type → [ENTER/YES]

The SY85 features a dual-processor effect system that includes 90 top-quality digital effects. Two different effects can be connected in series or parallel, providing an extensive range of possible configurations.



Mode

Range: 0:off, 1:seri, 2:para
Controls: [CS1], [-1] [+1], Dial

Determines whether the SY85's two effect processors are connected in series ("1:seri") or in parallel ("2:para"), or whether the entire effect system is turned off ("0:off").

EF1 Type

Range: 0 ... 90
Controls: [CS3], [-1] [+1], Dial

Selects any of the SY85's 90 effect types for the EFFECT 1 processor. See page 254 for more details on the SY85 effect system, and page 274 for a complete list of the available effects.

EF2 Type

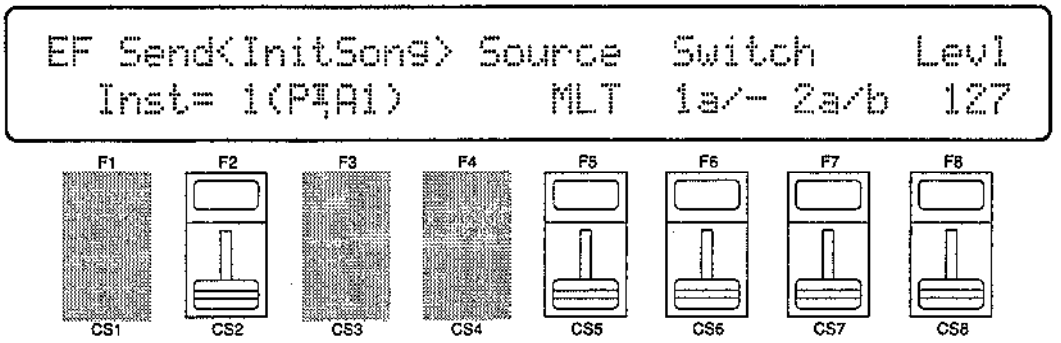
Range: 0 ... 90
Controls: [CS6], [-1] [+1], Dial

Selects any of the SY85's 90 effect types for the EFFECT 2 processor. See page 254 for more details on the SY85 effect system, and page 274 for a complete list of the available effects.

2: SEND SELECT & LEVEL

[SONG] → [EFFECT EDIT] → [MENU] → 2:Send → [ENTER/YES]

The parameters provided here determine to which of the SY85 effect stages the output from the voice assigned to each layer is sent, and at what level. It is also possible to control the effect send level via keyboard dynamics and key scaling.



Inst (Instrument)

Range: 1 ... 16
Controls: [CS2], [-1] [+1], Dial

Selects the multi instrument to be edited. The name of the voice assigned to the selected instrument is shown between parentheses on the upper line of the display.

Source

Range: MLT, VCE, PFM
Controls: [CS5], [-1] [+1], Dial

When "MLT" is selected the "Switch" and "Levl" parameters, described below, can be applied to the selected instrument. If a voice is assigned to the selected instrument, the "Source" parameter can also be set to "VCE", causing the switch and send levels of the assigned voice to be used. In the same way, if a performance combination is assigned to the selected instrument, the "Source" parameter can be set to "PFM", causing the switch and send levels of the assigned performance combination to be used. If "VCE" or "PFM" is selected, the "Switch" and "Lev1" parameters cannot be edited ("----" appears in place of the parameters).

Switch 1a, 1b/2a, 2b

Range: See text below.
Controls: [CS6]/[CS7], [-1] [+1], Dial

Determines to which of the EFFECT 1 and EFFECT 2 effect stages the output from the current layer is sent. Each time the [F6] or [F7] function key is pressed, the cursor alternately moves to the corresponding "a" or "b" parameter. The [-1] and [+1] keys can then be used to turn the stage on ("a" or "b") or off (".") . The [CS6] and [CS7] sliders select the following settings in sequence:

CS6 (EFFECT 1)	CS7 (EFFECT 2)
1./. (a and b off)	2./. (a and b off)
1a/. (a on, b off)	2a/. (a on, b off)
1a/b (a and b on)	2a/b (a and b on)
1./b (a off, b on)	2./b (a off, b on)

If a “single” type effect is selected then only stage “a” can be selected. If a “cascade” type effect is selected, then only stage “b” can be selected. If a “dual” type effect is selected, then both stages “a” and “b” can be selected. An effect stage that cannot be selected is represented by “-” on the display.

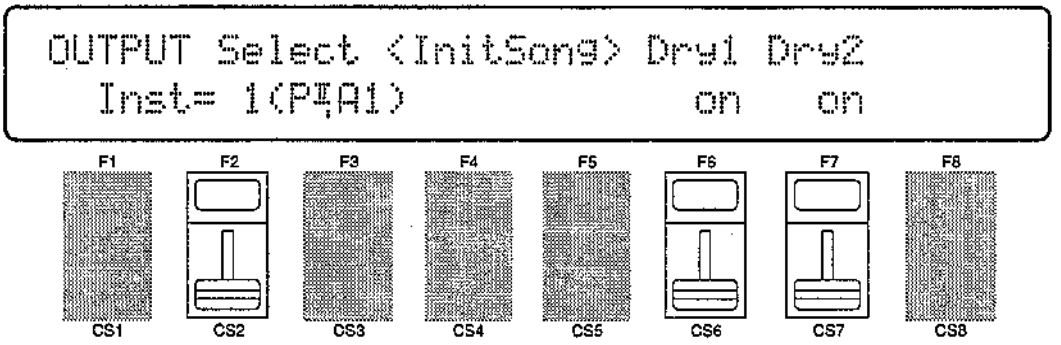
Levl (Send level)

Range: 0 ... 127
Controls: [CS8], [-1] [+1], Dial

This parameter adjusts the amount of direct voice signal that is sent to the effect processors, determining the strength of the final effect sound. A setting of “0” results in no effect, leaving only the “dry” sound. The maximum setting of “127” produces the maximum amount of effect.

3: INST DRY OUTPUT SELECT

[SONG] → [EFFECT EDIT] → [MENU] → 3:Inst Dry Out Select → [ENTER/YES]



Inst (Instrument)

Range: 1 ... 16
Controls: [CS2], [-1] [+1], Dial

Selects the multi instrument to be edited. The name of the voice assigned to the selected instrument is shown between parentheses on the upper line of the display.

Dry1

Range: off, on
Controls: [CS6], [-1] [+1], Dial

Turns the “dry line” bypassing the EFFECT 1 signal processor on or off. When this parameter is turned “off,” the “WET:DRY BALANCE” parameters (page 171) have no effect.

Dry2

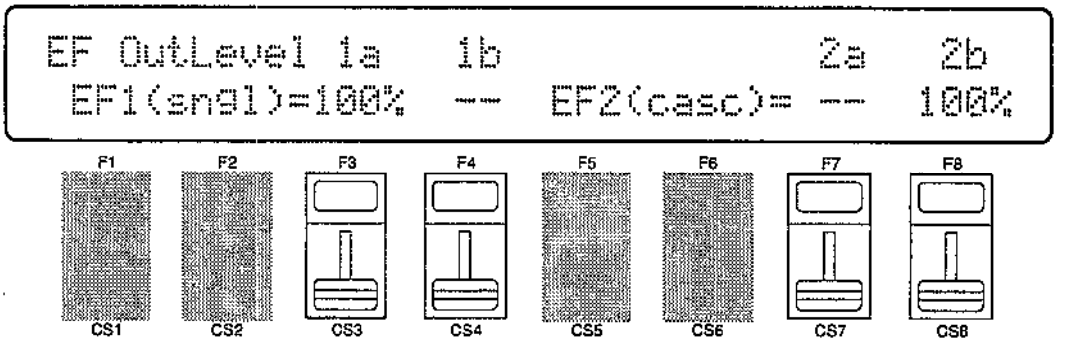
Range: off, on
Controls: [CS7], [-1] [+1], Dial

Turns the “dry line” bypassing the EFFECT 2 signal processor on or off. When this parameter is turned “off,” the “WET:DRY BALANCE” parameters (page 171) have no effect.

4: OUTPUT LEVEL

[SONG] → [EFFECT EDIT] → [MENU] → 4:Output Level → [ENTER/YES]

Depending on the selected effects the SY85 effect system can have up to four separate output levels that are adjusted by the parameters provided in this screen.



1a, 1b, 2a, and 2b (Effect output levels)

Range: 0 ... 100
Controls: [CS3], [CS4], [CS7], [CS8], [-1] [+1], Dial

The [CS3] and [CS4] sliders adjust the output levels of the effect 1 "1a" and "1b" stages, respectively, while the [CS7] and [CS8] sliders adjust the output levels of the effect 2 "2a" and "2b" stages. A setting of "0" turns output from the corresponding effect stage off, while a setting of "100" produces maximum output level.

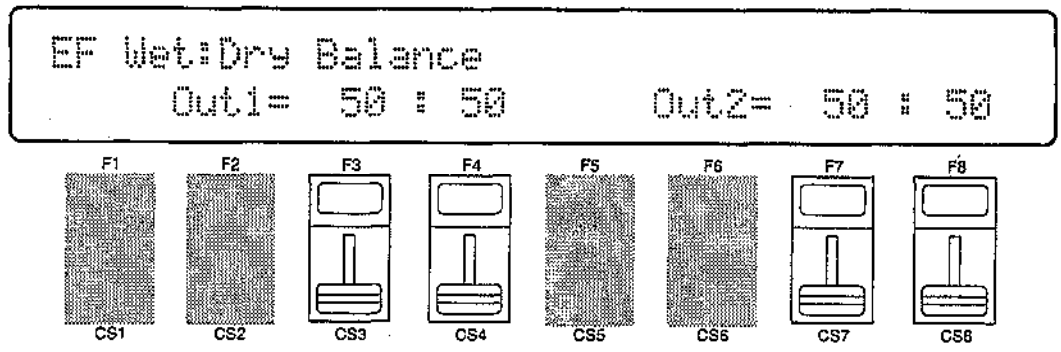
If the selected effect is a "single" type, then only the "1a" or "2a" output level is available. If it is a "cascade" type, then only the "1b" or "2b" output level is available. Both the "1a" and "1b" or "2a" and "2b" levels are available only if the selected effect is a "dual" type. The type of the effects currently selected for the effect 1 and effect 2 processors are shown in parentheses on the bottom line of the display. See page 254 for details on the effect stages and the SY85 effect system in general.

If a controller is assigned to any of the output level parameters (page 174), an inverse "c" will appear to the right of the parameter.

5: WET:DRY BALANCE

[SONG] → [EFFECT EDIT] → [MENU] → 5:Wet:Dry Balance → [ENTER/YES]

The balance between the direct sound of the voice and the effect sound is a delicate thing. Even slight changes can make a big difference to the final sound. The parameters provided in this screen provide precise balance control.



Out1 Wet/Out2 Wet

Range: 0 ... 100
Controls: [CS3]/[CS7], [-1] [+1], Dial

These parameters and the corresponding "Out1 Dry" and "Out2 Dry" parameters, below, work together to balance the effect ("wet") and direct ("dry") signals delivered via the EFFECT 1 and EFFECT2 processors. Higher "Wet" values produce more effect sound in relation to the direct, dry sound of the voice.

Although the "Wet" and "Dry" parameters can be set independently, adjusting one will cause. the other to change so that their total is always 100(%).

If a controller is assigned to the "Out1 Wet" or "Out2 Wet" parameter (page 174), an inverse "c" will appear to the right of the parameter.

Out1 Dry/Out2 Dry

Range: 0 ... 100
Controls: [CS4]/[CS8], [-1] [+1], Dial

These parameters and the corresponding "Out1 Wet" and "Out2 Wet" parameters, above, work together to balance the effect ("wet") and direct ("dry") signals delivered via the EFFECT 1 and EFFECT 2 processors, respectively. Higher "Dry" values produce more direct, dry sound in relation to the effect sound.

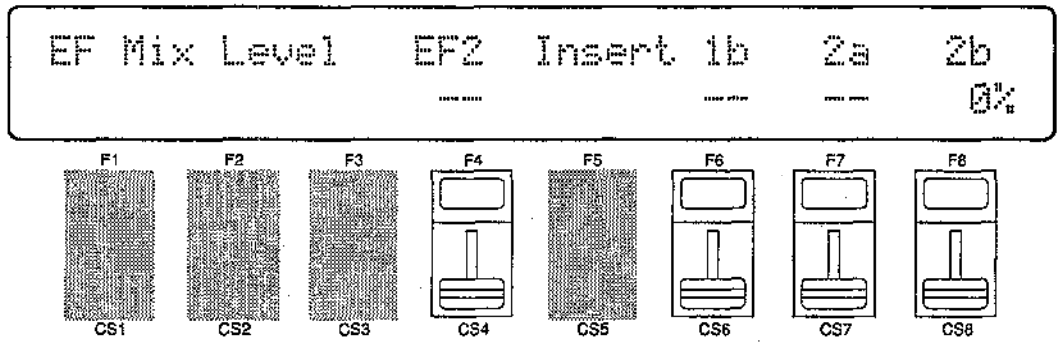
Although the "Wet" and "Dry" parameters can be set independently, adjusting one will cause the other to change so that their total is always 100(%).

If a controller is assigned to the "Out1 Dry" or "Out2 Dry" parameter (page 174), an inverse "c" will appear to the right of the parameter.

6: SEND & EFFECT 2 MIX LEVEL

[SONG] → [EFFECT EDIT] → [MENU] → 6:Mix Level → [ENTER/YES]

These parameters determine the mix level between each effect send and the output of the preceding effect stage. Refer to the section beginning on page 254 for details on the overall SY85 effect system.



EF2 Mix (Effect 2 mix level)

Range: 0 ... 100
Controls: [CS4], [-1] [+1], Dial

Mixes the output of the EFFECT 2 processor with that of the EFFECT 1 processor. This parameter can only be used with the "serial" effect mode is selected. If any other mode is selected ("off" or "para"), "---" appears on the display in place of the value.

If a controller is assigned to the EF2 Mix parameter (page 74), an inverse "c" will appear to the right of the parameter.

Send 1b, 2a, 2b (Send level)

Range: 0 ... 100
Controls: [CS6], [CS7], [CS8], [-1] [+1], Dial

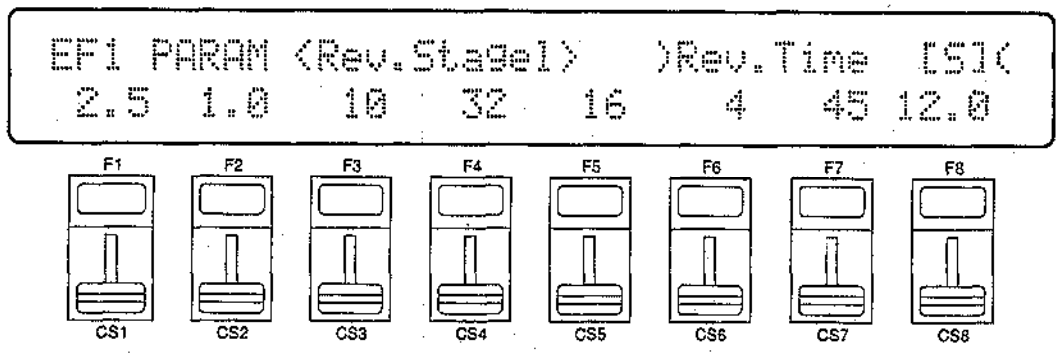
These parameters mix the dry signal sent to the corresponding effect stage with the output of the preceding effect stage. The higher the value the greater mix level. If the current effect configuration does not allow one of these mix parameters, "--" will appear in place of the mix level parameter.

If a controller is assigned to the one of these parameters (page 174), an inverse "c" will appear to the right of the parameter. SONG EFFECT

7: EFFECT 1 PARAMETERS
8: EFFECT 2 PARAMETERS

[SONG] → [EFFECT EDIT] → [MENU] → 7:EF1 Parameter → [ENTER/YES]
→ 8:EF2 Parameter → [ENTER/YES]

Each of the SY85's 90 effects has 8 parameters that can be edited via the parameters in this screen to fine-tune the effect.



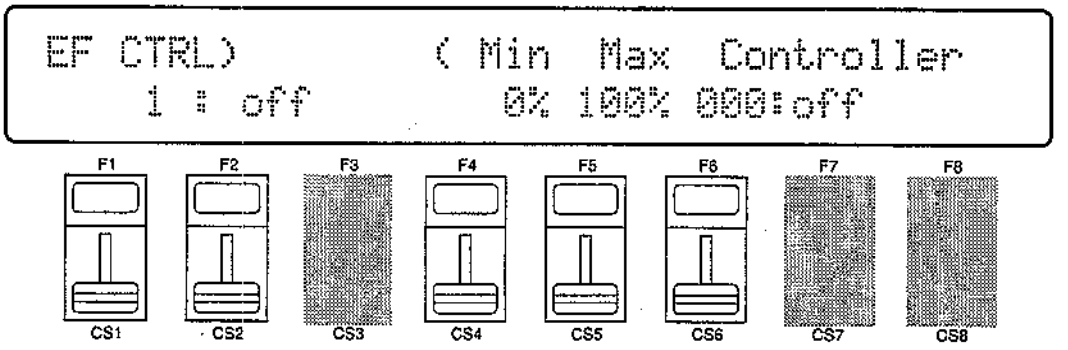
Each parameter is controlled by the corresponding slider (i.e. the slider immediately below each parameter). The [-1]/[+1] keys and data entry dial can also be used to edit the parameter at which the cursor is currently located.

Refer to page 274 for a complete listing of the parameters provided for each effect.

9: CONTROL PARAMETERS

[SONG] → [EFFECT EDIT] → [MENU] → 9:Control Parameter → [ENTER/YES]

The parameters provided in this screen determine which effect parameters are to be controlled by the minimum and maximum parameter values and assign MIDI control numbers to the same parameters for MIDI effect control.



CTRL1/CTRL2 (CTRL1/CTRL2 switch)

Range: 1, 2
Controls: [CS1], [-1] [+1], Dial

Selects CTRL1 or CTRL2 for assignment.

Parameter (Effect parameter)

Range: Depends on selected effects.
Controls: [CS2], [-1] [+1], Dial

Selects the effect parameter to be controlled by the currently selected slider. Since each effect has as many as 8 different parameters, the maximum number of settings available for this parameter will be 8: “Ef1prm1” through “Ef1prm8” on the display, for example, stands for “effect 1 parameter 1” through “effect 1 parameter 8”. The parameters available for each effect are different, but the name of the selected parameter will be shown between the parentheses on the top line of the display. Parameters that can not be assigned to the sliders are indicated by dashes (“--------”) instead of a parameter name.

Min (Minimum parameter value)

Range: 0 ... 100
Controls: [CS4], [-1] [+1], Dial

Sets the lower limit of the [CS1] or [CS2] control range. A setting of “0”, for example, means that when the slider is set to its lowest position the assigned parameter will also be set to its lowest value. A setting of “50” means that the lowest slider position will set the assigned parameter to about 50% of its range (a parameter with a range of 0 to 127, for example, would be set to about 63).

If a controller is assigned to the “Min” parameter, an inverse “c” will appear to the right of the parameter.

Max (Maximum parameter value)

Range: 0 ... 100
Controls: [CS5], [-1] [+1], Dial

Sets the upper limit of the [CS1] or [CS2] control range. A setting of "100", for example, means that when the slider is set to its highest position the assigned parameter will also be set to its highest value. A setting of "80" means that the highest slider position will set the assigned parameter to about 80% of its range (a parameter with a range of 0 to 127, for example, would be set to about 102).

If a controller is assigned to the "Max" parameter, an inverse "c" will appear to the right of the parameter.

Controller (Control device number)

Range: 000 ... 120, AfterTch, Velocity, KeyScale, LFO
Controls: [CS6], [-1] [+1], Dial

This parameter allows MIDI control change numbers to be assigned to the selected effect parameters, so that they can be controlled from the SY85 controllers (modulation wheel, foot controller, etc) or an external MIDI device that is capable of transmitting control change messages. Additional settings include "AfterTch" for keyboard aftertouch control, "Velocity" for keyboard velocity control, "KeyScale" for key scaling control, and "LFO" for internal LFO control. This is in addition to control via the [CS1] and [CS2] sliders. MIDI control change numbers 000 through 120 can be assigned. Some control change numbers are already defined, while others are not assigned to any specific controller (see chart below).

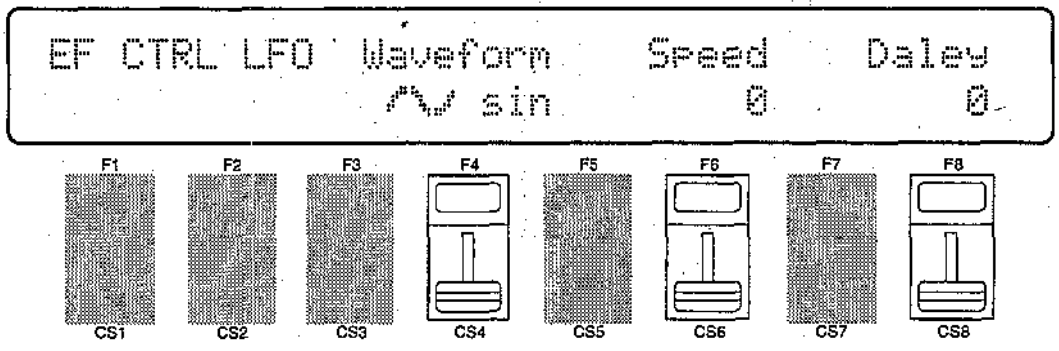
MIDI CONTROL CHANGE NUMBER/DEVICE

0:	"--------"	91:	"Effect D"
1:	"Mod.Whl."	92:	"TremoloD"
2:	"Breath C"	93:	"Chorus D"
4:	"Foot Cnt"	94:	"CelesteD"
5:	"Porta.Tm"	95:	"Phaser D"
6:	"Data Ent"	96:	"Inc. "
7:	"Main Vol"	97:	"Dec. "
8:	"Balance "	98:	"NRPN LSB"
10:	"Panpot "	99:	"NRPN MSB"
11:	"Express."	100:	"RPN LSB"
64:	"Hold 1 "	101:	"RPN MSB"
65:	"Porta.Sw"	121:	"AfterTch"
66:	"Sostenut"	122:	"Velocity"
67:	"Soft "	123:	"KeyScale"
69:	"Hold 2 "	124:	"LFO "

10: CONTROL LFO

[SONG] → [EFFECT EDIT] → [MENU] → 10:Control LFO → [ENTER/YES]

All of the modulation-type effects — chorus, flanging, etc. — require LFO control. The SY85 has an independent effect LFO that is set up by the following parameters.



Wave (LFO waveform)

Range: tri, dwn, up, squ, sin, S/H, 1tm
Controls: [CS4], [-1] [+1], Dial

Determines the waveform of the effect LFO.

"tri" = Triangle.	"dwn" = Downward sawtooth.
"up" = Upward sawtooth.	"squ" = Square.
"sin" = Sine.	"S/H" = Sample and hold.
	"1tm" = Upward 1-shot.

If a controller is assigned to the "Wave" parameter (page 174), an inverse "c" will appear to the right of the parameter.

Speed (LFO speed)

Range: 0 ... 99
Controls: [CS6], [-1] [+1], Dial

Sets the speed of the effect LFO.

"0" is the: slowest speed setting, producing an LFO speed of approximately 0 Hertz. The fastest setting of 99 produces an LFO speed of approximately 25 Hertz.

If a controller is assigned to the "Speed" parameter (page 174), an inverse "c" will appear to the right of the parameter.

Delay

Range: 0 ... 99
Controls: [CS8], [-1] [+1], Dial

Sets the delay time between the beginning of a note and the beginning of effect LFO operation for the selected element.

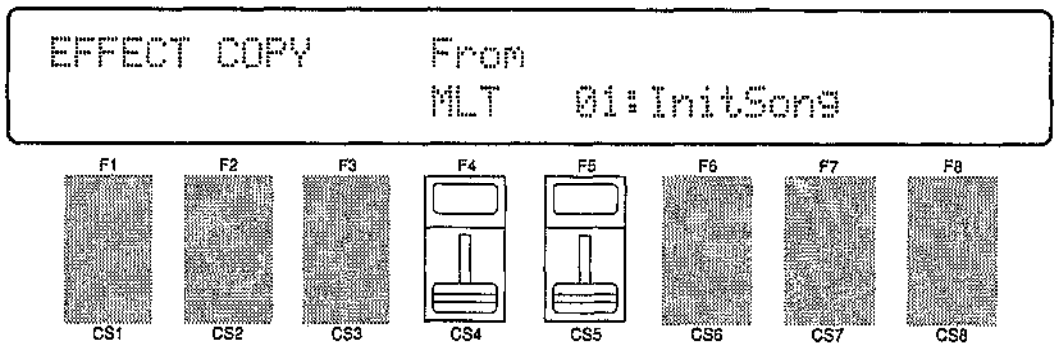
The minimum setting "0" results in no delay, while the maximum setting of "99" produces a delay of approximately 2.66 seconds before the effect LFO begins operation.

If a controller is assigned to the "Delay" parameter (page 174), an inverse "c" will appear to the right of the parameter.

EFFECT DATA COPY

[SONG] → [EFFECT EDIT] → [EFFECT COPY]

This function facilitates song editing by allowing the effect parameters from any other song, voice, or performance combination to be copied to the current song. You can copy an effect setup that is close to the type you want, then edit it to produce the required sound.

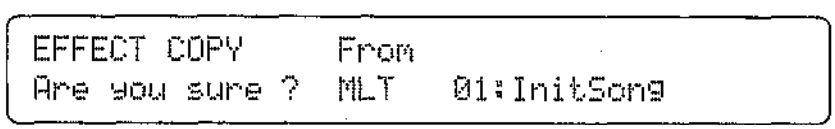


From

Range: Any song, voice or performance combination
Controls: MEMORY, GROUP, PROGRAM, [CS4], [CS5], [-1] [+1], Dial

Use the [CS4] slider to select the mode containing the desired voice and effect data ("PFM" = PERFORMANCE, "VCE" = VOICE, and "MLT" = MULTI). Use the [INTERNAL 1], [INTERNAL 2], and [CARD] MEMORY keys to select the memory area from which the source voice is to be selected. Use the GROUP keys to select the source voice bank, then use the PROGRAM keys to select the source voice number. The [CS5] slider and other data entry controls can also be used to select the source voice number.

Once the source voice has been selected, press the [ENTER/YES] key. "Are you sure?" will appear on the display.



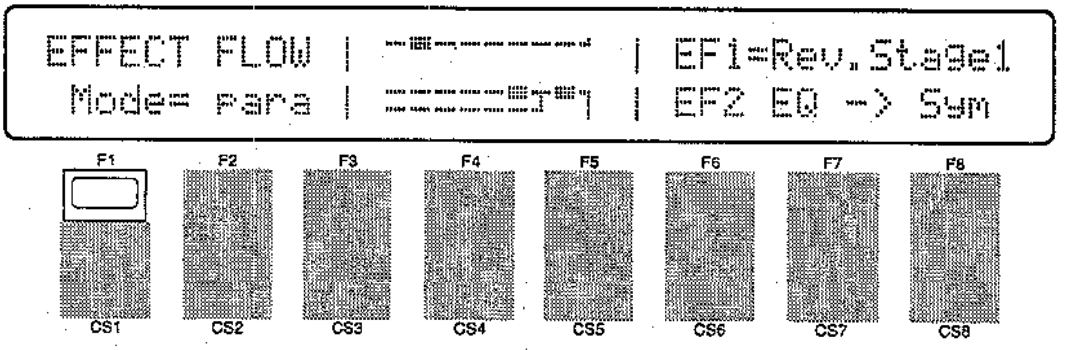
Press the [ENTER/YES] key again to copy the effect data, or press [EXIT/NO] to cancel the copy operation. Once the copy operation has finished, "Completed!" will appear on the display briefly, then the display will return to the effect edit mode.

EFFECT SIGNAL FLOW DISPLAY

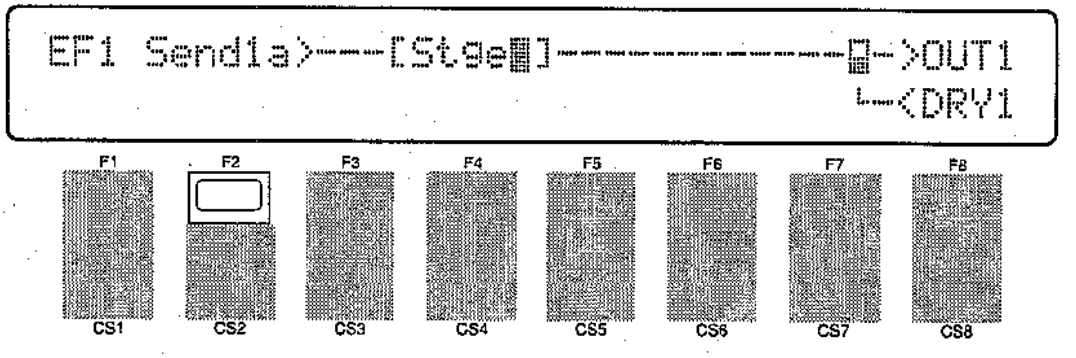
[PERFORMANCE] → [EFFECT EDIT] → [SHIFT] + [F1] ~ [F3]

This function provides a graphic indication of the current effect system configuration while in the effect edit mode.

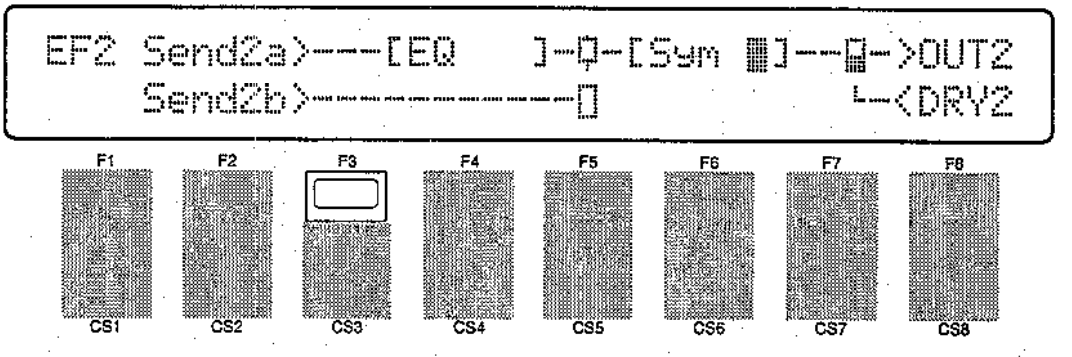
- **Overall Effect Flow**



- **Effect 1 Configuration**



- **Effect 2 Configuration**



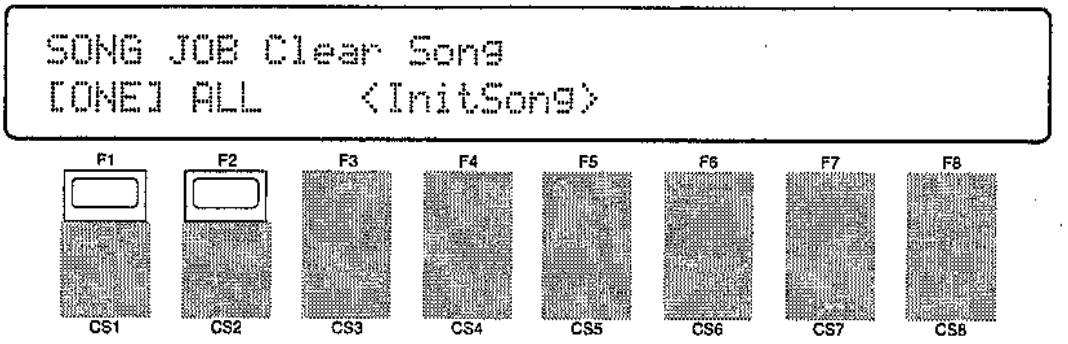
Press [SHIFT] + [F1] to see the overall effect system signal flow. Press [SHIFT] + [F2] to see the effect 1 section configuration, and [SHIFT] + [F3] for the effect 2 section configuration.

Refer the to section beginning on page 254 for details on the effect system.

1: CLEAR SONG

[SONG] → [A]~[H] → [SONG JOB] → [MENU] → 1:Clear Song → [ENTER/YES]
[SONG] → [1] → [SONG JOB] → [MENU] → 1:Clear Song → [ENTER/YES]

Entirely clears all songs or just the currently selected song (one song) from memory.

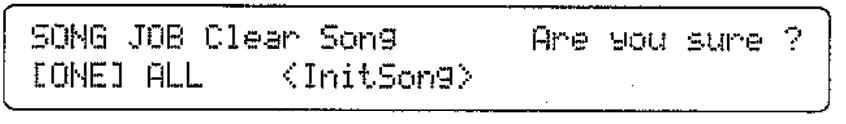


ONE, ALL

Range: ONE, ALL
Controls: [F1], [F2]

Press [F1] if you want to clear the currently selected song, or [F2] if you want to clear all songs in memory. If you select "ONE" song, the current song name is shown between parentheses on the lower display line.

Press [ENTER/YES] to begin the clear procedure. The following confirmation display will appear:



Press [ENTER/YES] again to confirm that you want to go ahead with the clear operation, or press [EXIT/NO] to cancel.

When the song data has been cleared, "Completed!" will appear briefly on the display.

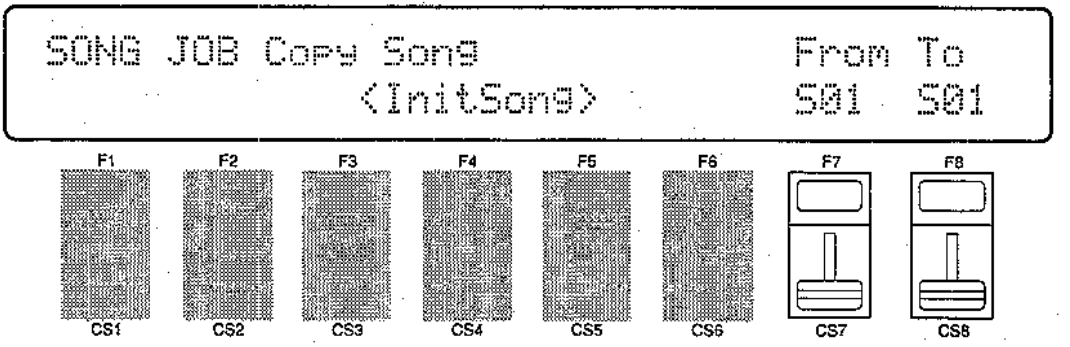
In addition to clearing all sequencer data for the current song, the clear function initializes the following parameters:

Song name:	"InitSong"
Tempo:	120
Time signature:	4/4

2: COPY SONG

[SONG] → [A]~[H] → [SONG JOB] → [MENU] → 2:Copy Song → [ENTER/YES]
[SONG] → [1] → [SONG JOB] → [MENU] → 2:Copy Song → [ENTER/YES]

Copies all song data from one song to any other. This can be handy if you want to make minor changes to an existing song while retaining a copy of the original song data.



From

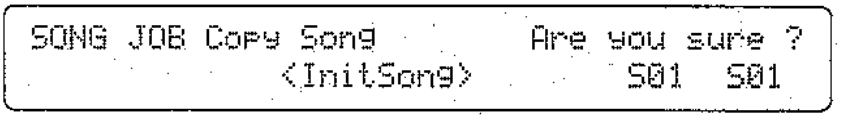
Range: 01 ... 10
Controls: [CS7], [-1] [+1], Dial

To

Range: 01 ... 10
Controls: [CS8], [-1] [+1], Dial

Use the [CS7] slider to select the “From” or source song number (1 ... 10), and the [CS8] slider to select the “To” or desination song number. The name of the currently selected “From” or “To” song is shown between parentheses on the lower display line, depending on which parameter the cursor is positioned below.

Press [ENTER/YES] to begin the copy procedure. The following confirmation display will appear:



Press [ENTER/YES] again to confirm that you want to go ahead with the copy operation (which will overwrite all data in the “To” song number), or press [EXIT/NO] to cancel.

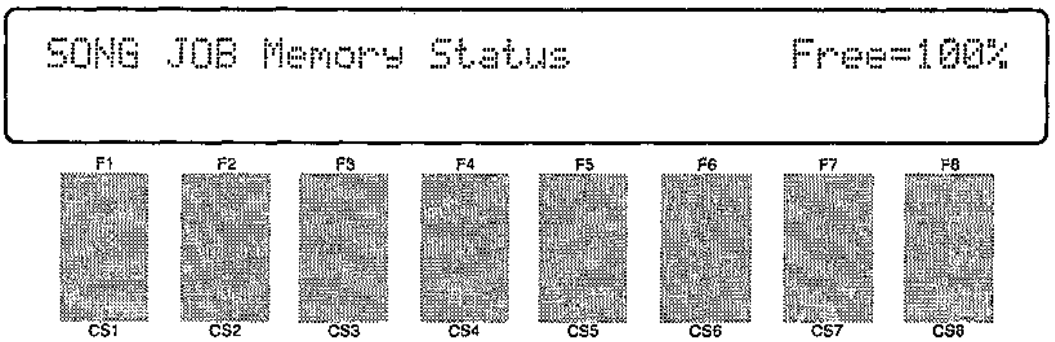
When the song data has been copied, “Completed!” will appear briefly on the display.

3: MEMORY STATUS

[SONG] → [A]~[H] → [SONG JOB] → [MENU] → 3:Memory Status → [ENTER/YES]

Indicates the amount of memory available for song recording.

This job is not available when the rhythm track (track 9) is selected. The "CLEAR RHYTHM TRACK" job described on page 182 appears in its place.



A display of "Free=80%", for example, means that approximately 20% of the available memory has been used, and approximately 80% is available for further recording.

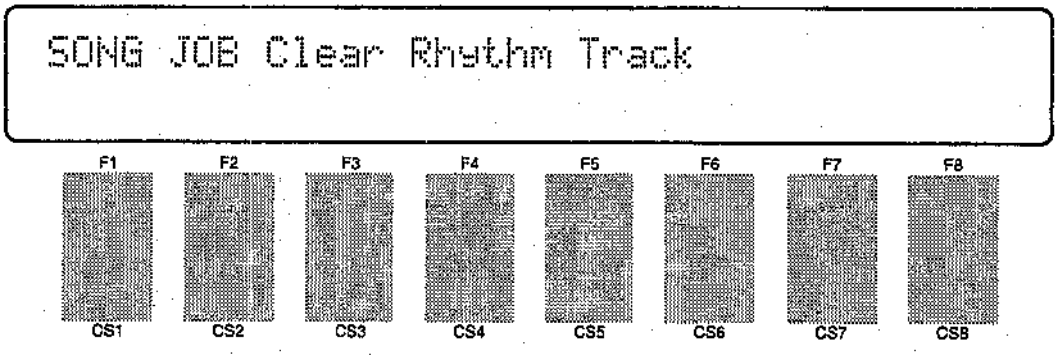
A "Memory full" error message may appear during recording even if this function does not indicate "Free=0%". This is because a certain amount of free "work area" is required by each function, and the memory can never be occupied entirely by song data.

3: CLEAR RHYTHM TRACK

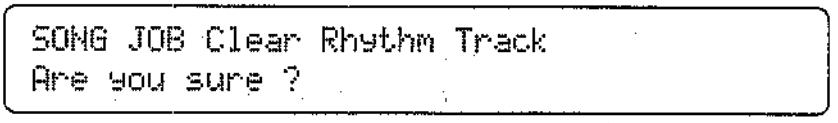
[SONG] → [1] → [SONG JOB] → [MENU] → 3:Clear Rhythm Track → [ENTER/YES]

Deletes all data from the rhythm track.

This job appears in place of the “MEMORY STATUS” job, described on the previous page, when the rhtyhm track (track 9) is selected.



Press [ENTER/YES] to begin the delete procedure. The following confirmation display will appear:



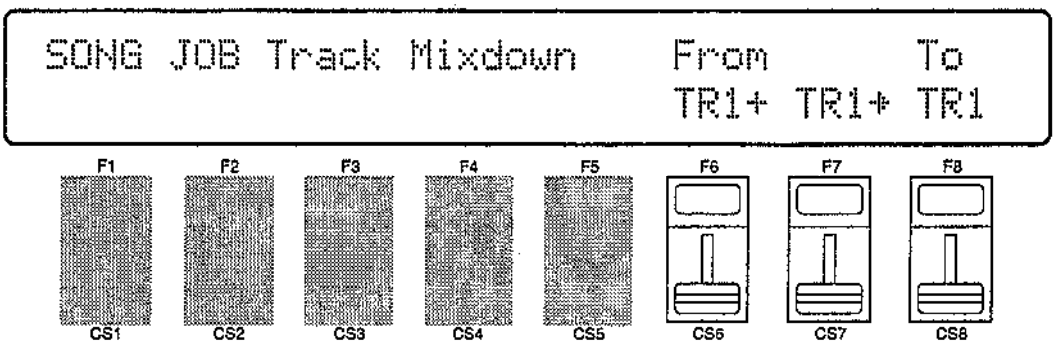
Press [ENTER/YES] again to confirm that you want to go ahead with the delete operation, or press [EXIT/NO] to cancel.

When the rhythm track has been deleted, “Completed!” will appear briefly on the display.

4: TRACK MIXDOWN

[SONG] → [A]~[H] → [SONG JOB] → [MENU] → 4:Track Mixdown → [ENTER/YES]

Combines the data from two different tracks and copies the result to a third track. This job is not available when the rhythm track (track 9) is selected.



From (From track 1 + track 2)

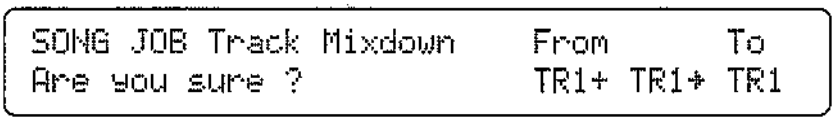
Range: 1 ... 8
Controls: [CS6], [CS7], [-1] [+1], Dial

To

Range: 1 ... 8
Controls: [CS8], [-1] [+1], Dial

Use the [CS6] slider to select the first "From" (source) track and the [CS7] slider to select the second source track. The data from the first and second source tracks will be combined and copied to the "To" (destination) track, selected by the [CS8] slider.

Press [ENTER/YES] to begin the mixdown procedure. The following confirmation display will appear:

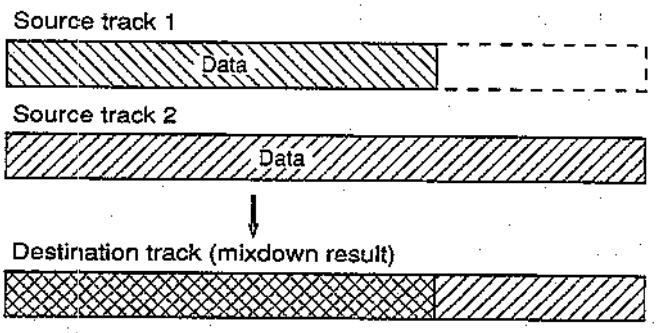


Press [ENTER/YES] again to confirm that you want to go ahead with the mixdown operation (which will overwrite all data in the "To" track), or press [EXIT/NO] to cancel.

When the data has been mixed and copied, "Completed!" will appear briefly on the display.

The mixdown function is most useful when you want to record more than 8 individual parts. Successfully recorded parts can be combined using this function, thus opening up more tracks for further recording. The data in the source tracks is not erased during a mixdown operation.

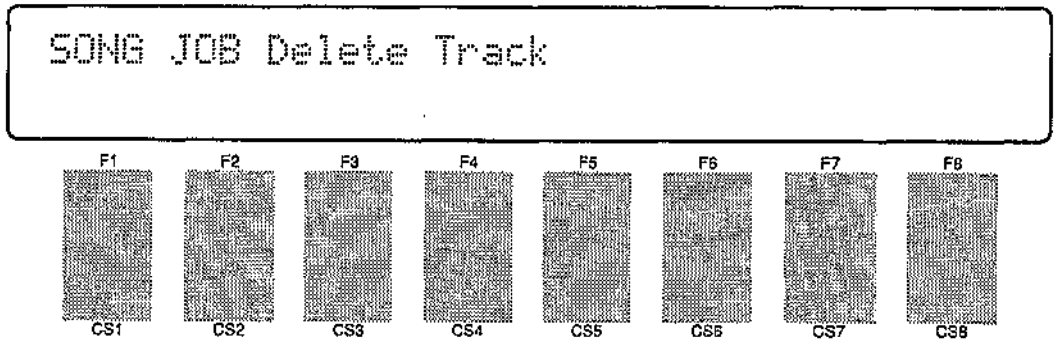
Please note that if both source tracks are set to the same track number, the data from that track will simply be copied to the destination track.


Source track 1
Data
Source track 2
Data
Destination track (mixdown result)

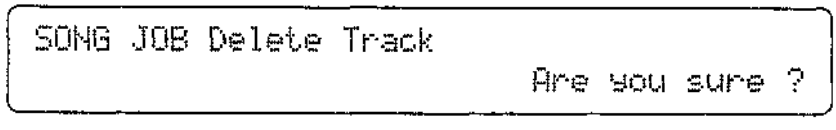
5: DELETE TRACK

[SONG] → [A]~[H] → [SONG JOB] → [MENU] → 5:Delete Track → [ENTER/YES]

Deletes all data from the specified track.
This job is not available when the rhythm track (track 9) is selected.



Use the GROUP [A] through [H] keys to select the track you want to delete (A = track1, B = track 2, and so on). The LED of the selected track will glow red while the LEDs of all other tracks containing data glow green. Press [ENTER/YES] to begin the delete procedure. The following confirmation display will appear:



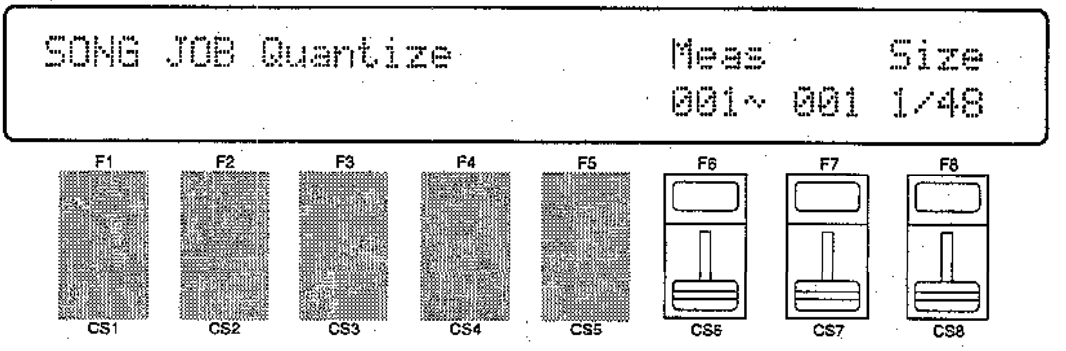
Press [ENTER/YES] again to confirm that you want to go ahead with the delete operation, or press [EXIT/NO] to cancel.

When the track has been deleted, “Completed!” will appear briefly on the display.

6: QUANTIZE

[SONG] → [A]~[H] → [SONG JOB] → [MENU] → 6:Quantize → [ENTER/YES]

Aligns notes in the specified track to the nearest specified beat.
This job is not available when the rhythm track (track 9) is selected.



Meas (First & last measure numbers)

Range: 001 ... 999
Controls: [CS6], [CS7], [-1] [+1], Dial

Size

Range: 1/48, 1/32, 1/24, 1/16, 1/12, 1/8, 1/6, 1/4
Controls: [CS8], [-1] [+1], Dial

Use the GROUP [A] through [H] keys to select the track you want to quantize (A = track1, B = track 2, and so on). The LED of the selected track will glow red while the LEDs of all other tracks containing data glow green.

Use the [CS6] and [CS7] sliders to select the numbers of the first and last measures in the range of measures you want to quantize, and use the [CS8] slider to select the quantize size.

Press [ENTER/YES] to begin the quantize procedure. The following confirmation display will appear:

Press [ENTER/YES] again to confirm that you want to go ahead with the quantize operation, or press [EXIT/NO] to cancel.

When the data has been quantized, “Completed!” will appear briefly on the display.

Quantization is generally used to tighten up sloppy timing. Use it judiciously, however, because timing that is too perfect can sound cold and mechanical - unless, of course, you're specifically aiming for a cold, mechanical feel. Always use a quantize value that is at least as "short" as the shortest notes in the track to be quantized. If you quantize a track containing 16th notes to 1/8 (8th notes), for example, some of the 16th notes will be aligned with 8th note beats, thus ruining the track.

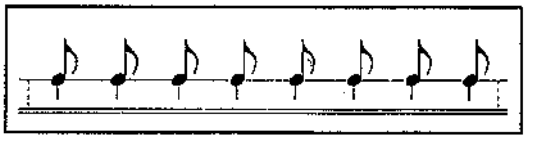
The various quantize values correspond to note lengths as follows:

● Quantize/note correspondences

QUANTIZE VALUE	BEAT	QUANTIZE VALUE	BEAT
1/4	♩	1/16	𝅘𝅥𝅯
1/6	³♩	1/24	³𝅘𝅥𝅯
1/8	♪	1/32	𝅘𝅥𝅰
1/12	³♪	1/48	³𝅘𝅥𝅰

One measure of 8th notes before quantization

After quantization

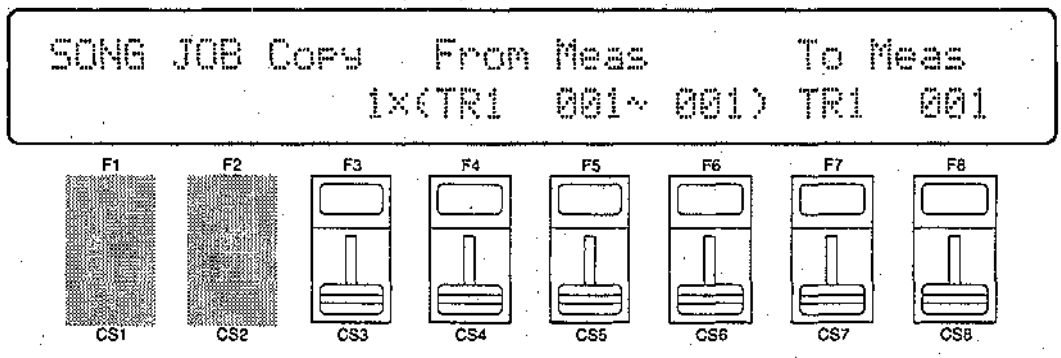


7: COPY MEASURE

[SONG] → [A]~[H] → [SONG JOB] → [MENU] → 7:Copy Measure → [ENTER/YES]

Copies a specified measure or range of measures from one track to the specified measure in another track.

This job is not available when the rhythm track (track 9) is selected.



From Meas (Source measure range, track, copy count)

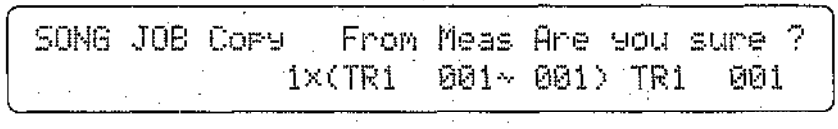
Range: Measures: 001 ... 999. Track: TR1 ... TR8. Count: 1x ... 99x
Controls: [CS3] ... [CS6], [-1] [+1], Dial

To Meas (Destination track & measure)

Range: Track: TR1 ... TR8. Measure: 001 ... 999.
Controls: [CS7], [CS8], [-1] [+1], Dial

Use [CS4] to specify the track from which the data is to be copied, [CS5] and [CS6] to select the first and last measures of the range to be copied, and [CS3] to specify the number of times the selected data is to be copied. Use [CS7] to specify the destination track, and [CS8] to specify the destination measure.

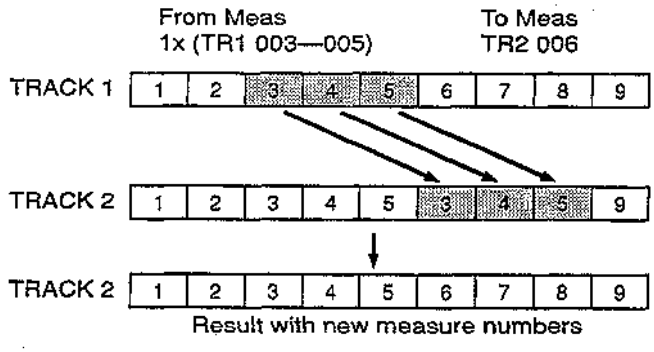
Press [ENTER/YES] to begin the copy procedure. The following confirmation display will appear:



Press [ENTER/YES] again to confirm that you want to go ahead with the copy operation (which will overwrite data in the destination track), or press [EXIT/NO] to cancel.

When the data has been copied, “Completed!” will appear briefly on the display.

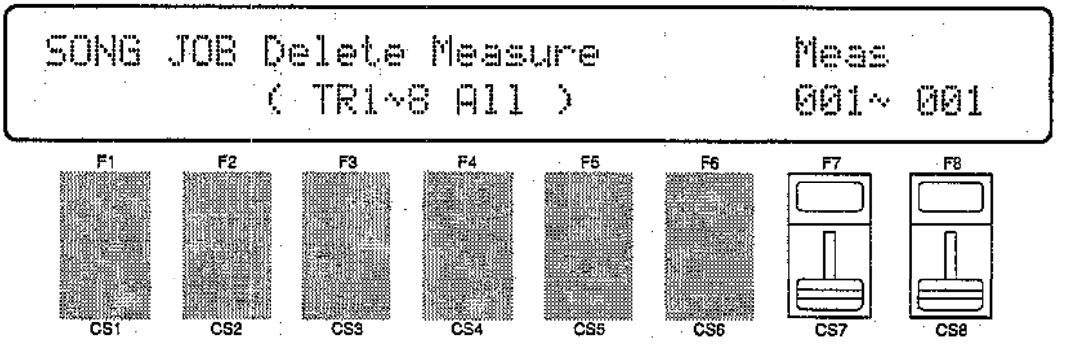
A copy operation overwrites the data from the beginning of the specified destination measure with the data from the source measure(s). Previous data in the overwritten measures is therefore lost.


From Meas
1x (TR1 003—005)
To Meas
TR2 006
TRACK 1
1 2 3 4 5 6 7 8 9
TRACK 2
1 2 3 4 5 3 4 5 9
TRACK 2
1 2 3 4 5 6 7 8 9
Result with new measure numbers

8: DELETE MEASURE

[SONG] → [A]~[H] → [SONG JOB] → [MENU] → 8:Delete Measure → [ENTER/YES]

Deletes the specified measure or range of measures from all tracks.
This job is not available when the rhythm track (track 9) is selected.

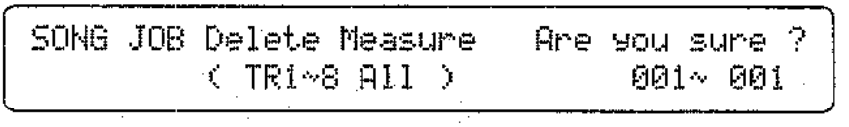


Meas (First & last measure numbers)

Range: 001 ... 999
Controls: [CS7], [CS8], [-1] [+1], Dial

Use the [CS7] and [CS8] sliders to select the numbers of the first and last measures in the range of measures you want to delete.

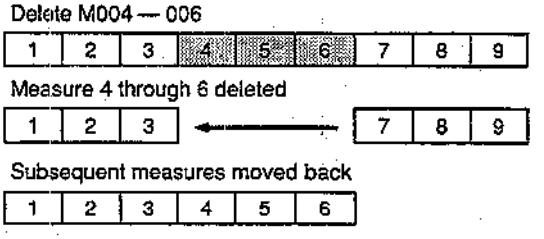
Press [ENTER/YES] to begin the delete procedure. The following confirmation display will appear:



Press [ENTER/YES] again to confirm that you want to go ahead with the delete operation, or press [EXIT/NO] to cancel.

When the data has been deleted, “Completed!” will appear briefly on the display.

It’s important to remember that a delete operation affects <u>all</u> tracks simultaneously, and that measures following the deleted range are moved back to take the place of the deleted measures.

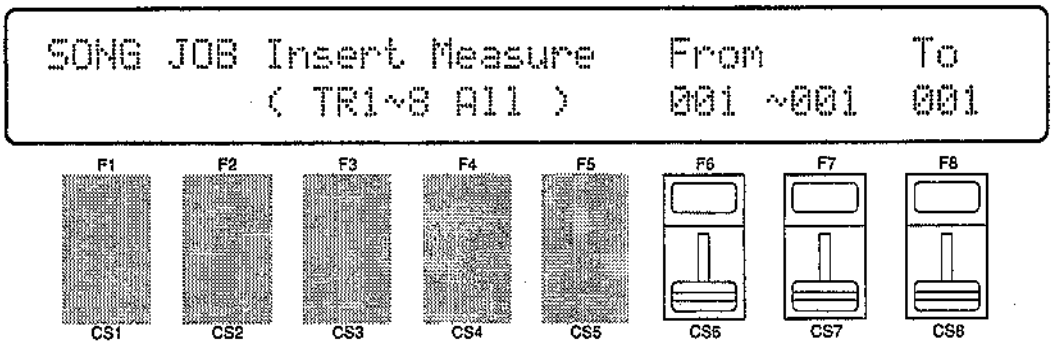


9: INSERT MEASURE

[SONG] → [A]~[H] → [SONG JOB] → [MENU] → 9:Insert Measure → [ENTER/YES]

Inserts a specified measure or range of measures from all tracks before any other specified measure.

This job is not available when the rhythm track (track 9) is selected.



From (Source measure range)

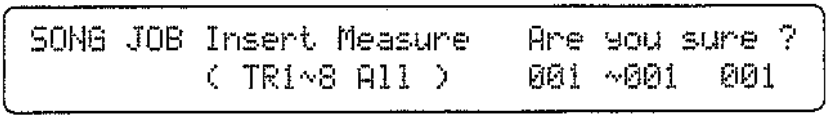
Range: 001 ... 999
Controls: [CS6], [CS7], [-1] [+1], Dial

To (Destination measure)

Range: 001 ... 999
Controls: [CS8], [-1] [+1], Dial

Use [CS6] and [CS7] to specify the first and last measures in the range to be copied, and [CS8] to select the destination measure number at which the source data will be inserted.

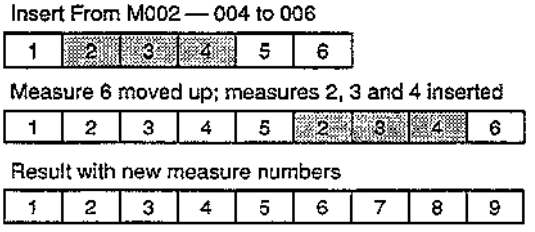
Press [ENTER/YES] to begin the insert procedure. The following confirmation display will appear:



Press [ENTER/YES] again to confirm that you want to go ahead with the insert operation, or press [EXIT/NO] to cancel.

When the data has been inserted, “Completed!” will appear briefly on the display.

Insert affects all tracks simultaneously. The source measure or range of measures in inserted before the specified destination measure.

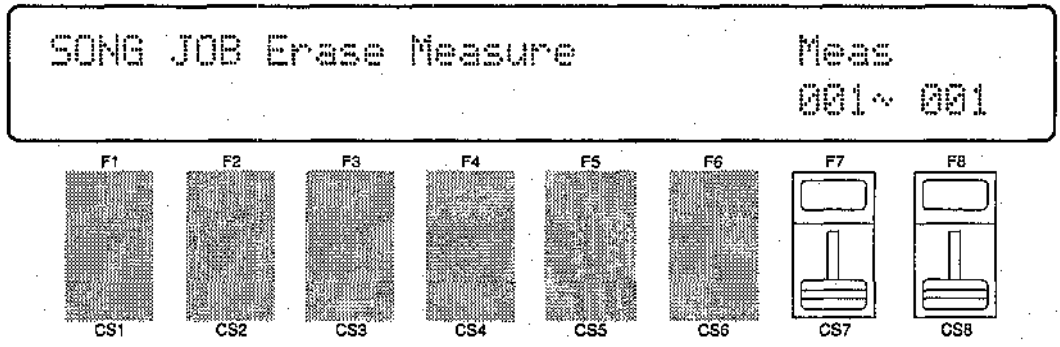


10: ERASE MEASURE

[SONG] → [A]~[H] → [SONG JOB] → [MENU] → 10:Erase Measure → [ENTER/YES]

Erases all note and event data from the specified measure or range of measures in the specified track.

This job is not available when the rhythm track (track 9) is selected.



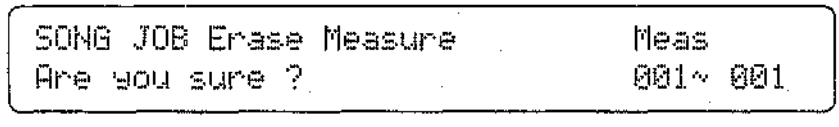
Meas (First & last measure numbers)

Range: 001 ... 999
Controls: [CS7], [CS8], [-1] [+1], Dial

Use the GROUP [A] through [H] keys to select the track containing the measures you want to erase (A = track1, B = track 2, and so on). The LED of the selected track will glow red while the LEDs of all other tracks containing data glow green.

Use the [CS7] and [CS8] sliders to select the numbers of the first and last measures in the range of measures you want to erase.

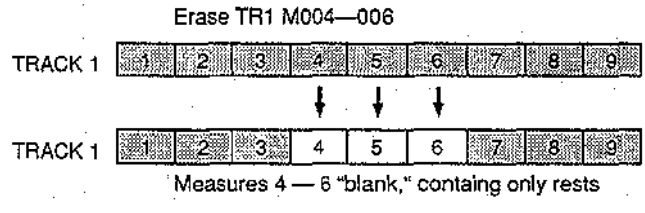
Press [ENTER/YES] to begin the erase procedure. The following confirmation display will appear:



Press [ENTER/YES] again to confirm that you want to go ahead with the erase operation, or press [EXIT/NO] to cancel.

When the data has been erased, "Completed!" will appear briefly on the display.

An erase operation leaves the specified measures intact but blank.

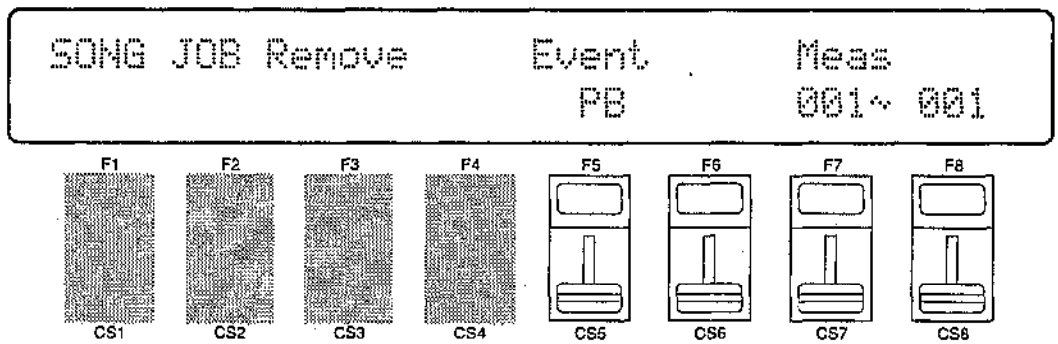


11: REMOVE EVENT

[SONG] → [A]~[H] → [SONG JOB] → [MENU] → 11:Remove Event → [ENTER/YES]

Allows pitch bend, after touch, program change, or control change events (data) to be removed from a specified measure or range of measures in a specified track.

This job is not available when the rhythm track (track 9) is selected.



Event (Event type & No. if "ctrl" selected)

Range: PB, AT, crtl, pgm
Controls: [CS5], [CS6], [-1] [+1], Dial

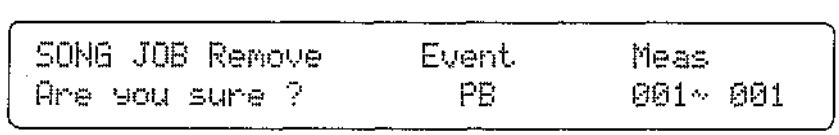
Meas (First & last measure numbers)

Range: 001 ... 999
Controls: [CS7], [CS8], [-1] [+1], Dial

Use the GROUP [A] through [H] keys to select the track containing the measures from which you want to remove events (A = track1, B = track 2, and so on). The LED of the selected track will glow red while the LEDs of all other tracks containing data glow green.

Use [CS5] to select the type of event to remove: “ctrl” for control change, “pgm” for program change, “AT” for aftertouch, and “PB” for pitch bend. Removing a program change (“pgm”) event also removes control change number 0 and 32 (bank select). If “ctrl” is selected, [CS6] can be used to specify a control number to be removed (see below). Use the [CS7] and [CS8] sliders to select the numbers of the first and last measures in the range of measures from which the specified event data is to be removed.

Press [ENTER/YES] to begin the remove event procedure. The following confirmation display will appear:



Press [ENTER/YES] again to confirm that you want to go ahead with the remove event operation, or press [EXIT/NO] to cancel.

When the data has been removed, “Completed!” will appear briefly on the display.

● Control Change Numbers

If you choose to remove control change events — modulation wheel, breath controller, volume, etc. — you must also specify the control change number corresponding to the specific event you want to remove. For your reference, the following is a list of assigned controllers:

MIDI CONTROL CHANGE NUMBER

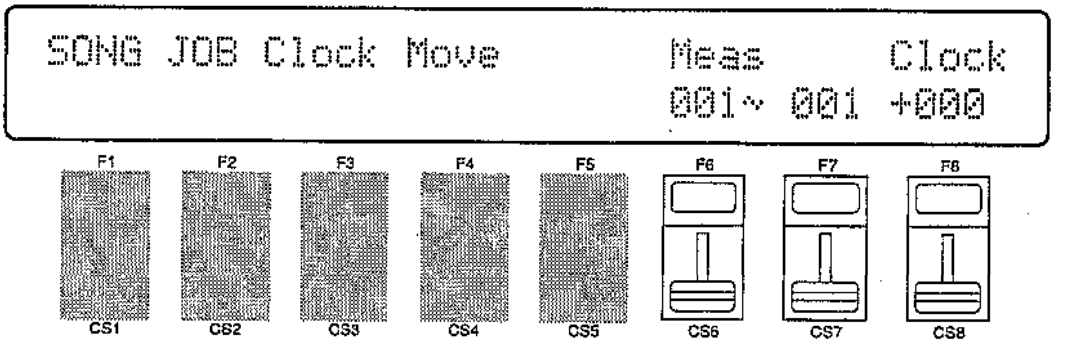
0: "-------"	91: "Effect D"
1: "Mod.Whl."	92: "TremoloD"
2: "Breath C"	93: "Chorus D"
4: "Foot Cnt"	94: "CelesteD"
5: "Porta.Tm"	95: "Phaser D"
6: "Data Ent"	96: "Inc. "
7: "Main Vol"	97: "Dec. "
8: "Balance "	98: "NRPN LSB"
10: "Panpot "	99: "NRPN MSB"
11: "Express."	100:"RPN LSB"
64: "Hold 1 "	101:"RPN MSB"
65: "Porta.Sw"	
66: "Sostenut"	
67: "Soft "	
69: "Hold 2 "	

12: CLOCK MOVE

[SONG] → [A]~[H] → [SONG JOB] → [MENU] → 12:Clock Move → [ENTER/YES]

Moves all notes and events in the specified track and range of measures forward or backward by the specified number of "clocks."

This job is not available when the rhythm track (track 9) is selected.



Meas (First & last measure numbers)

Range: 001 ... 999
Controls: [CS6], [CS7], [-1] [+1], Dial

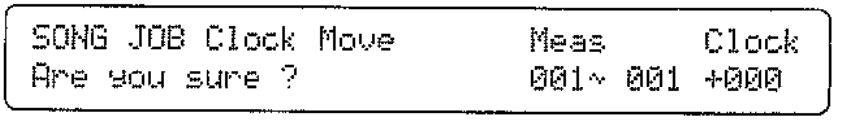
Clock

Range: -999 ... +999
Controls: [CS8], [-1] [+1], Dial

Use the GROUP [A] through [H] keys to select the track on which the clock move operation is to be performed (A = track1, B = track 2, and so on). The LED of the selected track will glow red while the LEDs of all other tracks containing data glow green.

Use [CS6] and [CS7] to specify the first and last measure numbers in the range of measures over which you want to shift the timing of note and event data. Use [CS8] to set the number of clocks by which the data will be moved forward or backward. Minus (-) values move the data backward (toward the beginning of the song) while plus (+) values move the data forward (toward the end of the song). Each "clock" is equal to 1/48th of a quarter note.

Press [ENTER/YES] to begin the clock move procedure. The following confirmation display will appear:



Press [ENTER/YES] again to confirm that you want to go ahead with the clock move operation, or press [EXIT/NO] to cancel.

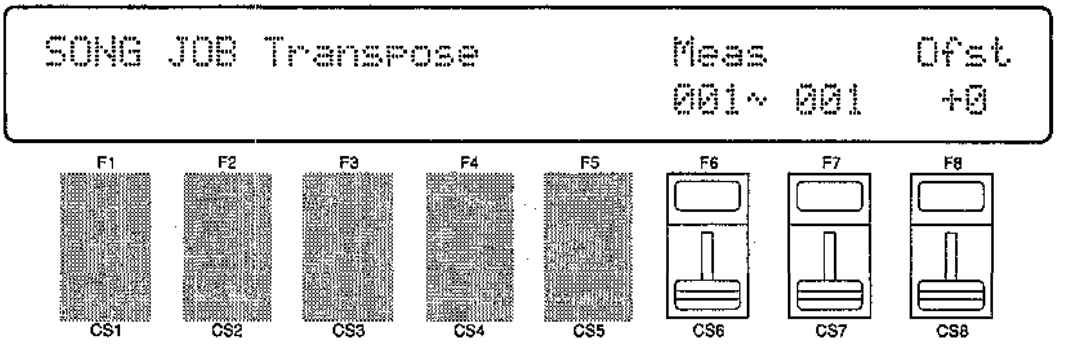
When the data has been moved, "Completed!" will appear briefly on the display.

13: TRANSPOSE

[SONG] → [A]~[H] → [SONG JOB] → [MENU] → 13:Transpose → [ENTER/YES]

Transposes all notes in the specified track and range of measures up or down by the specified "offset" in semitones.

This job is not available when the rhythm track (track 9) is selected.



Meas (First & last measure numbers)

Range: 001 ... 999
Controls: [CS6], [CS7], [-1] [+1], Dial

Ofst (Offset)

Range: -99 ... +99
Controls: [CS8], [-1] [+1], Dial

Use the GROUP [A] through [H] keys to select the track on which the transpose operation is to be performed (A = track1, B = track 2, and so on). The LED of the selected track will glow red while the LEDs of all other tracks containing data glow green.

Use [CS6] and [CS7] to specify the first and last measure numbers in the range of measures over which you want to transpose note data. Use [CS8] to set the number of semitones by which the notes will be transposed up or down. Minus (-) values transpose down while plus (+) values transpose up.

Press [ENTER/YES] to begin the transpose procedure. The following confirmation display will appear:

Press [ENTER/YES] again to confirm that you want to go ahead with the transpose operation, or press [EXIT/NO] to cancel.

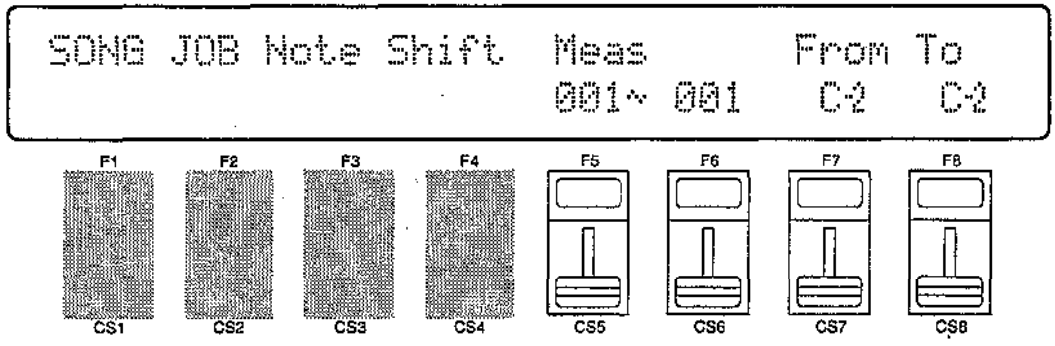
When the data has been transposed, "Completed!" will appear briefly on the display.

14: NOTE SHIFT

[SONG] → [A]~[H] → [SONG JOB] → [MENU] → 14:Note Shift → [ENTER/YES]

Shifts all occurences of the specified note in the specified track and range of measures to any other note.

This job is not available when the rhythm track (track 9) is selected.



Meas (First & last measure numbers)

Range: 001 ... 999
Controls: [CS5], [CS6], [-1] [+1], Dial

From (Original note)

Range: C-2 ... G8
Controls: [CS7], [-1] [+1], Dial, Keyboard

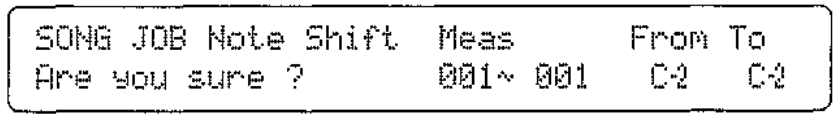
To (New note)

Range: C-2 ... G8
Controls: [CS8], [-1] [+1], Dial, Keyboard

Use the GROUP [A] through [H] keys to select the track on which the note shift operation is to be performed (A = track1, B = track 2, and so on). The LED of the selected track will glow red while the LEDs of all other tracks containing data glow green.

Use [CS5] and [CS6] to specify the first and last measure numbers in the range of measures over which you want to shift note data. Use [CS7] to specify the note that is to be shifted (or press the appropriate key on the keyboard after moving the cursor to the "From" parameter by pressing the [F7] key), and use [CS8] or the keyboard to specify the new note to which all occurrences of the "From" note are to be shifted.

Press [ENTER/YES] to begin the note shift procedure. The following confirmation display will appear:



Press [ENTER/YES] again to confirm that you want to go ahead with the note shift operation, or press [EXIT/NO] to cancel.

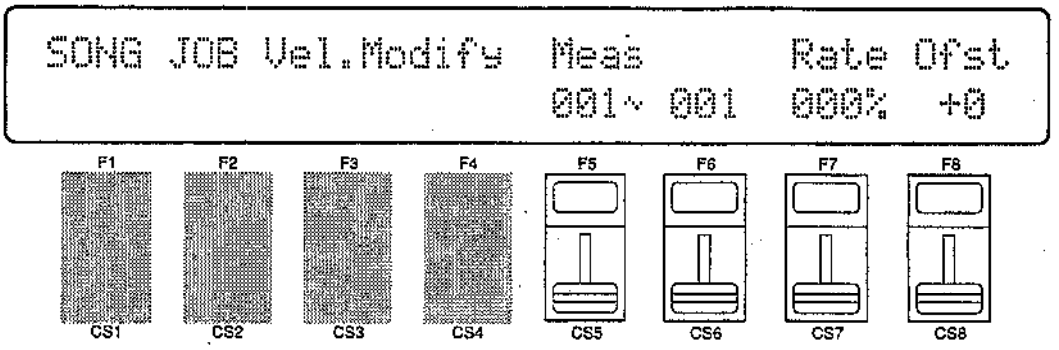
When the notes have been shifted, "Completed!" will appear briefly on the display.

15: VELOCITY MODIFY

[SONG] → [A]~[H] → [SONG JOB] → [MENU] → 15:Velocity Modify → [ENTER/YES]

Increases or decreases the velocity values of all notes in the specified track and range of measures.

This job is not available when the rhythm track (track 9) is selected.



Meas (First & last measure numbers)

Range: 001 ... 999
Controls: [CS5], [CS6], [-1] [+1], Dial

Rate (Velocity ratio)

Range: 000 ... 200
Controls: [CS7], [-1] [+1], Dial

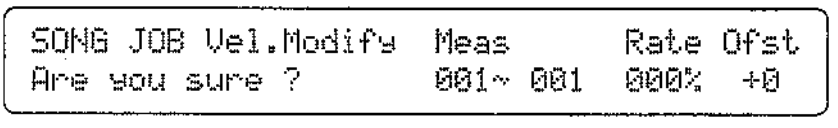
Ofst (Offset)

Range: -99 ... +99
Controls: [CS8], [-1] [+1], Dial

Use the GROUP [A] through [H] keys to select the track on which the velocity modify operation is to be performed (A = track1, B = track 2, and so on). The LED of the selected track will glow red while the LEDs of all other tracks containing data glow green.

Use [CS5] and [CS6] to specify the first and last measure numbers in the range of measures over which you want to modify the velocity data. Use [CS7] to set the "ratio" between the lower and higher velocity values (a setting of "100%" maintains the original relationship between the notes, lower values produce a narrower dynamic range, and higher values produce a broader dynamic range). Use [CS8] to specify the amount of offset ("-" settings reduce the velocity while "+" settings increase the velocity).

Press [ENTER/YES] to begin the velocity modify procedure. The following confirmation display will appear:



Press [ENTER/YES] again to confirm that you want to go ahead with the velocity modify operation, or press [EXIT/NO] to cancel.

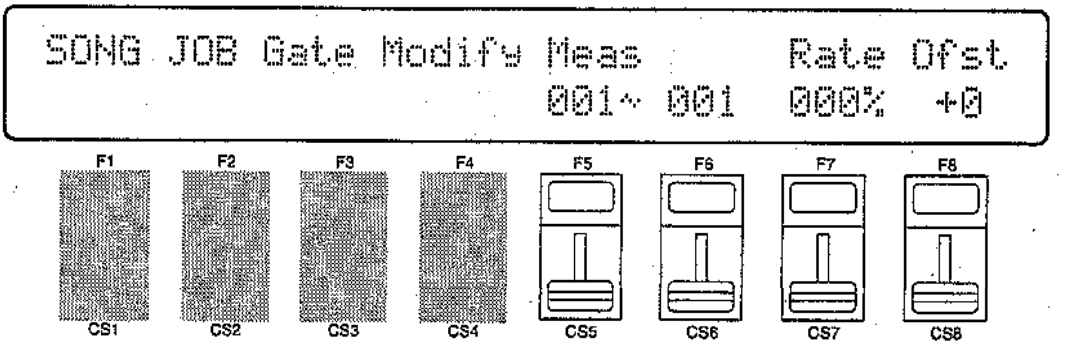
When the velocity data has been modified, "Completed!" will appear briefly on the display.

16: GATE TIME MODIFY

[SONG] → [A]~[H] → [SONG JOB] → [MENU] → 16:Gate Time Modify → [ENTER/YES]

Increases or decreases the gate times (length) of all notes in the specified track and range of measures.

This job is not available when the rhythm track (track 9) is selected.



Meas (First & last measure numbers)

Range: 001 ... 999
Controls: [CS5], [CS6], [-1] [+1], Dial

Rate (Gate time ratio)

Range: 000 ... 200
Controls: [CS7], [-1] [+1], Dial

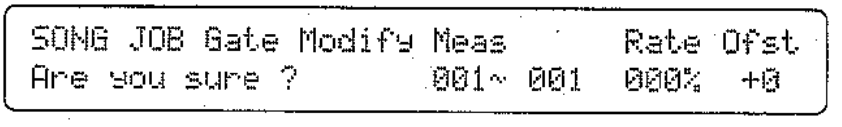
Ofst (Offset)

Range: -99 ... +99
Controls: [CS8], [-1] [+1], Dial

Use the GROUP [A] through [H] keys to select the track on which the gate time modify operation is to be performed (A = track1, B = track 2, and so on). The LED of the selected track will glow red while the LEDs of all other tracks containing data glow green.

Use [CS5] and [CS6] to specify the first and last measure numbers in the range of measures over which you want to modify the gate time data. Use [CS7] to set the "ratio" between the shorter and longer gate time values (a setting of "100%" maintains the original relationship between the notes, lower values produce a narrower gate time range, and higher values produce a broader gate time range). Use [CS8] to specify the amount of offset ("-" settings shorten the gate time while "+" settings. increase the gate time).

Press [ENTER/YES] to begin the gate time modify procedure. The following confirmation display will appear:



Press [ENTER/YES] again to confirm that you want to go ahead with the gate time modify operation, or press [EXIT/NO] to cancel.

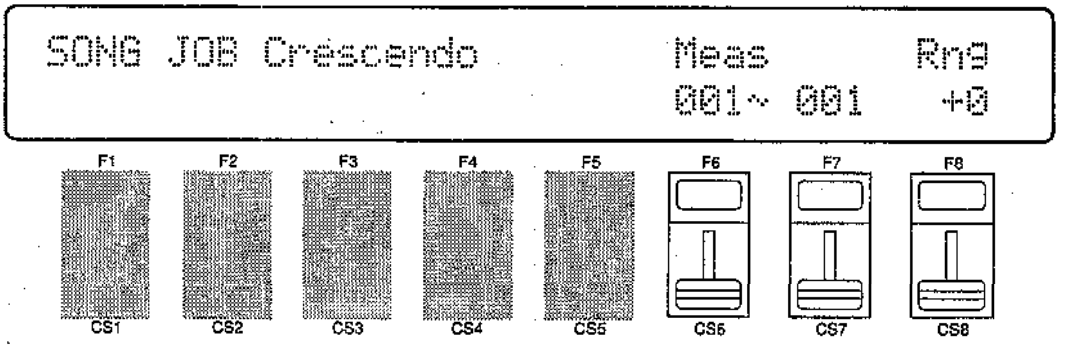
When the gate time data has been modified, "Completed!" will appear briefly on the display.

17: CRESCENDO

[SONG] → [A]~[H] → [SONG JOB] → [MENU] → 17:Crescendo → [ENTER/YES]

Produces a crescendo or decrescendo across the specified range of measures in the selected track by gradually increasing or decreasing the note velocity values.

This job is not available when the rhythm track (track 9) is selected.



Meas (First & last measure numbers)

Range: 001 ... 999
Controls: [CS6], [CS7], [-1] [+1], Dial

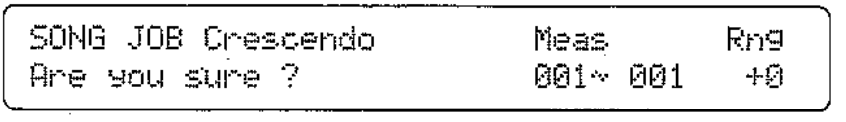
Rng (Range)

Range: -99 ... +99
Controls: [CS8], [-1] [+1], Dial

Use the GROUP [A] through [H] keys to select the track on which the crescendo operation is to be performed (A = track1, B = track 2, and so on). The LED of the selected track will glow red while the LEDs of all other tracks containing data glow green.

Use [CS6] and [CS7] to specify the first and last measure numbers in the range of measures over which you want to produce a crescendo or decrescendo. Use [CS8] to specify the final range of the crescendo or decrescendo: "-" settings produce a decrescendo while "+" settings produce a crescendo.

Press [ENTER/YES] to begin the crescendo procedure. The following confirmation display will appear:



Press [ENTER/YES] again to confirm that you want to go ahead with the crescendo operation, or press [EXIT/NO] to cancel.

When the crescendo or decrescendo has been created, "Completed!" will appear briefly on the display.

PATTERN EDIT MODE

Job

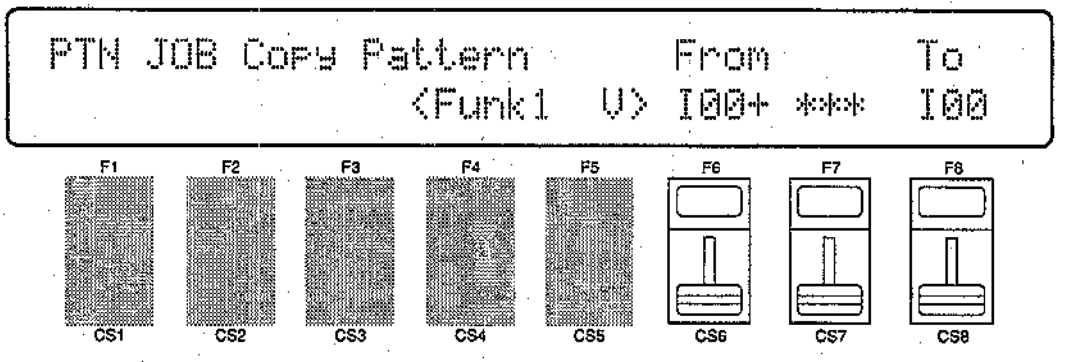
- 1: Copy Pattern 202
- 2: Clear Pattern 203
- 3: Instrument Change 204
- 4: Velocity Modify 205

Pattern Name 207

1: COPY PATTERN

[PATTERN] → [JOB] → [MENU] → 1:Copy Pattern → [ENTER/YES]

Copies all pattern data from one pattern to any other. This can be handy if you want to make minor changes to an existing pattern while retaining a copy of the original pattern data. It is also possible to append one pattern to another, and copy the result to a new pattern number.



From (Source and append patterns)

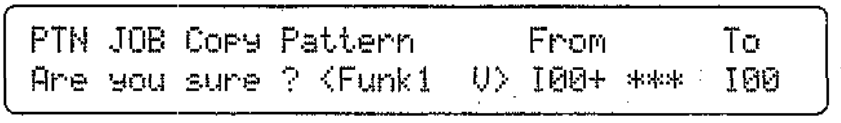
Range: 00 ... 99
Controls: [CS6], [CS7], [-1] [+1], Dial

To

Range: 00 ... 99
Controls: [CS8], [-1] [+1], Dial

Use [CS6] to select the "From" or source pattern number (0 ... 99), [CS7] to select a pattern to be appended to the end of the of the first pattern (leave this parameter set to "***" if you do not want to append a pattern), and [CS8] to select the "To" or destination pattern number. The name of the currently selected "From" or "To" pattern is shown between parentheses on the lower display line, depending on which parameter the cursor is positioned below.

Press [ENTER/YES] to begin the copy procedure. The following confirmation display will appear:



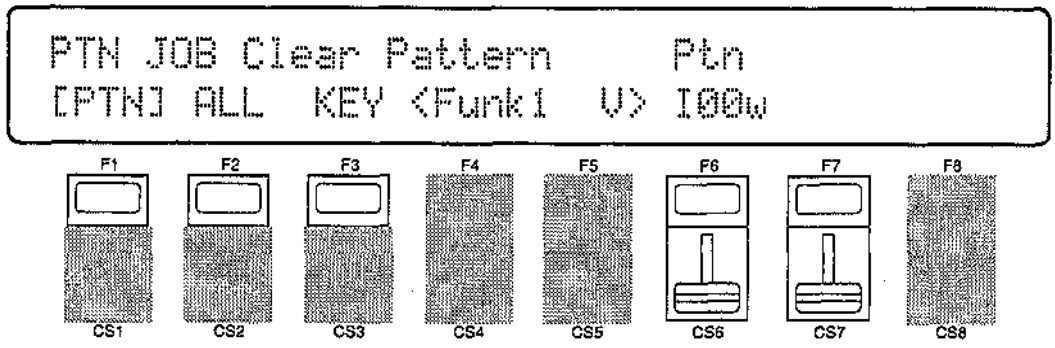
Press [ENTER/YES] again to confirm that you want to go ahead with the copy operation (which will overwrite all data in the "To" pattern number), or press [EXIT/NO] to cancel.

When the pattern data has been copied, "Completed!" will appear briefly on the display.

2: CLEAR PATTERN

[PATTERN] → [JOB] → [MENU] → 2:Clear Pattern → [ENTER/YES]

Entirely clears all patterns, a single pattern, or one instrument (key) from a selected pattern.



PTN, ALL, KEY

Range: PTN, ALL, KEY
Controls: [F1], [F2], [F3]

Ptn (Pattern number)

Range: 00 ... 99
Controls: [CS6], [-1] [+1], Dial

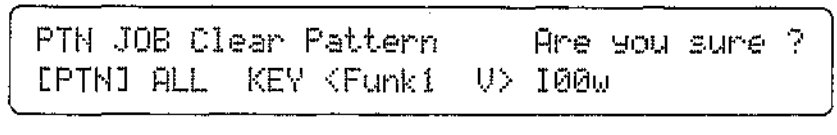
Key

Range: 36 ... 96 (C1 ... C6)
Controls: [CS7], [-1] [+1], Dial, Keyboard

Press [F1] if you want to clear one pattern, [F2] if you want to clear all patterns in memory, or [F3] if you want to clear a specified instrument (key) from a selected pattern. If you select "PTN", the current pattern name is shown between parentheses on the lower display line and [CS6] can be used to select the pattern to be cleared.

If you select "KEY", the current pattern name is shown between parentheses on the lower display line, [CS6] can be used to select the pattern from which an instrument is to be cleared, and [CS7] is used to select the key to be cleared. The key to be cleared can also be directly specified by pressing the appropriate key on the keyboard. The MIDI note number corresponding to the selected instrument/key is shown on the lower display line while the note name (C1 ... C6) is shown on the upper line.

Press [ENTER/YES] to begin the clear procedure. The following confirmation display will appear:



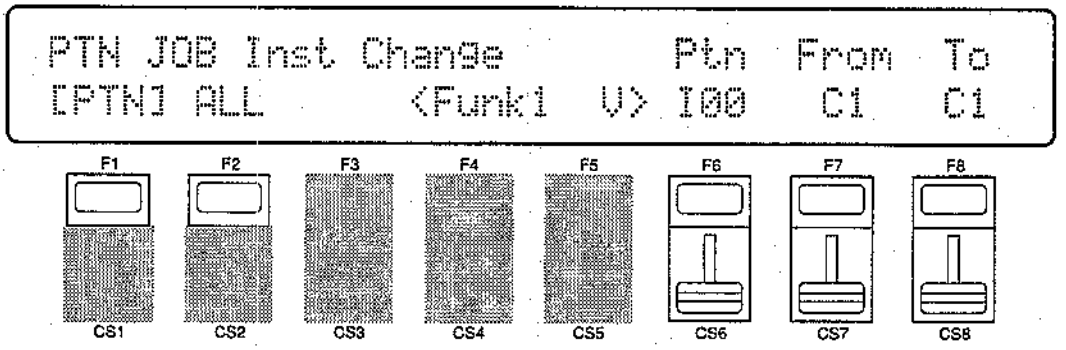
Press [ENTER/YES] again to confirm that you want to go ahead with the clear operation, or press [EXIT/NO] to cancel.

When the specified data has been cleared, "Completed!" will appear briefly on the display.

3: INSTRUMENT CHANGE

[PATTERN] → [JOB] → [MENU] → 3:Inst Change → [ENTER/YES]

Allows a specified instrument (key) in one or all patterns to be changed to any other. This makes it possible to change all occurences of one instrument to a different instrument in one easy step.



PTN, ALL

Range: PTN, ALL
Controls: [F1], [F2]

Ptn (Pattern number)

Range: 00 ... 99
Controls: [CS6], [-1] [+1], Dial

From

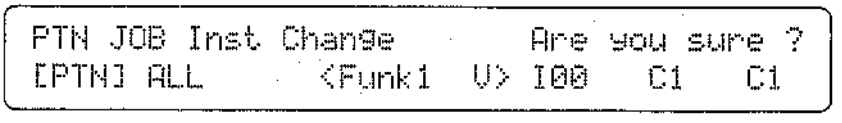
Range: C1 ... C6
Controls: [CS7], [-1] [+1], Dial, Keyboard

To

Range: C1 ... C6
Controls: [CS8], [-1] [+1], Dial, Keyboard

Press [F1] if you want to change an instrument in one pattern, or [F2] if you want to change an instrument in all patterns. If you select “PTN”, the current pattern name is shown between parentheses on the lower display line and [CS6] can be used to select the pattern in which an instrument is to be changed. Use [CS7] (“From”) to select the key corresponding to the instrument to be changed, and [CS8] (“To”) to select the key corresponding to the new instrument. The “From” and “To” keys can also be directly specified via the keyboard when the cursor is located at the corresponding parameter.

Press [ENTER/YES] to begin the instrument change procedure. The following confirmation display will appear:



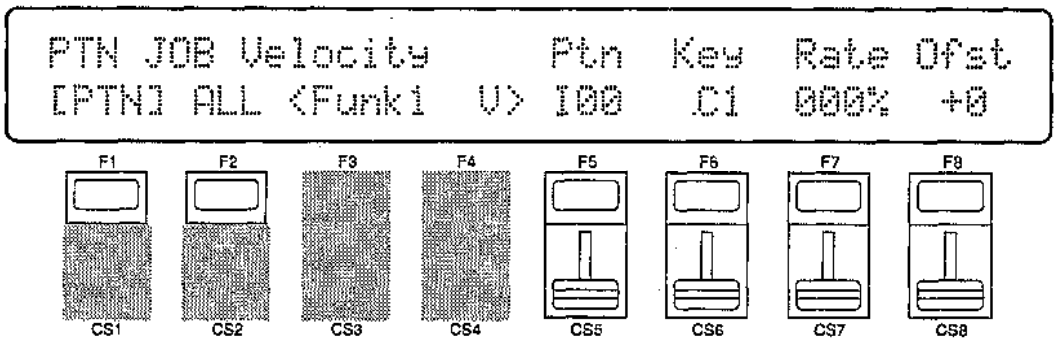
Press [ENTER/YES] again to confirm that you want to go ahead with the instrument change operation, or press [EXIT/NO] to cancel.

When the instrument has been changed, “Completed!” will appear briefly on the display, then the display will return to the pattern play mode.

4: VELOCITY MODIFY

[PATTERN] → [JOB] → [MENU] → 4:Velocity Modify → [ENTER/YES]

Inceases or decreases the velocity values of all occurences of the specified instrument (key) in the specified pattern or all patterns.



PTN, ALL

Range: PTN, ALL
Controls: [F1], [F2]

Ptn (Pattern number)

Range: 00 ... 99
Controls: [CS5], [-1] [+1], Dial

Key

Range: C1 ... C6
Controls: [CS6], [-1] [+1], Dial, Keyboard

Rate (Velocity ratio)

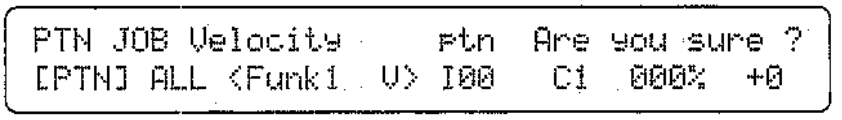
Range: 000 ... 200
Controls: [CS7], [-1] [+1], Dial

Ofst (Offset)

Range: -99 ... +99
Controls: [CS8], [-1] [+1], Dial

Press [F1] if you want to modify the velocity values of an instrument in one pattern, or [F2] if you want to modify the velocity values of an instrument in all patterns. If you select "PTN", the current pattern name is shown between parentheses on the lower display line and [CS5] can be used to select the pattern in which the velocity values are to be modified. Use [CS6] to select the instrument (key) for which the velocity values are to be modified. Use [CS7] to set the "ratio" between the lower and higher velocity values (a setting of "100%" maintains the original relationship between the notes, lower values produce a narrower dynamic range, and higher values produce a broader dynamic range). Use [CS8] to specify the amount of offset ("-" settings reduce the velocity while "+" settings increase the velocity).

Press [ENTER/YES] to begin the velocity modify procedure. The following confirmation display will appear:



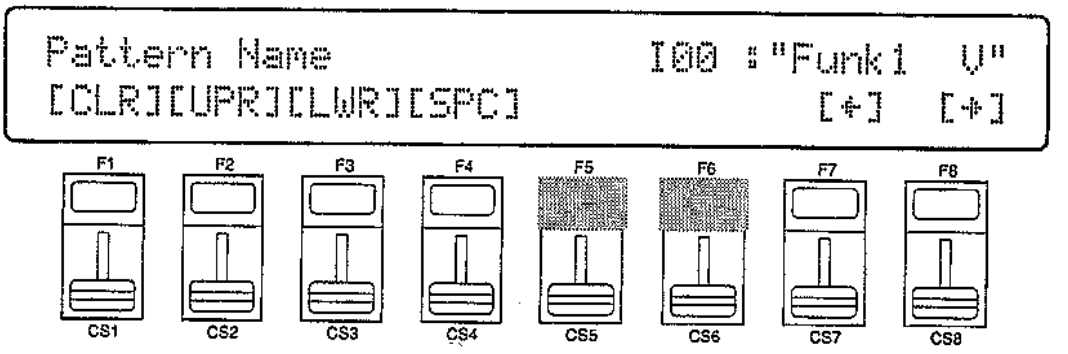
Press [ENTER/YES] again to confirm that you want to go ahead with the velocity modify operation, or press [EXIT/NO] to cancel.

When the velocity data has been modified, "Completed!" will appear briefly on the display, then the display will return to the pattern play mode.

PATTERN NAME

[PATTERN] → [NAME]

This function can be used to assign a name of up to 8 characters to the current pattern.



Name

Range: See character list, below
Controls: GROUP, PROGRAM, [CS1] ... [CS8], [-1] [+1], Dial

Assigns a name of up to 8 characters to the current pattern.

Use the [F7] function key to move the character cursor to the left, and the [F8] function key to move the cursor to the right. Use the GROUP and PROGRAM keys to input a character at the cursor position. Each GROUP or PROGRAM key selects the three characters printed above it in sequence. It is also possible to use the [-1] and [+1] keys or dial to scroll through the available characters (see list below).

The sliders, [CS1] through [CS8], independently select characters for the corresponding character position: [CS1] selects the first character, [CS2] selects the second character, and so on.

The first four function keys also perform important functions: [F1] clears the entire name, [F2] selects upper-case characters for GROUP and PROGRAM key entry, [F3] selects lower-case characters for GROUP and PROGRAM key entry, and [F4] inserts a space at the cursor position,

GROUP key	PROGRAM key
[A]: A → B → C	[1]: Y → Z → 0
[B]: D → E → F	[2]: 1 → 2 → 3
[C]: G → H → I	[3]: 4 → 5 → 6
[D]: J → K → L	[4]: 7 → 8 → 9
[E]: M → N → 0	[5]: * → & → _
[F]: P → Q → R	[6]: / → . → ,
[G]: S → T → U	[7]: ' → ! →?
[H]: V → W → X	[8]: # → : → ;

UTILITY MODE

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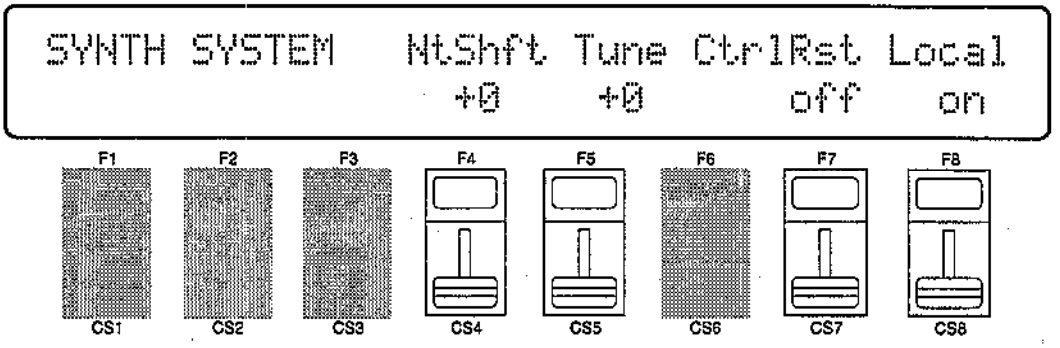
1: SYSTEM

[UTILITY] → [SYNTH SETUP] → [MENU] → 1:System → [ENTER/YES]

This screen includes several parameters that affect overall operation of the SY85.



NtShft (Note shift)

Range: -63 ... +63
Controls: [CS4], [-1] [+1], Dial,

Shifts the overall pitch of the SY85 up or down in semitone steps.

A setting of "-12," for example, shifts the pitch down by one octave; a setting of "+4" shifts the pitch up by a major third.

Tune (Master tuning)

Range: -63 ... +63
Controls: [CS5], [-1] [+1], Dial,

Fine tunes the overall pitch of the SY85 in approximately 1.17-cent steps (a "cent" is 1/100th of a semitone).

The maximum minus setting of "-63" produces a downward pitch shift of almost three-quarters of a semitone, and the maximum plus setting of "+63" produces an upward pitch shift of the same amount. A setting of "0" produces no pitch change.

CtrlRst (Control reset)

Range: off, on
Controls: [CS7], [-1] [+1], Dial

Determines whether controller settings (modulation wheel, pitch bend, breath controller, foot controller, etc.) are held ("off") or reset ("on") when voices or multi-play setups are switched.

If this function is set to "off," then if, for example, you have applied modulation to a voice via the modulation wheel and switch to a new voice while maintaining the same modulation wheel position, then the same amount of modulation will be applied to the new voice. If "on" is selected, than all controller values are reset when a new voice or multi-play setup is selected.

Local

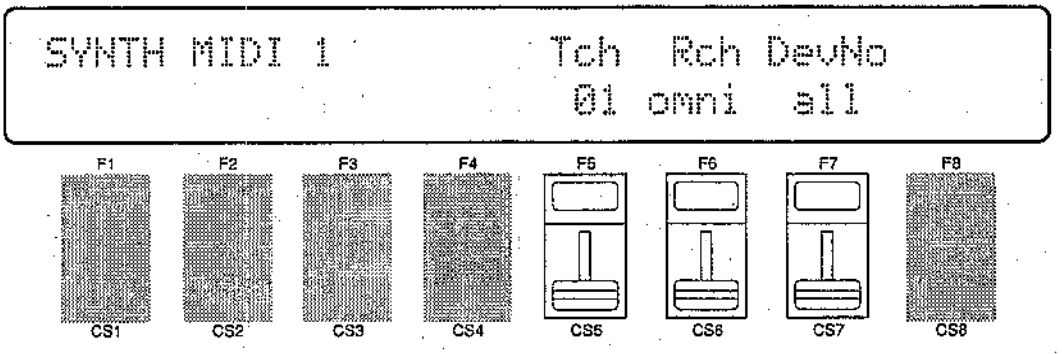
Range: off, on
Controls: [CS8], [-1] [+1], Dial,

"Local control" refers to the fact that, normally, the SY85 keyboard controls its internal tone generator, allowing the internal voices to be played directly from the keyboard. This situation is "Local Control ON" since the internal tone generator is controlled locally by its own keyboard. Local control can be turned OFF, however, so that the keyboard does not play the internal voices, but the appropriate MIDI information is still transmitted via the MIDI OUT connector when notes are played on the keyboard. At the same time, the internal tone generator responds to MIDI information received via the MIDI IN connector.

2: MIDI 1 (CHANNEL PARAMETERS)

[UTILITY] → [SYNTH SETUP] → [MENU] → 2:MIDI 1 → [ENTER/YES]

The MIDI channel parameters provided here are essential to ensure proper communication between the SY85 and other MIDI instruments.



Tch (Transmit channel)

Range: 1 ... 16
Controls: [CS5], [-1] [+1], Dial

Selects the MIDI channel via which all SY85 data will be transmitted.

Rch (Receive channel)

Range: 1 ... 16, omni
Controls: [CS6], [-1] [+1], Dial

Sets the MIDI receive channel to any channel between 1 and 16, or the "omni" mode for reception on all channels. Make sure that the SY85 MIDI receive, channel is either set to the channel that your external controller is transmitting on, or the omni mode..

DevNo (Device number)

Range: off, 1 ... 16, all
Controls: [CS7], [-1] [+1], Dial

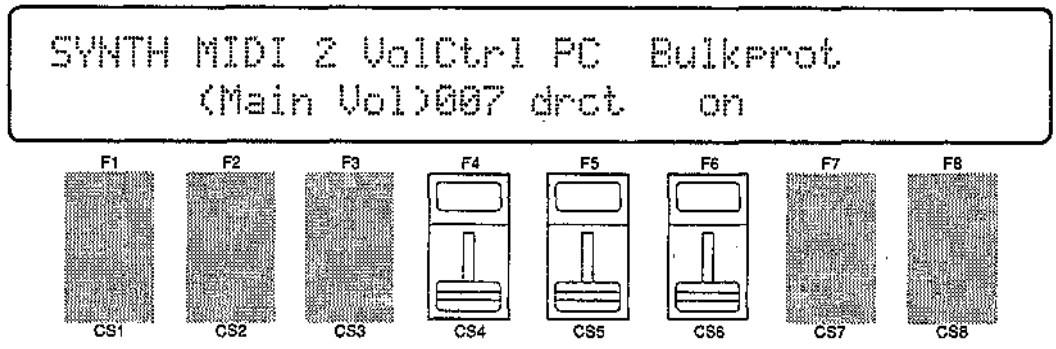
Sets the SY85 MIDI device number — i.e. the MIDI channel on which all system exclusive data will be received and transmitted.

The device number is important for transfer of voice data and other system exclusive data between the SY85 and other Yamaha MIDI devices — e.g. another SY85 or SY-series synthesizer, a Yamaha MIDI sequence recorder such as the QX3, etc. Bulk voice data, for example, is transmitted and received on the channel specified by the device number. Make sure that the SY85 device number is matched to that of other devices in your system with which such data transfers will take place.

3: MIDI 2 (OTHER PARAMETERS)

[UTILITY] → [SYNTH SETUP] → [MENU] → 3:MIDI 2 → [ENTER/YES]

More MIDI parameters that determine how the SY85 responds to external MIDI control.



VolCtrl (Volume control device)

Range: 000 ... 121
Controls: [CS4], [-1] [+1], Dial

Sets a MIDI control number via which the overall volume of the SY85 can be controlled.

PC (Program change type)

Range: off, norm, drct, tbl
Controls: [CS5], [-1] [+1], Dial

Determines whether the SY85 will respond to MIDI program change messages for remote voice/performance selection.

The “off” setting turns MIDI program change reception off, so operating the voice selectors on an external controller will not cause the corresponding SY85 voice or performance setup to be selected.

In the “norm” (normal) mode, program change numbers 0 through 63 select SY85 voices or performance combinations 1 through 64, depending on the current mode.

The “drct” (direct) mode allows, in addition to the voice and performance selection of the “norm” mode, selection of the various SY85 modes by reception of the MIDI program bank change messages listed below.

MIDI PROGRAM BANK CHANGE MESSAGE		MODE	MEMORY
"00H"	"20H"		
00	00	Voice	Internal1
00	03		Internal2
00	06		Internal3
00	09		Internal4
00	01		Card1
00	04		Card2
00	07		Card3
00	0A		Card4
00	40	Performance	Internal1
00	43		Internal2
00	41		Card1
00	44		Card2
00	20	Voice (multi)	Internal1
00	23		Internal2
00	26		Internal3
00	29		Internal4
00	21		Card1
00	24		Card2
00	27		Card3
00	2A		Card4
00	50	Performance (multi)	Internal1
00	53		Internal2
00	51		Card1
00	54		Card2

When "tbl" (table) is selected, transmission conforms to the program change table (see "4: PROGRAM CHANGE TABLE," below), while reception is the same as in the "drct" mode, above.

Bulkprot (Bulk receive protect)

Range: off, on
Controls: [CS6], [-1] [+1], Dial

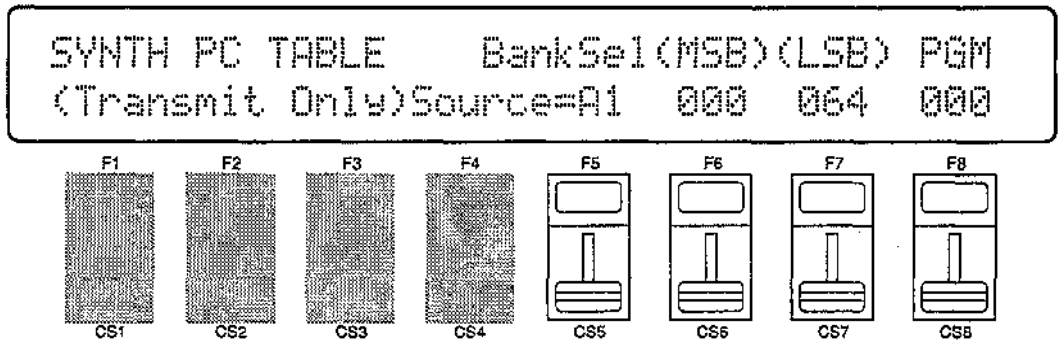
Enables or disables bulk data reception. When this function is set to "off," the SY85 will automatically receive a bulk dump of voice, multi-play or system data from an external device connected to its MIDI IN terminal when the appropriate bulk dump data is received (assuming that the SY85 and transmitting device are both set to the same device number).

Turn bulk: in protect "on" to disable bulk dump reception (this prevents accidental disruption of the SY85 during use).

4: PROGRAM CHANGE TABLE

[UTILITY] → [SYNTH SETUP] → [MENU] → 4:Program Change Table → [ENTER/YES]

These parameters make it possible to specify what MIDI program change number is transmitted via the MIDI OUT connector when any of the internal voice or performance memory locations are selected.



Source

Range: A1 ... H8
Controls: [CS5], GROUP, PROGRAM, [-1] [+1], Dial

Specifies the source voice number (GROUP and PROGRAM) which, when selected on the SY85, will cause the bank and program change numbers specified by the "MSB", "LSB", and "PGM" parameters, described below, to be transmitted via the MIDI OUT connector.

MSB (Bank select most significant bits)

Range: 000 ... 127
Controls: [CS6], [-1] [+1], Dial

Sets the decimal value of the most significant bits of the bank select code to be transmitted when the source voice number is selected. The specific functions of the bank select codes are determined by individual instrument manufacturers, so, if you intend to use these codes, refer to the documentation of the device you intend to control.

LSB (Bank select least significant bits)

Range: 000 ... 127
Controls: [CS7], [-1] [+1], Dial

Sets the decimal value of the least significant bits of the bank select code to be transmitted when the source voice number is selected. See "MSB", above, for more details.

PGM (Program change number)

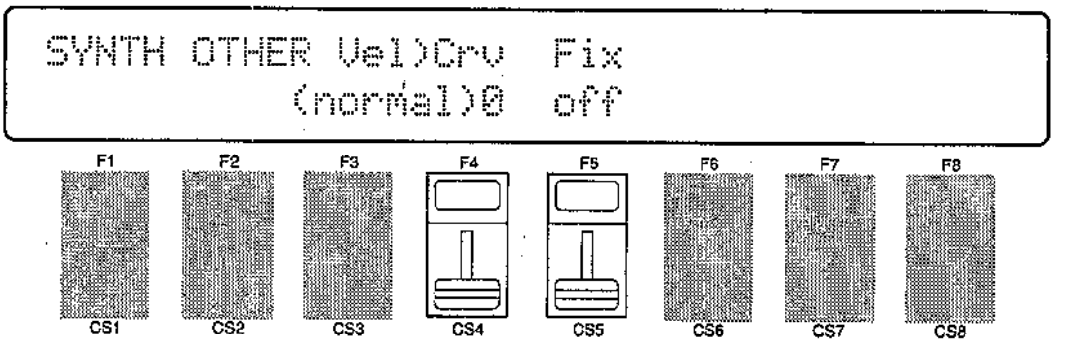
Range: 00 ... 127
Controls: [CS8], [-1] [+1], Dial

Sets the MIDI program change number to be transmitted via the MIDI OUT connector when the corresponding "Source" voice number is selected.

5: VELOCITY

[UTILITY] → [SYNTH SETUP] → [MENU] → 5:Velocity → [ENTER/YES]

The SY85 offers a range of keyboard velocity curves that produce subtly different responses to keyboard dynamics. Choose the velocity curve that best suits your personal style of expression.



Crv (Velocity curve)

Range: 0 ... 7
Controls: [CS4], [-1] [+1], Dial

Selects one of eight different velocity curves.

0: normal
1: soft1
2: soft2
3: easy
4: wide
5: hard
6: cross1
7: cross2

The velocity curves determine how, the SY85 responds to different velocity values (i.e. keyboard dynamics). Different keyboards and controllers have different velocity sensitivity, and different players have individual preferences. This function lets you select the velocity curve that best suits your keyboard/ controller and playing style. Try each one out to find the one you like best.

Fix

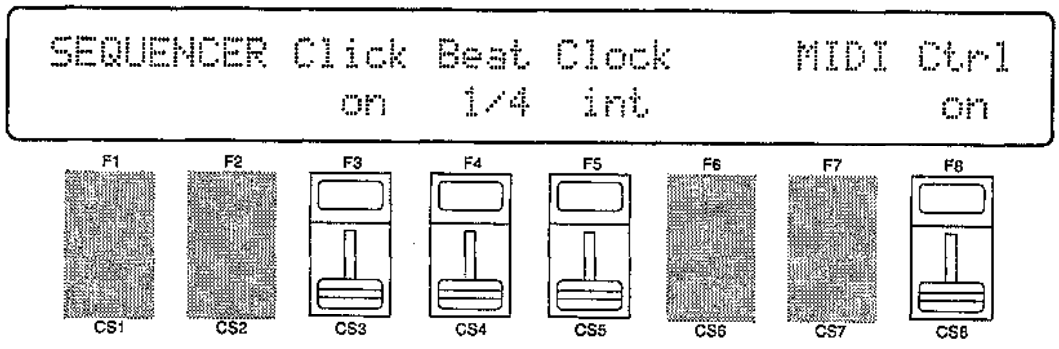
Range: off, 1 ... 127
Controls: [CS5], [-1] [+1], Dial

Sets an absolute velocity value. All notes played, no matter how hard they are played, are sounded at the specified velocity value. When this parameter is set to “off” normal keyboard velocity control is enabled.

1: CLICK CONDITION

[UTILITY] → [SEQ SETUP] → [MENU] → 1:Click Condition → [ENTER/YES]

The parametrers provided in this screen determine how the sequencer's metronome functions, and whether sequencer operation is synchronized to the SY85's own internal clock or an external MIDI device.



Click

Range: off, on
Controls: [CS3], [-1] [+1], Dial

Enables or disables the sequencer's metronome click sound.

The "off" setting means that the metronome never sounds. This setting is useful for recording free-tempo passages. The "on" setting causes the metronome to sound during real-time recording.

The volume of the click metronome sound can be adjusted via the rear-panel [CLICK VOLUME] control.

Beat

Range: 1/4, 1/6, 1/8, 1/12, 1/16, 1/24, 1/32
Controls: [CS4], [-1] [+1], Dial

Effective only in the pattern mode, this parameter determines how many metronome beats occur between each accented beat.

Clock

Range: int, MIDI
Controls: [CS5], [-1] [+1], Dial

Determines whether the SY85 sequencer timing is synchronized by its own internal clock or an external MIDI clock.

"int" (internal) is the normal setting when the SY85 is being used alone. If you are using the SY85 with an external sequencer, MIDI computer, or other MIDI device, and you want the SY85 to be synchronized to the external device, set this function to MIDI. In the latter case, the external device must be connected to the SY85 MIDI IN connector, and must be transmitting an appropriate MIDI clock signal.

MIDI Ctrl

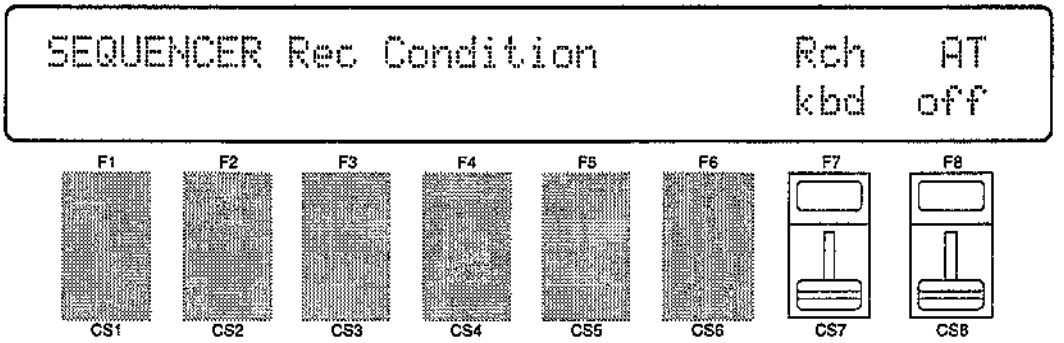
Range: off, on
Controls: [CS8], [-1] [+1], Dial

Enables or disables reception and transmission of MIDI start, stop, and continue messages; enables or disables MIDI clock transmission; and enables or disables MIDI song position pointer reception.

2: RECORD CONDITION

[UTILITY] → [SEQ SETUP] → [MENU] → 2:Rec Condition → [ENTER/YES]

Since you might want to use the SY85 sequencer to record material from an external MIDI device rather than the instrument's own keyboard, the Receive Channel parameter on this page is provided so you can specify reception on any MIDI channel. The Aftertouch parameter is used to turn recording of aftertouch data on or off.



Rch (Receive channel)

Range: 1 ... 16, omni, kbd
Controls: [CS7], [-1] [+1], Dial

Selects input from the SY85 keyboard, or sets the MIDI receive channel when data is to be recorded from an external MIDI device.

This function must be set to "kbd" if you will be recording from the SY85 keyboard. If you will be recording from an external MIDI controller such as a master keyboard or wind controller, however, select the appropriate MIDI channel or the "omni" mode for reception on all MIDI channels.

AT (Aftertouch)

Range: off, on
Controls: [CS8], [-1] [+1], Dial

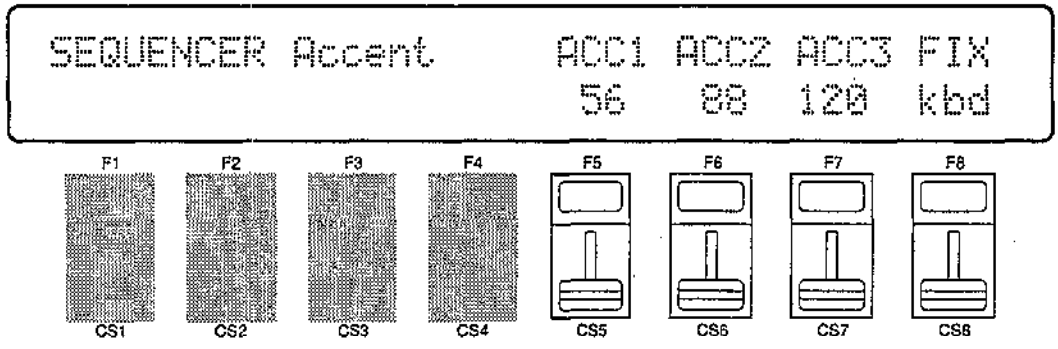
Turns recording of after touch data on or off.

After touch data tends to be quite voluminous, and can use up the sequencer memory capacity quickly, For this reason, the default setting for after touch data recording is "off." turn this parameter "on" only if you specifically want to use an after touch effect.

3: ACCENT VELOCITY

[UTILITY] → [SEQ SETUP] → [MENU] → 3:Accent Velocity → [ENTER/YES]

Determine the velocity values of three accent types that can be entered in the song/pattern step record mode and in the pattern real-time record mode, and of the fixed velocity value for all record modes.



ACC1, ACC2, ACC3 (Accents 1 ... 3)

Range: 1 ... 127
Controls: [CS5], [CS6], [CS7], [-1] [+1], Dial

[CS5], [CS6], and [CS7] set the ACC1, ACC2, and ACC3 velocity values, respectively. Refer to the step recording instructions beginning on page 52 of the "Getting Started" manual for more information about the accents.

FIX

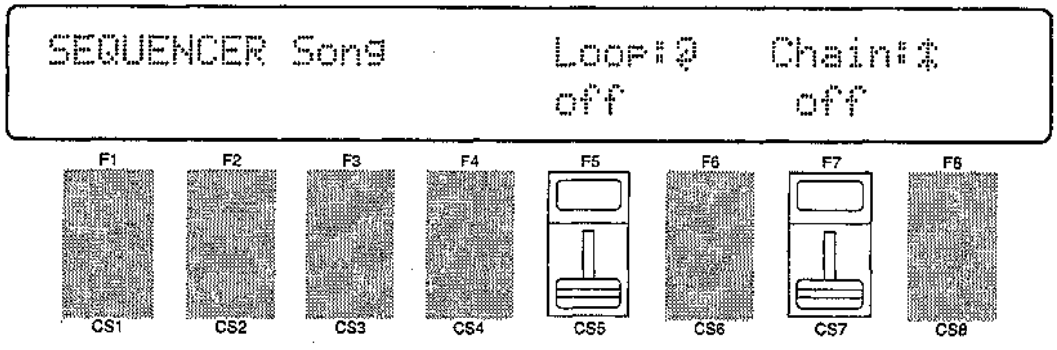
Range: 1 ... 127, kbd
Controls: [CS8], [-1] [+1], Dial

Set to "kbd" for normal velocity control during recording, or to a specific fixed velocity value, as required. The specified value will be used for all song and pattern recording.

4: SONG CHAIN

[UTILITY] → [SEQ SETUP] → [MENU] → 4:Song Chain → [ENTER/YES]

These parameters allow repeat playback of a single song, sequential playback of several songs, or repeat playback of a sequence of songs.



Loop

Range: off, on
Controls: [CS5], [C-1] [+1], Dial

When this parameter is turned "on", a song (or chain of songs — see below) played back in the song play mode will repeat continuously until stopped manually. When "on" the loop symbol ( ) will apear on the display in the song play mode.

Chain

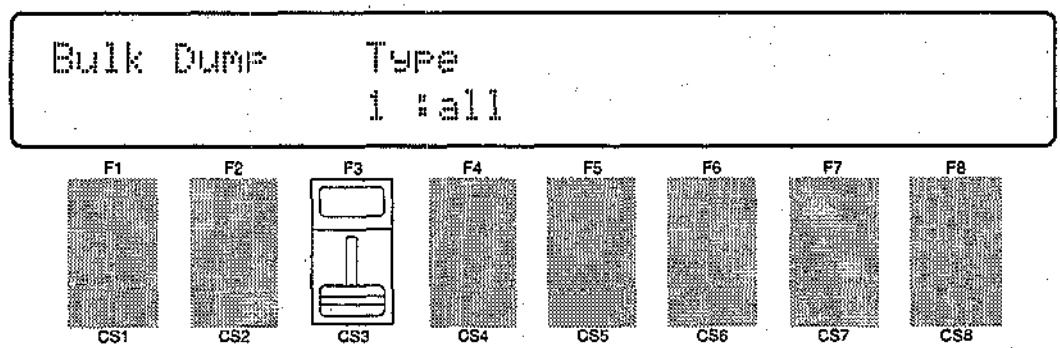
Range: off, on
Controls: [CS7], [C-1] [+1], Dial

When this parameter is turned "on", consecutively-numbered songs that contain data will be played back in sequence in the song play mode, then playback will stop when the last song has finished. If the "Loop" parameter is also "on", the entire chain will repeat until stopped manually. When "on" the chain symbol ( ) will apear on the display in the song play mode.

BULK DUMP

[UTILITY] → [MIDI]

Initiates MIDI bulk transmission of the selected voice, multi-play, and/or system data.



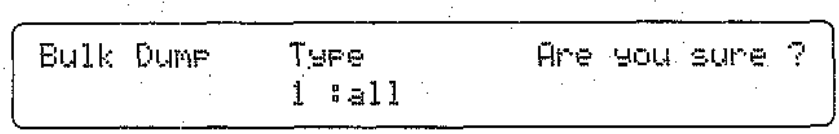
Type

Range: all, synth all, sequencer all, pattern all, 1 performance, 1 voice, 1 song
Controls: [CS3], [-1] [+1], Dial

Use [CS3] to select the type of data you want to transmit. The various data types are as follows:

1: all	All internal data.
2: synth all	All synthesizer data, including setup, performance combinations, and voices.
3: sequencer all	All sequencer data, including setup, songs, and patterns.
4: pattern all	All patterns.
5: 1 performance	The currently selected performance combination.
6: 1 voice	The currently selected voice.
7: 1 song	The currently selected song, including multi data.

Press [ENTER/YES] to begin the bulk dump procedure. The following confirmation display will appear:



Press [ENTER/YES] again to confirm that you want to go ahead with the bulk dump operation, or press [EXIT/NO] to cancel.

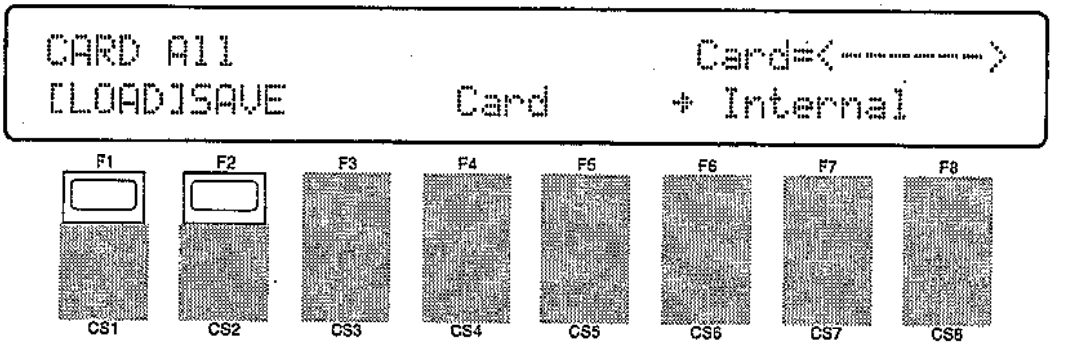
When the data has been transmitted, "Completed!" will appear briefly on the display.

This function is useful for transferring synthesizer, sequencer, and/or system data from one SY85 to another. If the MIDI OUT of the transmitting SY85 is connected to the MIDI IN of the receiving SY85 via a MIDI cable, the receiving unit will automatically receive and load the data as long as its BULK RECEIVE PROTECT (page 214) function is turned "off" and it is set to the same device number as the transmitting SY85. Another possibility is to transfer the data to an external MIDI bulk, data storage device for long-term storage.

1: CARD ALL LOAD/SAVE

[UTILITY] → [CARD] → [MENU] → 1:ALL Load/Save → [ENTER/YES]

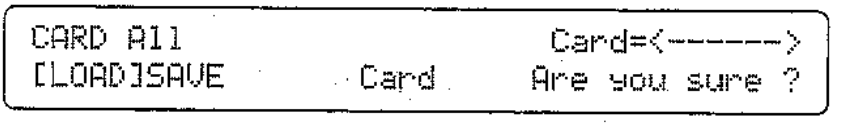
Saves or loads all internal voices and performance combinations to or from a Yamaha MCD64 memory card plugged into to the DATA card slot.



Before executing a load or save operation, check the card status as shown in the upper right corner of the display. If the display shows "Card=<SY85 >", a properly formatted MCD64 is installed and the load or save operation can be executed. If the wrong type of card (wrong format) or no card is installed in the DATA slot, however, the card status display will show "Card=<------>" and no load or save operation is possible. You will have to use the card format job, described next, to format a new memory card or one that has been formatted for use with a different instrument before the card can be used with the SY85. Also make sure that the card write protect switch (see MCD64 Memory Card operation manual) is set to the "OFF" position before attempting to save data to the card.

Press the [F1] key to highlight "LOAD" on the display if you want to load the voices and performance combinations from the card into the SY85's internal memory, or press the [F2] key to highlight "SAVE" on the display if you want to save the voice and performance data from the internal memory to the card.

Press [ENTER/YES] to begin the card load or save procedure. The following confirmation display will appear:



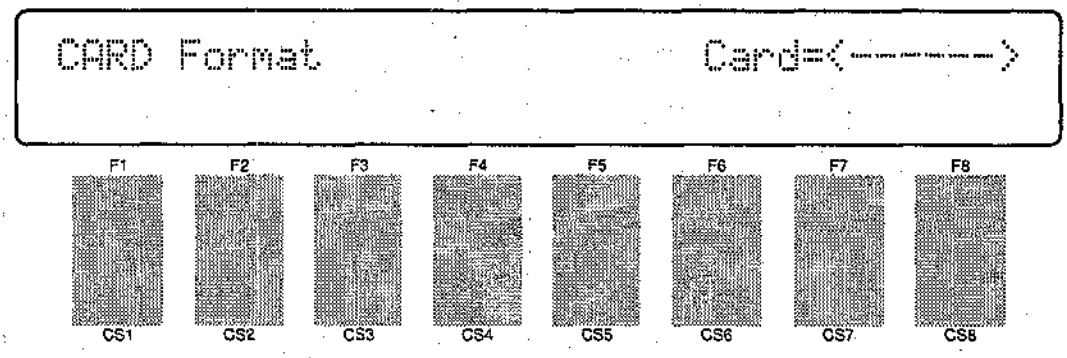
Press [ENTER/YES] again to confirm that you want to go ahead with the card load or save operation, or press [EXIT/NO] to cancel.

When the data has been loaded or saved, "Completed!" will appear briefly on the display.

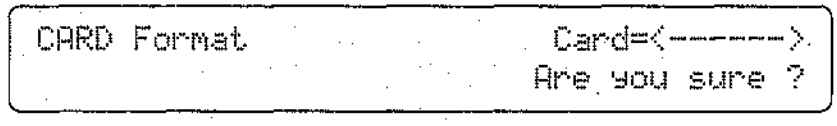
2: CARD FORMAT

[UTILITY] → [CARD] → [MENU] → 2:Format → [ENTER/YES]

New memory cards, or cards that have been formatted for use with a different instrument or device, will have to be formatted specifically for use with the SY85. Note that this operation will erase any existing data on the card.



After plugging the card to be formatted into the DATA card slot, press [ENTER/YES] to begin the card format procedure. The following confirmation display will appear:



Press [ENTER/YES] again to confirm that you want to go ahead with the card format operation, or press [EXIT/NO] to cancel.

When the card has been formatted, “Completed!” will appear briefly on the display.

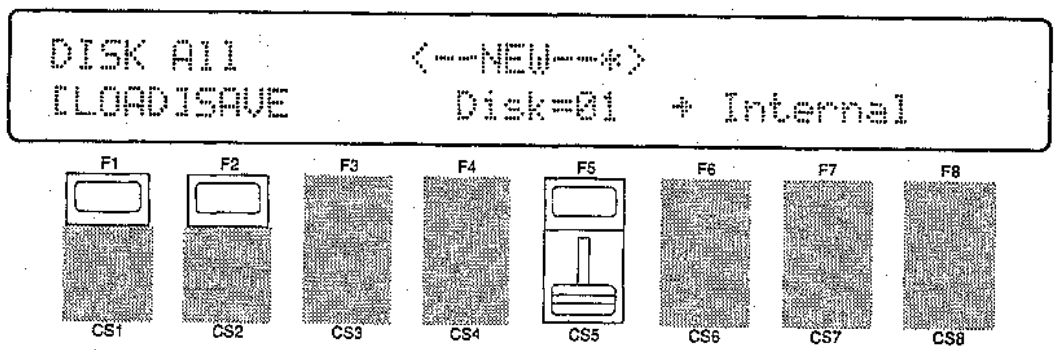
1: DISK ALL LOAD/SAVE
2: DISK ALL LOAD/SAVE SYNTH
3: DISK ALL LOAD/SAVE SEQ
4: DISK NSEQ LOAD/SAVE
5: DISK OTHER LOAD/SAVE

[UTILITY] → [DISK] → [MENU] → 1:All Load/Save → [ENTER/YES]
→ 2:Synth All Load/Save → [ENTER/YES]
→ 3:Seq All Load/Save → [ENTER/YES]
→ 4:NSEQ Load/Save → [ENTER/YES]
→ 5:Other Load/Save → [ENTER/YES]

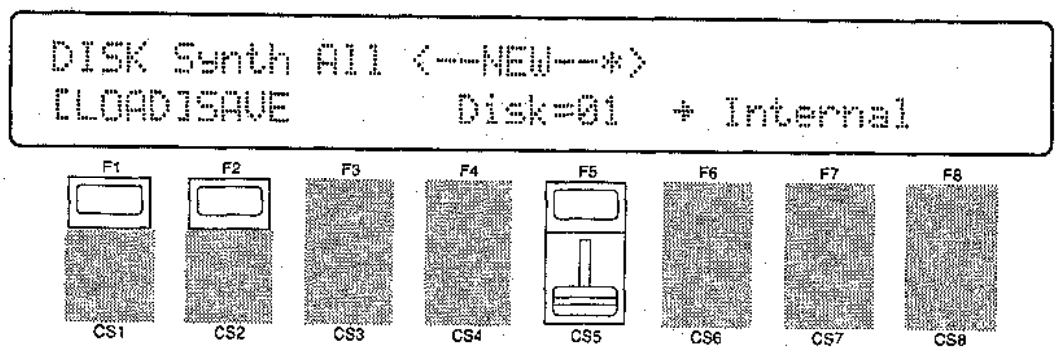
These 5 disk utilities allow different types of data to be saved to or loaded from a 3.5" floppy disk inserted in the SY85 disk drive. Since the operation of all five utilities is almost identical, they will be described here in a single section.

Use only 2DD type disks that have been formatted for use with the SY85 via the DISK FORMAT function described on page 235.

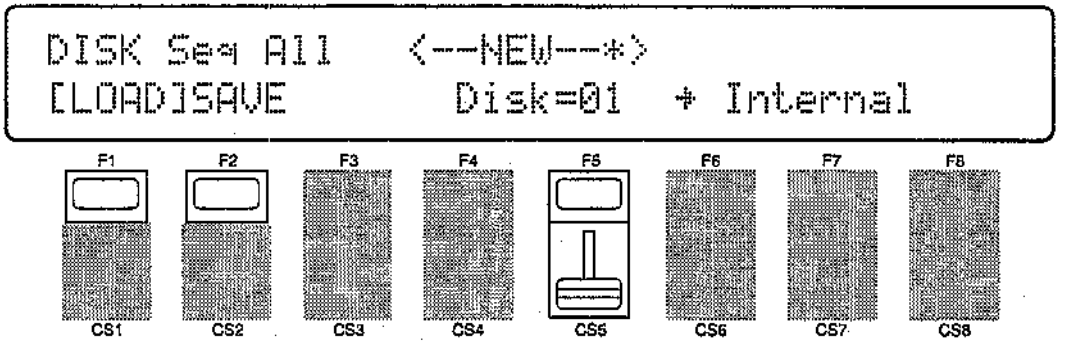
● 1: Load or Save All Synthesizer & Sequencer Data



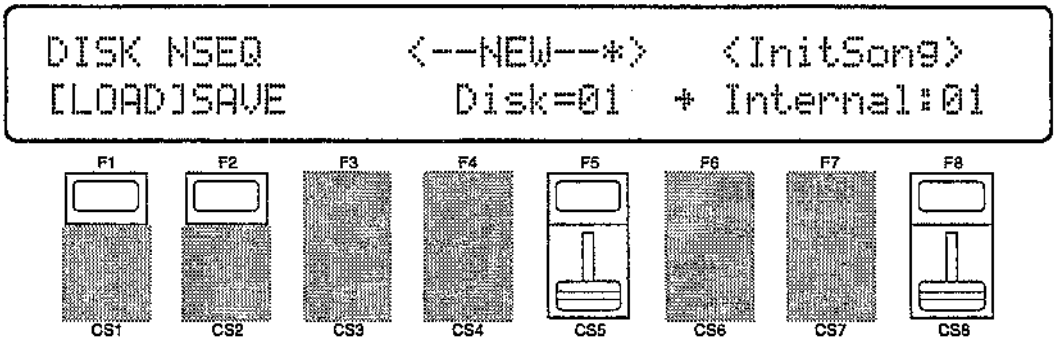
●2: Load or Save All Synthesizer Data



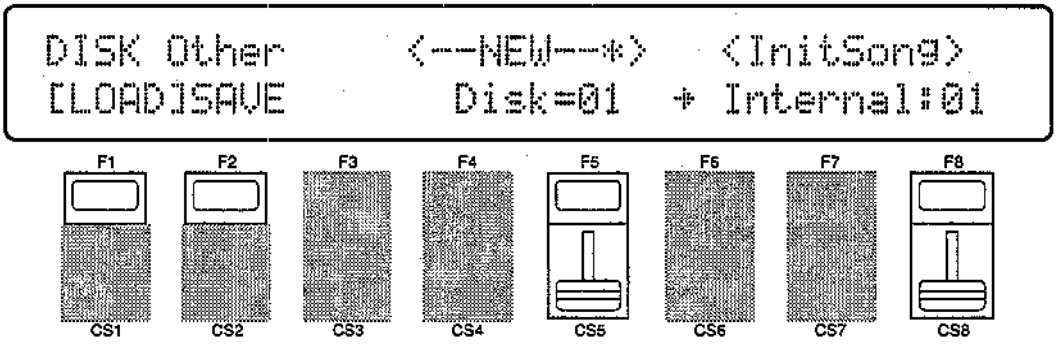
● 3: Load or Save All Sequencer Data



● 4: Load or Save 1 NSEQ File



● 5: Load or Save 1 Song in Standard MIDI File Format



Press the [F1] key to highlight “LOAD” on the display if you want to load data from the disk into the SY85 internal memory, or press the [F2] key to highlight “SAVE” on the display if you want to save data from the internal memory to the disk. Next, use [CS5] to select the number of the disk file (01 through 99) that you want to load from or save to. In the case of utilities number 4 and 5, you also need to select the number of the song (1 through 10) to be loaded or saved via [CS8].

Press [ENTER/YES] to begin the disk load or save procedure. If you select “SAVE”, you have the option of pressing the [F3] key to give the data file a name before it is saved (the name is displayed above the file number — unnamed files are automatically named “--NEW--*”). If you choose the “NAME” option, enter the file name in the normal way (see page 95)◊, then press [ENTER/YES] to begin the disk load or save procedure. The following confirmation display will appear:

Press [ENTER/YES] again to confirm that you want to go ahead with the disk load or save operation, or press [EXIT/NO] to cancel.

When the data has been loaded or saved, “Completed!” will appear briefly on the display.

See page 321 for information on disk error messages.

◊ Please note the following points if you will writing or modifying disk file names using a personal computer.

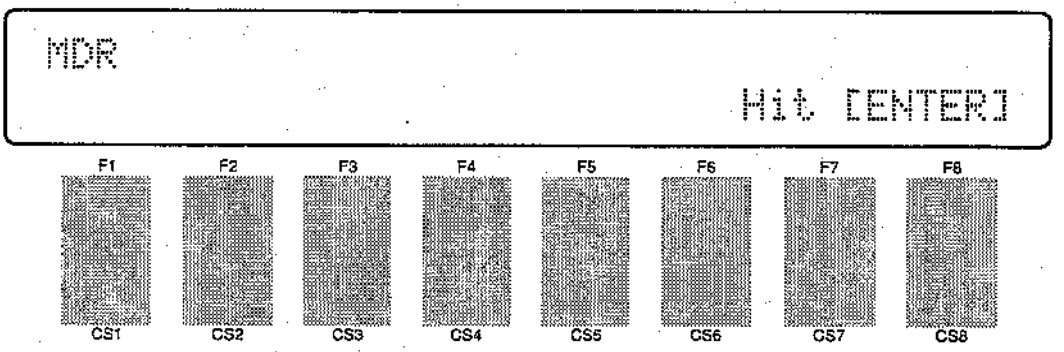
- The file extension “.Xnn” must be present (“nn” is the extension number).
- If two files having the same extension number exist on the same disk, only one will appear on the display. Please make sure that all files on the same disk have different extension numbers.
- Unlike voice names, file name can consist only of upper-case characters.

6: MDR

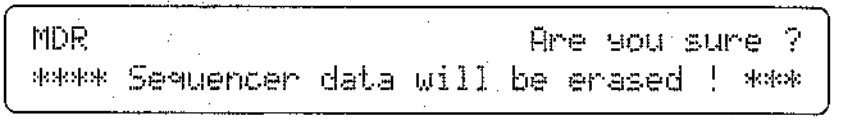
[UTILITY] → [DISK] → [MENU] → 6:MDR → [ENTER/YES]

The MDR (MIDI Data Recorder) utilities allow MIDI bulk dump data to be transferred between different MIDI devices via the SY85, and saved to or loaded from floppy disk.

Engaging the MDR utilities required an extra confirmation step since all sequencer data in the SY85 song memory is erased when the MDR functions are used. This is because the sequencer memory is used as temporary storage for MDR data handled by the SY85.



From this entry display press [ENTER/YES]. The following confirmation display will appear:

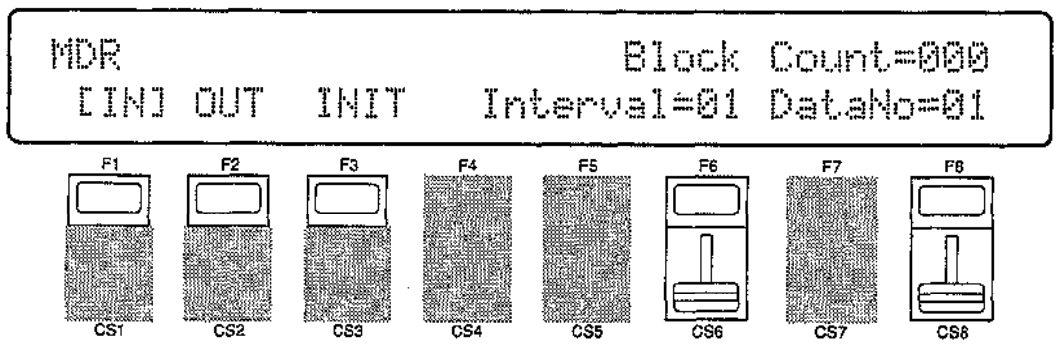


Press [ENTER/YES] again to access the MDR functions (erasing any song data in the process), or [EXIT/NO] to quit. Once in the MDR mode, you can use th PAGE [◄] and [►] keys to access the two display screens it includes.

Press [EXIT/NO] when you're ready to exit from the MDR mode.

● 1: MDR IN/OUT

This utility allows MIDI bulk data to be received from an external device and stored in the SY85 internal memory, after which it can be saved to disk by using the MDR SAVE utility, described next. In the same way, MIDI bulk data that has been loaded into the SY85 memory from disk using the MDR LOAD utility can be transmitted to an external device.



Up to 16 different MDR files can be retained in internal memory. Use [CS8] ("Data No") to select the number of the file to be initialized, transmitted, or received.

The "Interval" parameter, adjustable from 01 to 10 via [CS6], sets a delay interval. between transmitted data to conform to the timing requirements of some MIDI devices. Normally the "Interval" parameter can be set at "01" unless your receiving device has trouble receiving data from the SY85.

Initializihg the MDR Memory

Press [F3] ("INIT") and then press [ENTER/YES] twice to initialize (clear) the selected file number. "Completed!" appears briefly when the data has been initialized.

Receiving MDR Data

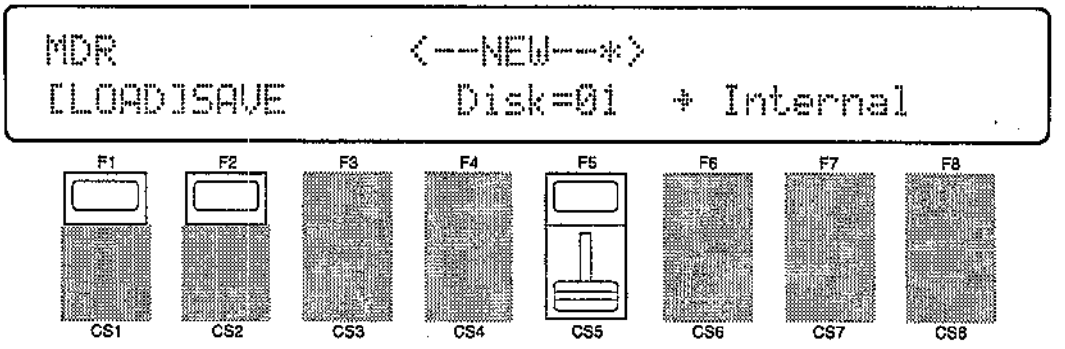
Press [Fl] ("IN") and then [ENTER/YES] to receive the data to the current file number. The number of data blocks received is displayed on the upper display line during reception.

Transmitting MDR Data

Press [F2] ("OUT") and then [ENTER/YES] to transmit the data in the current file number. The number of data blocks transmitted is displayed on the upper display line during transmission. "Completed!" appears briefly when the data has been transmitted.

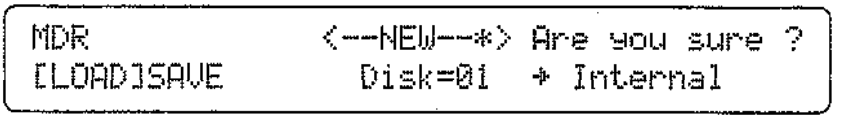
● 2: MDR SAVE/LOAD

This utility is used to move MDR data between the internal memory and disk. A SAVE operation saves MDR data from the internal memory to the specified disk file number, and a LOAD operation loads MDR data to the internal memory from the specified disk file number.



Press the [Fl] key to highlight “LOAD” on the display if you want to load MDR data from the disk into the SY85 internal memory, or press the [F2] key to highlight “SAVE” on the display if you want to save MDR data from the internal memory to the disk. Next, use [CS5] to select the number of the disk file (00 through 99) that you want to load from or save to.

Press [ENTER/YES] to begin the MDR disk load or save procedure. If you select “SAVE”, you have the option of pressing the [F2] key to give the data file a name before it is saved (the name is displayed above the file number — unnamed files are automatically named “--NEW--*”). If you choose the “NAME” option, enter the file name in the normal way (see page 95), then press [ENTER/YES] to begin the disk load or save procedure. The following confirmation display will appear:



Press [ENTER/YES] again to confirm that you want to go ahead with the disk load or save operation, or press [EXIT/NO] to cancel.

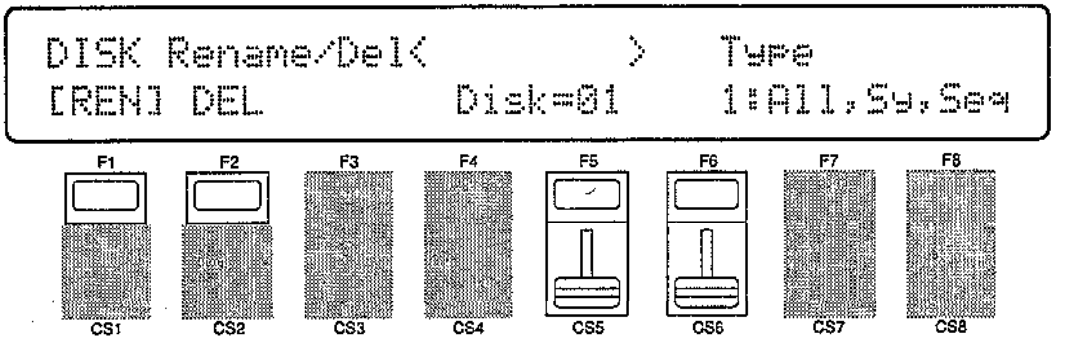
When the data has been loaded or saved, “Completed!” will appear briefly on the display.

See page 321 for information on disk error messages.

7: RENAME/DELETE

[UTILITY] → [DISK] → [MENU] → 7:Rename, Delete → [ENTER/YES]

These utilities allow disk files to be renamed or deleted.



Press the [Fl] key to highlight “REN” on the display if you want to rename a file, or press the [F2] key to highlight “DEL” on the display if you want to delete a file. Next, use [CS6] to select the type of data file you want to rename or delete (“l:All,Sy,Seq” for all synthesizer and sequencer files, “NSEQ” for NSEQ format files, “Other” for standard MIDI format files, and “MDR” for MDR files). Use [CS5] to select the number of the disk file (01 through 99) that you want to load from or save to. Only files that have the selected file type will show a file name above the file number.

If you selected “REN”, enter the file name with the group and program keys as in “Voice Name” (see page 95), then press [ENTER/YES] to begin the rename procedure. If you selected “DEL”, simply press [ENTER/YES] to begin the delete procedure. The following confirmation display will appear:

Press [ENTER/YES] again to confirm that you want to go ahead with the file rename or delete operation, or press [EXIT/NO] to cancel.

When the file has been renamed or deleted, “Completed!” will appear briefly on the display.

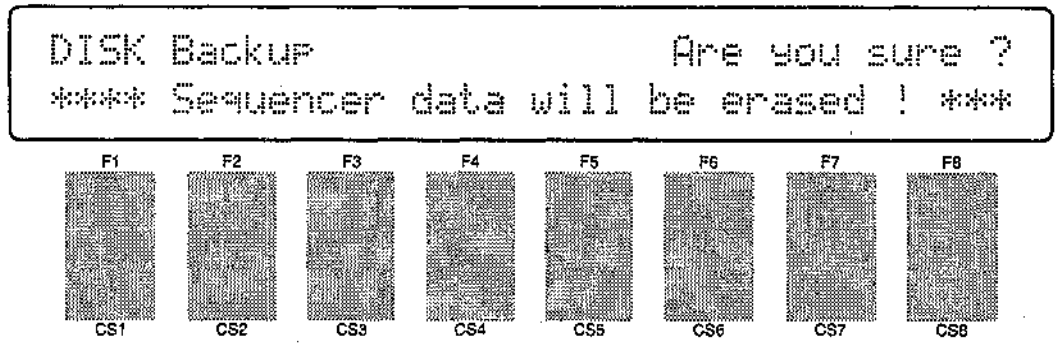
See page 321 for information on disk error messages.

8: BACKUP DISK

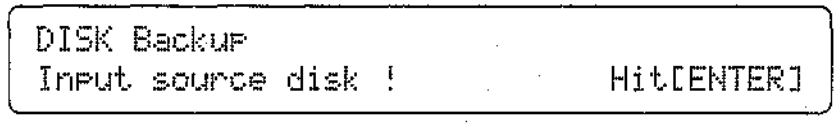
[UTILITY] → [DISK] → [MENU] → 8:Backup Disk → [ENTER/YES] → [ENTER/YES]

The disk backup utility makes it simple to create backup disks of important data.

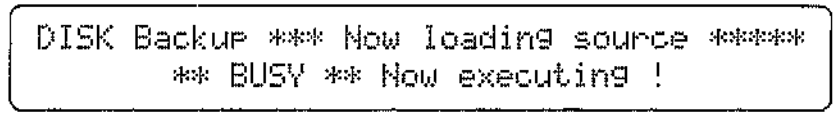
Engaging the disk backup utility required an extra confirmation step since all sequencer data in the SY85 song memory is erased when the disk backup function is used. This is because the sequencer memory is used as temporary storage for the data copied from the source disk to the backup disk.



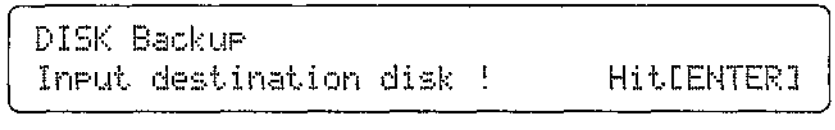
Press [ENTER/YES] to access the disk backup utility (erasing any song data in the process), or [EXIT/NO] to quit.



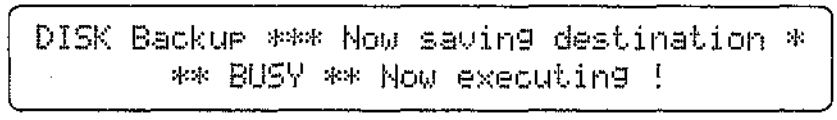
When this display appears, insert the source disk containing the data to be backed up, then press [ENTER/YES].



"Now loading source" appears on the display while the data from the source disk is loaded into the SY85 memory.



When this display appears, insert the blank, formatted disk to which the data is to be copied (i.e. the backup disk), then press [ENTER/YES].



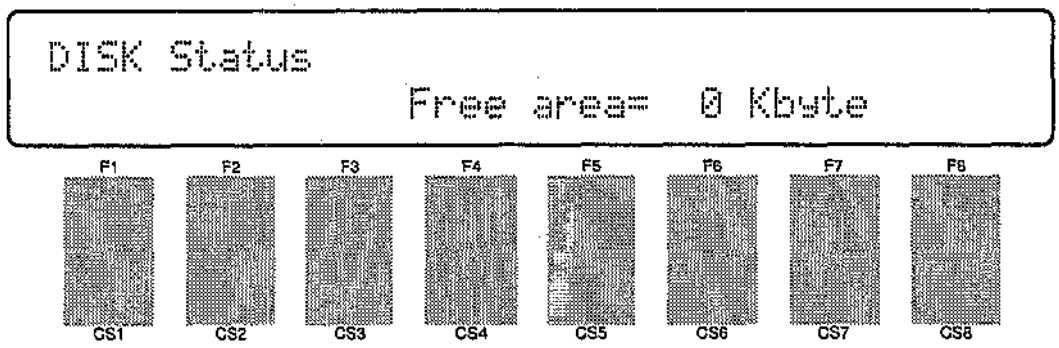
This display appears while the data is being saved to the destination disk, then "Completed!" will appear briefly when the data has been saved.

See page 321 for information on disk error messages.

9: DISK STATUS

[UTILITY] → [DISK] → [MENU] → 9:Disk Status → [ENTER/YES]

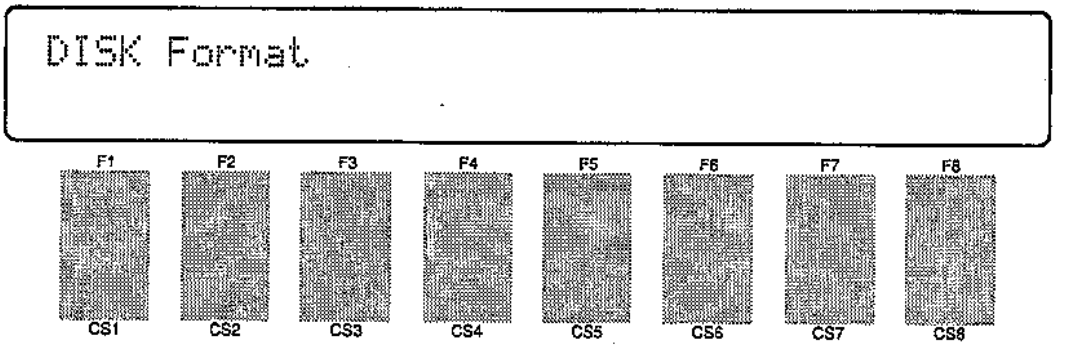
This display shows the amount of remaining disk space in kilobytes. A newly formatted disk has a free area of approximately 713 kilobytes.



10: DISK FORMAT

[UTILITY] → [DISK] → [MENU] → 10:Format → [ENTER/YES]

The disk format utility must be used to format new floppy disks, or disks that have been formatted for use with other equipment, before they can be used with the SY85.



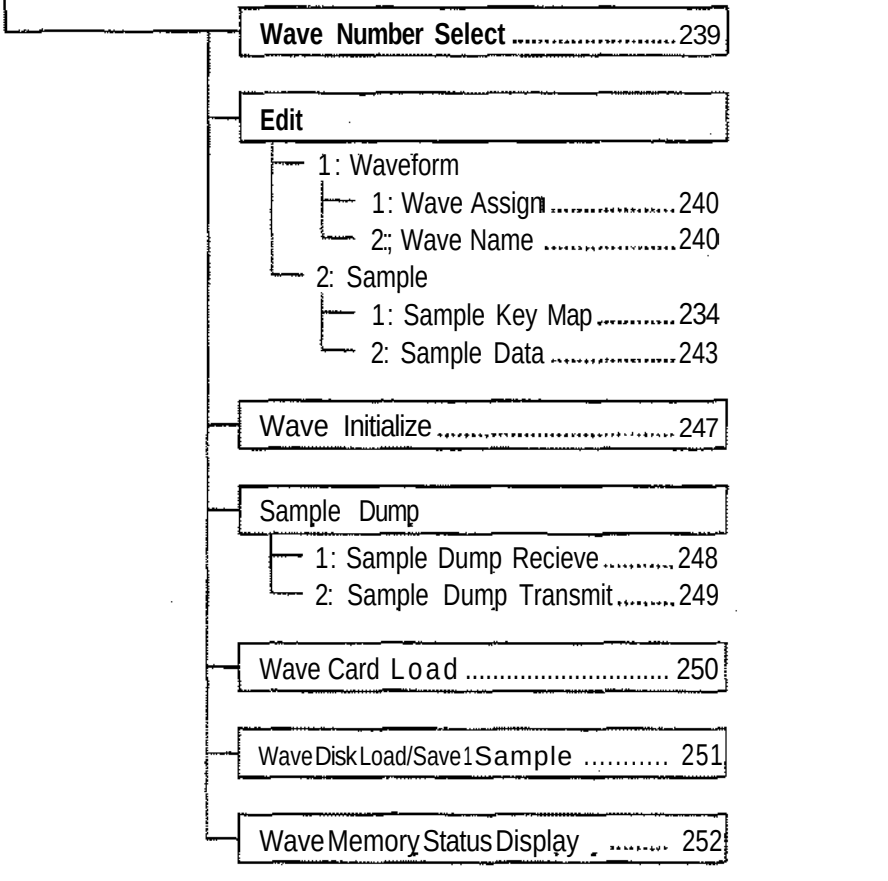
Press [ENTER/YES] to begin the format operation. Note that formatting: a disk that already contains data will erase all data on the disk!

"Now formatting" appears on the display while the disk is being formatted, and the percent of the disk that has been formatted is shown on the lower display line.

When the disk has been completely formatted, "Completed!" will appear briefly on the display.

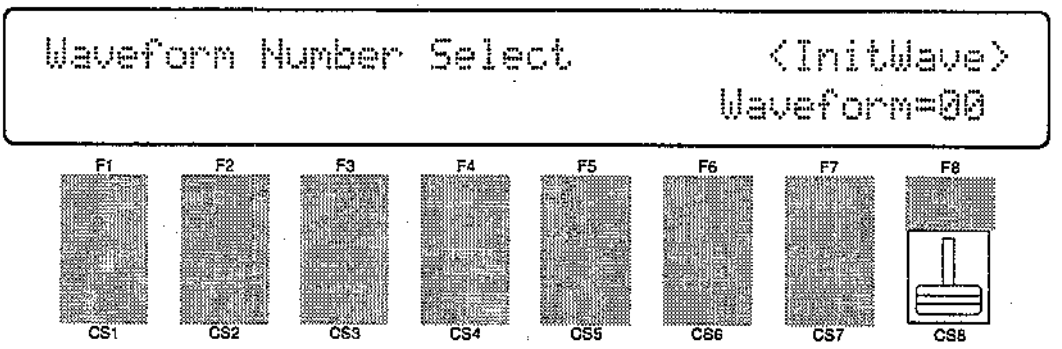
See page 321 for information on disk error messages.

WAVE EDIT MODE



Unlike the other SY85 modes, the WAVE mode is not directly accessed via the mode matrix. To access the WAVE mode, press the [UTILITY] key while holding the [SHIFT] key. This takes you directly to the WAVEFORM NUMBER SELECT screen, described on the following page.

[SHIFT] + [UTILITY] → WAVE MODE



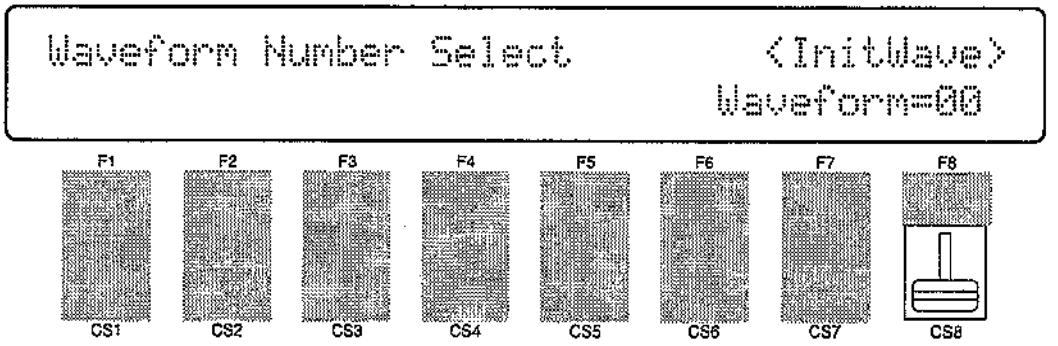
The other matrix UTILITY SUB MODE keys access the following functions:

[UTILITY]	[WAVE]
[SYNTH SETUP]	[EDIT]
[SEQ SETUP]	[INITIALIZE]
[MIDI]	[MIDI SAMPLE DUMP]
[CARD]	[CARD]
[DISK]	[DISK]

WAVE NUMBER SELECT

[SHIFT]+[UTILITY]

Specifies the number of the waveform to be edited using the WAVE EDIT functions, and the number of the waveform to which a sample loaded from disk will be assigned.



Waveform

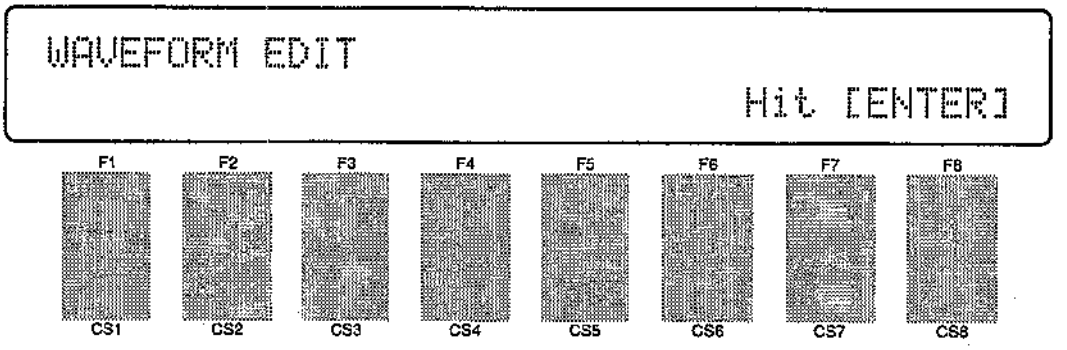
Range: 00 . . . 63
Controls: [CS8], [-1] [+1], Dial

Use [CS8] to select the number of the waveform to be edited. The name of the selected waveform appears between parentheses on the upper display line.

1: WAVE ASSIGN
2: WAVE NAME

[SHIFT]+[UTILITY] → [SYNTH SETUP] → [MENU] → 1:Waveform → [ENTER/YES] →
→ [ENTER/YES] → [MENU] → 1:Assign → [ENTER/YES]
→ 2:Name → [ENTER/YES]

After pressing the [SYNTH SETUP] SUB MODE key (actually the [EDIT] key in the WAVE mode), the PAGE [◄] and [►] keys can be used to select the entry display for the WAVEFORM EDIT or SAMPLE EDIT functions. Select "WAVEFORM EDIT".



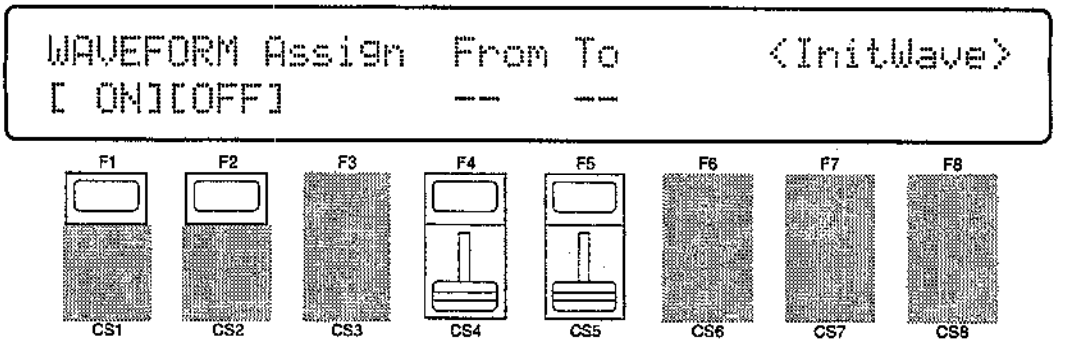
From this entry display press [ENTER/YES].

Press [EXIT/NO] when you're ready to exit from the WAVEFORM EDIT mode.

● 1: WAVE ASSIGN

If not already selected, press the PAGE [◄] key to select this screen.

This function assigns the selected sample(s) to a "waveform". A waveform can consist of anywhere from 0 to 63 samples. The SAMPLE EDIT functions described below allows each sample assigned to a waveform to be mapped to a specific range of the keyboard, as well as allowing the volume, pitch, and loop characteristics of each sample to be set individually.



ON, OFF

Range: ON, OFF
Controls: [F1], [F2]

From/To

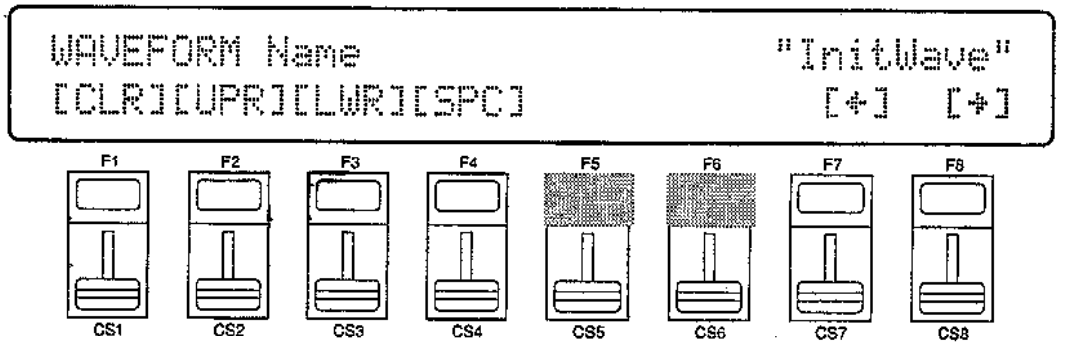
Range: 00 . . . 63
Controls: [CS4]/[CS5], [-1] [+1], Dial

Press [Fl] to turn wave assignment on. If wave assignment is turned off, "---" appears in place of the "From" and "To" parameters. Use [CS4] and [CS5] to specify the range of samples to be assigned to the waveform. [CS4] specifies the first sample ("From") and [CS5] specifies the last sample ("To") in the range to be assigned. If both the "From" and "To" parameters are set to the same sample number, then only that sample is assigned to the waveform. If, for example, "From" is set to "2" and "To" is set to "5", then sample numbers 2, 3, 4, and 5 are assigned to the waveform.

●2: WAVE NAME

If not already selected, press the PAGE [►] key to select this screen.

This function can be used to assign a name of up to 8 characters to the current sample.



Name

Range: See character list, below
Controls: GROUP, PROGRAM, [F-1] . . . [F4], [F7], [F8], [CS1] . . . [CS8], [-1] [+1], Dial

Use the [F7] function key to move the character cursor to the left, and the [F8] function key to move the cursor to the right. Use the GROUP and PROGRAM keys to input a character at the cursor position. Each GROUP or PROGRAM key selects the three characters printed above it in sequence. It is also possible to use the [-1] and [+1] keys or dial to scroll through the available characters (see list below).

The sliders, [CSl] through [CS8], independently select characters for the corresponding character position: [CSl] selects the first character, [CS2] selects the second character, and so on.

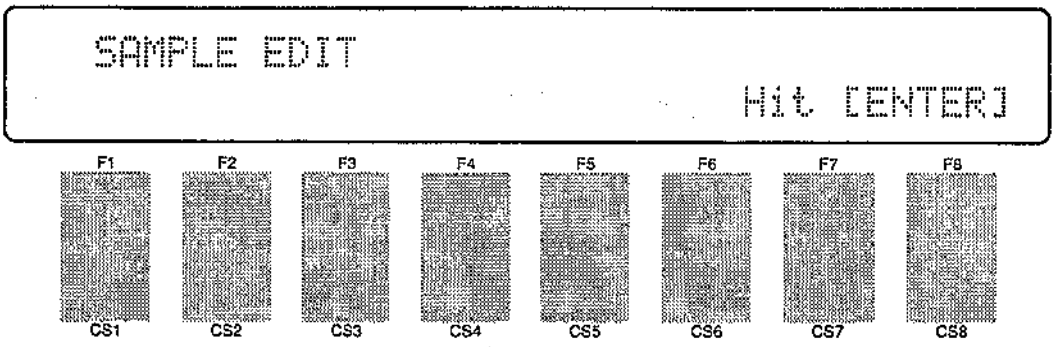
The first four function keys also perform important functions: [Fl] clears the entire name, [F2] selects upper-case characters for GROUP and PROGRAM key entry, [F3] selects lower-case characters for GROUP and PROGRAM key entry, and [F4] inserts a space at the cursor position.

GROUP key	PROGRAM key
[A]: A → B → C	[1]: Y → Z → 0
[B]: D → E → F	[2]: 1 → 2 → 3
[C]: G → H → I	[3]: 4 → 5 → 6
[D]: J → K → L	[4]: 7 → 8 → 9
[E]: M → N → 0	[5]: * → & → _
[F]: P → Q → R	[6]: / → . → ,
[G]: S → T → U	[7]: ' → ! → ?
[H]: V → W → X	[8]: # → : → ;

1: SAMPLE KEY MAP
2: SAMPLE DATA

[SHIFT]+[UTILITY] → [SYNTH SETUP] → [MENU] → 2:Sample → [ENTER/YES] →
→ [ENTER/YES] → [MENU] → 1:Key Map → [ENTER/YES]
→ 2:Data → [ENTER/YES]

After pressing the [SYNTH SETUP] SUB MODE key (actually the [EDIT] key in the WAVE mode), the PAGE [◄] and [►] keys can be used to select the entry display for the WAVEFORM EDIT or SAMPLE EDIT functions. Select “SAMPLE EDIT”.

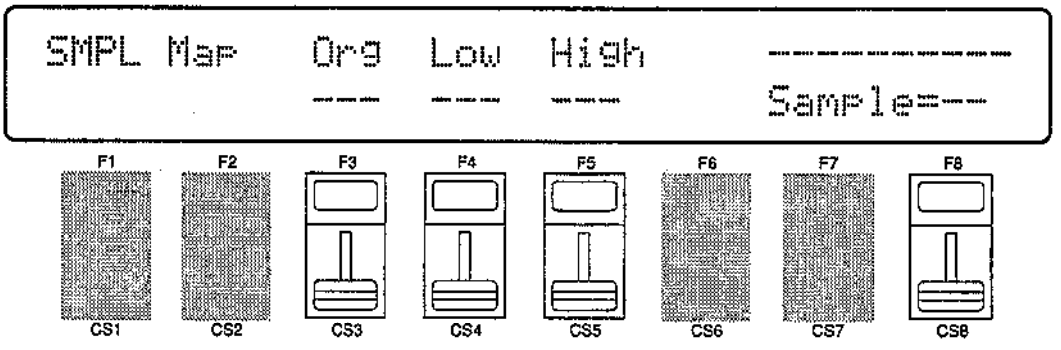


From this entry display press [ENTER/YES].
Press [EXIT/NO] when you’re ready to exit from the SAMPLE EDIT mode.

● 1: SAMPLE KEY MAP

If not already selected, press the PAGE [◄] key to select this screen.

This function is used to “map” the samples assigned to the waveform to specific regions of the keyboard. If more than one sample is assigned, start by selecting the sample you want to map via the “Sample” parameter, then use the “Org”, “Low”, and “High” parameters to map the specified sample.



Org (Original note)

Range: C-2 . . . C8
Controls: [CS3], [-1] [+1], Dial, Keyboard

This parameter specifies the "original note" to which the pitch of the raw waveform will be assigned. In addition to the [CS3] slider, the original note can be specified by pressing the appropriate key on the keyboard if the cursor is located below the "Org" parameter.

If, for example, the raw sample has a pitch of C3, then setting this parameter to "C3" will cause the right note to sound when the C3 key is played. If, however, the same sample is mapped to C4, then playing the C4 key will produce a pitch of C3 while playing the C3 will produce a pitch of C2.

Low/High (Low and high limits)

Range: C-2 . . . C8
Controls: [CS4]/[CS5], [-1] [+1], Dial, Keyboard

These parameters specify the lowest and highest notes on the keyboard on which the selected sample will sound. In addition to the [CS4] and [CS5] sliders, the low and high limits can be specified by pressing the appropriate keys on the keyboard if the cursor is located below the corresponding parameter.

If "Low" is set to "C1" and "High" is set to "C3", for example, then the current sample will sound only when keys between (and including) C1 and C3 are played.

Sample

Range: 00 . . . 63
Controls: [CS8], [-1] [+1], Dial

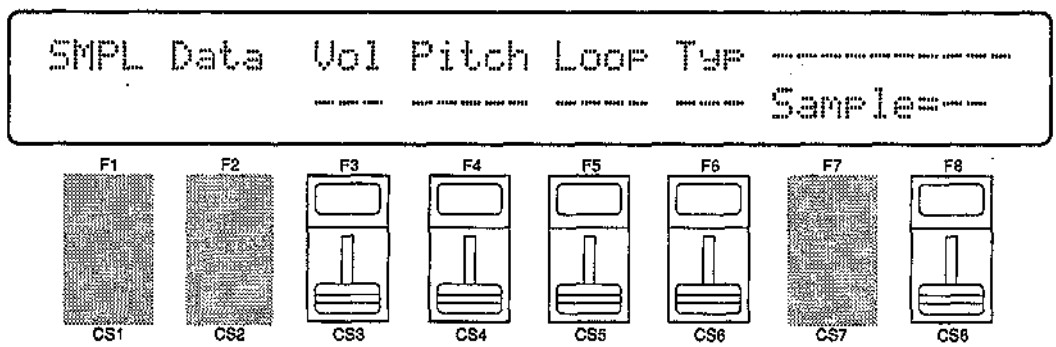
Selects the sample to be mapped using the "Org", "Low", and "High" parameters.

The memory area in which the selected sample resides is shown on the upper display line ("Volatile" or "Non-vol."), and an inverted key symbol appears to the right of sample numbers that correspond to copy-protected samples.

● 2: SAMPLE DATA

If not already selected, press the PAGE [►] key to select this screen.

These functions allow the volume, pitch, and loop characteristics of each sample assigned to the waveform to be set individually. If more than one sample is assigned, start by selecting the sample you want to edit via the "Sample" parameter, then use the "Vol", "Pitch", "Loop", and "Typ" parameters to edit the specified sample.



Vol (Volume)

Range: 0 ... 127
Controls: [CS3], [-1] [+1], Dial

Sets the volume of the selected sample. A setting of "0" produces minimum volume (almost no sound), and a setting of "127" produces maximum volume.

Use this parameter to balance the levels of the different samples used in a waveform.

Pitch

Range: -4158 . . . +5376
Controls: [CS4], [-1] [+1], Dial

Fine-tunes the pitch of the selected range over a wide range. Minus (-) settings decrease the pitch of the sample while plus (+) settings raise the pitch of the sample. Each increment corresponds to a pitch change of approximately 1.7 cents (a "cent" is one-hundredth of a semitone).

Loop

Range: FOne, FLp, BOne, BLp
Controls: [CS5], [-1] [+1], Dial

Selects the type of loop to be used for playback of the selected sample. The settings are:

FOne = Forward one-shot. The sample is played in the normal forward direction and is not looped (i.e. the sound stops a the end of the sample).

FLp = Forward loop. The sample is played in the normal forward direction and is looped (repeated) as long as the key is held.

BOne = Backward one-shot. The sample is played backward and is not looped (i.e. the sound stops at the beginning of the sample).

BLp = Backward loop. The sample is played backward and is looped (repeated) as long as the key is held.

Typ (Loop type)

Range: Nrm, Alt
Controls: [CS6], [-1] [+1], Dial

This parameter is only available when either the “FLp” or “BLp” loop type is selected (see “Loop”, above). When set to “Nrm” (normal), the sample is repeatedly looped in either the forward or reverse direction, as specified by the Loop parameter. If “Alt” (alternate) is selected, the sample is alternately played forward and backward.

Sample

Range: 00 . . . 63
Controls: [CS8], [-1] [+1], Dial

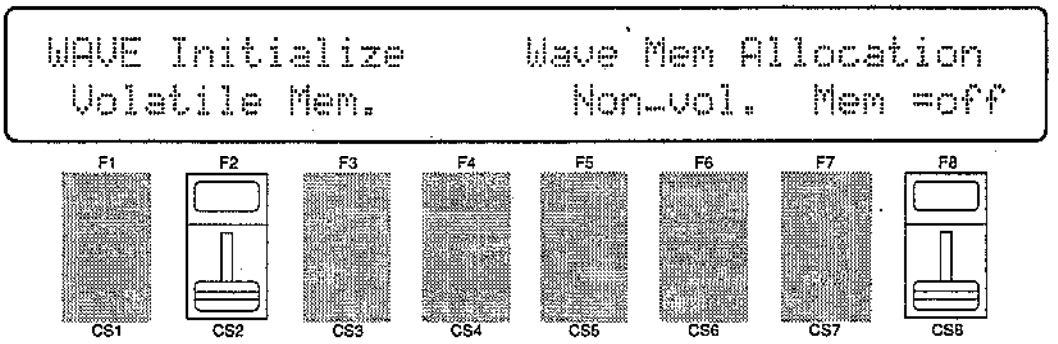
Selects the sample to be edited using the “Vol”, “Pitch”, “Loop”, and “Typ” parameters.

The memory area in which the selected sample resides is shown on the upper display line (“Volatile” or “Non-vol.“), and an inverted key symbol appears to the right of sample numbers that correspond to copy-protected samples.

WAVE INITIALIZE

[SHIFT]+[UTILITY] → [SEQ SETUP]

This function erases and initializes all wave memory, the specified type of wave memory, or a single specified sample.



Mem (Memory type)

Range: Volatile, Non-vol., all
Controls: [CS2], [-1] [+1], Dial

Use [CS2] to select either the volatile wave memory (“Volatile Mem.”), non-volatile wave memory (Non-vol. Mem.”), or all wave memory to be cleared.

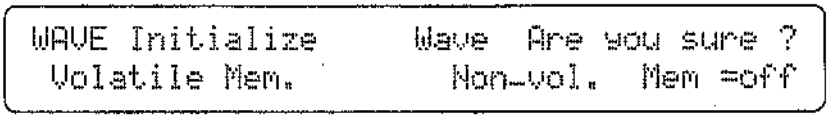
See “Wave Memory Expansion” on page 285 for additional information.

Wave Mem Allocation

Range: 0 . . . 63, off
Controls: [CS8], [-1] [+1], Dial

All numbers from the number specified here to 63 are allocated for use as non-volatile waveform and sample numbers.

Press [ENTER/YES] to begin the wave initialize procedure. The following confirmation display will appear:



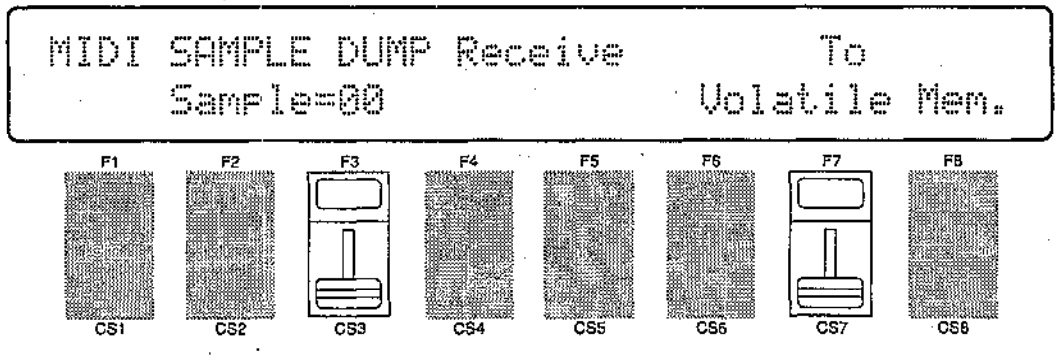
Press [ENTER/YES] again to confirm that you want to go ahead with the initialize operation, or press [EXIT/NO] to cancel.

When the specified wave memory has been initialized, “Completed!” will appear briefly on the display.

1: SAMPLE DUMP RECEIVE

[SHIFT]+[UTILITY] → [MIDI] → [MENU] → 1:Receive → [ENTER/YES]

This function initiates reception of MIDI Sample Dump data from an external MIDI device. Both the MIDI IN and OUT terminals must be connected to the external MIDI device, since the SY85 transmits a sample dump request message to initiate transmission by the external device.



Sample

Range: 00 . . . 99
Controls: [CS3], [-1] [+1], Dial

To

Range: Volatile, Non-vol.
Controls: [CS7], [-1] [+1], Dial

Use [CS3] to select the number of the sample to be received from the transmitting device, and [CS7] to select the type of memory in which the data is to be stored (see “Wave Memory Expansion” on page 285 for additional information about the memory types).

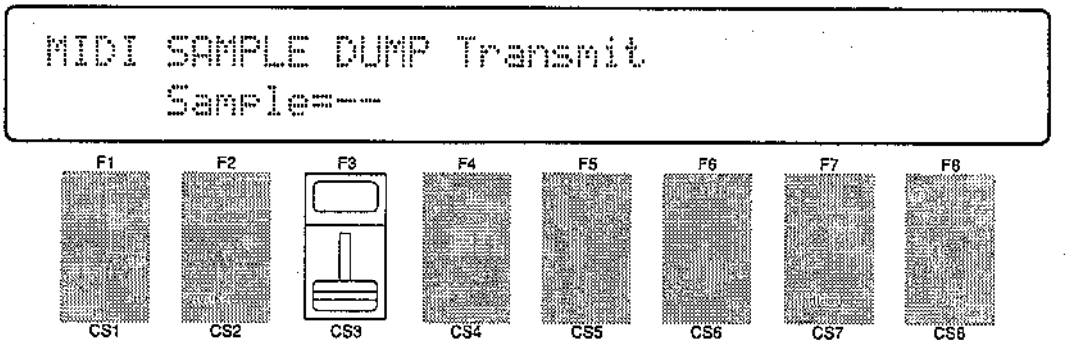
When ready to receive the data, press the [ENTER/YES] key. This initiates transmission of a sample dump request message, then the SY85 waits for the sample dump data. The received data is appended to the sample data previously residing in the SY85 memory.

The [EXIT/NO] key can be used to cancel reception at any time.

2: SAMPLE DUMP TRANSMIT

[SHIFT]+[UTILITY] → [MIDI] → [MENU] → 2:Transmit → [ENTER/YES]

This function initiates transmission of MIDI Sample Dump data to an external MIDI device.

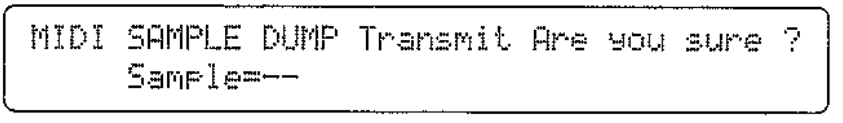


Sample

Range: 00 . . . 63
Controls: [CS3], [-1] [+1], Dial

Use [CS3] to select the number of the sample to be transmitted ("--" appears on the display if no samples are available).

When ready to transmit the data, press the [ENTER/YES] key. The following confirmation display will appear:



Press [ENTER/YES] again to confirm that you want to go ahead with the transmission, or press [EXIT/NO] to cancel.

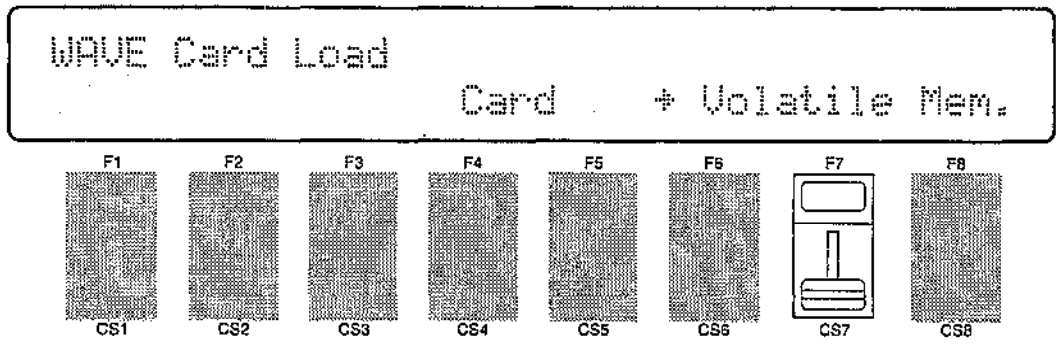
"MIDI Transmitting!" appears while the data is being transmitted, as does a countdown of the sample packets being sent.

The [EXIT/NO] key can be used to cancel reception at any time.

WAVE CARD LOAD

[SHIFT]+[UTILITY] → [CARD]

Loads all samples from a pre-programmed card plugged into the WAVEFORM card slot.

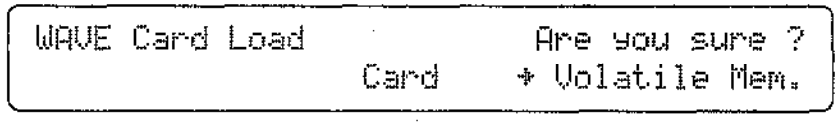


To

Range: Volatile, Non-vol.
Controls: [CS7], [-1] [+1], Dial

Use [CS7] to select the type of memory to which the data is to be stored (see “Wave Memory Expansion” on page 285 for additional information about the memory types).

Press [ENTER/YES] to begin the card load procedure. The following confirmation display will appear:



Press [ENTER/YES] again to confirm that you want to go ahead with the card load operation, or press [EXIT/NO] to cancel.

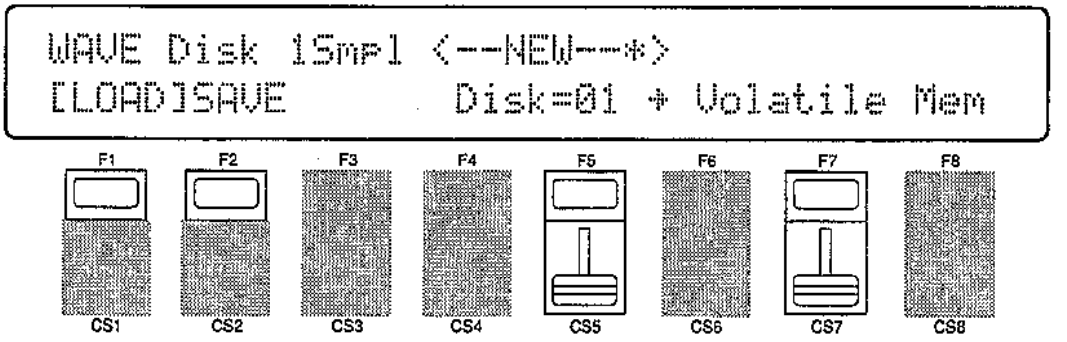
When the data has been loaded, “Completed!” will appear briefly on the display.

WAVE DISK LOAD/SAVE 1 SAMPLE

[SHIFT]+[UTILITY] → [DISK]

These utilities allow sample data to be saved to or loaded from a 3.5” floppy disk inserted in the SY85 disk drive.

Use only 2DD type disks that have been formatted for use with the SY85 via the DISK FORMAT function described on page 235.



Press the [F1] key to highlight “LOAD” on the display if you want to load data from the disk into the SY85 wave memory, or press the [F2] key to highlight “SAVE” on the display if you want to save data from the wave memory to the disk. Next, use [CS5] to select the number of the disk file (01 through 99) that you want to load from or save to. If you select “LOAD”, [CS7] is used to select the type of wave memory to which to data is to be loaded (“Volatile” or “Non-vol.“). If you select “SAVE”, [CS7] is used to select the number of the sample to be saved (00 . . . 63).

Press [ENTER/YES] to begin the disk load or save procedure. If you select “SAVE”, you have the option of pressing the [F3] key to give the data file a name before it is saved (the name is displayed above the file number — unnamed files are automatically named “--NEW--*”). If you choose the “NAME” option, enter the file name with the group and program keys as in “Voice Name” (see page 95), then press [ENTER/YES] to begin the disk load or save procedure. The following confirmation display will appear:

Press [ENTER/YES] again to confirm that you want to go ahead with the disk load or save operation, or press [EXIT/NO] to cancel.

When the data has been loaded or saved, “Completed!” will appear briefly on the display.

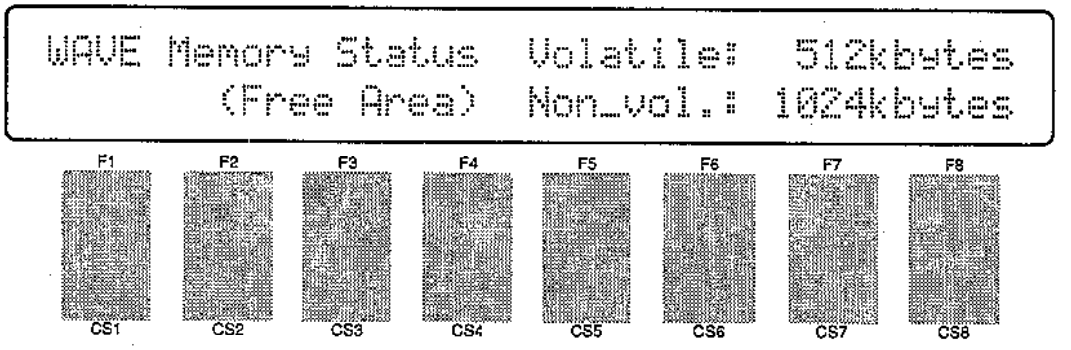
See page 321 for information on disk error messages

WAVE MEMORY STATUS DISPLAY

[SHIFT]+[UTILITY] → [SHIFT]

Press and hold the [SHIFT] key at any time while in the WAVE mode to call the wave memory status display. This display shows the amount of free volatile and non-volatile memory in approximate kilobytes.

See “Wave Memory Expansion” on page 285 for information about volatile and non-volatile wave memory.



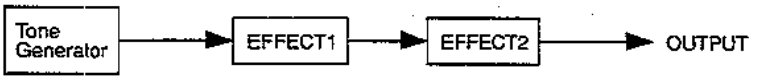
APPENDIX

- Effects 254
- Wave memory expansion 285
- Initial data & Blank chart 289
- Specifications 319
- Error messages 320
- Trouble shooting 324
- Index 326

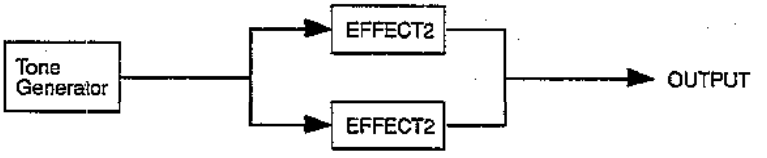
EFFECTS

The SY85 features a sophisticated effect system that affords extraordinary sound-shaping potential. It includes two separate effect processors — referred to a EFFECT 1 and EFFECT 2 in this manual — that can be connected either in series or in parallel via the effect "Mode" parameter (page 105 for voice effects, page 128 for drum voice effects, page 37 for performance effects, page 166 for song mode effects). In simplified block diagram form the serial and parallel modes look like this:

SERIAL MODE



PARALLEL MODE



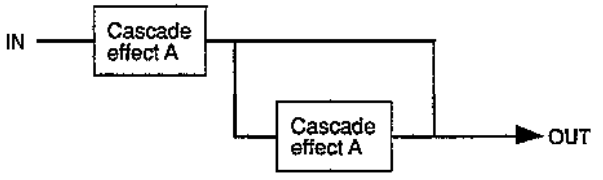
The SY85 has 90 different effects including reverb, early reflections, delay, pitch change, modulation and more. Any of these can be assigned to the EFFECT 1 and EFFECT 2 processors via the "EF1 Type" and "EF2 Type" parameters (page 105 for voice effects, page 128 for drum voice effects, page 37 for performance effects, page 166 for song mode effects). Each effect has up to 8 different parameters that can be edited via the EFFECT 1 PARAMETERS and EFFECT 2 PARAMETERS screens (page 109 for voice effects, page 135 for drum voice effects, page 44 for performance effects, page 173 for song mode effects). A complete list of the effects and their parameters is provided on page 274.

The 90 effects are further divided into three types:

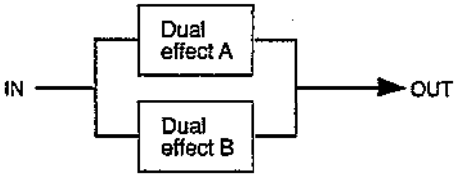
Effects 00 - 30	"Single"
Effects 31 - 60	"Cascade"
Effects 61 - 90	"Dual"

The "Single" effects are, as the name applies, single effects.

The “Cascade” effects actually include two effects connected in a cascade configuration. Effect number 33 (Flg→ Rev), for example, includes cascaded flanger and reverb.



The “Dual” effects include two effects connected in parallel.

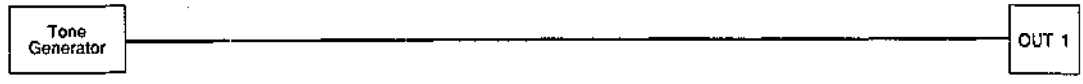


Clearly, the possibilities for combining effect modes with effect types allows a large variety of effect system configurations. Further versatility is provided by a range of parameters that allow the effect signals to be combined and mixed in a number of ways. The effect signal flow diagrams provided in the following section should help you understand the effect signal flow and how the various effect parameter function. Since the signal flow is somewhat different in the normal voice mode and the other modes (drum voice, performance, and song), different sets of flow diagrams are provided.

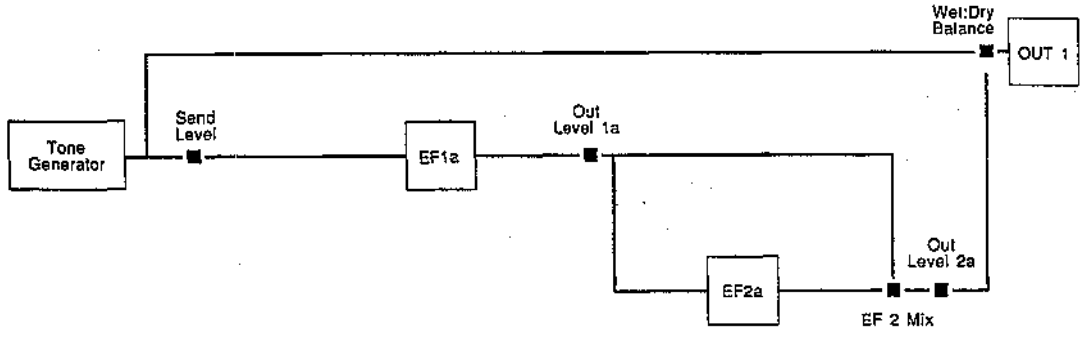
■ Effect Signal Flow Diagrams — Voice Mode

The following diagrams illustrate effect signal flow with different effect mode and effect type combinations in the normal voice mode. In the diagrams a diamond (◆) indicates an on/off switch parameter, and a block (■) indicates a continuously variable level or mix parameter. Although abbreviated in the diagrams, the direct and effect output signal paths are stereo.

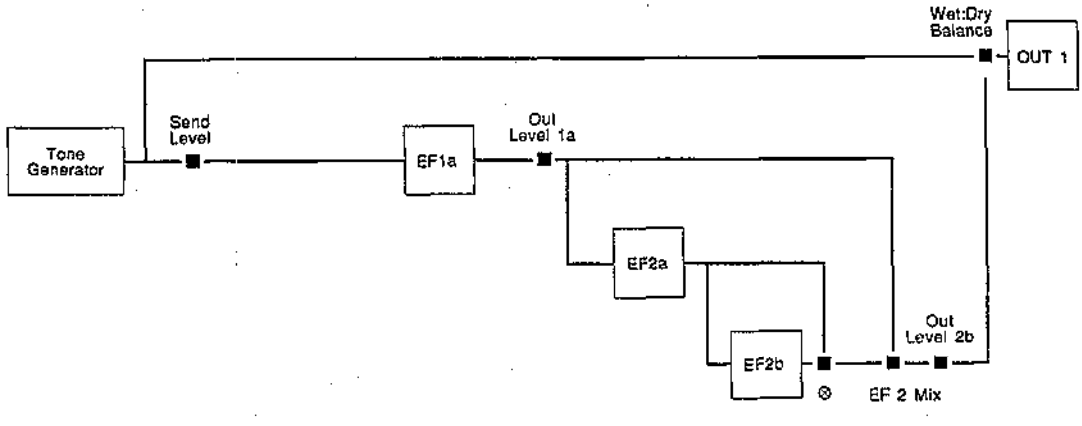
● EFFECT MODE = off.



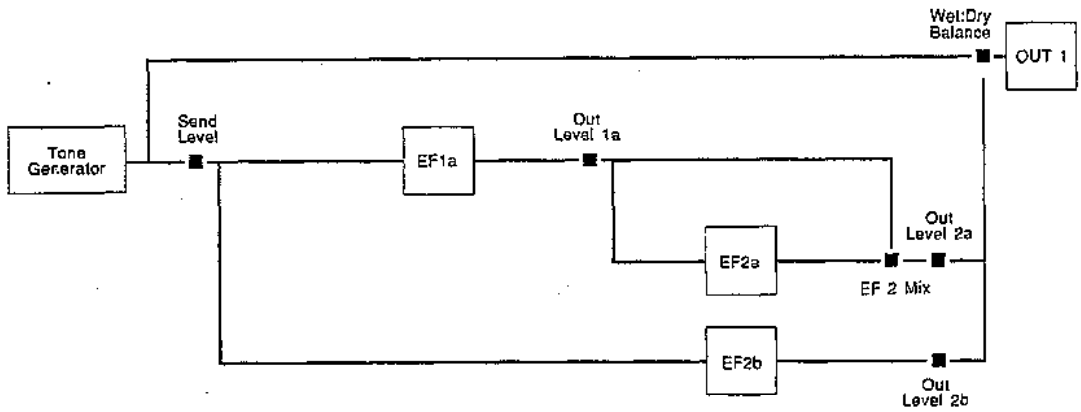
● EFFECT MODE = serial. EFFECT 1 = single. EFFECT 2 = single.



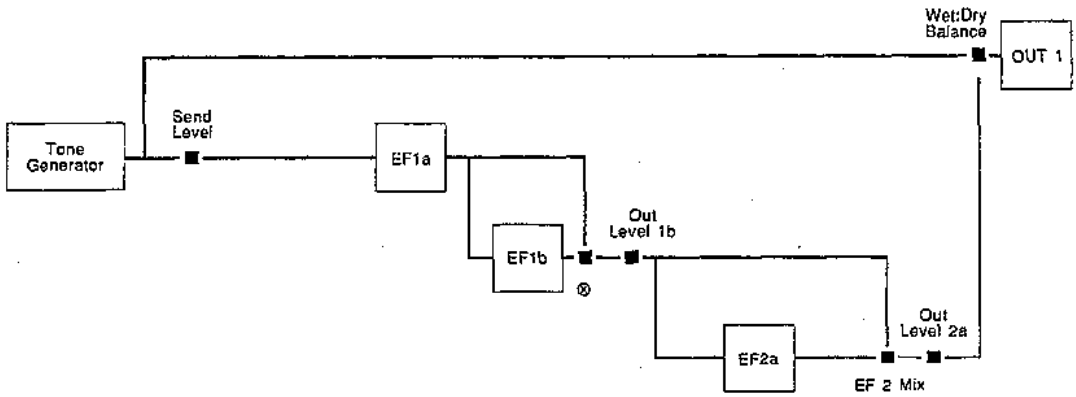
● EFFECT MODE = serial. EFFECT 1 = single. EFFECT 2 = cascade.
(⊗ = effect parameter number 8)



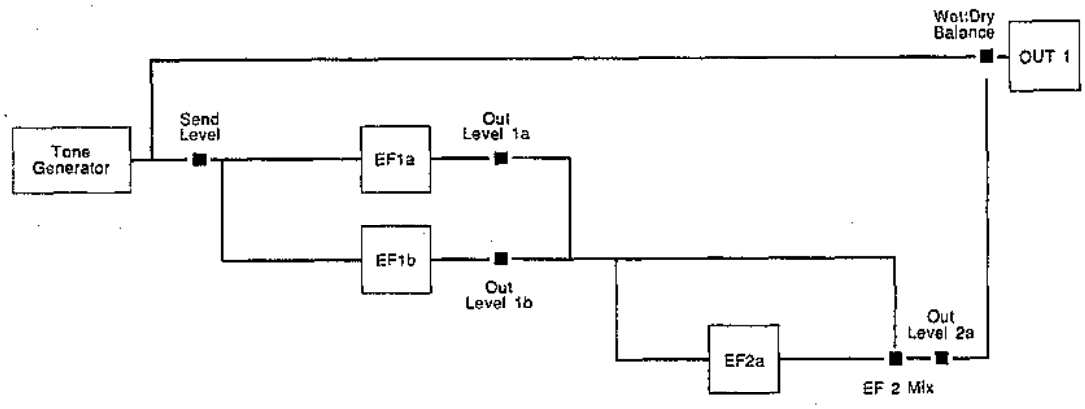
● EFFECT MODE = serial. EFFECT 1 = single, EFFECT 2 = dual.



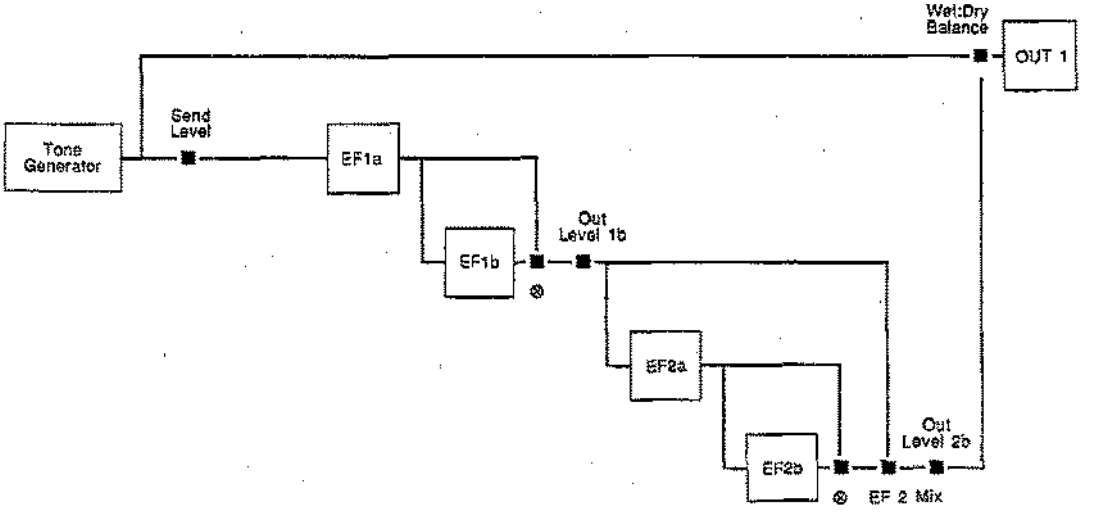
● EFFECT MODE = serial. EFFECT 1 = cascade. EFFECT 2 = single.
(⊗= effect parameter number 8)



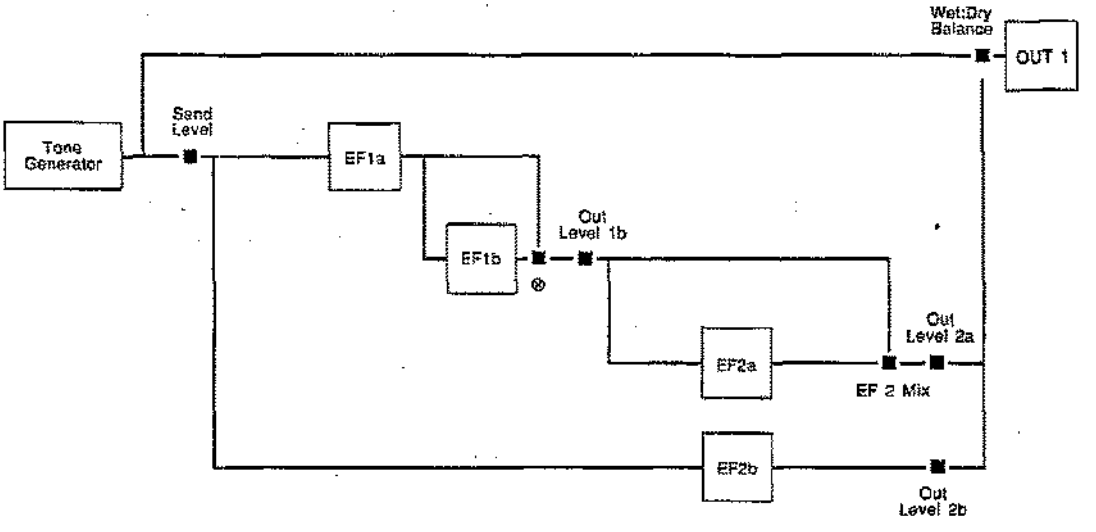
● EFFECT MODE = serial. EFFECT 1 = dual. EFFECT 2 = single.



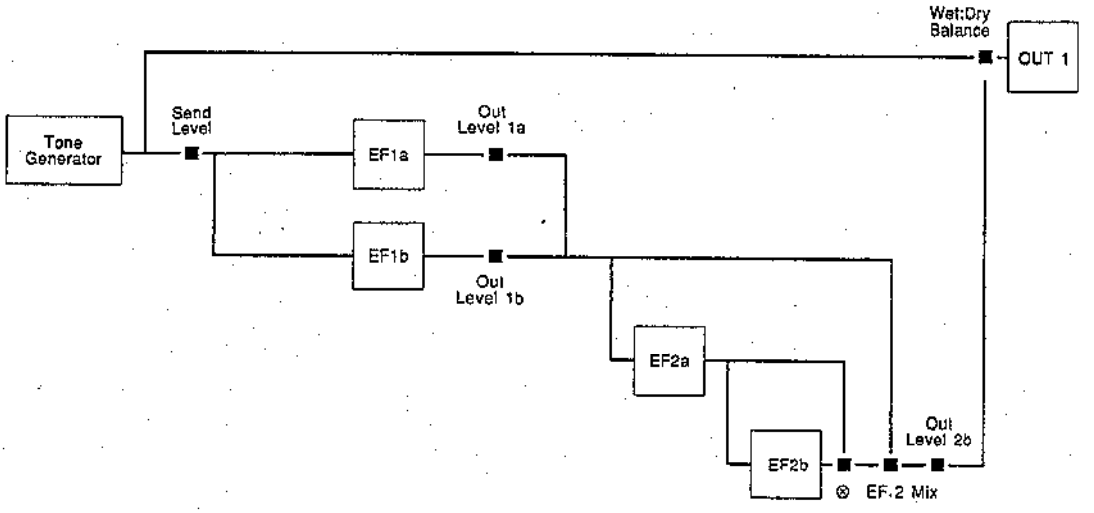
● **EFFECT MODE = serial. EFFECT 1 = cascade. EFFECT 2 = cascade.**
(⊗ = effect parameter number 8)



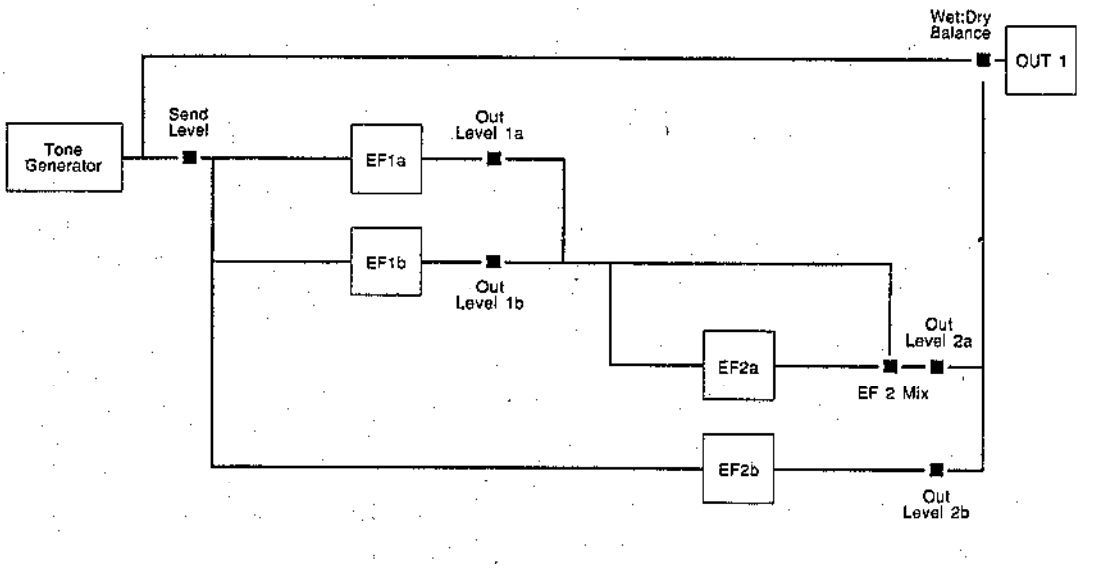
● **EFFECT MODE = serial, EFFECT 1 = cascade. EFFECT 2 = dual.**
(⊗ = effect parameter number 8)



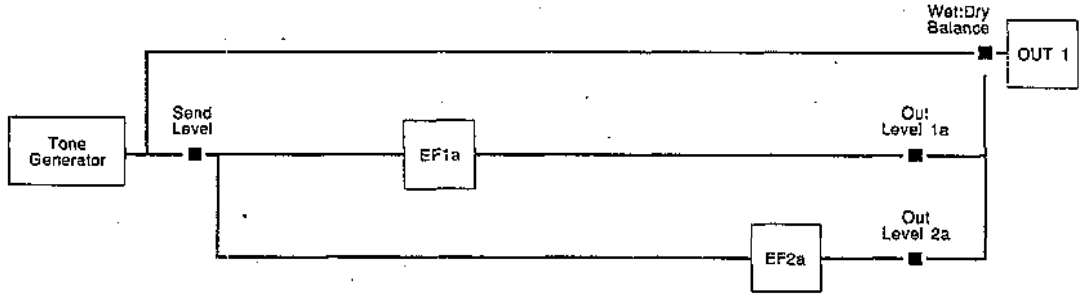
● EFFECT MODE = serial. EFFECT 1 = dual. EFFECT 2 = cascade.
(⊗= effect parameter number 8)



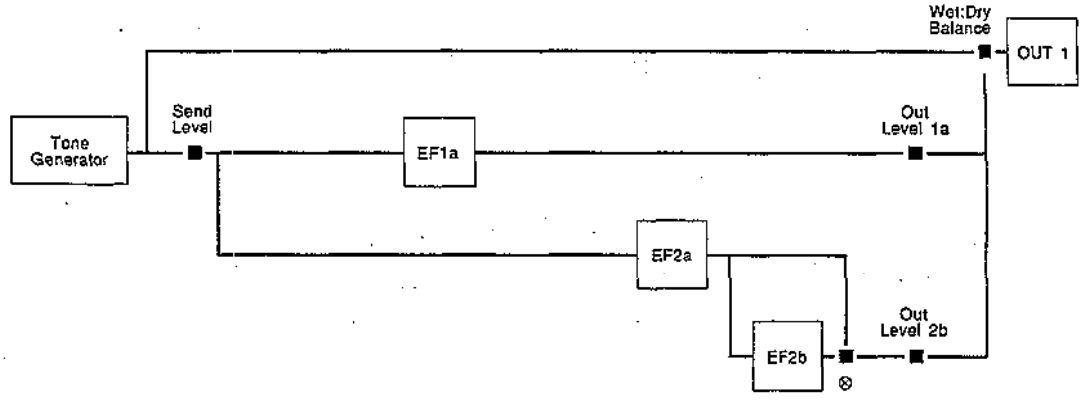
● EFFECT MODE = serial. EFFECT 1 = dual. EFFECT 2 = dual.



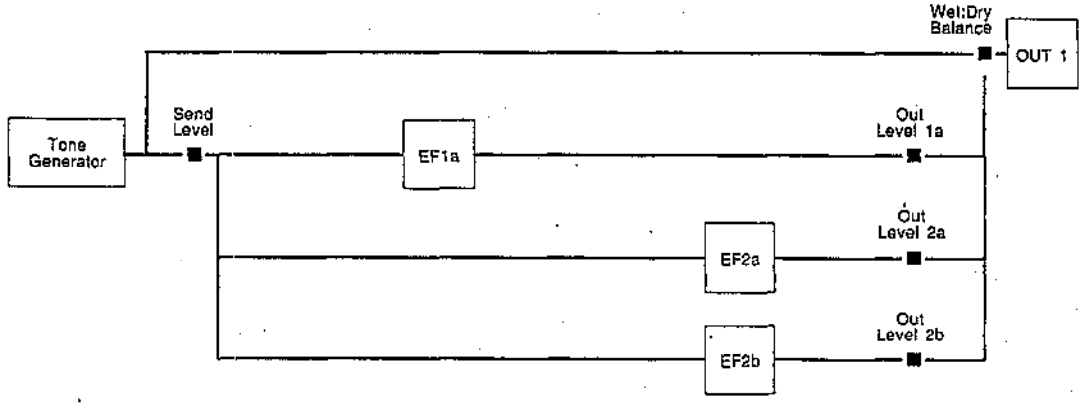
● EFFECT MODE = parallel. EFFECT 1 = single. EFFECT 2 = single.



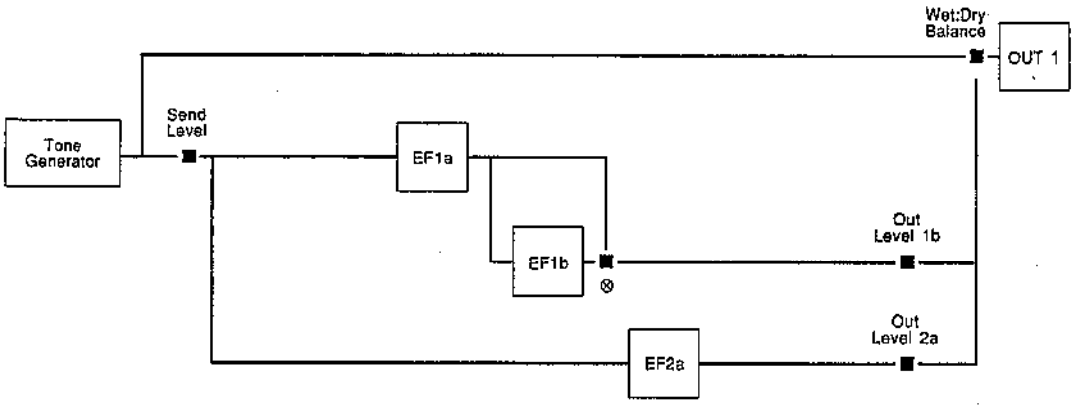
● EFFECT MODE = parallel. EFFECT 1 = single. EFFECT 2 = cascade.
(⊗ = effect parameter number 8)



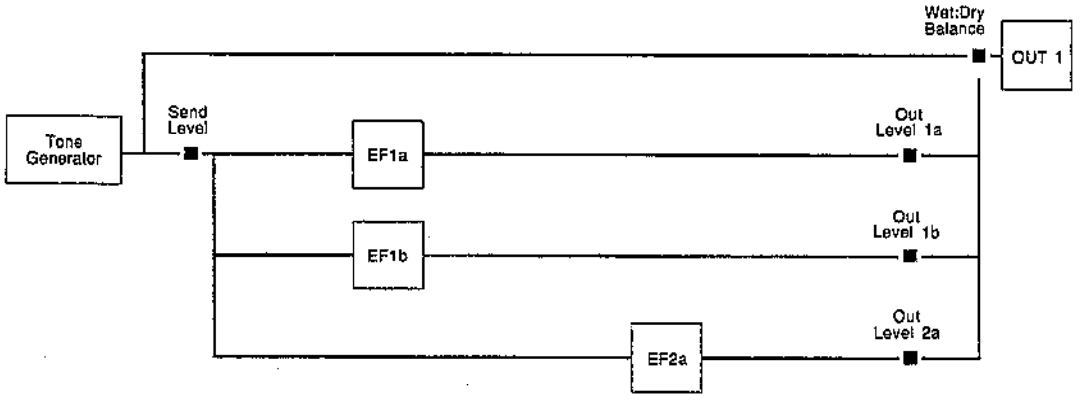
● EFFECT MODE = parallel. EFFECT 1 = single. EFFECT 2 = dual.



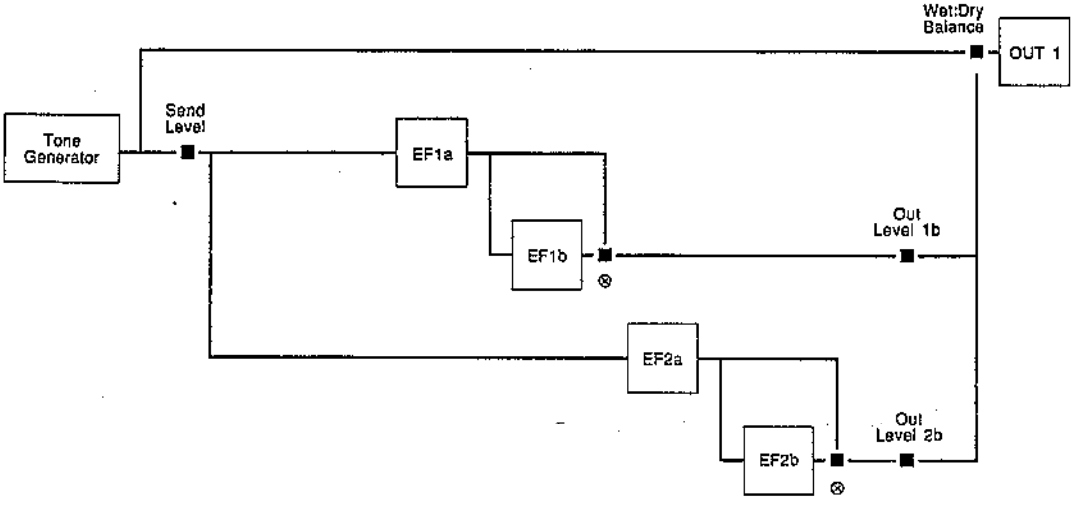
● EFFECT MODE = parallel. EFFECT 1 = cascade. EFFECT 2 = single.
(⊗ = effect parameter number 8)



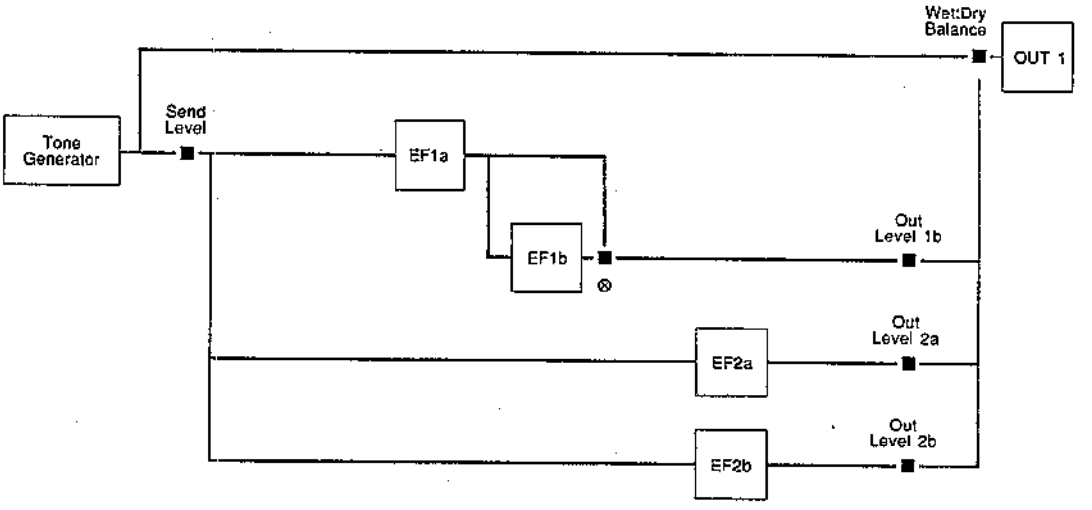
● EFFECT MODE = parallel. EFFECT 1 = dual. EFFECT 2 = single.



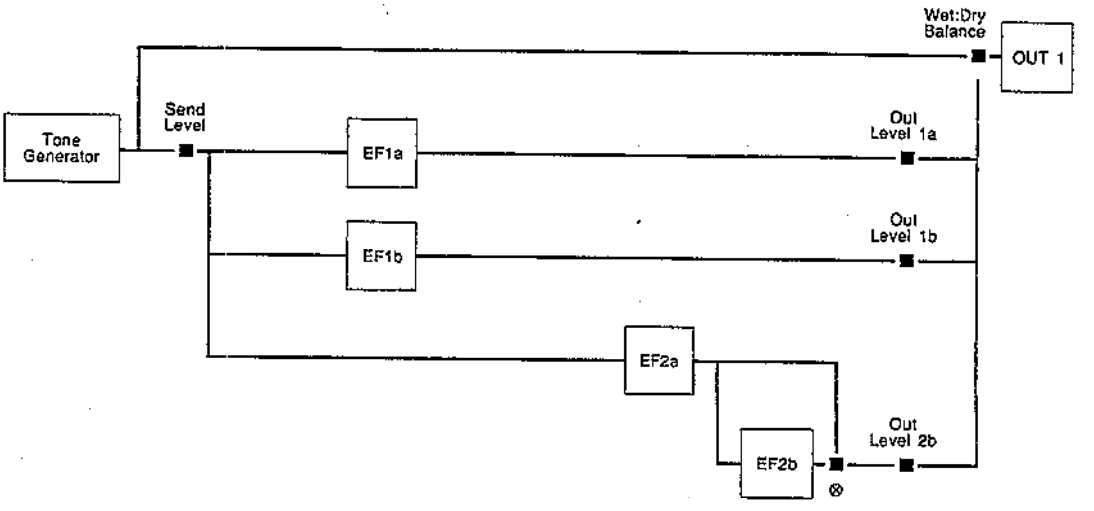
● EFFECT MODE = parallel. EFFECT 1 = cascade. EFFECT 2 = cascade.
(⊗ = effect parameter number 8)



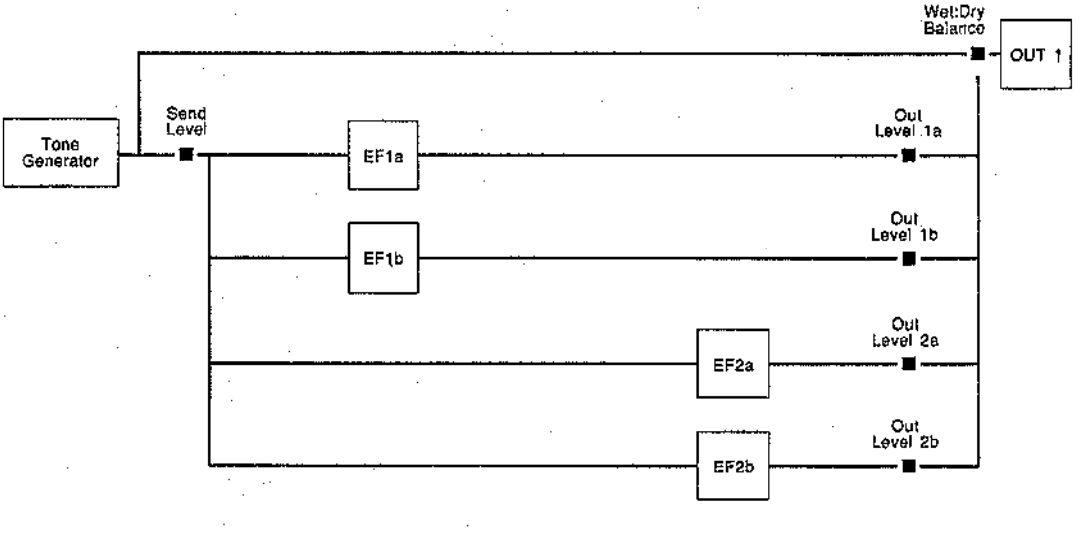
● EFFECT MODE = parallel. EFFECT 1 = cascade. EFFECT 2 = dual.
(⊗ = effect parameter number 8)



● EFFECT MODE = parallel. EFFECT 1 = dual. EFFECT 2 = cascade.
(⊗ = effect parameter number 8)



● EFFECT MODE = parallel. EFFECT 1 = dual. EFFECT 2 = dual.



■ Effect Signal Flow Diagrams — Drum Voice, Performance, and Song Modes

The following diagrams illustrate effect signal flow with different effect mode and effect type combinations in the drum voice, performance, and song modes. The "Tone Generator" block has slightly different meanings in each of these modes:

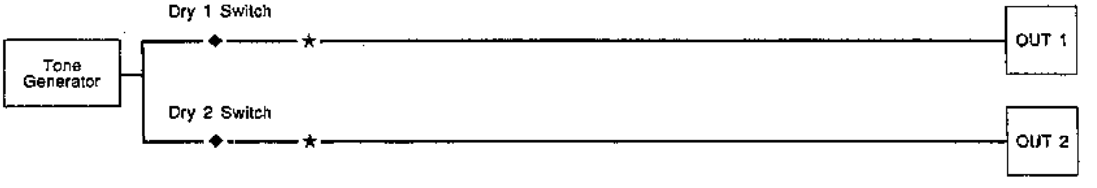
- Drum Voice
  "Tone Generator" corresponds to the output from a single drum/ percussion instrument. The other instruments are mixed into the effect signal path behind the "Dry 1" and "Dry 2" parameters or the "Switch" parameters, as indicated by a star (★) in the diagrams.

- Performance
  "Tone Generator" corresponds to the output from a single layer. The other layers are mixed into the effect signal path behind the "Dry 1" and "Dry 2" parameters or the "Switch" parameters, as indicated by a star (★) in the diagrams.

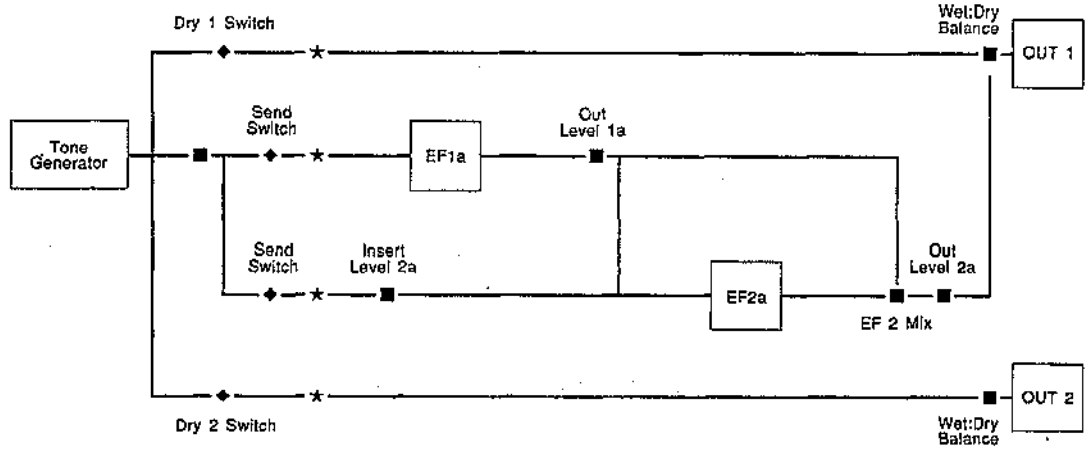
- Song
  "Tone Generator" corresponds to the output from a single multi instrument. The other instruments are mixed into the effect signal path behind the "Dry 1" and "Dry 2" parameters or the "Switch" parameters, as indicated by a star (★) in the diagrams.

In the diagrams a diamond (◆) indicates an on/off switch parameter, and a block (■) indicates a continuously variable level or mix parameter. Although abbreviated in the diagrams, the direct and effect signal paths are stereo.

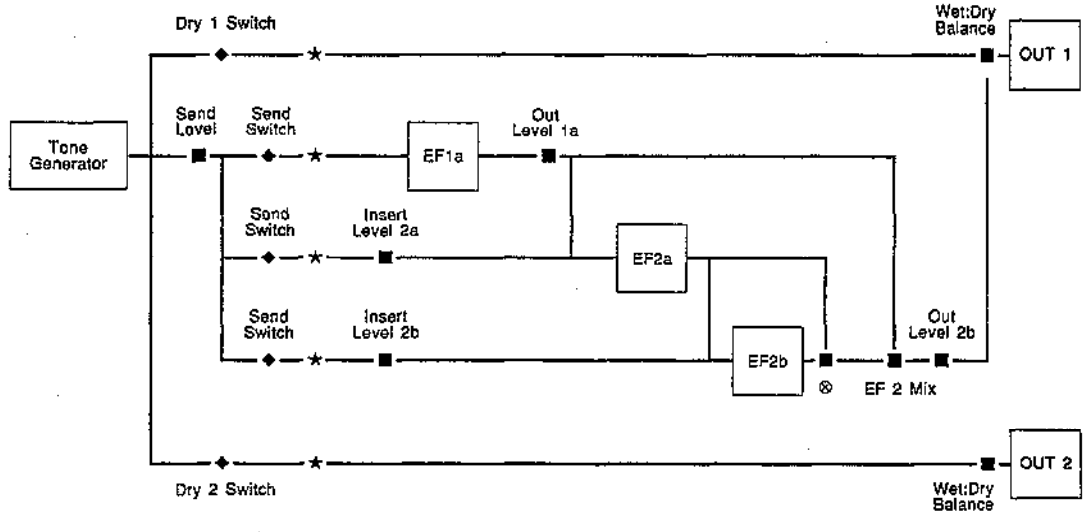
● EFFECT MODE = off.



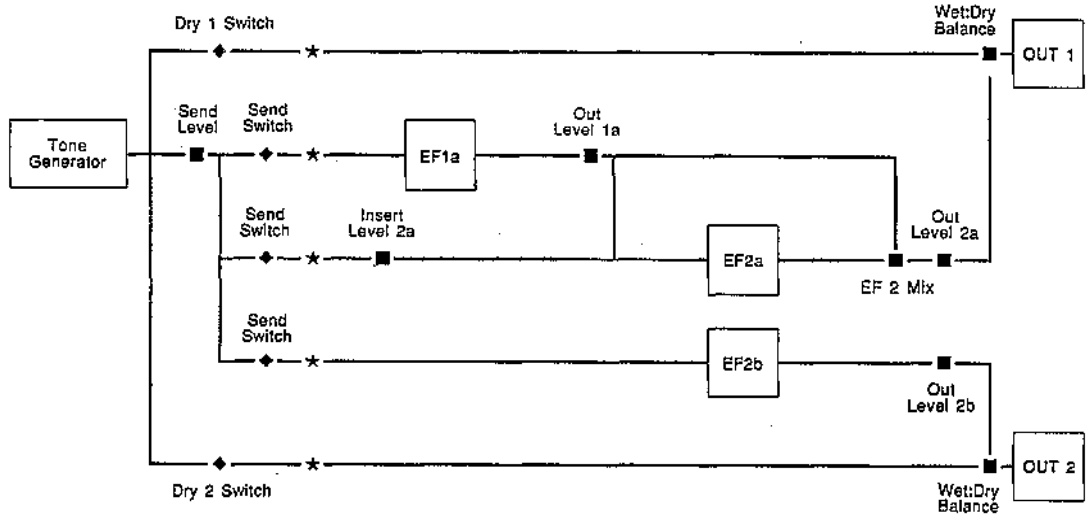
● EFFECT MODE = serial. EFFECT 1 = single. EFFECT 2 = single.



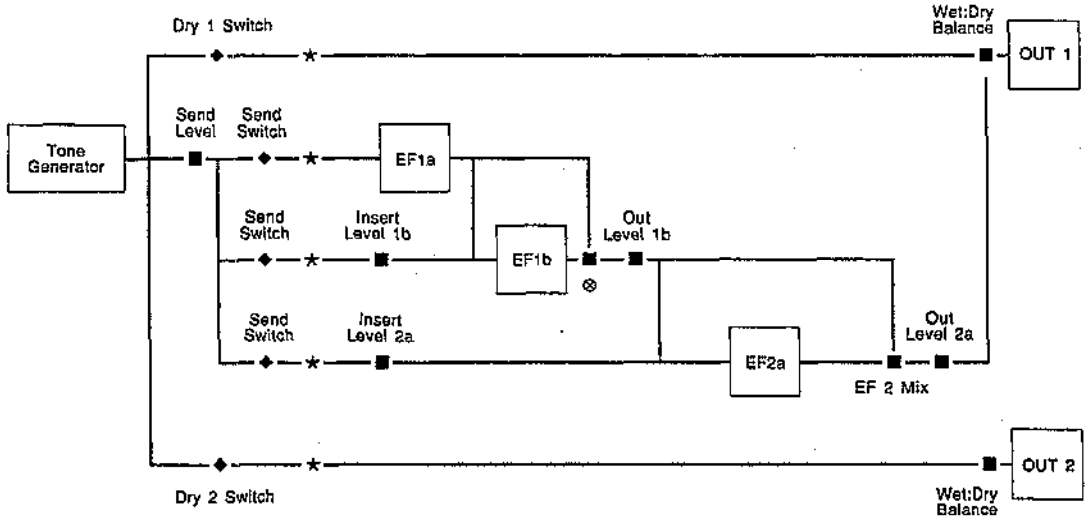
● EFFECT MODE = serial. EFFECT 1 = single. EFFECT 2 = cascade.
(⊗= effect parameter number 8)



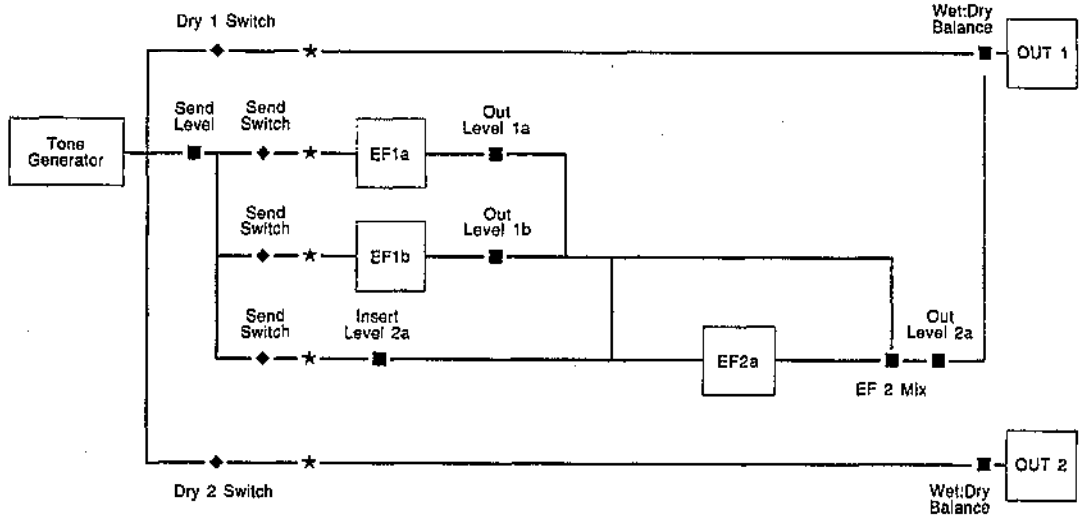
● EFFECT MODE = serial. EFFECT 1 = single. EFFECT 2 = dual.



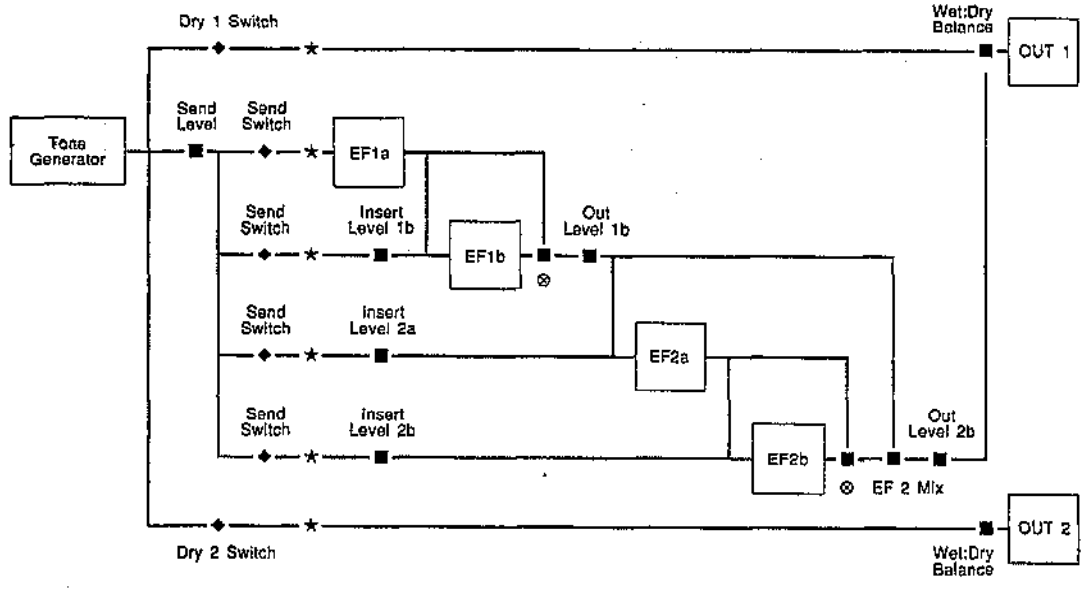
● EFFECT MODE = serial. EFFECT 1 = cascade. EFFECT 2 = single.
(⊗= effect parameter number 8)



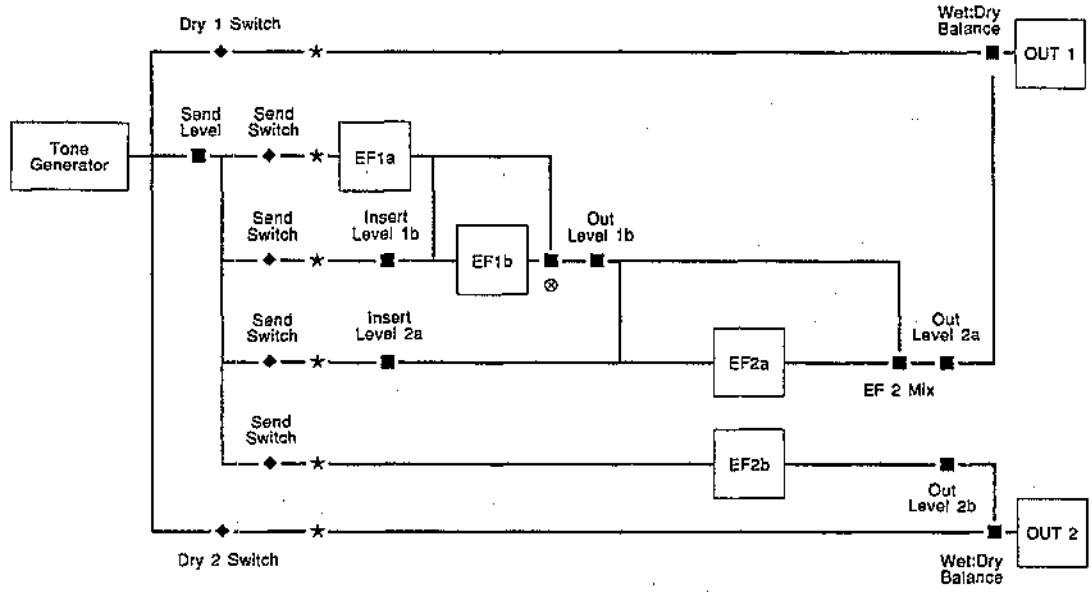
● EFFECT MODE = serial. EFFECT 1 = dual. EFFECT 2 = single.



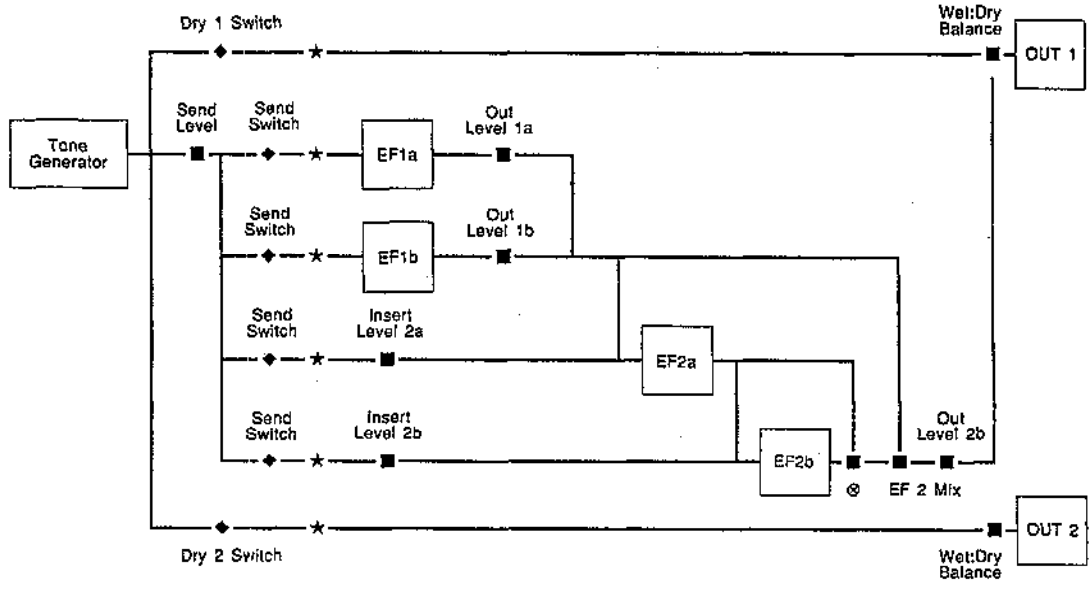
● EFFECT MODE = serial. EFFECT 1 = cascade. EFFECT 2 = cascade.
(⊗ = effect parameter number 8)



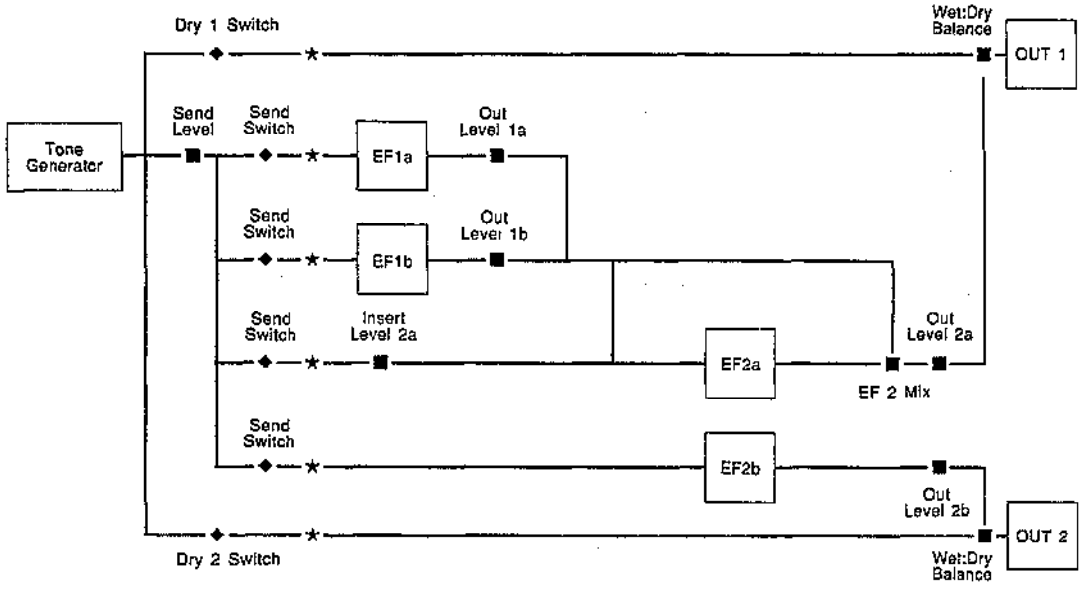
● EFFECT MODE = serial. EFFECT 1 = cascade. EFFECT 2 = dual.
(⊗= effect parameter number 8)



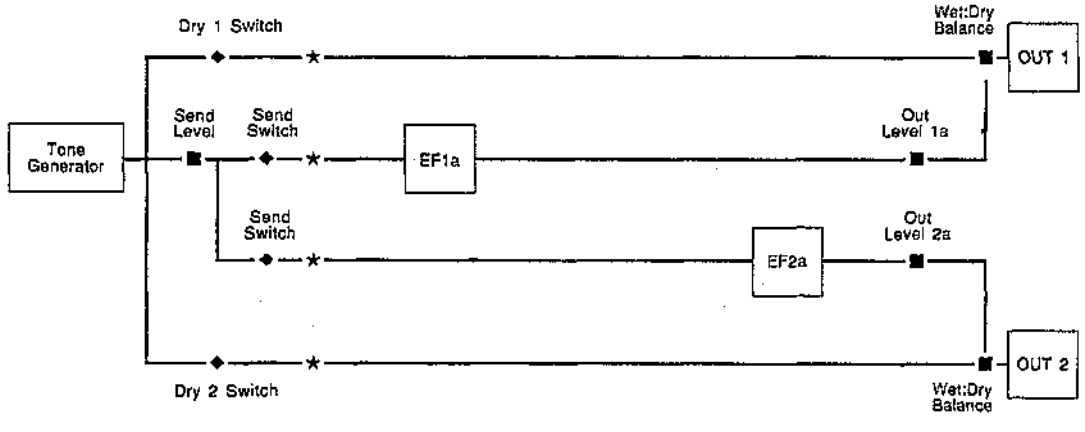
● EFFECT MODE = serial. EFFECT 1 = dual. EFFECT 2 = cascade.
(⊗= effect parameter number 8)



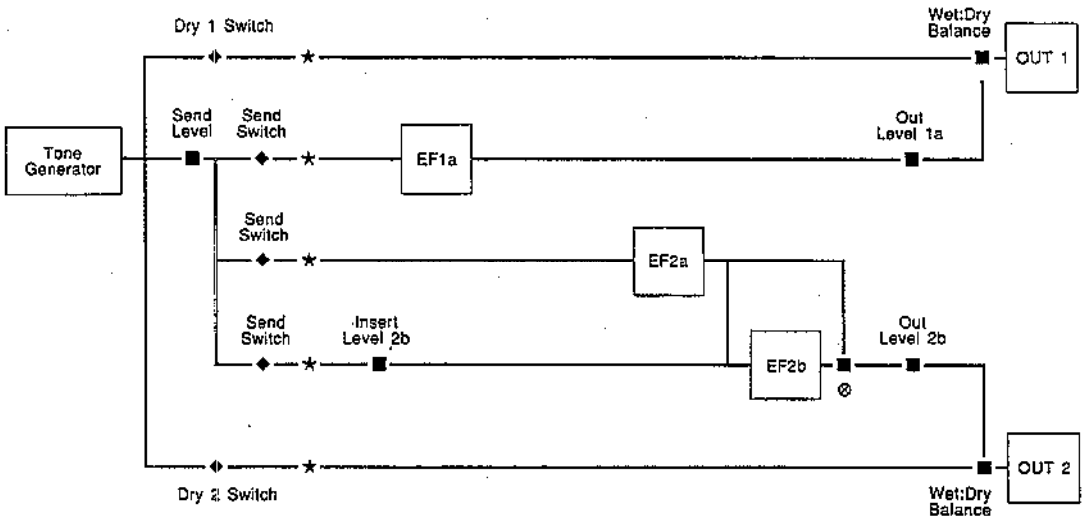
● EFFECT MODE = serial. EFFECT 1 = dual. EFFECT 2 = dual.



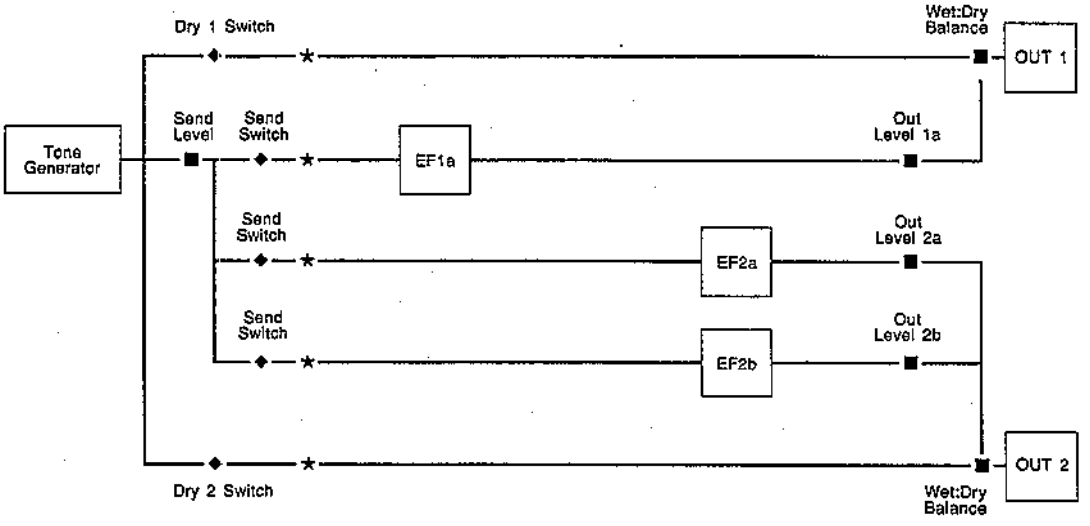
● EFFECT MODE = parallel. EFFECT 1 = single. EFFECT 2 = single.



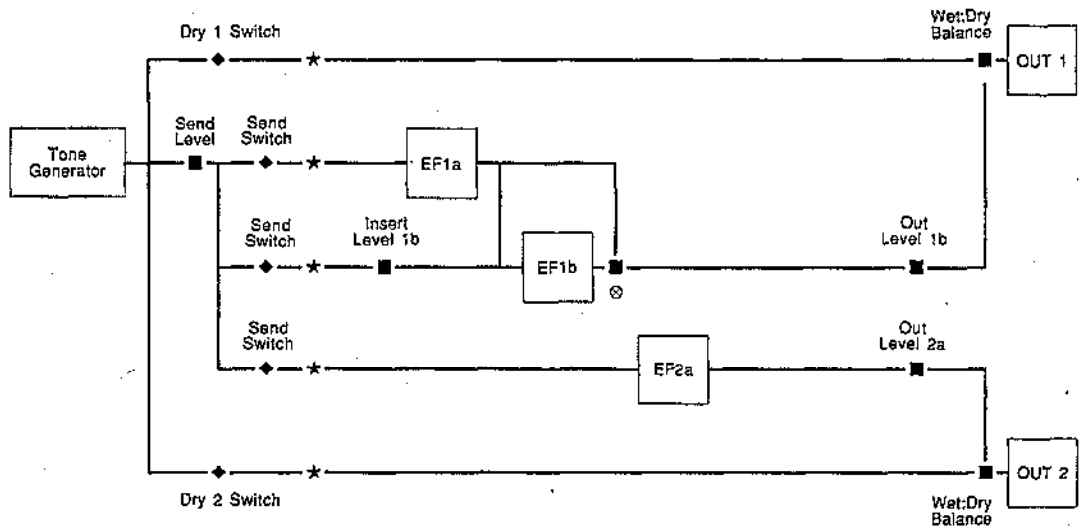
● EFFECT MODE = parallel. EFFECT 1 = single. EFFECT 2 = cascade.
(⊗ = effect parameter number 8)



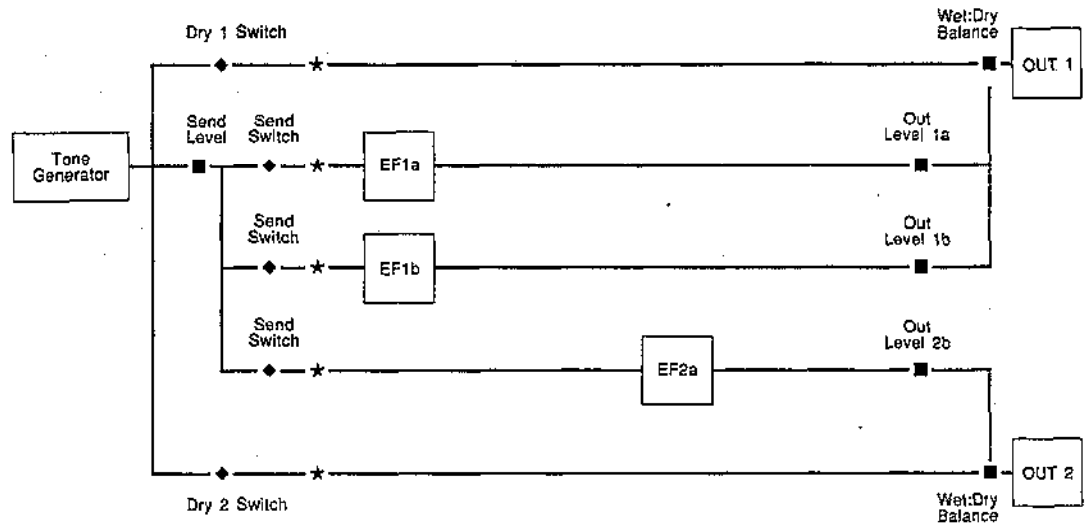
● EFFECT MODE = parallel. EFFECT 1 = single. EFFECT 2 = dual.



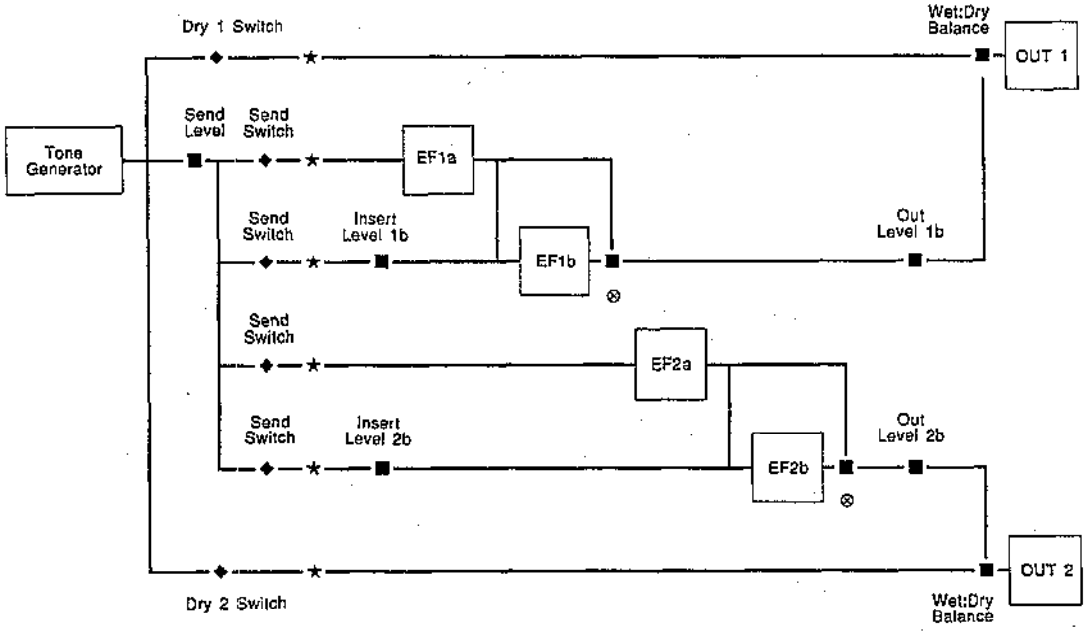
● EFFECT MODE = parallel. EFFECT 1 = cascade. EFFECT 2 = single.
(⊗ = effect parameter number 8)



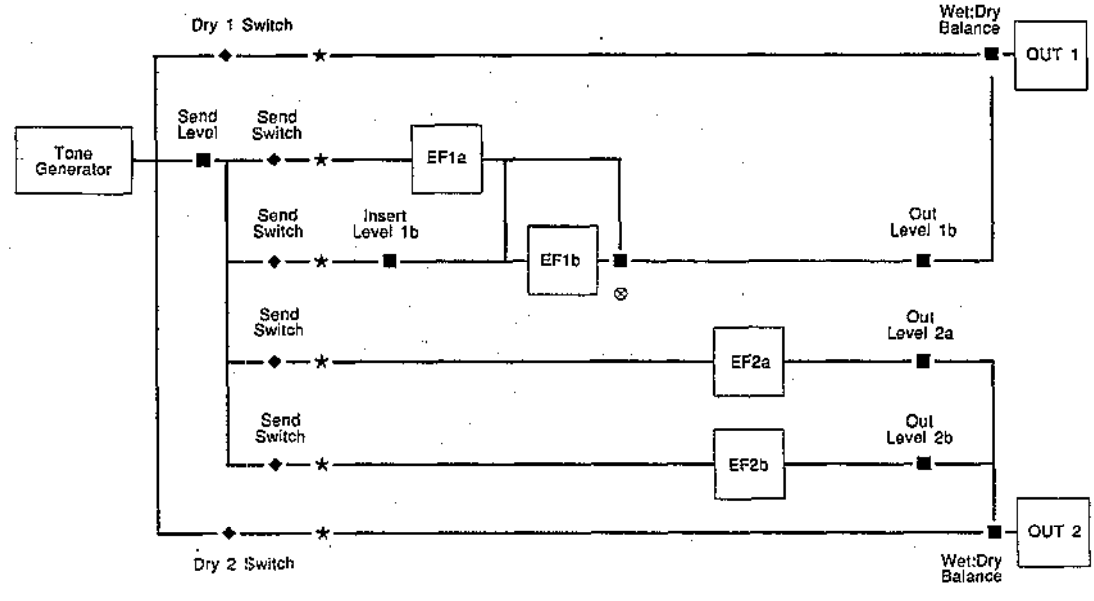
● EFFECT MODE = parallel. EFFECT 1 = dual. EFFECT 2 = single.



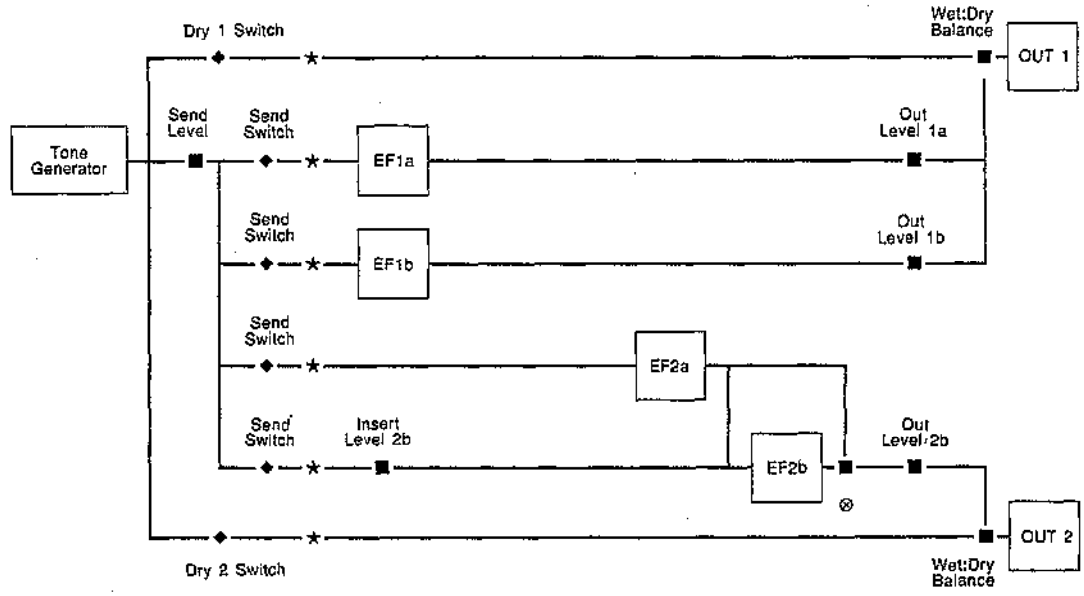
● EFFECT MODE = parallel. EFFECT 1 = cascade. EFFECT 2 = cascade.
(⊗ = effect parameter number 8)



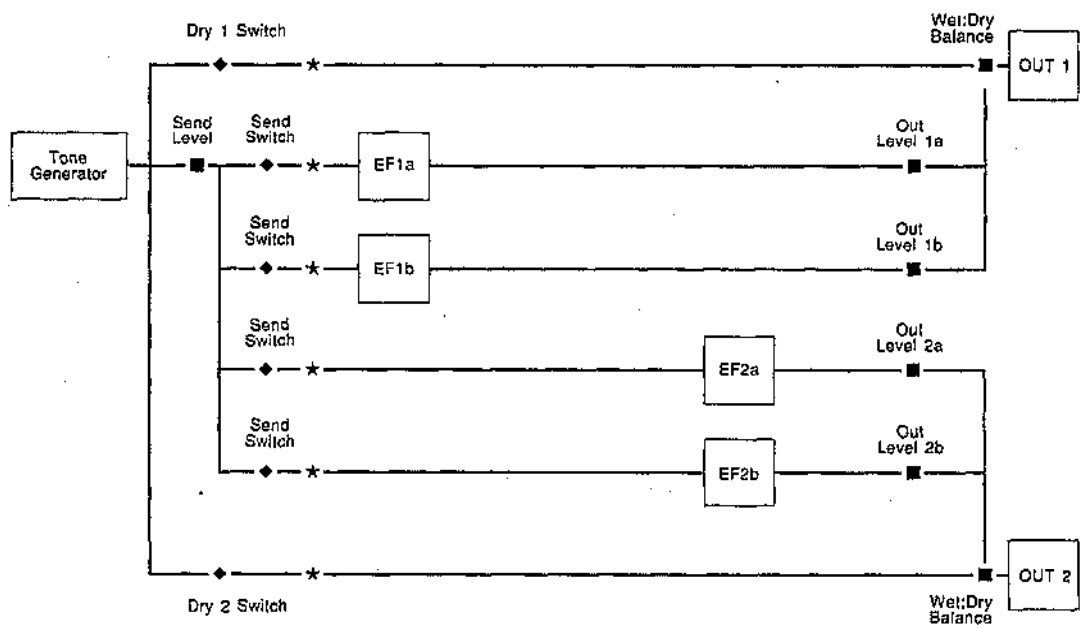
● EFFECT MODE = parallel. EFFECT 1 = cascade. EFFECT 2 = dual.
(⊗ = effect parameter number 8)



● EFFECT MODE = parallel. EFFECT 1 = dual. EFFECT 2 = cascade.
(⊗ = effect parameter number 8)



● EFFECT MODE = parallel. EFFECT 1 = dual. EFFECT 2 = dual.



■ The Effects & Their Parameters

* Parameters with "O" in the QE column are editable in the Quick Edit modes.

"Single" Effects

• 00 : Through

No.	PARAMETER	RANGE	QE
1~8	—	—	

• 01 : Rev. Hall1

No.	PARAMETER	RANGE	QE
1	Rev.Time [s]	0.3 ~ 30.0s	O
2	High	0.1 ~ 1.5	O
3	Diffusion	0 ~ 10	
4	Density	0 ~ 4	
5	ER/Rev Bal [%]	0 - 100%	O
6	Low Gain [dB]	-12 ~ +12dB	
7	High Gain [dB]	-12 ~ +12dB	
8	LPF [kHz]	1.0 ~ 16.0kHz, thru	O

• 02 : Rev. Hall2

No.	PARAMETER	RANGE	QE
1	Rev.Time [s]	0.3 ~ 30.0s	O
2	High	0.1 ~ 1.5	O
3	Diffusion	0 ~ 10	
4	Init Dly [ms]	0 ~ 150ms	O
5	Rev.Dly [ms]	0 ~ 100ms	
6	Density	0 ~ 4	
7	ER/Rev Bal [%]	0 ~ 100%	
8	LPF [kHz]	1.0 ~ 16.0kHz, thru	O

• 03 : Rev. Room1, 04 : Rev. Room2, 05 : Rev. Room3

No.	PARAMETER	RANGE	QE
1	Rev.Time [s]	0.3 - 30.0s	O
2	High	0.1 ~ 1.5	O
3	Diffusion	0 ~ 10	
4	Init Dly [ms]	0 ~ 200ms	O
5	Rev.Dly [ms]	0 ~ 130ms	
6	Density	0 - 4	
7	ER/Rev Bal [%]	0 ~ 100%	
8	LPF [kHz]	1.0 ~ 16.0kHz, thru	O

• 06 : Rev. Stage1, 07 : Rev. Stage2

No.	PARAMETER	RANGE	QE
1	Rev.Time [s]	0.3 ~ 30.0s	O
2	High	0.1 ~1.5	O
3	Diffusion	0 - 10	
4	Init Dly [ms]	0 ~ 60ms	
5	Rev.Dly [ms]	0 ~ 30ms	
6	Density	0 - 4	
7	ER/Rev Bal [%]	0 ~ 100%	O
8	LPF [kHz]	1.0 ~ 16.0kHz, thru	O

• 08 : Rev. Plate

No.	PARAMETER	RANGE	QE
1	Rev.Time [s]	0.3 ~ 30.0s	O
2	High	0.1 ~ 1.5	O
3	Diffusion	0 ~ 10	
4	Init Dly [ms]	0 ~ 200ms	O
5	Rev.Dly [ms]	0 ~ 200ms	
6	Density	0 ~ 4	
7	ER/Rev Bal [%]	0 ~ 100%	
8	LPF [kHz]	1.0 ~ 16.0kHz, thru	O

• 09 : Rev. WhRoom, 10 : Rev. Tunnel, 11 : Rev. Canyon, 12 : Rev. Basmnt

No.	PARAMETER	RANGE	QE
1	Rev.Time [s]	0.3 ~ 30.0s	O
2	High	0.1 ~ 1.5	
3	Diffusion	0 ~ 10	
4	Width [m]	0.5 ~ 23.6m	O
5	Height [m]	0.5 - 23.6m	O
6	Depth [m]	0.5 ~ 23.6m	O
7	Wall Vary	0 ~ 30	
8	LPF [kHz]	1.0 ~ 16.0kHz, thru	

• 13 : Early Ref1, 14 : Early Ref2

No.	PARAMETER	RANGE	QE
1	Type	Smll, Lrge, Rnd, Rvrs, Plte, Sprg	O
2	Room Size	0.1 ~ 20.0	O
3	Liveness	0 ~ 10	
4	Diffusion	0 ~ 10	
5	Init Dly [ms]	0 ~ 150ms	O
6	FB Dly [ms]	0 ~ 400ms	
7	FB Gain [%]	-99 ~ +99%	
8	LPF [kHz]	1.0 ~ 16.0kHz, thru	O

• 15 : Gate Rev., 16 : Revrs Gate

No.	PARAMETER	RANGE	QE
1	Type	A, B	O
2	Room Size	0.1 ~ 20.0	O
3	Liveness	0 ~ 10	
4	Diffusion	0 - 10	
5	Init Dly [ms]	0 ~ 150ms	O
6	FB Dly [ms]	0 ~ 400ms	
7	FB Gain [%]	-99 ~ +99%	
8	LPF [kHz]	1.0 ~ 16.0kHz, thru	O

• 17 : Dly L, R

No.	PARAMETER	RANGE	QE
1	Lch Dly [ms]	0 ~ 680ms	O
2	Rch Dly [ms]	0 ~ 680ms	O
3	FB1 Dly [ms]	0 ~ 680ms	
4	FB1 Gain [%]	-99 ~ +99%	O
5	FB2 Dly [ms]	0 ~ 680ms	
6	FB2 Gain [%]	-99 ~ +99%	O
7	FB High	0.1 ~ 1.0	
8	LPF [kHz]	1.0 ~ 16.0kHz, thru	

• 18 : Dly L, C, R

No.	PARAMETER	RANGE	QE
1	Lch Dly [ms]	0 ~ 680ms	O
2	Rch Dly [ms]	0 ~ 680ms	O
3	Cntr Dly [ms]	0 ~ 680ms	O
4	FB Dly Sync.	Lch, Rch, Cntr, L, R	
5	FB Gain [%]	-99 ~ +99%	O
6	FB High	0.1 ~ 1.0	
7	HPF [Hz]	thru, 32~ 1000Hz	
8	LPF [kHz]	1.0 ~ 16.0kHz, thru	

• 19 : St. Echo

No.	PARAMETER	RANGE	QE
1	Lch Dly [ms]	0 ~ 340ms	O
2	Rch Dly [ms]	0 ~ 340ms	
3	L FB Gain [%]	-99 ~ +99%	O
4	R Int Dly [ms]	0 ~ 340ms	O
5	R FB Dly [ms]	0 ~ 340ms	
6	R FB Gain [%]	-99 ~ +99%	O
7	FB High	0.1 ~ 1.0	
8	LPF [kHz]	1.0 ~ 16.0kHz, thru	

• 20 : Pit Chnge1

No.	PARAMETER	RANGE	QE
1	1 Pitch	-24 ~ +24	O
2	1 Fine	-100 ~ +100	
3	1 Dly [ms]	0 ~ 300ms	O
4	2 Pitch	-24 ~ +24	O
5	2 Fine	-100 ~ +100	
6	2 Dly [ms]	0 ~ 300ms	O
7	FB Gain [%]	-99 ~ +99%	
8	1/2 Bal. [%]	0 ~ 100%	

• 21 : Pit Chnge2

No.	PARAMETER	RANGE	QE
1	L Pitch	-24 ~ +24	
2	L Fine	-100 ~ +100	O
3	L Dly [ms]	0 ~ 300ms	O
4	L FB Gain [%]	-99 ~ +99%	
5	R Pitch	-24 ~ +24	
6	R Fine	-100 ~ +100	O
7	R Dly [ms]	0 ~ 300ms	O
8	R FB Gain [%]	-99 ~ +99%	

• 22 : Pit Chnge3

No.	PARAMETER	RANGE	QE
1	1 Pitch	-24 ~ +24	O
2	1 Fine	-100 ~ +100	
3	2 Pitch	-24 ~ +24	O
4	2 Fine	-100 ~ +100	
5	3 Pitch	-24 ~ +24	O
6	3 Fine	-100 ~ +100	
7	Dly Time [ms]	0 ~ 600ms	O
8	FB Gain [%]	-99 ~ +99%	

• 23 : Aural Exc. (Aural Excite ®*)

No.	PARAMETER	RANGE	QE
1	HPF [kHz]	500Hz ~ 16.0kHz	O
2	Enhance [%]	0 ~ 100%	O
3	Exc Level[%]	0 ~ 100%	O
4	Init Dly [ms]	0.0 ~ 99.9ms	O
5	—		
6	—		
7	—		
8	—		

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• 24 : EG Flanger

No.	PARAMETER	RANGE	QE
1	Atck Time [ms]	2.0ms ~ 22.0s	
2	Atck Level [%]	0 ~ 100%	O
3	Rlse Time [ms]	2.0ms ~ 22.0s	
4	EG Target	Freq, Dpth	O
5	Mod. Freq [Hz]	0.1 ~ 40.0Hz	O
6	Mod. Depth [%]	0 ~ 100%	O
7	Mod. Dly [ms]	0.1 ~ 99.9ms	
8	Mod. FB Gain [%]	0 ~ 99%	

• 25: EG Chorus

No.	PARAMETER	RANGE	QE
1	Atck Time [ms]	2.0ms ~ 22.0s	
2	Atck Level [%]	0 ~ 100%	O
3	Rise Time [ms]	2.0ms ~ 22.0s	
4	EG Target	Freq, Dpth	O
5	Mod. Freq [Hz]	0.1 ~ 40.0Hz	O
6	PM Depth [%]	0 ~ 100%	O
7	AM Depth [%]	0 ~ 100%	
8	High Gain [dB]	-12 ~ +12dB	

• 26 : EG Sympho

No.	PARAMETER	RANGE	QE
1	Atck Time [ms]	2.0ms ~ 22.0s	
2	Atck Level [%]	0 ~ 100%	O
3	Rise Time [ms]	2.0ms ~ 22.0s	
4	EG Target	Freq, Dpth	O
5	Mod. Freq [Hz]	0.1 ~ 40.0Hz	O
6	Mod. Depth [%]	0 ~ 100%	O
7	Init Dly [ms]	0 ~ 300ms	
8	High Gain [dB]	-12 ~ +12dB	

• 27 : EG Phaser

No.	PARAMETER	RANGE	QE
1	Atck Time [ms]	2.0ms ~ 22.0s	
2	Atck Level [%]	0 ~100%	O
3	Rise Time [ms]	2.0ms ~ 22.0s	
4	EG Target	Freq, Dpth	O
5	Mod. Freq [Hz]	0.1 ~ 40.0Hz	O
6	Mod. Depth [%]	0 ~ 100%	O
7	Mod. Dly [ms]	0.1 ~ 5.0ms	
8	High Gain [dB]	-12 ~ +12dB	

• 28 : Rotary SP.

No.	PARAMETER	RANGE	QE
1	Mid Speed [Hz]	0.1 ~ 40.0Hz	O
2	Depth [%]	0 ~ 100%	O
3	TransTime [ms]	2.0ms ~ 22.0s	O
4	Sped Diff [Hz]	0.05 ~ 5.80HZ	O
5	L/M/H Switch	Low, Mid, High	
6	Low Gain [dB]	-12 ~ +12dB	
7	High Gain [dB]	-12 ~ +12dB	
8	—		

• 29 : Ring Mod.

No.	PARAMETER	RANGE	QE
1	Wave Type	tri, dwn, up, squ, sin	
2	Wave Freq [Hz]	1 ~ 180Hz	
3	FM Freq. [Hz]	0.1 ~ 40.0Hz	O
4	FM Depth [%]	0 ~ 100%	O
5	AM Freq. [Hz]	0.1 ~ 40.0Hz	O
6	AM Depth [%]	0 ~ 100%	O
7	Low Gain [dB]	-12 ~ +12dB	
8	High Gain [dB]	-12 ~ +12dB	

• 30 : D.Flt (Wah)

No.	PARAMETER	RANGE	QE
1	Flt Freq [kHz]	315Hz ~ 14.0kHz	O
2	Flt1 Q	1.0 ~ 5.0	O
3	Flt1 Gain [dB]	0 ~ +12dB	O
4	Flt2 Q	0.1 ~ 0.7	O
5	Wah Dly [ms]	0 ~ 680ms	
6	FB Dly [ms]	0 ~ 680ms	
7	FB Gain [%]	-99 ~ +99%	
8	Dly Level [%]	0 ~ 100%	

"Cascade" Effects

• 31 : Dly → Rev

No.	PARAMETER	RANGE	QE
1	Lch Dly [ms]	0 ~ 400ms	O
2	Rch Dly [ms]	0 ~ 400ms	O
3	FB Gain [%]	-99 ~ +99%	
4	Rev. Time [s]	0.3 ~ 30.0s	O
5	High	0.1 ~ 1.5	
6	ER/Rev Bal [%]	0 ~ 100%	
7	LPF [kHz]	1.0 ~ 16.0kHz, thru	
8	Rev Level[%]	0 ~ 100%	O

• 32 : Echo → Rev

No.	PARAMETER	RANGE	QE
1	Lch Dly [ms]	0 ~ 200ms	O
2	L FB Gain [%]	-99 ~ +99%	
3	Rch Dly [ms]	0 ~ 200ms	O
4	R FB Gain [%]	-99 ~ +99%	
5	Rev. Time [s]	0.3 ~ 30.0s	O
6	High	0.1 ~ 1.5	
7	LPF [kHz]	1.0 ~ 16.0kHz, thru	
8	Rev Level [%]	0 ~ 100%	O

• 33 : Flg → Rev

No.	PARAMETER	RANGE	QE
1	Mod. Freq [Hz]	0.1 ~ 40.0Hz	O
2	Mod. Depth [%]	0 ~ 100%	O
3	Mod. Dly [ms]	0.1 ~ 30.0ms	
4	Mod. FB Gain [%]	0 ~ 99%	
5	Rev. Time [s]	0.3 ~ 30.0s	O
6	High	0.1 ~ 1.5	
7	LPF [kHz]	1.0 ~ 16.0kHz, thru	
8	Rev Level [%]	0 ~ 100%	O

• 34 : Cho → Rev

No.	PARAMETER	RANGE	QE
1	Mod. Freq [Hz]	0.1 ~ 40.0Hz	O
2	PM Depth [%]	0 ~ 100%	O
3	AM Depth [%]	0 ~ 100%	
4	Rev. Time [s]	0.3 ~ 30.0s	O
5	High	0.1 ~ 1.5	
6	Init Dly [ms]	0 ~ 200ms	
7	LPF [kHz]	1.0 ~ 16.0kHz, thru	
8	Rev Level[%]	0 ~ 100%	O

• 35 : Sym → Rev

No.	PARAMETER	RANGE	QE
1	Mod. Freq [Hz]	0.1 ~ 40.0Hz	O
2	Mod. Depth [%]	0 ~ 100%	O
3	High Gain [dB]	-12 ~ +12dB	
4	Rev. Time [s]	0.3 ~ 30.0s	O
5	High	0.1 ~ 1.5	
6	Init Dly [ms]	0 ~ 200ms	
7	LPF [kHz]	1.0 ~ 16.0kHz, thru	
8	Rev Level [%]	0 ~ 100%	O

• 36 : Pha → Rev

No.	PARAMETER	RANGE	QE
1	Mod. Freq [Hz]	0.1 ~ 40.0Hz	O
2	Mod. Depth [%]	0 ~ 100%	O
3	Mod. Dly [ms]	0.1 ~ 5.0ms	
4	Rev. Time [s]	0.3 ~ 30.0s	O
5	High	0.1 ~ 1.5	
6	Init Dly [ms]	0 ~ 200ms	
7	LPF [kHz]	1.0 ~ 16.0kHz, thru	
8	Rev Level [%]	0 ~ 100%	O

• **37 : Pit → Rev**

No.	PARAMETER	RANGE	QE
1	L Pitch	-24 ~ +24	
2	L Fine	-100 ~ +100	O
3	R Pitch	-24 ~ +24	
4	R Fine	-100 ~ +100	O
5	Rev. Time [s]	0.3 ~ 30.0s	O
6	High	0.1- 1.5	
7	LPF [kHz]	1.0 ~ 16.0kHz, thru	
8	Rev Level [%]	0 ~ 100%	O

• **38 : Exc → Rev (Aural Exciter®*)**

No.	PARAMETER	RANGE	QE
1	HPF [kHz]	500Hz ~ 16.0kHz	O
2	Enhance [%]	0 ~ 100%	O
3	Exc Level [%]	0 ~ 100%	
4	Rev. Time [s]	0.3 ~ 30.0s	O
5	High	0 .1- 1.5	
6	Init Dly [ms]	0 ~ 200ms	
7	LPF [kHz]	1.0 ~ 16.0kHz, thru	
8	Rev Level [%]	0 ~ 100%	O

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• **39 : Dist → Rev**

No.	PARAMETER	RANGE	QE
1	Dist. Level [%]	0 ~ 100%	O
2	Mid. Freq [kHz]	315Hz ~ 6.3kHz	
3	Mid. Gain [dB]	-12 ~ +12dB	
4	Trbl Gain [dB]	-12 ~ +12dB	O
5	Rev. Time [s]	0 .3- 30.0s	O
6	High	0.1 ~ 1.5	
7	LPF [kHz]	1.0 ~ 16.0kHz, thru	
8	Rev Level [%]	0 ~ 100%	O

• **40 : Pan → Rev**

No.	PARAMETER	RANGE	QE
1	Type	L→R, R→L, L<>R	O
2	Speed	1 ~ 52	O
3	Fade In [%]	-100 ~ +100%	
4	L/R Depth [%]	0 ~ 100%	
5	Rev. Time [s]	0 .3- 30.0s	O
6	High	0.1 ~ 1.5	
7	LPF [kHz]	1.0 ~ 16.0kHz, thru	
8	Rev Level [%]	0 ~ 100%	O

• **41 : Fig → Dly**

No.	PARAMETER	RANGE	QE
1	Mod. Freq [Hz]	0.1 ~ 40.0Hz	O
2	Mod. Depth [%]	0 ~ 100%	O
3	Mod. Dly [ms]	0.1 ~ 30.0ms	
4	Mod. FB Gain [%]	0 ~ 99%	
5	Lch Dly [ms]	0 - 600ms	O
6	Rch Dly [ms]	0 ~ 600ms	O
7	FB Gain [%]	.99 ~ +99%	
8	Dly Level [%]	0 ~ 100%	

• **42 : Cho → Dly**

No.	PARAMETER	RANGE	QE
1	Mod. Freq [Hz]	0.1 ~ 40.0Hz	O
2	PM Depth [%]	0 ~ 100%	O
3	AM Depth [%]	0 ~ 100%	
4	High Gain [dB]	-12 ~ +12dB	
5	Lch Dly [ms]	0 ~ 600ms	O
6	Rch Dly [ms]	0 ~ 600ms	O
7	FB Gain [%]	.99 ~ +99%	
8	Dly Level [%]	0 ~ 100%	

• **43 : Sym → Dly**

No.	PARAMETER	RANGE	QE
1	Mod. Freq [Hz]	0.1 ~ 40.0Hz	O
2	Mod Depth [%]	0 ~ 100%	O
3	—	—	
4	High Gain [dB]	-12 ~ +12dB	
5	Lch Dly [ms]	0 ~ 600ms	O
6	Rch Dly [ms]	0 ~ 600ms	O
7	FB Gain [%]	-99 ~ +99%	
8	Dly Level [%]	0 ~ 100%	

• 44 : Pha → Dly

No.	PARAMETER	RANGE	QE
1	Mod. Freq [Hz]	0.1 ~ 40.0Hz	O
2	Mod. Depth [%]	0 ~ 100%	O
3	Mod. Dly [ms]	0.1 ~ 5.0ms	
4	High Gain [dB]	0.1 ~ +12dB	
5	Lch Dly [ms]	0 ~ 600ms	O
6	Rch Dly [ms]	0 ~ 600ms	O
7	FB Gain [%]	-99 ~ +99%	
8	Dly Level [%]	0 ~ 100%	

• **45 : Pit → Dly**

No.	PARAMETER	RANGE	QE
1	L Pitch	-24 ~ +24	
2	L Fine	-100 ~ +100	O
3	R Pitch	-24 ~ +24	
4	R Fine	-100 ~ +100	O
5	Lch Dly [ms]	0 ~ 600ms	O
6	Rch Dly [ms]	0 ~ 600ms	O
7	FB Gain [%]	-99 ~ +99%	
8	Dly Level [%]	0 ~ 100%	

• **46 : Exc → Dly (Aural Exciter®*)**

No.	PARAMETER	RANGE	QE
1	HPF [kHz]	500Hz ~ 16kHz	O
2	Enhance [%]	0 ~ 100%	O
3	Exc Level [%]	0 ~ 100%	
4	Init Dly [ms]	0.0 ~ 80.0ms	
5	Lch Dly [ms]	0 ~ 600ms	O
6	Rch Dly [ms]	0 ~ 600ms	O
7	FB Gain [%]	.99 ~ +99%	
8	Dly Level [%]	0 ~ 100%	

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• **47 : Dist → Dly**

No.	PARAMETER	RANGE	QE
1	Dist. Level [%]	0 ~ 100%	O
2	Mid. Freq [kHz]	315Hz ~ 6.3kHz	
3	Mid. Gain [dB]	-12 ~ +12dB	
4	Trbl Gain [dB]	-12 ~ +12dB	O
5	Lch Dly [ms]	0 ~ 680ms	O
6	Rch Dly [ms]	0 ~ 680ms	O
7	FB Gain [%]	-99 ~ +99%	
8	Dly Level [%]	0 ~ 100%	

• **48 : Pan → Dly**

No.	PARAMETER	RANGE	QE
1	Type	L→R, R→L, L<>R	O
2	Speed	1 ~ 52	O
3	Fade In [%]	-100 ~ +100%	
4	L/R Depth [%]	0 ~ 100%	
5	Lch Dly [ms]	0~ 680ms	O
6	Rch Dly [ms]	0~ 680ms	O
7	FB Gain [%]	.99 ~ +99%	
8	Dly Level [%]	0 ~ 100%	

• **49 : Dist → Echo**

No.	PARAMETER	RANGE	QE
1	Dist. Level [%]	0 ~ 100%	O
2	Mid. Freq [kHz]	315Hz ~ 6.3kHz	
3	Mid. Gain [dB]	-12 ~ +12dB	
4	Trbl Gain [dB]	-12 ~ +12dB	O
5	Lch Dly [ms]	0 ~ 340ms	O
6	Rch Dly [ms]	0 ~ 340ms	O
7	FB Gain [%]	-99 ~ +99%	
8	Echo Level[%]	0 ~ 100%	

• **50 : EQ → Rev1**

No.	PARAMETER	RANGE	QE
1	Low Freq [kHz]	32Hz ~ 2.0kHz	
2	Low Gain [dB]	-12 ~ +12dB	O
3	High Frq. [kHz]	500Hz ~ 16.0kHz	
4	High Gain [dB]	-12 ~ +12dB	O
5	Rev. Time [s]	0.3 ~ 30.0s	O
6	High	0.1 ~ 1.5	
7	ER/Rev Bal [%]	0 ~ 100%	
8	Rev Level [%]	0 ~ 100%	O

• **51 : EQ → Rev2**

No.	PARAMETER	RANGE	QE
1	Low Freq [kHz]	32Hz ~ 2.0kHz	
2	Low Gain [dB]	-12 ~ +12dB	O
3	High Frq [kHz]	500Hz ~ 16.0kHz	
4	High Gain [dB]	-12 ~ +12dB	O
5	Rev. Time [s]	0.3 ~ 30.0s	O
6	High	0.1 ~ 1.5	
7	Init Dly [ms]	0 ~ 250ms	
8	Rev Level [%]	0 ~ 100%	O

• **52 : EQ → ER**

No.	PARAMETER	RANGE	QE
1	Low Freq [kHz]	32Hz ~ 2.0kHz	
2	Low Gain [dB]	-12 ~ +12dB	O
3	High Frq [kHz]	500Hz ~ 16.0kHz	
4	High Gain [dB]	-12 ~ +12dB	O
5	Type	Smll, Lrge, Rnd, Rvrs, Plte, Sprg	O
6	Diffusion	0 ~ 10	
7	Init Dly [ms]	0 ~ 200ms	
8	ER Level [%]	0 ~ 100%	O

• 53 : EQ → Dly

No.	PARAMETER	RANGE	QE
1	Low Freq [kHz]	32Hz ~ 2.0kHz	
2	Low Gain [dB]	-12 ~ +12dB	O
3	High Frq [kHz]	500Hz ~ 16.0kHz	
4	High Gain [dB]	-12 ~ +12dB	O
5	Lch Dly [ms]	0 ~ 680ms	O
6	Rch Dly [ms]	0 ~ 680ms	O
7	FB Gain [%]	-99 ~ +99%	
8	Dly Level [%]	0 ~ 100%	

• 54 : EQ → Echo

No.	PARAMETER	RANGE	QE
1	Low Freq [kHz]	32Hz ~ 2.0kHz	
2	Low Gain [dB]	-12 ~ +12dB	O
3	High Frq [kHz]	500Hz ~ 16.0kHz	
4	High Gain [dB]	-12 ~ +12dB	O
5	Lch Dly [ms]	0 ~ 340ms	O
6	Rch Dly [ms]	0 ~ 340ms	O
7	FB Gain [%]	-99 ~ +99%	
8	Echo Level [%]	0 ~ 100%	

• 55 : EQ → Fig

No.	PARAMETER	RANGE	QE
1	Low Freq [kHz]	32Hz ~ 2.0kHz	
2	Low Gain [dB]	-12 ~ +12dB	O
3	High Frq [kHz]	500Hz ~ 16.0kHz	
4	High Gain [dB]	-12 ~ +12dB	O
5	Mod. Freq [Hz]	0.1 ~ 40-0Hz	O
6	Mod. Depth [%]	0 ~ 100%	O
7	Mod. FB Gain [%]	0 ~ 99%	
8	Fig Level [%]	0 ~ 100%	

• 56 : EQ → Cho

No.	PARAMETER	RANGE	QE
1	Low Freq [kHz]	32Hz ~ 2.0kHz	
2	Low Gain [dB]	-12 ~ +12dB	O
3	High Frq [kHz]	500H2 ~ 16.0kHz	
4	High Gain [dB]	-12 ~ +12dB	O
5	Mod. Preq [Hz]	0.1 ~ 40.0Hz	O
6	PM Depth [%]	0 ~ 100%	O
7	AM Depth [%]	0 ~ 100%	
8	Cho Level[%]	0 ~ 100%	

• 57 : EQ → Sym

No.	PARAMETER	RANGE	QE
1	Low Freq [kHz]	32Hz ~ 2.0kHz	
2	Low Gain [dB]	-12 ~ +12dB	O
3	High Frq [kHz]	500Hz ~ 16.0kHz	
4	High Gain [dB1	-12 ~ +12dB	O
5	Mod. Freq [Hz]	0.1 - 40.0Hz	O
6	Mod. Depth [%]	0 ~ 100%	O
7	Init Dly [ms]	0 ~ 300ms	
8	Sym Level [%]	0 ~ 100%	

• 58 : EQ → Pha

No.	PARAMETER	RANGE	QE
1	Low Freq [kHz]	32Hz ~ 2.0kHz	
2	Low Gain [dB]	-12 ~ +12dB	O
3	High Frq [kHz]	500Hz ~ 16.0kHz	
4	High Gain [dB]	-12 ~ +12dB	O
5	Mod. Freq [Hz]	0.1 ~ 40.0Hz	O
6	Mod. Depth [%]	0 ~ 100%	O
7	Mod. Dly [ms]	0.1 ~ 5.0ms	
8	Pha Level [%]	0 ~ 100%	

• 59 : EQ → Pit

No.	PARAMETER	RANGE	QE
1	Low Freq [kHz]	32Hz ~ 2.0kHz	
2	Low Gain [dB]	-12 ~ +12dB	O
3	High Frq [kHz]	500Hz ~ 16.0kHz	
4	High Gain [dB]	-12 ~ +12dB	O
5	L Fine	-999 ~ +999	O
6	R Fine	-999 ~ +999	O
7	Init Dly [ms]	0 ~ 300ms	
8	Pit Level [%]	0 ~ 100%	

• 60 : EQ → Pan

No.	PARAMETER	RANGE	QE
1	Low Freq [kHz]	32Hz ~ 2.0kHz	
2	Low Gain [dB]	-12 ~ +12dB	O
3	High Frq [kHz]	500Hz ~ 16.0kHz	
4	High Gain [dB]	-12 ~ +12dB	O
5	Type	L→R, R→L, L<>R	O
6	Speed	1 ~ 52	O
7	Fade In [%]	-100 ~ +100%	
8	L/R Depth [%]	0 ~ 100%	

"Dual" Effects

• 61 : Hall & Plate

No.	PARAMETER	RANGE	QE
1	Rev. Time [s]	0.3 ~ 30.0s	O
2	High	0.1 ~ 1.5	
3	Diffusion	0 ~ 10	
4	LPF [kHz]	1.0 ~ 16.0kHz, thru	O
5	Rev. Time [s]	0.3 ~ 30.0s	O
6	High	0.1 ~ 1.5	
7	Diffusion	0 - 10	
8	LPF [kHz]	1.0 ~ 16.0kHz, thru	O

• 62 : Echo & Rev

No.	PARAMETER	RANGE	QE
1	Lch Dly [ms]	0 ~ 200ms	O
2	L FB Gain [%]	-99 ~ +99%	
3	Rch Dly [ms]	0 ~ 200ms	O
4	R FB Gain [%]	-99 ~ +99%	
5	Rev. Time [s]	0.3 ~ 30.0s	O
6	High	0.1 ~ 1.5	
7	ER/Rev Bal [%]	0 ~ 100%	
8	LPF [kHz]	1.0 ~ 16.0kHz, thru	O

• 63 : Fig & Rev

No.	PARAMETER	RANGE	QE
1	Mod. Freq [Hz]	0.1 ~ 40.0Hz	O
2	Mod. Depth [%]	0 ~ 100%	O
3	Mod Dly [ms]	0.1 ~ 30.0ms	
4	Mod. FB Gain [%]	0 ~ 99%	
5	Rev. Time [s]	0.3 ~ 30.0s	O
6	High	0.1 ~ 1.5	
7	Init Dly [ms]	0 ~ 200ms	
8	LPF [kHz]	1.0 ~ 16.0kHz, thru	O

• 64 : Cho & Rev

No.	PARAMETER	RANGE	QE
1	Mod. Freq [Hz]	0.1 ~ 40.0Hz	O
2	PM Depth [%]	0 ~ 100%	O
3	AM Depth [%]	0 ~ 100%	
4	High Gain [dB]	-12 ~ +12dB	
5	Rev. Time [s]	0.3 ~30.0s	O
6	High	0.1 ~ 1.5	
7	Init Dly [ms]	0 ~ 200ms	
8	LPF [kHz]	1.0 ~ 16.0kHz, thru	O

• 65 : Sym & Rev

No.	PARAMETER	RANGE	QE
1	Mod. Freq [Hz]	0.1 ~ 40.0Hz	O
2	Mod. Depth [%]	0 ~ 100%	O
3	—		
4	High Gain [dB]	-12 ~ +12dB	
5	Rev. Time [s]	0.3 ~ 30.0s	O
6	High	0.1 ~ 1.5	
7	Init Dly [ms]	0 ~ 200ms	
8	LPF [kHz]	1.0 ~ 16.0kHz, thru	O

• 66 : Pha & Rev

No.	PARAMETER	RANGE	QE
1	Mod. Freq [Hz]	0.1 ~ 40.0Hz	O
2	Mod. Depth [%]	0 ~ 100%	O
3	Mod. Dly [ms]	0.1 ~ 5.0ms	
4	High Gain [dB]	-12 ~ +12dB	
5	Rev. Time [s]	0.3 ~ 30.0s	O
6	High	0.1 ~ 1.5	
7	Init Dly [ms]	0 ~ 200ms	
8	LPF [kHz]	1.0 ~ 16.0kHz, thru	O

• **67 : Pit & Rev**

No.	PARAMETER	RANGE	QE
1	L Pitch	-24 ~ +24	
2	L Fine	-100 ~ +100	O
3	R Pitch	-24 ~ +24	
4	R Fine	-100 ~ +100	O
5	Rev. Time [s]	0.3 ~ 30.0s	O
6	High	0.1 ~ 1.5	
7	Init Dly [ms]	0 ~ 200ms	
8	LPF [kHz]	1.0 ~ 16.0kHz, thru	O

• **68 : Exc & Rev (Aural Exciter®*)**

No.	PARAMETER	RANGE	QE
1	HPF [kHz]	500Hz ~ 16.0kHz	O
2	Enhance [%]	0 ~ 100%	O
3	Exc Level [%]	0 ~ 100%	
4	Init Dly [ms]	0.0 ~ 50.0ms	
5	Rev. Time [s]	0.3 ~ 30.0s	O
6	High	0.1 ~ 1.5	
7	Init Dly [ms]	0 ~ 200ms	
8	LPF [kHz]	1.0 ~ 16.0kHz, thru	O

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• **69 : Dist & Rev**

No.	PARAMETER	RANGE	QE
1	Dist. Level [%]	0 ~ 100%	O
2	Mid. Freq [kHz]	315Hz ~ 6.3kHz	
3	Mid. Gain [dB]	-12 ~ +12dB	
4	Trbl Gain [dB]	-12 ~ +12dB	O
5	Rev. Time [s]	0.3 ~ 30.0s	O
6	High	0.1 ~ 1.5	
7	Init Dly [ms]	0 ~ 200ms	
8	LPF [kHz]	1.0 ~ 16.0kHz, thru	O

• **70 : Pan & Rev**

No.	PARAMETER	RANGE	QE
1	Pan Type	L→R, R→L, L<>R	O
2	Speed	1 ~ 52	O
3	Fade In [%]	-100 ~ +100%	
4	L/R Depth [%]	0 ~ 100%	
5	Rev. Time [s]	0.3 ~ 30.0s	O
6	High	0.1 ~ 1.5	
7	Init Dly [ms]	0 ~ 150ms	
8	LPF [kHz]	1.0 ~ 16.0kHz, thru	O

• **71 : Dly & Rev**

No.	PARAMETER	RANGE	QE
1	Lch Dly [ms]	0 ~ 400ms	O
2	Rch Dly [ms]	0 ~ 400ms	O
3	FB Gain [%]	-99 ~ +99%	
4	Rev. Time [s]	0.3 ~ 30.0s	O
5	High	0.1 ~ 1.5	
6	Diffusion	0 ~ 10	
7	ER/Rev Bal [%]	0 ~ 100%	
8	LPF [kHz]	1.0 ~ 16.0kHz, thru	O

• **72 : Dly & Dly**

No.	PARAMETER	RANGE	QE
1	Lch Dly [ms]	0 ~ 340ms	O
2	Rch Dly [ms]	0 ~ 340ms	O
3	FB Gain [%]	-99 ~ +99%	
4	High Gain [%]	-12 ~ +12dB	
5	Lch Dly [ms]	0 ~ 340ms	O
6	Rch Dly [ms]	0 ~ 340ms	O
7	FB Gain [%]	-99 ~ +99%	
8	High Gain [dB]	-12 ~ +12dB	

• **73 : Fig & Dly**

No.	PARAMETER	RANGE	QE
1	Mod. Freq [Hz]	0.1 ~ 40.0Hz	O
2	Mod. Depth [ms]	0 ~ 100%	O
3	Mod. Dly [ms]	0.1 ~ 30.0ms	
4	Mod. FB Gain [%]	0 ~ 99%	
5	Lch Dly [ms]	0 ~ 600ms	O
6	Rch Dly [ms]	0 ~ 600ms	O
7	FB Gain [%]	-99 ~ +99%	
8	High Gain [dB]	-12 ~ +12dB	

• **74 : Cho & Dly**

No.	PARAMETER	RANGE	QE
1	Mod. Freq [Hz]	0.1 ~ 40.0Hz	O
2	PM Depth [%]	0 ~ 100%	O
3	AM Depth [%]	0 ~ 100%	
4	High Gain [dB]	-12 ~ +12dB	
5	Lch Dly [ms]	0 ~ 600ms	O
6	Rch Dly [ms]	0 ~ 600ms	O
7	FB Gain [%]	-99 ~ +99%	
8	High Gain [dB]	-12 ~ +12dB	

• 75 : Sym & Dly

No.	PARAMETER	RANGE	QE
1	Mod. Freq [Hz]	0.1 ~ 40.0Hz	O
2	Mod. Depth [%]	0 ~ 100%	O
3	—	—	
4	High Gain [dB]	-12 ~ +12dB	
5	Lch Dly [ms]	0 ~ 600ms	O
6	Rch Dly [ms]	0 ~ 600ms	O
7	FB Gain [%]	-99 ~ +99%	
8	High Gain [dB]	-12 ~ +12dB	

• 76 : Pha & Dly

No.	PARAMETER	RANGE	QE
1	Mod. Freq [Hz]	0.1 ~ 40.0Hz	O
2	Mod Depth [%]	0 ~ 100%	O
3	Mod Dly [ms]	0.1 ~ 5.0ms	
4	High Gain [dB]	-12 ~ +12dB	
5	Lch Dly [ms]	0 ~ 600ms	O
6	Rch Dly [ms]	0 ~ 600ms	O
7	FB Gain [%]	-99 ~ +99%	
8	High Gain [dB]	-12 ~ +12dB	

• 77 : Pit & Dly

No.	PARAMETER	RANGE	QE
1	L Pitch	-24 ~ +24	
2	L Fine	-100 ~ +100	O
3	R Pitch	-24 ~ +24	
4	R Fine	-100 ~ +100	O
5	Lch Dly [ms]	0 ~ 600ms	O
6	Rch Dly [ms]	0 ~ 600ms	O
7	FB Gain [%]	-99 ~ +99%	
8	High Gain [dB]	-12 ~ +12dB	

• 78 : Exc & Dly (Aural Exciter®*)

No.	PARAMETER	RANGE	QE
1	HPF [kHz]	500Hz ~ 16.0kHz	O
2	Enhance [%]	0 ~ 100%	O
3	Exc Level [%]	0 ~ 100%	
4	Init Dly [ms]	0.0 ~ 80.0ms	
5	Lch Dly [ms]	0 ~ 600ms	O
6	Rch Dly [ms]	0 ~ 600ms	O
7	FB Gain [%]	-99 ~ +99%	
8	High Gain [dB]	-12 ~ +12dB	

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• 79 : Dist & Dly

No.	PARAMETER	RANGE	QE
1	Dist. Level [%]	0 ~ 100%	O
2	Mid. Freq [kHz]	315Hz ~ 6.3kHz	
3	Mid. Gain [dB]	-12 ~ +12dB	
4	Trbl Gain [dB]	-12 ~ +12dB	O
5	Lch Dly [ms]	0 ~ 680ms	O
6	Rch Dly [ms]	0 ~ 680ms	O
7	FB Gain [%]	-99 ~ +99%	
8	High Gain [dB]	-12 ~ +12dB	

• 80 : Pan & Dly

No.	PARAMETER	RANGE	QE
1	Type	L→R, R→L, L<>R	O
2	Speed	1 ~ 52	O
3	Fade In [%]	-100 ~ +100%	
4	L/R Depth [%]	0 ~ 100%	
5	Lch Dly [ms]	0 ~ 680ms	O
6	Rch Dly [ms]	0 ~ 680ms	O
7	FB Gain [%]	-99 ~ +99%	
8	High Gain [dB]	-12 ~ +12dB	

• 81 : Flg & Flg

No.	PARAMETER	RANGE	QE
1	Mod. Freq [Hz]	0.1 ~ 40.0Hz	O
2	Mod. Depth [%]	0 ~ 100%	O
3	Mod. Dly [ms]	0.1 ~ 99.9ms	
4	Mod. FB Gain [%]	0 ~ 99%	
5	Mod. Freq [Hz]	0.1 ~40.0Hz	O
6	Mod. Depth [%]	0 ~ 100%	O
7	Mod. Dly [ms]	0.1 ~ 99.9ms	
8	Mod. FB Gain [%]	0 ~ 99%	

• 82 : Flg & Cho

No.	PARAMETER	RANGE	QE
1	Mod. Freq [Hz]	0.1 ~ 40.0Hz	O
2	Mod. Depth [%]	0 ~ 100%	O
3	Mod. Dly [ms]	0.1 ~ 99.9ms	
4	Mod. FB Gain [%]	0 ~ 99%	
5	Mod. Freq [Hz]	0.1 ~40.0Hz	O
6	PM Depth [%]	0 ~ 100%	O
7	AM Depth [%]	0 ~ 100%	
8	High Gain [dB]	-12 ~ +12dB	

• 83 : Flg & Sym

No.	PARAMETER	RANGE	QE
1	Mod. Freq [Hz]	0.1 ~ 40.0Hz	O
2	Mod. Depth [%]	0 ~ 100%	O
3	Mod. Dly [ms]	0.1 ~ 99.9ms	
4	Mod. FB Gain [%]	0 ~ 99%	
5	Mod. Freq [Hz]	0.1 ~40.0Hz	O
6	Mod. Depth [%]	0 ~ 100%	O
7	Init Dly [ms]	0 ~ 300ms	
8	High Gain [dB]	-12 ~ +12dB	

• 84 : Flg & Pha

No.	PARAMETER	RANGE	QE
1	Mod. Freq [Hz]	0.1 ~ 40.0Hz	O
2	Mod. Depth [%]	0 ~ 100%	O
3	Mod. Dly [ms]	0.1 ~ 99.9ms	
4	Mod. FB Gain [%]	0 ~ 99%	
5	Mod. Freq [Hz]	0.1 ~40.0Hz	O
6	Mod. Depth [%]	0 ~ 100%	O
7	Mod. Dly [ms]	0.1 ~ 5.0ms	
8	High Gain [dB]	-12 ~ +12dB	

• 85 : Cho & Cho

No.	PARAMETER	RANGE	QE
1	Mod. Freq [Hz]	0.1 ~ 40.0Hz	O
2	PM Depth [%]	0 ~ 100%	O
3	AM Depth [%]	0 ~ 100%	
4	High Gain [dB]	-12 ~ +12dB	
5	Mod. Freq [Hz]	0.1 ~40.0Hz	O
6	PM Depth [%]	0 ~ 100%	O
7	AM Depth [%]	0 ~ 100%	
8	High Gain [dB]	-12 ~ +12dB	

• 86 : Cho & Sym

No.	PARAMETER	RANGE	QE
1	Mod. Freq [Hz]	0.1 ~ 40.0Hz	O
2	PM Depth [%]	0 ~ 100%	O
3	AM Depth [%]	0 ~ 100%	
4	High Gain [dB]	-12 ~ +12dB	
5	Mod. Freq [Hz]	0.1 ~40.0Hz	O
6	Mod. Depth [%]	0 ~ 100%	O
7	Init Dly [ms]	0 ~ 300ms	
8	High Gain [dB]	-12 ~ +12dB	

• 87 : Cho & Pha

No.	PARAMETER	RANGE	QE
1	Mod. Freq [Hz]	0.1 ~ 40.0Hz	O
2	PM Depth [%]	0 ~ 100%	O
3	AM Depth [%]	0 ~ 100%	
4	High Gain [dB]	-12 ~ +12dB	
5	Mod. Freq [Hz]	0.1 ~40.0Hz	O
6	Mod. Depth [%]	0 ~ 100%	O
7	Mod. Dly [ms]	0.1 ~ 5.0ms	
8	High Gain [dB]	-12 ~ +12dB	

• 88 : Sym & Sym

No.	PARAMETER	RANGE	QE
1	Mod. Freq [Hz]	0.1 ~ 40.0Hz	O
2	Mod.Depth [%]	0 ~ 100%	O
3	Init Dly [ms]	0 ~ 300ms	
4	High Gain [dB]	-12 ~ +12dB	
5	Mod. Freq [Hz]	0.1 ~40.0Hz	O
6	Mod. Depth [%]	0 ~ 100%	O
7	Init Dly [ms]	0 ~ 300ms	
8	High Gain [dB]	-12 ~ +12dB	

• 89 : Sym & Pha

No.	PARAMETER	RANGE	QE
1	Mod. Freq [Hz]	0.1 ~ 40.0Hz	O
2	Mod. Depth [%]	0 ~ 100%	O
3	Init Dly [ms]	0 ~ 300ms	
4	High Gain [dB]	-12 ~ +12dB	
5	Mod. Freq [Hz]	0.1 ~40.0Hz	O
6	Mod. Depth [%]	0 ~ 100%	O
7	Mod. Dly [ms]	0.1 ~ 5.0ms	
8	High Gain [dB]	-12 ~ +12dB	

• 90 : Pha & Pha

No.	PARAMETER	RANGE	QE
1	Mod. Freq [Hz]	0.1 ~ 40.0Hz	O
2	Mod. Depth [%]	0 ~ 100%	O
3	Mod. Dly [ms]	0.1 ~ 5.0ms	
4	High Gain [dB]	-12 ~ +12dB	
5	Mod. Freq [Hz]	0.1 ~40.0Hz	O
6	Mod. Depth [%]	0 ~ 100%	O
7	Mod. Dly [ms]	0.1 ~ 5.0ms	
8	High Gain [dB]	-12 ~ +12dB	

WAVE MEMORY EXPANSION

The SY85 comes with 512 kilobytes of internal wave RAM memory for storage of wave data loaded from floppy disk or via the MIDI interface (MIDI sample dump). The internal wave memory is not backed up like the voice, performance, and song memories, and is therefore "volatile" (i.e. the contents of the memory are lost when the SY85 power is turned off).

Extra memory modules can be added to the SY85 to expand the wave memory to a maximum of 3.5 megabytes. Two types of expansion memory are available:

Yamaha SYEMB06 Memory Expansion Modules

One or two Yamaha SYEMB06 Memory Expansion Modules can be plugged into expansion slots provided on the SY85 bottom panel. Each SYEMB06 provides 512 kilobytes. With two SYEMB06 modules installed, you have a total of 1.5 megabytes of wave memory (512 kilobytes internal + 1 megabyte external). Unlike the internal wave memory, SYEMB06 memory is "non-volatile", so its contents are retained even when the SY85 power is turned off.

SIMM Memory Modules

The SY85 will also accommodate up to 2 megabytes of memory in standard SIMM memory modules (the type used in popular personal computers: 8-bit, l-megabyte, 80-nanosecond or faster types only). SIMM memory is volatile, so its contents will be lost whenever the SY85 power is turned off.

Please note that when SIMM memory is wave memory installed, wave data can not be loaded into memory from a waveform card.

Memory Installation

Memory Installation can erase internal memory!
Be sure to safe all internal data to disk or card before installing memory.

1

Turn the SY85 power switch OFF, and disconnect the AC power cord from the mains outlet.

2

Place the SY85 face down on a stable, padded surface.

3

Locate the small cover on the bottom panel, and remove the six screws that hold it in place (figure 1).

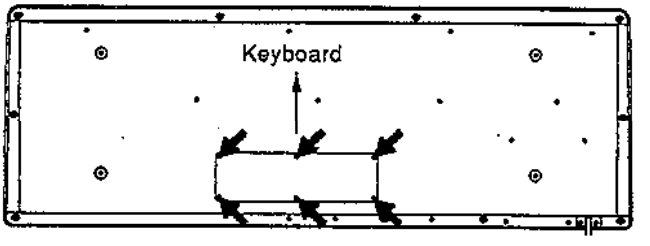


Figure 1

4

Below the cover you will see two recessed panels. The left panel has slots for two SYEMB06 Memory Expansion Modules, while the right panel accomodates two SIMM memory modules. While both SIMM modules must be installed at the same time, you can install either one or two SYEMB06 modules, as required.

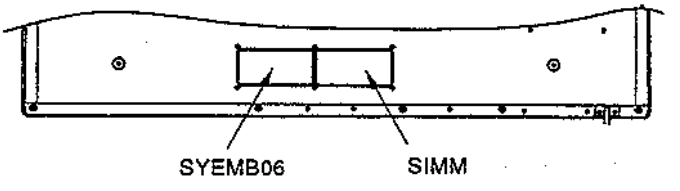


Figure 2

5

INSTALLING SYEMB06 MODULES: A RAM card adapter (provided) is required to install SYEMB06 modules. Assemble the SYEMB06 and adapter as shown in figure 3.

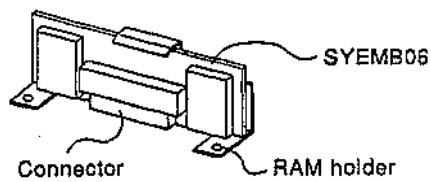


Figure 3

6

When installing a single SYEMB06 use slot number 1 (figure 4). Install a second SYEMB06 in slot number 2. If you will not be installing SIMM memory modules skip ahead to step number 8.

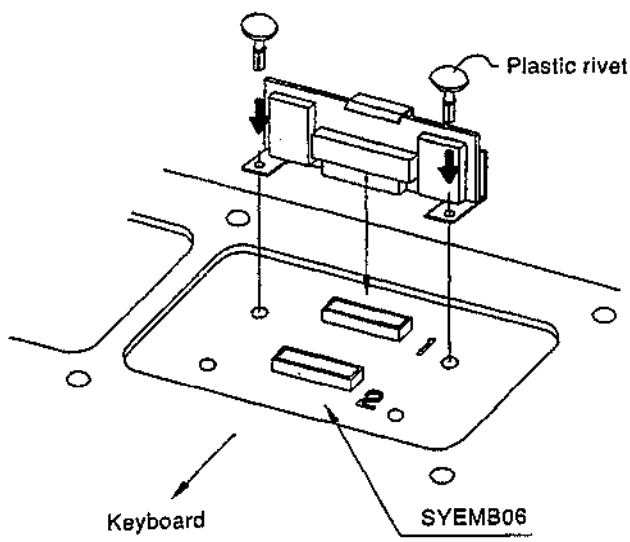
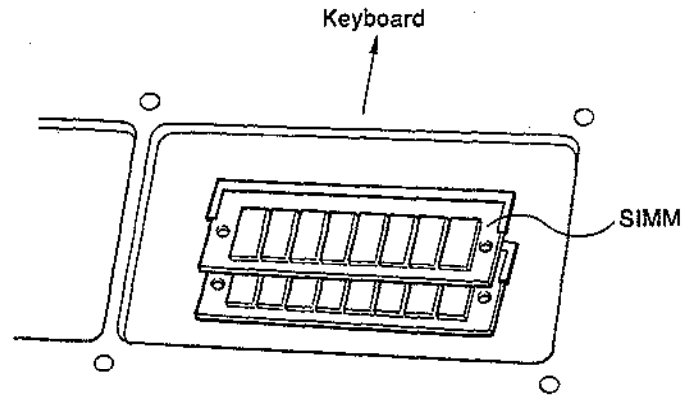


Figure 4

7

INSTALLING SIMM MODULES: The right panel accomodates compatible SIMM memory modules. Two SIMM modules (1 megabyte each) must be installed in connector CN13.



8

Replace the expansion slot cover and attach with the six screws removed in step 3.

Once installed, SYEMB06 memory expansion modules cannot be removed (the plastic rivets lock the boards in place). Have your Yamaha dealer remove installed modules to avoid possible damage.

INITIAL DATA & BLANK CHART

● INITIAL PERFORMANCE "InitPerf"

Performance Name	InitPerf				Total Level	80			
Voice Number	A : I_1A1		B : I_1A1		Quick Edit		A	B	C	D
	C : I_1A1		D : I_1A1		AEG	R1	+0	+0	+0	+0
Layer	A	B	C	D		R2, R3	+0	+0	+0	+0
Volume	127	127	127	127		R4	+0	+0	+0	+0
Pan	+0	+0	+0	+0		RR	+0	+0	+0	+0
Note Shift	+0	+0	+0	+0		Vel. Sense	+0	+0	+0	+0
Fine Tune	+0	+0	+0	+0	LFO	Speed	+0	+0	+0	+0
Note Limit	C-2~G8	C-2~G8	C-2~G8	C-2~G8		Depth	+0	+0	+0	+0
Vel. Limit	1~127	1~127	1~127	1~127	Filter	Cutoff	——	——	——	——
CS3 Enable	off	off	off	off		Resonance	——	——	——	——
CS4 Enable	off	off	off	off		Vel. Sense	+0	+0	+0	+0
Effect Send	A	B	C	D	Con-	AT	LyrA	LyrA	LyrA	LyrA
Switch	(1a) 1b (2a) (2b)	(1a) 1b (2a) (2b)	(1a) 1b (2a) (2b)	(1a) 1b (2a) (2b)	trol	MW	LyrA	LyrA	LyrA	LyrA
						FC	LyrA	LyrA	LyrA	LyrA
						AT > MW	off	off	off	off
Level	127	127	127	127		MW > AT	off	off	off	off
Vel.Sense	+0	+0	+0	+0		Sustain	on	on	on	on
Key.Scale	+0	+0	+0	+0		Pitch EG	on	on	on	on
Dry Output Select	(D1) (D2)	(D1) (D2)	(D1) (D2)	(D1) (D2)		Fixed Note	——	——	——	——

Effect	Mode	off / serial / (parallel)						
Effect 1	Type 06 : Rev.Stage1							
	Output Level a 100			Output Level b ——			Wet : Dry 50 : 50	
Param.	P1 2.2	P2 0.7	P3 8	P4 8	P5 0	P6 4	P7 65	P8 Thru
Effect 2	Type 57 : EQ -> Sym							
	Output Level a ——			Output Level b 100			Wet : Dry 50 : 50	
Param.	P1 500	P2 +0	P3 3.2	P4 +0	P5 0.8	P6 60	P7 0	P8 100
Mix Level	EF2 ——		Insert 1b ——		Insert 2a ——		Insert 2b 0	
Control 1	Parameter off		Min 0		Max 100		Additional ——	
Control 2	Parameter off		Min 0		Max 100		Additional ——	
Effect LFO	Waveform tri			Speed 0			Delay 0	

● INITIAL NORMAL VOICE "InitVce"

Voice Name	InitVce			Total Level	127			
Oscillator	Mode	(normal) / fixed		LFO	Phase 0°	Delay 0		
Waveform	P244 Sin			Waveform	tri			
Fine Tune	+0			Speed	64			
Fixed Note	+0			Depth	Pmod 0	Amod 0	Fmod 0	
Random	0			SpeedSens	Random 0	Vel. +0		
Reverse	off				Key Scale +0			
Amplitude EG	Mode	(atk) / hold	L2 63	L3 63				
	(R1) / HT	63	R2 63	R3 63	R4 0	RR 50		
Scaling	BP1	BP2	BP3	BP4	Sensitivity	Velocity	+0	
Note	C1	G2	E4	C6		Atk Rate Vel	+0	
Offset	+0	+0	+0	+0		Rate Scaling	+0	
Filter	Cutoff freq	———		Type THRU	Band ——	Reso ——	CTRL LFO	
EG	L0 +0	L1 +0	L1 +0	L3 +0	L4 +0	RL1 +0	RL2 +0	
	RS +0	R1 +0	R2 +0	R3 +0	R4 +0	RR1 +0	RR2 +0	
Scaling	BP1	BP2	BP3	BP4	Sensitivity	Type	EGshift	
Note	C1	G2	E4	C6		Velocity	+0	
Offset	+0	+0	+0	+0		Attack Rate Vel	+0	
Pitch	Range	1 oct	Velocity	+0	Rate Velocity	+0		
EG	L0 +0	L1 +0	L2 +0	L3 +0	RL1 +0			
	RS 63	R1 63	R2 63	R3 63	RR 63	Loop on / (off)		
Controller	PB Range	2	Volume Low Limit	0	Sustain SW	enable		
MW	Amod 0	Pmod 0	Fmod 0	EG Bias +0	Cutoff +0			
FC	Amod 0	Pmod 0	Fmod 0	EG Bias +0	Cutoff +0			
AT	Amod 0	Pmod 0	Fmod 0	EG Bias +0	Cutoff +0	Pitch Bias		
CS3(#=18)	Parameter	———	Min 0	Max 100				
CS4(#=19)	Parameter	———	Min 0	Max 100				

Effect		Mode	off / serial / (parallel)				Send	127			EF2 Mix	———
	Effect 1	Type: 06 : Rev.Stage1										
		Output Level a	100			Output Level b	———				Wet :Dry	50 : 50
	Param.	P1	2.2	P2	0.7	P3	8	P4	8	P5	0	P6	4	P7	65	P8	Thru
	Effect 2	Type: 57 : EQ → Sym															
		Output Level a	———			Output Level b	100										
	Param.	P1	500	P2	+0	P3	3.2	P4	+0	P5	0.8	P6	60	P7	0	P8	100
	Control 1	Parameter	off			Min	0	Max	100	Additional	———						
	Control 2	Parameter	off			Min	0	Max	100	Additional	———						
	Effect LFO	Waveform	tri			Speed	0			Delay	0						

● INITIAL DRUM VOICE "DR PTN"

Voice Name	DR PTN			Total Level	127				Vol Lo Limit	0			
	Key Parameters								Effect Send				
Note	Waveform	Vol.	Nsft	Tune	Pan	AltG	Gate	Rvs	EF1	EF2	Lvel	VelS	DryOut
C1	P156 BD6	120	+0	+0	+0	off	norm	off	a b	(a)(b)	127	+0	①②
C#1	P155 BD5	120	+0	+0	+0	off	norm	off	a b	(a)(b)	127	+0	①②
D1	P154 BD4	121	+0	+0	+0	off	norm	off	a b	(a)(b)	127	+0	①②
D#1	P153 BD3	127	+0	+0	+0	off	norm	off	a b	(a)(b)	127	+0	①②
E1	P170 Tom2	103	-6	+0	-24	off	long	off	(a)(b)	(a)(b)	97	+0	①②
F1	P170 Tom2	105	-1	+0	-8	off	long	off	(a)(b)	(a)(b)	90	+0	①②
F#1	P170 Tom2	112	+3	+0	+8	off	norm	off	(a)(b)	(a)(b)	95	+0	①②
G1	P170 Tom2	119	+8	+0	+21	off	norm	off	(a)(b)	(a)(b)	98	+0	①②
G#1	P152 BD2	115	-3	+0	+0	off	norm	off	a b	(a)(b)	127	+0	①②
A1	P151 BD1	119	-5	+0	+0	off	norm	off	a b	(a)(b)	127	+0	①②
A#1	P162 SD4	119	+0	+0	+0	off	norm	off	(a)(b)	(a)(b)	109	+0	①②
B1	P169 Tom1	127	-4	+0	-29	off	verylong	off	(a)(b)	(a)(b)	94	+0	①②
C2	P169 Tom1	127	+0	+0	-10	off	long	off	(a)(b)	(a)(b)	98	+0	①②
C#2	P160 SD2	127	-1	-21	+0	off	norm	off	(a)(b)	(a)(b)	123	+2	①②
D2	P169 Tom1	127	+6	+0	+9	off	long	off	(a)(b)	(a)(b)	89	+0	①②
D#2	P168 SDside	127	+0	+0	+0	off	norm	off	(a)(b)	(a)(b)	124	+3	①②
E2	P161 SD3	127	-2	+0	+0	off	long	off	(a)(b)	(a)(b)	113	+3	①②
F2	P169 Tom1	127	+12	+0	+20	off	long	off	(a)(b)	(a)(b)	92	+0	①②
F#2	P193 Clap	127	+0	+0	+8	off	short	off	(a)(b)	(a)(b)	99	+0	①②
G2	P196 Cowbell	127	+0	+0	+13	off	short	off	(a)(b)	(a)(b)	104	+0	①②
G#2	P188 Cabasa	127	-5	+0	-26	off	short	off	(a)(b)	(a)(b)	90	+0	①②
A2	P173 HH light	127	+0	+0	+12	1	short	off	a (b)	(a)(b)	111	+0	①②
A#2	P174 HH mid	127	+0	+0	+12	1	norm	off	a (b)	(a)(b)	94	+0	①②
B2	P171 HH Open	127	+0	+0	+12	1	long	off	a (b)	(a)(b)	87	+0	①②
C3	P176 Crash	127	+0	+0	-11	off	verylong	off	a (b)	(a)(b)	102	+0	①②
C#3	P176 Crash	127	+3	+1	-5	off	verylong	off	a (b)	(a)(b)	109	+0	①②
D3	P177 Ride	127	+0	+0	+8	off	verylong	off	a (b)	(a)(b)	107	+0	①②
D#3	P178 RideBell	127	+0	+0	+17	off	verylong	off	a (b)	(a)(b)	107	+0	①②
E3	P189 CongaLo	97	+2	+0	-17	off	norm	off	(a)(b)	(a)(b)	100	+0	①②

Note	Key Parameters								Effect Send				
	Waveform	Vol.	Nsft	Tune	Pan	AltG	Gate	Rvs	EF1	EF2	Lvel	VelS	DryOut
F3	P190 CongaMt	116	+0	+0	+8	off	norm	off	(a)(b)	(a)(b)	100	+0	(1)(2)
F#3	P191 CongaSlp	117	+0	+0	+19	off	norm	off	(a)(b)	(a)(b)	100	+0	(1)(2)
G3	P187 Bongo	127	+0	+0	-15	off	short	off	(a)(b)	(a)(b)	98	+0	(1)(2)
G#3	P187 Bongo	127	+3	+0	+15	off	norm	off	(a)(b)	(a)(b)	99	+0	(1)(2)
A3	P201 Timbale	100	-4	+0	-2	off	norm	off	(a)(b)	(a)(b)	99	+0	(1)(2)
A#3	P201 Timbale	108	-1	+0	+22	off	norm	off	(a)(b)	(a)(b)	99	+0	(1)(2)
B3	P198 Tmbrine	127	+0	+0	-12	off	norm	off	(a)(b)	(a)(b)	101	+0	(1)(2)
C4	P194 Clave	127	+0	+0	-25	off	short	off	(a)(b)	(a)(b)	108	+0	(1)(2)
C#4	P200 Templ81K	127	+0	+0	+30	off	short	off	(a)(b)	(a)(b)	127	+0	(1)(2)
D4	P186 AgogoHi	98	-3	+0	-21	off	long	off	(a)(b)	(a)(b)	102	+0	(1)(2)
D#4	P186 AgogoHi	102	+2	+0	-7	off	long	off	(a)(b)	(a)(b)	104	+0	(1)(2)
E4	P204 Whistle	127	-2	+0	+13	off	norm	off	(a)(b)	(a)(b)	97	+0	(1)(2)
F4	P157 BD7	104	-3	+0	+0	off	long	off	a b	(a)(b)	127	+0	(1)(2)
F#4	P195 AnaCwbl	127	+0	+0	-24	off	norm	off	(a)(b)	(a)(b)	127	+0	(1)(2)
G4	P158 BD8	104	-4	+0	+0	off	long	off	a b	(a)(b)	127	+0	(1)(2)
G#4	P181 HHclAnlg	127	+3	+37	+0	1	norm	off	a (b)	(a)(b)	113	+0	(1)(2)
A4	P166 SD8	127	-2	-23	+0	off	norm	off	a (b)	(a) b	127	+0	(1)(2)
A#4	P180 HHopAnlg	127	+0	+0	+0	1	short	off	a (b)	(a)(b)	111	+0	(1)(2)
B4	P167 SD9	127	-6	+0	+0	off	norm	off	a (b)	(a)(b)	127	+0	(1)(2)
C5	P116 SynBs6	127	-12	+0	+0	off	short	off	a b	(a)(b)	127	+0	(1)(2)

Effect	Mode off / serial / (parallel)							
Effect 1	Type: 50 : EQ→Rev1							
	Output Level a ———	Output Level b 100					Wet : Dry 100 : 0	
Param.	P1 2.0	P2 +12	P3 500	P4 +12	P5 1.4	P6 0.9	P7 86	P8 36
Effect 2	Type: 52 : EQ→ER							
	Output Level a ———	Output Level b 100					Wet : Dry 100 : 0	
Param.	P1 2.0	P2 +12	P3 500	P4 +12	P5 sml1	P6 10	P7 0	P8 9
Mix Level	EF2 ———	Insert 1b 100		Insert 2a ———			Insert 2b 100	
Control 1	Parameter Ef1 prm8		Min 0	Max 98		Additional ———		
Control 2	Parameter Ef2 prm8		Min 0	Max 42		Additional ———		
Effect LFO	Waveform tri			Speed 0			Delay 0	

● INITIAL DRUM VOICE “DR Zones”

Voice Name	DR Zones			Total Level	127				Vol Lo Limit	0			
	Key Parameters								Effect Send				
Note	Waveform	Vol.	Nsft	Tune	Pan	AltG	Gate	Rvs	EF1	EF2	Lvel	VelS	DryOut
C1	P151 BD1	127	+0	+3	+0	off	verylong	off	(a)(b)	(a)(b)	127	+0	①②
C#1	P152 BD2	127	+0	+0	+0	off	norm	off	(a)(b)	(a)(b)	127	+0	①②
D1	P153 BD3	127	+0	+0	+0	off	long	off	(a)(b)	(a)(b)	127	+0	①②
D#1	P154 BD4	127	-1	+0	+0	off	norm	off	(a)(b)	(a)(b)	127	+0	①②
E1	P155 BD5	127	+0	+0	+0	off	long	off	(a)(b)	(a)(b)	127	+0	①②
F1	P156 BD6	127	+0	+0	+0	off	verylong	off	(a)(b)	(a)(b)	127	+0	①②
F#1	P157 BD7	127	+0	+0	+0	off	verylong	off	(a)(b)	(a)(b)	127	+0	①②
G1	P158 BD8	127	-2	+0	+0	off	verylong	off	(a)(b)	(a)(b)	127	+0	①②
G#1	P159 SD1	127	+0	+0	+0	off	long	off	(a)(b)	(a)(b)	127	+0	①②
A1	P160 SD2	127	+0	+0	+0	off	norm	off	(a)(b)	(a)(b)	127	+0	①②
A#1	P161 SD3	127	+0	+0	+0	off	norm	off	(a)(b)	(a)(b)	127	+0	①②
B1	P162 SD4	127	+2	+0	+0	off	verylong	off	(a)(b)	(a)(b)	127	+0	①②
C2	P163 SD5	127	+0	+0	+0	off	norm	off	(a)(b)	(a)(b)	127	+0	①②
C#2	P164 SD6	127	+0	+0	+0	off	long	off	(a)(b)	(a)(b)	127	+0	①②
D2	P165 SD7	127	+0	+0	+0	off	verylong	off	(a)(b)	(a)(b)	127	+0	①②
~~D#2~~	P166 SD8	127	+0	+0	+0	off	norm	off	(a)(b)	(a)(b)	127	+0	①②
E2	P167 SD9	127	+0	+0	+0	off	long	off	(a)(b)	(a)(b)	127	+0	①②
F2	P168 SDside	127	+0	+0	+0	off	verylong	off	(a)(b)	(a)(b)	127	+0	①②
F#2	P169 Tom1	127	-5	+0	+20	off	verylong	off	(a)(b)	(a)(b)	127	+0	①②
G2	P169 Tom1	127	+0	+0	+10	off	verylong	off	(a)(b)	(a)(b)	127	+0	①②
G#2	P169 Tom1	127	+3	+0	+0	off	verylong	off	(a)(b)	(a)(b)	127	+0	①②
A2	P169 Tom1	127	+6	+0	-10	off	verylong	off	(a)(b)	(a)(b)	127	+0	①②
A#2	P170 Tom2	127	-6	+0	+20	off	norm	off	(a)(b)	(a)(b)	127	+0	①②
B2	P170 Tom2	127	-3	-14	+10	off	verylong	off	(a)(b)	(a)(b)	127	+0	①②
C3	P170 Tom2	127	+0	+0	+0	off	norm	off	(a)(b)	(a)(b)	127	+0	①②
C#3	P170 Tom2	127	+4	+0	-10	off	norm	off	(a)(b)	(a)(b)	127	+0	①②
D3	P171 HH Open	127	+0	+0	+0	1	verylong	off	(a)(b)	(a)(b)	127	+0	①②
D#3	P172 HH Pedal	127	+0	+0	+0	1	norm	off	(a)(b)	(a)(b)	127	+0	①②
E3	P173 HH light	127	+0	+0	+0	1	verylong	off	(a)(b)	(a)(b)	127	+0	①②

Note	Key Parameters								Effect Send				
	Waveform	Vol.	Nsft	Tune	Pan	AltG	Gate	Rvs	EF1	EF2	Lvel	VelS	DryOut
F3	P174 HH mid	127	+0	+0	+0	1	verylong	off	(a)(b)	(a)(b)	127	+0	①②
F#3	P175 HH heavy	127	+0	+0	+0	1	verylong	off	(a)(b)	(a)(b)	127	+0	①②
G3	P180 HHopAnlg	127	+0	+0	+0	2	verylong	off	(a)(b)	(a)(b)	127	+0	①②
G#3	P181 HHclAnlg	127	+0	+0	+0	2	verylong	off	(a)(b)	(a)(b)	127	+0	①②
A3	P176 Crash	127	+0	+0	+0	off	verylong	off	(a)(b)	(a)(b)	127	+0	①②
A#3	P177 Ride	127	+0	+0	+0	off	verylong	off	(a)(b)	(a)(b)	127	+0	①②
B3	P178 RideBell	127	+0	+0	+0	off	verylong	off	(a)(b)	(a)(b)	127	+0	①②
C4	P179 AnlgTom	127	-7	+0	-20	off	short	off	(a)(b)	(a)(b)	127	+0	①②
C#4	P179 AnlgTom	127	-5	+0	-10	off	short	off	(a)(b)	(a)(b)	127	+0	①②
D4	P179 AnlgTom	127	-1	+0	+0	off	short	off	(a)(b)	(a)(b)	127	+0	①②
D#4	P179 AnlgTom	127	+1	+0	+10	off	short	off	(a)(b)	(a)(b)	127	+0	①②
E4	P179 AnlgTom	127	+4	+0	+20	off	short	off	(a)(b)	(a)(b)	127	+0	①②
F4	P192 AnaConga	127	+0	+0	-10	off	norm	off	(a)(b)	(a)(b)	127	+0	①②
F#4	P192 AnaConga	127	-3	+0	+10	off	verylong	off	(a)(b)	(a)(b)	127	+0	①②
G4	P193 Clap	127	+0	+0	+0	off	verylong	off	(a)(b)	(a)(b)	127	+0	①②
G#4	P195 AnaCwbl	127	+0	+0	+0	off	verylong	off	(a)(b)	(a)(b)	127	+0	①②
A4	P194 Clave	127	-3	+0	+0	5	verylong	off	(a)(b)	(a)(b)	127	+0	①②
A#4	P183 RezClick	127	+0	+0	-15	off	verylong	off	(a)(b)	(a)(b)	127	+0	①②
B4	P198 Tmbrine	127	+0	+0	+0	off	verylong	off	(a)(b)	(a)(b)	127	+0	①②
C5	P122 SynBs9	127	-24	+0	+0	off	short	off	(a)(b)	(a)(b)	127	+0	①②

Effect									
	Mode	off / serial / (parallel)							
Effect 1	Type: 47 : Dist → Dly								
	Output Level a ———			Output Level b 100%			Wet : Dry 70 : 30		
Param.	P1 25	P2 2.5	P3 +8	P4 +2	P5 500	P6 250	P7 +30	P8 0	
Effect 2	Type: 50 : EQ → Rev1								
	Output Level a ———			Output Level b 100%			Wet : Dry 40 : 60		
Param.	P1 200	P2 +12	P3 800	P4 +6	P5 1.3	P6 0.8	P7 13	P8 18	
Mix Level	EF2 ———		Insert 1b 100		Insert 2a ———		Insert 2b 100		
Control 1	Parameter Out2 wet			Min 0		Max 100	Additional ———		
Control 2	Parameter EF1 prm8			Min 0		Max 35	Additional ———		
Effect LFO	Waveform tri			Speed 0			Delay 0		

● INITIAL DRUM VOICE "DR GMIDI"

Voice Name	DR GMIDI			Total Level	127				Vol Lo Limit	0			
	Key Parameters								Effect Send				
Note	Waveform	Vol.	Nsft	Tune	Pan	AltG	Gate	Rvs	EF1	EF2	Lvel	VelS	DryOut
C1	P151 BD1	127	+0	+3	+0	off	verylong	off	ⓐⓑ	ⓐⓑ	127	+0	①②
C#1	P168 SDside	127	+2	+0	+0	off	norm	off	ⓐⓑ	ⓐⓑ	127	+0	①②
D1	P160 SD2	127	+0	+0	+0	off	long	off	ⓐⓑ	ⓐⓑ	127	+0	①②
D#1	P193 Clap	127	+1	+0	+0	off	norm	off	ⓐⓑ	ⓐⓑ	127	+0	①②
E1	P166 SD8	127	+1	+0	+0	off	long	off	ⓐⓑ	ⓐⓑ	127	+0	①②
F1	P169 Tom1	127	-8	+0	-18	off	verylong	off	ⓐⓑ	ⓐⓑ	127	+0	①②
F#1	P174 HH mid	127	+1	+0	+0	1	long	off	ⓐⓑ	ⓐⓑ	127	+0	①②
G1	P169 Tom1	127	-6	+0	-16	off	verylong	off	ⓐⓑ	ⓐⓑ	127	+0	①②
G#1	P172 HH Pedal	127	+0	+0	+0	1	long	off	ⓐⓑ	ⓐⓑ	127	+0	①②
A1	P169 Tom1	127	-3	+0	-12	off	verylong	off	ⓐⓑ	ⓐⓑ	127	+0	①②
A#1	P171 HH Open	127	+2	+0	+0	1	verylong	off	ⓐⓑ	ⓐⓑ	127	+0	①②
B1	P169 Tom1	127	+2	+0	-6	off	verylong	off	ⓐⓑ	ⓐⓑ	127	+0	①②
C2	P169 Tom1	127	+7	+0	+3	off	norm	off	ⓐⓑ	ⓐⓑ	127	+0	①②
C#2	P176 Crash	127	+0	+0	-10	off	verylong	off	ⓐⓑ	ⓐⓑ	127	+0	①②
D2	P169 Tom1	127	+12	+0	+10	off	verylong	off	ⓐⓑ	ⓐⓑ	127	+0	①②
D#2	P177 Ride	127	+0	+0	+0	off	verylong	off	ⓐⓑ	ⓐⓑ	127	+0	①②
E2	P176 Crash	127	-4	+0	+15	off	verylong	off	ⓐⓑ	ⓐⓑ	127	+0	①②
F2	P178 RideBell	127	+0	+0	+0	off	verylong	off	ⓐⓑ	ⓐⓑ	127	+0	①②
F#2	P198 Tmbrine	127	-2	+0	+0	off	long	off	ⓐⓑ	ⓐⓑ	127	+0	①②
G2	P176 Crash	127	-8	+0	+15	off	verylong	off	ⓐⓑ	ⓐⓑ	127	+0	①②
G#2	P196 Cowbell	127	+0	+0	+15	off	norm	off	ⓐⓑ	ⓐⓑ	127	+0	①②
A2	P176 Crash	127	+0	+0	+0	off	verylong	on	ⓐⓑ	ⓐⓑ	127	+0	①②
A#2	P191 CongaSlp	127	+0	+0	+0	off	norm	off	ⓐⓑ	ⓐⓑ	127	+0	①②
B2	P177 Ride	127	-2	-14	+0	off	verylong	off	ⓐⓑ	ⓐⓑ	127	+0	①②
C3	P187 Bongo	127	+3	+0	+0	off	norm	off	ⓐⓑ	ⓐⓑ	127	+0	①②
C#3	P187 Bongo	127	-2	-2	+0	off	norm	off	ⓐⓑ	ⓐⓑ	127	+0	①②
D3	P190 CongaMt	127	+0	-14	+0	off	norm	off	ⓐⓑ	ⓐⓑ	127	+0	①②
D#3	P189 CongaLo	127	+5	+0	+0	off	norm	off	ⓐⓑ	ⓐⓑ	127	+0	①②
E3	P189 CongaLo	127	+0	+0	+0	off	norm	off	ⓐⓑ	ⓐⓑ	127	+0	①②

Note	Key Parameters								Effect Send				
	Waveform	Vol.	Nsft	Tune	Pan	AltG	Gate	Rvs	EF1	EF2	Lvel	VelS	DryOut
F3	P201 Timbale	127	+0	+0	+0	off	verylong	off	(a)(b)	(a)(b)	127	+0	①②
F#3	P201 Timbale	127	-5	+0	+0	off	verylong	off	(a)(b)	(a)(b)	127	+0	①②
G3	P186 AgogoHi	127	+0	+0	+25	off	verylong	off	(a)(b)	(a)(b)	127	+0	①②
G#3	P186 AgogoHi	127	-5	+0	+19	off	verylong	off	(a)(b)	(a)(b)	127	+0	①②
A3	P188 Cabaso	127	+0	+0	-20	off	norm	off	(a)(b)	(a)(b)	127	+0	①②
A#3	P197 Maracas	127	+0	+0	-18	off	long	off	(a)(b)	(a)(b)	127	+0	①②
B3	P204 Whistle	127	-2	+0	+0	off	norm	off	(a)(b)	(a)(b)	127	+0	①②
C4	P204 Whistle	127	-4	+0	+0	off	long	off	(a)(b)	(a)(b)	127	+0	①②
C#4	P195 AnaCwbl	127	+0	+0	+0	off	norm	off	(a)(b)	(a)(b)	127	+0	①②
D4	P179 AnlgTom	127	+0	+0	+0	off	long	off	(a)(b)	(a)(b)	127	+0	①②
D#4	P194 Clave	127	-4	+0	+0	off	verylong	off	(a)(b)	(a)(b)	127	+0	①②
E4	P192 AnaConga	127	+0	+0	+0	off	verylong	off	(a)(b)	(a)(b)	127	+0	①②
F4	P194 Clave	127	-10	+0	+25	off	verylong	off	(a)(b)	(a)(b)	127	+0	①②
F#4	P184 VcDrmBD	127	+0	+0	+0	off	verylong	off	(a)(b)	(a)(b)	127	+0	①②
G4	P185 VcDrmSD	127	+0	+0	+0	off	verylong	off	(a)(b)	(a)(b)	127	+0	①②
G#4	P203 Triangle	127	+0	+0	+0	5	short	off	(a)(b)	(a)(b)	127	+0	①②
A4	P203 Triangle	127	+0	+0	+0	5	verylong	off	(a)(b)	(a)(b)	127	+0	①②
A#4	P183 RezClick	127	+0	+0	-15	off	verylong	off	(a)(b)	(a)(b)	127	+0	①②
B4	P183 RezClick	127	4	+0	+15	off	verylong	off	(a)(b)	(a)(b)	127	+0	①②
C5	P218 OrchHit2	127	+0	+0	+0	off	norm	off	(a)(b)	(a)(b)	127	+0	①②

Effect									
	Mode	off / serial / (parallel)							
Effect 1	Type: 47 : Dist → Dly								
	Output Level a ———			Output Level b 100%			Wet : Dry 70 : 30		
Param.	P1 25	P2 2.5	P3 +8	P4 +2	P5 500	P6 250	P7 +30	P8 0	
Effect 2	Type: 50 : EQ → Rev1								
	Output Level a ———			Output Level b 100%			Wet : Dry 36 : 64		
Param.	P1 200	P2 +12	P3 800	P4 +6	P5 1.3	P6 0.8	P7 13	P8 18	
Mix Level	EF2 ———		Insert 1b 100		Insert 2a ———		Insert 2b 100		
Control 1	Parameter Out2 wet		Min 0		Max 100		Additional ———		
Control 2	Parameter EF1 prm8		Min 0		Max 35		Additional ———		
Effect LFO	Waveform tri			Speed 0			Delay 0		

● INITIAL DRUM VOICE "DR Efect"

Voice Name	DR Efect			Total Level	127				Vol Lo Limit	0			
	Key Parameters								Effect Send				
Note	Waveform	Vol.	Nsft	Tune	Pan	AltG	Gate	Rvs	EF1	EF2	Lvel	VelS	DryOut
C1	P145 Marimba	127	-20	+0	+0	off	verylong	off	(a) b	(a)(b)	127	+5	①②
C#1	P152 BD2	127	-9	+0	+0	off	norm	off	(a) b	a (b)	127	+5	①②
D1	P150 Xylophon	127	-1	+0	+0	off	norm	off	(a) b	(a)(b)	127	+5	①②
D#1	P159 SD1	127	-9	+0	+0	off	long	off	(a) b	(a)(b)	127	+7	①②
E1	P160 SD2	127	-10	+14	+0	off	norm	off	(a) b	a (b)	127	+5	①②
F1	P161 SD3	127	-6	-57	+0	off	norm	off	(a) b	(a)(b)	127	+5	①②
F#1	P162 SD4	127	+2	+0	+0	off	norm	off	(a) b	(a)(b)	127	+5	①②
G1	P163 SD5	127	-2	+0	+0	off	norm	off	(a) b	(a)(b)	127	+5	①②
G#1	P169 Tom1	127	-6	+0	+0	off	long	off	(a) b	(a)(b)	127	+5	①②
A1	P169 Tom1	127	+0	+0	+0	off	long	off	(a) b	(a)(b)	127	+5	①②
A#1	P169 Tom1	127	-9	+0	+0	off	norm	off	(a)(b)	(a)(b)	127	+5	①②
B1	P018 PrcOrg1	127	-20	+0	+0	off	verylong	off	(a)(b)	(a)(b)	127	+5	①②
C2	P170 Tom2	127	-17	+0	+0	off	verylong	off	(a)(b)	(a) b	127	+7	①②
C#2	P170 Tom2	127	-5	+0	+0	off	verylong	off	(a) b	(a) b	127	+7	①②
D2	P170 Tom2	127	+7	+0	+0	off	norm	off	(a) b	(a) b	127	+7	①②
D#2	P164 SD6	127	-8	+0	+0	off	norm	off	(a)(b)	(a)(b)	127	+5	①②
E2	P172 HH Pedal	127	-10	+0	+0	1	verylong	off	(a) b	(a)(b)	127	+5	①②
F2	P171 HH Open	127	+26	+0	+0	1	long	off	(a) b	a (b)	127	+2	①②
F#2	P178 RideBell	127	+25	+0	+0	off	verylong	off	(a) b	(a)(b)	127	+5	①②
G2	P177 Ride	127	+5	+0	+0	off	short	off	(a) b	(a)(b)	127	+5	①②
G#2	P176 Crash	127	+24	+0	+0	off	verylong	off	(a) b	(a)(b)	127	+5	①②
A2	P176 Crash	127	+31	+0	+0	off	verylong	off	(a) b	(a)(b)	127	+5	①②
A#2	P176 Crash	127	+11	+0	+0	off	verylong	off	(a) b	(a) b	127	+5	①②
B2	P168 SDside	127	-14	+0	+0	off	norm	off	(a)(b)	(a)(b)	127	+7	①②
C3	P203 Triangle	127	+8	+0	+0	2	verylong	off	(a)(b)	a b	127	+7	①②
C#3	P203 Triangle	127	+21	-1	+0	2	long	off	(a)(b)	a b	127	+7	①②
D3	P199 Timpani	127	+0	+0	+0	off	verylong	off	(a)(b)	(a)(b)	127	+3	①②
D#3	P196 Cowbell	127	-25	-9	+0	off	norm	off	(a) b	a (b)	127	+7	①②
E3	P196 Cowbell	127	-15	+0	+0	off	norm	off	(a) b	a (b)	127	+7	①②

Note	Key Parameters								Effect Send				
	Waveform	Vol.	Nsft	Tune	Pan	AltG	Gate	Rvs	EF1	EF2	Lvel	VelS	DryOut
F3	P197 Maracas	127	-11	+0	+0	off	short	off	(a) b	(a)(b)	90	+7	①②
F#3	P189 CongaLo	127	-16	+0	+0	off	verylong	off	(a)(b)	a (b)	100	+5	①②
G3	P191 CongaSlp	127	-13	+0	+0	off	long	off	(a)(b)	(a) b	127	+5	①②
G#3	P190 CongaMt	127	+7	+0	+0	off	norm	off	(a) b	a (b)	127	+6	①②
A3	P213 Mellow	127	-34	-20	+0	off	norm	off	(a)(b)	a (b)	127	+3	①②
A#3	P216 Seq2	127	-32	-20	+0	off	verylong	off	(a) b	a (b)	127	+3	①②
B3	P201 Timbale	127	+6	+0	+0	off	norm	off	(a) b	a (b)	127	+3	①②
C4	P206 E.P. Np	127	+12	+0	+0	off	norm	off	(a) b	(a)(b)	127	+5	①②
C#4	P136 DistWvLp	127	-15	+0	+0	off	verylong	off	(a)(b)	(a)(b)	127	+5	①②
D4	P200 Templ8IK	127	-48	+15	+0	off	norm	off	(a)(b)	a (b)	127	+3	①②
D#4	P194 Clave	127	-47	-41	+0	off	norm	off	(a)(b)	a (b)	127	+5	①②
E4	P186 AgogoHi	127	-19	-26	+0	off	verylong	off	(a)(b)	a (b)	127	+5	①②
F4	P184 VcDrmBD	127	+0	+0	+0	off	verylong	off	(a) b	(a)(b)	127	+5	①②
F#4	P217 OrchHit1	127	+36	+0	+0	off	verylong	off	(a) b	(a)(b)	127	+5	①②
G4	P178 RideBell	127	-14	+0	+0	off	verylong	off	(a) b	(a)(b)	127	+5	①②
G#4	P185 VcDrmSD	127	-6	+0	+0	off	verylong	off	(a) b	(a)(b)	90	+5	①②
A4	P094 Kalimba	110	-8	+0	+0	off	long	off	(a) b	(a)(b)	93	+5	①②
A#4	P207 Bamboo	127	-17	+19	+0	off	norm	off	(a) b	a (b)	127	+5	①②
B4	P205 Bottle	127	-31	+20	+0	off	long	off	(a) b	a (b)	127	+5	①②
C5	P208 Temp Ra	93	-3	+0	+0	off	verylong	off	(a)(b)	a (b)	127	+5	①②

Effect								
	Mode	off / (serial) / parallel						
Effect 1	Type: 69 : Dist & Rev							
	Output Level a 100%			Output Level b 100%			Wet : Dry 50 : 50	
Param.	P1 25	P2 2.0	P3 +6	P4 +12	P5 2.7	P6 1.0	P7 50	P8 12.0
Effect 2	Type: 67 : Pit & Rev							
	Output Level a 100%			Output Level b 100%			Wet : Dry 100 : 0	
Param.	P1 -7	P2 +0	P3 +5	P4 +0	P5 0.8	P6 1.5	P7 50	P8 9.0
Mix Level	EF2 100		Insert 1b ——		Insert 2a 100		Insert 2b ——	
Control 1	Parameter Out1 wet			Min 0		Max 100	Additional ——	
Control 2	Parameter EF1 prm5			Min 0		Max 50	Additional ——	
Effect LFO	Waveform tri			Speed 0			Delay 0	

● INITIAL MULTI "InitSong"

Multi Song Name	InitSong																
Inst Number	1 : VI1 A1				2 : VI1 A1				3 : VI1 A1				4 : VI1 A1				
	5 : VI1 A1				6 : VI1 A1				7 : VI1 A1				8 : VI1 A1				
	9 : VI1 A1				10 : VI1 A1				11 : VI1 A1				12 : VI1 A1				
	13 : VI1 A1				14 : VI1 A1				15 : VI1 A1				16 : VI1 H8				
Inst	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
Volume	127	127	127	127	127	127	127	127	127	127	127	127	127	127	127	127	
Pan	+0	+0	+0	+0	+0	+0	+0	+0	+0	+0	+0	+0	+0	+0	+0	vce	
Note Shift	+0	+0	+0	+0	+0	+0	+0	+0	+0	+0	+0	+0	+0	+0	+0	(+0)	
Tune	+0	+0	+0	+0	+0	+0	+0	+0	+0	+0	+0	+0	+0	+0	+0	(+0)	
Effect Send	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
Source	MLT	MLT	MLT	MLT	MLT	MLT	MLT	MLT	MLT	MLT	MLT	MLT	MLT	MLT	MLT	VCE	
Switch	(1a)	(1a)	(1a)	(1a)	(1a)	(1a)	(1a)	(1a)	(1a)	(1a)	(1a)	(1a)	(1a)	(1a)	(1a)	—	
	(1b)	(1b)	(1b)	(1b)	(1b)	(1b)	(1b)	(1b)	(1b)	(1b)	(1b)	(1b)	(1b)	(1b)	(1b)	—	
	(2a)	(2a)	(2a)	(2a)	(2a)	(2a)	(2a)	(2a)	(2a)	(2a)	(2a)	(2a)	(2a)	(2a)	(2a)	—	
	(2b)	(2b)	(2b)	(2b)	(2b)	(2b)	(2b)	(2b)	(2b)	(2b)	(2b)	(2b)	(2b)	(2b)	(2b)	—	
Level	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	—	
Dry Output Select	(D1)	(D1)	(D1)	(D1)	(D1)	(D1)	(D1)	(D1)	(D1)	(D1)	(D1)	(D1)	(D1)	(D1)	(D1)	—	
	(D2)	(D2)	(D2)	(D2)	(D2)	(D2)	(D2)	(D2)	(D2)	(D2)	(D2)	(D2)	(D2)	(D2)	(D2)	—	
Effect	Mode off / serial / (parallel)																
Effect 1	Type 50 : EQ→Rev1																
	Output Level a ———				Output Level b 100								Wet : Dry 100 : 0				
Param.	P1 2.0		P2 +12		P3 500		P4 +12		P5 1.4		P6 0.9		P7 86		P8 36		
Effect 2	Type 52 : EQ→ER																
	Output Level a ———				Output Level b 100								Wet : Dry 100 : 0				
Param.	P1 2.0		P2 +12		P3 500		P4 +12		P5 Sml1		P6 10		P7 0		P8 9		
Mix Level	EF2 ———				Insert 1b 100				Insert 2a ———				Insert 2b 100				
Control 1	Parameter Ef1 prm8						Min 0		Max 98				Additional ———				
Control 2	Parameter Ef2 prm8						Min 0		Max 42				Additional ———				
Effect LFO	Waveform tri								Speed 0				Delay ———				

● SYSTEM SETUP

Synth		Note shift +0			Tune +0				Ctrl Reset off			Local on				
	MIDI	T.Ch 01		R.Ch omni		Device No. all			Volume Ctrl 007			Bulk Protect on				
	Velocity	Curve 0				Fix off										
Sequencer		Click on		Beat 1/4		Clock int			MIDI Control on							
	Recording	AT off		R.Ch kbd		Accent 1 56			Accent 2 88			Accent 3 120			Fix kbd	
	Song	Loop off			Chain off											
Program Change		off / normal / (direct) / table														
	Source	A1	A2	A3	A4	A5	A6	A7	A8	B1	B2	B3	B4	B5	B6	B7	B8
	Bank(MSB)	000	000	000	000	000	000	000	000	000	000	000	000	000	000	000	000
	Bank(LSB)	064	064	064	064	064	064	064	064	064	064	064	064	064	064	064	064
	Program	000	000	000	000	000	000	000	000	000	000	000	000	000	000	000	000
	Source	C1	C2	C3	C4	C5	C6	C7	C8	D1	D2	D3	D4	D5	D6	D7	D8
	Bank(MSB)	000	000	000	000	000	000	000	000	000	000	000	000	000	000	000	000
	Bank(LSB)	064	064	064	064	064	064	064	064	064	064	064	064	064	064	064	064
	Program	000	000	000	000	000	000	000	000	000	000	000	000	000	000	000	000
	Source	E1	E2	E3	E4	E5	E6	E7	E8	F1	F2	F3	F4	F5	F6	F7	F8
	Bank(MSB)	000	000	000	000	000	000	000	000	000	000	000	000	000	000	000	000
	Bank(LSB)	064	064	064	064	064	064	064	064	064	064	064	064	064	064	064	064
	Program	000	000	000	000	000	000	000	000	000	000	000	000	000	000	000	000
	Source	G1	G2	G3	G4	G5	G6	G7	G8	H1	H2	H3	H4	H5	H6	H7	H8
	Bank(MSB)	000	000	000	000	000	000	000	000	000	000	000	000	000	000	000	000
	Bank(LSB)	064	064	064	064	064	064	064	064	064	064	064	064	064	064	064	064
	Program	000	000	000	000	000	000	000	000	000	000	000	000	000	000	000	000

● INITIAL PERFORMANCE LIST (1)

performance name	layer A	B	C	D	P/S	No.	effect 1	No.	effect 2	CS1	Add.	CS2	Add.
A1 CO Dream	1B1 AP Grand	2A2 SP Space	-	-	P	50	EQ -> Rev1	64	Cho & Rev	Ef2_Mod.Freq		Ef1_Rev Level	
A2 KY Piano	1B1 AP Grand	1B3 AP Tack	-	-	P	59	EQ -> Pit	1	Rev.Hall1	Ef1_Pit Level	LFO	Ef Out2a	
A3 SP Aztec	3B7 KY Call1	4A1 CH Aah	4A3 CH Ghost	1A2 SP Movie	P	50	EQ -> Rev1	46	Exc -> Dly	Ef2_Exc Level		Ef1_Rev Level	
A4 SC Wyrz	2A8 SP Sqare	2B7 KY EP 9	2A8 SP Sqare	3A2 SP Nehan	S	56	EQ -> Cho	53	EQ -> Dly	Ef1_Mod.Freq		Ef2_Dly Level	
A5 CH Choir	4A8 CH Breth	4A6 CH Pure	-	-	P	50	EQ -> Rev1	46	Exc -> Dly	Ef2_Exc Level		Ef1_Rev Level	
A6 BA Pick1	3G3 SE BDup	1C7 BA Thump	1C5 BA Pick2	1C5 BA Pick2	P	55	EQ -> Flg	53	EQ -> Dly	Ef1_Flg Level		Ef2_Dly Level	
A7 ST Rosin	1A2 SP Movie	2D2 ST Brite	-	-	P	1	Rev.Hall1	0	Through	Ef Out1a		Ef1_High Gain	
A8 BR Stab	3F1 BR Syn 1	3A1 SP Paddy	2F5 BR Saw	-	P	1	Rev.Hall1	59	EQ -> Pit	Out1 Wet		Ef2_Pit Level	
B1 CO Solre	1B8 KY EP 2	2D6 ST Anlog	1B7 KY EP 1	2B2 KY EP 4	P	43	Sym -> Dly	39	Dist-> Rev	Ef1_Mod.Freq		Ef2_Mod.Depth	
B2 OR Bee	4B1 OR Jaz B	4B3 OR Smoks	4D6 TP Siam	4G4 MW EGBla	P	34	Cho -> Rev	28	Rotary SP.	Ef2_L/M/H Sw		Ef1_Mod.Freq	
B3 SP Lush	1A1 SP Makro	1A1 SP Makro	3A5 SP Big	-	P	17	Dly L,R	34	Cho -> Rev	Out1 Wet		Ef2_Rev Level	
B4 SC Rude	3E3 SC Barl	3E7 SC Rezz	-	-	S	55	EQ -> Flg	39	Dist-> Rev	Ef1_Flg Level		Ef2_Rev.Time	
B5 CH Breth	4A1 CH Aah	4A1 CH Aah	-	-	P	60	Pan & Dly	1	Rev.Hall1	Ef1_Speed		Out2 Wet	
B6 BA Swap	1C7 BA Thump	1C8 BA Slap	-	-	P	55	EQ -> Flg	51	EQ -> Rev2	Ef1_Flg Level		Ef2_Rev Level	
B7 ST Octvs	1D3 ST Arco	1D2 ST Sectn	1D3 ST Arco	2D1 ST Sizzl	P	39	Dist-> Rev	1	Rev.Hall1	Ef2_Rev.Time		Out2 Wet	
B8 BR Pro5	3F3 BR Syn 3	3F3 BR Syn 3	-	-	S	1	Rev.Hall1	57	EQ -> Sym	Ef2_Sym Level		Ef Out1a	
C1 CO Orch	1F3 BR Tromb	3D1 TP Timp	1F4 BR Horn	1D2 ST Sectn	P	1	Rev.Hall1	59	EQ -> Pit	Ef2_Pit Level		Out1 Wet	
C2 KY Digi1	2B6 KY EP 6	1B8 KY EP 2	-	-	S	52	EQ -> ER	34	Cho -> Rev	Ef2_Mod.Freq		Ef2_Rev Level	
C3 SP Faery	1A8 SP Glass	2D2 ST Brite	2D2 ST Brite	-	S	53	EQ -> Dly	37	Pit -> Rev	Ef1_Dly Level		Ef2 Mix	
C4 SC Talk	2E4 SC Vox	2E6 SC Topia	2E4 SC Vox	-	S	56	EQ -> Cho	4	Rev.Room2	Ef1_Mod.Freq		Ef2 Mix	
C5 CH OchAh	4A1 CH Aah	4A2 CH Ooh	-	-	P	21	Pit Chnge2	1	Rev.Hall1	Out1 Wet		Out2 Wet	
C6 BA Pick2	1C4 BA Pick1	1G6 GT Strt2	-	-	P	53	EQ -> Dly	51	EQ -> Rev2	Ef1_Dly Level		Ef2_High Gain	
C7 ST Pitz	1A2 SP Movie	3E3 SC Barl	1D4 ST Pizz	-	P	1	Rev.Hall1	59	EQ -> Pit	Out1 Wet		Ef2_Pit Level	
C8 BR Sfz	2F6 BR SawSF	4G2 WN SaxSF	1F6 BR TpSlz	-	S	59	EQ -> Pit	1	Rev.Hall1	Ef1_Pit Level		Ef2 Mix	
D1 CO Sable	2D2 ST Brite	3D2 TP Glock	2D2 ST Brite	-	S	34	Cho -> Rev	23	Aural Exc.	Ef2_Exc Level		Ef1_Rev Level	
D2 KY Ready	1B8 KY EP 2	1B7 KY EP 1	-	-	P	36	Pha -> Rev	60	EQ -> Pan	Ef2_Speed		Ef2_L/R Depth	
D3 SP Slide	3A5 SP Big	1A4 SP Poly	-	-	P	25	EG Chorus	50	EQ -> Rev1	Ef1_PM Depth		Ef2_Rev Level	
D4 SC Klav	3B3 KY Clav1	3F2 BR Syn 2	3B4 KY Clav2	-	P	36	Pha -> Rev	67	Pit & Rev	Ef1_Mod.Freq		Ef2_Out2b	
D5 CH Vespa	4A2 CH Ooh	4A2 CH Ooh	-	-	P	53	EQ -> Dly	38	Exc -> Rev	Ef1_Dly Level		Out2 Wet	
D6 BA -Fret	1C3 BA Fingr	1C6 BA Frils	-	-	P	34	Cho -> Rev	59	EQ -> Pit	Ef1_Rev Level		Ef2_Pit Level	
D7 ST Rings	2D2 ST Brite	3A5 SP Big	2D2 ST Brite	-	S	53	EQ -> Dly	1	Rev.Hall1	Ef2_ER/Rev Bal		Ef2_High Gain	
D8 BR Forte	3F3 BR Syn 3	3G7 BR East	1F3 BR Tromb	1F8 BR TpEns	S	50	EQ -> Rev1	53	EQ -> Dly	Ef2_Dly Level		Ef1_Rev Level	
E1 CO Jazzr	1C1 BA Wood	1B1 AP Grand	3G5 MI Ride	4G8 MI Crash	P	39	Dist-> Rev	52	EQ -> ER	Ef1_Rev.Time		Ef1_High	
E2 OR Gimme	4B4 OR Dist	4B3 OR Smoke	-	-	S	39	Dist-> Rev	28	Rotary SP.	Ef2_L/M/H Sw	MW	Ef1_Dist.Level	
E3 SP Lite	2A5 SP Goner	1A7 SP Abyss	-	-	P	48	Pan -> Dly	65	Sym & Rev	Ef1_Speed		Out2 Wet	
E4 SC Buzz	3G8 BR Tooth	1E2 SC Ecko	3H6 SE Rezo	-	P	57	EQ -> Sym	34	Cho -> Rev	Ef1_Sym Level		Ef2_Rev Level	
E5 CH Munch	4G7 MI Hiss	4A5 CH Vocod	4A6 CH Pure	4A7 CH Quire	P	57	EQ -> Sym	47	Dist-> Dly	Ef1_Sym Level		Ef2_Dly Level	
E6 BA Rezzo	2C4 BA Syn 4	2C4 BA Syn 4	-	-	S	38	Exc -> Rev	57	EQ -> Sym	Ef1_Exc Level		Ef2_Mod.Depth	
E7 ST Dark	1D1 ST Power	1D1 ST Power	1D2 ST Sectn	-	P	50	EQ -> Rev1	1	Rev.Hall1	Ef1_Rev.Time		Out1 Wet	
E8 BR Saw	2F5 BR Saw	3C8 SL Saw 2	-	-	P	56	EQ -> Cho	1	Rev.Hall1	Ef1_Cho Level		Out2 Wet	
F1 CO E.S.P	1A5 SP Sweet	2G4 GT Warm	4A1 CH Aah	-	P	1	Rev.Hall1	49	Dist->Echo	Ef2_Echo Level		Out2 Wet	
F2 KY Elek	1B5 AP Dance	2B2 KY EP 4	-	-	P	50	EQ -> Rev1	56	EQ -> Cho	Ef2_Cho Level		Ef1_Rev Level	
F3 SP Stars	1A8 SP Glass	4A3 CH Ghost	4A3 CH Ghost	-	S	53	EQ -> Dly	34	Cho -> Rev	Ef1_Dly Level		Ef2_Mod.Freq	
F4 SC Snaps	2E3 SC Metal	1E1 SC Wondr	-	-	P	56	EQ -> Cho	71	Dly & Rev	Ef1_Mod.Freq	VEL	Ef2_ER/Rev Bal	
F5 CH Abyss	4A3 CH Ghost	4A3 CH Ghost	4A7 CH Quire	1A1 SP Makro	S	82	Flg & Cho	2	Rev.Hall2	Ef1_Mod.Depth		Out2 Wet	
F6 BA Mini	2C6 BA Syn 6	2C3 BA Syn 3	-	-	S	55	EQ -> Flg	52	EQ -> ER	Ef1_Flg Level		Ef2_ER Level	
F7 ST 2002	1D2 ST Sectn	1F1 BR Trump	1F3 BR Tromb	3D1 TP Timp	P	59	EQ -> Pit	50	EQ -> Rev1	Ef1_Pit Level		Ef2_Rev Level	
F8 BR Obie	1E8 SC Pan	2E1 SC Jmey	3E7 SC Rezz	3F1 BR Syn 1	P	50	EQ -> Rev1	21	Pit Chnge2	Ef1_Rev Level		Ef1_ER/Rev Bal	
G1 CO Pnoch	1B1 AP Grand	4A2 CH Ooh	-	-	S	59	EQ -> Pit	34	Cho -> Rev	Ef1_Pit Level	LFO	Ef2 Mix	
G2 OR Nave	4B7 OR Pipes	4F4 WN Oboe	4B7 OR Pipes	4B7 OR Pipes	P	87	Cho & Pha	1	Rev.Hall1	Out1 Wet		Out2 Wet	
G3 SP Ace	1A8 SP Glass	1A7 SP Abyss	3G2 SE Star	-	P	60	EQ -> Pan	65	Sym & Rev	Ef1_Speed		Ef2_Mod.Depth	
G4 SC Point	2B7 KY EP 9	1H5 ME Tink	3E8 SC Digi3	1B5 AP Dance	P	56	EQ -> Cho	23	Aural Exc.	Ef1_Cho Level		Ef2_Exc Level	
G5 CH Comet	3A4 SP Hyper	4A2 CH Ooh	3A4 SP Hyper	3G2 SE Star	P	37	Pit -> Rev	57	EQ -> Sym	Ef1_Rev Level		Ef2_Sym Level	
G6 BA Guppy	3C1 BA Syn 9	1C4 BA Pick1	4C1 SL Squar	3B5 KY Hrpsi	P	50	EQ -> Rev1	23	Aural Exc.	Ef1_Rev Level		Ef2_Exc Level	
G7 ST Big	1A2 SP Movie	1D5 ST Deep	2D1 ST Sizzl	-	P	0	Through	50	EQ -> Rev1	Ef2_High Gain		Ef Out2b	
G8 BR Fatti	2F3 BR Toto	2F3 BR Toto	2F5 BR Saw	2F5 BR Saw	P	53	EQ -> Dly	50	EQ -> Rev1	Ef1_Dly Level		Ef2_ER/Rev Bal	
H1 CO Inca	1A5 SP Sweet	4F1 WN Pan	1A7 SP Abyss	-	P	1	Rev.Hall1	54	EQ -> Echo	Ef2_Echo Level		Out1 Wet	
H2 KY Funky	3B3 KY Clav1	1E4 SC Clav	2F5 BR Saw	2F5 BR Saw	P	36	Pha -> Rev	56	EQ -> Cho	Ef1_Rev Level		Ef2_Cho Level	
H3 SP Vekta	2A5 SP Goner	1F6 BR TpSlz	3D8 TP Xylo	1D3 ST Arco	P	56	EQ -> Cho	2	Rev.Hall2	Ef1_Cho Level		Out2 Wet	
H4 SC Pizza	2A1 SP Sweep	3F4 BR Syn 4	3E4 SC Sqlfl	2E6 SC Topia	P	25	EG Chorus	50	EQ -> Rev1	Ef1_Mod.Freq		Ef2_Rev Level	
H5 CH Oral	4H4 SE Hyena	4H4 SE Hyena	-	-	P	53	EQ -> Dly	37	Pit -> Rev	Ef1_Dly Level		Ef2_Rev Level	
H6 BA Doom	2C1 BA Syn 1	2C8 BA Syn 8	-	-	P	34	Cho -> Rev	59	EQ -> Pit	Ef1_Rev Level		Ef2_Pit Level	
H7 ST Tron	2D8 ST Tron	2D8 ST Tron	-	-	P	47	Dist-> Dly	1	Rev.Hall1	Out2 Wet		Ef1_Dly Level	
H8 BR Swell	3F2 BR Syn 2	3F2 BR Syn 2	-	-	P	50	EQ -> Rev1	23	Aural Exc.	Ef1_ER/Rev Bal		Ef2_Exc Level	

CS3 A	B	C	D	CS4 A	B	C	D
on	off	-	-	off	on	-	-
on	on	-	-	on	on	-	-
off	on	on	on	on	on	on	off
on	on	on	off	on	on	on	off
on	on	-	-	on	on	-	-
off	off	on	on	off	on	off	off
on	on	-	-	off	on	-	-
on	on	on	-	on	on	on	-
on	on	on	on	off	off	off	off
off	off	on	off	off	off	on	off
on	on	off	-	on	on	on	-
on	on	-	-	off	on	-	-
on	on	-	-	on	on	-	-
off	on	-	-	on	off	-	-
on	on	on	on	on	on	on	on
on	on	-	-	on	on	-	-
on	on	on	on	off	on	on	on
on	on	on	-	on	on	on	-
on	on	-	-	on	on	on	-
on	on	-	-	on	on	-	-
on	off	on	-	off	on	on	-
off	on	off	-	on	on	on	-
on	on	on	-	off	on	on	-
on	on	-	-	on	on	-	-
on	on	-	-	on	on	-	-
on	on	on	-	on	off	on	-
on	on	-	-	off	on	-	-
on	on	-	-	on	on	-	-
on	off	on	-	on	off	on	-
off	on	off	on	on	on	off	on
off	on	off	off	off	off	on	off
off	on	-	-	off	on	-	-
on	on	-	-	on	off	-	-
on	on	off	-	off	on	off	-
on	on	on	on	on	on	on	on
on	off	-	-	on	on	-	-
on	on	off	-	on	on	on	-
on	on	-	-	on	on	-	-
off	on	off	-	on	on	off	-
on	on	on	-	on	on	on	-
on	on	-	-	on	on	-	-
on	on	on	off	on	on	on	on
on	on	-	-	on	on	-	-
on	on	off	off	on	off	off	off
on	on	on	on	on	on	on	on
on	on	-	-	on	on	-	-
on	off	on	on	on	on	on	on
on	off	off	-	on	on	off	-
on	on	on	on	on	on	on	on
on	off	on	off	on	off	on	off
on	off	on	off	off	off	off	on
on	on	on	-	off	on	on	-
on	on	on	on	off	off	on	on
off	on	on	-	on	off	off	-
on	on	off	off	on	on	off	off
on	on	off	off	on	on	on	off
off	on	off	on	off	on	off	on
on	on	-	-	on	on	-	-
on	on	-	-	on	on	-	-
off	on	-	-	on	off	-	-
on	on	-	-	on	on	-	-

● INITIAL PERFORMANCE LIST (2)

performance name	layer A	B	C	D	P/S	No.	effect 1	No.	effect 2	CS1	Add.	CS2	Add.
A1 CO Ncert	1A2 SP Movie	1D2 ST Secln	1B1 AP Grand	-	S	6	Rev.Stage1	59	EQ -> Pit	Ef2 Mix		Out1 Wet	
A2 KY Loud	3E5 SC Bell	1B3 AP Tack	-	-	P	59	EQ -> Pit	51	EQ -> Rev2	Ef1_Pit Level		Ef2_Rev Level	
A3 SP Carol	1A2 SP Movie	1H5 ME Hand	4A6 CH Pure	4A8 CH Breth	P	1	Rev.Hall1	54	EQ -> Echo	Ef Out1a		Ef2_Echo Level	
A4 SL Mitey	3C8 SL Saw 2	3C8 SL Saw 2	3C8 SL Saw 2	3C8 SL Saw 2	S	56	EQ -> Cho	54	EQ -> Echo	Ef1_Cho Level		Ef2_Echo Level	
A5 ME Orion	3H3 SE Demon	4G7 MI Hiss	1H1 ME Mello	-	P	21	Pit Chnge2	65	Sym & Rev	Ef2_Mod.Depth		Ef Out2b	
A6 GT Amped	1G5 GT Strt1	2G7 GT Feed	2G5 GT Comp2	-	S	47	Dist-> Dly	30	D.Flt(Wah)	Ef2 Mix		Ef1_Dist.Level	
A7 SE Rolls	4H6 SE Hell	4H6 SE Hell	-	-	P	60	EQ -> Pan	59	EQ -> Pit	Ef1_Speed		Ef2_Pit Level	
A8 WN Tenor	3F5 WN Tenor	1E8 SC Pan	-	-	P	1	Rev.Hall1	54	EQ -> Echo	Ef2_Echo Level		Out1 Wet	
B1 CO DXStr	1A2 SP Movie	2D2 ST Brite	2B2 KY EP 4	2B3 KY EP 5	P	1	Rev.Hall1	56	EQ -> Cho	Ef2_PM Depth	MW	Ef2_AM Depth	MW
B2 OR Sine	4D6 TP Slam	4D6 TP Slam	4D6 TP Slam	4D6 TP Slam	S	38	Exc -> Rev	28	Rotary SP.	Ef2_L/M/H Sw	MW	Ef1_Rev Level	
B3 SP Venus	3A7 SP Freqs	1A1 SP Makro	1D2 ST Secln	3A1 SP Paddy	P	17	Dly L,R	65	Sym & Rev	Out1 Wet		Ef Out2b	
B4 SL Chick	3C8 SL Saw 2	3C8 SL Saw 2	-	-	S	53	EQ -> Dly	1	Rev.Hall1	Ef1_Dly Level		Ef2_ER/Rev Bal	
B5 ME Glitz	3E1 SC Synnr	2E7 SC Wires	2H2 ME Tomi	-	P	65	Sym & Rev	45	Pit -> Dly	Ef1_Mod.Freq		Ef Out1b	
B6 GT Strat	2G2 GT Strt3	2G2 GT Strt3	1G5 GT Strt1	1G5 GT Strt1	P	56	EQ -> Cho	71	Dly & Rev	Ef1_Cho Level		Out2 Wet	
B7 SE C-tar	4D4 TP Bambu	1G1 GT Steel	4E3 FI Sitar	4E3 FI Sitar	P	49	Dist->Echo	11	Rev.Canyon	Ef1_Echo Level		Ef2_Rev.Time	
B8 WN Sacks	3F5 WN Tenor	3F6 WN Alto	3F8 WN Bari	3F7 WN Sopr	S	53	EQ -> Dly	50	EQ -> Rev1	Ef1_Dly Level		Ef2_ER/Rev Bal	
C1 CO Stass	2F1 BR Tpts	1D2 ST Secln	-	-	P	52	EQ -> ER	35	Sym -> Rev	Ef1_ER Level		Ef2_Rev Level	
C2 KY Digi2	2B2 KY EP 4	2B3 KY EP 5	-	-	P	1	Rev.Hall1	56	EQ -> Cho	Ef2_PM Depth	MW	Ef2_AM Depth	
C3 SP Whino	1H5 ME Hand	3A2 SP Nehan	-	-	P	85	Cho & Cho	35	Sym -> Rev	Ef1_Mod.Freq		Ef Out1b	
C4 SL L7	4C1 SL Squar	4C1 SL Squar	4C1 SL Squar	-	S	41	Flg -> Dly	1	Rev.Hall1	Ef1_Mod.Freq		Ef1_Mod.FBGain	
C5 ME Honto	4H4 SE Hyena	4H6 SE Hell	4F6 WN Recor	-	P	46	Exc -> Dly	35	Sym -> Rev	Out1 Wet		Ef2_Rev Level	
C6 GT Phunk	2E2 SC Mute	1G6 GT Strt2	-	-	S	49	Dist->Echo	33	Flg -> Rev	Ef2_Mod.Depth		Ef1_Mid.Freq	
C7 SE Xeno	1F5 BR Tuba	1H6 ME Tink	4H4 SE Hyena	-	S	10	Rev.Tunnel	80	Pan & Dly	Ef1_Rev.Time		Ef2_Fade In	
C8 WN Alto	3F6 WN Alto	3H7 SE Noize	-	-	P	50	EQ -> Rev1	19	St.Echo	Ef Out2a		Ef1_ER/Rev Bal	
D1 CO Megin	3E5 SC Bell	3A2 SP Nehan	1A6 SP Phaze	-	P	6	Rev.Stage1	57	EQ -> Sym	Out1 Wet		Out2 Wet	MW
D2 KY Jerry	1B7 KY EP 1	1B8 KY EP 2	2B3 KY EP 5	-	P	28	Rotary SP.	50	EQ -> Rev1	Ef1_L/M/H Sw		Ef2_Rev Level	
D3 SP Hinx	3A5 SP Big	3A8 SP Mello	1B2 AP Rock	1E8 SC Pan	P	27	EG Phaser	1	Rev.Hall1	Ef1_Atck Level		Out1 Wet	
D4 SL Eazy	3B7 KY Cali1	4C7 SL Lyle	4C7 SL Lyle	3C8 SL Saw 2	S	39	Dist-> Rev	43	Sym -> Dly	Ef1_Rev Level		Ef2_Mod.Depth	
D5 ME Mars	3G2 SE Star	3H5 SE Wind	1E7 SC Housy	-	S	38	Exc -> Rev	77	Pit & Dly	Ef1_Enhance		Ef1_Rev Level	
D6 GT Rock	2G3 GT Dist	2G5 GT Comp2	4G1 FI Lip	4G5 AT EGBla	S	49	Dist->Echo	50	EQ -> Rev1	Ef1_Echo Level		Ef2_High Gain	
D7 SE Storm	3H7 SE Noize	3G1 SE Rain	-	-	P	39	Dist-> Rev	54	EQ -> Echo	Ef1_Trbl Gain		Ef1_Rev Level	
D8 WN Panic	4F7 WN Flute	2H6 ME Bottl	-	-	S	59	EQ -> Pit	6	Rev.Stage1	Ef1_Pit Level	LFO	Ef2 Mix	
E1 CO Gospl	4B1 OR Jaz B	4A2 CH Och	1B1 AP Grand	4G4 MW EGBla	P	28	Rotary SP.	39	Dist-> Rev	Ef1_L/M/H Sw		Ef2_Rev.Time	
E2 OR Cheap	4B5 OR Cheap	4C4 SL Hamma	-	-	S	53	EQ -> Dly	34	Cho -> Rev	Ef1_Dly Level		Ef2_Rev Level	
E3 SP Pluto	2A1 SP Sweep	3A6 SP Exita	-	-	P	34	Cho -> Rev	53	EQ -> Dly	Ef1_Rev Level		Ef2_Dly Level	
E4 SC Clank	3E5 SC Bell	1A1 SP Makro	4E3 FI Sitar	-	P	59	EQ -> Pit	35	Sym -> Rev	Ef1_Pit Level		Ef2_Rev Level	
E5 ME Ecko	2A3 SP Nasty	1G6 GT Strt2	3E5 SC Bell	1H6 ME Tink	P	6	Rev.Stage1	43	Sym -> Dly	Out1 Wet		Ef2_Dly Level	
E6 GT Harm	1G5 GT Strt1	2G1 GT Harm	1G6 GT Strt2	1G5 GT Strt2	P	56	EQ -> Cho	47	Dist-> Dly	Ef1_Cho Level		Ef2_Dly Level	
E7 SE Zoom	1A7 SP Abyss	4H1 SE Gobin	3H3 SE Demon	-	P	60	EQ -> Pan	34	Cho -> Rev	Ef1_Speed		Out2 Wet	
E8 BR Reeds	2F1 BR Tpts	1F3 BR Tromb	3F6 WN Alto	3F8 WN Bari	P	51	EQ -> Rev2	50	EQ -> Rev1	Ef1_Rev.Time		Ef2_Rev.Time	
F1 CO Ethos	2A1 SP Sweep	2G4 GT Warm	1G6 GT Strt2	-	P	66	Pha & Rev	49	Dist->Echo	Ef1_Mod.Depth		Ef2_Echo Level	
F2 KY PnoMW	1B5 AP Dance	1B7 KY EP 1	2D4 ST Dark	4G4 MW EGBla	P	50	EQ -> Rev1	64	Cho & Rev	Ef2_PM Depth		Ef1_Rev Level	
F3 SP Synth	2D6 ST Anlog	2D6 ST Anlog	1A3 SP SawSt	-	P	59	EQ -> Pit	50	EQ -> Rev1	Ef1_Pit Level		Ef2_ER/Rev Bal	
F4 FI Santo	4E6 FI DulcD	4E5 FI DulcM	3G3 SE BDup	1B3 AP Tack	P	39	Dist-> Rev	37	Pit -> Rev	Ef1_Rev Level		Ef Out2b	
F5 ME Alien	1H1 ME Mello	1H6 ME Tick	-	-	P	20	Pit Chnge1	38	Exc -> Rev	Ef Out2b		EF1_2 Pitch	
F6 GT El 12	2G2 GT Strt3	2G2 GT Strt3	2G2 GT Strt3	-	P	53	EQ -> Dly	1	Rev.Hall1	Ef1_Dly Level		Ef2_ER/Rev Bal	
F7 SE Delay	2D4 ST Dark	4H7 SE Pops	2G1 GT Harm	4C3 SL Cutty	P	22	Pit Chnge3	1	Rev.Hall1	Ef1_FB Gain		Out2 Wet	
F8 BR Lips	1F1 BR Trump	1F1 BR Trump	2F3 BR Toto	-	P	53	EQ -> Dly	37	Pit -> Rev	Ef1_Dly Level		Ef2_Rev Level	
G1 CO Kings	2D2 ST Brite	4A1 CH Aah	2D2 ST Brite	4A1 CH Aah	S	53	EQ -> Dly	1	Rev.Hall1	Ef2_ER/Rev Bal		Ef2_High Gain	
G2 KY Cello	3B8 KY Cell2	3B7 KY Cell1	-	-	S	59	EQ -> Pit	1	Rev.Hall1	Ef1_Pit Level		Ef2 Mix	
G3 SP Anlog	3C7 SL Saw 1	3C7 SL Saw 1	-	-	P	37	Pit -> Rev	43	Sym -> Dly	Ef1_Rev Level		Ef2_Mod.Depth	
G4 SC Wind	1H6 ME Tink	3D4 TP Mmba	1E8 SC Pan	-	S	11	Rev.Canyon	57	EQ -> Sym	Ef Out1a		Ef2 Mix	
G5 ME Spark	1H4 ME Kali	3H2 SE Chou	2A7 SP Slow	-	P	6	Rev.Stage1	57	EQ -> Sym	Ef Out1a		Ef2_Mod.Freq	
G6 GT 12Str	1G1 GT Steel	1G4 GT 12Str	1G2 GT Dark	-	S	53	EQ -> Dly	51	EQ -> Rev2	Ef1_Dly Level		Ef2_Rev Level	
G7 SE Files	4H3 SE S&H	4H3 SE S&H	-	-	P	59	EQ -> Pit	48	Pan -> Dly	Ef1_Pit Level		Ef2_Dly Level	
G8 BR Miles	3G7 BR East	3F4 BR Syn 4	1F2 BR Mute	-	P	6	Rev.Stage1	57	EQ -> Sym	Ef Out1a		Out2 Wet	
H1 CO Happl	4F1 WN Pan	4F6 WN Recor	4D2 TP Loggy	4D2 TP Loggy	S	55	EQ -> Flg	39	Dist-> Rev	Ef1_Mod.FBGain		Ef1_Mod.Depth	VEL
H2 KY Digi3	2B4 KY EP 6	2B8 KY EP 10	-	-	P	82	Flg & Cho	76	Pha & Dly	Ef1_Mod.FBGain		Ef1_Mod.Freq	
H3 SP Arpeg	3G8 BR Tooth	3G8 BR Tooth	3G8 BR Tooth	3G8 BR Tooth	P	1	Rev.Hall1	57	EQ -> Sym	Out1 Wet		Ef2_Mod.Depth	
H4 TP Bells	4E4 FI Harp	4D8 TP Agene	-	-	S	64	Cho & Rev	57	EQ -> Sym	Ef1_High		Ef Out1b	
H5 ME Hit	2C4 BA Syn 4	1H2 ME Orch1	3G3 SE BDup	1H2 ME Orch1	P	56	EQ -> Cho	37	Pit -> Rev	Ef1_Cho Level		Ef2_Rev Level	
H6 GT Acsle	1G1 GT Steel	1C5 BA Pick2	1G3 GT Nylon	2G1 GT Harm	P	6	Rev.Stage1	58	EQ -> Pha	Out1 Wet		Ef2_Pha Level	
H7 SE Hero	3H7 SE Noize	3G1 SE Rain	4G3 SE Heli	3H1 SE Indus	S	39	Dist-> Rev	60	EQ -> Pan	Ef2_Speed		Ef1_Rev Level	
H8 BR Fanfr	1F8 BR TpEns	2F3 BR Toto	1F3 BR Tromb	-	P	50	EQ -> Rev1	50	EQ -> Rev1	Ef1_Rev Level		Ef2_Rev Level	

CS3 A	B	C	D	CS4 A	B	C	D
on	on	off	-	off	on	off	-
on	off	-	-	on	off	-	-
on	on	on	on	on	on	on	on
on	on	on	off	on	on	on	off
on	on	on	-	on	off	off	-
on	on	off	-	on	on	on	-
on	on	-	-	on	on	-	-
on	on	-	-	on	off	-	-
on	on	on	on	off	off	on	on
off	off	off	on	off	on	off	on
on	on	on	on	on	on	on	on
on	off	-	-	on	on	-	-
on	on	off	-	on	off	on	-
on	on	on	on	on	on	on	on
on	on	off	on	on	on	on	on
on	on	on	on	on	on	on	on
on	on	-	-	off	on	-	-
on	on	-	-	on	on	-	-
on	on	-	-	on	on	-	-
on	off	off	-	on	on	on	-
off	on	off	-	on	on	on	-
on	on	-	-	on	on	-	-
off	on	on	-	off	on	on	-
on	on		-	on	on		-
on	on	on	-	on	off	off	-
on	on	on	-	on	on	on	-
on	on	off	off	on	on	on	off
on	off	on	off	on	on	on	off
on	on	off	-	on	on	off	-
off	off	on	off	on	on	off	off
off	on	-	-	off	on	-	-
on	on	-	-	on	off	-	-
on	on	on	on	on	on	on	off
on	on	on	-	on	on	off	-
on	on	on	off	off	off	on	off
on	on	off	off	on	on	off	off
on	on	off	-	on	off	off	-
on	on	off	on	off	on	off	on
on	on	-	-	on	on	-	-
on	on	on	-	on	on	on	-
on	on	off	off	on	on	on	off
on	on	on	-	on	off	on	-
off	on	off	on	on	on	on	on
on	on	-	-	on	on	-	-
on	on	-	-	on	on	-	-
off	on	on	-	off	on	on	-
on	on	on	-	on	on	on	-
on	on	on	-	off	on	on	-
off	on	-	-	on	on	-	-
off	off	on	-	on	on	on	-
on	on	on	on	on	on	off	on
off	on	-	-	on	on	-	-
on	on	on	on	on	on	on	on
on	on	-	-	on	off	-	-
on	on	on	on	on	on	on	on
on	on	on	off	on	off	on	off
off	on	on	off	on	off	on	off
on	on	on	-	on	on	on	-

● INITIAL VOICE LIST (1)

	voice name		Wave Name	P/S	No.	effect 1	No.	effect 2	CS1	Add.	CS2	Add.	CS3	CS4
A1	SP Makro	128	Pad 2	S	25	EG Chorus	1	Rev.Hall1	Ef2 Mix		Ef1_High Gain		FLT_Level0	PEG_Level0
A2	SP Movie	126	Pad 1	P	21	Plt Chnge2	1	Rev.Hall1	Ef Out1a				FLT_CofFrq	PEG_Rate1
A3	SP SawSt	221	AnlgSaw2	S	42	Cho -> Dly	35	Sym -> Rev	Ef2 Mix		Ef1_Dly Level		FLT_CofFrq	OS_NoteSft
A4	SP Poly	126	Pad 1	P	59	EQ -> Plt	42	Cho -> Dly	Ef1_Plt Level	LFO	Ef2_Mod.Freq	LFO	PEG_Level0	PEG_Rate1
A5	SP Sweet	128	Pad 2	P	1	Rev.Hall1	54	EQ -> Echo	Ef2_Low Gain		Ef2_High Gain	MW	PEG_Rate1	FLT_Rate1
A6	SP Phaze	129	Pad 3	P	59	EQ -> Plt	34	Cho -> Rev	Ef1_Plt Level		Ef2_Rev Level		AEG_Rate4	PEG_Rate1
A7	SP Abyss	129	Pad 3	P	56	EQ -> Cho	64	Cho & Rev	Ef Out1b		Ef Out2b		AEG_Rate4	LFO_Speed
A8	SP Glass	130	Pad 4	S	43	Sym -> Dly	1	Rev.Hall1	Ef1_Mod.Freq		Ef1_Dly Level		PEG_Level0	FLT_Band
B1	AP Grand	1	Piano	P	52	EQ -> ER	3	Rev.Room1	Ef Out2a		Ef2_Rev.Time		FLT_Level1	OS_NoteSft
B2	AP Rock	1	Piano	P	59	EQ -> Plt	50	EQ -> Rev1	Ef1_Plt Level	LFO	Ef2_Rev Level		FLT_Rate2	OS_NoteSft
B3	AP Tack	1	Piano	P	23	Aural Exc.	50	EQ -> Rev1	Ef1_HPF		Ef2_Rev Level		AEG_Rate2	LFO_Amod
B4	AP Chors	1	Piano	S	52	EQ -> ER	34	Cho -> Rev	Ef2_Mod.Freq		Ef2_Rev Level		AEG_Rate3	OS_NoteSft
B5	AP Dance	1	Piano	P	50	EQ -> Rev1	21	Plt Chnge2	Ef Out2a		Ef1_Rev Level		FLT_Level0	OS_NoteSft
B6	AP Touch	1	Piano	P	56	EQ -> Cho	45	Plt -> Dly	Ef1_Cho Level	VEL	Ef2_Dly Level		FLT_Rate1	FLT_Rate2
B7	KY EP 1	2	HardEp	P	59	EQ -> Plt	68	Exc & Rev	Ef1_Plt Level		Ef Out2b		AEG_Rate3	LFO_Speed
B8	KY EP 2	4	SoftEp	P	58	EQ -> Pha	68	Exc & Rev	Ef1_Mod.Freq		Ef2_Enhance		AEG_Rate3	LFO_Speed
C1	BA Wood	78	WoodBass	P	23	Aural Exc.	50	EQ -> Rev1	Ef2_Rev Level		Ef1_Enhance	LFO	AEG_Rate3	PEG_Rate1
C2	BA Pitz	78	WoodBass	S	53	EQ -> Dly	50	EQ -> Rev1	Ef2_Rev Level		Ef1_Dly Level		FLT_Level3	PEG_Level0
C3	BA Fingr	79	FingBs	P	52	EQ -> ER	47	Dist-> Dly	Ef1_ER Level		Ef2_Dist.Level		AEG_Rate3	FLT_Rate1
C4	BA Pick1	81	PickBs1	P	56	EQ -> Cho	31	Dly -> Rev	Ef1_Cho Level	LFO	Ef2_Rev Level		FLT_Level0	FLT_CofFrq
C5	BA Pick2	83	PickBs2	P	5	Rev.Room3	56	EQ -> Cho	Ef2_Cho Level		Ef2_Low Gain		FLT_Rate1	FLT_Level0
C6	BA Frtls	85	FretLess	S	56	EQ -> Cho	6	Rev.Stage1	Ef1_Cho Level		Ef2_ER/Rev Bal		AEG_Rate2	FLT_CofFrq
C7	BA Thump	87	ThumpBs	P	56	EQ -> Cho	23	Aural Exc.	Ef1_Low Freq		Ef2_HPF		FLT_CofVel	FLT_Rate2
C8	BA Slap	88	SlapBs	S	55	EQ -> Plg	52	EQ -> ER	Ef2_ER Level		Ef1_Plg Level	LFO	AEG_Rate3	FLT_Level0
D1	ST Power	129	Pad 3	P	1	Rev.Hall1	17	Dly L,R	Ef Out1a		Ef Out2a		FLT_Band	OS_NoteSft
D2	ST Sectn	56	Strings2	S	56	EQ -> Cho	6	Rev.Stage1	Ef1_Cho Level		Ef2_ER/Rev Bal		FLT_CofFrq	OS_NoteSft
D3	ST Arco	54	Strings1	P	39	Dist-> Rev	51	EQ -> Rev2	Ef2_High Gain		Ef2_Rev Level		FLT_CofFrq	OS_NoteSft
D4	ST Plzz	59	Pizz	P	21	Plt Chnge2	51	EQ -> Rev2	Ef Out1a	VEL	Ef2_Rev Level		FLT_Level0	FLT_Rate1
D5	ST Deep	55	Strngs1Lp	P	39	Dist-> Rev	51	EQ -> Rev2	Ef2_High Gain		Ef2_Rev Level		FLT_Band	OS_NoteSft
D6	ST Sfz	54	Strings1	P	39	Dist-> Rev	51	EQ -> Rev2	Ef2_High Gain		Ef2_Rev Level		LFO_Speed	OS_NoteSft
D7	ST Violn	57	Violin	S	57	EQ -> Sym	1	Rev.Hall1	Ef1_Sym Level		Ef2 Mix		FLT_Band	LFO_Delay
D8	ST JeanL	58	Viola	S	49	Dist->Echo	1	Rev.Hall1	Ef1_Mid.Freq	EG	Ef2 Mix		CT_AT_Pmod	LFO_Speed
E1	SC Wondr	126	Pad 1	P	59	EQ -> Plt	35	Sym -> Rev	Out1 Wet		Ef2_Rev Level		AEG_Rate3	PEG_Level0
E2	SC Ecko	105	SynBrsWv	P	86	Cho & Sym	73	Flg & Dly	Ef1_Mod.Freq		Ef Out2b		AEG_LvlVel	FLT_Rate2
E3	SC Perc	84	PickBs2Lp	P	6	Rev.Stage1	59	EQ -> Plt	Ef2_Plt Level		Ef Out1a		FLT_Level3	FLT_CofFrq
E4	SC Clav	10	Clavi 2	S	57	EQ -> Sym	47	Dist-> Dly	Ef1_Sym Level		Ef2_Dly Level		FLT_Level1	FLT_Rate2
E5	SC Fingr	79	FingBs	S	38	Exc -> Rev	56	EQ -> Cho	Ef2_Cho Level		Ef1_Exc Level	KEY	FLT_Level0	FLT_Rate1
E6	SC Spike	88	ThumpBsLp	P	6	Rev.Stage1	59	EQ -> Plt	Ef2_Plt Level		Ef Out1a		FLT_Level2	FLT_Rate3
E7	SC Housy	127	Pad 1Lp	P	43	Sym -> Dly	10	Rev.Tunnel	EF1_FB Gain		Ef1_Dly Level		FLT_CofVel	FLT_Band
E8	SC Pan	51	Flute	S	50	EQ -> Rev1	57	EQ -> Sym	Ef2_Sym Level		Ef1_Rev Level		FLT_Band	AEG_Rate3
F1	BR Trump	25	Trumpet	P	30	D.Flt(Wah)	51	EQ -> Rev2	Ef1_Flt Freq	KEY	Ef2_Rev Level		FLT_CofFrq	PEG_Rate1
F2	BR Mute	27	MuteTp	P	6	Rev.Stage1	54	EQ -> Echo	Ef2_Echo Level		Ef2_High Gain		FLT_CofFrq	FLT_CofVel
F3	BR Tromb	29	Trombone	P	53	EQ -> Dly	38	Exc -> Rev	Ef1_Dly Level		Ef2_Rev Level		FLT_CofFrq	PEG_Rate1
F4	BR Horn	31	Horn	S	56	EQ -> Cho	1	Rev.Hall1	Ef2_Rev.Time		Ef2 Mix		LFO_Speed	LFO_Amod
F5	BR Tuba	32	Tuba	P	56	EQ -> Cho	1	Rev.Hall1	Ef2_ER/Rev Bal		Ef1_Cho Level		LFO_Speed	FLT_Level0
F6	BR TpSfz	33	TpEns	P	59	EQ -> Plt	1	Rev.Hall1	Ef1_Plt Level		Ef Out2a		PEG_Level0	FLT_Rate2
F7	BR EnsSF	35	BrsEns	S	55	EQ -> Plg	51	EQ -> Rev2	Ef2_Rev Level		Ef1_Plg Level		AEG_Rate3	FLT_Rate2
F8	BR TpEns	33	TpEns	S	59	EQ -> Plt	15	Gate Rev.	Ef1_Plt Level		Ef2_FB Gain		FLT_Level0	FLT_Rate1
G1	GT Steel	60	GtrSteel	P	6	Rev.Stage1	58	EQ -> Pha	Ef Out1a		Ef2_High Gain		FLT_Rate2	FLT_CofFrq
G2	GT Dark	60	GtrSteel	P	6	Rev.Stage1	58	EQ -> Pha	Ef Out1a		Ef2_Pha Level		FLT_Rate2	FLT_Level1
G3	GT Nylon	62	GtrNyln	S	56	EQ -> Cho	38	Exc -> Rev	Ef2_Enhance	KEY	Ef2_Rev Level		FLT_Rate1	FLT_Level1
G4	GT 12Str	64	12String	P	52	EQ -> ER	51	EQ -> Rev2	Ef2_Rev Level		Ef1_High Gain		AEG_Rate3	FLT_Level1
G5	GT Strt1	66	EgSngl1	S	45	Plt -> Dly	39	Dist-> Rev	Ef1_Dly Level		Ef2_Rev Level		FLT_Level0	FLT_Rate1
G6	GT Strt2	68	EgSngl2	S	53	EQ -> Dly	34	Cho -> Rev	Ef1_Dly Level		Ef2_PM Depth		AEG_Rate3	FLT_Rate2
G7	GT Mute	70	EgMute1	S	58	EQ -> Pha	51	EQ -> Rev2	Ef2_Rev Level		Ef1_High Gain		AEG_Rate4	FLT_Level1
G8	GT Comp1	72	EgComp	S	39	Dist-> Rev	56	EQ -> Cho	Ef2_Cho Level		Ef1_Dist.Level		FLT_Level0	FLT_Rate1
H1	ME Mello	213	Mellow	P	43	Sym -> Dly	34	Cho -> Rev	Ef1_Dly Level		Out1 Wet		PEG_Level0	FLT_Rate1
H2	ME Orch1	217	OrchHit1	P	6	Rev.Stage1	57	EQ -> Sym	Ef2_Sym Level		Ef Out1a		AEG_Rate2	AEG_RlsRt
H3	ME Orch2	218	OrchHit2	P	59	EQ -> Plt	50	EQ -> Rev1	Ef1_Plt Level		Ef2_Rev Level		AEG_Rate2	PEG_Rate1
H4	ME Kalil	94	Kalimba	P	27	EG Phaser	34	Cho -> Rev	Ef1_Mod.Freq		Out1 Wet		LFO_Speed	LFO_Wave
H5	ME Hand	143	HandBell	S	55	EQ -> Flg	11	Rev.Canyon	Ef1_Mod.Freq	LFO	Ef2 Mix		FLT_Level0	FLT_Rate1
H6	ME Tink	143	HandBell	P	20	Plt Chnge1	38	Exc -> Rev	Ef Out1a		Ef2_Exc Level		LFO_Speed	LFO_Pmod
H7	ME OrchR	217	OrchHit1	S	11	Rev.Canyon	21	Plt Chnge2	Ef2 Mix		Ef1_Rev.Time		LFO_Speed	LFO_Pmod
H8	DR PTN	-	-	P	50	EQ -> Rev1	52	EQ -> ER	Ef1_Rev Level		Ef2_ER Level		-	-

● INITIAL VOICE LIST (2)

	Voice name		Wave Name	P/S	No.	effect 1	No.	effect 2	CS1	Add.	CS2	Add.	CS3	CS4
A1	SP Sweep	130	Pad 4	S	83	Flg & Sym	38	Exc -> Rev	Ef1_Mod.Freq		Ef2_Rev Level		PEG_Level0	PEG_RlsLvl
A2	SP Space	131	Pad 5	P	43	Sym -> Dly	34	Cho -> Rev	Ef1_Dly Level		Ef2_Rev Level		PEG_Level0	FLT_Band
A3	SP Nasty	135	DistWv	P	55	EQ -> Flg	39	Dist-> Rev	Ef1_Flg Level	LFO	Ef2_Rev Level		FLT_Level1	FLT_Rate2
A4	SP Smoky	51	Flute	S	57	EQ -> Sym	1	Rev.Hall1	Ef1_Sym Level	MW	Ef2 Mix		PEG_Level0	PEG_Rate1
A5	SP Goner	126	Pad 1	P	6	Rev.Stage1	57	EQ -> Sym	Ef1_Rev.Time		Ef Out2b		LFO_Phase	OS_NoteSft
A6	SP Vizon	234	DigitI10	S	46	Exc -> Dly	56	EQ -> Cho	Ef2_Mod.Freq	LFO	Ef1_Dly Level		FLT_Band	AEG_Rate2
A7	SP Slow	128	Pad 2	P	1	Rev.Hall1	57	EQ -> Sym	Ef Out1a		Ef2_Sym Level		PEG_Rate1	FLT_Rate1
A8	SP Sqare	223	Pulse 25	P	42	Cho -> Dly	35	Sym -> Rev	Ef1_Dly Level		Ef2_Mod.Freq		AEG_Level3	FLT_CofVel
B1	KY EP 3	6	SynthEp	P	68	Exc & Rev	57	EQ -> Sym	Ef2_Mod.Freq		Ef2_Low Freq	MW	FLT_Level1	FLT_Rate2
B2	KY EP 4	232	DigitalI8	S	50	EQ -> Rev1	57	EQ -> Sym	Ef1_Rev Level		Ef2 Mix	MW	FLT_Level1	FLT_Reso
B3	KY EP 5	235	DigitI11	P	55	EQ -> Flg	34	Cho -> Rev	Ef2_Mod.Freq		Ef2_Rev Level		FLT_Rate1	FLT_RlsLv1
B4	KY EP 6	234	DigitI10	P	34	Cho -> Rev	43	Sym -> Dly	Ef1_Mod.Freq		Ef2_Dly Level		FLT_Level1	FLT_Rate1
B5	KY EP 7	15	AcrdionLp	P	21	Pit Chnge2	64	Cho & Rev	Ef2_Mod.Freq		Ef Out2b		AEG_Rate3	FLT_CofVel
B6	KY EP 8	232	DigitalI8	P	56	EQ -> Cho	34	Cho -> Rev	Ef1_PM Depth		Ef2_Rev Level		AEG_Rate3	FLT_Rate2
B7	KY EP 9	228	DigitalI4	P	55	EQ -> Flg	34	Cho -> Rev	Ef1_Mod.Freq		Ef2_Rev Level		AEG_Rate2	FLT_CofFrq
B8	KY EP 10	131	Pad 5	S	39	Dist-> Rev	59	EQ -> Pit	Ef2_Pit Level		Ef1_Rev Level		FLT_Level2	FLT_Rate3
C1	BA Syn 1	228	DigitalI4	S	20	Pit Chnge1	51	EQ -> Rev2	Ef2_High Frq		Ef2_Rev Level		FLT_Level2	AEG_Rate4
C2	BA Syn 2	106	SynBs1	S	55	EQ -> Flg	15	Gate Rev.	Ef1_Flg Level		Ef2 Mix		FLT_Rate1	AEG_Rate4
C3	BA Syn 3	106	SynBs1	S	56	EQ -> Cho	50	EQ -> Rev1	Ef1_Cho Level		Ef2_Rev Level		FLT_Level0	FLT_Level1
C4	BA Syn 4	108	SynBs2	P	46	Exc -> Dly	57	EQ -> Sym	Ef1_Dly Level		Ef2_Sym Level		FLT_Rate1	FLT_CofFrq
C5	BA Syn 5	110	SynBs3	P	55	EQ -> Flg	35	Sym -> Rev	Ef1_Flg Level		Ef1_Low Gain		FLT_Level1	FLT_Rate2
C6	BA Syn 6	112	SynBs4	P	55	EQ -> Flg	57	EQ -> Sym	Ef2_Sym Level		Out1 Wet		FLT_Level1	FLT_Rate2
C7	BA Syn 7	114	SynBs5	S	55	EQ -> Flg	51	EQ -> Rev2	EF1_Flg Level		Ef2_Rev Level		FLT_Rate1	FLT_Level1
C8	BA Syn 8	113	SynBs4Lp	P	57	EQ -> Sym	50	EQ -> Rev1	Ef1_Sym Level		Ef1_Low Gain		AEG_Rate3	AEG_Level3
D1	ST Slzzl	56	Strings2	P	68	Exc & Rev	57	EQ -> Sym	Ef1_Enhance		Ef1_Rev.Time	KEY	FLT_Level1	FLT_Rate2
D2	ST Brite	56	Strings2	P	1	Rev.Hall1	55	EQ -> Flg	Ef Out1a		Ef2_Flg Level		FLT_CofFrq	OS_NoteSft
D3	ST Thin	220	AnlgSaw1	S	85	Cho & Cho	35	Sym -> Rev	Out1 Wet		Ef Out1b	MW	FLT_CofFrq	OS_NoteSft
D4	ST Dark	56	Strings2	S	56	EQ -> Cho	6	Rev.Stage1	Ef1_Cho Level		Ef2_ER/Rev Bal		FLT_CofFrq	OS_NoteSft
D5	ST Synth	126	Pad 1	S	85	Cho & Cho	1	Rev.Hall1	Ef2_Rev.Time		Ef2 Mix		FLT_CofFrq	OS_NoteSft
D6	ST Anlog	221	AnlgSaw2	P	22	Pit Chnge3	56	EQ -> Cho	Ef2_Mod.Freq		Ef2_Cho Level		FLT_CofFrq	OS_NoteSft
D7	ST Combo	221	AnlgSaw2	S	22	Pit Chnge3	34	Cho -> Rev	Ef2_Mod.Freq		Ef2_Rev Level		FLT_CofFrq	FLT_Band
D8	ST Tron	129	Pad 3	P	51	EQ -> Rev2	42	Cho -> Dly	Ef1_Rev Level		Ef2 Dly Level		FLT_CofFrq	OS_NoteSft
E1	SC Jrney	221	AnlgSaw2	S	56	EQ -> Cho	6	Rev.Stage1	Ef1_Mod.Freq		Ef2 Mix		AEG_Rate3	PEG_Rate1
E2	SC Mute	71	EgMute2	S	57	EQ -> Sym	51	EQ -> Rev2	Ef1_Mod.Depth		Ef2_Rev Level		AEG_Rate4	OS_NoteSft
E3	SC Metal	112	SynBs4	P	56	EQ -> Cho	71	Dly & Rev	Ef1_Mod.Freq	VEL	Ef2_ER/Rev Bal		AEG_Rate2	AEG_Level2
E4	SC Vox	237	DigiVox1	S	57	EQ -> Sym	46	Exc -> Dly	Ef1_Mod.Freq		Ef2_Dly Level		FLT_Rate2	FLT_Rate3
E5	SC Ahal	138	ChoirAaLp	P	45	Pit -> Dly	34	Cho -> Rev	Ef1_Dly Level		Ef2_Rev Level		FLT_Level2	FLT_Rate3
E6	SC Topia	141	Itopia	S	56	EQ -> Cho	4	Rev.Room2	Ef1_Cho Level		Ef2 Mix		FLT_Rate2	PEG_Rate1
E7	SC Wires	132	SynLead1	P	21	Pit Chnge2	35	Sym -> Rev	Out1 Wet		Ef2_Rev Level		AEG_Rate3	PEG_Level0
E8	SC Vocal	137	ChoirAa	S	23	Aural Exc.	59	EQ -> Pit	Ef1_Enhance		Ef2_High Frq		FLT_Rate1	FLT_Rate3
F1	BR Tpts	33	TpEns	P	53	EQ -> Dly	37	Pit -> Rev	Ef1_Dly Level		Ef2_Rev Level		FLT_CofFrq	PEG_Level0
F2	BR Stab	35	BrsEns	S	52	EQ -> ER	37	Pit -> Rev	Ef2 Mix		Ef1_ER Level		FLT_Rate1	FLT_Rate2
F3	BR Toto	97	SynBrs1	S	39	Dist-> Rev	37	Pit -> Rev	Ef1_Mid.Gain		Ef2_Rev Level		FLT_Level1	FLT_Rate2
F4	BR Rezz	97	SynBrs1	S	56	EQ -> Cho	53	EQ -> Dly	Ef1_Cho Level		Ef2_Dly Level		FLT_Rate1	PEG_Rate1
F5	BR Saw	220	AnlgSaw1	P	67	Pit & Rev	23	Aural Exc.	Ef2_Enhance		Ef Out1b		FLT_Level1	FLT_Level0
F6	BR SawSF	221	AnlgSaw2	P	59	EQ -> Pit	1	Rev.Hall1	Ef1_Pit Level		Ef Out2a		PEG_Level0	FLT_Rate2
F7	BR Wow	220	AnlgSaw1	S	55	EQ -> Flg	50	EQ -> Rev1	Ef1_Mod.Freq		Ef2_Rev Level		FLT_Rate1	FLT_Rate2
F8	BR Swell	220	AnlgSaw1	P	67	Pit & Rev	23	Aural Exc.	Ef2_Exc Level		Ef Out1a		FLT_Level1	FLT_Level0
G1	GT Harm	75	EgHarm2	S	56	EQ -> Cho	65	Sym & Rev	Ef2_Mod.Depth		Ef Out2b		AEG_Rate4	PEG_Rate1
G2	GT Strt3	65	EgSngl1	P	34	Cho -> Rev	17	Dly L,R	Out1 Wet		Ef Out2a		CT_PBRange	LFO_Amod
G3	GT Dist	65	EgSngl1	S	20	Pit Chnge1	47	Dist-> Dly	Ef1_1/2 Bal.		Ef2_Dly Level		AEG_Rate3	PEG_Level1
G4	GT Warm	74	EgHarm1	P	6	Rev.Stage1	49	Dist-> Echo	Ef2_Echo Level		Ef2_Dist.Level		AEG_Rate1	FLT_Level1
G5	GT Comp2	72	EgComp	S	56	EQ -> Cho	47	Dist-> Dly	Ef2_Dist.Level		Ef2_Dly Level		AEG_Level3	AEG_Rate3
G6	GT Wah	72	EgComp	S	30	D.Flt(Wah)	39	Dist-> Rev	Ef1_Dly Level		Ef2_Dist.Level		CT_AT_PtBs	TotalLevel
G7	GT Feed	71	EgMute2	S	30	D.Flt(Wah)	39	Dist-> Rev	Ef1_Dly Level		Ef2_Dist.Level		CT_AT_PtBs	TotalLevel
G8	GT Jazz	134	SynStWv	S	56	EQ -> Cho	50	EQ -> Rev1	Ef1_Cho Level		Ef2_Rev Level		AEG_Rate3	FLT_Rate3
H1	ME Voics	210	VoiceAtk	P	20	Pit Chnge1	38	Exc -> Rev	Ef Out1a		Ef2_Exc Level		LFO_Speed	LFO_Fmod
H2	ME Tomi	225	Digital1	P	42	Cho -> Dly	50	EQ -> Rev1	Ef1_Mod.Freq		Ef2_Rev Level		LFO_Speed	LFO_Wave
H3	ME Soro	226	Digital2	P	65	Sym & Rev	78	Exc & Dly	Ef Out1b		Ef Out2b	VEL	AEG_Level2	PEG_Rate1
H4	ME Grind	214	Bell Mix	S	58	EQ -> Pha	34	Cho -> Rev	Ef2_Mod.Freq		Ef2_Rev Level		AEG_Rate4	PEG_Level0
H5	ME Gizmo	237	DigiVox1	S	52	EQ -> ER	21	Pit Chnge2	Ef1_ER Level		Ef2 Mix		PEG_Level0	FLT_Rate1
H6	ME Bottl	205	Bottle	P	18	Dly L,C,R	6	Rev.Stage1	Ef Out1a		Ef Out2a		FLT_Band	OS_NoteSft
H7	ME Templ	208	Temp RA	P	42	Cho -> Dly	35	Sym -> Rev	Out1 Wet		EF1_FB Gain		PEG_Level0	PEG_Rate1
H8	DR Zones	-	-	P	47	Dist-> Dly	50	EQ -> Rev1	Out2 Wet		Ef1_Dly Level		-	-

● INITIAL VOICE LIST (3)

	voice name		Wave Name	P/S	No.	effect 1	No.	effect 2	CS1	Add.	CS2	Add.	CS3	CS4
A1	SP	Paddy	127	Pad 1Lp	P	1	Rev.Hall1	54	EQ -> Echo	Ef2_Echo Level		Ef2_High Gain		FLT_CofFrq	FLT_Band
A2	SP	Nehan	133	SynLead2	P	85	Cho & Cho	35	Sym -> Rev	Out1 Wet		Ef Out1b		PEG_Rate1	PEG_Level0
A3	SP	Wine	227	Digital3	S	88	Sym & Sym	51	EQ -> Rev2	Ef1_Mod.Depth		Ef2_Rev Level		PEG_Rate1	FLT_Rate1
A4	SP	Hyper	94	Kalimba	P	86	Sym & Sym	34	Cho -> Rev	Ef1_Mod.Depth		Ef2_Rev Level		PEG_Rate1	PEG_Level0
A5	SP	Big	55	Strngs1Lp	P	21	Pit Chnge2	34	Cho -> Rev	Ef Out1a		Ef2_Rev Level		LFO_Fmod	PEG_Level0
A6	SP	Exita	127	Pad 1Lp	P	23	Aural Exc.	35	Sym -> Rev	Ef1_Enhance		Ef2_Rev Level		PEG_Level0	FLT_Rate1
A7	SP	Freqs	128	Pad 2	S	23	Aural Exc.	43	Sym -> Dly	Ef1_Enhance		Ef2_Dly Level		PEG_Rate1	FLT_Level0
A8	SP	Mello	103	SynBrs4	P	45	Pit -> Dly	35	Sym -> Rev	Ef Out1b		Ef Out 2b		FLT_Level0	PEG_Level0
B1	KY	EP 11	98	SlapBsLp	P	6	Rev.Stage1	59	EQ -> Pit	Ef2_Pit Level		Ef Out1a		FLT_Level2	FLT_Rate3
B2	KY	EP 12	37	Baritone	S	57	EQ -> Sym	47	Dist-> Dly	Ef1_Sym Level		Ef2_Dly Level		FLT_Level1	FLT_Rate2
B3	KY	Clav1	8	Clavi 1	P	56	EQ -> Cho	17	Dly L,R	Ef1_Cho Level		Ef Out2a		FLT_Level1	FLT_Rate2
B4	KY	Clav2	8	Clavi 1	P	30	D.Flt(Wah)	56	EQ -> Cho	Ef1_Flt Freq	FC	Ef2_Cho Level		FLT_Level0	FLT_Rate2
B5	KY	Hrpsi	12	Harpsi	S	21	Pit Chnge2	4	Rev.Room2	Ef2_Rev.Time		Ef2 Mix		FLT_Rate2	FLT_Band
B6	KY	Acrdn	14	Acrdion	P	2	Rev.Hall2	21	Pit Chnge2	Ef Out1a		Ef1_LPF		FLT_CofFrq	FLT_Reso
B7	KY	Call1	53	PanFluteLp	P	51	EQ -> Rev2	25	EG Chorus	Ef1_Rev Level		Ef2_PM Depth		FLT_Rate1	FLT_Rate2
B8	KY	Call2	50	Recorder	P	51	EQ -> Rev2	25	EG Chorus	Ef1_Rev Level		Ef2_PM Depth		PEG_Level1	AEG_Rate4
C1	BA	Syn 9	116	SynBs6	P	20	Pit Chnge1	55	EQ -> Flg	Ef2_High Gain		Ef2_Flg Level		AEG_Rate3	FLT_Level0
C2	BA	Syn10	118	SynBs7	P	55	EQ -> Flg	51	EQ -> Rev2	Ef1_Flg Level		Ef2_Rev Level		AEG_Rate3	PEG_Rate1
C3	BA	Syn11	121	SynBs8Lp	P	58	EQ -> Pha	85	Cho & Cho	Ef1_Low Freq		Ef1_Low Gain		AEG_LvlVel	FLT_CofVel
C4	BA	Syn12	122	SynBs9	P	54	EQ -> Echo	53	EQ -> Dly	Ef2_Low Gain		Ef1_Echo Level		FLT_CofFrq	AEG Rate4
C5	SL	Digi	228	Digital4	S	46	Exc -> Dly	51	EQ -> Rev2	Ef1_Dly Level		Ef2_Rev Level		FLT_Level1	PEG_Rate1
C6	SL	Lead	132	SynLead1	S	57	EQ -> Sym	47	Dist-> Dly	Ef1_Sym Level		Ef2_Dist.Level		FLT_Level1	FLT_Rate2
C7	SL	Saw 1	220	AnlgSaw1	S	18	Dly L,C,R	64	Cho & Rev	Ef1_FB Gain		Ef Out2a		FLT_Rate2	FLT_CofVel
C8	SL	Saw 2	220	AnlgSaw1	S	53	EQ -> Dly	34	Cho -> Rev	Ef1_Dly Level		Ef2_Rev Level		PEG_Rate1	FLT_Level3
D1	TP	Timpni	198	Timapni	P	6	Rev.Stage1	57	EQ -> Sym	Ef2_Sym Level		Ef Out1a		AEG_Rate2	PEG_RlsLvl
D2	TP	Glock	142	Glocken	S	59	EQ -> Pit	50	EQ -> Rev1	Ef1_Pit Level		Ef1_High Gain		FLT_Level0	FLT_Rate1
D3	TP	Hands	143	HandBell	P	1	Rev.Hall1	57	EQ -> Sym	Ef Out1a		Ef2_Sym Level		FLT_Rate2	AEG_Level3
D4	TP	Mrmba	145	Marimba	P	23	Aural Exc.	50	EQ -> Rev1	Ef1_Exc Level		Ef2_Rev Level		AEG_Rate2	PEG_Rate1
D5	TP	Steel	146	SteelDrm	S	56	EQ -> Cho	8	Rev.Plate	Ef1_Cho Level		Ef2 Mix		PEG_Level0	LFO_Speed
D6	TP	Tubal	147	Tubular	P	53	EQ -> Dly	50	EQ -> Rev1	Ef1_Dly Level		Ef2_Rev Level		AEG_Rate4	PEG_RlsLvl
D7	TP	Vibes	149	Vibes	S	59	EQ -> Pit	50	EQ -> Rev1	Ef1_Pit Level		Ef1_High Gain	VEL	LFO_Speed	LFO_Amod
D8	TP	Xylo	150	Xylophon	S	37	Pit -> Rev	47	Dist-> Dly	Ef2_Trbl Gain		Ef2_Dly Level		FLT_Rate2	FLT_Band
E1	SC	Synnr	134	SynStWv	S	20	Pit Chnge1	35	Sym -> Rev	Ef2_Rev.Time		Ef2 Mix		AEG_Rate3	PEG_Level0
E2	SC	Digi1	226	Digital2	P	55	EQ -> Flg	34	Cho -> Rev	Ef1_Mod.Depth		Ef2_Rev Level		AEG_Rate2	AEG_Rate3
E3	SC	Barl	38	BaritnoLp	P	23	Aural Exc.	35	Sym -> Rev	Ef1_Enhance		Ef2_Rev Level		FLT_Rate1	FLT_Rate4
E4	SC	Sqiff	128	Pad 2	P	59	EQ -> Pit	34	Cho -> Rev	Ef1_High Gain		Ef2_Rev Level		FLT_Rate1	FLT_Rate4
E5	SC	Bell	234	Digital10	P	21	Pit Chnge2	34	Cho -> Rev	Ef2_Mod.Freq		Ef2_Rev Level		AEG_Level3	AEG_Rate3
E6	SC	Digi2	226	Digital2	P	46	Exc -> Dly	57	EQ -> Sym	Ef1_Dly Level		Ef2_Mod.Freq		FLT_Level0	FLT_Rate2
E7	SC	Rezz	220	AnlgSaw1	P	46	Exc -> Dly	57	EQ -> Sym	Ef1_Dly Level		Ef2_Mod.Freq		FLT_Level0	FLT_Rate2
E8	SC	Digi3	225	Digital1	S	42	Cho -> Dly	35	Sym -> Rev	Ef2_Mod.Freq		Out1 Wet		FLT_CofFrq	OS_NoteSft
F1	BR	Syn 1	99	SynBrs2	S	39	Dist-> Rev	59	EQ -> Pit	Ef2_Pit Level		Ef1_Rev Level		FLT_Band	OS_NoteSft
F2	BR	Syn 2	220	AnlgSaw1	P	67	Pit & Rev	23	Aural Exc.	Ef2_Enhance		Ef Out1b		FLT_Rate2	FLT_Level0
F3	BR	Syn 3	220	AnlgSaw1	P	35	Sym -> Rev	23	Aural Exc.	Ef Out2a		Ef Out1b		FLT_Level1	FLT_Rate1
F4	BR	Syn 4	222	Pulse 10	S	57	EQ -> Sym	50	EQ -> Rev1	Ef1_Mod.Freq		Ef2_Rev Level		FLT_Rate1	FLT_Rate2
F5	WN	Tenor	39	Tenor	P	19	St.Echo	51	EQ -> Rev2	Ef Out1a		Ef2_Rev Level		FLT_CofFrq	FLT_Level0
F6	WN	Alto	41	AltoSax	P	19	St.Echo	51	EQ -> Rev2	Ef Out1a		Ef2_Rev Level		FLT_CofFrq	FLT_Level0
F7	WN	Sopr	43	Soprano	P	19	St.Echo	51	EQ -> Rev2	Ef Out1a		Ef2_Rev Level		FLT_CofFrq	FLT_Level1
F8	WN	Barl	37	Baritone	P	55	EQ -> Flg	1	Rev.Hall1	Ef1_Flg Level		Ef Out2a		FLT_CofFrq	FLT_Level0
G1	SE	Rain	219	Noise	P	21	Pit Chnge2	50	EQ -> Rev1	Ef2_High Gain		Ef2_Rev Level		AEG_Rate4	FLT_Band
G2	SE	Star	227	Digital3	P	19	St.Echo	59	EQ -> Pit	Ef Out1a		Ef2_Pit Level		PEG_Level1	PEG_Rate1
G3	SE	BDup	155	BD5	S	22	Pit Chnge3	51	EQ -> Rev2	Ef1_FB Gain		Ef2_Rev Level		AEG_Rate4	PEG_Level0
G4	SE	Templ	209	TamplBlk	P	23	Aural Exc.	50	EQ -> Rev1	Ef1_Exc Level		Ef2_Rev Level		FLT_CofFrq	OS_NoteSft
G5	MI	Ride	177	Ride	P	1	Rev.Hall1	23	Aural Exc.	Ef Out1a		Ef2_Enhance		AEG Rate4	FLT_CofFrq
G6	SE	Alert	242	DigiWild	S	47	Dist-> Dly	11	Rev.Canyon	Ef1_Dist.Level		Ef2 Mix		PEG Level3	OS_NoteSft
G7	BR	East	99	SynBrs2	P	67	Pit & Rev	23	Aural Exc.	Ef2_Enhance		Ef Out1b		FLT_CofFrq	FLT_Level1
G8	BR	Tooth	220	AnlgSaw1	P	65	Cho & Cho	35	Sym -> Rev	Out1 Wet		Ef Out1b		FLT_Level1	FLT_Rate1
H1	SE	Indus	209	Typist	S	14	Early Ref2	81	Flg & Flg	Ef1_Room Size		Out1 Wet		LFO_Wave	LFO_Speed
H2	SE	Chou	211	ChouCho	P	20	Pit Chnge1	63	Flg & Rev	Ef2_Mod.Freq		Ef Out2b		FLT_Level0	FLT_Level4
H3	SE	Demon	212	Vox Ball	S	24	EG Flanger	50	EQ -> Rev1	Ef1_Mod.Depth		Ef2_Rev Level		AEG_Rate4	LFO_Fmod
H4	SE	Dropr	216	Seq2	P	21	Pit Chnge2	31	Dly -> Rev	Ef Out1a		Out1 Wet		PEG_Level0	PEG_Rate1
H5	SE	Wind	219	Noise	P	33	Flg -> Rev	21	Pit Chnge2	Ef Out1b	MW	Ef1_Mod.FBGain	MW	LFO_Speed	EF_SendLvl
H6	SE	Rezo	219	Noise	P	52	EQ -> ER	47	Dist-> Dly	Ef2_Dist.Level		Ef1_ER Level		AEG_Rate4	FLT_Rate3
H7	SE	Noize	219	Noise	S	47	Dist-> Dly	11	Rev.Canyon	Ef1_Dist.Level		Ef2 Mix		AEG_Rate4	OS_NoteSft
H8	DR	GM1DI	-	- -	P	47	Dist-> Dly	50	EQ -> Rev1	Out2 Wet		Ef1_Dly Level		-	-

● INITIAL VOICE LIST (4)

	voice name		Wave Name	P/S	No.	effect 1	No.	effect 2	CS1	Add.	CS2	Add.	CS3	CS4
A1	CH Ash	138	ChoirAsLp	P	21	Pit Chnge2	34	Cho -> Rev	Ef Out1a		Ef2_Rev Level		FLT_CofFrq	PEG_Level0
A2	CH Ooh	140	ChoirOoLp	P	21	Pit Chnge2	50	EQ -> Rev1	Ef2_High Frq		Ef2_Rev Level		FLT_CofFrq	PEG_Level0
A3	CH Ghost	141	Itopia	S	21	Pit Chnge2	1	Rev.Hall1	Ef2 Mix		Out1 Wet		FLT_CofFrq	PEG_Level0
A4	CH Vespa	137	ChoirAe	S	57	EQ -> Sym	1	Rev.Hall1	Ef1_Sym Level		Ef2_Rev.Time		FLT_CofFrq	PEG_Level0
A5	CH Vocod	238	DigiVox2	P	37	Pit -> Rev	26	EG Sympho.	Ef1_Rev Level		Ef2_Mod.Depth		FLT_Band	PEG_Level0
A6	CH Pure	139	ChoirOo	S	59	EQ -> Pit	7	Rev.Stage2	Ef1_Pit Level		Ef2_ER/Rev Bal		FLT_CofFrq	PEG_Level0
A7	CH Quire	140	ChoirOoLp	P	59	EQ -> Pit	78	Exc & Dly	Ef1_Pit Level	-	Ef Out2b		FLT_Rate3	PEG_Level0
A8	CH Breth	141	Itopia	P	35	Sym -> Rev	19	St.Echo	Ef1_Mod.Depth		Ef1_Rev Level		FLT_CofFrq	PEG_Level0
B1	OR Jaz B	16	Organ 1	P	34	Cho -> Rev	28	Rotary SP.	Ef2_L/M/H Sw	MW	Ef1_Mod.Freq	MW	FLT_Level0	AEG_Rate3
B2	OR Perc	18	PrcOrg1	P	34	Cho -> Rev	28	Rotary SP.	Ef2_L/M/H Sw	MW	Ef1_Mod.Freq	MW	AEG_Rate2	FLT_CofFrq
B3	OR Smoke	20	PrcOrg2	P	34	Cho -> Rev	28	Rotary SP.	Ef2_L/M/H Sw	MW	Ef1_PM_Depth		FLT_Level0	AEG_Rate3
B4	OR Dist	16	Organ 1	S	39	Dist-> Rev	28	Rotary SP.	Ef2_L/M/H Sw	MW	Ef1_Dist.Level		PEG_Level0	AEG_Rate4
B5	OR Cheap	129	Pad 3	S	51	EQ -> Rev2	28	Rotary SP.	Ef2_L/M/H Sw		Ef1_Rev Level		FLT_Rate1	LFO_Speed
B6	OR Click	16	Organ 1	P	23	Aural Exc.	14	Early Ref2	Ef1_HPF		Ef2_Room Size		AEG_Rate3	OS_NoteSft
B7	OR Pipes	23	Pipe Wv	S	56	EQ -> Cho	6	Rev.Stage1	Ef1_Cho Level		Ef2 Mix		FLT_CofFrq	OS_NoteSft
B8	OR Airy	131	Pad 5	S	28	Rotary SP.	38	Exc -> Rev	Ef1_L/M/H Sw	MW	Ef2_Rev Level		AEG_Rate4	FLT_Rate2
C1	SL Squar	224	Pulse 50	P	18	Dly L,C,R	7	Rev.Stage2	Ef Out1a		Ef Out2a		PEG_Level0	FLT_Level0
C2	SL Sync	230	Digital6	P	6	Rev.Stage1	58	EQ -> Pha	Ef2_Mod.Dly		Ef2_Pha Level		FLT_CofFrq	PEG_Rate1
C3	SL Cutty	124	SynBs10	S	56	EQ -> Cho	31	Dly -> Rev	Ef1_Mod.Freq		Ef2 Mix		AEG_Rate4	PEG_Rate1
C4	SL Hamma	117	SynBs6Lp	S	58	EQ -> Cho	31	Dly -> Rev	Ef1_Mod.Freq		Ef2 Mix		AEG_Rate4	PEG_Rate1
C5	SL Pulse	222	Pulse 10	S	53	EQ -> Dly	33	Flg -> Rev	Ef1_Dly Level		Ef2_Rev Level		FLT_Rate1	PEG_Rate1
C6	SL Dist	56	EgSngl1	S	55	EQ -> Flg	39	Dist-> Rev	Ef1_Mod.Freq		Ef2_Rev Level		AEG_Rate4	CT_PBRange
C7	SL Lyte	50	Recorder	P	37	Pit -> Rev	57	EQ -> Sym	Ef2_Low Freq		Ef2_High Frq		FLT_Level0	FLT_Rate1
C8	SL Whisl	50	Recorder	S	23	Aural Exc.	43	Sym -> Dly	Ef2_Dly Level		Ef2_Mod.Freq		PEG_Level0	LFO_Speed
D1	TP SynDr	224	Pulse 50	S	23	Aural Exc.	12	Rev.Basmnt	Ef1_HPF		Ef2 Mix		FLT_Rate1	OS_NoteSft
D2	TP Loggy	94	Kalimba	S	23	Aural Exc.	12	Rev.Basmnt	Ef1_Exc Level		Ef2 Mix		FLT_CofFrq	FLT_Rate
D3	TP Angle	203	Triangle	P	59	EQ -> Pit	64	Cho & Rev	Ef Out2b		Ef1_Pit Level		PEG_Level0	FLT_Rate1
D4	TP Bambu	207	Bamboo	P	59	EQ -> Pit	64	Cho & Rev	Ef2_Rev.Time		Ef Out2b		OS_NoteSft	PEG_Level1
D5	TP Syn	225	Digital1	S	42	Cho -> Dly	35	Sym -> Rev	Ef2_Mod.Freq		Out1 Wet		PEG_Rate1	PEG_Level0
D6	TP Siam	244	Sin	P	21	Pit Chnge2	51	EQ -> Rev2	Ef2_Low Freq		Ef2_Rev Level		AEG_Rate4	OS_NoteSft
D7	TP Tinkl	231	Digital7	P	57	EQ -> Sym	43	Sym -> Dly	Ef1_Sym Level		Ef2_Dly Level		AEG_Rate3	PEG_Rate1
D8	TP Agone	186	AgogoHi	P	53	EQ -> Dly	35	Sym -> Rev	Ef1_Dly Level		Ef2_Rev Level		AEG_Rate4	PEG_Level0
E1	FI Blue1	15	AcrdionLp	S	47	Dist-> Dly	51	EQ -> Rev2	Ef1_Dly Level		Ef1_Mid.Freq	VEL	FLT_Level1	FLT_Rate1
E2	FI Kalim	94	Kalimba	P	6	Rev.Stage1	54	EQ -> Echo	Ef2_Echo Level		Ef Out1a		FLT_Level1	AEG_Rate3
E3	FI Sitar	95	Sitar	P	54	EQ -> Echo	68	Exc & Rev	Ef1_Echo Level		Ef Out2b		AEG_Rate3	FLT_Level0
E4	FI Harp	96	Harp	P	23	Aural Exc.	51	EQ -> Rev2	Ef1_Enhance		Ef2_Rev Level		AEG_Rate3	FLT_Level0
E5	FI DulcM	91	Dulcimer	P	59	EQ -> Pit	1	Rev.Hall1	Ef1_Pit Level	LFO	Ef Out2a		LFO_Pmod	OS_FrqFine
E6	FI DulcD	92	DulcimrD	P	59	EQ -> Pit	1	Rev.Hall1	Ef1_Pit Level	LFO	Ef Out2a		LFO_Pmod	OS_NoteSft
E7	FI Dudel	11	Clavi 2Lp	P	59	EQ -> Pit	34	Cho -> Rev	Ef1_Pit Level		Ef2_Rev Level		PEG_Level0	FLT_Rate2
E8	FI Blue2	15	AcrdionLp	S	47	Dist-> Dly	1	Rev.Hall1	Ef1_Dly Level		Ef1_Dist.Level		PEG_Level0	FLT_Rate2
F1	WN Pan	52	Panflute	P	6	Rev.Stage1	54	EQ -> Echo	Ef2_Echo Level		Ef2_High Gain		AEG-Rate3	FLT_CofFrq
F2	WN Clari	45	Clarinet	P	53	EQ -> Dly	51	EQ -> Rev2	Ef1_Dly Level		Ef2_Rev Level		AEG_Rate4	PEG_Rate1
F3	WN Bassо	46	Bassoon	P	2	Rev.Hall2	54	EQ -> Echo	Ef2_Echo Level		Ef1_Rev.Time		FLT_CofVel	FLT_Band
F4	WN Oboe	47	Oboe	P	19	St.Echo	51	EQ -> Rev2	Ef Out1a		Ef2_Rev Level		PEG_Level0	FLT_Level1
F5	WN Picc	49	Piccolo	P	6	Rev.Stage1	54	EQ -> Echo	Ef2_Echo Level		Ef2_High Gain		FLT_Level1	FLT_Level2
F6	WN Recor	50	Recorder	P	23	Aural Exc.	71	Dly & Rev	Ef Out2a		Ef2_Rev.Time		AEG_Rate3	LFO_Speed
F7	WN Flute	51	Flute	P	39	Dist-> Rev	51	EQ -> Rev2	Ef1_Dist.Level		Ef2_Rev Level		FLT_CofFrq	CT_AT_Amod
F8	WN Breth	52	Panflute	S	38	Exc -> Rev	11	Rev.Canyon	Ef1_Enhance		Ef2 Mix		AEG_Level3	LFO_Speed
G1	FI Lip	244	Sin	S	47	Dist-> Dly	1	Rev.Hall1	Ef1_Dly Level		Ef2 Mix		OS_NoteSft	FLT_Rate1
G2	WN SaxSF	38	Tenor	P	59	EQ -> Pit	1	Rev.Hall1	Ef1_High Gain		Ef Out2a		OS_NoteSft	FLT_Rate2
G3	SE Hell	219	Noise	P	60	EQ -> Pan	33	Flg -> Rev	Ef1_Fade In		Ef1_Speed		LFO_Speed	LFO_Pmod
G4	MW EGBla	244	Sin	P	6	Rev.Stage1	57	EQ -> Sym	off		off		No_Assign	No_Assign
G5	AT EGBla	244	Sin	P	6	Rev.Stage1	57	EQ -> Sym	off		off		No_Assign	No_Assign
G6	MI EPNP	206	E.P.Np	P	21	Pit Chnge2	4	Rev.Room2	Ef2_Rev.Time		Ef2_LPF		FLT_CofVel	FLT_Band
G7	MI Hiss	141	Itopia	P	35	Sym -> Rev	19	St.Echo	Ef1_Mod.Depth		Ef1_Rev Level		CT_MW_Amod	CT_MW_Fmod
G8	MI Crash	176	Crash	S	23	Aural Exc.	1	Rev.Hall1	Ef1_Exc Level		Ef2 Mix		PEG_Level0	PEG_Level1
H1	SE Gobln	215	Seq1	S	22	Pit Chnge3	63	Flg & Rev	Ef Out2a		Ef Out2b		LFO_Amod	LFO_Fmod
H2	SE Up&Up	213	Mellow	S	20	Pit Chnge1	47	Dist-> Dly	Ef2_Dist.Level		Ef2_Mid.Freq		PEG_Rate1	PEG_Level3
H3	SE S&H	242	DigiWild	S	24	EG Flanger	19	St.Echo	Ef2 Mix		Ef1_Mod.Freq		AEG_Rate4	LFO_Speed
H4	SE Hyena	140	ChoirOoLp	P	77	Pit & Dly	50	EQ -> Rev1	Ef1_FB Gain		Ef2_Rev Level		LFO_Wave	LFO_Pmod
H5	SE It	212	Vox Bell	P	59	EQ -> Pit	13	Early Ref1	Ef1_Pit Level		Ef Out2a		FLT_Rate1	FLT_Rate2
H6	SE Hell	202	Timbale2	P	20	Pit Chnge1	41	Flg -> Dly	Ef2_Dly Level		Ef1_2 Pitch		OS_NoteSft	PEG_Rate1
H7	SE Pops	201	Timbale	P	9	Rev.WhRoom	73	Flg & Dly	Ef Out2b		Ef1_Rev.Time		AEG_LvlVel	FLT_CofVel
H8	DR Effect	-	-	S	59	Dist & Rev	67	Pit & Rev	Out1 Wet		Ef1_Rev.Time		-	-

● WAVE LIST

Wave No.	Group	Wave Name
1	Piano	Piano
2	Keyboard	HardEp
3		HardEpLp
4		SoftEp
5		SoftEpLp
6		SynthEp
7		SynthEpLp
8		Clavi 1
9		Clavi 1Lp
10		Clavi 2
11		Clavi 2Lp
12		Harpsi
13		HarpsiLp
14		Acrdion
15		AcrdionLp
16		Organ 1
17		Organ 1Lp
18		PrcOrg1
19		PrcOrg1Lp
20		PrcOrg2
21		PrcOrg2Lp
22		RockOrg
23		Pipe Wv
24		Pipe WvLp
25	Brass	Trumpet
26		TrumpetLp
27		MuteTp
28		MuteTpLp
29		Trombone
30		TromBneLp
31		Horn
32		Tuba
33		TpEns
34		TpEnsLp
35		BrsEns
36		BrsEnsLp
37	Wind	Baritone
38		BaritneLp
39		Tenor
40		TenorLp
41		AltoSax
42		AltoSaxLp
43		Soprano
44		SopranoLp
45		Clarinet
46		Bassoon
47		Oboe
48		EngHorn
49		Piccolo
50		Recorder
51		Flute
52		Panflute
53		PnFluteLp
54	Strings	Strings1
55		Strngs1Lp
56		Strings2
57		Violin
58		Viola
59		Pizz
60	A.Guitar	GtrSteel
61		GtrSteLp
62		GtrNyln
63		GtrNylnLp
64		12String
65		12StrngLp
66	E.Guitar	EgSngl1
67		EgSngl1Lp
68		EgSngl2
69		EgSngl2Lp
70		EgMute1
71		EgMute2
72		EgComp
73		EgCompLp
74		EgHarm1
75		EgHarm1Lp
76		EgHarm2
77		EgHarm2Lp
78	Bass	WoodBass
79		FingBs
80		FingBsLp
81		PickBs1
82		PickBs1Lp
83		PickBs2
84		PickBs2Lp
85		FretLess
86		FretLs Lp
87		ThumpBs
88		ThumpBsLp
89		SlapBs
90		SlapBsLp
91	Folk	Dulcimer
92		DulcimrD
93		DlcmSplt
94		Kalimba
95		Sitar
96		Harp
97	Synth	SynBrs1
98		SynBrs1Lp
99		SynBrs2
100		SynBrs2Lp
101		SynBrs3
102		SynBrs3Lp
103		SynBrs4
104		SynBrs4Lp
105		SynBrsWv
106		SynBs1
107		SynBs1Lp
108		SynBs2
109		SynBs2Lp
110		SynBs3
111		SynBs3Lp
112		SynBs4
113		SynBs4Lp
114		SynBs5
115		SynBs5Lp
116		SynBs6
117		SynBs6Lp
118		SynBs7
119		SynBs7Lp
120		SynBs8
121		SynBs8Lp
122		SynBs9
123		SynBs9Lp
124		SynBs10
125		SynBs10Lp
126		Pad 1
127		Pad 1Lp
128		Pad 2
129		Pad 3
130		Pad 4
131		Pad 5
132		SynLead1
133		SynLead2
134		SynStWv
135		DistWv
136		DistWvLp
137	Choir	ChoirAa
138		ChoirAaLp
139		ChoirOo
140		ChoirOoLp
141		Itopia
142	Tuned	Glocken
143	Percussion	HandBell
144		HndBellLp
145		Marimba
146		SteelDrm
147		Tubular
148		TubularLp
149		Vibes
150		Xylophon
151	Drum	BD1
152		BD2
153		BD3
154		BD4
155		BD5
156		BD6
157		BD7
158		BD8
159		SD1
160		SD2
161		SD3
162		SD4
163		SD5
164		SD6
165		SD7
166		SD8
167		SD9
168		SD side
169		Tom1
170		Tom2
171		HH Open
172		HH Pedal
173		HH light
174		HH mid
175		HH heavy
176		Crash
177		Ride
178		RideBell
179		AnlgTom
180		HHopAnlg
181		HHclAnlg
182		Scratch
183		RezClick
184		VcDrmBD
185		VcDrmSD
186	Percussion	AgogoHi
187		Bongo
188		Cabasa
189		CongaLo
190		CongaMt
191		CongaSlp
192		AnaConga
193		Clap
194		Clave
195		AnaCwbl
196		Cowbell
197		Maracas
198		Tmbrine
199		Timpani
200		TemplBlk
201		Timbale
202		Timbale2
203		Triangle
204		Whistle
205	SE	Bottle
206		E.P. Np
207		Bamboo
208		Temp Ra
209		Typist
210		VoiceAtk
211		ChouCho
212		Vox Bell
213		Mellow
214		Bell Mix
215		Seq1
216		Seq2
217		OrchHit1
218		OrchHit2
219		Noise
220	Osc	AnlgSaw1
221		AnlgSaw2
222		Pulse 10
223		Pulse 25
224		Pulse 50
225		Digital1
226		Digital2
227		Digital3
228		Digital4
229		Digital5
230		Digital6
231		Digital7
232		Digital8
233		Digital9
234		Digitl10
235		Digitl11
236		Digitl12
237		DigiVox1
238		DigiVox2
239		DigiVox3
240		DigiVox4
241		DigiVox5
242		DigiWild
243		Tri
244		Sin

● BLANK CHART — PERFORMANCE

Performance Name					Total Level					
Voice Number	A :		B :		Quick Edit		A	B	C	D
	C :		D :		AEG	R1				
Layer	A	B	C	D		R2, R3				
Volume						R4				
Pan						RR				
Note Shift						Vel. Sense				
Fine Tune					LFO	Speed				
Note Limit						Depth				
Vel. Limit					Filter	Cutoff				
CS3 Enable						Resonance				
CS4 Enable						Vel. Sense				
Effect Send	A	B	C	D	Con-	AT				
Switch	1a 1b 2a 2b	1a 1b 2a 2b	1a 1b 2a 2b	1a 1b 2a 2b	trol	MW				
Level						FC				
Vel.Sense						AT > MW				
Key.Scale						MW > AT				
Dry Output Select	D1 D2	D1 D2	D1 D2	D1 D2		Sustain				
						Pitch EG				
						Fixed Note				

Effect	Mode off / serial / parallel							
Effect 1	Type :							
	Output Level a			Output Level b			Wet : Dry :	
Param.	P1	P2	P3	P4	P5	P6	P7	P8
Effect 2	Type :							
	Output Level a			Output Level b			Wet : Dry :	
Param.	P1	P2	P3	P4	P5	P6	P7	P8
Mix Level	EF2		Insert 1b		Insert 2a		Insert 2b	
Control 1	Parameter			Min	Max		Additional	
Control 2	Parameter			Min	Max		Additional	
Effect LFO	Waveform			Speed			Delay	

● BLANK CHART — VOICE

Voice Name							Total Level						
Oscillator		Mode normal / fixed					LFO		Phase		Delay		
	Waveform							Waveform					
	Fine Tune							Speed					
	Fixed Note							Depth	Pmod	Amod	Fmod		
	Random							SpeedSens	Random	Vel.			
	Reverse								Key Scale				
Amplitude EG		Mode atk / hold		L2	L3								
		R1 / HT		R2	R3	R4	RR						
	Scaling	BP1	BP2	BP3	BP4	Sensitivity	Velocity						
	Note						Atk Rate Vel						
	Offset						Rate Scaling						
Filter		Cutoff freq			Type	Band	Reso	CTRL					
	EG	L0	L1	L1	L3	L4	RL1	RL2					
		RS	R1	R2	R3	R4	RR1	RR2					
	Scaling	BP1	BP2	BP3	BP4	Sensitivity	Type						
	Note						Velocity						
	Offset						Attack Rate Vel						
Pitch		Range		Velocity		Rate Velocity							
	EG	L0	L1	L2	L3	RL1							
		RS	R1	R2	R3	RR	Loop on / off						
Controller		PB Range		Volume Low Limit		Sustain SW							
	MW	Amod	Pmod	Fmod	EG Bias	Cutoff							
	FC	Amod	Pmod	Fmod	EG Bias	Cutoff							
	AT	Amod	Pmod	Fmod	EG Bias	Cutoff	Pitch Bias						
	CS3(#=18)	Parameter			Min	Max							
	CS4(#=19)	Parameter			Min	Max							

Effect		Mode off / serial / parallel				Send		EF2 Mix	
	Effect 1	Type: :							
		Output Level a			Output Level b			Wet :Dry :	
	Param.	P1	P2	P3	P4	P5	P6	P7	P8
	Effect 2	Type: :							
		Output Level a			Output Level b				
	Param.	P1	P2	P3	P4	P5	P6	P7	P8
	Control 1	Parameter			Min	Max	Additional		
	Control 2	Parameter			Min	Max	Additional		
	Effect LFO	Waveform			Speed		Delay		

● BLANK CHART — DRUM VOICE

Voice Name				Total Level					Vol Lo Limit				
	Key Parameters								Effect Send				
Note	Waveform	Vol.	Nsft	Tune	Pan	AltG	Gate	Rvs	EF1	EF2	Lvel	VelS	DryOut
C1									a b	a b			1 2
C#1									a b	a b			1 2
D1									a b	a b			1 2
D#1									a b	a b			1 2
E1									a b	a b			1 2
F1									a b	a b			1 2
F#1									a b	a b			1 2
G1									a b	a b			1 2
G#1									a b	a b			1 2
A1									a b	a b			1 2
A#1									a b	a b			1 2
B1									a b	a b			1 2
C2									a b	a b			1 2
C#2									a b	a b			1 2
D2									a b	a b			1 2
D#2									a b	a b			1 2
E2									a b	a b			1 2
F2									a b	a b			1 2
F#2									a b	a b			1 2
G2									a b	a b			1 2
G#2									a b	a b			1 2
A2									a b	a b			1 2
A#2									a b	a b			1 2
B2									a b	a b			1 2
C3									a b	a b			1 2
C#3									a b	a b			1 2
D3									a b	a b			1 2
D#3									a b	a b			1 2
E3									a b	a b			1 2

Note	Key Parameters								Effect Send				
	Waveform	Vol.	Nsft	Tune	Pan	AltG	Gate	Rvs	EF1	EF2	Lvel	VelS	DryOut
F3									a b	a b			1 2
F#3									a b	a b			1 2
G3									a b	a b			1 2
G#3									a b	a b			1 2
A3									a b	a b			1 2
A#3									a b	a b			1 2
B3									a b	a b			1 2
C4									a b	a b			1 2
C#4									a b	a b			1 2
D4									a b	a b			1 2
D#4									a b	a b			1 2
E4									a b	a b			1 2
F4									a b	a b			1 2
F#4									a b	a b			1 2
G4									a b	a b			1 2
G#4									a b	a b			1 2
A4									a b	a b			1 2
A#4									a b	a b			1 2
B4									a b	a b			1 2
C5									a b	a b			1 2

Effect									
		Mode off / serial / parallel							
	Effect 1	Type: :							
		Output Level a			Output Level b			Wet : Dry :	
	Param.	P1	P2	P3	P4	P5	P6	P7	P8
	Effect 2	Type: :							
		Output Level a			Output Level b			Wet : Dry :	
	Param.	P1	P2	P3	P4	P5	P6	P7	P8
	Mix Level	EF2		Insert Ib		Insert 2a		Insert 2b	
	Control 1	Parameter			Min	Max	Additional		
	Control 2	Parameter			Min	Max	Additional		
	Effect LF0	Waveform			Speed			Delay	

● BLANK CHART — MULTI

Multi Song Name																
Inst Number	1 :				2 :				3 :				4 :			
	5 :				6 :				7 :				8 :			
	9 :				10 :				11 :				12 :			
	13 :				14 :				15 :				16 :			
Inst	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Volume																
Pan																
Note Shift																
Tune																
Effect Send	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Source																
Switch	1a	1a	1a	1a	1a	1a	1a	1a	1a	1a	1a	1a	1a	1a	1a	—
	1b	1b	1b	1b	1b	1b	1b	1b	1b	1b	1b	1b	1b	1b	1b	—
	2a	2a	2a	2a	2a	2a	2a	2a	2a	2a	2a	2a	2a	2a	2a	—
	2b	2b	2b	2b	2b	2b	2b	2b	2b	2b	2b	2b	2b	2b	2b	—
Level																—
Dry Output Select	D1	D1	D1	D1	D1	D1	D1	D1	D1	D1	D1	D1	D1	D1	D1	—
	D2	D2	D2	D2	D2	D2	D2	D2	D2	D2	D2	D2	D2	D2	D2	—

Effect								
	Mode off / serial / parallel							
Effect 1	Type :							
	Output Level a			Output Level b			Wet : Dry :	
Param.	P1	P2	P3	P4	P5	P6	P7	P8
Effect 2	Type :							
	Output Level a			Output Level b			Wet : Dry :	
Param.	P1	P2	P3	P4	P5	P6	P7	P8
Mix Level	EF2		Insert 1b		Insert 2a		Insert 2b	
Control 1	Parameter			Min	Max		Additional	
Control 2	Parameter			Min	Max		Additional	
Effect LFO	Waveform			Speed			Delay	

● BLANK CHART — SYSTEM SETUP

Synth		Note shift			Tune				Ctrl Reset			Local				
	MIDI	T.Ch		R.Ch		Device No.			Volume Ctrl			Bulk Protect				
	Velocity	Curve				Fix										
Sequencer		Click		Beat		Clock			MIDI Control							
	Recording	AT		R.Ch		Accent 1			Accent 2			Accent 3			Fix	
	Song	Loop			Chain											
Program Change		off / normal / direct / table														
	Source	A1	A2	A3	A4	A5	A6	A7	A8	B1	B2	B3	B4	B5	B6	B7	B8
	Bank(MSB)																
	Bank(LSB)																
	Program																
	Source	C1	C2	C3	C4	C5	C6	C7	C8	D1	D2	D3	D4	D5	D6	D7	D8
	Bank(MSB)																
	Bank(LSB)																
	Program																
	Source	E1	E2	E3	E4	E5	E6	E7	E8	F1	F2	F3	F4	F5	F6	F7	F8
	Bank(MSB)																
	Bank(LSB)																
	Program																
	Source	G1	G2	G3	G4	G5	G6	G7	G8	H1	H2	H3	H4	H5	H6	H7	H8
	Bank(MSB)																
	Bank(LSB)																
	Program																

SPECIFICATIONS

Keyboard	61 keys, initial and after-touch response.
Tone Generator Systems	AWM2 (2nd-generation Advanced Wave Memory), 30-note polyphony.
Internal Memory	Wave ROM: 6 megabytes (48 Mbits). Wave RAM: 0.5 megabyte, expandable to 3.5 megabytes. Internal RAM: 256 voices, 128 performance combinations, 10 multi-play setups.
External Memory	3.5" 2DD floppy disk drive. MCD64 memory card for voice data (DATA x 1, WAVE x 1).
Sequencer	Tracks: 9 (8 normal + 1 rhythm). Songs: 10 songs. Simultaneous notes: 30. Capacity: Approx. 20,000 notes. Patterns: 100. Record modes: Real-time, step, and punch-in. Resolution: 1/48 quarter note (internal clock), 1/24 quarter note (MIDI sync).
Effects	90 types (dual DSP units).
Displays	40-character x 2-line LCD. 27 LEDs.
Controllers	Wheels: pitch, modulation. Sliders: Output x 2, function x 8. Dial: Data entry dial.
Panel Switches	53: function select matrix x 10, exit, enter, store, memory x 3, group x 8, program x 8, function x 8, data entry x 2, page x 3, sequencer x 6, others x 2.
Connectors	Headphones, audio output x 4, foot controller, sustain switch, volume pedal, MIDI in, MIDI out, MIDI thru.
Power Requirements	US & Canadian models: 120 VAC, 20 W. General model: 220 . . . 240 VAC, 20 W.
Dimensions (W x D x H)	1024 x 367 x 119 mm (3'4-3/8" x 14-1/2" x 4-3/4")
Weight	14 kg (30 lbs. 13 oz)

** Specifications and appearance subject to change without notice.*

ERROR MESSAGE

● MIDI

DISPLAY	COMMENTS
MIDI buffer full !	When the SY85 attempted to receive or transmit a large amount of MIDI data, its handling capacity was exceeded.
MIDI data error !	An error occurred when receiving MIDI data.
MIDI checksum err !	An error occurred when receiving bulk data.
MIDI Bulk canceled !	While receiving or transmitting bulk data, [EXIT/NO] was pressed to abort the operation.
Bulk protected !	Since the "Bulk Protect" parameter is on, the bulk data was not received.
Device number is off !	Since the device number is off, bulk data cannot be transmintted or received.
Device number mismatch !	Since the device numbers did not match, the bulk data was not received.

● Data card

DISPLAY	COMMENTS
Data card not ready !	The data card is not correctly inserted into the slot.
Card protected !	Since the memory protect switch of the card is on, data cannot be saved to the card.
Illegal format !	The card is the wrong format.
Verify NG !	The data was not correctly saved.

● Wave card

DISPLAY	COMMENTS
Wave card not ready !	The wave card is not correctly inserted into the slot.
ID Number mismatch !	A multi includes voices which use two or more wave cards,

● Disk

DISPLAY	COMMENTS
Disk not ready !	The disk is not correctly inserted into the disk drive.
Illegal change !	During the backup operation, the original and backup disks were inserted in the wrong order.
Illegal disk !	The data in the disk is faulty.
Bad disk !	The disk is faulty.
File not found !	The file was not found, or you attempted to load a file that does not have a legal MS-DOS file name.
Write protected !	The disk is write protected.
Disk full !	There is no more memory available on the disk.
Media type error !	The disk is the wrong type.
Illegal file !	The file is not for the SY85.

● Sequencer

DISPLAY	COMMENTS
Please stop sequencer !	The sequencer cannot play during disk or card loading/saving or during bulk data transmission.
Mark not used !	Rhythm track search was performed on a track which contains no mark.
Internal buffer full !	More sequence data was played back than could be sounded.
Data Empty !	You have attempted to perform a song job on a measure that contains no data.
Song Memory full !	The sequencer's internal memory is full. Execution of song jobs, bulk reception, and loading from disks is not possible.

● Battery

DISPLAY	
Change internal battery !	The internal backup battery needs to be replaced.
Change card battery !	The card backup battery needs to be replaced.

● Sample

DISPLAY	COMMENTS
Sample memory full !	Since the sample memory is full, further loading of sample data is not possible.
Not enough memory for Volatie !	Not enough volatile memory. Wave memory allocation setting cannot be changed.
Not enough memory for Non_Vol. !	Not enough non-volatile memory. Wave memory allocation setting cannot be changed.
Sample data not exists !	Since no sample exists in the specified sample number, bulk transmission is not possible.
Sample data protected !	Since the waveform card is write protected, data save and bulk transmission are not possible.
Over internal waveform number	The maximum allowable number of waves was exceeded.
Over Sample number !	The maximum allowable number of samples was exceeded.

● MDR

DISPLAY	COMMENTS
MDR memory full !	Since the MDR's memory is full, loading of data is not possible.
MDR data already exists !	Since MDR data already exists, input of data is not possible.
MDR data not found !	No data exists in the specified MDR file.

TROUBLE SHOOTING

The SY85 is a very versatile instrument with many features and functions that affect operation. In many cases, what appears to be a fault with the SY85 can actually be traced to an improperly set parameter or, at the most fundamental level, to something as simple as a bad connection.

Here's how to determine if the problem is internal (e.g. parameter settings) or external (e.g. connections, amplifier, etc.):

● Listen Via Headphones.

Plug a pair of headphones into the SY85 and play. If the headphone sound is OK, then the problem is most likely in the amplifier or mixer you are using, or the audio connection cables.

● Check the Sound In the Voice, Performance, and Song Modes.

If the problem only occurs in one mode or one voice/performance/song, then the cause is most likely a parameter setting related to that mode or voice/performance/song. If the problem occurs in all modes, then the cause may be a utility parameter or other parameter that affects all modes.

The following are some common problems and probable causes:

● Amplifier, Mixer, Connection Problems

Svmtom	Possible Cause
No Sound	• Is the amplifier/mixer power turned on? • Is the amplifier/mixer volume set to an appropriate level? • Are the SY85 outputs properly connected to the amplifier/mixer inputs? • Are the connection cables shorted, open, or otherwise faulty?
Distorted sound	• Is the SY85 connected to a high-sensitivity microphone or instrument input on your amplifier or mixer? Try turning the SY85 OUTPUT controls down to avoid overloading the amplifier/mixer inputs.

● Performance Mode Problems

Symptom	Possible Cause
No Sound	• Are voices properly assigned to the performance layers (page 14)? • Are the voice volume parameters set high enough (page 15)? • Is the total performance level set high enough (page 24)? • Are the voice note and velocity parameters set to appropriate values (page 18 through 21)? • If a foot volume pedal is connected or a controller is assigned to volume control, is the controller set to produce a high enough volume level (page 31)?
Wrong pitch.	• Are the note shift parameters for each voice set to appropriate values (page 17)?.

● Voice Mode Problems

Symptom	Possible Cause
No Sound	• Is the pitch envelope generator set properly? If the L0 through L3 parameters are set too low, the resultant pitch may be below the audible range (page 74). • Is the filter set in such a way that most of the sound is filtered out (page 65)? • Is the total voice level set high enough (page 94)? • Is the amplitude envelope generator attack time set to an excessively long value (page 60)? • Is an appropriate wave assigned to the voice (page 58)?
Wrong pitch.	• Is the tuning set properly (page 58)?. • Is the note shift parameter set properly (page 59)?.
Unstable/indefinite pitch.	• Is the random pitch parameter set properly (page 59)?. • Is the aftertouch pitch bias parameter set properly (page 88)?. • Is the LFO pitch modulation parameter set to an excessively high value (page 78)?. • Is the pitch envelope generator set properly (page 74)?.

Symptom	Possible Cause
No Sound	• Are voices/performance combinations properly assigned to the multi instruments (page 148). • Are the volume levels of the multi instruments set high enough (page 149)? • Are the sequencer track transmit channels properly matched to the multi instrument channels (Getting Started manual, page 47)?
Wrong pitch.	• Are the note shift parameters for each multi instrument set properly (page 152)?. • Are the tune parameters for each multi instrument set properly (page 153)?.
Some notes not played during sequencer playback.	• Does the sequence data exceed the maximum polyphony of the SY85 (page 157)?.

● Other Problems

Symptom	Possible Cause
No Sound	• Is the local off mode selected (page 211). • Are the keyboard transmit channel and voice receive channels matched (page 212)?
Wrong pitch.	• Is the master tune parameter set, properly (page 210)?.

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YAMAHA SY85

JOB TABLE (1)

PERFORMANCE PLAY MODE

- CS Assign View
- Performance Control

PERFORMANCE EDIT MODE

Edit
- 1: Layer
  - 1: Voice Number
  - 2: Volume
  - 3: Pan
  - 4: Tune
  - 5: Note Limit
  - 6: Velocity Limit
  - 7: CS Enable
  - Layer Data Copy
- 2: Performance Total Level
- 3: Performance Name
- 4: Layer Voice Edit
  - 1: Oscillator
  - 2: Amplitude EG
  - 3: Filter
  - 4: Pitch EG
  - 5: LFO
  - 6: Controller
  - 7: Voice Total Level
  - 8: Voice Name

Quick Edit
- 1: Amplitude EG Offset
- 2: LFO & Filter Offset
- 3: Controller Conditions
- 4: Other Conditions
- 5: Effect Type
- 6: Effect Parameter

Effect Edit
- 1: Mode, Type
- 2: Send Select & Level
- 3: Layer Dry Output Select
- 4: Output Level
- 5: Wet: Dry Balance
- 6: Send & Effect 2 Mix Level
- 7: Effect 1 Parameters
- 8: Effect 2 Parameters
- 9: Control Parameters
- 10: Control LFO
- Effect Data Copy
- Effect Signal Flow Display

Job
- 1: Layer Controller Sync
- 2: Layer Exchange
- 3: Performance Edit Recall
- 4: Performance Initialize

Performance Compare

Performance Store

VOICE PLAY MODE

- CS Assign View
- Voice Control

VOICE EDIT MODE

Edit
- 1: Oscillator
- 2: Amplitude EG
  - 1: AEG Level & Rate
  - 2: Level Scaling
  - 3: Sensitivity
  - AEG Data Copy
- 3: Filter
  - 1: Type, Cutoff Frequency
  - 2: Cutoff, Scaling
  - 3: FEG Level & Rate
  - 4: Filter Sensitivity
  - Filter Data Copy
- 4: Pitch EG
  - 1: Level & Rate
  - 2: Range, Sensitivity
  - Pitch EG Data Copy
- 5: LFO
  - 1: LFO
  - 2: LFO Speed Sensitivity
  - LFO Data Copy
- 6: Controller
  - 1: Pitch Bend Range
  - 2: Modulation Wheel Depth
  - 3: Foot Controller
  - 4: After Touch Depth
  - 5: CF3 Parameter Edit
  - 6: CF4 Parameter Edit
  - Controller Data Copy
- 7: Voice Total Level
- 8: Voice Name

Quick Edit
- 1: Wave
- 2: Amplitude EG
- 3: Filter
- 4: LFO
- 5: Effect Type
- 6: Effect Parameter

Effect Edit
- 1: Mode, Type
- 2: Send, Mix, Wet: Dry
- 3: Output Level
- 4: Effect 1 Parameters
- 5: Effect 2 Parameters
- 6: Control Parameters
- 7: Effect LFO
- Effect Data Copy
- Effect Signal Flow Display

Job
- 1: Voice Edit Recall
- 2: Voice Initialize

Voice Compare

Voice Store

DRUM VOICE PLAY MODE

- CS Assign View
- Effect Control

DRUM VOICE EDIT MODE

Edit
- 1: Key Parameters 1
- 2: Key Parameters 2
- 3: Total Level
- 4: Pitch EG
- Drum Key Data Copy

Quick Edit
- 1: Effect Type
- 2: Effect Send Level

Effect Edit
- 1: Mode, Type
- 2: Key Send Select & Level
- 3: Key Dry Output Select
- 4: Output Level
- 5: Wet: Dry Balance
- 6: Send & Effect 2 Mix Level
- 7: Effect 1 Parameters
- 8: Effect 2 Parameters
- 9: Control Parameters
- 10: Effect LFO
- Effect Data Copy
- Effect Signal Flow Display

Job
- 1: Key Data Initialize
- 2: Key Data Exchange
- 3: Drum Voice Edit Recall
- 4: Drum Voice Initialize

Drum Voice Compare

Drum Voice Store

JOB TABLE (2)

SONG PLAY MODE

- Song Play
- Song Select
- CS Volume Control (Analog Volume)
- Track Transmit Channel
- Song Setup
- Record Mode

SONG EDIT MODE

Multi Edit
- 1: Voice Select
  Multi Search
- 2: Volume
- 3: Pan
- 4: Effect Send Level
- 5: Note Shift
- 6: Tune
- 7: Effect Type, Out Balance
- 8: Song Name
- 9: Multi Initialize

Track Edit

Effect Edit
- 1: Mode, Type
- 2: Send Select & Level
- 3: Inst Dry Output Select
- 4: Output Level
- 5: Wet : Dry Balance
- 6: Send & Effect 2 Mix Level
- 7: Effect 1 Parameters
- 8: Effect 2 Parameters
- 9: Control Parameters
- 10: Control LFO
- Effect Data Copy
- Effect Signal Flow Display

Job
- 1: Clear Song
- 2: Copy song
- 3: Memory Status
  / Clear Rhythm Track
- 4: Track Mixdown
- 5: Delete Track
- 6: Quantize
- 7: Copy Measure
- 8: Delete Measure
- 9: Insert Measure
- 10: Erase Measure
- 11: Remove Event
- 12: Clock Move
- 13: Transpose
- 14: Note Shift
- 15: Velocity Modify
- 16:Gate Time Modify
- 17: Crescendo

PATTERN PLAY MODE

- Pattern Play

PATTERN EDIT MODE

Job
- 1: Copy Pattern
- 2: Clear Pattern
- 3: Instrument Change
- 4: Velocity Modify

Pattern Name

UTILITY MODE

Synth Setup
- 1: System
- 2: MIDI 1 (Channel Parameters)
- 3: MIDI 2 (Other Parameters)
- 4: Program Change Table
- 5: Velocity

SEQ Setup
- 1: Click Condition
- 2: Record Condition
- 3: Accent Velocity
- 4: Song Chain

Bulk Dump
- 1: all
- 2: synth all
- 3: sequencer all
- 4: pattern all
- 5: 1 performance
- 6: 1 voice
- 7: 1 song

Card
- 1: Card All Load/Save
- 2: Card Format

Disk
- 1: Disk All Load/Save
- 2: Disk All Load/Save Synth
- 3: Disk All Load/Save Seq
- 4: Disk NSEQ All Load/Save
- 5: Disk Other Load/Save
- 6: MDR
- 7: Rename/Delete
- 8: Backup Disk
- 9: Disk Status
- 10: Disk Format

WAVE EDIT MODE

Wave Number Select

Edit
- 1: Waveform
  - 1: Wave Assign
  - 2: Wave Name
- 2: Sample
  - 1: Sample Key Map
  - 2: Sample Data

Wave Initialize

Sample Dump
- 1: Sample Dump Receive
- 2: Sample Dump Transmit

Wave Card Load

Wave Disk Load/Save 1 Sample

Wave Memory Status Display

YAMAHA

MUSIC SYNTHESIZER

SY85

MIDI DATA FORMAT

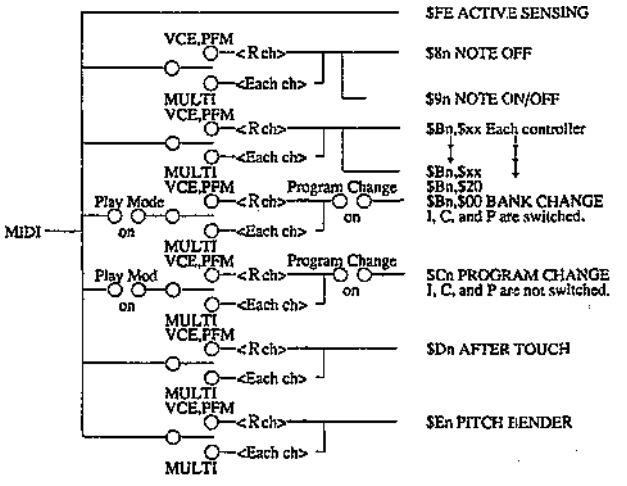
JCAGR0PT2.3CP Printed in Japan

1. Synthesizer mode

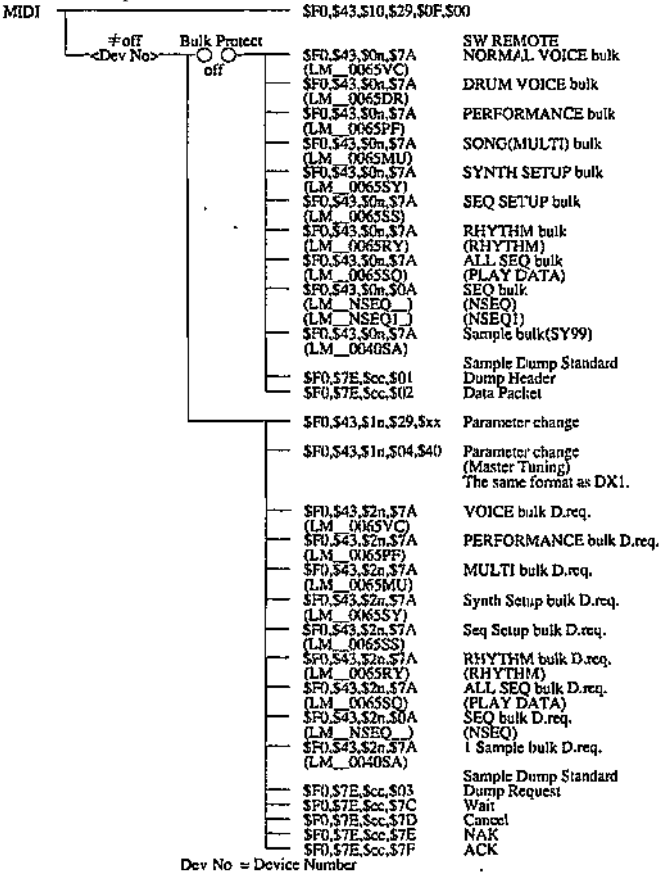
1.1 MIDI reception/transmission block diagram

<MIDI reception condition> 1/2

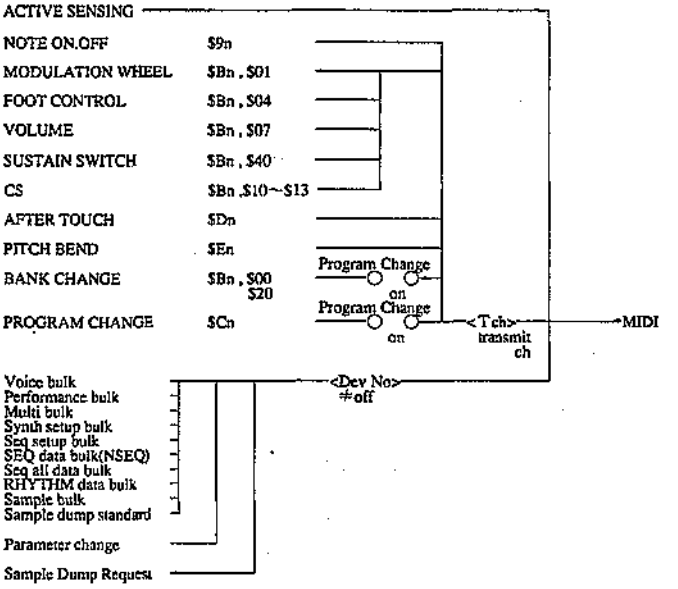
R ch — Voice Receive ch.



<MIDI reception condition> 2/2



<MIDI Transmission condition>



1. 2 Channel message

1.2.1 Transmission

1.2.1.1 Note Off

Transmission note range = C1(36)...C6(96)

Velocity range = 1...127

1.2.1.2 Note On

Transmission note range = C1(36)...C6(96)

Velocity range = 1...127

1.2.1.3 Control change

Control change is output to MIDI when the following controllers arc operated.

ctrl#	parameter	datarng
1	Modulation wheel	0 ~ 127
4	Foot contro	10 ~ 127
7	Volume pedal	0~ 127
64	Sustain switch	0~127
16~19	CS	0~ 127

1.2.1.4 Program bank change

Program bank change is transmitted, when a voice is selected in voice mode, when a performance is selected in performance mode.

Program bank change No. is assigned as shown below in accordance with the mode.

Bn 00 xx 20 xx	Data
Internal1 Voice	00,00
Internal2 Voice	00,03
Internal3 Voice	00,06
Internal4 Voice	00,09
Card1 Voice	00,01
Card2 Voice	00,04
Card3 Voice	00,07
Card4 Voice	00,10
Internal1 Performance	00,64
Internal2 Performance	00,67
Card1 Performance	00,65
Card2 Performance	00.68
Internal1 Voice(multi)	00,32
Internal2 Voice(multi)	00.35
Internal3 Voicc(mulli)	00,38
InlcmaM Voice(multi)	00,41
Card1 Voice(multi)	00.33

Bn 00 xx 20 xx	Data
Card2 Voice(multi)	00,36
Card3 Voice(multi)	00,39
Card4 Voice(multi)	00,42
Internal1 Perf(multi)	00,80
Internal2 Perf(multi)	00,83
Card1 Perf(multi)	00,81
Card2 Perf(multi)	00,84

When the mode is set to off the program change is not transmitted.

When the mode is set to table the conversation formal contained in the program transmission table is applied and transmitted.

1.2.1.5 Program change

Program change is transmitted, when a voice is selected in voice mode, when a performane is selected in performance mode.

Program change No. is asigned as shown below in accordance with the mode.

			Data
Voice	Internal1	0~63	00~63
	Internal2	0~63	00~63
	Internal3	0~63	00~63
	Internal4	0~63	00~63
	Card1	0~63	00~63
	Card2	0~63	00~63
	Card3	0~63	00~63
	Card4	0~63	00~63
Performance			
	Internal1	0~63	00~63
	Internal2	0~63	00~63
	Card1	0~63	00~63
	Card2	0~63	00~63

When the mode is set to off the program change is not transmitted.

When the mode is set to table, the conversion format contained in the program transmisssion table is applied and transmitted.

1.2.1.6 Pitch bend

Pitch bend is transmitted with a resolution of 7 bits.

1.2.1.7 After touch

After touch is output when it is operated.

1.2.1.8 Channel mode message

Channel mode message is not transmitted.

1.2.2 Reception

1.2.2.1 Note Off

Reception note range = C-2~G8

Velocity range = not received.

1.2.2.1 Note On/Off

Reception note range = C-2~G8

Velocity range = 0~127

1.2.2.2 Control Change

The parameters in the table below can be controlled by MIDI.

cntrl#	parameter	data mg
1	Modulation wheel	0~127
4	Foot control	0~127
7	Foot Volume	0~127
10	Pan	0~127
0~119	Volume	0~127
1~120	Effect Param1	0~127
1~120	Effect Param2	0~127
16~19	CS Param	0~127
64	Sustain Switch	0, 127

Pan is received only when MULTI is generated.

1.2.2.3 Program change

When a program change message is received, the SY85 performs the following operations.

Three types of reception modes can be set with the system setup.

1) off:

Program change is not received.

2) normal:

In each play mode, the program No. changes in accordance with 00 ~ 63 of the current mode.

The program bank change is not received.

3) direct:

In voice mode, voice A1 ~ H8 correspond to the program change data 00 ~ 63. INT1, INT2 and CARD change in accordance with the program bank change.

Program change data 64 ~ 127 is not received. In performance mode, performance A1 ~ H8 correspond to program change data 00 ~ 63. Int1, Int2, and CARD change in accor dance with the program bank change.

Program change data 64 ~ 127 are not received.

In Multi mode, each INST program changes in accordance with the above.

Refer to during transmission for the bank change.

4) table:

Reception applies to 3) direct.

Transmission is carried out in accordance with the PROGRAM CHANGE TABLE.

1.2.2.4 Pitch bend

Pitch bend is received only on the MSB side.

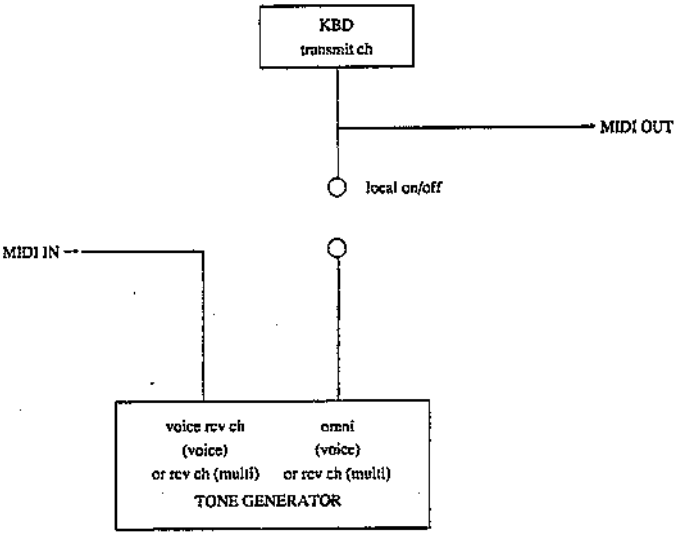
1.2.2.5 After touch

After touch is received in accordance with the reception channel of each mode.

1.2.2.6 Channel mode message

cntrl#	parameter	data mg
120	All Sound Off	0
121	Reset All Controller	0
123	All Notes Off	0

1.2.3 Configuration of keyboard section and tone generator



Note 1) In voice mode, sound is generated even if the Voice receive channel and the Keyboard Trans, channel do not match.

Note 2) Note On from the keyboard and Note On from MIDI are distinguished. Controller information from the keyboard and controller information from the MIDI (control change, after touch, pitch bend, etc.) are not distinguished except for sustain switch.

2. System exclusive message

2.1 Parameter change

The SY85 transmits and receives the following eight parameter change types.
(7) Remote switch *is* received only.) 7) Remote switch will be the same as the screen when the switch is pressed.

1). Multi Data
2). Performance Data
3). Normal Voice Data
4). Drum Voice Data
5). Setup Data
6). Program Change Table
7). Switch Remote
8). Master Tuning

The parameter change reception cannot be turned off with each MIDI switch, except for Device Number off.

2.1.1 sy85 Data parameter change

(1)Format

11110000	F0
01000011	13
0001nnnn	nnnn = Device Number
00101001	29
0000gggg	gggg - Parameter Croup (lumber
0sssssss	sssssss = Parameter Sub Group Number
0ppppppp	ppppppp= Parameter Number MS7b it
0ppppppp	ppppppp= Parameter Number LS7bit
0vvvvvvv	vvvvvvv Data Value MS7bit
0vvvvvvv	vvvvvvv = Data Value LS7bit
11110111	F7

(2)Parameter Group Number,Sub Group Number

Parameter Group Name	gggg	sssssss	
Multi Data	0	0,1..16	*1
Performance Data	1	0,1..4	*2
Normal Voice Data	2	0,1..4	*3
Drum Voice Data	3	0.36..84	*4
Setup Data	4	0..2	*5
Program Change Table	5	0..63	*6
Switch Remote	6	0	

*1:1..16; Inst Number, 0;common data
*2:1..4; Layer Number, 0;common data
*3:1..4 = Layer Number (Layer Voice Edit), 0 = Voice
*4:36..84 = Key Number,0;common data
*5:0=syn, 1 = seq. 2 = ry
*6:Program Number

(3) Parameter Number, Data Value
See the appended table 1.

(4) Operation
(Transmission)
When data is edited with the panel switch, the parameter change is transmitted in accordance with the above transmission conditions,
(Reception)
1) ~ 4)
The SY85 has four sound generation modes: Voice, Performance, Multi, Wave. Only when the sound generation mode of the transmitting side and receiving side match, it is received. The mode on the receiving side does not change and the page does not move. However, the data display will be updated.
5) ~ 6)
All modes: Modes are received as they are. (no page change)
7)
This parameter change is only for reception. Remote controlling is possible with all the panel switches. This message has the same effect as pressing the switch.

2.1.2 Master Tuning parameter change

(1)Format

11110000	F0
01000011	43
0001nnnn	nnnn = Device Number
00101001	04
01000000	40
0vvvvvvv	vvvvvvv = Data Value
11110111	F7

(2) Operation
(Transmission)
When the master tune data is edited with the panel switch, the parameter change is transmitted in **ac**-cordance with the above transmission conditions.
(Reception)
All modes: Modes are received as they are, (no page change)

3. Bulk dump

The SY85 transmits and receives the following ten bulk dump types.
Reception is not possible during performance and recording.
Transmission is performed when MIDI UTILITY bulk dump is executed, or when a dump request is received.

1). Normal Voice bulk dump
2). Drum Voice bulk dump
3). Performance bulk dump
4). Multi(Song) bulk dump
5). Synthesizer Setup bulk dump
6). Seq Setup bulk dump
7). Sample bulk dump
8). Rhythm bulk dump
9). All Seq bulk dump
10). Nseq bulk dump

3.1.1 Bulk Dump 1)~7)

(1)Format

0	11110000		F0
1	01000011		43
2	0000nnnn		nnnn = Device Number
3	01111010		7A
4	0bbbbbbb		] No. of bytes
5	0bbbbbbb		
6	01001100		4C(ascii"L")
7	01001101	C	4D(ascii"M")
8	00100000	H	20(ascii" ")
9	00100000	E	20(ascii" ")
10	0ddddddd	C	ddddddd = Data Format Name(ascii)
11	0ddddddd	K	ddddddd = Data Format Name(ascii)
12	0ddddddd		ddddddd = Data Format Name(ascii)
13	0ddddddd	S	ddddddd = Data Format Name(ascii)
14	0ddddddd	U	ddddddd = Data Format Name(ascii)
15	0ddddddd	M	ddddddd = Data Format Name(ascii)
16	00000000		00
↓	↓		↓
29	00000000		00
30	0ttttttt		ttttttt = Memory_type
31	0mmmmmm		mmmmmm = Memory Number
32	0vvvvvvv		vvvvvvv = data value
↓	↓		↓
	0sssssss		sssssss = check_sum
	11110111		F7

4 and 5 are not available during a Dump Request and 32 becomes F7.

(2) Data Format Name

Bulk Dump Type	ddddddd	ttttttt	mmmmmmm
Normal Voice	0065VC	*1	0.62
Drum Voice	0065DR	*2	63
Performance	0065PF	*3	0.63
Multi(Song)	0065MU	0	0.9
Synthesizer Setup	0065SY	0	0
Seq Setup	0065SS	0	0
Sample	0040SA	0	0..63

*1:0=int1,3=int2,6=int3,9=int4,127=edit_buffer

*2:0=int1,3=int2,6=int3,9=int4,127=edit_buffer

*3:0=int1,3=int2,127=edit_buffer

*4: When memory number exceeds the upper limit, it is handled as the upper limit value during the bulk reception, and it is ignored during the dump request reception.

*5: When the memory type is not defined during bulk dump reception:

with 4) ~ 8), it is ignored and handled as int.
with 1) ~ 2).
= 127 edit-buffer
=0~2 int1
=3~5 int2
=6~8 int3
=9~15 int4
= other bit 4 ~ bit 7 are ignored and the above process is peformed.
with 3)
= 127 edit-buffer
=0~2 int1
=3~7 int2
= other bit 3 ~ bit 7 are ignored and the above process is performed.

When the memory type is not defined during dump request reception, it is ignored.

(3) Data Format

See the appended table 1.

(4) Operation

(Transmission)

While being transmitted with the BULK UTILITY using 1) ~ 4), during

All Voices Bulk transmission

Memory_type = 00(INT1)
Memory_Number = Transmission is carried out up to 63 starting from 0 sequentially.
Memory_type = 03 (INT2)
Memory Number = Transmission is carried out up to 63 starting from 0 sequentially during
= 06 (INT3)
= 09 (INT4)

All Performance Bulk transmission

Memory_type = 00 (INT1)
Memory Number = Transmission is carried out up to 63 starting from 0 sequentially during
= 03 (INT2)

All SONG Bulk transmission

Memory_type = 00 (INT)
Memory Number = Transmission is carried out up to 9 starting from 0 sequentially during

3.1.2 SY85 Format Bulk Dump 8), 9)

(1)Format

0	11110000	F0
1	01000011	43
2	0000nnnn	nnnn = Device Number
3	00001010	7A
4	0bbbbbbb	No. of bytes
5	0bbbbbbb	max. 538
6	01001100	4C(ascii"L")
7	01001101	4D(ascii"M")
8	00100000	20(ascii" ") b
9	00100000	20(ascii" ") y
10	0ddddddd	d(ascii)= Data t
11	0ddddddd	d(ascii) Format e
12	0ddddddd	d(ascii) Name
13	0ddddddd	d(ascii)
14	0ddddddd	d(ascii)
15	0ddddddd	d(ascii)
16	00000000	00
↓	↓	↓
31	00000000	00
32	0vvvvvvv	vvvvvvv = data
↓	↓	↓ value
	0ssssss	ssssss = check_sum
	11110111	F7

When the number of bytes is less than 538, the number will become the number of bytes. When the number of bytes exceeds 538, the number is divided by 538 from the upper number, and number of bytes ~ check-sum is repeated.

4 and 5 are not available during a Dump Request and 32 becomes F7.

(2)Data Format Name

Bulk Dump Type	dddddddd
Rhythm	0065RY
All Seq	00655Q

(3) Operation

Rhythm transmits and receiver Rhythm track data and Pattern data.

All Seq tramits and receives Normal track data and Song 1 ~ 10 sequcntially.

3.1.3 NSEQ Format Bulk Dump 10)

(1)Format

0	11110000	F0
1	01000011	43
2	0000nnnn	nnnn = Device Numbe
3	00001010	0A
4	0bbbbbbb	No. of bytes
5	0bbbbbbb	max.4096
6	01001100	4C(ascii"L")
7	01001101	4D(ascii"M")
8	00100000	20(ascii" ") b
9	00100000	20(ascii" ") y
10	0ddddddd	d(ascii) = Data t
11	0ddddddd	d(ascii) Format e
12	0ddddddd	d(ascii) Name
13	0ddddddd	d(ascii)
14	0ddddddd	d(ascii)
15	0ddddddd	d(ascii)
16	0vvvvvvv	vvvvvvv = data
↓	↓	↓ value
	0ssssss	ssssss = check_sum
	11110111	F7

When the number of bytes is less than 4096, the number will become the number of bytes. When the number of bytes exceeds 4096, the number is divided by 4096 from the upper number, and number of bytes ~ check_sum is repeated.

4 and 5 are not available during a Dump Request and 32 becomes F7.

(2) Data Format Name

Bulk Dump Type	ddddddd	
NSEQ	NSEQ	
NSEQ1	NSEQ1	Receive only

(3) Data Format

See the appended table 2

(4) Operation

Normal track data of the corrent song is transmitted and received.

4. Sample Dump

For the sample dump the SYXS uses the Sample Dump Standard and SY99 Sample Bulk Dump.
Both of them can be received.

For transmission, the above two data types are is transmitted successively when Sample Dump of the Sample Utility is executed. When receiving Sample Dump Standard Dump Request, and SY99 Sample Bulk Dump Request, each data type is transmitted.

With Sample Dump Standard and SY99 Sample Bulk Dump $lf is the upper limit of the Sample (memory) Number and the number exceeding this is handled as $1f.

Sample Dump Standard

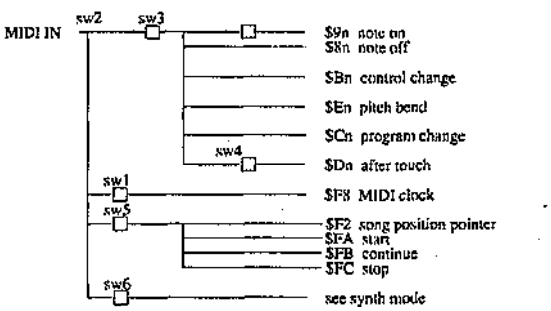
DUMP REQ	F0,7E,cc,03.ss,ss,F7
ACK	F0,7E,cc,7F,pp,F7
NAK	F0,7E,cc,7E,pp,F7
CANCEL	F0,7E,cc,7D,pp,F7
WAIT	F0,7E,cc,7C,pp,F7
DATA PACKET	F0,7E,cc,02,kk,<120 byte>,11,F7
DUMP HEADER	F0,7E,cc,01,ss,ss,ee,ff,ff,ff,gg,gg,hh,hh,hh ,ii,ii,ii,jj,F7

pp	: packer number
cc	: channel number
ss ss	: sample number (LSB first)
cc	: sample format (SY99 handles 8-I6bits.)
ff ff ff	: sample period (LSB first)
gg gg gg	: sample length (LSB first)
hh hh hh	: loop start (LSB first)
ii ii ii	: loop end (LSB first)
jj	: loop type (00=normal Loop,01=alternate Loop. 7F=Loop off)
kk	: running packet count(0-127)(sequential packet No.)
ll	: checksum(XOR of 7E cc 02 kk <l20 bytes>)

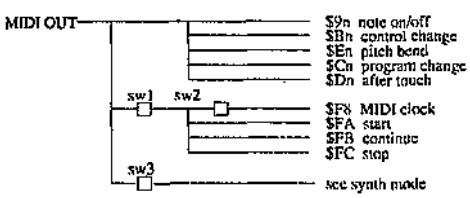
5. Sequencer mode

5.1 MIDI reception/transmission block diagram

(Receive flow chart)



(Note) sw1 ☐ It turns on when clock is set to MIDI in SEQ SETUP.
sw2 ☐ Receiving channel in SEQ SETUP during recording
sw3 ☐ Velocity setting 1~127, kbd in SEQ SETUP during recording
sw4 ☐ After touch on/off in SEQ SETUP during recording
sw5 ☐ MIDI control on/off in SEQ SETUP
sw6 ☐ Device Number setting in SETUP



(Note) sw1 ☐ MIDI control on/off in SEQ SETUP
sw2 ☐ It turns on when the clock is set to internal in SEQ SETUP
sw3 ☐ Device Number setting in SETUP

5.2 Channel message

Reception is carried out only during recording. Transmission is performed only when playing and over. dubbing.

Refer to the Receiver flow chart and Transmit flow chart for the transmission and reception conditions.

5.3 Mode message

Transmission and reception are not carried out.

5.4 System common message

Only $F2 is received and the others are not transmitted or received.

5.5 System real time message

5.5.1 Status F8, FA, FB, FC
are received.

5.5.2 Nothing is carried out with Status F9, FD, and FF after being read.

6. Status FE (active sensing)

a) Transmission
FE in transmitted approximately every 170 msec.

b) Reception
If a signal is not output from MIDI for longer than approximately 300msec after receiving FE, the MIDI reception buffer is cleared, and if key on remains it is turned off.

<Appended table 1>

(1)MIDI Parameter Change table (Multi)

$F0,$43,$ln,$29,$00,sub_group,p_msb,p_l,sb,v_msb,v_lsb.$F7

Note) n ; Device Number
s ; parameter sub_group number
p ; parameter number
v ; parameter value

[SONG_MULTI PARAMETERS]

1.COMMON s=0

PARAMETER	BULK NUMBER	PARAM NUMBER	DATA RANGE	DISP	NOTES
EF$RSV	0		0		reserve
EF$MODE	1	1	0..2	off,seri,para	effect mode
EF$1TYPE	2	2	0..90	0..90	effect1 type
EF$2TYPE	3	3	0..90	0..90	effect2 type
EF$C1PRM	4	4	0..31	off..lnsLv12b	effect cont1 parameter
EF$C1NUM	5	5	0..124	0..124	effect cont1 add con
EF$C2PRM	6	6	0..31	off..lnsLvl2b	effect cont2 parameter
EF$C2NUM	7	7	0..124	0..124	effect cont2 add con
EF$C2MIN	8	8	0..100	0..100	effect cont2 min limit
EF$C2MAX	9	9	0..100	0..100	effect cont2 max limit
EF$1PRM1	10	10	0..???	???	effect1 param1
EF$1PRM2	Not in order	11	0..???	???	effect1 param2
EF$1PRM3	Not in order	12	0..???	???	effect1 param3
EF$1PRM4	Not in order	13	0..???	???	effecti param4
EF$1PRM5	Not in order	14	0..???	???	effecti param5
EF$1PRM6	Not in order	15	0..???	???	effecti param6
EF$1PRM7	Not in order	16	0..???	???	effecti param7
EF$1PRM8	21	17	0..???	???	effecti param8
EF$1LVL1	22	18	0..100	0..100	effecti levela
EF$1LVL2	23	19	0..100	0..100	effecti levelb
EF$2PRM1	24	20	0..???	???	effect2 param1
EF$2PRM2	Not in order	21	0..???	???	effect2 param2
EF$2PRM3	Not in order	22	0..???	???	effect2 param3
EF$2PRM4	Not in order	23	0..???	???	effect2 param4
EF$2PRM5	Not in order	24	0..???	???	effect2 param5
EF$2PRM6	Not in order	25	0..???	???	effect2 param6
EF$2PRM7	Not in order	26	0..???	???	effect2 param7
EF$2PRM8	35	27	0..???	???	cffect2 param8
EF$2LVL1	36	28	0..100	0..100	effect2 levela
EF$2LVL2	37	29	0..100	0..100	effect2 levelb
EF$MXLVL	38	30	0..100	0..100	effect mix level
EF$BAL1	39	31	0..100	0..100	effect balance out1
EF$BAL2	40	32	0..100	0..100	effect balance out2
EF$C1MIN	41	33	0..100	0..100	effect cont1 1 min limit
EF$C1MAX	42	34	0..100	0..100	effect conil max limit
EF$LFWAVE	43	35	0..6	tri..1tm	effect 1fo wave
EF$LFSPD	44	36	0..99	0..99	effect 1fo speed
EF$LFDLY	45	37	0..99	0..99	effect 1fo delay lime
EF$MXSND2	46	38	0..100	0..100	effect insert1b
EF$MXSND3	47	39	0..100	0..100	effect insert2a
EF$MXSND4	48	40	0..100	0..100	effect insert2b
MUL$NAME1	49	49	32..127	ASCII	song name top
MUL$NAME2	50	50	32..127	ASCII	song name top
MUL$NAME3	51	51	32..127	ASCII	song name top
MUL$NAME4	52	52	32..127	ASCII	song name top
MUL$NAME5	53	53	32..127	ASCII	song name top
MUL$NAME6	54	54	32..127	ASCII	song name top
MUL$NAME7	55	55	32..127	ASCII	song name top
MUL$NAME8	56	56	32..127	ASCII	song name bottom
MUL$TCH1	57	57	0..15	0..15	track 1 transmit ch
MUL$TCH2	58	58	0..15	0..15	track2 transmit ch
MUL$TCH3	59	59	0..15	0..15	track3 transmit ch
MUL$TCH4	60	60	0..15	0..15	track4 transmit ch
MUL$TCH5	61	61	0..15	0..15	track5 transmit ch
MUL$TCH6	62	62	0..15	0..15	track6 transmit ch
MUL$TCH7	63	63	0..15	0..15	track7 transmit ch

PARAMETER	BULK NUMBER	PARAM NUMBER	DATA RANGE	DISP	NOTES
MUL$TCH8	64	64	0..15	0..15	track8 transmit ch
MUL$TCH9	65	65	0..15	0..15	rhythm track transmit ch
MUL$SONG_BEAT	66		0..15	1..16	time signature1(Numerator)
MUL$SONG_TIME	67		2..4	4,8,16	time signature2(Denominator)
MUL$SONG_TEMPO	68,69		30..240	30..240	tempo

2.INST s=1..16(inst number)

PARAMETER	BULK NUMBER	PARAM NUMBER	DATA RANGE	DISP	NOTES
MULCHBNK	70,71	0	b0,1	1..4	inst mem bank
			b2,3	int/crd/(pre)	inst mem
			b4..b7	0..1	off/on for ind1..4
MULCHVNUM	72,73	1	b0..5	0..63	inst voice number
			b6	pfm/vce	inst v,p select
			b7	off,on	inst switch
MULCHVOL	74	2	0..127	0..127	inst volume
MULCHTUN	75	3	1..127	+-63	inst tune
MULCHNSFT	76	4	1..127	+-63	inst note shift
MULCHPAN	77	5	b0..b5	+-31	inst pan
			b6=0,1	multi,vce/pfm	inst pan source
MULCHEFSNDSW	78	6	b0..3	0..1	off/on for send1..4
			b4..5	0..1	off/on for out 1,2
			b6	0..1	off/on for vce send
MULCHEFSNDLVL	79	7	0..127	0..127	inst effect send
		80..89			
		90..99			
		100..109			
		110..119			
		120..129			
		130.. 139			
		140..149			
		150..159			
		160..169			
		170.. 179			
		180.. 189			
		190..199			
		200..209			
		210..219			
		220..229			

(2)MIDI Parameter Change table (Performance)

$F0,$43,$ln,$29,$01,sub_group,p_msb,p_lsb,v_msb,v_lsb,$F7

Note) n ; Device Number
s ; parameter sub_group number
p ; parameter number
v ; parameter value

1.COMMON s=0

PARAMETER	BULK NUMBER	PARAM NUMBER	DATA RANGE	DISP	NOTES
EF$RSV		0	0		reserve
EF$MODE	1	1	0..2	off,seri,para	effect mode
EF$1TYPE	2	2	0..90	0..90	effect1 type
EF$2TYPE	3	3	0..90	0..90	effect2 type
EF$C1PRM	4	4	0..31	off..InsLvl2b	effect cont1 parameter
EF$C1NUM	5	5	0..124	0..124	effect cont1 add con
EF$C2PRM	6	6	0..31	off.. InsLvl2b	effect cont2 parameter
EF$C2NUM	7	7	0..124	0..124	effect cont2 add con
EF$C2MIN	8	8	0..100	0..100	effect cont2 min limit
EF$C2MAX	9	9	0..100	0..100	effect cont2 max limit
EF$1PRM1	10	10	0..???	???	effect1 param1
EF$1PRM2	Not in order	11	0..???	???	effect1 param2
EF$1PRM3	Not in order	12	0..???	???	effect1 param3
EF$1PRM4	Not in order	13	0..???	???	effect1 param4
EF$1PRM5	Not in order	14	0..???	???	effect1 param5
EF$1PRM6	Not in order	15	0..???	???	effect1 param6
EF$1PRM7	Not in order	16	0..???	???	effect1 param7
EF$1PRM8	21	17	0..???	???	effect1 param8
EF$1LVL1	22	18	0..100	0..100	effectl levela
EF$1LVL2	23	19	0..100	0..100	effect1 levelb
EF$2PRM1	24	20	0..???	???	effect2 parami
EF$2PRM2	Not in order	21	0..???	???	effect2 param2
EF$2PRM3	Not in order	22	0..???	???	effect2 param3
EF$2PRM4	Not in order	23	0..???	???	effect2 param4
EF$2PRM5	Not in order	24	0..???	???	effect2 param5
EF$2PRM6	Not in order	25	0..???	???	effect2 param6
EF$2PRM7	Not in order	26	0..???	???	effect2 param7
EF$2PRM8	35	27	0..???	???	effect2 param8
EF$2LVL1	36	28	0..100	0..100	effect2 leve1a
EF$2LVL2	37	29	0..100	0..100	effect2 leve1b
EF$MXLVL	38	30	0..100	0..100	effect mix level
EF$BAL1	39	31	0..100	0..100	effect balance out1
EF$BAL2	40	32	0..100	0..100	effect balance out2
EF$C1MIN	41	33	0..100	0..100	effect cont1 min limit
EF$C1MAX	42	34	0..100	0..100	effect cont1 max limit
EF$LFWAVE	43	35	0..6	tri..1tm	effect 1fo wave
EF$LFSPD	44	36	0..99	0..99	effect 1fo speed
EF$LFDLY	45	37	0..99	0..99	effect 1fo delay time
EF$MXSND2	46	38	0..100	0..100	effect insert1b
EF$MXSND3	47	39	0..100	0..100	effect insert2a
EF$MXSND4	48	40	0..100	0..100	effect insert2b
PFM$NAME1	49	49	32.. 127	ASCII	performance name top
PFM$NAME2	50	50	32..127	ASCII	performance name top
PFM$NAME3	51	51	32..127	ASCII	performance name top
PFM$NAME4	52	52	32..127	ASCII	performance name top
PFM$NAME5	53	53	32..127	ASCII	performance name top
PFM$NAME6	54	54	32..127	ASCII	performance name top
PFM$NAME7	55	55	32..127	ASCII	performance name top
PFM$NAME8	56	56	32..127	ASCII	performance name bottom
PFM$RSV	57	57	0		reserve
PFMSRSV	58	58	0		reserve
PFM$VOL	59	59	0..127	0..127	perform total level

2.LAYER s=1..4(layer number)

PARAMETER	BULK NUMBER	PARAM NUMBER	DATA RANGE	DISP	NOTES
PFMLYVBNK	60,61	0	b0,b1	1..4	layer mem bank
			b2	0	reserved
			b3	int(card)/(pre)	layer mem
			b4..b7	0	reserved
PFMLYVNUM	62,63	1	0..62	0..62	layer voice number
			b7	off,on	layer switch
PFMLYVOL	64	2	0..127	0..127	layer volume
PFMLYDET	65	3	b0..b3	-7..+7	layer detune
			b4,5	off/on	cs enable prm1,2
PFMLYNSFT	66	4	1..127	-63..+63	layer note shift
PFMLYPAN	67	5	0..63	-31..+31	layer pan
PFMLYEFSNDSW	63	6	b0..3	off/on	off/on for send1..4
			b4..5	off/on	off/on for out 1,2
PFMLYEFSNDLVL	69	7	0..127	0..127	layer effect send
PFMLYEFSNDVEL	70,71	8	b0..b3	-7..+7	layer effect send vel sns.
			b4..b7	-7..+7	layer effect send scaling
PFMLYNLIML	72	9	0..127	C-2..G8	layer note limit lo
PFMLYNL1MH	73	10	0..127	C-2..G8	layer note limit hi
PFMLYVLIML	74	11	1..127	1..127	layer vel limit lo
PFMLYVLIMH	75	12	1..127	1..127	layer vel limit hi
PFMLYVAEGR1	76,77	13	0..255	-63..+63	layer AEG R1
PFMLYVAEGD1R	78,79	14	0..255	-63..+63	layer AEG D1R
PFMLYVAEGD2R	80,81	15	0..255	-63..+63	layer AEG D2R
PFMLYVAEGRR	82,83	16	0..255	-63..+63	layer AEG RR
PFMLYVAEGVEL	84,85	17	0..255	-14..+14	layer AEG vel sens.
PFMLYVFC	86,87	18	0..255	-127..+127	layer filter Fc
PFMLYVFVEL	88,89	19	0..255	-127..+127	layer filter vel sens.
PFMLYVFRES	90,91	20	0..255	-99..+99	layer filter resonance
PFMLYVLFSPD	92,93	21	0..255	-99..+99	layer LFO speed
PFMLYVLFDP	94,95	22	0..255	-99..+99	layer LFO depth
PFMLYVCTRL	96,97	23	b0,1,2	off,use a,b,c,d	layer AT use
			b3	off/on	layer AT->MW switch
			b4,5,6	off,use a,b,c,d	layer MW use
			b7	off/on	layer MW->AT switch
PFMLYVSW	98,99	24	b0,1,2	off,use a,b,c,d	layer FC use
			b3	0	reserve
			b4	off/on	layer peg switch
			b5	off/on	layer sustain switch
PFMLYFFIX	100,101	25	0..127	C-2..G8	fixed mode note#
			b7	normal/fix	freq. fix switch
reserve	102,103 104..147 148..191 192..235		0		reserve

(3)MIDI Parameter Change table (Normal Voice)

$F0,$43,$ln,$29,$02,$00,p_msb,p_lsb,v_msb,v_lsb,$F7

Note) n ; Device Number

p ; parameter number

v ; parameter value

PARAMETER	BULK NUMBER	PARAM NUMBER	DATA RANGE	DISP	NOTES
EF$RSV	0		0	0	reserve
EF$MODE	1	1	0..2	off,seri,para	effect mode
EF$1TYPE	2	2	0..90	0..90	effect1type
EF$2TYPE	3	3	0..90	0..90	effect2 type
EF$C1PRM	4	4	0..28	off..InsLv12b	effect cont1 parameter
EF$C1NUM	5	5	0..124	0..124	effect cont1 add con
EF$C2PRM	6	6	0..28	off..InsLv12b	effect cont2 parameter
EF$C2NUM	7	7	0..124	0..124	effect cont2 add con
EF$C2MIN	8	8	0..100	0..100	effect cont2 min limit
EF$C2MAX	9	9	0..100	0..100	effect cont2 max limit
EF$1PRM1	10	10	0..???	???	effect1 param1
EF$1PRM2	Not in order	11	0..???	???	effect1 param2
EF$1PRM3	Not in order	12	0..???	???	effect1 param3
EF$1PRM4	Not in order	13	0..???	???	effect1 param4
EF$1PRM5	Not in order	14	0..???	???	effect1 param5
EF$1PRM6	Not in order	15	0..???	???	effect1 param6
EF$1PRM7	Not in order	16	0..???	???	effect1 param7
EF$1PRM8	21	17	0..???	???	effect1 param8
EF$1LVL1	22	18	0..100	0..100	effect1 levela
EF$1LVL2	23	19	0..100	0..100	effectl levelb
EF$2PRM1	24	20	0..???	???	effect2 param1
EF$2PRM2	Not in order	21	0..???	???	effect2 param2
EF$2PRM3	Not in order	22	0..???	???	effect2 param3
EF$2PRM4	Not in order	23	0..???	???	effect2 param4
EF$2PRM5	Not in order	24	0..???	???	effect2 param5
EF$2PRM6	Not in order	25	0..???	???	effect2 param6
EF$2PRM7	Not in order	26	0..???	???	effect2 param7
EF$2PRM8	35	27	0..???	???	effect2 param8
EF$2LVL1	36	28	0..100	0..100	effect2 levela
EF$2LVL2	37	29	0..100	0..100	effect2 levelb
EF$MXLVL	38	30	0..100	0..100	effect mix level
EF$BAL1	39	31	0..100	0..100	effect balance out1
EF$RSV	40		0	0	effect balance out2
EF$C1M1N	41	33	0..100	0..100	effect cont1 min limit
EF$C1MAX	42	34	0..100	0..100	effect cont1 max limit
EF$LFWAVE	43	35	0..6	tri..1tm	effect 1fo wave
EF$LFSPD	44	36	0..99	0..99	effect 1fo speed
EF$LFDLY	45	37	0..99	0..99	effect 1fo delay time
RESERVE	46..48		0		reserve
VCE$NAME1	49	49	32..127	ASCII	voice name top
VCE$NAME2	50	50	32..127	ASCII	voice name top
VCE$NAME3	51	51	32..127	ASCII	voice name top
VCE$NAME4	52	52	32..127	ASCII	voice name top
VCE$NAME5	53	53	32..127	ASCII	voice name top
VCE$NAME6	54	54	32..127	ASCII	voice name top
VCE$NAME7	55	55	32..127	ASCII	voice name top
VCESNAME8	56	56	32..127	ASCII	voice name bottom
VCE$RSV	57		0	0	reserved
VCE$CARDID	58,59	58	0..16383		AWM_CARD ID#
VCE$MW_PMDRNG	60	60	0..127	0..127	mw pmod range
VCE$MW_AMDRNG	61	61	0..127	0..127	mw amod range
VCE$MW_FMDRNG	62	62	0..127	0..127	mw fmod range
VCE$MW_COFRNG	63,64	63	0..255	-127..+127	mw cutoff range
VCE$MW_EBSRNG	65,66	64	0..255	-127..+127	mw cgbias range
VCE$FC_PMDRNG	67	65	0..127	0..127	fc pmod range
VCE$FC_AMDRNG	68	66	0..127	0..127	fc amod range
VCE$FC_FMDRNG	69	67	0..127	0..127	fc fmod range
VCE$FC_COFRNG	70,71	68	0..255	-127..+127	fc cutoff range
VCE$FC_EBSRNG	72,73	69	0..255	-127..+127	fc egbias range
VCE$AT_PMDRNG	74	70	0..127	0..127	at pmod range
VCE$AT_AMDRNG	75	71	0..127	0..127	at amod range

PARAMETER	BULK NUMBER	PARAM NUMBER	DATA RANGE	DISP	NOTES
VCE$AT_FMDRNG	76	72	0..127	0..127	at fmod range
VCE$AT_COFRNG	77,78	73	0..255	-127..+127	at cutoff range
VCE$AT_EBSRNG	79,80	74	0..255	-127..+127	at egbias range
VCE$AT_PBSRNG	81,82	75	b0..b4	-12..+12	at pitch bend range
VCE$RSV	83,84		0		reserved
VCE$PB_RNG	85	77	b0..b3	0..12	pitch bend range
			b4,5		reserved
			b6	off/on	sustain enable
VCE$VOL_RNG	86	78	0..127	0..127	volume low limit
VCE$CS3_PRM	87	79	0..75	0..75	cs parameter1
VCE$CS3_PRMMIN	88	80	0..100	0..100	cs parameter1 min limit
VCE$CS3_PRMMAX	89	81	0..100	0..100	cs parameter1 max limit
VCE$CS4_PRM	90	82	0..75	0..75	cs parameter2
VCE$CS4_PRMMIN	91	83	0..100	0..100	cs parameter2 min limit
VCE$CS4_PRMMAX	92	84	0..100	0..100	cs parameter2 max limit
VCE$VOL	93	85	0..127	0..127	voice total level
VCE$EFSNDLVL	94	86	0..127	0..127	effect send level
VCE$WAVEBNK	95	87	b0,b1	P,C,I	wave data bank
			b2	off/on	reverse switch
VCE$WAVE	96,97	88	0..244	0..244	wave number
VCE$FFIX	98,99	89	0..255	freq. fix switch,	fix note#
VCE$FFIX	98,99	89	0..127	C-2..G8	fixed mode note#
			b7	normal/fix	freq. fix switch
VCE$FFINE	100	90	0..127	-63..+63	fine tune
VCE$PSENS	101	91	b0..b2	0	reserved
			b3	0	reserved
			b4..b6	0..7	random pitch depth
VCE$PEGR1	102	92	0..63	0..63	rate1
VCE$PEGR2	103	93	0..63	0..63	rate2
VCE$PEGR3	104	94	0..63	0..63	rate3
VCE$PEGRR1	105	95	0..63	0..63	release rate1
VCE$PEGL0	106	96	1..127	-63..+63	level0
VCE$PECL1	107	97	1..127	-63..+63	level1
VCE$PEGL2	108	98	1..127	-63..+63	level2
VCE$PEGL3	109	99	1..127	-63..+63	level3
VCE$PEGRL1	110	100	1..127	-63..+63	release levell
VCE$PEGRANGE	111	101	b0..3	-7..+7	rate scaling
			b4,b5	1/12,1/2,1,2	range
			b6	off/on	loop switch
VCE$PEGVELSNS	112,113	102	b0..b3	-7..+7	velocity sens.
			b4..b7	-7..+7	rate vel sens.
VCE$LFSHAPE	114		0..3	user,vb,tr,wow	type for qed
VCE$LFSPD	115	104	0..99	0..99	speed
VCE$LFDLY	116	105	0..99	0..99	delay time
VCE$LFPMOD	117	106	0..127	0..127	pmod depth
VCE$LFAMOD	118	107	0..127	0..127	amod depth
VCE$LFFMOD	119	108	0..127	0..127	fmod depth
VCE$LFWAVE	120	109	b0..2	tr..S/H	wave
VCE$LFPHS	121,122	110	0..180	0..180	phase
VCE$LFSSENS	123	111	b0..b3 -7..+7		1fo speed velocity sens.
				b4..b6 0..7	1fo speed random sens.
VCE$LFSSCL	124	112	b0..b3	-7..+7	1fo speed key scaling
VCE$AEGSHAPE	125		0..21		type for quick edit
VCE$AEGMODE	126	114	b0..b3	-7..+7	rate scaling
			b4	0	reserved
			b6	attack,hold	mode
VCE$AEGR1	127	115	0..63	0..63	ratel or hold time
VCE$AEGR2	128	116	0..63	0..63	rate2
VCE$AEGR3	129	117	0..63	0..63	rate3
VCE$AEGR4	130	118	0..63	0..63	rate4
VCE$AEGRR	131	119	0..63	0..63	release rate
VCE$AEGL2	132	120	0..63	0..63	level2
VCE$AEGL3	133	121	0..63	0..63	level3
VCE$ASBP1	134	122	0..124	C-2..G8	level scaling break point1
VCE$ASBP2	135	123	1..125	C-2..G8	level scaling break point2
VCE$ASBP3	136	124	2..126	C-2..G8	level scaling break point3
VCE$ASBP4	137	125	3..127	C-2..G8	level scaling break point4

PARAMETER	BULK NUMBER	PARAM NUMBER	DATA RANGE	DISP	NOTES
VCE$ASLVL1	138,139	126	1..255	-127..+127	level scaling level 1
VCE$ASLVL2	140,141	127	1..255	-127..+127	level scaling level2
VCE$ASLVL3	142,143	128	1..255	-127..+127	level scaling level3
VCE$ASLVL4	144,145	129	1..255	-127..+127	level scaling level4
VCE$AEGVELSNS	146,147	130	b0..b3	-7..+7	velocity sens.
			b4..b7	-7..+7	rate velocity sens.
VCE$FSHAPE	148		0..16	0..16	filter type for quick edit
VCE$FTYPE12	149	132	b0..b2	LPF..LPF12	filter type
			b3	depth,shift	velocity effect mode
			b4	**0**	reserved
			b5	0eg,1lfo	filter control source
			b6	0	reserved
VCE$FRES	150	133	0..99	0..99	resonance(21pf only)
VCE$FVSENS	151	134	0..127	-63..+63	on velsens
reserve	152		0	0	reserve
VCE$FVSENS_RATE	153	136	0..127	-63..+63	attack rate vel sens
RESERVE	154		0		reserved
VCE$FBAND	155	138	0..127	0..127	reserved for Fc Band Width
VCE$F1C	156	139	0..127	0..127	cutoff freq.
VCE$F1EGR1	157	140	0..63	0..63	rate1
VCE$F1EGR2	158	141	0..63	0..63	rate2
VCE$F1EGR3	159	142	0..63	0..63	rate3
VCE$F1EGR4	160	143	0..63	0..63	rate4
VCE$F1EGRR1	161	144	0..63	0..63	release rate1
VCE$F1EGRR2	162	145	0..63	0..63	release rate2
VCE$F1EGL0	163	146	0..127	-63..+63	level0
VCE$F1EGL1	164	147	0..127	-63..+63	level1
VCE$F1EGL2	165	148	0..127	-63..+63	level2
VCE$F1EGL3	166	149	0..127	-63..+63	level3
VCE$F1EGL4	167	150	0..127	-63..+63	level4
VCE$F1EGRL1	168	151	0..127	-63..+63	release level1
VCE$F1EGRL2	169	152	0..127	-63..+63	release level2
VCE$P1EGRS	170	153	b0..b3	-7..+7	rate scaling
VCE$F1SBP1	171	154	0..124	C-2..G8	coff scale break point1
VCE$F1SBP2	172	155	1..125	**C-2..G8**	coff scale break point2
VCE$F1SBP3	173	156	2..126	*C-2..GS.*	coff scale break point3
VCE$F1SBP4	174	157	3..127	C-2..G8	coff scale break point4
VCESF1SFC1	175,176	158	1..255	-127..+127	cutoff scaling freq1
VCE$F1SFC2	177,178	159	1..255	-127..+127	cutoff scaling freq2
VCE$F1SFC3	179,180	160	1..255	-127..+127	cutoff scaling freq3
VCE$F1SFC4	181,182	161	1..255	-127..+127	cutoff scaling freq4

(4)MIDI Parameter Change table (Drum Voice)

$F0,$43,$ln^29,$03,sub_gioup,p_msb,p_lsb,v_msb.v_lsb,$F7

Note) n ; Device Number
s ; parameter sub_group number
p ; parameter number
v ; parameter value

1.COMMON s=0

PARAMETER	BULK NUMBER	PARAM NUMBER	DATA RANGE	DISP	NOTES
EF$RSV	0		0	0	reserve
EF$MODE	1	1	0..2	off,seri,para	effect mode
EF$1TYPE	2	2	0..90	0..90	effect1 type
EF$2TYPE	3	3	0..90	0..90	effect2 type
EF$C1PRM	4	4	0..31	off..lnsLv12b	effect cont1 parameter
EF$C1NUM	5	5	0..124	0..124	effect cont1 add con
EF$C2PRM	6	6	0..31	off..lnsLv12b	effect cont2 parameter
EF$C2NUM	7	7	0..124	0..124	effect cont2 add con
EF$C2MIN	8	8	0..100	0..100	effect cont2 min limit
EF$C2MAX	9	9	0..100	0..100	effect cont2 max limit
EF$1PRM1	10	10	0..???	???	effecti param1
EF$1PRM2	Not in order	11	0..???	???	effecti param2

PARAMETER	BULK NUMBER	PARAM NUMBER	DATA RANGE	DISP	NOTES
EF$1PRM3	Not in order	12	0..???	???	effect1 param3
EF$1PRM4	Not in order	13	0..???	???	effect1 param4
EF$1PRM5	Not in order	14	0..???	???	effect1 param5
EF$1PRM6	Not in order	15	0..???	???	effect1 .param6
EF$1PRM7	Not in order	16	0..???	???	effect1 param7
EF$1PRM8	21	17	0..???	???	effect1 param8
EF$1LVL1	22	18	0..100	0..100	effect1 levela
EF$1LVL2	23	19	0..100	0..100	effect1 levelb
EF$2PRM1	24	20	0..???	???	effect2 param1
EF$2PRM2	Not in order	21	0..???	???	effect2 param2
EF$2PRM3	Not in order	22	0..???	???	effect2 param3
EF$2PRM4	Not in order	23	0..???	???	effect2 param4
EF$2PRM5	Not in order	24	0..???	???	effect2 param5
EF$2PRM6	Not in order	25	0..???	???	effect2 param6
EF$2PRM7	Not in order	26	0..???	???	effect2 param7
EF$2PRM8	35	27	0..???	???	effect2 param8
EF$2LVL1	36	28	0..100	0..100	effect2 levela
EF$2LVL2	37	29	0..100	0..100	effect2 levelb
EF$MXLVL	38	30	0..100	0..100	effect mix level
EF$BAL1	39	31	0..100	0..100	effect balance out1
EF$BAL2	40	32	0..100	0..100	effect balance out2
EF$C1MIN	41	33	0..100	0..100	effect cont1 min limit
EF$C1MAX	42	34	0..100	0..100	effect cont1 max limit
EF$LFWAVE	43	35	0..6	tri..1tm	effect 1fo wave
EF$LFSPD	44	36	0..99	0..99	effect 1fo speed
EF$LFDLY	45	37	0..99	0..99	effect 1fo delay time
EF$MXSND2	46	38	0..100	0..100	effect insert1b
EF$MXSND3	47	39	0..100	0..100	effect insert2a
EF$MXSND4	48	40	0..100	0..100	effect insert2b
DRM$NAME1	49	49	32..127	ASCII	drum name top
DRM$NAME2	50	50	32..127	ASCII	drum name top
DRM$NAME3	51	51	32..127	ASCII	drum name top
DRM$NAME4	52	52	32..127	ASCII	drum name top
DRM$NAME5	53	53	32..127	ASCII	drum name top
DRM$NAME6	54	54	32..127	ASCII	drum name top
DRM$NAME7	55	55	32..127	ASCII	drum name lop
DRM$NAME8	56	56	32..127	ASCII	drum name bottom
DRM$RSV	57		0..1		reserved
DRM$CARDID	58,59	58	0..16383		AWM_CARD ID#
DRM$VOLRNG	60	60	0..127	0..127	volume low limit
DRM$VOL	61	61	0..127	0..127	drum voice total level

2.KEY s=36..84(key number)

PARAMETER	BULK NUMBER	PARAM NUMBER	DATA RANGE	DISP	NOTES
DRMKEYWAVEBNK	62,63	0	bil0,1	pre,crd,int	wave mem bank
			b2	0	reverse
			b3	off,on	wave switch
			b4..b7		reserve
DRMKEYWAVE	64,65	1	0..244	0..244	wave number
DRMKEYVOL	66	2	0..127	0..127	volume
DRMKEYTUN	67	3	0..127	-63..+63	tune
DRMKEYNSFT	68	4	16..100	-48..+36	note shift
DRMKEYPAN	69	5	0..63	-31..+31	pan
DRMKEYEFSNDSW	70	6	b0..b3	off/on	send 1..4
			b4..b5	off/on	out 1,2
DRMKEYEFSEND	71	7	0..127	0..127	effect send
DRMKEYEFSNDVL	72	8	0..15	-7..+7	effect send vel
DRMKEYALTGRP	73	9	b0..b4	grp1..5	alternate group
			b5..b6	sh,nrm,1ng.v1ng	gatetime group
	74..85				

PARAMETER	BULK NUMBER	PARAM NUMBER	DATA RANGE	DISP	NOTES
	86..97 : 638..649				

(5)MIDI Parameter Change table (Setup)

$F0,$43,$1n,$29,$04,sub_group.p_msb,p_Isb,v_msb,v_lsb,$F7

Note) n ; Device Number
s ; parameter sub_group number
p ; parameter number
v ; parameter value

1.SYSTEM s=0

PARAMETER	BULK NUMBER	PARAM NUMBER	DATA RANGE	DISP	NOTES
SYS$MNSFT	0	0	1..127	-63..+63	master note shift
SYS$MTUNE	1	1	1..127	-63..+63	master fine tune
SYS$TXCH	2	2	0..15	1..16	keyboard transmit ch
SYS$BCH	3	3	0..16	1..16,omni	voice recieve ch
SYS$LOCAL	4	4	0..1	off/on	local switch
SYS$DEVNO	5	5	0..17	off,1..16,all	device number
SYS$PROT	6	6	0..1	off/on	bulk protect switch
SYS$PGMSW	7	7	0..3	off,nrm,dr,tbl	program change switch
SYS$VL_CTRL	8	8	0..121	0..120,at	volume ctrl dev. No.
SYS$CTRL_RST	9	9	0..1	off/on	controller reset
SYS$RSV	10		0		reserve
SYS$RSV	11		0		reserve
SYS$EFCT_BYPS	12	12	0..1	off/on	effect switch
SYS$MDR_INT	13	13	1..10	1..10	MDR interval time
SYS$RSV	14		0		reserve
SYS$RSV	15		1		reserve
SYS$RSV	16		0		reserve
SYS$RSV	17		0		reserve
SYS$RSV	18		0		reserve
SYS$RSV	19		0		reserve
SYS$RSV	20		0		reserve
SYS$FIX_VEL	21	21	0..127	off,1..127	play fix velocity
SYS$VELCRV_ON	22	22	0..7	0..7	keyon velocity curve
SYS$RSV	23		0		reserve
SYS$WF_SRAM	24		0..64	0..64	sram waveform&sample start number
SYS$RSV	25		0		reserve
SYS$WMEM_SEL	26		0..1	vol,non_vol	wave ram default select
SYS$RSV	27..31		0		reserve

2.SEQ s=1

PARAMETER	BULK NUMBER	PARAM NUMBER	DATA RANGE	DISP	NOTES
SEQ$F_CLICK	0		0..1	off,rec	click condition
SEQ$F_SYNC	1		0..1	int,midi	clock source
SEQ$REC_CH	2		0..17	1..16,omni,kbd	seq rec channel
SEQ$F_REC_AT	3		0..1	off,on	after touch rec sw
SEQ$F_REC_VEL	4		0		reserve
SEQ$SONG_NUM	5		0..9	1..10	song number
SEQ$REC_TYPE	6		0..3	over,repl,stcp	rec type
SEQ$MIDI	7		0..1	punch	midi control
SEQ$LOOP	8		0..1	off,on	song loop
SEQ$CHAIN	9		0..1	off,on	song chain
SEQ$RSV	10.. 15		0	off,on	reserve

3.RHYTHM s=2

PARAMETER	BULK NUMBER	PARAM NUMBER	DATA RANGE	DISP	NOTES
RY$PTN_SONG	16		0..1	song,pattem	rhythm mode
RY$REC_FLAG	17		0..1	real,step	rhythm rec type
RY$PTN_NUM	18,19		0..99	10..99	pattern number
RY$CLICK_VL	20		0..6	0..6	ptn rec click beat
RY$QUANTIZE	21		0..7	0..7	ptn rec quantize
RY$ACCENT_1	22		1..127	1..127	ptn rec acc1
RY$ACCENT_2	23		1..127	1..127	ptn rec acc2
RY$ACCENT_3	24		1..127	1..127	ptn rec acc3
RY$ACCENT_VEL	25,26		1..128	1..127,kbd.	ptn rec fix vel
RY$RSV	27..32		0	reserve	

(6)MIDI Parameter Change table (Program Change Table)

$F0,$43,$1n,$29,$05,sub_group,p_msb,p_lsb,v_msb,v_lsb,$F7

Note) n ; Device Number

s ; parameter sub_group number s=0..63(program number)

p ; parameter number

v ;parameter value

PARAMETER	BULK NUMBER	PARAM NUMBER	DATA RANGE	DISP	NOTES
PGM$BNKM	32	0	0..127	0..127	bank(00)
PGM$BNKL	33	1	0..127	0..127	bank(20)
PGM$NUM	34	2	0..127	0..127	number
		35..37			
		38..40			
		⋮			
		221..223			

Bulk dump is output successively after Synth Setup.

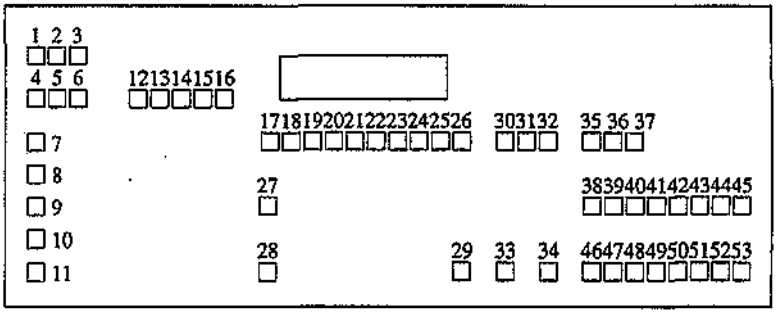
(7)MIDI Parameter Change table (Switch Remote)

$F0,$43,$10,$29,$06,$00,p_msb,p_lsb,v_msb,v_lsb,$F7

Note) s ; parameter sub_group number

v ; parameter value

data range: off($00~$3F),on($40~$7F)



ppppppp	SwNum	NOTES	ppppppp	SwNum	NOTES
0	SW1	[I<]	27	SW28	[EFFECT BYPASS]
1	SW2	[<<]	28	SW29	[ENTER]
2	SW3	[>>]	29	SW30	[<]
3	SW4	[REC]	30	SW31	[>]
4	SW5	[STOP]	31	SW32	[MENU]
5	SW6	[RUN]	32	SW33	[DEC]
6	SW7	[SUB1]	33	SW34	[INC]
7	8	[SUB2]	34	SW35	[INT1]
8	SW9	[SUB3]	35	SW36	[INT2]
9	SW10	[SUB4]	36	SW37	[CARD]
10	SW11	[SUB5]	37	SW38	[GRPA]
11	SW12	[PERFORMANCE]	38	SW39	[GRPB]
12	SW13	[VOICE]	39	SW40	[GRPC]
13	SW14	[SONG]	40	SW41	[GRPD]
14	SW15	[PATTERN]	41	SW42	[GRPE]
15	SW16	[UTILITY]	42	SW43	[GRPF]
16	SW17	[SHIFT]	43	SW44	[GRPG]
17	SW18	[PF1]	44	SW45	[GRPH]
18	SW19	[PF2]	45	SW46	[PGM1]
19	SW20	[PF3]	46	SW47	[PGM2]
20	SW21	[PF4]	47	SW48	[PGM3]
21	SW22	[PF5]	48	SW49	[PGM4]
22	SW23	[PF6]	49	SW50	[PGM5]
23	SW24	[PF7]	50	SW51	[PGM6]
24	SW25	[PF8]	51	SW52	[PGM7]
25	SW26	[EXIT]	52	SW53	[PGM8]
26	SW27	[STORE]	127	SWRST	RESET

<Appended table 2>

NSEQ Bulk Dump

NSEQ data is output after 1 byte data is converted to 2-byte ASCII data.

Data for one song consists of multiple track data which starts with F0 On (n=track number) and ends with F2. If a track is empty the track is not included.

hex	description
F0	top of record track #1
00	
--	
--	time/event/control data
--	
F2	end of record track #1
--	
--	track #2~#15 data
--	
F0	top of record track #16
0F	
--	
--	time/event/control data
--	
F2	end of record track #16

YAMAHA [Music Synthesizer——synthesizer part] Date: 11-MAY-l992
Model SY85 MIDI Implementation Chart Version : 1.0

Function . . .	Transmitted	Recognized	Remarks
Basic Default	1 - 16	1 - 16	memorized
Channel Changed	1 - 16	1 - 16	
Default	3	1,3	memorized
Mode Messages	x	x	
Altered	**********	x	
Note Number : True voice	28 - 103 **********	0 - 127 1 - 127	
Velocity Note ON	o 9nH,v=1-127	o v=1-127	
Note OFF	x 9nH,v=0	x	
After Key's	x	x	
Touch Ch's	o	o	
Pitch Bender	o	o 0-12 semi	7 bit resolution
0,32	o	o	Bank select
1	o M.Wheel	o	
Control 4	o Foot cont.	o	
7	o Foot volume	o	
Change 10	x	o *1	Pan
64	o Sustain sw.	o	Sustain
16 - 19	o CS	o	
1 - 120	x	o	Assignable
120	x	o	All Sounds off
121	x	o	Reset All Cont.
Prog Change : True #	o 0-63 **********	o 0-63	
System Exclusive	o *2	o *2	voice etc.
: Song Pos Common : Song Sel : Tune	See the sequencer part.		
System :Clock Real Time :Commands			
Aux :Local ON/OFF	x	x	
:A11 Notes OFF	x	o	
Mes- :Active Sense	o	o	
sages:Reset	x	x	

Note *1 ; effect to next key on notes
*2 ; transmit/receive if device No is not off.

Mode 1 : OMNI ON, POLY Mode 2 : OMNI ON, MONO o : Yes
Mode 3 : OMNI OFF, POLY Mode 4 : OMNI OFF, MONO x : No

YAMAHA [Music synthesizer——rhythm part] Date:11-MAY-1992
Model SY85 MIDI Implementation Chart Version : 1.0

Function . . .	Transmitted	Recognized	Remarks
Basic Default Channel Changed	1 - 16 1 - 16	1 - 16 1 - 16	memorized
Mode Default Messages Altered	x x **********	x x x	
Note Number : True voice	36 - 96 **********	36 - 96	
Velocity Note ON Note OFF	o 9nH,v=1-127 x 9nH,v=0	o v=1-127 *1 x	
After Key's Touch Ch's	x x	x x	
Pitch Bender	x	x	
Control Change	x	x	
Prog Change : True #	x **********	x	
System Exclusive	o *2	o *2	Song data etc.
System : Song Pos : Song Sel Common : Tune	x x x	o x x	except REC mode
System :Clock Real Time :Commands	o *4 o *4	o *3 o *4	
Aux :Local ON/OFF :All Notes OFF Mes- :Active Sense sages:Reset	x x o x	x x x x	

Notes: *1 = receive if accent velocity is kbd.
*2 = transmit/receive if deveice No is not off.
*3 = receive in MIDI sync mode.
*4 = transmit/receive if MIDI control is not off.

Mode 1 : OMNI ON, POLY Mode 2 : OMNI ON, MONO o : Yes
Mode 3 : OMNI OFF, POLY ' Mode 4 : OMNI OFF, MONO x : No

YAMAHA [Music synthesizer—-sequencer part] Date :11-MAY-1992
Model SY85 MIDI Implementation Chart Version : 1.0

Function . . .	Transmitted	Recognized	Remarks
Basic Default Channel Changed	1 - 16 1 - 16	1 - 16 1 - 16	memorized
Mode Default Messages Altered	x x **********	x x x	
Note Number : True voice	0 - 111 **********	0 - 111	
Velocity Note ON Note OFF	o 9nH,v=1-127 x 9nH,v=0	o v=1-127 *1 x	
After Key's Touch Ch's	x o	x o *2	
Pitch Bender	o	o	
0 - 120 Control Change	o	o	
Prog Change : True #	o 0 - 127 **********	o 0 - 127	
System Exclusive	o *3	o *3	Song data etc.
System : Song Pos : Song Sel Common : Tune	x x x	o x x	except REC mode
System :Clock Real Time :Commands	o *5 o *5	o *4 o *5	
Aux :Local ON/OFF :All Notes OFF Mes- :Active Sense sages:Reset	x x o x	x x x x	

Notes: *1 = receive if velocity switch is kbd.
*2 = receive if after touch switch is on.
*3 = transmit/receive if deveice No is not off.
*4 = receive in MIDI sync mode.
*5 = transmit/receive if MIDI control is not off.

Mode 1 : OMNI ON, POLY Mode 2 : OMNI ON, MONO o : Yes
Mode 3 : OMNI OFF, POLY Mode 4 : OMNI OFF, MONO x : No

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