

# Welcome to the QS300



*Congratulations and thank you for purchasing the Yamaha QS300 Music Production Synthesizer.*

*As its name indicates, the QS300 Music Production Synthesizer provides **all you need to create and perform fully orchestrated and professional-sounding music**. The QS300 features an **advanced tone generator**, plus a **comprehensive sequencer** for recording and editing your performances.*

*The tone generator of the QS300 provides 954 **high-quality Voices**, full **General MIDI** and new **XG-MIDI compatibility**, and three separate **digital effects** sections for processing the Voices. To ensure playback of even the most sophisticated song data, the QS300 also has **16-channel multi-timbral capacity** and full **32-note polyphony**. The comprehensive, yet easy-to-use **functions** let you subtly change and customize the Voices, or create completely new and unique Voices of your own.*

*The sequencer section features **16 tracks** for recording your own performances — either in real time or manually (by Step recording). **Punch-in recording** allows you to re-record any portion of an already recorded track. Sophisticated **editing functions** let you perform various transformations on the recorded data — such as transposing, quantizing, changing note length and velocity, copying, and much more.*

*More than just a performance recorder, the sequencer has flexible and convenient **automatic accompaniment** functions. These include special **Phrases** and **Patterns** that provide **complete backing band parts** (for example: drums/bass/guitar/keyboards/strings) in a wide variety of musical styles. Plus, these backing parts **change harmonically according to the chords you specify**. You can even create your own original Phrases to be used with the automatic accompaniment. All of this gives you the means to easily create complete and musically appropriate rhythmic/chordal accompaniment in a fraction of the time it would take if you recorded all the parts yourself.*

# Table of Contents

Precautions .....	4
How to Use This Manual .....	6
The QS300 — What It Is and What It Can Do .....	7
Panel Controls and Terminals .....	10

## GUIDED TOUR

Setting Up .....	16
Playing the Demo Song .....	18
Auto Load .....	19
Selecting and Playing Voices .....	20
Changing the Voice Bank .....	21
Quick Selection of Voice Variations in Different Banks — Variation Voice Auto-Search .....	22
Editing a Voice .....	23
Changing the Amount of Reverb .....	23
Changing the Amount of Chorus .....	24
Selecting a Variation Effect .....	25
Setting the Pitch Bend .....	26
■ Comparing the Edited Voice with the Original .....	27
Changing the Envelope Generator Setting .....	28
Naming and Storing the New Voice .....	30
Recording a Song .....	32
Enter the Song Mode and Select an Empty Song .....	32
Record the Accompaniment Patterns .....	33
Record the Accompaniment Chords .....	36
Record Your Own Keyboard Performance .....	38
Naming and Saving the New Song .....	39
Other Sequencer Features .....	40

## REFERENCE

### Voice Edit Mode

43

#### Voice Common

Overall Parameters .....	44
Controller Parameters .....	46
Variation Effect Parameters .....	47

#### Voice Element

Wave Parameters .....	48
Wave Parameters Element Copy .....	50
Amplitude Parameters .....	51
Filter EG Parameters .....	53
Pitch EG Parameters .....	54
Graphic EG Edit Parameters — Amp, Filter and Pitch .....	55
Template Copy — Amp, Filter and Pitch .....	57
Tuning Parameters .....	58
LFO Parameters .....	59

#### Other Voice Functions

Drum Set .....	60
Voice Name .....	63
Voice Store .....	63
Voice Compare .....	64
Voice Job — Edit Recall .....	64

### Song Mode

65

Loading a Song .....	66
Song Playback .....	
Loop Playback .....	67

Transport/Location Controls .....	67
Measure/Beat Parameter .....	68
Mark/Jump Function .....	68
Tempo .....	69
Mute .....	69
Play Effect Bypass .....	70

## Multi Controls

Storing the Multi Control Parameter Values .....	72
--	----

### MIXER Pages

Volume .....	73
Voice .....	74
Search .....	75

### EFFECT Pages

Send .....	76
Type .....	77
Effect Parameters .....	79

### INSTRUMENT Pages

Tuning/Filter .....	82
Mode/Velocity .....	83
EG Time .....	84
Vibrato .....	85

## Controller Edit

Portamento .....	86
Real-time Controllers: MODULATION Wheel / PITCH Wheel / After Touch / Foot Controller .....	87

## Song Playback Effects

Per Track .....	89
Quantize .....	90
Swing .....	91
Transpose/Clock Shift .....	92
Gate Time/Velocity .....	93

## Other Song Functions

Track Transmit Channel .....	94
Song Chain .....	95

### Song Mode: Recording Operations

97

Realtime Recording .....	98
Punch-in Recording .....	99
All-track Recording (Realtime and Punch-in) .....	100
Step Recording .....	101
■ Measure/Beat/Clock Display .....	102
■ The Note and Keyboard Displays .....	103
■ Step Mode Function Keys .....	103

### Pattern Mode

105

About Phrases, Sections, Patterns and Styles .....	106
Selecting and Playing Patterns .....	107
Changing Chords .....	108
■ Specifying the Bass Note For a Chord .....	109
■ Specifying the Bass Phrase Chord Type (Harmonization) .....	109

## Multi Controls

### MIXER Pages

Volume .....	110
Voice .....	111
Search .....	111

### EFFECT Page

Send .....	112
------------	-----

<b>Pattern Playback Effects</b>	
Per Track	113
Quantize	114
Swing	115
Transpose/Clock Shift	116
Gate Time/Velocity	116
<b>Other Pattern Functions</b>	
Track Transmit Channel	117
Track Mute	118
<b>Accompaniment Recording</b>	<b>119</b>
Realtime Accompaniment Recording	120
Step Accompaniment Recording	122
■ Pattern Entry	123
■ Chord Entry	124
<b>Phrase Mode</b>	<b>125</b>
Selecting and Playing Phrases	126
Combining Phrases (in the Pattern Mode)	127
■ Other Functions	128
Recording Original Phrases	129
Realtime Phrase Recording	129
■ Retrigger and Type Parameters	131
Step Phrase Recording	132
■ Measure/Beat/Clock Display	133
■ The Note and Keyboard Displays	134
■ Step Mode Function Keys	134
<b>Disk Operations</b>	<b>135</b>
<b>Direct Load and Save Operations</b>	
Load Operation	136
Save Operation	137
<b>Song Jobs</b>	<b>139</b>
00: Undo/Redo	140
01: Quantize	141
02: Modify Velocity	143
03: Modify Gate Time	144
04: Crescendo	145
05: Transpose	146
06: Shift Note	147
07: Shift Clock	148
08: Chord Sort	149
09: Copy Event	150
10: Erase Event	151
11: Extract Event	152
12: Thin Out	153
13: Create Measure	154
14: Delete Measure	155
15: Copy Track	156
16: Mix Track	157
17: Clear Track	158
18: Expand Backing	158
19: Init (Initialize) Play Effect	159
20: Normalize Effect	159
21: Copy Song	160
22: Clear Song	160
23: Song Name	161

<b>Pattern Jobs</b>	<b>163</b>
00: Undo/Redo	164
01: Copy Pattern	165
02: Append Pattern	166
03: Split Pattern	167
04: Init (Initialize) Play Effect	168
05: Clear Pattern	168
06: Style Name	168
<b>Phrase Jobs</b>	<b>169</b>
00: Undo/Redo	170
01: Quantize	171
02: Modify Velocity	171
03: Modify Gate Time	171
04: Crescendo	172
05: Transpose	172
06: Shift Note	172
07: Shift Clock	173
08: Copy Phrase	173
09: Append Phrase	174
10: Split Phrase	174
11: Get Phrase	175
12: Put Phrase	176
13: Clear Phrase	177
14: Phrase Name	177
<b>Editing Songs and Phrases</b>	<b>179</b>
Edit Change Mode	180
■ Other Functions	183
Edit Insert Mode	184
■ Editing Tempo Track	186
<b>Utility Mode</b>	<b>187</b>
Synthesizer Setup	188
MIDI Setup	190
MIDI Input Filter	191
Sequencer Setup	192
Fingered Chord Zone	193
Others Setup	194
<b>Disk Mode</b>	<b>195</b>
Save Operation	197
Load Operation	198
Delete Operation	200
Rename Operation	201
Format Operation	202
<b>Appendix</b>	<b>203</b>
Troubleshooting	204
Warning and Error Messages	206
Specifications	208
Index	209

# Precautions (PLEASE READ THIS BEFORE PROCEEDING!!)

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## ■ Location

Keep the instrument away from locations where it is likely to be exposed to high temperatures (such as direct sunlight) or humidity. Also avoid locations which are subject to excessive dust accumulation or vibration which could cause mechanical damage.

## ■ Power Supply

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 adaptors since these can result in reduced sound quality and possibly damage.

## ■ MAKE SURE POWER IS OFF WHEN MAKING OR REMOVING CONNECTIONS

To prevent damage to the instrument and other connected equipment, always turn off the power prior to connecting or disconnecting cables. Also, turn the power off when the instrument is not in use, and disconnect the power cord during electric storms.

## ■ MIDI CABLES

When connecting the QS300 to other MIDI equipment, be sure to use only high-quality cables made especially for MIDI data transmission. Also, avoid using cables longer than 15 meters, since long cables can result in data errors.

## ■ HANDLE THE INSTRUMENT WITH CARE

Although the instrument has been constructed to withstand the rigors of normal use for optimum sturdiness and reliability, avoid subjecting it to strong physical shocks (such as dropping or hitting it). Since the QS300 is a precision-made electronic device, also avoid applying excessive force to the various controls. When moving the instrument, first unplug the power adaptor and all other cables to prevent damage to cords and jacks. Always unplug cables by gripping the plug firmly, not by pulling on the cable.

## ■ CLEAN WITH A SOFT, DRY CLOTH

Never use solvents such as benzene or thinner to clean the instrument, since these will damage the cabinet finish or dull the keys. Wipe clean with a soft, dry cloth. If necessary, use a soft, clean, slightly moistened cloth — making sure to wipe the case off again with a dry cloth.

## ■ ELECTROMAGNETIC INTERFERENCE

Avoid using the unit near televisions, radios or other equipment generating electromagnetic fields. Proximity to such equipment may cause the unit to malfunction, and may generate interference noise in the other appliance as well.

## ■ Data Backup

The QS300 contains a special long-life battery that retains the contents of its internal memory (User Voice data and System data) even when the power is turned OFF. The backup battery should last for several years. When the backup battery needs to be replaced “Battery Low” 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 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 or 2HD floppy disks. (2HD disks having 2DD format cannot be used.)
- 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, a car interior, etc.).
- 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.
- Do not attempt to eject a disk while the disk-in-use indicator is lit.

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.

**■ DO NOT OPEN THE CASE OR TRY REPAIRING THE INSTRUMENT YOURSELF**

The instrument contains no user-serviceable parts. Never open the case or tamper with the internal circuitry in any way, since doing so may result in damage to the instrument. Refer all servicing to qualified Yamaha service personnel.

## ■ Third-party Software

Yamaha cannot 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.**

# How to Use This Manual

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You are probably eager to try out your new QS300 Music Production Synthesizer right away and hear what it can do, rather than have to read through a lot of instructions before you can even get a sound out of it.

However, to get the most out of your QS300, we strongly suggest that you read the following sections in the order given:

## 1) Precautions

This gives you important information on how to care for your new QS300, how to avoid damaging, and how to ensure long-term, reliable operation.

## 2) The QS300 — What It Is and What It Can Do

This briefly provides an overview of the functions and features of the QS300 and offers some important hints on how you can use it effectively.

## 3) Panel Controls and Terminals

This section introduces you to the panel controls and terminals, and reading through it is a good way to familiarize yourself with some of the basic operations.

## 4) Tutorial

This very important section gets you started using your new QS300. It helps you set up the QS300, play it, and use some of the fundamental functions and features. The hands-on experience you gain in this section will help you navigate easily through more advanced sections of the manual later.

## 5) Reference

Once you're familiar with everything above, skim through this comprehensive guide to all editing functions. You won't need (or want) to read everything at once, but it is there for you to refer to when you need information about a certain feature or function.

## 6) Appendix

Use the sections in the Appendix as necessary. For example, the **Index** will come in handy when you need to quickly find information on a specific topic. Other sections, such as **Troubleshooting** and **Error Messages** provide additional useful information.

## 7) Sound Lists and MIDI Data Supplement

Finally, this separate supplement provides complete lists of the available Voices, Effects and Effect parameters, as well as detailed information concerning MIDI data.





## ■ Automatic Accompaniment

What sets the QS300's sequencer apart is its versatile automatic accompaniment functions, which give you complete backing band parts in a wide variety of musical styles (page 33). Plus, these backing parts change harmonically according to the chords you specify. You can even create your own original parts to be used with the automatic accompaniment. This means you can create complete rhythmic/chordal accompaniment for your song more quickly and easily than ever before.

## ■ Comprehensive Compatibility and Playback Controls

Thanks to full compatibility with the General MIDI and new XG-MIDI formats, the QS300 ensures high-quality playback and reproduction of virtually any song data. And the QS300 provides extensive playback-only controls (page 89), allowing you to change various aspects of how the song data is played back, including quantization, transposition/tuning, gate time, and velocity response.

## ■ Editing Recorded Data

The QS300 also features comprehensive and flexible editing controls that make it easy to correct mistakes or change recorded tracks, and generally help you to refine your sound. These controls let you individually modify the timing, pitch (note), gate time (length) and velocity (loudness) of each recorded note. They also allow you to change the data values of other recorded events, such as pitch bend, program change and after touch. A special Edit Insert mode lets you insert specific note, pitch bend, program change, control change, after touch, or exclusive events at any point in the recorded data. (See page 179.)

## ■ Disk Operations and Utility Mode

The QS300 has a built-in floppy disk drive that provides easy storage and retrieval of all data. It also facilitates data management, allowing you to create a well-organized personal floppy disk data library. (See page 195.)

The Utility mode includes a number of functions that are important for general operation. These functions include MIDI data handling, interfacing with external equipment, global sequencer settings and controls, ABC system operation, and more. (See page 187.)



## What It Can Do

Here are a few ideas on how you can use the QS300. This section is not comprehensive, but gives you a good general guide to the overall possibilities and provides a starting point or springboard for your own creative ideas and explorations.

### ■ Live Performance — Including Solo Gigs

The huge number of high-quality Voices and professional-level effects makes the QS300 a perfect keyboard for live performance. Add the 16-track sequencer and the sophisticated automatic accompaniment, and you've got a single, easy-to-use instrument that can take the place of an entire band! Moreover, the GM and XG compatibility let you take advantage of the vast library of song files on the market, allowing you to cover virtually any tune in any style of music.

## ■ Home Studio

For an all-in-one music production instrument, the QS300 also has amazing depth. The comprehensive editing controls, MIDI implementation, 16-part multitimbral capacity — and, of course, the stunning Voices and effects — make the QS300 an ideal centerpiece for the recording or project studio.

## ■ All-in-one Practice Instrument

The automatic accompaniment features of the QS300 give you authentic sounding rhythm, bass and chordal backing in a wide variety of musical styles — which are perfect for practicing and playing along with. Use material from the vast library of GM- and XG-compatible song data, or create your own songs — then, play the keyboard while the songs play back. Compared to a metronome, it's a much more exciting and effective way of practicing.

## ■ Composing & Arranging Tool

The accompaniment features can also be used to quickly and easily flesh out your own musical ideas. With the wealth of chords, Phrases and Patterns — and the comprehensive Song and Phrase editing functions — the QS300 makes it exceptionally easy to instantly turn your inspirations into complete compositions. Plus, the quality of the sounds and the authentic backing let you create polished versions of your ideas to others.

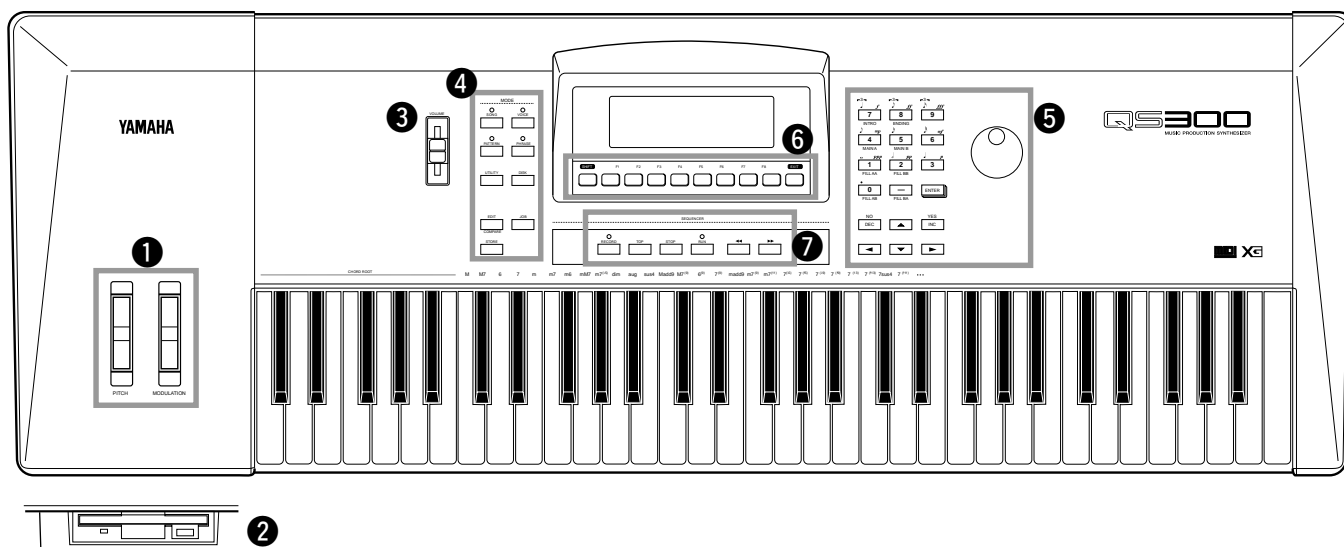
## ■ Multimedia Sound & Music Creation

With the explosive growth in multimedia software and applications, the QS300 serves as a handy computer sound and music tool, as well. Since it's fully compatible with the GM and new XG formats, song data that you create on the QS300 can be used with any GM-compatible application. And there's even a special SFX Bank of sound effect Voices to add sonic realism and power to your next multimedia presentation.

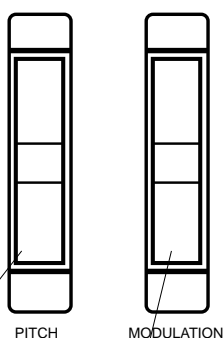
## Panel Controls and Terminals

The QS300 is exceptionally easy to use and features a simple, consistent and highly intuitive control interface. Even so, we recommend that you take the time to look through this section and familiarize yourself with the controls and terminals of the instrument.

### Front Panel



## 1 PITCH and MODULATION Wheels .....



● **PITCH Wheel**

For continuously raising or lowering the pitch of a Voice.

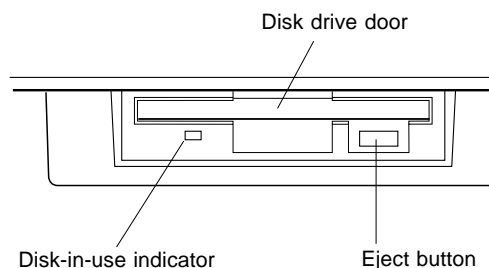
## ● MODULATION Wheel

For continuously changing the amount of modulation in a Voice.  
(The actual modulation effect depends on the Voice's settings; see page 46.)

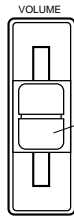
## ② Floppy Disk Drive .....

This is used for storing important data to a floppy disk.

(For more information, refer to the section “Handle Floppy Disks and the Disk Drive with Care” in the Precaution on Page 5, and the Disk Mode Section on Page 195.)



### ③ VOLUME Slider .....

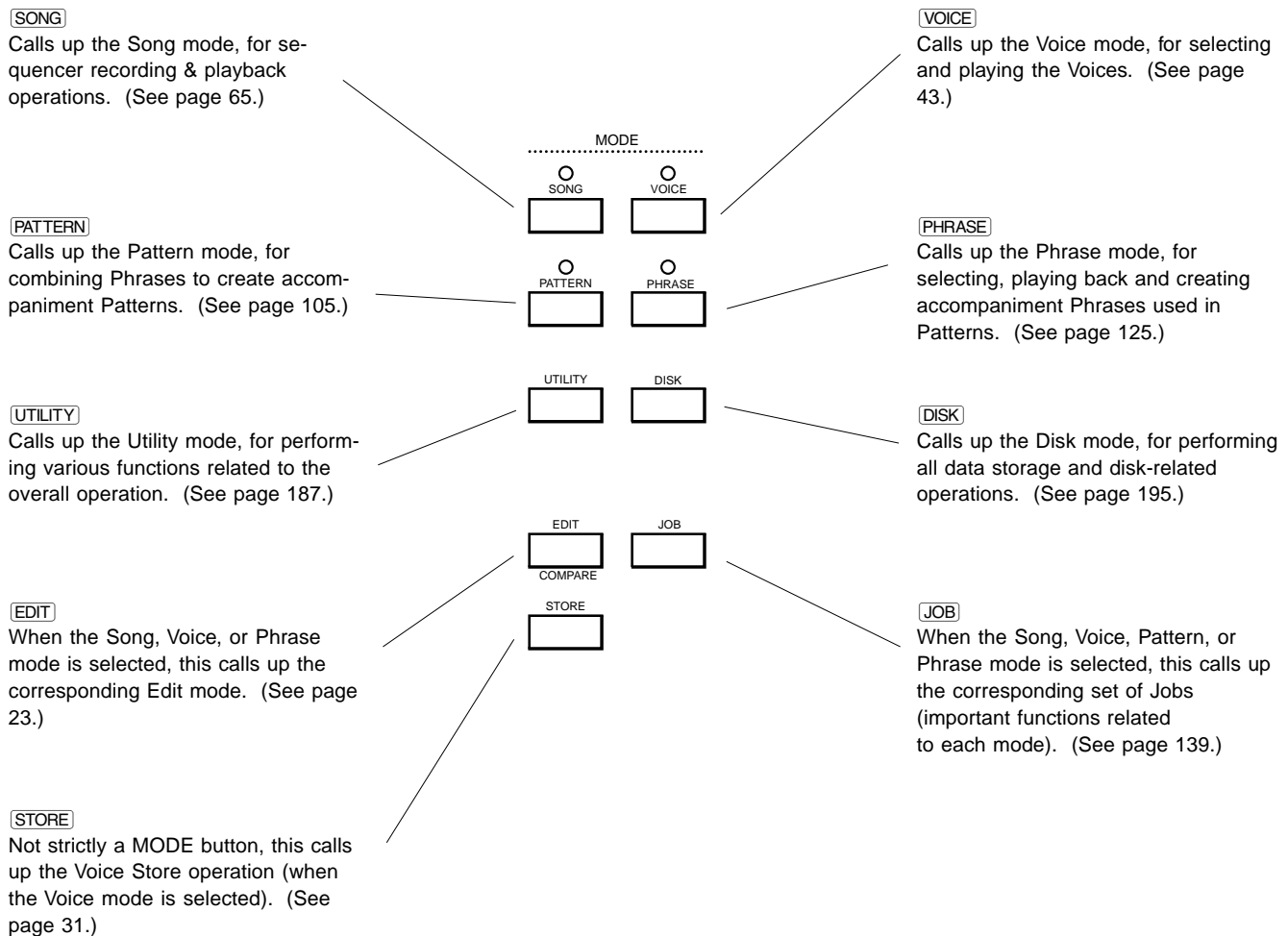


- **VOLUME Slider**

For adjusting the volume of the sound output (in both the OUTPUT and PHONES jacks).

## 4 MODE Buttons .....

These buttons call up the main operating modes of the QS300. When the Song, Voice, Pattern, or Phrase mode is selected, the lamp of the corresponding button lights.



- **Numeric Keypad**
- **ENTER Button**
- **Rotary Dial**
- **DEC/INC Buttons**
- **Cursor Buttons**

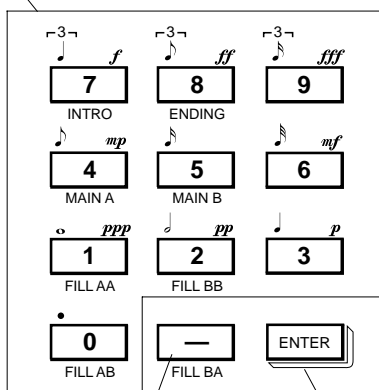
## ⑤ Data Entry Controls: .....

These controls are used to move the cursor (highlight) in the display and change or set values (e.g., Voice numbers, parameter settings, etc.).

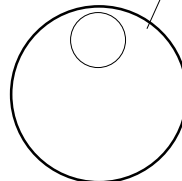
The numeric keypad is generally used for typing in specific values. The **ENTER** button is used to actually enter values, and execute certain functions and operations. The rotary dial lets you quickly increment or decrement values, and is especially handy for covering large value ranges. The **DEC/INC** buttons respectively decrement or increment values. The cursor buttons move the cursor (highlight) around in the display, letting you select available parameters for editing.

The keypad can also be used (in certain editing and recording operations) to enter specific note lengths and dynamic (velocity) values, as indicated above each button. (See page 102.)

In addition, some of the keypad buttons can be used to change Pattern “sections” (Intro, Fills, Ending, etc.) in Pattern playback and Song recording. (See page 102.)



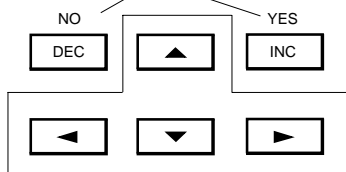
The rotary dial is used for incrementing/decrementing values. It is handy for quickly scrolling through a large range of values.



The minus button is for entering negative values.  
(Press before or after typing a value on the keypad.)

The **ENTER** button is used to actually enter a specified value. It is also used to execute certain functions.

The **DEC/INC** buttons are used to decrement or increment through values. Hold either button down to continuously move through values.



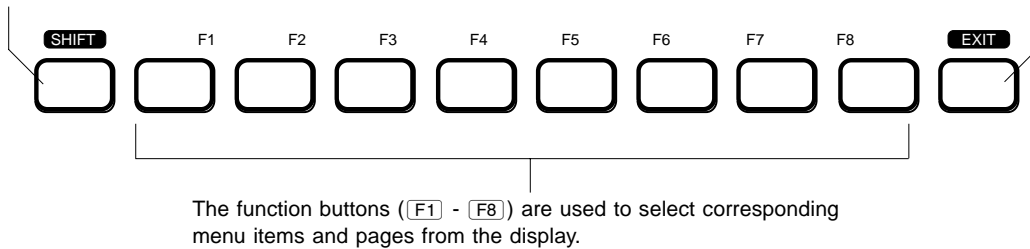
The cursor buttons are used to move the cursor or highlight around in the display.

**6** **SHIFT** Button / Function Buttons ( **F1** - **F8** ) / **EXIT** Button .....

The **SHIFT** button is used with some buttons (in certain situations) to access some secondary or alternate functions. The function buttons — **F1** through **F8** — are special “soft” keys that change in function depending on the current display. They select the corresponding menu items that appear directly above them in the display. The **EXIT** button allows you to return to the previously selected display page, or to “escape” from a particular operation or function.

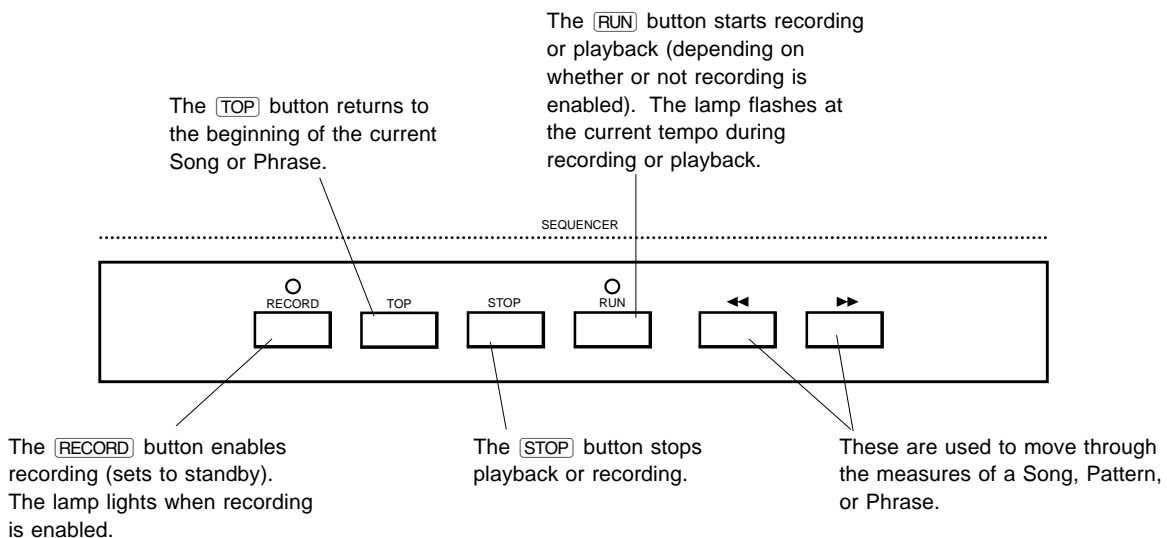
The **SHIFT** button is used to access certain secondary functions.

The **EXIT** button allows you to return to the previous display page, or leave a particular function.

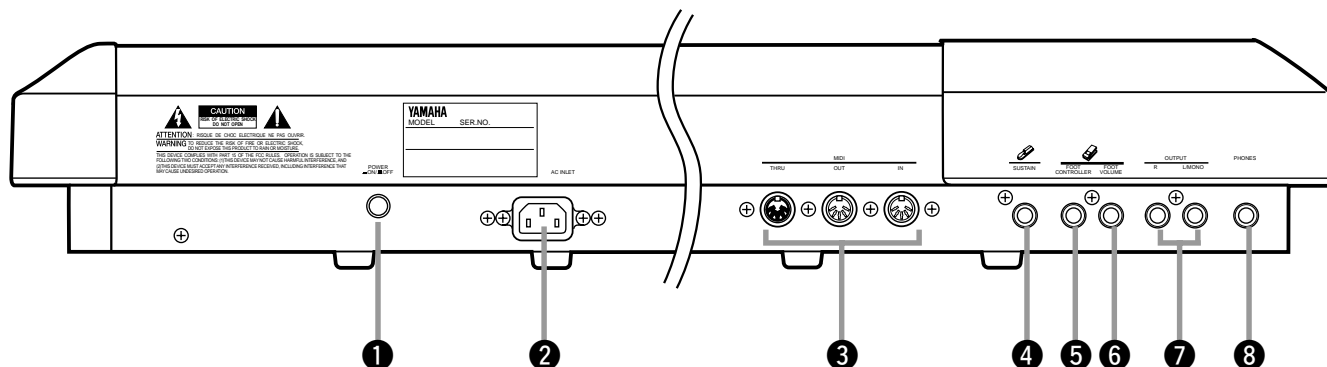


## 7 Sequencer Controls .....

These are used to control recording and playback, as well as perform certain location functions, in the Song, Pattern, and Phrase modes.



## Rear Panel



### ① POWER Switch .....

Push this in to turn the power on, and push again to turn it off.

### ② AC INLET .....

Plug one end of the included power cable to this terminal and the other end to an appropriate AC electrical outlet.

### ③ MIDI IN/OUT/THRU Terminals .....

For connection to other MIDI devices, such as a MIDI keyboard, tone generator, sequencer, or to a computer (with MIDI interface). MIDI IN is for input of MIDI data. MIDI OUT is for output of MIDI data; connect this to the MIDI IN of another device, when you want to control/play/record to that device from the QS300. MIDI THRU is for “daisy-chain” connections of additional QS300s or other MIDI instruments.

### ④ SUSTAIN Jack .....

For connecting a pedal switch (such as the optional Yamaha FC4 or FC5). When connected, the switch controls sustain on/off.

### ⑤ FOOT CONTROLLER Jack .....

For connecting a foot controller (such as the optional Yamaha FC7). When connected, the foot controller can be used to continuously change various functions and aspects of the sound, depending on settings made in the Voice and Song modes. (See pages 46 and 87.)

### ⑥ FOOT VOLUME Jack .....

For connecting a foot controller (such as the optional Yamaha FC7). When connected, the foot controller is used to continuously change the overall volume of the instrument.

### ⑦ OUTPUT (L/MONO, R) Jacks .....

For mono or stereo output. Connect these to the inputs of a mixer or amplifier. When only the L/MONO jack is connected, a mono mix of the stereo signal is output through the jack.

**CAUTION** To avoid possible damage to your equipment (and ears!), make sure that both the QS300 and your sound system are turned off when making connections.

### ⑧ PHONES Jack .....

For connection to a set of stereo headphones. Connecting headphones to this jack does not cancel the output through the OUTPUT jacks.

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[illegible]

# Setting Up

Here, you'll learn how to set up the QS300 — either by itself or as part of your current system. We strongly recommend that you follow the instructions to the letter to avoid damaging any of your equipment.

## What You'll Need

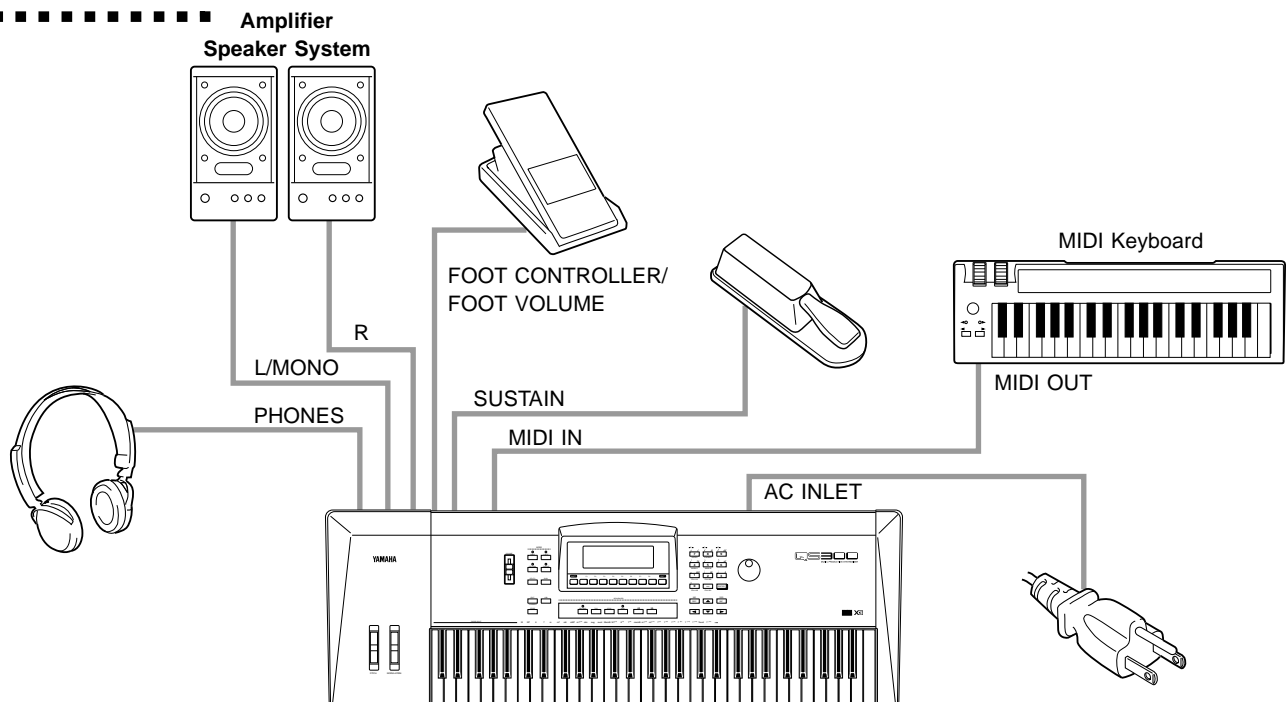
- The QS300 and the included power cord.
- An amplifier/speaker system, preferably stereo. Alternately, you can use a set of stereo headphones.
- Audio connecting cables.

## Making the Connections

### ● Operation.....

1. Connect the audio cables from the R and L/MONO OUTPUT jacks of the QS300 to the appropriate inputs on the amplifier speaker system (as shown in the illustration below).

**CAUTION!** Before making any connections, make sure that all equipment to be connected is turned off, and that the QS300 power cord is not connected to an electrical outlet.



If the amplifier has only one input, use the L/MONO jack on the QS300. If you are using stereo headphones, connect them to the rear panel PHONES jack.

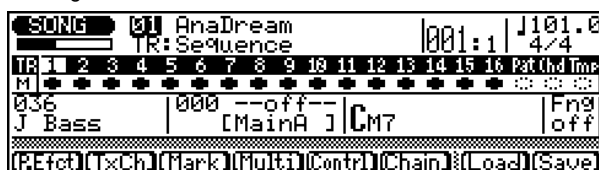
2. Connect the power cord to the AC INLET terminal on the QS300 and plug the other end of the cord into an appropriate electrical outlet.
3. Make sure that all volume controls (on the QS300 and the connected amplifier) are turned down. Then, turn on the power of the QS300.

After the greeting display, one of the following displays will appear (depending on the mode last selected):

● Voice mode:



● Song mode:



● Pattern mode:



● Phrase mode:



4. Finally, set the volume control on the QS300 to roughly the 3/4 position, set the volume on the amplifier to a suitable level, and then turn on the amplifier.

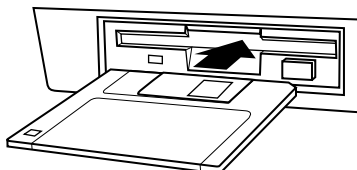
**CAUTION!** To avoid possible damage to your amplifier/speaker system, use this simple rule of thumb: The amplifier is the **last** thing you should turn on and the first thing you should turn **off**.

## Playing the Demo Song

Now that you've set everything up properly, try playing the built-in Demo Song. This showcases the high-quality Voices and the AWM2 tone generation system of the QS300.

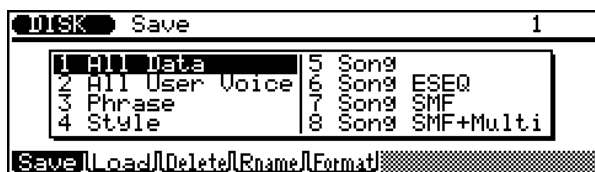
● **Operation**.....

- 1. Insert the included Demo Disk into the disk drive.**



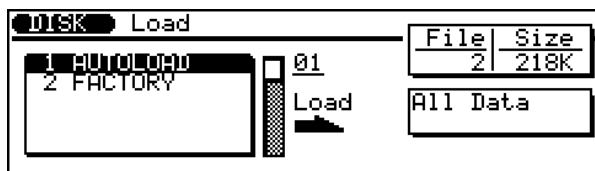
- 2. Press the  button.**

The following display is shown:

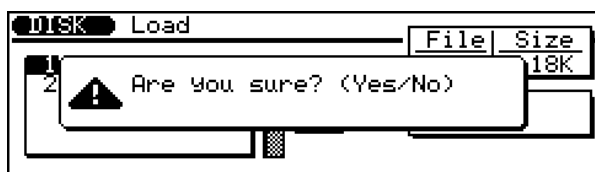


- 3. Select Load by pressing F2.**

- 4.** Select “1 All Data” with the cursor buttons or the rotary dial and press .



- 5.** Press **ENTER** again and answer the prompt below by using the **DEC** (No) and **INC** (Yes) buttons.



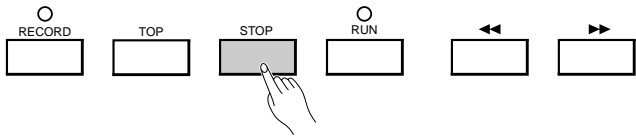
**NOTE:** During Demo Song playback, no panel controls (with the exception of the **EXIT** button and the **VOLUME** control) can be used.

**NOTE:** If you wish to playback all Demo Songs continuously, use the Song Chain function by pressing **F6** (Chain). (See page 95 for details.)

- 6. Press the **SONG** button to return to the Song mode.
- 7. Select the desired Demo Song number (highlight the Song number and change the value), then press the **RUN** button to start playback of the selected Song.

The Demo Song starts playing immediately and repeats indefinitely until stopped (in step 8 below).

- 8. To stop playback of the song, press the **STOP** button.



To return to the Voice Play mode, press the **VOICE** button.

Auto Load

The Auto Load function automatically loads the contents of a floppy disk to internal memory when the power is turned on.

**To use Auto Load:**.....  
With the power off, insert an appropriate disk into the disk drive, then turn on the power of the QS300.

CAUTION:

- Do not attempt to eject the disk or otherwise interrupt the Auto Load operation while it is in progress.
- Any User Voices contained in memory will be erased by the Auto Load operation. Make sure that any necessary User Voices have been properly saved to disk before using Auto Load.

An “Auto Loading...” message appears in the display, along with a moving bar graph that indicates the progress of the operation.

## Selecting and Playing Voices

The QS300 features a total of 954 high-quality Voices, created by the AWM2 (Advanced Wave Memory 2) tone generation system.

- 1. Press the **VOICE** button.**  
This calls up the normal Voice display.
- 2. Use the rotary dial, **DEC**/**INC** buttons or numeric keypad to select the desired Voice.**

Indicates the category or general type of Voice. (Here, "Pf" means Pianoforte or Piano category.)

Program number



## Quick Program Change

You can use the Quick Program Change function to quickly select program numbers within a group of ten from the numeric keypad.



**To do this:** .....

- 1.** Press **VOICE** from the Voice Play mode, so that the Quick Program Change indication below appears.



- 2.** Press the button on the numeric keypad corresponding to the last digit of the program you wish to select.

For example, from the condition above, pressing  -  directly selects Voices 030 - 039, respectively.

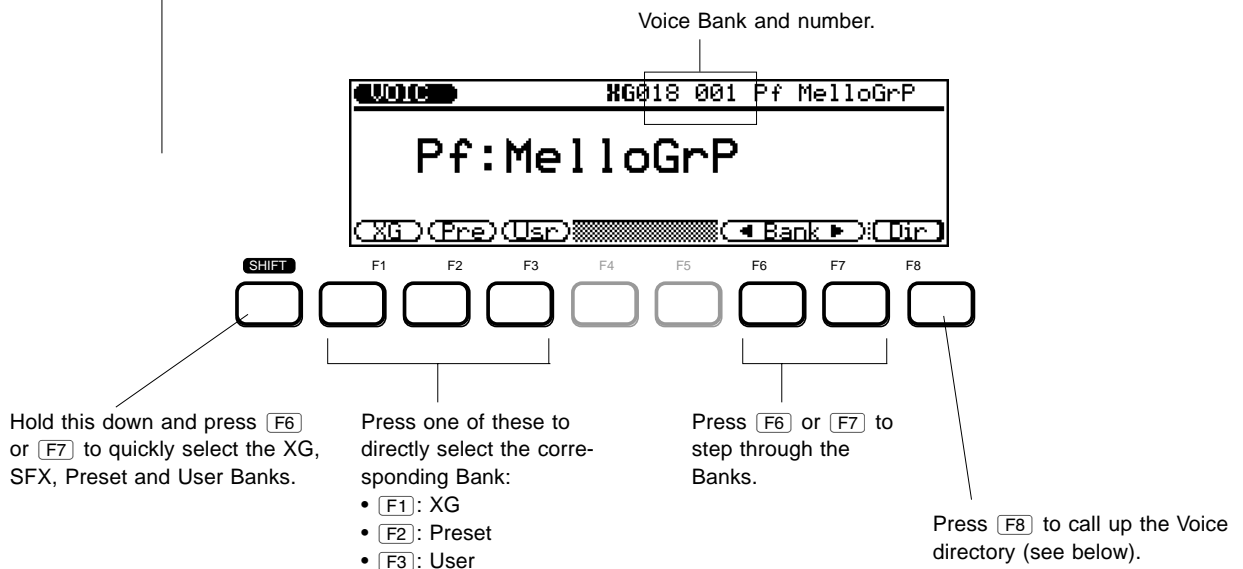
Press **VOICE** again to cancel the function. You can call up another “bank” of ten (with any data entry method) and repeat steps 1 and 2 above to select Voices in that “bank.”

# Changing the Voice Bank

You can also change the Voice Bank of the QS300. Each Bank can contain up to 128 different Voices. There are a total of 47 Banks: **XG 001-101**, **SFX** (sound effects), **Pre** (Preset) and **Usr** (User). Though not all of the Banks have a completely different set of Voices, there are 954 Voices available in the 105 Banks.

## To select a Bank: .....

- Use the Bank ◀▶ controls (F6) and (F7).
- Press F1, F2 or F3 to directly select the XG, Preset or User Bank, respectively.
- Hold down the SHIFT button and simultaneously press one of the Bank ◀▶ controls (F6) or (F7) to quickly select the XG, SFX (sound effect), Preset and User Banks.



## To browse through the Voice directory and call up different Voices in a specific Bank: .....

- Press F8 (Dir).

Use the cursor buttons or the rotary dial to move through the list, highlighting different Voices and then playing them. The highlighted Voice is automatically selected for playing.



## Quick Selection of Voice Variations in Different Banks — Variation Voice Auto-Search

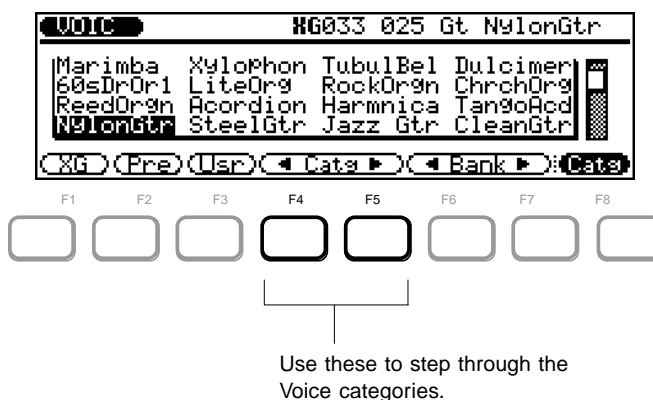
The 47 Banks contain different Voice variations for many of the program numbers. However, for some program numbers, the Voice is the same for many of the Banks. You can quickly skip over duplicate programs in the Banks, to find and call up only those Voices that are different by using the Variation Voice Auto-Search function.

### **To use Variation Voice Auto-Search:** .....

Select the desired program number, then press and hold down either **[F6]** or **[F7]**, depending on whether you want to skip backward or forward through the Banks. The QS300 searches through successive Banks at the selected program number, and automatically stops at the first Voice it finds that is different (from preceding ones in the search).

### **Voice Categories**

You can also browse through the Voices according to their general categories. To do this, press **[F8]** (**Catg**), then use **[F4]** and **[F5]** to step through the Voice categories. Remember that you can still use **[F6]** and **[F7]** from this display page to select different Banks, if you wish.



Each press of **[F4]** or **[F5]** selects the first Voice in a different Voice category. These make it easy to quickly browse through the Voices, according to the type of Voice you want.

### **To return from any of the Directory pages above to the normal Voice display:** .....

- Press **[EXIT]** (or **[VOICE]**).

# Editing a Voice

This short section introduces you to some of the Voice editing functions of the QS300. These allow you to change the sound of a Voice, or “customize” it for your own purposes.

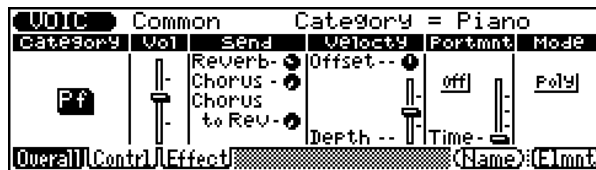
The QS300 packs a huge variety of editable settings (also referred to as “parameters”). This section explores but a few of them. In this section you’ll learn how to:

- Change the amount of Reverb and Chorus applied to the Voice.
- Change the Variation effect type.
- Set the amount of Pitch Bend.
- Compare the newly edited Voice with the original.
- Change the Envelope Generator setting (the shape of the sound in time).
- Store the newly created Voice for future recall.

## Changing the Amount of Reverb

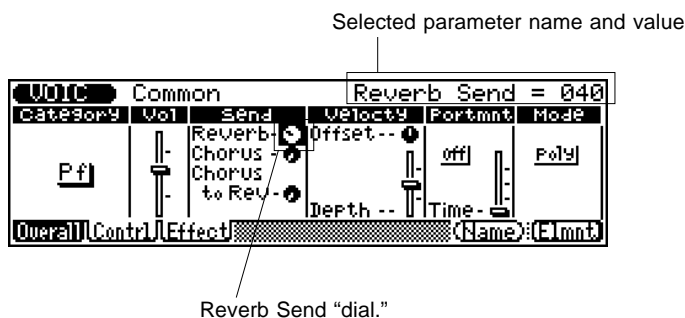
Built into the QS300 are three separate effect sections: Reverb, Chorus and Variation. Here, you’ll learn how to change the amount of Reverb that is applied to the Voice.

1. From the Voice mode display, press the **EDIT** button.



If the display above is not shown, press **F1** (**Overall**) to select the Overall page above.

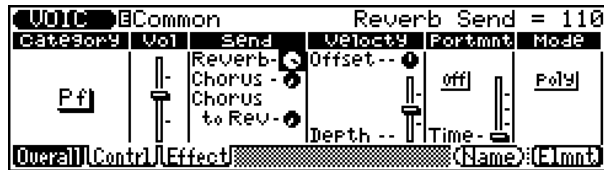
2. From this page, select the Reverb Send “dial” — use the cursor buttons to move around in the display.



3. With the Reverb “dial” highlighted, use the rotary dial to turn the Reverb Send parameter down to about 0.

Play the Voice and hear the difference in the Reverb sound; notice how “dry” it is. Note also that the dial setting in the display also changes to reflect the new value.

4. Now, use the rotary dial to turn Reverb Send up to about 110.

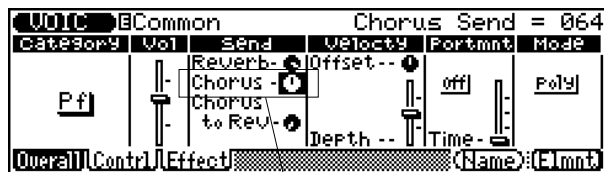


Play the Voice again and hear the difference in the Reverb sound.

## Changing the Amount of Chorus

The Chorus effects of the QS300 modulate the sound, and are capable either of adding subtle enhancement or creating wild, special effects.

Just as you did with Reverb above, try changing the Chorus Send setting. First (from the display page in the last section), select Chorus Send with the cursor keys.



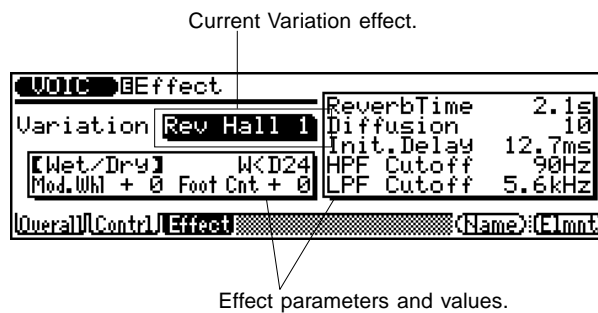
Chorus Send.

Then set the value to about the halfway point or higher, using the rotary dial. Finally, play the Voice again to hear how Chorus affects the sound.

## Selecting a Variation Effect

The third set of effects on the QS300 are the Variation effects. Variation provides all of the effects found in Reverb and Chorus, plus many additional effects such as Distortion, Delay, Rotary Speaker, and others. In this short section, you'll learn how to change the Variation effect.

- 1. From the display page in the last section, press  $\boxed{\text{F3}}$  (Effect).**  
The following display (or one similar) appears:



- 2. Use the /  buttons or the rotary dial to select Auto Wah.**



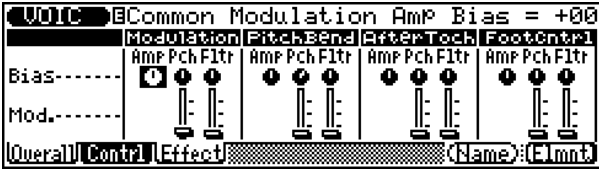
Play the Voice and hear how the sound has changed once again. Try selecting other Variation effects and hearing how they sound as well.

For more details on Variation and how to change the Variation settings, see page 47 in the **Reference** section.

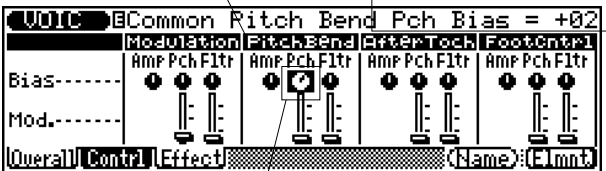
## Setting the Pitch Bend

The **PITCH** wheel at the left of the keyboard lets you bend the pitch of a Voice up or down as you play. With the Pitch Bend controls, you can change how the wheel affects the sound in a variety of ways. In this short section, we'll explore two of them. For more details on the Pitch Bend controls, see page 46 in the **Reference** section.

1. From the display page in the last section (or from the Overall page), press **[F2]** (**Control**).  
The following display appears:

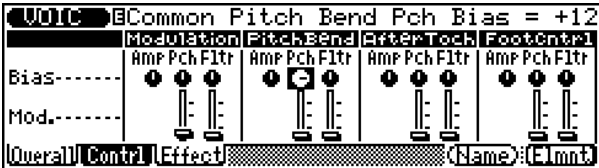


2. Using the cursor keys, select the “Pch” (Pitch Bias) dial in the Pitch Bend controls.



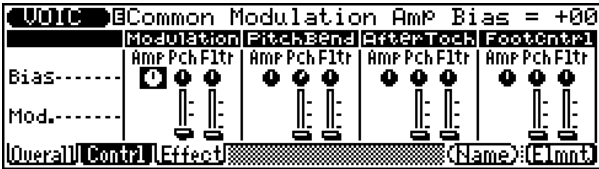
Try playing the Voice at this setting, while moving the **PITCH** wheel up and down, and notice how the Voice sounds.

3. Now, change the setting (with the **[DEC]/[INC]** buttons or the rotary dial).  
Try a setting of +12. Play with the **PITCH** wheel again, and notice how the Pitch Bend has changed.

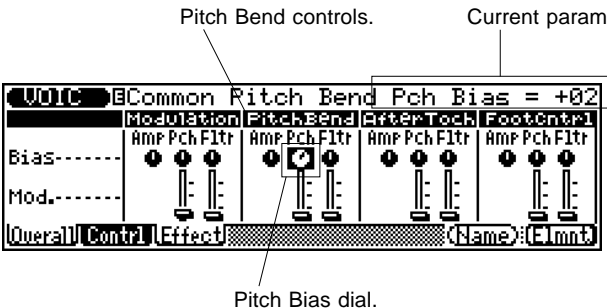


- From the display page in the last section (or from the Overall page), press **F2** (Control).  
The following display appears:
- 
- Using the cursor keys, select the “Pch” (Pitch Bias) dial in the Pitch Bend controls.
- 
- Try playing the Voice at this setting, while moving the **PITCH** wheel up and down, and notice how the Voice sounds.
- Now, change the setting (with the **DEC**/**INC** buttons or the rotary dial). Try a setting of +12. Play with the **PITCH** wheel again, and notice how the Pitch Bend has changed.
- 

The following display appears:



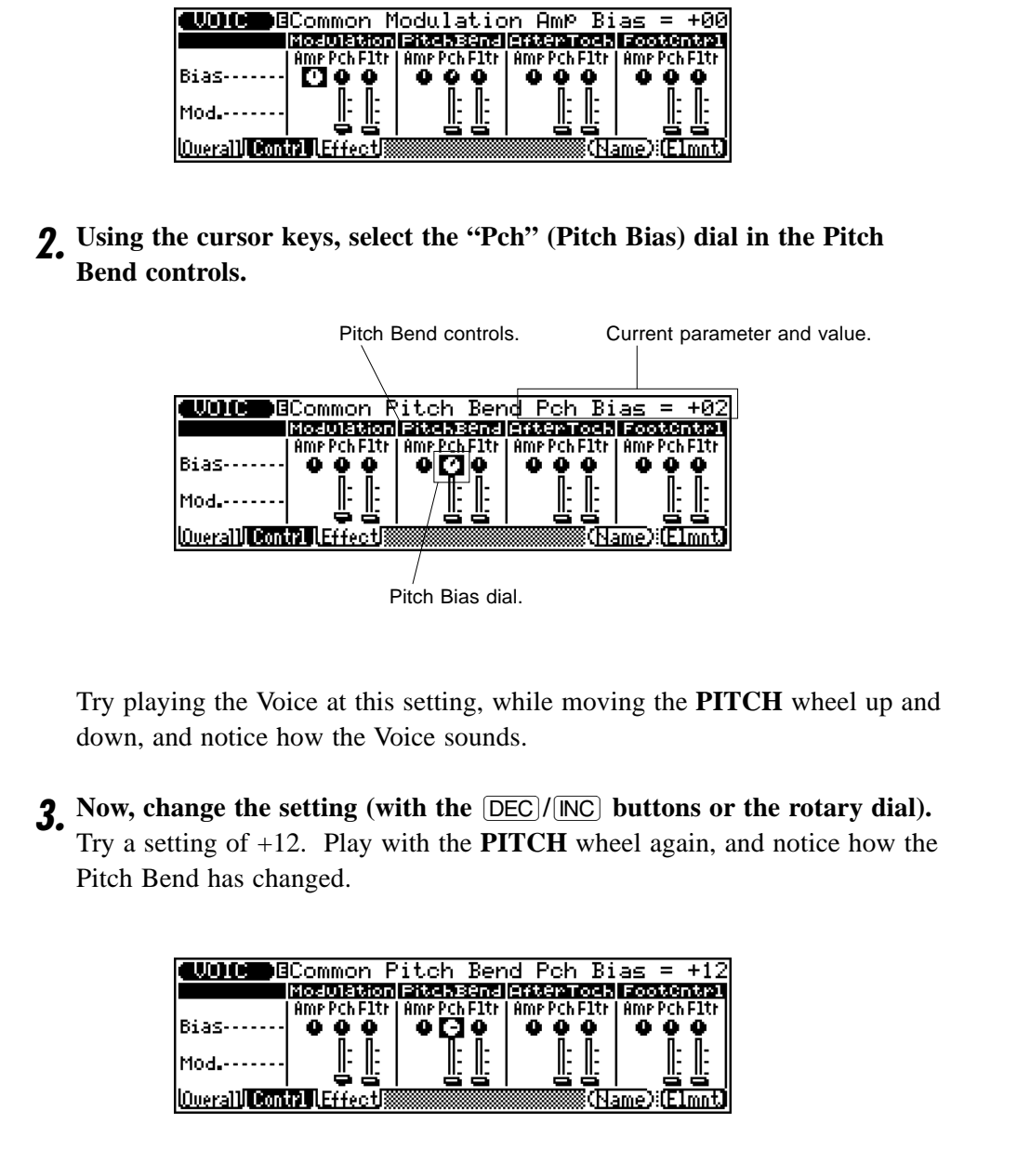
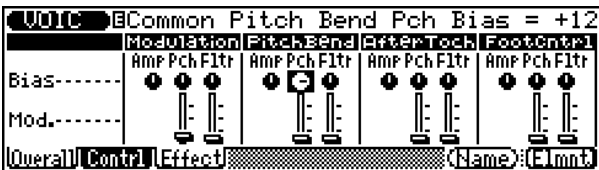
2. Using the cursor keys, select the “Pch” (Pitch Bias) dial in the Pitch Bend controls.



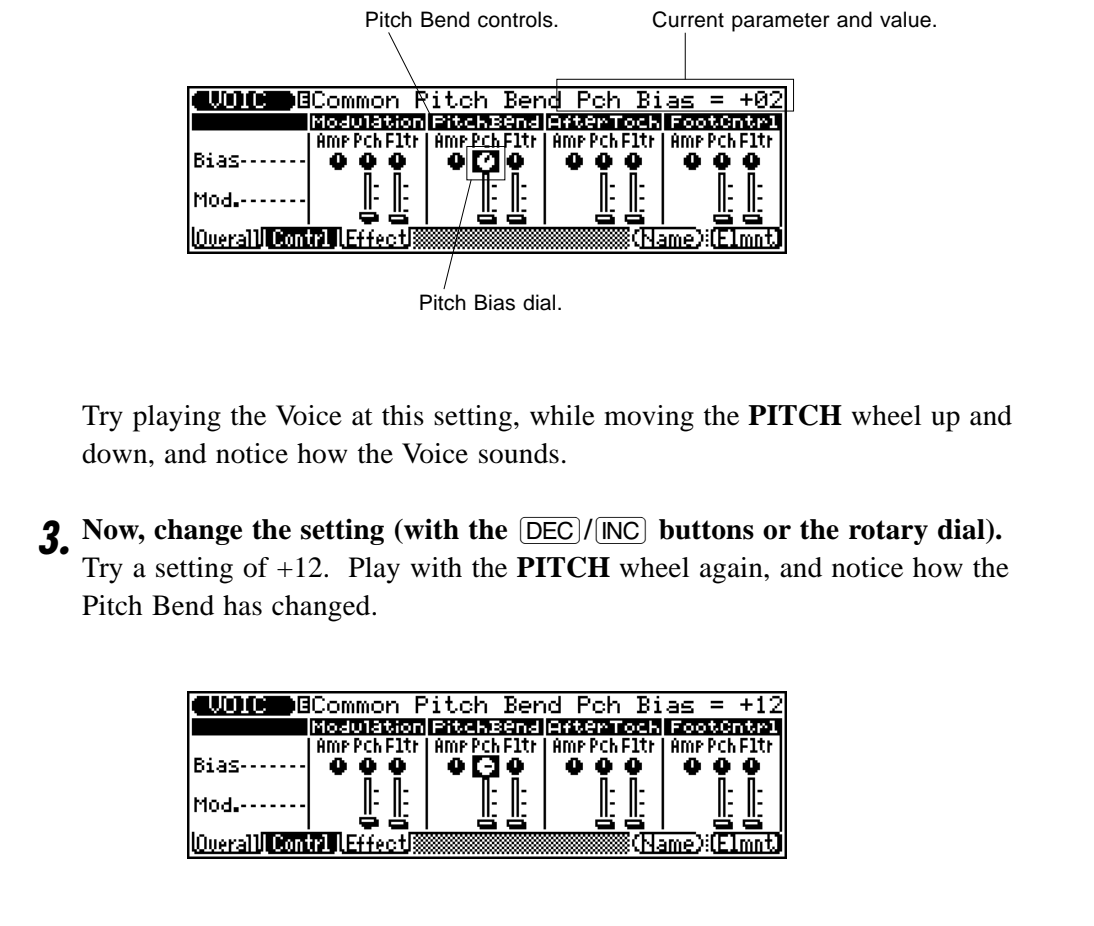
Try playing the Voice at this setting, while moving the **PITCH** wheel up and down, and notice how the Voice sounds.

3. Now, change the setting (with the **DEC**/**INC** buttons or the rotary dial).

Try a setting of +12. Play with the **PITCH** wheel again, and notice how the Pitch Bend has changed.

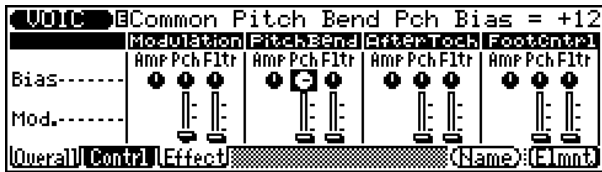


2. Using the cursor keys, select the “Pch” (Pitch Bias) dial in the Pitch Bend controls.
- 
- Pitch Bend controls.
- Current parameter and value.
- Pitch Bias dial.
- Try playing the Voice at this setting, while moving the **PITCH** wheel up and down, and notice how the Voice sounds.
3. Now, change the setting (with the **DEC**/**INC** buttons or the rotary dial). Try a setting of +12. Play with the **PITCH** wheel again, and notice how the Pitch Bend has changed.
- 



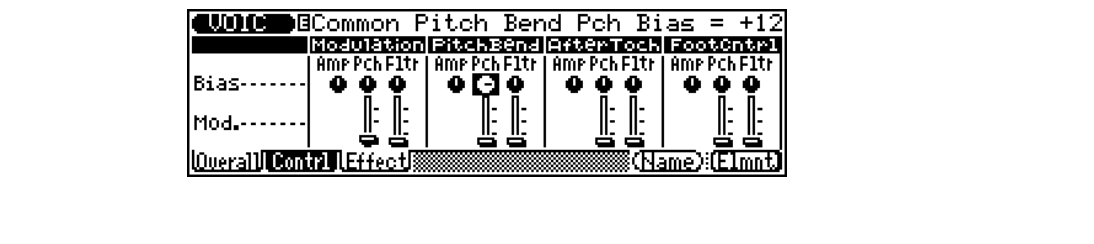
Try playing the Voice at this setting, while moving the **PITCH** wheel up and down, and notice how the Voice sounds.

**3. Now, change the setting (with the **DEC**/**INC** buttons or the rotary dial).** Try a setting of +12. Play with the **PITCH** wheel again, and notice how the Pitch Bend has changed.



The screenshot shows the DX7 parameter screen for voice V01C. The title bar reads "V01C Common Pitch Bend Pch Bias = +12". The screen is divided into four columns: Modulation, Pitch Bend, After Touch, and Foot Control. Each column has a header row with "Modulation", "Pitch Bend", "After Touch", and "Foot Control" respectively. Below each header is a row of three parameters: "Bias", "Mod", and "Pch". The "Pitch Bend" column is currently selected, and its "Bias" parameter is set to +12. The "Modulation" column has "Bias" set to 0 and "Mod" set to 1. The "After Touch" column has "Bias" set to 0 and "Mod" set to 1. The "Foot Control" column has "Bias" set to 0 and "Mod" set to 1. At the bottom of the screen, there are labels for "Overall", "Contr", "Effect", and "Name".

3. Now, change the setting (with the **DEC**/**INC** buttons or the rotary dial). Try a setting of +12. Play with the **PITCH** wheel again, and notice how the Pitch Bend has changed.



**HINT — Using the Numeric Keypad**

You can quickly enter parameter values by using the numeric keypad. For example, to enter a value of 12:

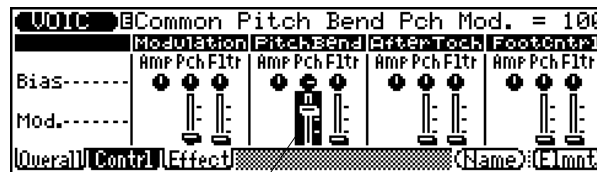
1. Type 1-2. (The value will flash in the display.)
2. Press **ENTER** to actually enter the value.

Some parameters, such as Pitch Bias above, also allow for negative values. To enter a negative value:

1. Press **-**, then type the number on the numeric keypad (or vice versa).
2. Press **ENTER**.

**4. While you're still in the Pitch Bend controls, try changing another Pitch Bend parameter: Pitch Modulation.**

To do this, select the Pitch Modulation slider in the display by pressing the down cursor button (**▼**), and change the value to around 100 or so.



Pitch Modulation slider.

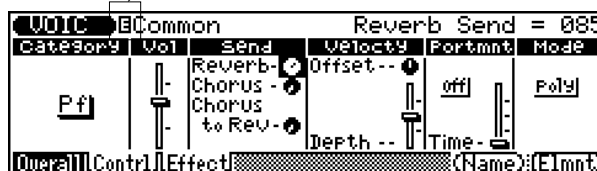
Now play the Voice again, and move the **PITCH** wheel up. Notice how the original sound completely changes character as you play with the wheel.


**■ Comparing the Edited Voice with the Original .....**

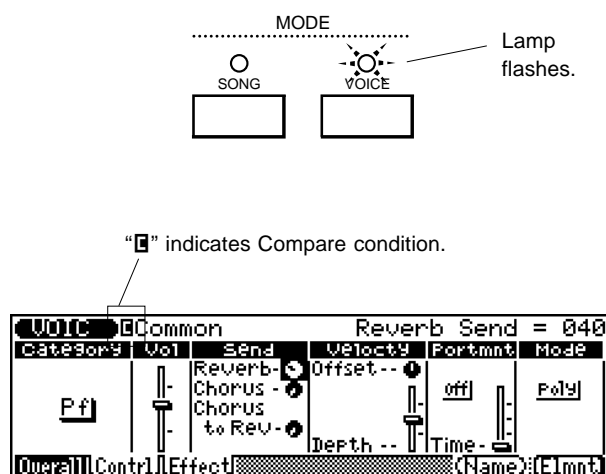
The QS300 has a convenient Compare function that allows you to hear the changes you've made to a Voice and instantly compare them with the sound of the original Voice. To use Compare, you must be in the Edit mode and have made at least one change to a parameter.

When you've made any change to a Voice, the letter "**E**" (Edit) appears at the top left of the display:

"**E**" indicates Edit condition.



From a Voice display in which “E” is shown at the top, simply press the  button to use Compare. When in the Compare condition, the **VOICE** lamp flashes and the letter “C” (Compare) appears at the top of the display, replacing “E”. The original parameter values are also shown.



**NOTE** In the Compare condition, all parameters are “locked” and cannot be changed.

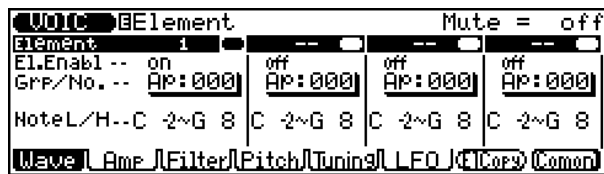
Pressing **EDIT** again returns to the newly edited Voice (and “**E**” changes to “**B**”). You can continue editing other parameters, pressing the **EDIT** button as needed to compare the edited sound with the original. (Pressing **EDIT** toggles between the original Voice and edited Voice.)

## Changing the Envelope Generator Setting

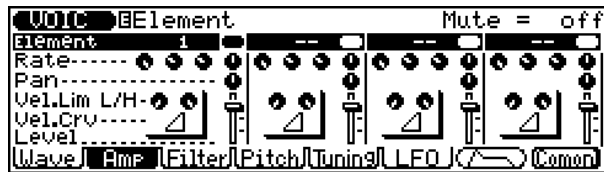
Before we save the new Voice, let's make a couple of final edits. Here, we'll change the Rate parameters of the sound level — which make up what is called the Envelope Generator (EG). These parameters allow you to shape the sound of the Voice, or in other words, set how the sound changes over time.

In the steps below, we'll make the attack of the sound slower and the release longer.

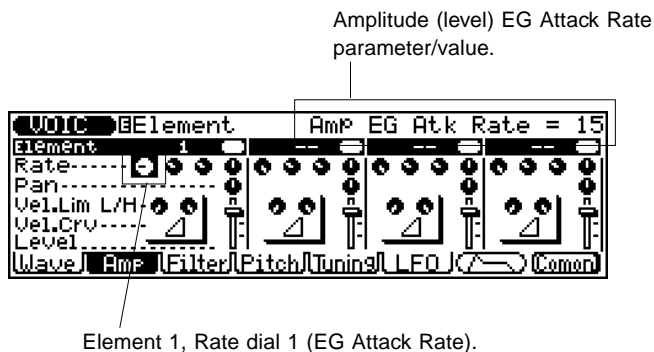
- 1. From the display page in the last section, press  $\boxed{\text{F8}}$  (Element).**  
The following display appears:



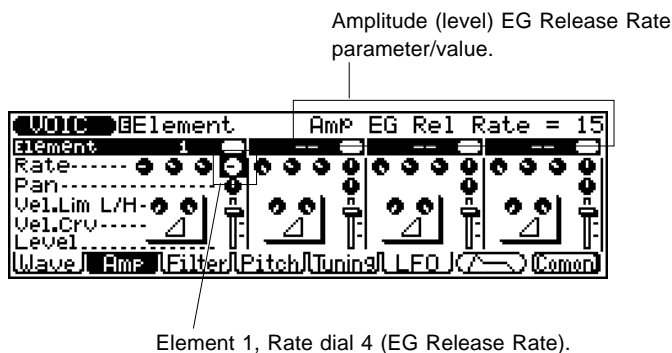
2. Then, press **F2** (Amp).  
The following display appears:



3. From the above page (Element Amp), select the first Rate dial for Element 1 (EG Attack Rate), and change the value to around 15.



4. Use the cursor buttons to select the fourth Rate dial of Element 1 (EG Release Rate), and also change this value to around 15.



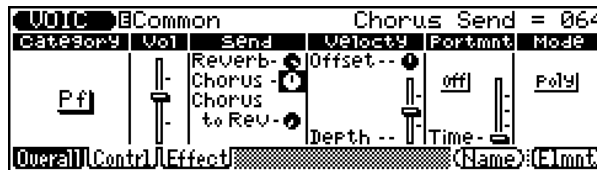
Now, play the Voice again. Use the **EDIT** button to turn the Compare function on and off, and listen to how much the sound has changed from the original Voice.

## Naming and Storing the New Voice

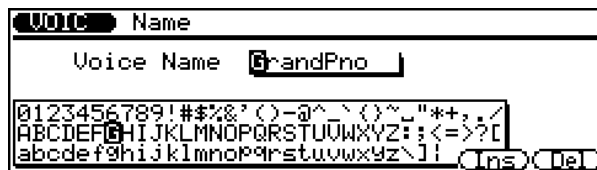
Now that you've created a new Voice, you'll want to give it a different name and store it to internal memory, so that you can call it up again when you want it.

 **● Naming the Voice**.....

- 1. From the last display page (Element), press F8 (Common).**  
This returns you to the Common page.



- 2. From the above page, press F7 (Name).**  
The following display with the list of characters appears:



- 3. Change the character at the highlight by using the rotary dial or the DEC/INC buttons.**

Here, we'll select a capital "W" for the first letter, by moving the highlight in the character set to "W"



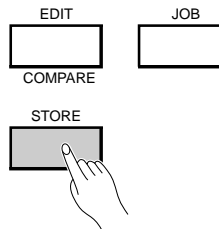
- 4.** Select the other characters in the name by pressing the right cursor (▶) button. Then use the rotary dial (as in step 3 above) to change the character at the highlight.

Use the left and right cursor buttons to move among the characters in the Voice Name box. Let's name this Voice "WaverPno."



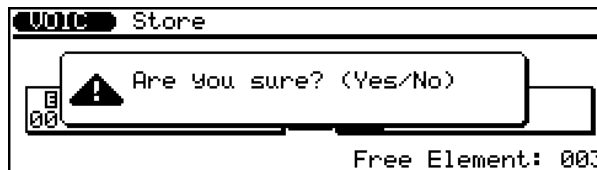
## ● Storing the Voice .....

1. Once you've named the Voice, press **STORE**.



You can select another number here (by using the rotary dial or the **DEC**/**INC** buttons); for this example, however, let's store the Voice to User (Usr) number 001.

2. Press **ENTER** to store your new Voice to the selected User memory number.



3. Answer the prompt above by pressing the **INC** button for "Yes" or the **DEC** button for "No."

Pressing the **INC** button stores the Voice. When the operation is finished, a "Completed" message appears, and the display returns to the Voice Play mode.

All the settings you've made in the above sections, including the amount of Reverb/Chorus and the Variation effect, are saved with the Voice to the new User location.


# Recording a Song

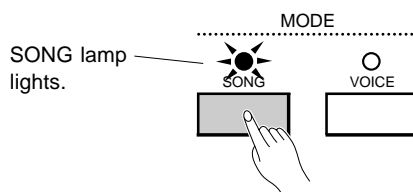
This section guides you through the basic steps of recording a song using the sequencer and accompaniment functions of the QS300. These extremely versatile features let you quickly and easily record complete songs and compositions using the high-quality Voices of the QS300.

In this section you'll learn how to:

- Enter the Song mode and select an empty song for recording.
- Record some accompaniment Patterns and chords.
- Record your own keyboard performance.

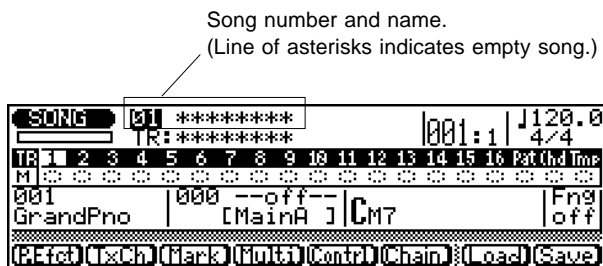
### ***Enter the Song Mode and Select an Empty Song***

- 1. Press  to enter the Song mode.**



- ## 2. Select an empty song.

Move the highlight to the Song number with the cursor buttons and use the **DEC**/**INC** buttons or rotary dial to change the number. Empty songs are indicated by a line of asterisks after the song number.

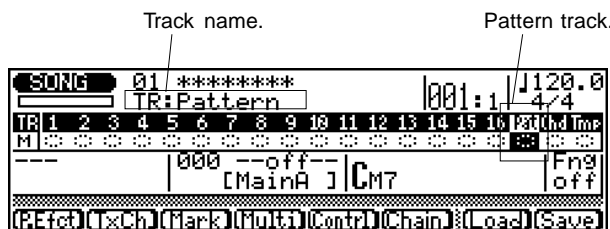


## Record the Accompaniment Patterns

**NOTE:** Using patterns in a recording is optional — you can record your own performance to any of the 16 numbered tracks without using the accompaniment Patterns.

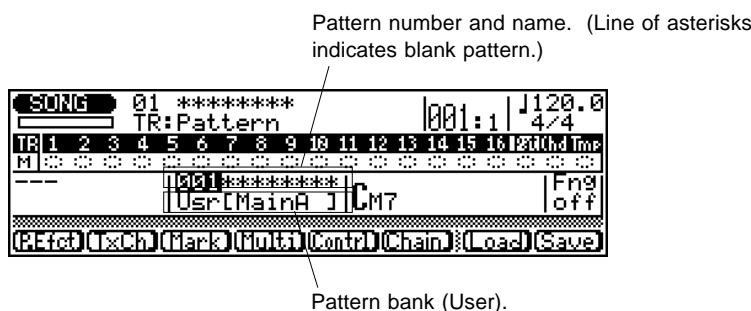
### 1. Select the Pattern (Pat) track for recording.

Move the highlight to the Pattern (Pat) track with the cursor buttons. The track name is shown just below the Song number and name.

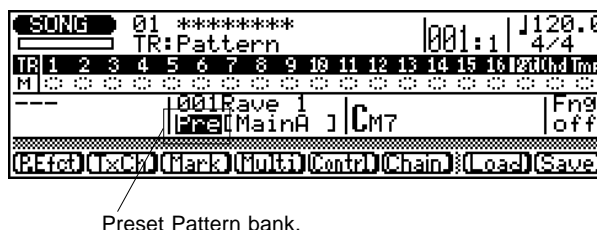


### 2. Move the highlight to the Pattern number (in the Pattern window) and select a number other than 0.

Doing this calls up the User bank of Patterns (which is currently empty).



### 3. Move the highlight to the Pattern bank (Usr) and change it to Preset (Pre).



### 4. Now, select the musical style of the Pattern.

For this example, we'll select 007, "Casa." First, move the highlight back to the Pattern number. You can then select the style quickly by pressing number **[7]** on the numeric keypad, and then **[ENTER]**.



## 5. Select the section of the style (Intro, Main, Fill or Ending).

We'll select **Intro** here, since this is to be the beginning of the song. Move the highlight to the bracketed section in the Pattern window and select [Intro].



Section name (Intro, Main A/B, Fill AA/BB/AB/BA, and Ending).

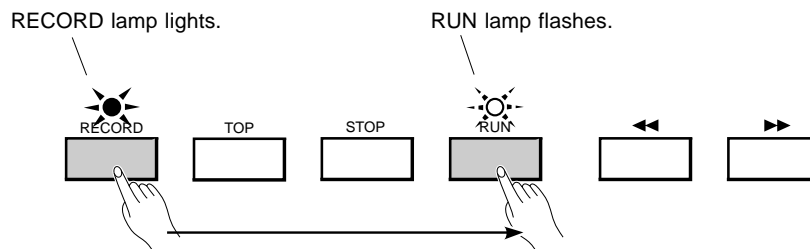
### HINT — Auditioning the Patterns

You can audition the styles and sections before actually recording with them. To do this, highlight the desired parameter, change it, then press **[RUN]**. Change styles and sections as the pattern is playing back if you wish. To stop, simply press **[STOP]**.

### HINT — Setting a Different Tempo for Recording

You may want to set the tempo to a slower speed, to give you more time to make the pattern and chord changes you will be recording. To do this, highlight the tempo parameter in the display and enter an appropriate tempo. Press **[RUN]** to play the pattern and "feel" your way to the desired tempo.

## 6. Now you're ready to record the patterns. Press **[RECORD]**. (The lamp lights.) Then, press **[RUN]** to start recording. (The lamp flashes.)



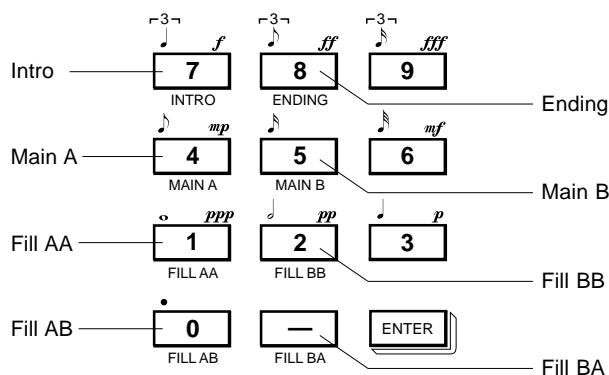
The metronome sounds, and after a two-measure lead-in, the selected pattern is recorded. When **Intro** is selected in a song, it is immediately and automatically followed by the **Main A** section, which then repeats until another section or style is selected (or until the **[STOP]** button is pressed).

As long as you don't mind using the **Main A** section for the first few measures of the song, you can let the sequencer run for a while without making any changes.

## 7. Change to other sections as the sequencer records. The selected section starts playing at the start of the next measure.

During recording, move the highlight to the section parameter, and then select the other sections. The **Fill** sections (**AA**, **BB**, **AB** and **BA**) are used as one-measure transitions between the **Main A** and **B** sections. (The last letter of the Fill section indicates which section is to follow, Main A or Main B; for example, Main B automatically follows the Fill AB section.) The **Ending** section, as its name suggests, plays one time and then automatically stops the recording, ending the song.

Though you can use the **[DEC]**/**[INC]** buttons or rotary dial to change sections, the easiest method is to use the numeric keypad. While the section parameter is highlighted, simply press the appropriate button (as shown below) to change to the desired section.



## 8. To end the song, select the Ending section, or press **[STOP]**.

The Mute dot in the display for the Pattern track is now solid, indicating that the track has recorded data.



Solid Mute dot indicates that the track contains data.

**NOTE:** Recording an Ending section to a Song (or entering an End mark in Step Recording, page 123) automatically stops the Song at that point, even when there is recorded data past that point on tracks 1 - 16.

Note that the sequencer also returns to the first measure (or “top”) of the song, so that you can immediately play it back from the beginning, or record additional tracks.

## 9. To play back what you’ve recorded, press **[RUN]**.

## ■ Erasing Song Data.....

If you make a mistake in recording the patterns and want to start over, you'll have to clear (erase) the song first.

**To do this:**

1. Press **[JOB]**.
2. Use the cursor buttons to select Job number 22 (**Clear Song**). (If you want to clear only one recorded track, you can use Job number 17, **Clear Track**.)
3. Press **[ENTER]** once to call up the Job, and press it again to actually execute the function.
4. When the operation is completed, press **[SONG]** to return to the Song mode, and start recording again.

If you only need to make some minor changes to the recorded track, you can use the Step Recording functions to edit the track manually. (See page 101.)

## Record the Accompaniment Chords

Now that you have recorded some basic accompaniment sections, you can add some chord changes to your song. We'll suggest some simple chord changes to use here, but feel free to try out your own ideas, using these instructions as a guide.

1. If necessary, press **[TOP]** to return to the beginning of the new song.
2. Select the Chord (Chd) track for recording.



Chord track.

3. Select the Chord window in the display.



Fingering setting.  
(See HINT below.)

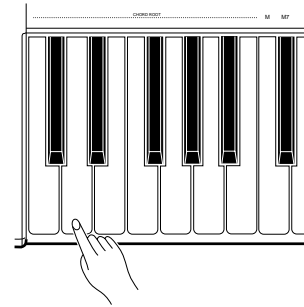
Chord window.

### ***HINT — Using Fingering***

*You can play the full chords yourself (in the Fingered Zone at lower part of the keyboard) by turning Fingering to **on**. Or turn Fingering **off** and enter the chords by “typing” them in — as described in the steps below. (For more about the Fingering function and Fingered Zone, see page 193.)*

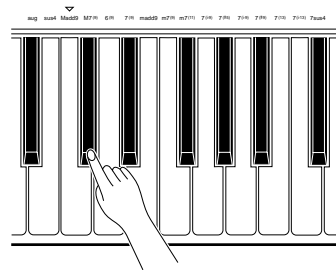
**4. Select the root note for the first chord of the song.**

Press the lowest D key (D1) to select **D** as the root note. (The Chord name in the display flashes.)



**5. Select the chord type from the keyboard, and press ENTER to actually enter the new chord.**

Press the C#3 key to select **M7<sup>(9)</sup>** (major seventh/ninth).



**6. Now, press RECORD and then RUN to start recording.**

Enter chord changes “on the fly,” changing the chord type and/or root note as the pattern plays back. For this example song, try changing between **M7<sup>(9)</sup>** and **6** chords (keys: C#3 and D2). Also try changing the root note to G and use **6** and **m6** chords for that root (keys: D2 and F#2).

**HINT**

*Chord changes normally occur on quarter-note divisions, so try to press the **[ENTER]** button to enter each chord either exactly on the beat or just before the beat on which you want the chord change to occur. Syncopated chord changes can be recorded by entering the chord an eighth or sixteenth note before the beat. (Syncopated changes can also be programmed in the Step Record mode; see page 124.)*

If you make a mistake or want to record a different chord progression, simply press **TOP** to go back to the beginning, and then start recording the Chord track again.

If you want to make minor changes to the recorded track without having to record the entire track over again, use Step Recording (page 101) to edit the track manually, or use Punch-in Recording (page 99) to selectively record a certain section of the song.

If you want to make minor changes to the recorded track without having to record the entire track over again, use **Step Recording** (page 101) to edit the track manually, or use **Punch-in Recording** (page 99) to selectively record a certain section of the song.

## Record Your Own Keyboard Performance

Now that you've recorded some accompaniment backing parts with a chord progression, try recording your own keyboard performance over the backing.

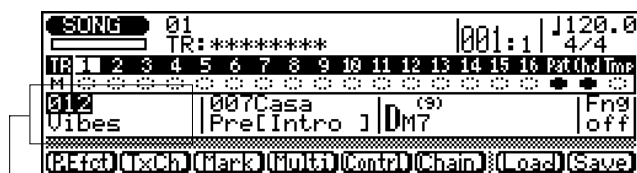
**1. Select one of the numbered tracks.**

Here, we'll select track 1.



## 2. Select a Voice for the track

Move the highlight to the Voice number in the Voice window and select 012, Vibes.



— Voice window (with Voice number/name).

**HINT — Turning Off the Metronome**  
Once you have the basic rhythm tracks recorded (as you did in the section **Recording the Accompaniment Patterns** above), you may want to turn off the metronome click. For more details, see the *Click* parameter in the *Utility mode*, page 192.

Once you have the basic rhythm tracks recorded (as you did in the section **Recording the Accompaniment Patterns** above), you may want to turn off the metronome click. For more details, see the **Click** parameter in the **Utility** mode, page 192.

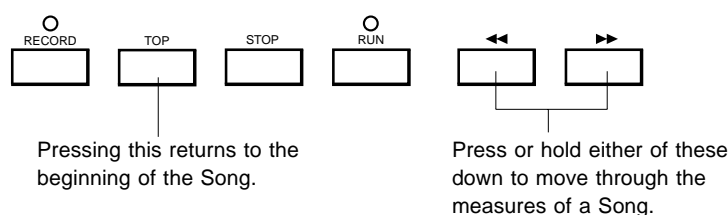


## Other Sequencer Features

Once you've had some experience in recording your own songs, you may want to explore some of the convenient features of the QS300's sequencer, briefly mentioned below. Also, be sure to look through the Reference section for details on all the sequencer functions.

### ■ Using the **TOP** and **◀▶** Buttons

In addition to the **RECORD**, **STOP** and **RUN** buttons, the **TOP** and **◀▶** buttons give you controls for moving around in a Song.



Pressing the **TOP** button returns to the “top” or beginning of a Song. Pressing either of the **◀▶** buttons steps backward or forward through the measures of a Song; holding either button down allows you to “rewind” or “fast-forward” through the measures of a Song, and the operation increases in speed the longer the button is held. The **◀▶** buttons can also be used during playback.

### ■ Mark/Jump

The Mark/Jump function lets you “mark” (memorize) up to 10 locations within the current song and “jump” to any one of the marked locations in one easy step.

For instructions on using the Mark/Jump function, see page 68.

### ■ Punch-in Recording

Punch-in recording lets you record over a specific range of measures in an already recorded track, leaving all other material on the track intact. This is useful for fixing small mistakes or changing a short segment of a track — without having to re-record the entire track.

For instructions on using Punch-in recording, refer to page 99.

For instructions on using the Mute function, refer to page 69.

For more details and instructions on the Song Jobs, refer to page 139.



# Voice Edit Mode

The Voice Edit mode provides a wide range of controls and parameters for changing the sound and performance response of the Voices. These controls allow you to either subtly enhance a Voice, or completely alter its character.

**NOTE:** The Voice Edit mode is not available when the System Mode parameter (in Utility mode) is set to TG-B. (See page 189.)

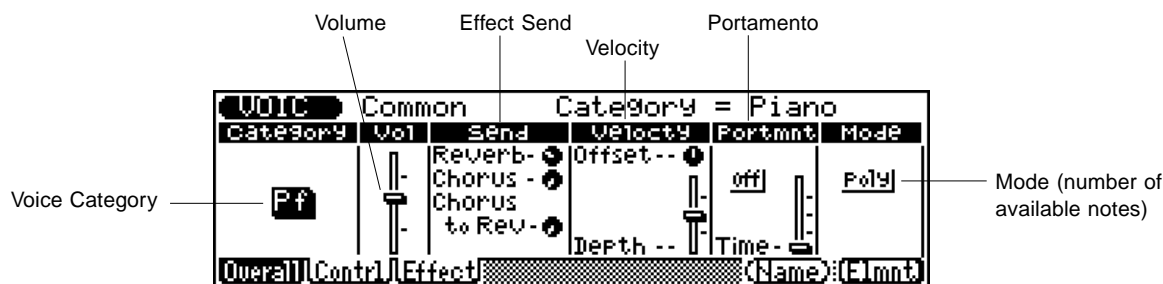
<b>Voice Edit</b>	
<b>Voice Common</b>	
Overall Parameters .....	44
Controller Parameters .....	46
Variation Effect Parameters .....	47
Voice Name .....	63
<b>Voice Element</b>	
Wave Parameters .....	48
Element Copy .....	50
Amplitude Parameters .....	51
Filter EG Parameters .....	53
Pitch EG Parameters .....	54
Graphic EG Edit Parameters .....	55
Template Copy .....	57
Tuning Parameters .....	58
LFO Parameters .....	59
Drum Set .....	60
Voice Store .....	63
Voice Compare .....	64
Voice Job — Edit Recall .....	64

# Voice Common

## Voice Common Overall Parameters

Path: **VOICE** → **EDIT** → \* **F8** (Comon) → \* **F1** (Overall)

\* Press this only if the page shown below is **not** currently selected.



### ● Voice Category

Settings:

--	(No assignment)
<b>Pf</b>	Piano
<b>Cp</b>	Chromatic percussion
<b>Or</b>	Organ
<b>Gt</b>	Guitar
<b>Ba</b>	Bass
<b>St</b>	Strings/Orchestra
<b>En</b>	Ensemble instruments
<b>Br</b>	Brass
<b>Rd</b>	Reed
<b>Pi</b>	Pipe (Woodwinds)
<b>Ld</b>	Synth lead
<b>Pd</b>	Synth pad
<b>Fx</b>	Synth sound effects
<b>Et</b>	Ethnic instruments
<b>Pc</b>	Percussive instruments
<b>Se</b>	Sound effects
<b>Dr</b>	Drums

<b>Sc</b>	Synth comping
<b>Vo</b>	Vocal
<b>Co</b>	Combination
<b>Wv</b>	Material Wave

This determines the Voice category under which the Voice is to be stored. Grouping your original Voices according to categories helps in organizing the Voices and makes it easier to select the Voice you need when calling up User Voices.

### ● Voice Volume (Vol)

Range: 0 — 127

This determines the volume of the Voice.

## Effect Send Parameters (Send)

### ○ Reverb Send

Range: 0 — 127

This determines the level of the selected Voice that is sent to the Reverb effect. A value of 0 results in a completely “dry” Voice sound (no Reverb effect).

**NOTE:** Keep in mind that the Reverb effect must be properly enabled and set for this parameter to work as intended. (See page 47.)

### ○ Chorus Send

Range: 0 — 127

This determines the level of the selected Voice that is sent to the Chorus effect. A value of 0 results in a completely “dry” Voice sound (no Chorus effect).

**NOTE:** Keep in mind that the Chorus effect must be properly enabled and set for this parameter to work as intended. (See page 47.)

### ○ Chorus Send to Reverb

Range: 0 — 127

This determines the level of the Chorus signal sent to and processed by the Reverb effect. A setting of 0 results in none of the Chorus-processed signal going to the Reverb.

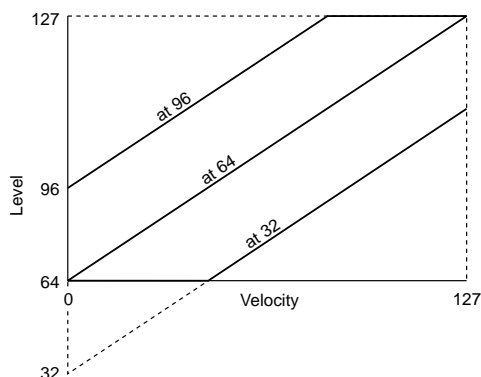
**HINT:** Setting this to a relatively high level gives you a more natural sound, since the Chorus-processed sound is also being processed by the Reverb. More unusual effects can be created by having a long Reverb and setting this to 0, so that the Chorus sound is dry (no Reverb) and the original sound is “drenched” in Reverb.

## Velocity Parameters (Velocity)

### ○ Velocity Offset

Range: 0 — 127

This determines the volume range over which velocity affects. For lower values, the velocity affects a volume range from minimum to medium-loud. For higher values, velocity affects a range from medium-soft to maximum.



**HINT:** For best results, set this parameter **after** setting Velocity Depth (below).

**NOTE:** Depending on the Voice used, if Velocity Offset is set to too low of a value, the Voice may not sound, no matter how strong the velocity.

### ○ Velocity Depth

Range: 0 — 127

This determines the degree to which velocity affects the Voice. Higher values make the Voice more sensitive to changes in velocity.

## Portamento Parameters (Portmnt)

Portamento is a function that creates a smooth pitch glide from one note to another.

**NOTE:** Portamento may have little or no effect on some percussive Voices.

### ○ Portamento Switch

Settings: off, on

This determines whether Portamento is on or off for the Voice.

### ○ Portamento Time

Range: 0 — 127

This determines the time of the Portamento effect, or how long it takes to glide the pitch from one note to the next. Higher values result in a longer pitch glide time. (This parameter is not available when Portamento Switch above is set to off.)

### ● Mode

Settings: mono, poly

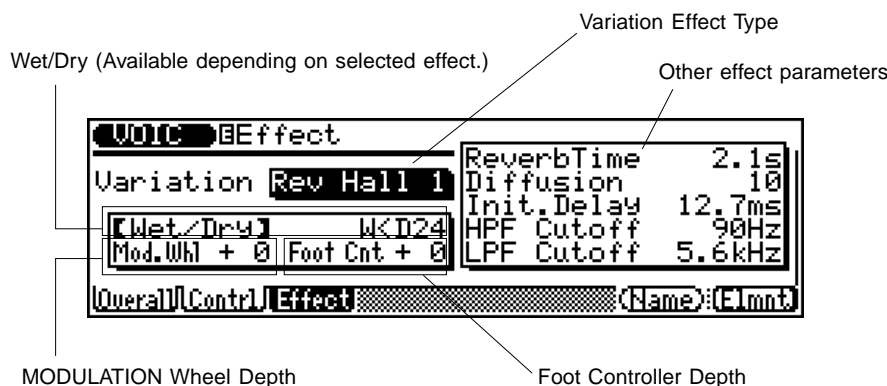
This determines whether the Voice is played monophonically (only one note at a time) or polyphonically (up to 32 notes at a time).

**HINT:** The **mono** setting works well for certain synth lead sounds and fretless bass Voices. Unless you're after an unusual effect, acoustic instrument Voices (such as piano and guitar) work best with the **poly** setting.



**Path:** VOICE → EDIT → \* F8 (Comon) → \* F3 (Effect)

\* Press this only if the page shown below is **not** currently selected.



Explanations of the parameters that are common to all Variation types are given below. For individual descriptions of the Variation types and explanations for all other Variation parameters, refer to the separate “*Sound Lists and MIDI Data*” supplement.

Settings:

No Effect;	Reverb (Rev) Room 1 - 3;
Reverb (Rev) Hall 1 & 2;	Reverb (Rev) Plate;
Reverb (Rev) Stage 1 & 2;	Delay L,R;
Delay L-C-R;	Cross Delay;
Echo;	Gate Reverb;
Early Reflection (Ref.) 1 & 2;	Reverb Karaoke (RevKaraoke) 1 - 3;
Reverse Gate (ReversGate);	Celeste 1 - 4;
Chorus 1 - 4;	Symphonic;
Flanger 1 - 3;	Tremolo;
Rotary Speaker (Sp.);	Phaser 1 & 2;
Auto Pan;	Overdrive;
Distortion;	3-Band EQ;
Guitar Amp Simulator (G-Amp.Sim.);	2-Band EQ;
2-Band EQ;	Auto Wah;
THRU	

This determines the Variation effect type for the Voice. For details on specific effect types and parameters, refer to the separate “*Sound Lists and MIDI Data*” supplement.

**NOTE:** When the Type is set to **No Effect**, no sound is output. When set to **THRU**, the Variation effect is canceled and the sound of the Voice is output without any Variation effect.

Range:  $W < D63$  (0) —  $W = D$  (64) —  $W63 > D$  (127)

**NOTE:** Numbers in parentheses indicate the corresponding values, which can be entered directly from the numeric keypad to change the settings. (Range: 0 - 127.)

This determines the balance between the original sound (dry, or **D**) and the processed sound (wet, or **W**). A setting of **W=D** results in an equal balance of dry and wet sound. The Wet/Dry parameter is not available for some of the effect types.

## Range: -63 — +63

This determines the depth of the effect that is controlled by the MODULATION Wheel. This allows you to use the MODULATION Wheel as a kind of effect level control for the Variation effect. A setting of 0 results in no MODULATION Wheel control. This parameter is not available for the 3-band EQ and 2-band EQ effect types.

## Range: -63 — +63

This determines the depth of the effect that is controlled by the Foot Controller. This allows you to use the Foot Controller as a kind of effect level control for the Variation effect. A setting of 0 results in no Foot Controller control. This parameter is not available for the 3-band EQ and 2-band EQ effect types.

# Voice Element

## About Elements

Elements are the basic building blocks of the Voices. An Element is a basic waveform of a certain sound (such as an acoustic piano or violin), and there are a total of 205 different waveforms available. Up to four different Elements can be used to create a single Voice. In the Voice Element pages, these can be assigned to different sections of the keyboard, played at different velocities, with different envelopes, and be given completely independent filter, pitch EG, tuning and LFO settings. This flexibility allows you to create extremely complex Voices that can shift in

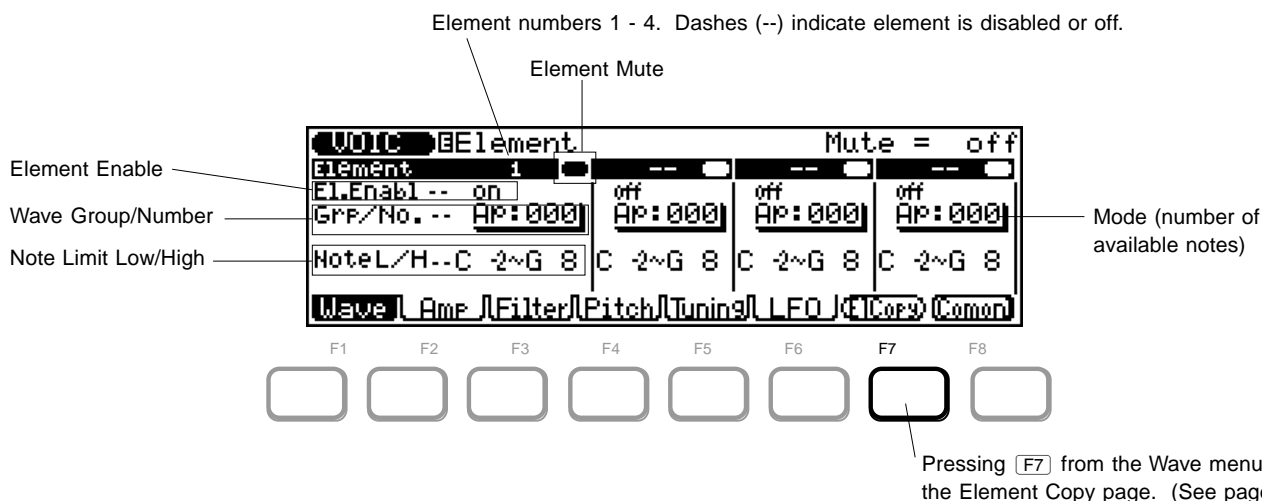
texture and pitch, and change dynamically according to how you play.

There is a limit to the total amount of Elements that can be used for all User Voices — specifically, if all of the User Voices use the maximum four Elements, only 70 Voices will be available for playing. Practically however, this should not be a problem, since the individual Elements are rich and complex sounds in themselves. For most Voices, one Element is all you will need.

## Voice Element Wave Parameters

Path: **VOICE** → **EDIT** → \* **F8** (Elmnt) → \* **F1** (Wave)

\* Press this only if the page shown below is **not** currently selected.



### In this page you should:

- 1) Select an Element number. Or, copy an Element from an existing Voice (by pressing **F7** and using the Element Copy page).
- 2) Turn the Element on (with Element Enable).
- 3) Un-mute it, if necessary (with Element Mute).
- 4) Select the desired waveform for the Element (with Wave Group and Number).
- 5) Change the Note Limit parameters, if desired.

### ● Element Mute

Settings: mute, off

This determines whether the selected Element (1 - 4) is muted or not. When set to off, the Element sounds (or is unmuted). (This parameter has no effect for Elements not enabled in the Element Enable parameter below.)

### ● Element Enable (El.Enabl)

Settings: off, on

This determines whether the Element (1 - 4) is enabled for the Voice or not.

## ● Wave Group (Grp.)

Settings:

<b>Ap</b>	Acoustic pianos
<b>Ep</b>	Electric pianos
<b>Mk</b>	Misc. keyboards
<b>Cp</b>	Chromatic percussion
<b>Ao</b>	Acoustic organs
<b>Eo</b>	Electric organs
<b>Ag</b>	Acoustic guitars
<b>Eg</b>	Electric guitars
<b>Ab</b>	Acoustic basses
<b>Eb</b>	Electric basses
<b>Mb</b>	Misc. basses
<b>Bw</b>	Bowed strings
<b>Oe</b>	Orchestra ensemble
<b>Ch</b>	Choir
<b>Ar</b>	Acoustic brass
<b>Sr</b>	Synthesizer brass
<b>Rd</b>	Reeds
<b>Pi</b>	Pipes (woodwinds)
<b>Et</b>	Ethnic instruments
<b>Pc</b>	Percussive instruments
<b>Me</b>	Musical sound effects
<b>Ne</b>	Natural sound effects
<b>Ow</b>	One-cycle waves
<b>Lw</b>	Long-loop waves
<b>Mw</b>	Misc. waves

This allows you to select the basic sound group or category for the Element. If you know which group of sounds contains the desired waveform, this parameter lets you quickly select it.

## ● Wave Number (No.)

Range: 000 — 204

This determines the waveform used for the Element. For a complete list of individual Elements available, refer to the separate “*Sound Lists and MIDI Data*” supplement.

## ● Note Limit Low/High (NoteL/H)

Range: C-2 — G8

This determines the range of notes over which an Element can be played. Notes played outside the range will not be sounded by the Element.

In the display, the **left** parameter is **Note Limit Low** (which determines the lowest responding note), and the **right** is **Note Limit High** (which determines the highest responding note). You can use the **DEC**/**INC** buttons or rotary dial to change the setting, or use the keyboard to enter the desired note directly.

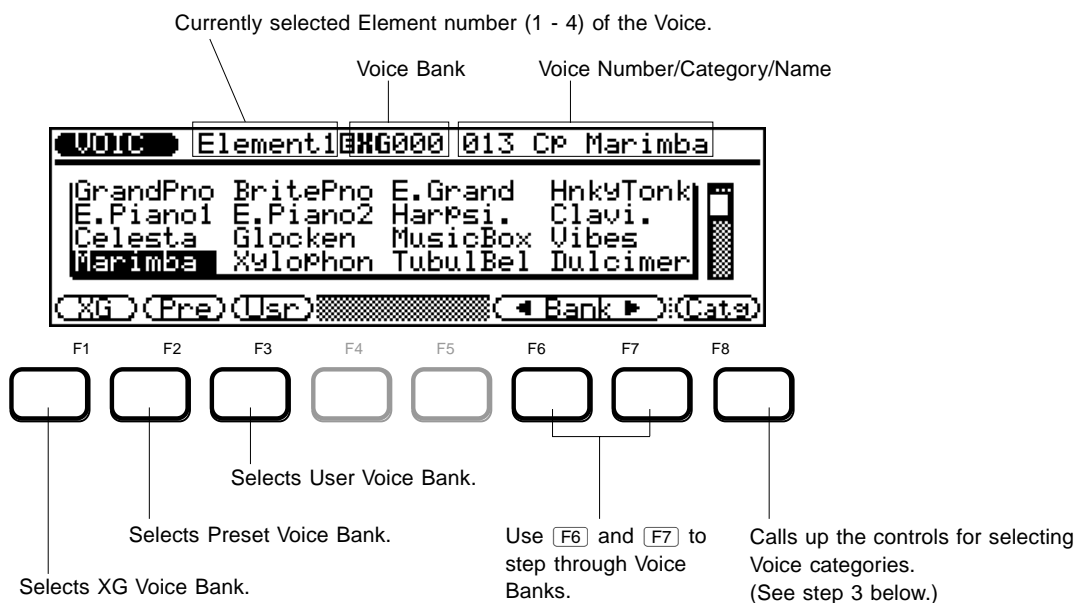
**HINT:** You can use the Note Limit Low/High parameter to set up keyboard splits among the Elements.

**NOTE:** After changing the Note Limit settings, be sure to move the highlight **away** from the parameters before playing the keyboard, to avoid inadvertently changing the setting again.

Voice Element	Wave Parameters	Element Copy
1	1	1
2	2	2
3	3	3
4	4	4
5	5	5
6	6	6
7	7	7
8	8	8
9	9	9
10	10	10
11	11	11
12	12	12
13	13	13
14	14	14
15	15	15
16	16	16
17	17	17
18	18	18
19	19	19
20	20	20
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41	41	41
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87	87	87
88	88	88
89	89	89
90	90	90
91	91	91
92	92	92
93	93	93
94	94	94
95	95	95
96	96	96
97	97	97
98	98	98
99	99	99
100	100	100

**Path:** VOICE → EDIT → \* F8 (Elmnt) → \* F1 (Wave) → \* F7 (ElCopy)

\* Pressing this may not be necessary if the appropriate page has already been called up.



The Element Copy function allows you to copy an Element from an existing Voice to the Voice currently being edited.

**To use Element Copy:.....**

- 7. From the Element Wave page, select the destination Element number.**

This is the Element number to which the existing Voice's Element will be copied.

- 2. Press F7.**

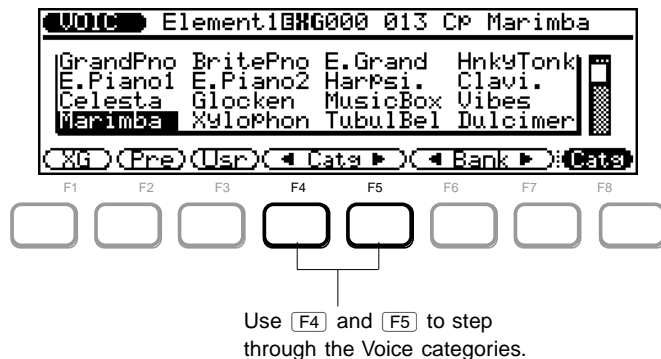
- ### 3. Select the desired Voice Bank.

Use **F1**, **F2**, and **F3** to select the XG, Preset, and User Banks, respectively. Use **F6** and **F7** to step through the Bank numbers.

- 4. Select the desired Voice number.**

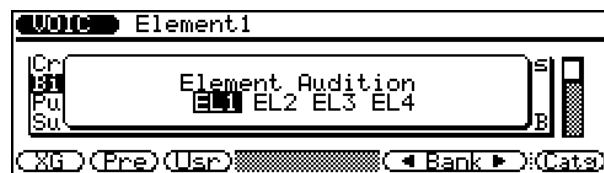
Use any data entry method to select the Voice.

You can also browse through the Voices according to their general categories. To do this, press **[F8] (Catg)**, then use **[F4]** and **[F5]** to step through the first Voices in the various Voice categories.



- 5. Press  to call up the Elements of the selected Voice.**

In this page, you can audition (or individually listen to) each Element before you actually copy it. To do this, highlight the desired Element number and play the keyboard.



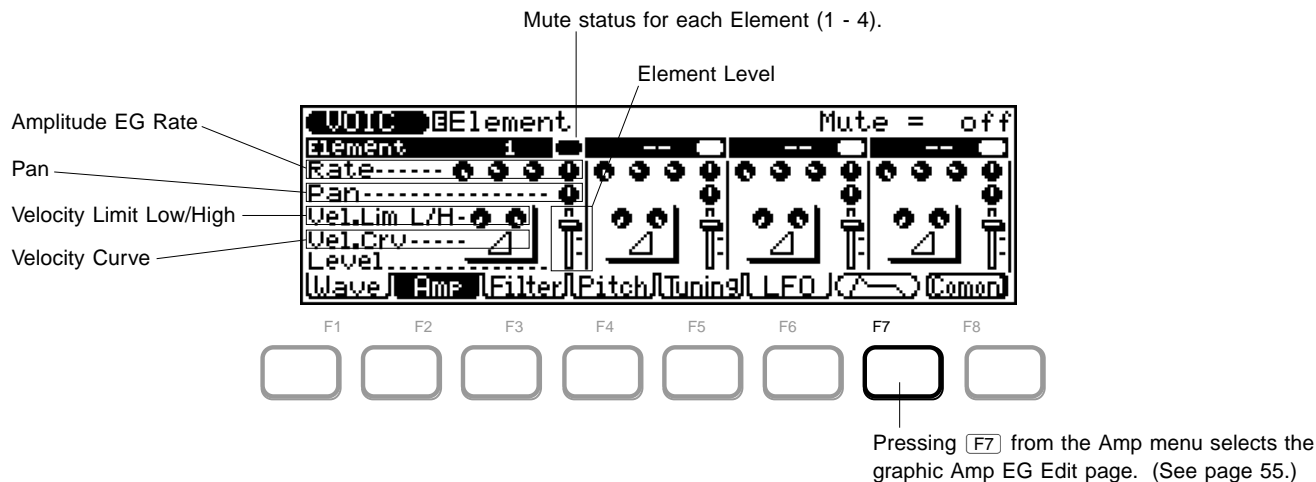
- 6. Press  again to actually copy the selected Element.**

The display automatically returns to the Element Wave page after the operation is completed.

# Voice Element Amplitude Parameters

Path: VOICE → EDIT → \* (F8) (Elmnt) → \* (F2) (Amp)

\* Pressing this may not be necessary if the appropriate page has already been called up.



## Amplitude EG Rate Parameters (Rate)

The Amplitude EG (envelope generator) parameters allow you to shape how the level of the Voice changes over time. By pressing **[F7]** from this page, you can select the graphic Amp EG Edit page, for more detailed editing of the EG parameters. (See page 55.)

Keep in mind that the EG parameters affect each other, and are affected by how long a note is held. For example, if Decay is set to a low value and the note is held for a long time, you may not be able to hear changes made to the Release parameter. Also keep in mind that the EG parameters may have little or no effect, depending on the particular Voice selected.

### ● Attack Rate (Amp EG Atk Rate)

Range: 0 — 63

This determines the Attack rate of the EG, or how long it takes for the sound to reach full volume when a note is played.

### ○ Decay 1 Rate (Amp EG Dcy1 Rate)

Range: 0 — 63

This determines the first Decay rate of the EG, or how rapidly the sound goes to the Decay 1 Level setting. (See page 56.)

### ○ Decay 2 Rate (Amp EG Dcy2 Rate)

Range: 0 — 63

This determines the second Decay rate of the EG, or how rapidly the sound goes to the Decay 2 Level setting. (See page 56.)

### ○ Release Rate (Amp EG Rel Rate)

Range: 0 — 63

This determines the Release rate of the EG, or how long the sound sustains after a note is released.

### ● Pan

Range: -7 (left) — 0 (center) — 7 (right); 8 (scaling)

This determines the pan setting for the Element, or its placement in the stereo image. A setting of 8 (scaling) results in the pan setting being tracked across the keyboard, with left - right corresponding to low - high. In other words, the lower the note, the greater the sound is panned to the left; the higher the note, the greater the sound is panned to the right.

### ● Velocity Limit Low/High (Vel.Lim L/H)

Range: 0 — 127

This determines the velocity range over which an Element can be played. Velocities played outside the range will not be sounded by the Element. This can be used to set up velocity splits among the Elements, in which different Elements sound depending on how hard or soft you play the keyboard.

In the display, the **left** parameter dial is **Velocity Limit Low** (which determines the softest responding velocity), and the **right** is **Velocity Limit High** (which determines the hardest responding velocity).

## ● Velocity Curve (Vel.Crv)

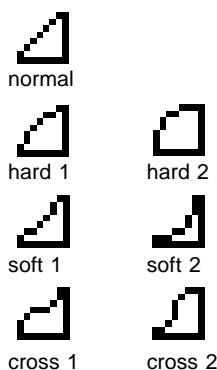
---

Settings:

normal, hard 1, hard 2, soft 1, soft 2, cross 1, cross 2

This determines how the strength of your playing affects the volume of the selected Element. The various curves let you tailor the velocity response to your particular needs or technique. By assigning different curves to different Elements, you can set up velocity crossfades — letting you crossfade between different Elements depending on how softly or strongly you play.

Each curve is represented by a corresponding icon in the display, as shown below. The Hard 1 and 2 curves are good for when you want to have strong volume even at medium playing strength. The Soft 1 and 2 curves are good for when you want greater, more subtle control when playing softly. The Cross 1 and 2 curves are specifically for crossfade applications; to use them, assign Cross 1 to one Element and Cross 2 to the other.



## ● Element Level (Level)

---

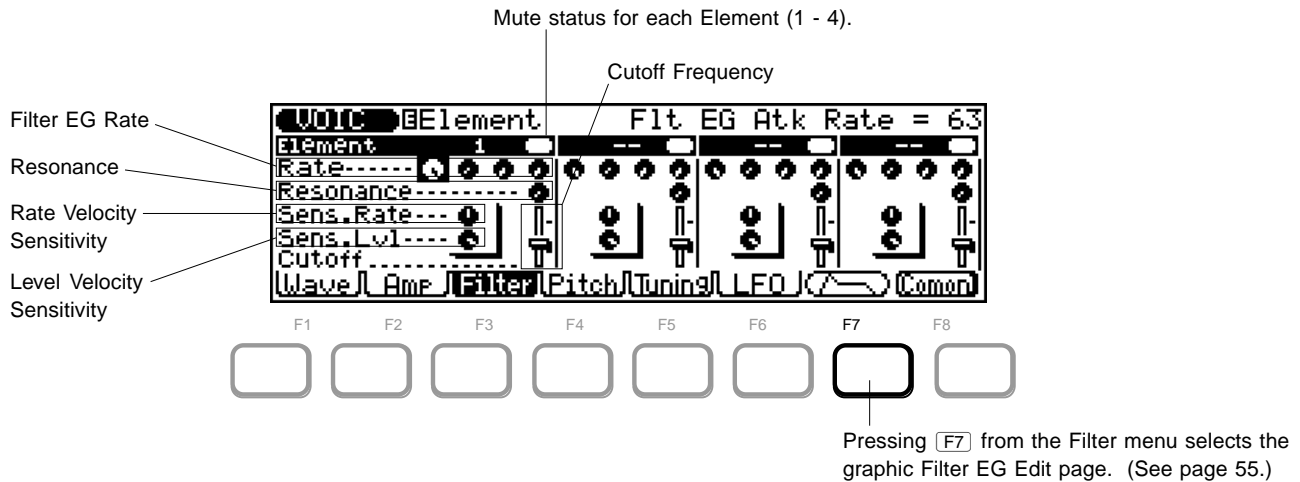
Range: 0 — 127

This determines the volume of the Element.

# Voice Element Filter EG Parameters

Path: VOICE → EDIT → \* F8 (Elmnt) → \* F3 (Filter)

\* Pressing this may not be necessary if the appropriate page has already been called up.



## Filter EG Rate Parameters (Rate)

The Filter EG (envelope generator) parameters allow you to shape how the tone or timbre of the Voice changes over time. By pressing [F7] from this page, you can select the graphic Filter EG Edit page, for more detailed editing of the Filter EG parameters. (See page 55.)

Keep in mind that the EG parameters affect each other, and are affected by how long a note is held. For example, if Decay is set to a low value and the note is held for a long time, you may not be able to hear changes made to the Release parameter. Also keep in mind that the EG parameters may have little or no effect, depending on the particular Voice selected.

### ● Attack Rate (Flt EG Atk Rate)

Range: 0 — 63

This determines the Attack rate of the Filter EG, or how long it takes for the filter to “open up” or reach full effect, after a note is played.

### ● Decay 1 Rate (Flt EG Dcy1 Rate)

Range: 0 — 63

This determines the first Decay rate of the Filter EG. This determines how rapidly the filter setting goes to the Decay 1 Level value. (See page 56.)

### ● Decay 2 Rate (Flt EG Dcy2 Rate)

Range: 0 — 63

This determines the second Decay rate of the Filter EG. This determines how rapidly the filter setting goes to the Decay 2 Level value. (See page 56.)

### ● Release Rate (Flt EG Rel Rate)

Range: 0 — 63

This determines the Release rate of the Filter EG, or how long the filter effect sustains after a note is released.

### ● Resonance

Range: 0 — 63

This determines the amount of filter resonance or emphasis of the Filter Cutoff Frequency parameter below. Higher values increase the emphasis of the Filter Cutoff Frequency, producing a higher resonant peak, while lower values produce a relatively flat response.

### ● Rate Velocity Sensitivity (Sens.Rate)

Range: -7 — +7

This determines the degree to which the Filter EG Rate is affected by velocity. For a setting of 0, velocity has no effect on the Filter EG Rate. For positive settings, the **stronger** you play, the faster the filter changes (shorter EG rates). For negative settings, the **softer** you play, the faster the filter changes.

### ● Level Velocity Sensitivity (Sens.Level)

Range: -7 — +7

This determines the degree to which the Filter EG Level is affected by velocity. For a setting of 0, velocity has no effect on the Filter EG Level. For positive settings, the **stronger** you play, the more effect the filter has on the sound (higher EG levels). For negative settings, the **softer** you play, the more effect the filter has on the sound (lower EG levels).

### ● Cutoff Frequency

Range: 0 — 127

This determines the cutoff frequency of the filter, or the frequency point above which other frequencies are filtered out. Lower cutoff values create a deeper, more rounded tone, while higher values create a thinner, brighter tone.



## Voice Element Graphic EG Edit Parameters — Amp, Filter and Pitch

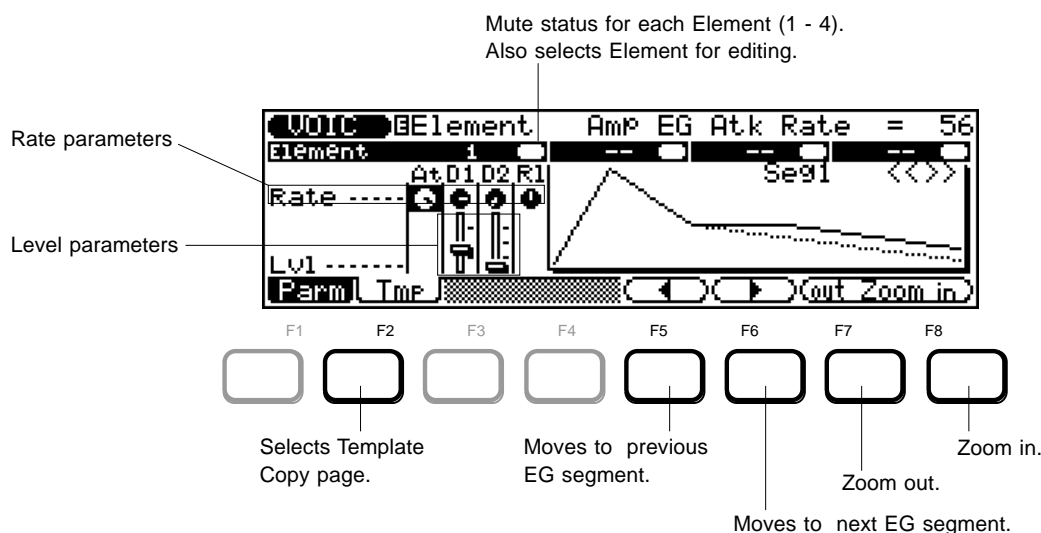
Path: **VOICE** → **EDIT** → \* **F8** (Elmnt) → \*\* **F2** (Amp) or **F3** (Filter) or **F4** (Pitch) → \* **F7** ( )  
→ \* **F1** (Parm)

\* Pressing this may not be necessary if the appropriate page has already been called up.

\*\*Press one of these — Amp, Filter, or Pitch — to select the desired corresponding set of EG controls.

These parameters give you fine control over the EG parameters. With the graphic display, the controls are very intuitive and easy to understand. Moreover, a set of pre-programmed EG Templates make it easy and quick to get suitable EG settings. Once you've copied a Template, you can then "tweak" it with the individual edit controls.

EG pages are provided for the three main aspects of the sound: volume (Amp), tone (Filter), and pitch. To select one of the three, press the appropriate button — **F2** (Amp), **F3** (Filter) or **F4** (Pitch) — from any of the Voice Element pages described above.



### In this page you should:

- 1) Select an Element number (by moving the highlight to the Mute status oval in the display). This calls up the entire set of EG parameters for the Element.
- 2) Select and adjust the parameters as desired.
- 3) Use **F5** and **F6** to select different segments of the graphic EG for viewing (see **About the EG Segments** below). Also, use **F7** and **F8** to zoom in and out of the graphic EG — displaying as much or as little of the EG as desired.

### About the EG Segments

For display purposes and ease of editing, the EG graphic is divided into four segments: Segments (**Seg**) 1 - 3, and Release (**Rel**). Segment 1 corresponds to the Attack portion of the EG, Segment 2 to the Decay 1 portion, Segment 3 to the Decay 2 portion, and Release to the Release.

### ● Attack Rate (At Rate)

Range: 0 — 63

For the Amplitude EG, this determines how long it takes for the sound to reach full volume when a note is played. For the Filter and Pitch EGs, this determines how long it takes the tone/pitch to go from the EG Initial Level setting to the EG Attack Level.

### ● Decay 1 Rate (D1 Rate)

Range: 0 — 63

This determines the first Decay rate of the EG. This determines how rapidly the sound/tone/pitch goes to the Decay 1 Level setting. (See page 56.)

### ● Decay 2 Rate (D2 Rate)

Range: 0 — 63

This determines the second Decay rate of the EG. This determines how rapidly the sound/tone/pitch goes to the Decay 2 Level setting. (See page 56.)

Range: 0 — 63

For the Amplitude EG, this determines the Release rate of the EG, or how long the level of the sound sustains after a note is released. For the Filter and Pitch EGs, this determines how long it takes the tone/pitch to reach the EG Release Level setting.

(Filter EG and Pitch EG only)  
Range: -63 — +63

This determines the initial setting of the filter or pitch, before the note is played.

(Filter EG and Pitch EG only)  
Range: -63 — +63

This determines the filter/pitch level setting that follows the Initial Level.

<p>Range: 0 — 127 (Amplitude EG)          -63 — +63 (Filter EG and Pitch EG)</p> <p>For the Amplitude EG, this determines the level setting that follows the maximum level reached at the end of the Attack. For the Filter and Pitch EGs, this determines the level setting that follows the Attack Level.</p>
---

Range: 0 — 127 (Amplitude EG)  
-63 — +63 (Filter EG and Pitch EG)

This determines the level setting that follows the Decay 1 Level.

**NOTE:** Regarding the Decay 1 and Decay 2 Level parameters, Decay 2 can set to a higher value than Decay 1, yet the actual levels of the two remain equal. (In other words, the actual level of Decay 2 cannot be greater than that of Decay 1.)

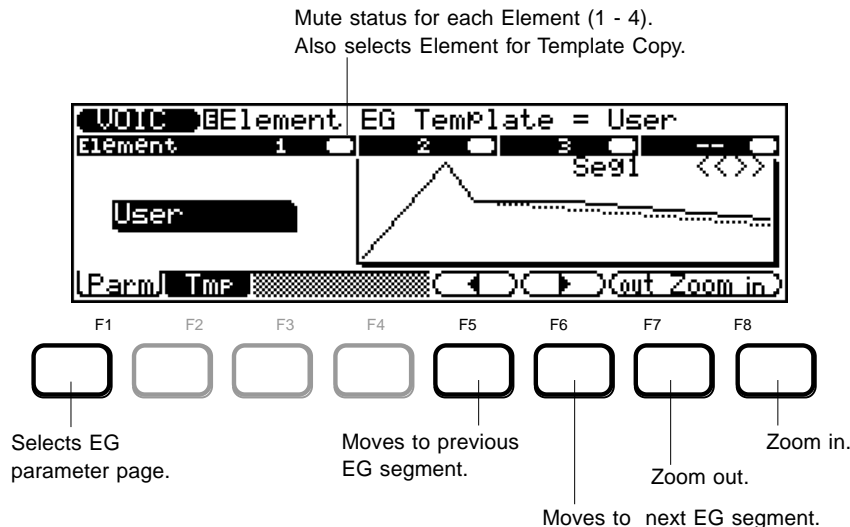
(Filter EG and Pitch EG only)  
Range: -63 — +63  
This determines the final setting of the filter or pitch, after the note is released.

## Voice Element Template Copy — Amp, Filter and Pitch

Path: **VOICE** → **EDIT** → \* **F8** (Elmnt) → \*\* **F2** (Amp) or **F3** (Filter) or **F4** (Pitch) → \* **F7** ( )  
→ \* **F2** (Temp)

\* Pressing this may not be necessary if the appropriate page has already been called up.

\*\*Press one of these — Amp, Filter, or Pitch — to select the desired corresponding set of EG controls.



The EG Templates are pre-programmed Amp/Filter/Pitch EG settings that let you quickly and easily get the type of EG you need. Once you've copied a Template, you can return to the page of EG parameters (**F1** — **Parm**), then "tweak" it with the individual edit controls.

### ● Operation .....

**1.** Move the highlight to the Template type.

**2.** Select a Template. (Use the rotary dial or **DEC**/**INC** buttons.)

Refer to EG Template List in the separate "Sound Lists and MIDI Data" supplement.

If you want to restore the original edited EG setting, select **User**.

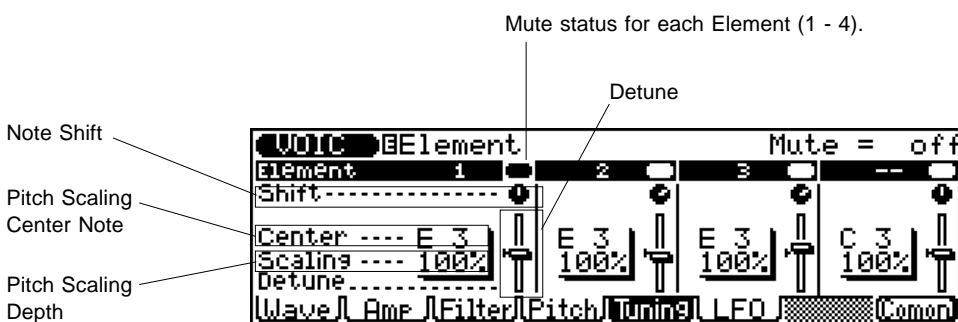
**3.** Press **ENTER** to actually copy the Template.

**4.** Press **EXIT** to return to the previous Voice Edit page.

## Voice Element Tuning Parameters

**Path:** VOICE → EDIT → \*F8 (Elmnt) → \*F5 (Tuning)

\* Pressing this may not be necessary if the appropriate page has already been called up.



- **Note Shift (Shift)**

Range: -32 — +32 (semitones)

This determines the coarse pitch setting for the Element in semitones. (Fine pitch adjustments can be made in Detune below.)

### ● Pitch Scaling Center Note (Center)

Range: C-2 — G8

This determines the central note around which the Pitch Scaling is based. For example, when this is set to C3, the C3 key (middle C) plays at conventional pitch, and all other notes around it are scaled in pitch according to the Pitch Scaling Depth setting below.

### ● Pitch Scaling Depth (Scaling)

Settings: 0%, 5%, 10%, 20%, 50%, 100%

This determines the Pitch Scaling, or how pitch is tracked across the keyboard. A setting of 0% results in normal scaling; in other words, conventional pitch intervals are used. A setting of 100% results in constant pitch across the keyboard; all notes sound at the same pitch. Intermediate settings provide microtonal scaling. For example, a 5% setting results in a 24-note octave; in other words, a one-octave interval corresponds to two octaves on the keyboard.

- **Detune**

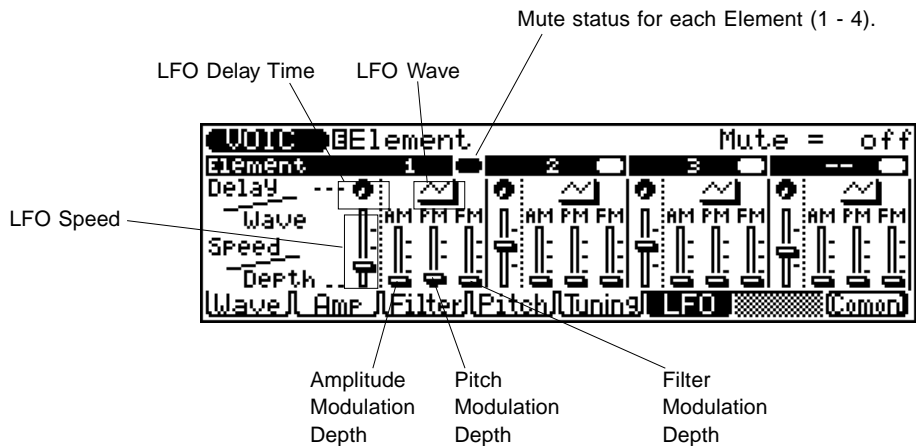
Range: -50 — +50 cents (approx. +/- 1 semitone)

This determines the fine pitch setting for the Element in cents. (Coarse pitch adjustments can be made in Note Shift above.)

# Voice Element LFO Parameters

Path: VOICE → EDIT → \* F8 (Elmnt) → \* F6 (LFO)

\* Pressing this may not be necessary if the appropriate page has already been called up.



## About LFO

The LFO (low frequency oscillator) is a low frequency waveform that is used to modulate, or regularly waver, some aspect of the sound. This modulation can be applied to the level (Amplitude), pitch, or tone (Filter).

The LFO here is separate from the modulation found in the Common page's Control menu. (See page 46.) The LFO modulation here is applied constantly and is not affected by the controllers (MODULATION wheel, after touch, PITCH wheel, or Foot Controller).

### ● Delay Time

Range: 0 — 127

This determines the amount of time before the onset of the LFO modulation. (This only affects Pitch modulation.)

### ● Wave

Settings: sawtooth, triangle, sample & hold (S&H)

This determines the particular waveform for the LFO. The modulation characteristics differ depending on the waveform selected. The **sample & hold** setting produces a random modulation effect.

### ● Speed

Range: 0 — 63

This determines the speed of the LFO modulation. Higher values result in faster modulation.

### ● Amplitude Modulation Depth (AM)

Range: 0 — 31

This determines how widely the level (Amplitude) is modulated by the LFO. The higher the value, the greater the modulation of the sound level.

### ● Pitch Modulation Depth (PM)

Range: 0 — 63

This determines how widely the pitch is modulated by the LFO. The higher the value, the greater the pitch modulation.

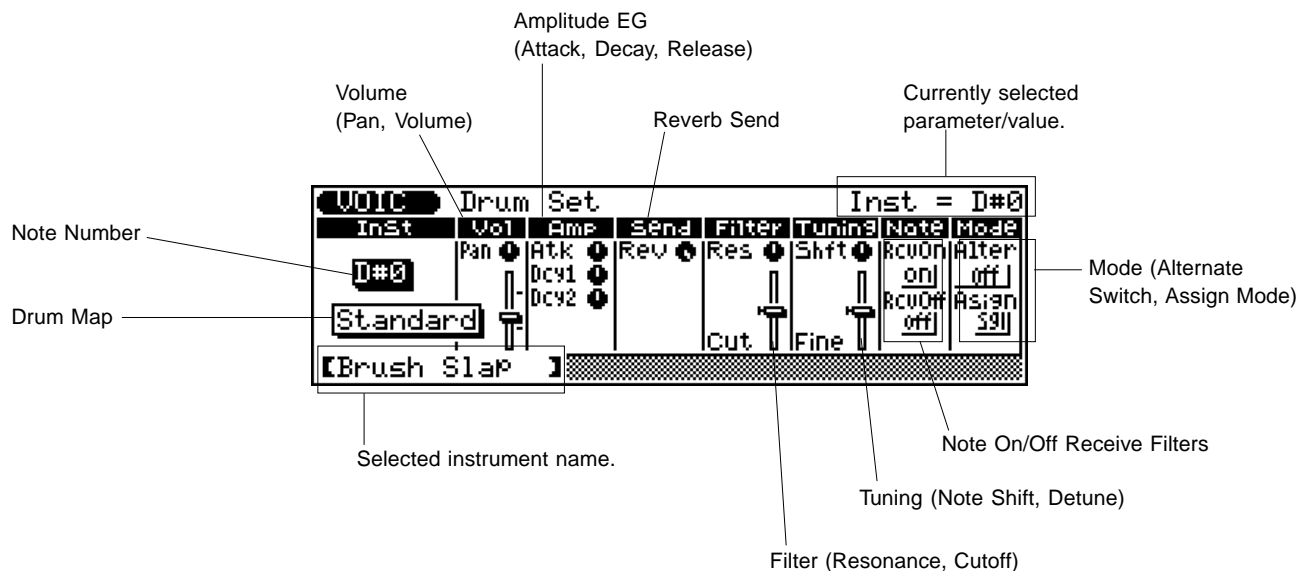
### ● Filter Modulation Depth (FM)

Range: 0 — 15

This determines how widely the tone (Filter) is modulated by the LFO. The higher the value, the greater the tone modulation.

# Other Voice Functions

## Voice Drum Set



The Drum Set controls allow you to change a wide variety of settings of the drum/percussion sounds in the User Drum Kit. These settings include pitch, level, panning, Reverb send, filter controls and EG (Envelope Generator), among others. Moreover, these parameters can be set to completely independent values for **each** of the drum sounds in the User Kit.

### ● Operation .....

1. Select the User Kit (D12 or program #140).  
(None of the other Drum Voices can be selected for editing.)
2. Press **EDIT**.
3. Select the type of Drum Voice.

### 4. Select the note number/instrument for editing.

This can also be done directly from the keyboard, no matter which other parameter is highlighted. Simply play a key, and the note number changes and the instrument name appears at the bottom of the display.

### 5. Edit the drum sound as desired.

Edit other sounds by repeating steps 4 and 5.

**NOTE:** There is no Store operation for the User Kit; the Kit is saved to internal memory automatically. Also, for this reason, there is no Compare function in Drum Set editing.

## ● Note Number/Instrument (Inst)

Range: C0 — C5

This determines the Note Number in the Kit, and hence, the specific drum/percussion instrument assigned to the note. You can also select the desired note number by simply pressing the appropriate key on the keyboard.

**NOTE:** You should avoid playing the keyboard while editing an instrument sound, since doing so will automatically select a different Note Number/Instrument, depending on the key you press.

## ● Drum Map

Settings:

Standard,	Room,
Rock,	Electronic (Electronic),
Analog,	Jazz,
Brush,	Classic,
SFX 1,	SFX 2

This determines the basic type of drum kit that will be used for the User Kit. Selecting a particular Drum Map calls up a certain set of drum sounds and key assignment. (For a list of the drum sounds and key assignments in each Drum Map, refer to the separate “Voice Lists and MIDI Data” supplement.)

**NOTE:** Be careful not to switch Drum Maps in the middle of editing a User Kit, otherwise all your parameter edits will be reset to the default values of the newly selected kit.

## ● Pan

Range: random, Left 63 (-63) — Right 63 (+63)

This determines the stereo position of the selected drum sound. The **random** setting randomly assigns the drum to a pan position. This is useful when you want to quickly assign different drum sounds to be heard from different random parts of the stereo image.

## ● Volume (Vol)

Range: 0 — 127

This determines the volume of the selected drum sound.

## ● Amplitude EG Attack Rate (Amp Atk)

Range: 0 — 127

This determines the Attack Rate of the level EG, or how long it takes for the sound of the selected drum sound to reach full volume when a note is played. (For more information about EG parameters, see page 55.)

## ● Amplitude EG Decay Rate (Amp Dcy)

Range: 0 — 127

This determines the Decay Rate of the level EG, or how rapidly the sound dies down as the note is held. Higher values result in a longer Decay rate. (For more information about EG parameters, see page 55.)

**NOTE:** This parameter may little or no effect for certain short percussion sounds.

## ● Amplitude EG Release Rate (Amp Rls)

Range: 0 — 127

This determines the Release Rate of the level EG, or how rapidly the sound dies out after the note is released. (For more information about EG parameters, see page 55.)

**NOTE:** This parameter may little or no effect for certain short percussion sounds.

## ● Reverb Send (Send Rev)

Range: 0 — 127

This determines the level of the selected drum sound that is sent to the Reverb effect. A value of 0 results in a completely “dry” drum sound, no matter how much Reverb is applied to the User Kit.

**NOTE:** Keep in mind that the Reverb effect must be properly enabled and set for this parameter to work as intended. Also, the Reverb Send parameter (page 45) must be set to an appropriate value.

## ● Filter Cutoff (Filter Cut)

Range: 0 — 127

This determines the cutoff frequency of the filter applied to the selected drum sound, or the frequency point around which other frequencies are filtered out. Lower cutoff values create a deeper, more rounded tone, while higher values create a thinner, brighter tone.

## ● Filter Resonance (Filter Res)

Range: -64 — +63

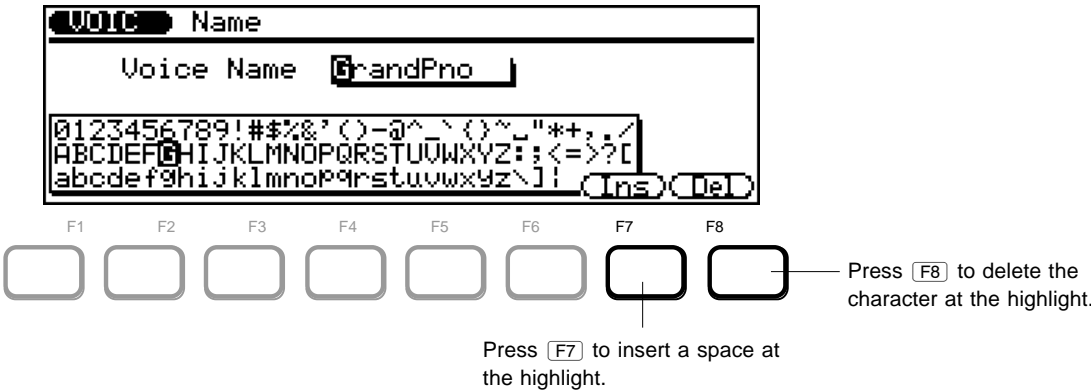
This determines the amount of filter resonance or emphasis of the Filter Cutoff parameter above. Higher values increase the emphasis of the cutoff frequency, producing a higher resonant peak, while lower values produce a relatively flat response.



# Voice Name

Path: VOICE → EDIT → \* F8 (Comon) → \* F7 (Name)

\* Pressing this may not be necessary if the appropriate page has already been called up.



- Operation .....
  1. Move the highlight in the name to the desired position with the left/right cursor buttons (◀/▶).
  2. Change the character at the highlight by using the rotary dial.
  3. After entering the name, press EXIT to leave the Name page.

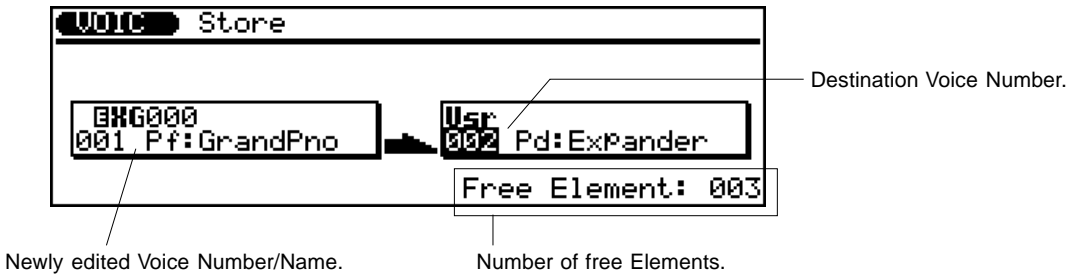
Once you leave the Name page, further editing can be done, or you can store the newly named Voice.

Other functions

- F7 — Insert  
This inserts a blank space at the highlight position.
- F8 — Delete  
This deletes the character at the highlight position.

# Voice Store

Path: VOICE → EDIT → STORE



- Operation .....
  1. Once you've edited and named a Voice, press STORE.
  2. Select the User Voice number to which you want to store the newly created Voice.

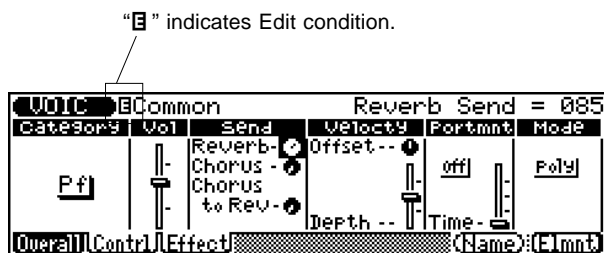
The default number is the same as the Voice you called up for editing.

3. Press ENTER.
4. Answer the "Are you sure?" prompt by pressing the INC button for "Yes" or the DEC button for "No."  
Press the INC button to store the Voice, or press DEC to cancel. When the operation is finished, a "Completed" message appears, and the display returns to the Voice Play mode. Pressing DEC returns operation to the Store page.

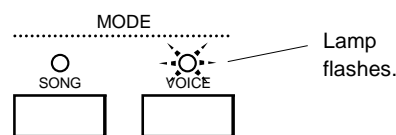
## Voice Compare

The Compare function allows you to hear the changes you've made to a Voice and instantly compare them with the sound of the original Voice. To use Compare, you must be in the Edit mode and have made at least one change to a parameter.

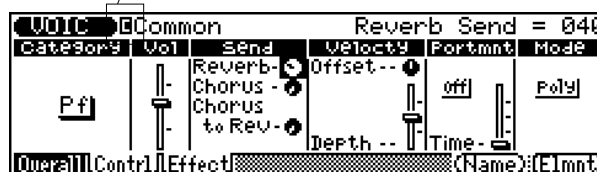
Normally, after editing, the letter “E” (Edit) appears at the top left of the display, indicating the Edit condition:



From this condition to use Compare, press the **[EDIT]** button. In Compare, the **VOICE** lamp flashes and the letter **"C"** (Compare) appears at the top of the display, replacing **"E."** The original parameter values are also shown.



“C” indicates Compare condition.



Pressing **EDIT** again returns to the newly edited Voice (and “**E**” changes to “**E**”). You can continue editing other parameters, pressing the **EDIT** button as needed to compare the edited sound with the original. (Pressing **EDIT** toggles between the original Voice and edited Voice.)

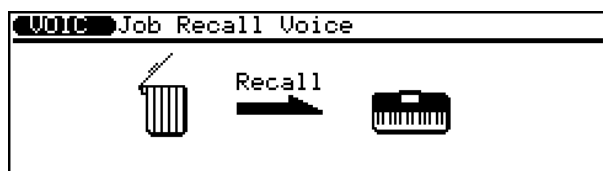
**NOTE:** In the Compare condition, all parameters are “locked” and cannot be changed.

## Voice Job — Edit Recall

The Edit Recall Job (the only Voice Job) allows you to recall the last edited Voice. For example, if you have edited a Voice and then switched to other Voices without storing the one you were editing to internal memory, you can still call the edited Voice back up again by using this function.

**To use Edit Recall:** .....

- 7. From the Voice Play mode, press the  button.**



- 2.** Press **ENTER** to recall the last edited Voice, or press **EXIT** to cancel.

# Song Mode

<b>Song</b>	
<b>Song Playback</b>	
Loop Playback .....	67
Transport/Location Controls .....	67
Measure/Beat Parameter .....	68
Mark/Jump Function .....	68
Tempo .....	69
Mute .....	69
Play Effect Bypass .....	70
<b>Multi Controls</b>	
<b>MIXER</b> pages .....	73
<b>EFFECT</b> pages .....	76
<b>INSTRUMENT</b> pages .....	82
<b>Controller Edit</b>	
Portamento .....	86
Real-time Controllers: .....	87
MODULATION Wheel / PITCH Wheel /	
After Touch / Foot Controller	
<b>Song Playback Effects</b>	
Per Track .....	89
Quantize .....	90
Swing .....	91
Transpose/Clock Shift .....	92
Gate Time/Velocity .....	93
Track Transmit Channel .....	94
Song Chain .....	95

## Loading a Song

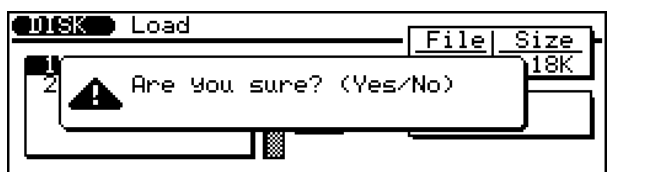
Song loading is done from the Disk mode (page 198). However, Songs also be loaded directly from within the Song mode, without having to enter the Disk mode.

## ● Operation .....

- 1. Make sure a proper floppy disk (with Song data) is in the disk drive. Then, from the main Song mode page, press **[F7]** (Load).**
- 2. From the Load page, select the desired Song, then press **[ENTER]**.**

After the operation is completed, the display returns to the Load page. Press **SONG** or **EXIT** to return to the main Song page.

If a Song is already in memory and the display below appears, answer the prompt with the **DEC** (“No”) or **INC** (“Yes”) buttons.



Pressing **INC** loads the Song and pressing **DEC** cancels the operation. In either case, the display returns to the Load page. Press **SONG** or **EXIT** to return to the main Song page.

# Song Playback

Song Playback involves much more than simply starting and stopping the Song. The Song mode contains a wide variety of parameters that give you extensive control over playback, allowing you to dramatically change the final sound.

To enter the Song mode, make sure a Song is loaded (see page 198) or has been recorded, then press **[SONG]**.

## Loop Playback

Loop playback allows you to continuously “loop” or repeat playback of the Song. Playback repeats indefinitely until the Song is stopped manually.

To Loop playback a Song: .....

1. Simultaneously hold down the **[SHIFT]** button and press the **[RUN]** button.

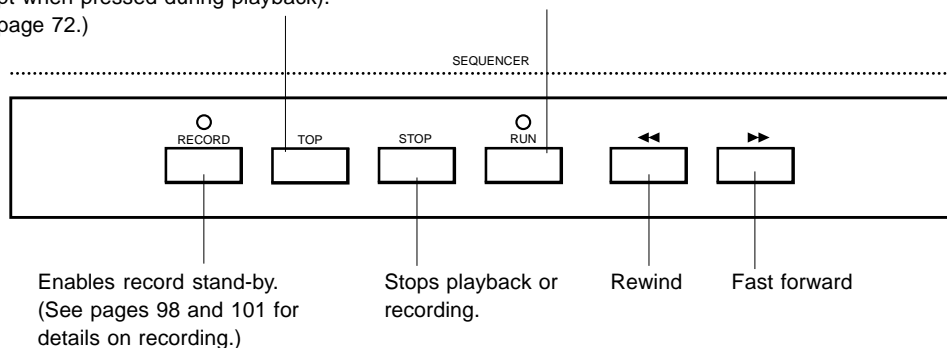
Loop playback starts immediately, and is indicated by the loop playback symbol (↺) at the right of the song name.

2. Stop playback by pressing the **[STOP]** button.

## Transport/Location Controls

Returns to the beginning of the Song.  
Also recalls the User-stored Multi settings  
(except when pressed during playback).  
(See page 72.)

Starts playback (or recording,  
when RECORD lamp is lit).



The **[RECORD]**, **[STOP]** and **[RUN]** buttons are self-explanatory, and their use is covered elsewhere. The other transport controls are explained below.

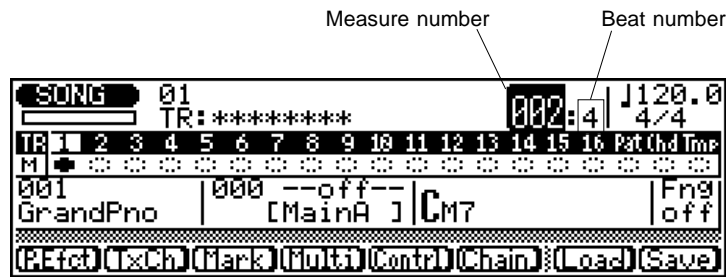
### ● **[TOP]** button

Pressing this instantly returns to the beginning (or “top”) of the Song or phrase. This button can also be used for the same purpose during playback. (If you press **[RUN]** too soon after pressing **[TOP]**, the sequencer may not return to the beginning of the Song.)

### ● **[◀▶]** / **[▶▶]** buttons

Pressing either of these once reverses or advances one measure (when playback is stopped). Holding either down rewinds or fast-forwards continuously through the song. These can also be used during playback.

Measure/Beat Parameter
------------------------



**To use the Measure/Beat parameter for location: .....**

Highlight the measure number (in the main Song Play display shown above), and use the following controls:


- **DEC/INC** buttons — to step through the measures.
- **Rotary dial** — to quickly move through the measures.
- **Numeric keypad** (then **ENTER**) — to directly go to a specific measure number.

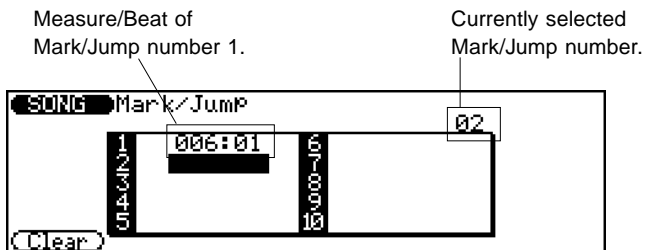
The beat number always resets to 1 when locating a new measure.


## Mark/Jump Function

The mark/jump function lets you “mark” (memorize) up to 10 locations within the current song and “jump” to any one of the marked locations in one easy step.

**To mark a location: .....**



- 1. Press  (Mark) from the main Song Play display.**  
This calls up the Mark/Jump display.



- 2.** From the above display, move the highlight to an empty number (for example, “2” above) and press .

This records the current measure/beat location to the specified Mark/Jump number, and returns you to the Song mode.

**To jump to a marked location: .....**

- 1. Press  (Mark).**
- 2. Move the highlight to the appropriate Mark/Jump number (or enter the number via the numeric keypad), and press .**

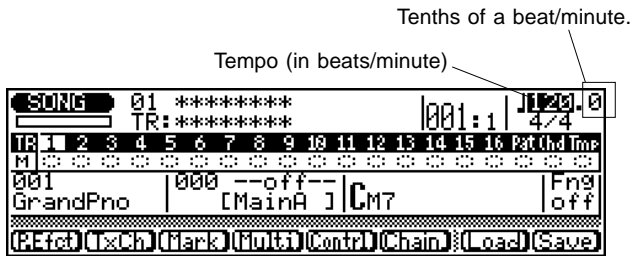
The display immediately returns to Song Play at the specified location.

**To clear a marked location: .....**

1. Press **F3** (Mark).
2. Move the highlight to the desired Mark/Jump number (or enter the number via the numeric keypad), and press **F1** (Clear).

## Tempo

The QS300 allows precise tempo settings from 25 to 300 beats per minute in fine one-tenth of a quarter-note increments.



The number to the left of the period in the tempo parameter is the number of quarter-note beats per minute, and the number to the right of the period represents tenths of a quarter note. Move the highlight to the desired part of the tempo (the ones or tenths section) and change the tempo as required.

## Mute

Recorded tracks can be muted (turned off) during playback or recording, allowing you to selectively hear individual tracks. This lets you single out important tracks you want to hear, or temporarily silence tracks that you don't want to hear.

Mute dots. (Tracks 1 and 2 are currently muted.)



To mute/un-mute a recorded track: .....

1. Move the highlight to the desired mute dot in the display.
2. Press the **INC** button (once or twice) until the letter "M" appears in the mute dot.  
To un-mute the track (or turn it on), press the **DEC** button. The letter "M" disappears and the mute dot is solid, indicating the track can be heard.

The mute dots appear as white blocks with a dotted outline rather than solid dark dots. In the display above, for example, tracks 1 and 2 are muted, tracks 3, 4 and

Pattern (**Pat**) contain data and are on, while the rest contain no data.

**NOTE:** The Chord (**Chd**) and Tempo (**Tmp**) tracks cannot be muted.

To simultaneously mute/un-mute all tracks: .....

1. Move the highlight to any mute dot in the display.
2. Simultaneously hold down the **SHIFT** button and press the **DEC** or **INC** button — **INC** to mute and **DEC** to un-mute.

**HINT:** This function can be very handy when you want to "solo" monitor a track: First mute all tracks, then turn on only the track you want to hear.

# Play Effect Bypass

Play Effect Bypass allows you to turn play effects on and off for individual recorded tracks during playback or recording.

Minus sign (➖) in mute dots indicates Play Effect Bypass is on for the track.



To use Play Effect Bypass on a recorded track: .....

1. Move the highlight to the desired mute dot in the display.
2. Press the **DEC** button (once or twice) until a minus sign (➖) appears in the mute dot to turn off the effects for the selected track.

A minus sign (➖) appears in the mute dot in the display, indicating that the play effects for the selected track are turned off. To turn the effects back on, press the **INC** button.

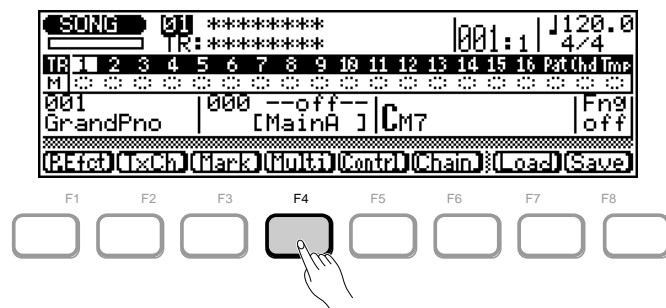
To use Play Effect Bypass on all tracks at once: .....

1. Move the highlight to any mute dot in the display.
2. Simultaneously hold down the **SHIFT** button and press the **DEC** or **INC** button — **DEC** to effect-bypass all tracks or **INC** to set the track for normal playback.

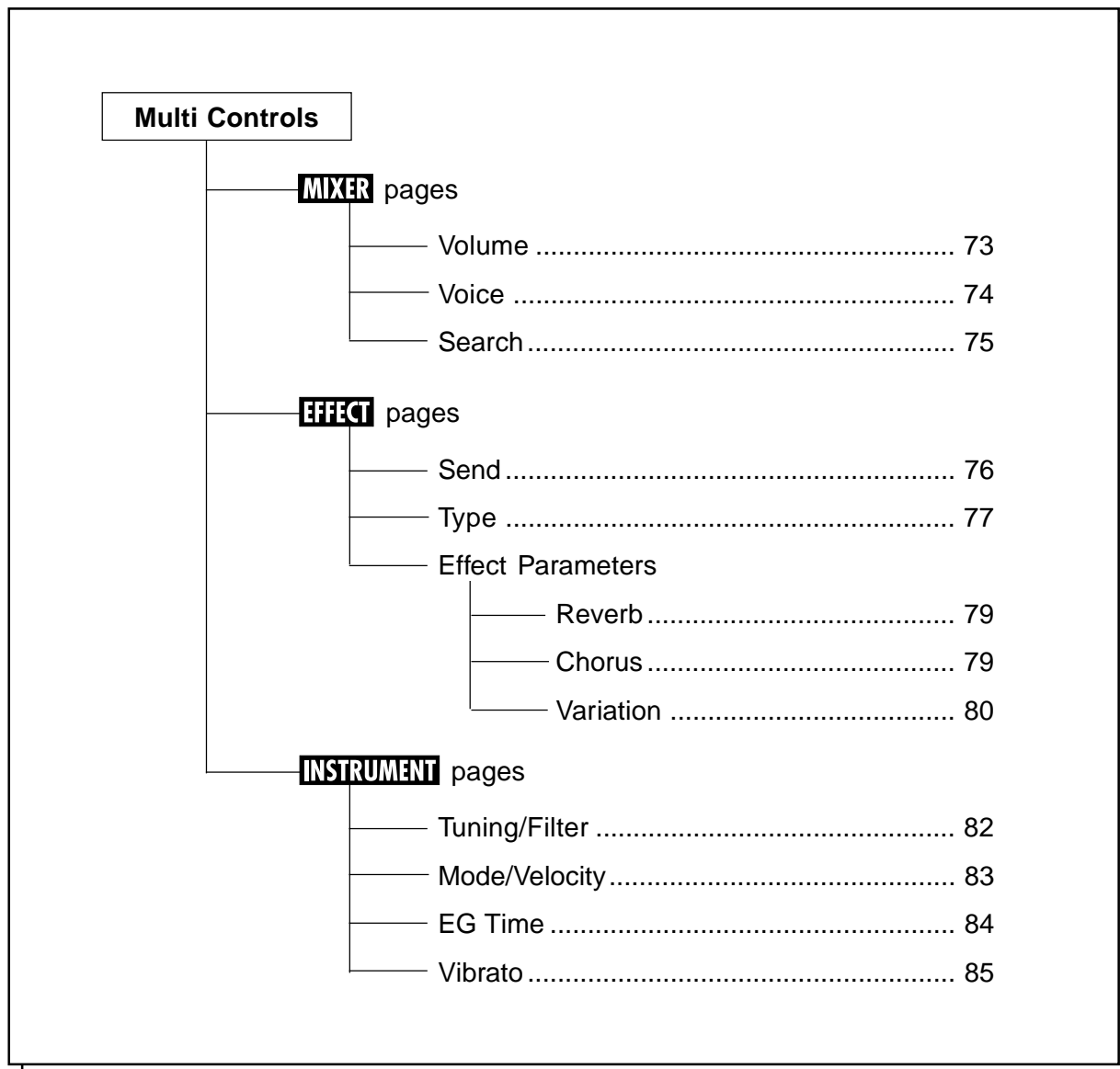
# Multi Controls

The Multi controls give you extensive control over a wide variety of parameters for the Voices of all of the individual tracks. These parameters include Voice Bank and Voice, volume, panning, tuning, filter, velocity, EG (for Amplitude), and vibrato — plus all effect settings, including Send, Type and all effect parameters. The Multi pages also feature an easy-to-use “mixing console” layout that shows you all relevant parameters at a glance.

**To call up the Multi controls:** .....  
Press **[SONG]** to enter the Song mode. Then, from the main Song Play display (shown below), press **[F4] (Multi)**.



The tree chart below shows all parameter pages for the Multi controls. The three main paths are the Mixer pages (which include Voice and volume settings), the Effect pages, and the Instrument pages (which include tuning, filter, velocity, EG and vibrato settings).



# Storing the Multi Control Parameter Values

The settings for all Multi control parameters (listed in the chart on the previous page) are automatically saved as you make changes to them. However, many of these settings may change during playback of a Song, such as when the Song contains different Program Change or Control Change settings. For this reason, you may want to have an “initial” or “reset” set of Multi values that can be recalled (particularly at the start of a Song), or you may want to assign a particular set of Multi values for instant recall. The function below lets you store all current Multi values to a single User set, which can be instantly recalled each time the **TOP** button is pressed.

To store a User set of Multi parameter values: .....

1. After changing any of the Multi parameters, return to the main Song display (by pressing **SONG** or **EXIT**).
2. To call up the function, simultaneously hold down the **SHIFT** button and press **STORE**.



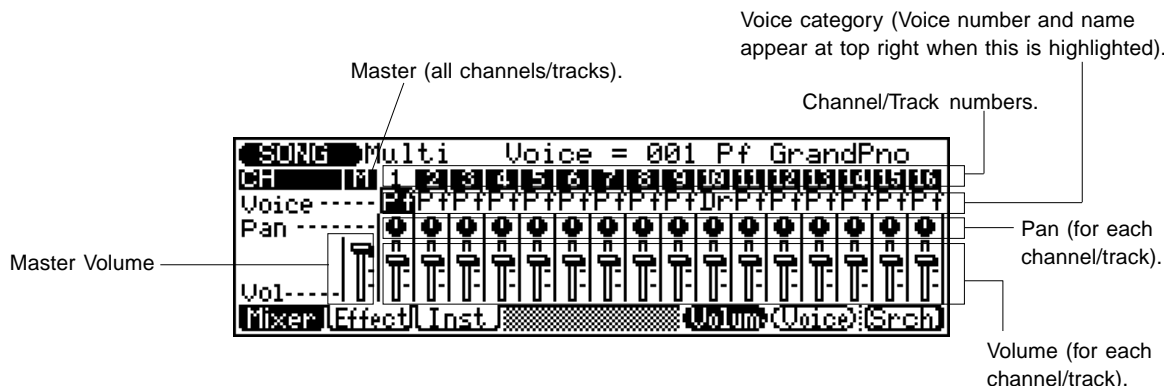
3. Press **INC** (“Yes”) to store the Multi settings, or press **DEC** (“No”) to cancel.

To recall the settings (if you’ve made changes in the course of Song playback or recording), simply press the **TOP** button (when playback is stopped). This not only returns to the beginning of the Song, but resets all Multi parameter values to the settings you stored in the operation above.

# Song Multi MIXER Volume

Path: SONG → F4 (Multi) → \* F1 (Mixer) → \* F6 (Volume)

\* Pressing this may not be necessary if the appropriate page has already been called up.



## ● Voice

Range: 1 — 128, D1 — D12 (129 — 140), off (141)

This determines the Voice for the individual channel/track. (To set the bank, use the Mixer Voice page below.) Only the Voice category is displayed at the channel number; the Voice number and name are shown at the top right of the display.

## ● Pan

Range: random (-64), left 63 (-63) — right 63 (+63)

This determines the stereo position for the individual channel/track. The **random** setting randomly assigns the pan position. This is useful when you want to quickly assign different instrument tracks to be heard from different random parts of the stereo image.

## ● Volume

Range: 0 — 127

This determines the volume setting for the individual channel/track.

## ● Master Volume

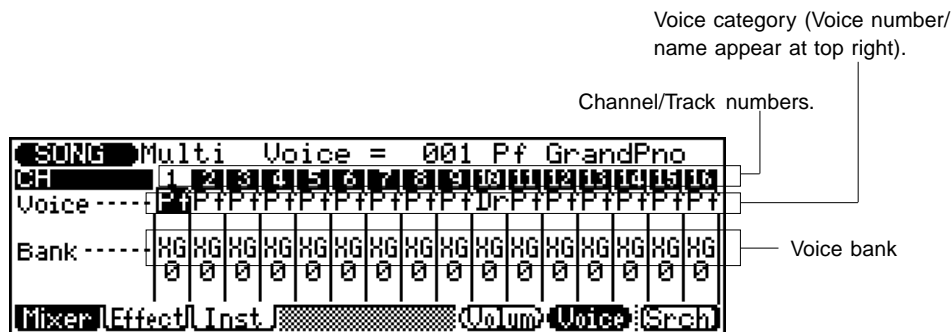
Range: 0 — 127

This determines the overall volume setting of all channels/tracks.

**Song Multi MIXER Voice**

**Path:** SONG → F4 (Multi) → \*F1 (Mixer) → \*F7 (Voice)

\* Pressing this may not be necessary if the appropriate page has already been called up.



## ● Voice

Range: 1 — 128, D1 — D12 (129 — 140), off (141)

This determines the Voice for the individual channel/track.

● **Bank**

Range: Normal (XG) mode: XG 0 — 101, Fx (SFX), Pr (Preset), Us (User)

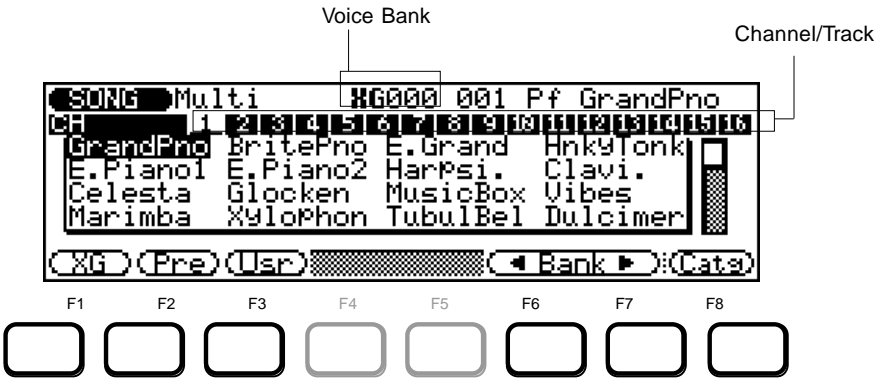
TG300B mode: TB 0 — 60

This determines the Voice bank for the individual channel/track.

Song Multi **MIXER** Search

Path: **SONG** → **F4** (Multi) → \* **F1** (Mixer) → \* **F8** (Srch)

\* Pressing this may not be necessary if the appropriate page has already been called up.

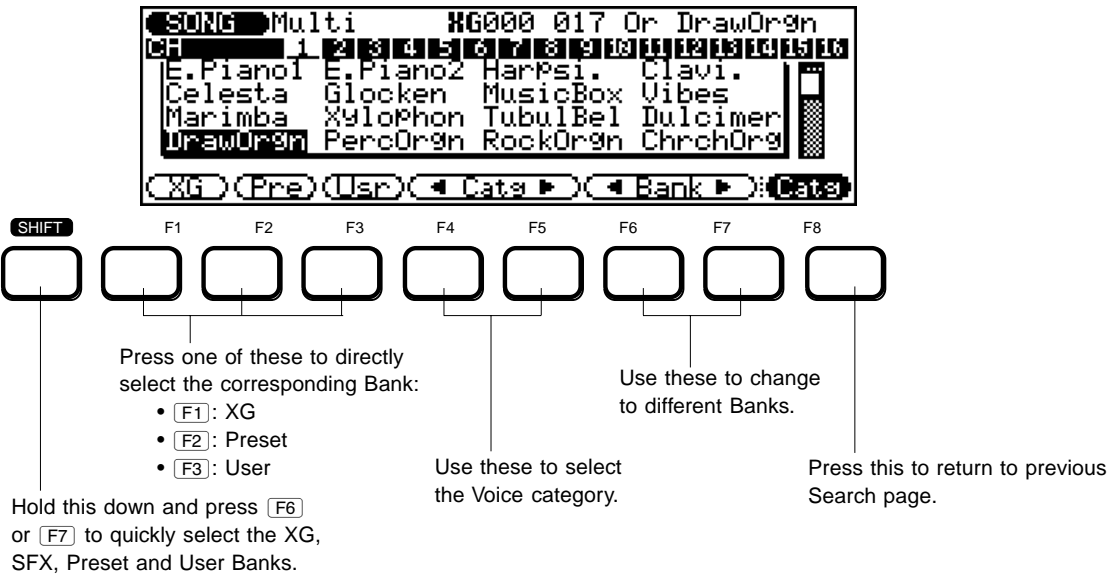


The Search pages provide an easy and quick way to browse through and select different Voice banks and Voices.

From the page shown above, you can:

- Use **F1**, **F2** and **F3** to directly select the XG, Preset and User banks, respectively.
- Use **F6** and **F7** (**Bank** **◀/▶**) to select the bank.
- Hold down the **SHIFT** button and simultaneously press either **F6** or **F7** (**Bank** **◀/▶**) to quickly select the XG, SFX, Preset and User Banks.

- Use the rotary dial or **DEC/INC** buttons to select Voices within the current bank.
- Press **F8** (**Catg**) to call up the Category page (below), then use **F4** and **F5** to browse through the Voices according to their general categories.



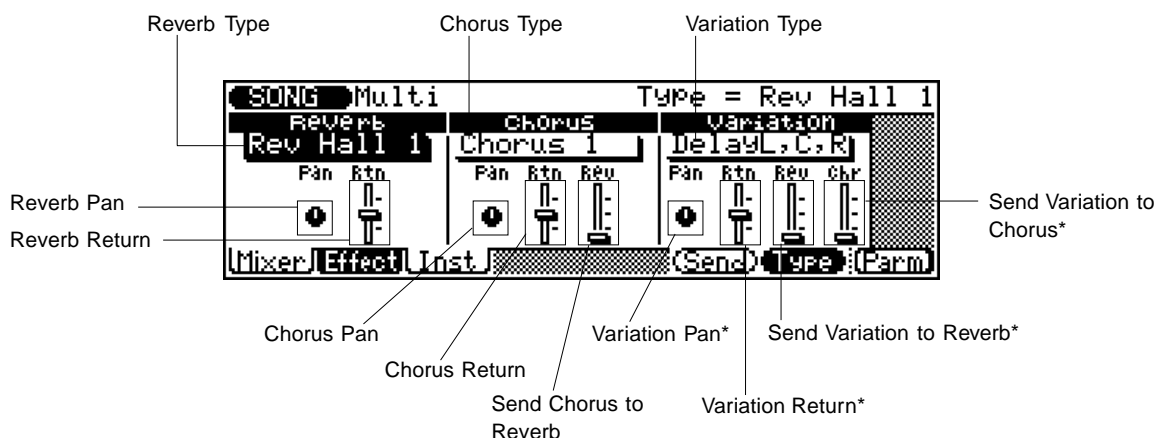
To return to the previous Mixer page press **EXIT**.



# Song Multi EFFECT Type

Path: SONG → F4 (Multi) → \* F2 (Effect) → \* F7 (Type)

\* Pressing this may not be necessary if the appropriate page has already been called up.



\* These parameters are available only when Variation Mode is set to System.

## ● Reverb Type

Settings:

No Effect,  
Rev Hall 1 & 2, Rev Room 1 - 3,  
Rev Stage 1 & 2, Rev Plate,  
Rev White Room (WhiteRm), Rev Tunnel,  
Rev Basement (Basemnt)

This determines the effect type used for the Reverb effect. The Reverb Type can also be selected from the Effect Parameters pages (page 79). (For more details on the Reverb effects, refer to the separate “Sound Lists and MIDI Data” supplement.)

## ● Reverb Pan

Range: left 63 (-63) — center (0) — right 63 (+63)

This determines the stereo position for the Reverb effect sound of the individual channel/track.

## ● Reverb Return

Range: 0 — 127

This determines the level of the Reverb sound (for the individual channel/track) in the overall mix.

## ● Chorus Type

Settings:

No Effect,  
Chorus 1 — 4, Celeste 1 — 4,  
Flanger 1 — 3

This determines the effect type used for the Chorus effect. The Chorus Type can also be selected from the Effect Parameters pages (page 79). (For more details on the Chorus effects, refer to the separate “Sound Lists and MIDI Data” supplement.)

## ● Chorus Pan

Range: left 63 (-63) — center (0) — right 63 (+63)

This determines the stereo position for the Chorus effect sound of the individual channel/track.

## ● Chorus Return

Range: 0 — 127

This determines the level of the Chorus sound (for the individual channel/track) in the overall mix.

## ● Send Chorus to Reverb

Range: 0 — 127

This determines the level of the Chorus signal that is sent to and processed by the Reverb effect.

## ● Variation Type

Settings:

No Effect;	
Reverb (Rev) Hall 1 & 2;	Reverb (Rev) Room 1 - 3;
Reverb (Rev) Stage 1 & 2;	Reverb (Rev) Plate;
Delay L-C-R;	Delay L,R;
Echo;	Cross Delay;
Early Reflection (Ref.) 1 & 2;	Gate Reverb;
Reverse Gate (ReversGate);	Reverb Karaoke (RevKaraoke) 1 - 3;
Chorus 1 - 4;	Celeste 1 - 4;
Flanger 1 - 3;	Symphonic;
Rotary Speaker (Sp.);	Tremolo;
Auto Pan;	Phaser 1 & 2;
Distortion;	Overdrive;
Guitar Amp Simulator (G-Amp.Sim.);	3-Band EQ;
2-Band EQ;	Auto Wah;
THRU	

This determines the Variation effect type for the Voice. The Variation Type can also be selected from the Effect Parameters pages (page 79). For details on specific effect types and parameters, refer to the separate “*Sound Lists and MIDI Data*” supplement.

**NOTE:** When **No Effect** or **THRU** is selected for the Type, no Variation effect is applied. The **No Effect** setting cancels the Variation effect. When set to **THRU**, the sound of the Voice is output without any Variation effect.

## ● Variation Pan

Range: left 63 (-63) — center (0) — right 63 (+63)

This determines the stereo position for the Variation effect sound of the individual channel/track. This parameter is available only when Variation Mode (in the Effect Send page) is set to System.

## ● Variation Return

Range: 0 — 127

This determines the level of the Variation effect sound (for the individual channel/track) in the overall mix. This parameter is available only when Variation Mode (in the Effect Send page) is set to System.

## ● Send Variation to Reverb

Range: 0 — 127

This parameter is available only when Variation Mode (in the Effect Send page) is set to System.

## ● Send Variation to Chorus

Range: 0 — 127

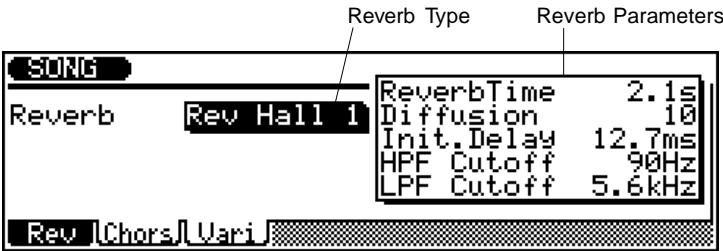
This parameter is available only when Variation Mode (in the Effect Send page) is set to System.

Song Multi **EFFECT** Effect Parameters

Path: SONG → F4 (Multi) → \* F2 (Effect) → \* F8 (Parm) → \* F1 (Rev) / \* F2 (Chors) / \* F3 (Vari)

\* Pressing this may not be necessary if the appropriate page has already been called up.

F1 — Reverb (Rev)



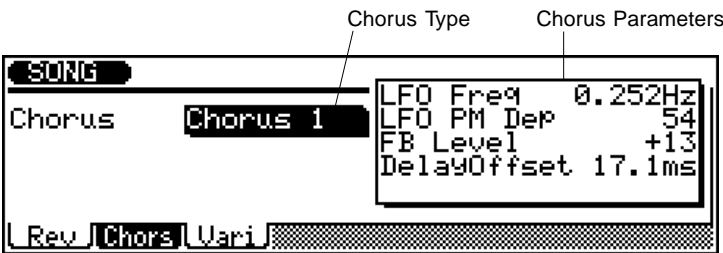
● Reverb Type

This parameter is the same as that in the Effect Type page above (page 77).

● Reverb Parameters

These various parameters let you adjust and change the sound of the Reverb effect. (For more details on the Reverb effects and descriptions of these parameters, refer to the separate “Sound Lists and MIDI Data” supplement.)

F2 — Chorus (Chors)



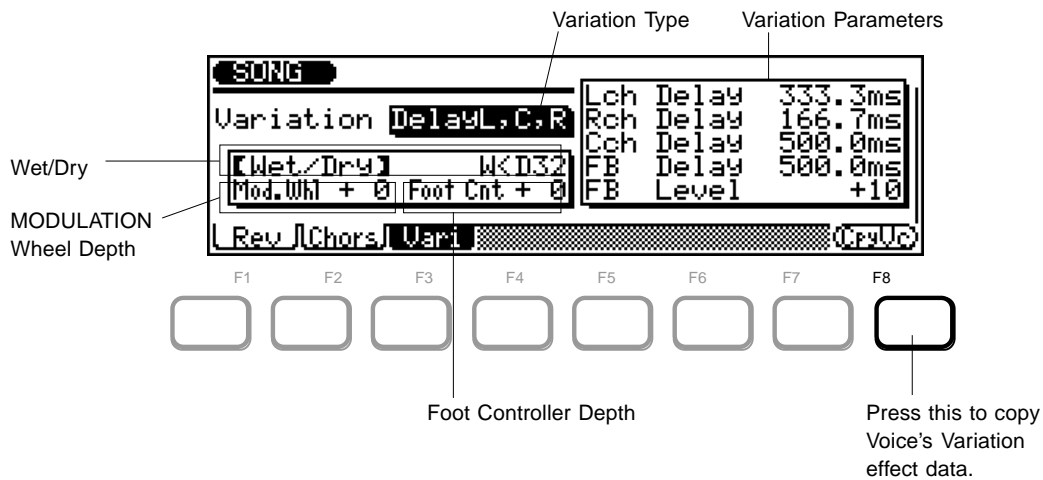
● Chorus Type

This parameter is the same as that in the Effect Type page above (page 77).

● Chorus Parameters

These various parameters let you adjust and change the sound of the Chorus effect. (For more details on the Chorus effects and descriptions of these parameters, refer to the separate “Sound Lists and MIDI Data” supplement.)

## F3 — Variation (Vari)



### ● Variation Type

This parameter is the same as that in the Effect Type page above (page 77).

### ● Wet/Dry

Range: W<D63 (0)\* — W=D (64) — W63>D (127)

\* Values in parentheses can be entered from the numeric keypad.

This determines the balance between the original sound (dry, or **D**) and the processed sound (wet, or **W**). A setting of **W=D** results in an equal balance of dry and wet sound.

The Wet/Dry parameter is not available when Variation Mode is set to System (the Dry level is set for each channel in the Effect Send page; see page 76). It is also not available for some of the effect types when Variation Mode is set to Insertion.

### ● MODULATION Wheel Depth (Mod.Whl)

Range: -63 — +63

This determines the depth of the effect that is controlled by the MODULATION Wheel. This allows you to use the MODULATION Wheel as a kind of effect level control for the Variation effect. A setting of 0 results in no MODULATION Wheel control. This parameter is not available when Variation Mode is set to System. It is also not available for the 3-band EQ and 2-band EQ effect types when Variation Mode is set to Insertion.

### ● Foot Controller Depth (Foot Ctr)

Range: -63 — +63

This determines the depth of the effect that is controlled by the Foot Controller. This allows you to use the Foot Controller as a kind of effect level control for the Variation effect. A setting of 0 results in no Foot Controller control. This parameter is not available when Variation Mode is set to System. It is also not available for the 3-band EQ and 2-band EQ effect types when Variation Mode is set to Insertion.

### ● Variation Parameters

These various parameters let you adjust and change the sound of the Variation effect. (For more details on the Variation effects and descriptions of these parameters, refer to the separate “Sound Lists and MIDI Data” supplement.)

All the above parameters in the display are the same as those in the Voice mode. (See page 47 for details.)

**F8 — Copy (Variation Effect Data) From Voice (CpyVc)**



This copies the Variation effect type and parameters from the Voice to the channels for which Variation Send is set to on. This function is only available when:

- The Variation Mode is set to Insertion. (See page 76.)
- The Variation Send for a channel is set to on. (See page 76.)

Pressing **F8** calls up the Copy From Voice function. Use the **DEC/INC** buttons to execute or cancel the operation.

Song Multi **INSTRUMENT** Tuning/Filter

**Path:** SONG → F4 (Multi) → \*F2 (Inst) → \*F5 (Tun/FI)

\* Pressing this may not be necessary if the appropriate page has already been called up.



- **Note Shift (Shift)**

Range: -24 — +24 semitones (+/- 2 octaves)

This determines the coarse pitch setting for the selected channel's Voice in semitones. (Fine pitch adjustments can be made in Detune below.)

- **Detune**

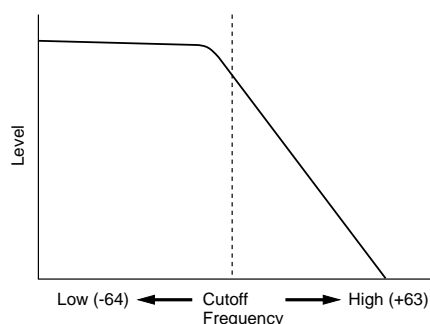
Range: -100 — +99 (at 440 Hz: -10 — +9.9 Hz)

This determines the fine pitch setting for the selected channel's Voice. (Coarse pitch adjustments can be made in Note Shift above.)

● **Filter Cutoff Frequency (Cutoff)**

Range: -64 — +63

This determines the cutoff frequency of the low pass filter, or the frequency point above which other frequencies are filtered out. Lower cutoff values create a deeper, more rounded tone, while higher values create a thinner, brighter tone.



### ● Filter Resonance (Resonance)

Range: -64 — +63

This determines the amount of filter resonance or emphasis of the Filter Cutoff Frequency parameter above. Higher values increase the emphasis of the Cutoff Frequency, producing a higher resonant peak, while lower values produce a relatively flat response.

Song Multi **INSTRUMENT** Mode/Velocity

Path: SONG → F4 (Multi) → \* F2 (Inst) → \* F6 (Md/Vel)

\* Pressing this may not be necessary if the appropriate page has already been called up.

SONG Multi

Mono Mode = off

CH	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Mono	off	off	off	off	off	off	off	off	off	off	off	off	off	off	off	off
Assign	inst	inst	inst	inst	inst	inst	inst	inst	inst	inst	inst	inst	inst	inst	inst	inst
Offset	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Depth	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

MixerEffectInst

Cum/AD/MD/UA

CEstim

Qlibat

Mono Mode

Assign Mode

Velocity Sensitivity Offset

Velocity Sensitivity Depth

● Mono Mode

Settings: off, on

This determines whether the selected channel's Voice is played monophonically (only one note at a time) or polyphonically (up to 32 notes at a time).

● Assign Mode

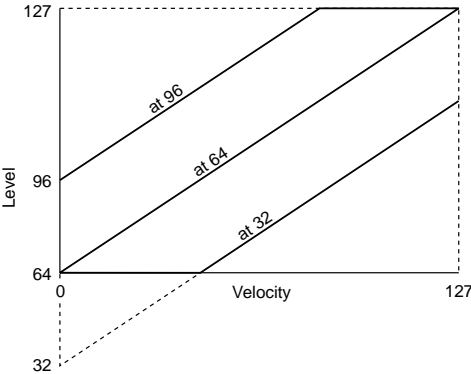
Settings: single, multi, inst

This determines how the Voices are sounded when two or more notes are played from the same key. When this is set to **single** and the same key is played twice, the first note is cut off as soon as the second note is played. When set to **multi** and the same key is played twice, the first note continues to sound and is overlapped by the second note. When set to **inst** (instrument) and a drum kit is selected, each instrument sounds according to its own settings. For normal Voices, the **inst** setting is the same as **multi**.

● Velocity Sensitivity Offset (Offset)

Range: 0 — 127

This determines the volume range over which velocity affects. For lower values, the velocity affects a volume range from minimum to medium-loud. For higher values, velocity affects a range from medium-soft to maximum.



**HINT:** For best results, set this parameter **after** setting Velocity Sensitivity Depth (below).

**NOTE:** Depending on the Voice used, if Velocity Sensitivity Offset is set to too low of a value, the Voice may not sound, no matter how strong the velocity.

● Velocity Sensitivity Depth (Depth)

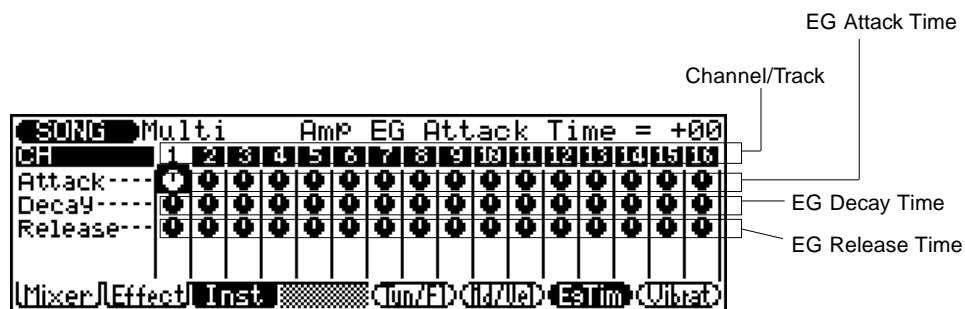
Range: 0 — 127

This determines the degree to which velocity affects the selected channel's Voice. Higher values make the Voice more sensitive to changes in velocity.

**Song Multi INSTRUMENT EG Time**

**Path:** SONG  $\rightarrow$  F4 (Multi)  $\rightarrow$  \* F2 (Inst)  $\rightarrow$  \* F7 (EgTim)

\* Pressing this may not be necessary if the appropriate page has already been called up.



### ● Amplitude EG Attack Time (Attack)

Range: -64 — +63

This determines the Attack Time of the level EG, or how long it takes for the Voice of the selected channel to reach full volume when a note is played. (For more information about EG parameters, see page 55.)

### ● Amplitude EG Decay Time (Decay)

Range: -64 — +63

This determines the Decay Time of the level EG, or how rapidly the sound of the selected channel's Voice dies down as the note is held. Higher values result in a longer Decay rate. (For more information about EG parameters, see page 55.)

### ● Amplitude EG Release Time (Release)

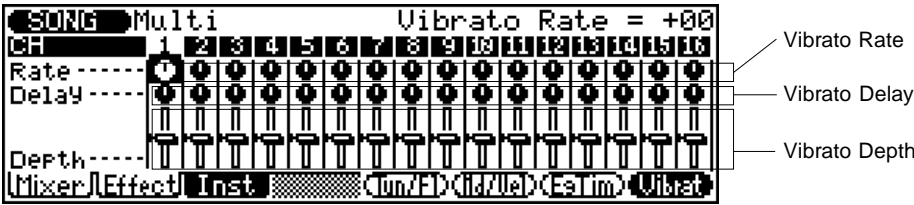
Range: -64 — +63

This determines the Release Time of the level EG, or how rapidly the sound of the selected channel's Voice dies out after the note is released. (For more information about EG parameters, see page 55.)

Song Multi **INSTRUMENT** Vibrato

Path: SONG → F4 (Multi) → \* F2 (Inst) → \* F8 (Vibrat)

\* Pressing this may not be necessary if the appropriate page has already been called up.



● **Vibrato Rate**

Range: -64 — +63

This determines the speed of the Vibrato effect. Higher values result in a faster Vibrato sound.

● **Vibrato Delay**

Range: -64 — +63

This determines the delay in the onset of the Vibrato effect. Delay is effective especially on stringed instrument Voices. For example, violin players often use delayed vibrato, especially while playing long notes. The Delay parameter is useful in recreating this effect, producing a more natural, lifelike sound. Higher values result in a longer Delay time.

● **Vibrato Depth**

Range: -64 — +63

This determines the depth of the Vibrato effect. Higher values result in a stronger, more pronounced Vibrato sound.

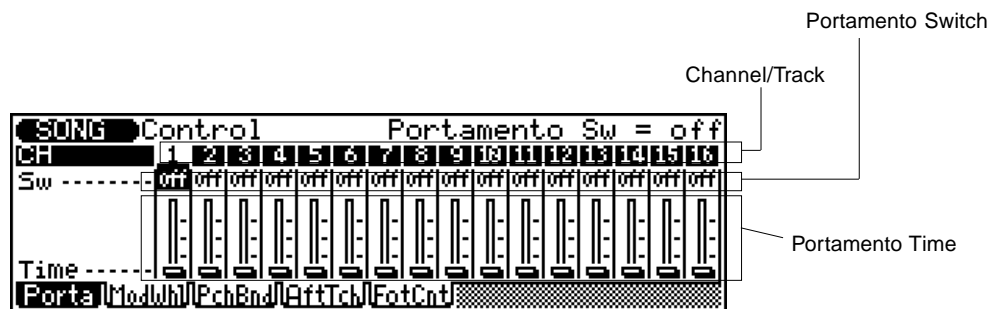
# Controller Edit

The Controller Edit pages allow you to independently set various controller parameters for each channel/track. Settings can be made for Portamento and the four real-time performance controllers: MODULATION wheel, PITCH wheel, after touch, and Foot Controller.

## Song Controller Portamento

Path: SONG → F5 (Contrl) → \* F1 (Porta)

\* Pressing this may not be necessary if the appropriate page has already been called up.



Portamento is a function that creates a smooth pitch glide from one note to another.

**NOTE:** Portamento has no effect on Drum Voices.

### ● Portamento Switch

Settings: off, on

This determines whether Portamento is on or off for the selected channel's Voice.

### ● Portamento Time

Range: 0 — 127

This determines the time of the Portamento effect, or how long it takes to glide the pitch from one note to the next. Higher values result in a longer pitch glide time.

# Song Controller Real-time Controllers:

## MODULATION Wheel / PITCH Wheel / After Touch / Foot Controller

Path: SONG → F5 (Contrl) → \* F2 (ModWhl) / \* F3 (PchBnd) / \* F4 (AftTch) / \* F5 (FotCnt)  
→ \* F7 (Bias) / \* F8 (Mod)

\* Pressing this may not be necessary if the appropriate page has already been called up.

The four real-time controllers of the QS300 let you dynamically change virtually any aspect of the sound as you play.

These pages let you determine:

- Which controller is used for real-time control.
- Which aspects of the sound are controlled: level (**Amp**), pitch (**Pch**) or timbre (**Flt**).
- The amount or depth of control (**Bias**).
- The amount of modulation (**Mod**) — creating a wavering vibrato/wahwah type of effect.

Naturally, all these real-time changes can be recorded to a song and played back exactly as you performed them.

From the pages shown below, you can:

- Use F2 (ModWhl), F3 (PchBnd), F4 (AftTch), or F5 (FotCnt) to select the desired controller.
- Use F7 (Bias) and F8 (Mod) to select the Bias or Modulation parameter pages.

### F7 — Bias Parameters

The screenshot shows the F7 Bias Parameters screen. At the top, it says 'SONG Control Modulation Amp Bias = +00'. Below this is a grid of 16 parameters, each with a value from 0 to 10. The parameters are: AmpBias, PchBias, FltBias, and then 13 more parameters. Below the grid are 16 controller slots labeled F1 through F8. F1-F5 are labeled 'ModWhl', 'PchBnd', 'AftTch', 'FotCnt', and 'Bias' respectively. F6-F8 are labeled 'Mod'. To the right of the grid, there are labels for 'Amplitude EG Bias Depth', 'Pitch Bias Depth', and 'Filter Cutoff Bias Depth'. Below the controller slots, there are instructions: 'Use these to select the desired controller.' and 'Use this to call up the Modulation parameter page.'

#### ● Amplitude EG Bias Depth (AmpBias)

Range: -64 (-100%) — +63 (+100%)

This determines how the controller affects the Amplitude or volume of the sound. For positive values, the volume level increases as the controller is moved toward the maximum. For negative values, the effect is reversed: moving the controller to the maximum results in a decrease in volume.

#### ● Pitch Bias Depth (Pch Bias)

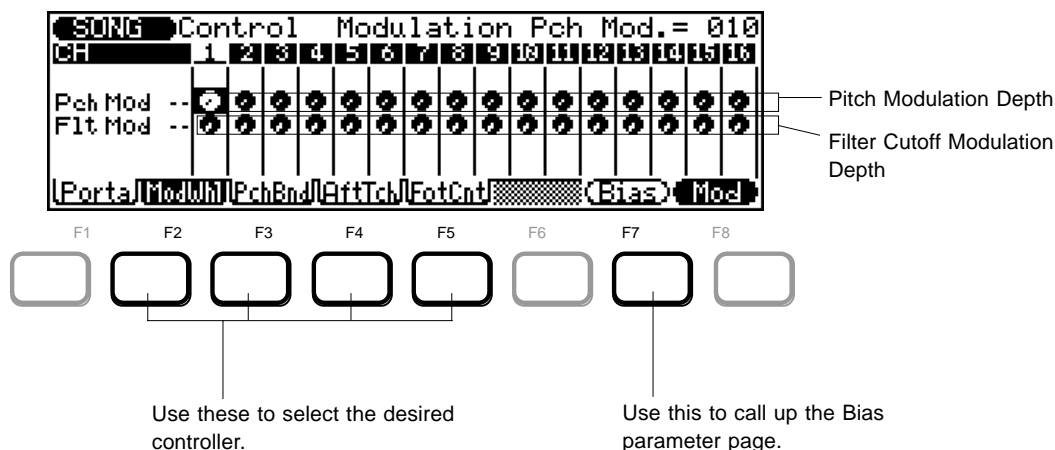
Range: -24 — +24 semitones

This determines how the controller affects the pitch of the sound. For positive values, the pitch is raised as the controller is moved toward the maximum. For negative values, the effect is reversed: moving the controller to the maximum results in a lowering of the pitch.

#### ● Filter Cutoff Bias Depth (Flt Bias)

Range: -64 (-100%) — +63 (+100%)

This determines how the controller changes the filter setting, which affects the timbre or tonal quality of the sound. For positive values, the tone becomes brighter as the controller is moved toward the maximum. For negative values, the effect is reversed: moving the controller to the maximum results in a warmer, more round sound.



### ● Pitch Modulation Depth (Pch Mod)

Range: 0 — 127

This determines how widely the pitch is modulated by the LFO (low frequency oscillator), producing a vibrato effect. The higher the value, the deeper the pitch modulation, and hence, the more pronounced the vibrato effect.

### ● Filter Cutoff Modulation Depth (Flt Mod)

Range: 0 — 127

This determines how widely the filter is modulated by the LFO (low frequency oscillator), producing a regular “wah-wah” filter sweep effect. The higher the value, the deeper the filter modulation, and hence, the more pronounced the filter sweep effect.

**NOTE:** The default settings for the above controller parameters are as follows:

- MODULATION wheel Pitch Modulation Depth: +10
- PITCH wheel Pitch Bias Depth: +2

All other parameters are set to a default value of 0.

# Song Playback Effects

The QS300 provides a number of playback-only effects which allow the playback data to be modified in a number of ways. The actual data in memory is not changed — the only thing modified is the way the data is played back.

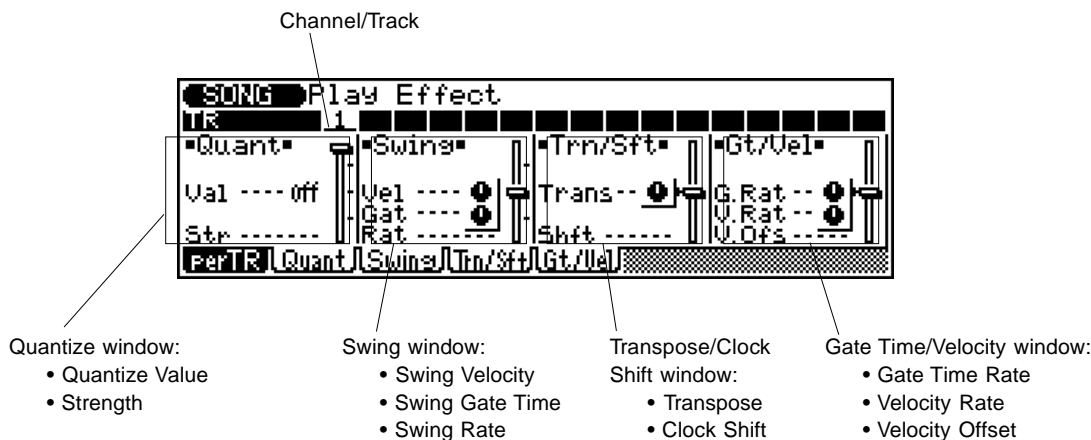
The Playback Effects include:

- **Quantization** — for cleaning up the timing of recorded tracks.
- **Swing** — for introducing a “swing” feel to the tracks.
- **Transpose** — for changing the key of a track.
- **Clock Shift** — for advancing or delaying the notes of a recorded track in time.
- **Gate Time** — for adjusting all the note durations in a track.
- **Velocity** — for adjusting all the note velocities in a track.

## Song Playback Effect Per Track

Path: SONG → F1 (P.Efct) → \* F1 (perTR)

\* Pressing this may not be necessary if the appropriate page has already been called up.



The Per Track page shows and allows you to modify all Playback Effect parameters for a single track at a time. The Per Track page contains all the same Playback Effect parameters that are in the other four pages. The reason for this duplication is that in the Per Track page you can see at a glance all settings for a **single** particular track; in the other pages (described below) you can see at a glance how two or three settings are for **all** tracks.

To use the Per Track page: .....

1. Select the desired channel/track from the bar at the top of the display.
2. Select and edit the desired parameters.
3. Play back the song to hear how the changes have affected the track.

**NOTE:** Only the sound of the selected track will be monitored when this display is selected. To hear how the modified track sounds in context with the other tracks of the song, use the other Playback Effect pages described below.

For descriptions and other details on the Per Track parameters, refer to the specific Playback Effect pages below.

## Song Playback Effect Quantize

**Path:** SONG  $\rightarrow$  F1 (P.Efct)  $\rightarrow$  \*F2 (Quant)










\* Pressing this may not be necessary if the appropriate page has already been called up.



The Quantize function aligns notes in the specified track to the nearest specified beat — usually to tighten up sloppy timing. Use this 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.

- Quantize Value (Val)

Settings:

Setting	Effect
Off	No quantization. Swing settings also ignored.
	Aligns to the nearest 32nd note.
	Aligns to the nearest 16th note triplet.
	Aligns to the nearest 16th note.
	Aligns to the nearest 8th note triplet.
	Aligns to the nearest 8th note.
	Aligns to the nearest quarter note triplet.
	Aligns to the nearest quarter note.
	Aligns to the nearest 16th note + 16th note triplet.
	Aligns to the nearest 8th note + 8th note triplet.

This determines to what beats the note data in the corresponding track will be aligned. If you select “**F**,” for example, all notes in the track will be aligned to the nearest 16th-note beat, to a degree determined by the Strength parameter below.

Numeric keypad buttons 3 - 9 can also be used to directly enter quantize values (corresponding to the note symbol above each button). To set **all** tracks to the same value, simultaneously hold down **SHIFT** and change the value.

● **Strength (Str)**

Range: 0 — 100%

This determines how “strongly” the notes are attracted to the specified quantize value. At a setting of 0%, no quantization will occur, while a setting of 100% will cause all notes to be aligned precisely to the nearest specified beat value. Intermediate settings produce a corresponding shift in the position of all off-beat notes to the nearest specified beat value. With a value setting of “**J**” and a strength setting of 50%, for example, a note that does not fall precisely on an 8th-note beat will be shifted about halfway to the nearest 8th-note beat. To set **all** tracks to the same value, simultaneously hold down **SHIFT** and change the value.

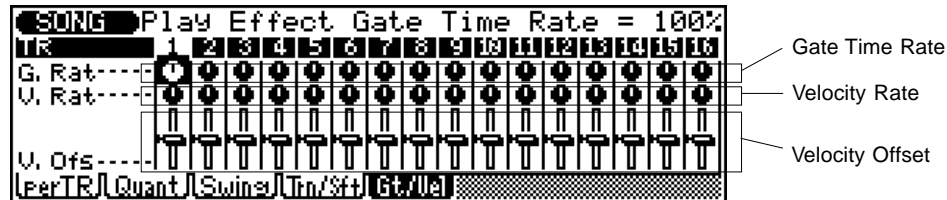




# Song Playback Effect Gate Time/Velocity

Path: **SONG** → **F1** (P.Efct) → \* **F5** (GT/Vel)

\* Pressing this may not be necessary if the appropriate page has already been called up.



## ● Gate Time Rate (G. Rat)

Range: 0 — 200%

This determines 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 (minimum 1%), and higher values produce a broader gate time range (maximum 200%). To set **all** tracks to the same value, simultaneously hold down **SHIFT** and change the value.

**HINT:** Use Gate Time to give the entire pattern a more staccato or legato feel as required.

## ● Velocity Rate (V. Rat)

Range: 0 — 200%

This determines 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 (minimum 1%), and higher values produce a broader dynamic range (maximum 200%). To set **all** tracks to the same value, simultaneously hold down **SHIFT** and change the value.

## ● Velocity Offset (V. Ofs)

Range: -99 — +99

This determines the amount of velocity change. Negative settings reduce the velocity while positive settings increase the velocity. To set **all** tracks to the same value, simultaneously hold down **SHIFT** and change the value.

**HINT:** Modifying the velocity is a great way to “soften” the sound of a track that has too great a variation between the softest and loudest notes, or, conversely, to add extra punch to a dull-sounding track. Experiment with the parameters to get a feel for what they do and how you can use them.

.....

**Path:** SONG → F2 (TxCh)

Tone Generator Channel

MIDI Channel

This determines which MIDI channels are assigned to the corresponding tracks for both reception and transmission.

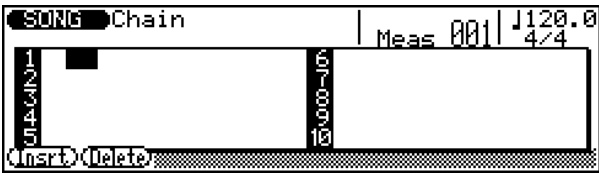
# Song Chain

Path: SONG → F6 (Chain)

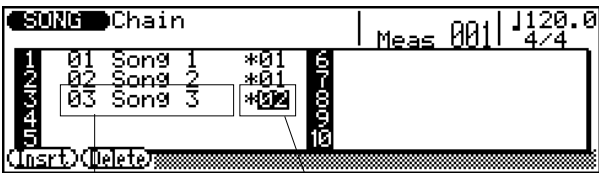
By using the Song Chain function, you can specify a sequence of up to 10 songs to play back automatically. Each song within the chain can be repeated up to 99 times.

● Operation .....

- 1. From the main Song display, press F6 (Chain) to call up the Chain function.  
The display shows the chain numbers from 1 to 10.



- 2. Program the Chain.  
To program a sequence of songs for playback, place the cursor at the appropriate chain numbers and use any data entry method to enter the required song numbers. The number following the song name is the number of times that song is to be repeated. Place the cursor at the repeat number and use any data entry method to set the number of repeats for each song.



Song number/name      Number of repeats

In the example chain shown here, the first two songs in the chain will play through in sequence, then the third song will be repeated twice.

- 3. Play the Chain.  
While still in the Chain page above, press the RUN button to play back the programmed chain. Playback will stop after the last song. You can also press STOP to stop playback at any time.

You can also use loop playback to continuously “loop” or repeat playback of the entire Song Chain. To do this, simultaneously hold down the SHIFT button and press the RUN button (instead of step 3 above). Playback repeats indefinitely until the playback is stopped manually by pressing the STOP button.

## Deleting Songs From the Chain

To delete a song from the chain and move all subsequent songs up to fill the gap, place the cursor at the song to be deleted and press F2 (Delete).

## Inserting New Songs In the Chain

To insert a new song in the middle of a chain and move all subsequent songs down to make room, place the cursor at the point at which the song is to be inserted and press F1 (Insert). You can then enter a new song number at the insert point.



# Song Mode: Recording Operations

The sequencer of the QS300 features two record modes: Realtime and Step Recording.

**Realtime Recording** is similar to using a multitrack tape recorder; whatever you play on the keyboard is recorded in real time as you play it. Also, when you record subsequent parts to other tracks, you can hear the previously recorded parts as you record new ones. Keep in mind that Realtime recording is “replace” recording, meaning that any previous data in the track will be erased and replaced when new data is recorded to that track.

**Step Recording** allows you to enter notes individually. As such, it is very similar to writing down the notes on a sheet of music paper; each note is entered one at a time, and although you can hear each individual note entered, you cannot hear the entire part as you create it.

Each method has its own advantages and uses. Step Recording is good for precision and for entering notes whose placement, rhythmic value, and velocity are fixed or consistent — for example, rhythm patterns, such as a bass drum that plays every beat in a measure. It also lets you record extremely fast or com-

plex passages that would be difficult or impossible to play in real time. Realtime Recording, on the other hand, is best for capturing the natural “feel” of a performance, since it allows you to record as you are playing and simultaneously hear what you are recording.

Which method you use depends partly on the type of music you wish to create and partly on your own personal preference. You can even use both methods in tandem. For example, you could first record a basic track with Realtime, then use Step to edit the track and add finishing touches. Or you could program basic rhythms and riffs with Step first, then use Realtime to add melodies and embellishments.

The sequencer also has a “All Track” real-time record mode in which all sixteen tracks can be recorded simultaneously, and a Punch-in real-time record mode in which you can re-record any specified section of an already-recorded track.

In addition to the sixteen conventional tracks, the sequencer features special Pattern, Chord and Tempo tracks that let you record those corresponding data types to a Song. (See page 119 for details.)

## Song Mode: Recording Operations

Realtime Recording .....	98
Punch-in Recording .....	99
All-track Recording (Realtime and Punch-in) ....	100
Step Recording .....	101



## 9. Record other tracks as desired, repeating steps 3, 4, 5 and 7.

**NOTE:** Selecting the Realtime Recording (in step 6) will not be necessary here, as long as you haven't changed to a different method.

**NOTE:** If you wish to change the data you've recorded, refer to the section **Editing Songs & Phrases** on page 179 for information on how to edit recorded song data.

### HINT — Recording at other measures in a Song

Once you've recorded an initial track, you don't have to start recording from the beginning of the Song. You can actually start recording at any other point in the Song. The operation is exactly the same, except that you must change the Measure/Beat parameter. To do this, highlight the parameter (Measure or Beat), then change the value. A two-measure lead-in will play prior to the first measure actually recorded.

## Punch-in Recording

Punch-in recording is a special type of realtime recording in which you specify a range of measures you want to record, leaving all other material on the track intact. This is particularly useful for re-recording a short segment of an otherwise perfect track — so you don't have to re-record the entire track.

**2. Press [F8] to select Punch-in Recording.**

**3. Select a track.**  
Highlight the desired track.

**4. Set the Punch-in and Punch-out points (beginning and end of recording).**  
Highlight the parameters and change the values.

- Punch-in Measure/Beat
- Punch-out Measure/Beat

**5. Create a lead-in with the Measure/Beat parameters.**

The screenshot shows the following display information:

SONG	01	>017:1 → 032:1<	015:1	120.0														
TR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Pat	Und	Time
M	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
015	TubulBel	0318BtPw2	Pre[MainA ]	Cm7	onD	Fn9	off											
(HOLD)																		

Function keys F1 through F8 are shown below the display, with F8 being highlighted by a hand icon.

To use Punch-in Recording: .....

**1. Make sure that record standby is on (RECORD lamp should be lit; see step 5 in Realtime Recording above).**

**2. From record standby, select the Punch-in Record mode by pressing [F8] (Punch).**

**3. Select a track for recording.**

**NOTE:** Selecting a different Voice from the one used in the originally recorded track automatically changes the Voice assignment for the entire track — not just the Punch-in measures.

**4. Specify the Punch-in and Punch-out points.**

The Punch-in point is the measure and beat at which recording will begin, and the Punch-out point is the measure and beat at which recording will end.

**5. Create a playback-only lead-in by setting the main Measure/Beat parameter to a few measures before the Punch-in point.**

Doing this gives you a specified amount of measures before recording actually begins, so you can be ready to record when the Punch-in point is reached.

**6. Press [RUN] to begin recording.**

Recording begins automatically at the specified Punch-in point, and ends at the Punch-out point. Playback continues, however, even after the Punch-out point is reached.

**7. To stop the operation, press [STOP].**

In the example display above, playback will begin at measure 15, recording will begin on the first beat of measure 17 and stop on the fourth beat of measure 32.

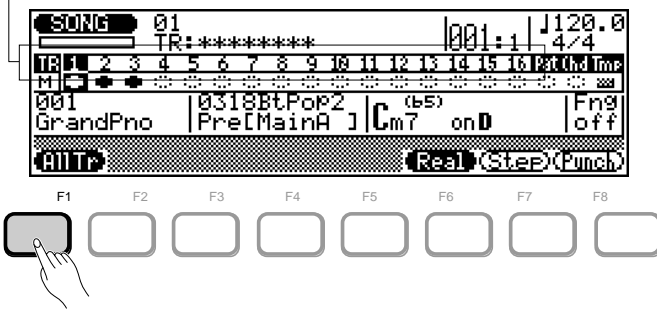
## All-track Recording (Realtime and Punch-in)

The All-track Recording mode allows simultaneous realtime (or punch-in) recording of all 16 sequencer tracks. This can be useful when you want to record complete sequences from another sequencer or music computer which is not data-compatible with the QS300.

**To use All-track Recording: .....**

- 1. Select a Song for recording.**
- 2. Press RECORD to set record to standby and select Realtime Recording ((F6)) or Punch-in Recording ((F7)).**
- 3. Press (F1) (AllTr) to enable All-track Recording.**

Channel/Track bar appears in reverse display, indicating All-track Recording is active.



Press **F1** to enable All-track Recording.

- 4. To record, follow the steps described in Realtime Recording (steps 4 and 7 - 9) or Punch-in Recording (steps 4 - 7) above.**

The record procedure is exactly the same as that described for realtime or punch-in recording, except that all 16 sequencer tracks are recorded simultaneously (assuming, of course, that appropriate MIDI data is received on the corresponding MIDI channels — see the MIDI Channel parameter, page 94).

## Song Mode: Recording Operations

**To use Step Recording:.....**

A series of asterisks (“\*\*\*\*\*”) at the Song name indicates the selected Song is empty (has no recorded data).

**NOTE:** The time signature **cannot** be changed if the song already contains data.

#### 4. Select a Voice for the current track.

Highlight the Song parameter, and change the value.

Highlight the parameter (Tempo or Time Signature) and change the values.

- **Tempo:**  
25.0 - 300.0
- **Time Signature:**  
1/16 - 16/16, 1/8 - 16/8, 1/4 - 8/4

Change this when recording subsequent tracks at different points in the Song. (See HINT on page 99.)



Highlight the desired track.

Highlight the Voice parameter and change the value.

A diagram of a control panel with six buttons. The first button is labeled 'RECORD' and has a sun-like icon above it; a hand is shown pressing it. The second button is labeled 'TOP'. The third button is labeled 'STOP'. The fourth button is labeled 'RUN' and has a small circle icon above it. The fifth button has a left-pointing double arrow icon. The sixth button has a right-pointing double arrow icon.

SONG 01 \*\*\*\*\* 001:1 | 120.  
TR: \*\*\*\*\* 4/4  
TR 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 Pat (ch) M  
M \*\*\*\*\*  
001 -off-  
GrandPno [MainA] CM7 Png  
off  
(Read) (Step) (Punch)



Press **F7** to select Step Recording.

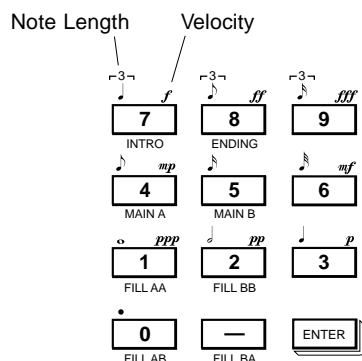
The diagram illustrates the Yamaha DX7 keyboard interface with the following components and labels:


- Keyboard display.**: Points to the top LCD screen showing "SONG 01", "\*\*\*\*\*", "Meas 001-1-00", and "4/4".
- Note Entry line (one measure).**: Points to the line below the display showing "TR=01", "f", "mf", and "norm".
- Measure/Beat/Clock.**: Points to the "Meas 001-1-00" text on the display.
- Time Signature.**: Points to the "4/4" text on the display.
- Current note pointer.**: Points to the cursor on the "SONG 01" display.
- Oct +0**: Points to the octave indicator on the right side of the keyboard.
- Rest**, **Tie**, **Delete**, **BkOff**, **Oct**, **LKey**, **RKey**: Labels for the function buttons located below the keyboard.
- F1** through **F8**: Labels for the eight function buttons at the bottom of the interface.
- Note Length: 1 - 999**: Points to the "\*\*\*\*\*" on the display, with a note stating "Graphic symbols indicate note values in notation."
- Velocity: 0 - 127, kbd**: Points to the "f", "mf", and "norm" dynamic markings, with a note stating "Graphic symbols indicate dynamic values."
- Use these to change the keyboard octave range.**: Points to the "Oct +0" indicator.
- Octave: -3 - +3**: Points to the octave control on the right side.
- Gate Time:**: Points to the "Gate" button on the right side.

**8. Set the desired note parameters: Note Length, Velocity, and Gate Time.**

Highlight the desired parameter and change the value.

For Note Length and Velocity, you can use the numeric keypad to quickly and easily enter the desired values. The note values and dynamic indications are printed directly above the buttons:



Simply highlight the Note Length or Velocity parameter, and press the appropriate button. The dot key () can be used to add one or more dots to the currently selected note length.

To enter intermediate values, use the **DEC/INC** buttons, rotary dial, or enter the value directly by simultaneously holding down **SHIFT** and using the numeric keypad.

**9. Enter a note by playing it from the keyboard.**

Once you've defined the note parameters above, you can enter the note simply by playing the appropriate key on the keyboard. A note symbol appears on the note entry line and the note pointer advances to the next note position. The note symbol always appears as a 1/4 note, regardless of the actual note entered (chords are also indicated by the 1/4-note symbol).

You can change the octave setting for keyboard entry by using **[F5]** and **[F6]** (**Oct ▼/▲**).

You can enter chords simply by moving the note pointer back to a note and entering a note of a different pitch at the same location (this can be repeated as many times as necessary). For details on moving the note pointer, see “Moving Around In the Note Display,” below.

**10. Complete recording on the rest of the track.**

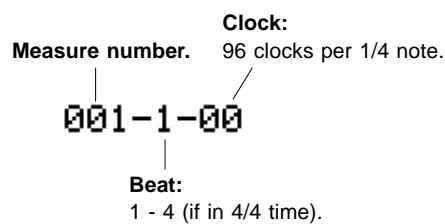
Repeat steps **8** and **9** until the current track is complete, then press **[STOP]** to stop recording.

**NOTE:**

- You can only hear the results of Step Recording by pressing **[STOP]** (to return to the main Song display), then pressing **[RUN]**. Also, if you need to use any of the Song jobs, you must first press **[STOP]**.
- See the section **Editing Songs & Phrases**, page 179, for information on how to edit recorded song data.

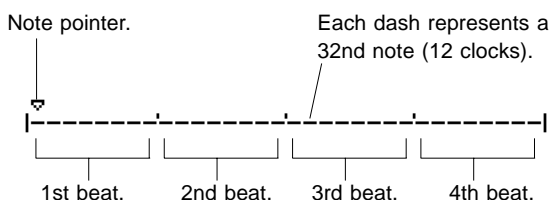
### ■ Measure/Beat/Clock Display

The **Meas** area of the step record display shows the current position of the note pointer in measures, 1/4-note beats, and clocks (there are 96 clocks per 1/4 note). If you're not sure what measure you're seeing on the note display while recording, check the measure/beat/clock display.

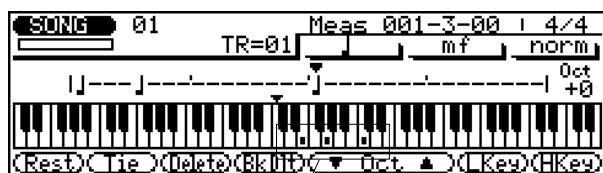


## ■ The Note & Keyboard Displays

The note display shows up to four 1/4 notes worth of data at once (a single measure in 4/4 time). If the selected time signature results in more than four 1/4 notes per measure, then the display will scroll to show the extra notes.





The keyboard display shows the pitch(es) of the note(s) at the current note pointer position. In the example below, the keyboard displays that a chord (C major) consisting of three notes exists at the current note pointer location.





These dots indicate the note pitches that have been recorded (at the current position).

## Moving Around In the Note Display

**To move the note pointer forward or backward on the note entry line: .....**

1. Highlight the note pointer.
- 2 Use the cursor  /  buttons.

Or:

With any other parameter highlighted, use the /  buttons.

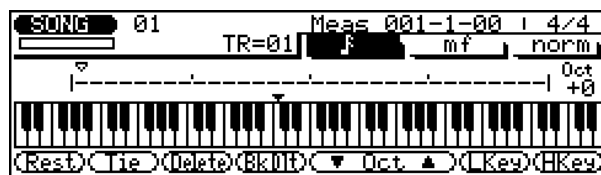
**To move to a different measure: .....**

1. Highlight the Measure/Beat parameter.
2. Use the **DEC**/**INC** buttons, rotary dial, or enter the measure number directly by using the numeric keypad.

You will actually hear the appropriate note or chord when the note pointer is moved to an existing note symbol. When you move the note pointer past the end of the note display, the next measure will appear. If you move past the last measure in the phrase, the first measure of the phrase will appear.

## ■ Step Mode Function Keys

The function keys immediately below the display provide access to a number of handy functions in the Step Record mode.



## Rest

Enters a rest of the current  
note length.

## Tie —

Lengthens the selected note by “tying” another note of same length and pitch.

## Delete

Deletes the  
note or chord  
at pointer.

### Back Delete (BkDlt)

Moves backward (by current note length) and deletes corresponding note or chord.

## Octave (Oct) ▼/▲

Raises or lowers pitch in octaves ( $\pm 3$  octaves).

### High Key (HKey)

Displays the highest keyboard range.  
Press again to restore normal “centered” display.

- **Low Key (LKey)**

Displays the lowest keyboard range.  
Press again to restore normal "centered" display.



Using the sophisticated pre-programmed style data of the QS300, you can quickly and easily create complete accompaniment to play/sing along with, or to use as the basis for complete compositions. The Pattern mode lets you work with accompaniment patterns, which contain up to eight tracks of drum/percussion parts, bass, chordal and other backing parts — all in specific music styles. These patterns can be used with the ABC (Auto Bass Chord) system to automatically re-harmonize the patterns to match the chords you specify.

The QS300 features 100 Preset Patterns in a wide variety of musical styles. You can also create your own Patterns by combining individual Phrases — each of which is a single part of a Pattern (such as the drum or bass part). For this you can use the 3,093 Preset Phrases of the QS300, or record your own Phrases.

Remember that the Preset and User Patterns can be used freely in song recording, letting you quickly and easily create compositions with complete and fully automatic instrumental backing.

[illegible]

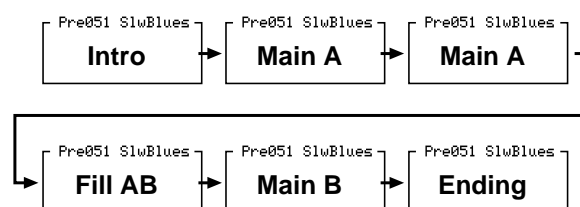
Before delving deeper into the Pattern mode, let's take a look at how Patterns and other aspects of the accompaniment fit into the general scheme of the QS300.

Each Style features one or more measures of complete instrumental backing or accompaniment suited to the corresponding Style. (Most Preset Patterns are two or four measures, although some Patterns are up to eight measures long.) For example, Preset Style #51 (Slow Blues) features drums, bass, two guitars and organ.

The diagram shows a horizontal 8-track tape with two rows of four tracks each. The top row is labeled 'A' and the bottom row is labeled 'B'. The tracks are numbered 1 through 8. The content of each track is as follows:

Track	Content
1	Kick drum
2	Hihat
3	Snare
4	Bass
5	Hi Guitar
6	Lo Guitar
7	Organ
8	Empty













The individual Patterns do not stop there, however. Just as a piece of music is made up of different sections, so are the Patterns of the QS300. Each Style actually contains several “Section” Patterns — an introduction, two main themes, fill-ins, and an ending. Naturally, each of these sections is made up of up to eight tracks of instruments. These Sections are typically “strung” together to create a song or musical passage, like this:



**NOTE:** The Pattern mode is not available when the System Mode parameter (in Utility mode) is set to **TG-B**. (See page 189.)

## Pattern Mode

**To select and play Patterns in the Pattern mode:.....**

- |   |   |   |
|---|---|---|
|    |    |    |
| <b>7</b>  | <b>8</b>  | <b>9</b>  |
| INTRO   | ENDING  |   |
|    |    |    |
| <b>4</b>  | <b>5</b>  | <b>6</b>  |
| MAIN A  | MAIN B  |   |
|  |  |  |
| <b>1</b>  | <b>2</b>  | <b>3</b>  |
| FILL AA   | FILL BB   |   |
|  |  |  |
| <b>0</b>  | <b>—</b>  | <b>ENTER</b>  |
| FILL AB   | FILL BA   |   |

<b>Intro</b>	Introduction. When used in a song the introduction will automatically be followed by the Main A section unless another section is specified.
<b>Main A</b>	The main section, generally used for the verse of a song.
<b>Main B</b>	A variation on the main section which can be used as a chorus or bridge.
<b>Fill AA</b>	Fill-in for the Main A section.
<b>Fill BB</b>	Fill-in for the Main B section.
<b>Fill AB</b>	Fill-in transition from Main A to Main B. Main B will automatically be selected after the fill-in.
<b>Fill BA</b>	Fill-in transition from Main B to Main A. Main A will automatically be selected after the fill-in.
<b>Ending</b>	Ending section. When used in a song, playback will stop when the ending section finishes.

- 6 Stop playback by pressing .**

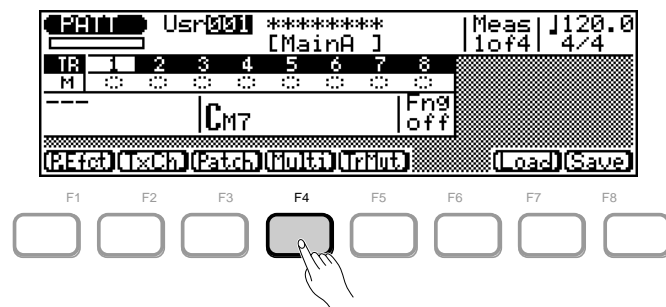




# Multi Controls

As with the Multi controls of the Song mode, the Multi controls in the Pattern mode give you extensive and easy-to-use control over a wide variety of parameters for the Voices of all Pattern tracks. These parameters include Voice Bank and Voice, volume, panning, and effect sends.

**To call up the Multi controls:** .....  
Press **[PATTERN]** to enter the Pattern mode. Then, from the main Pattern Play display (shown below), press **[F4]** (**Multi**).

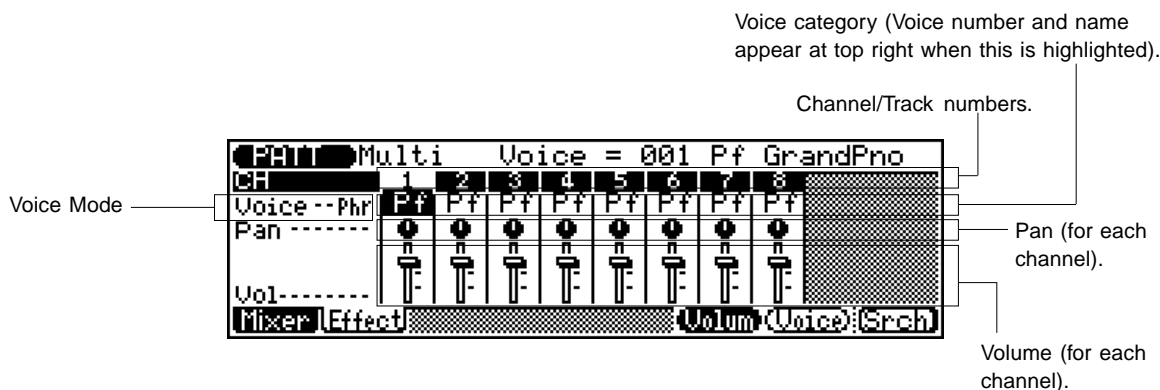


The tree chart below shows all parameter pages for the Multi controls. The main paths are the Mixer pages (which include Voice and volume settings), and the Effect pages.

## Pattern Multi **MIXER** Volume

**Path:** **[PATTERN]** → **[F4]** (Multi) → \* **[F1]** (Mixer) → \* **[F6]** (Volume)

\* Pressing this may not be necessary if the appropriate page has already been called up.



### ● Voice Mode

Settings: Phrase (Phr), Pattern (Pat)

This allows you to switch between the Pattern and Phrase Voice assignments.

### ● Voice

Range: 1 — 128, D1 — D12 (129 — 140)\*, off (141)

\* Values in parentheses can be entered from the numeric keypad.

Same as the corresponding parameter in the Song mode. (See page 73.)

### ● Pan

Range: random (-64)\*, left 63 (-63) — center (0) — right 63 (+63)

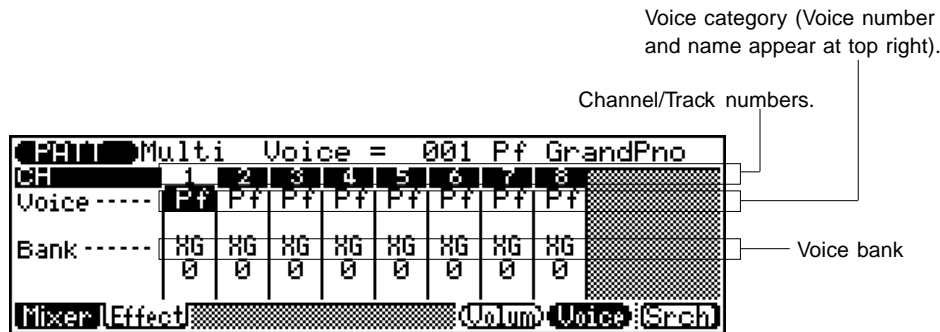
\* Values in parentheses can be entered from the numeric keypad. Same as the corresponding parameter in the Song mode. (See page 73.)

### ● Volume (Vol)

Range: 0 — 127

Same as the corresponding parameter in the Song mode. (See page 73.)

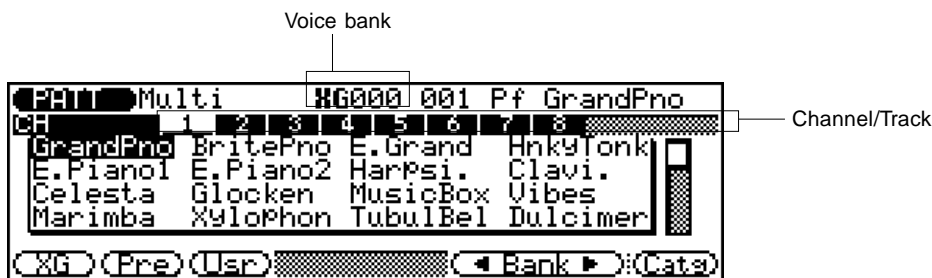
\* Pressing this may not be necessary if the appropriate page has already been called up.



(See page 74.)

(See page 74.)

\* Pressing this may not be necessary if the appropriate page has already been called up.

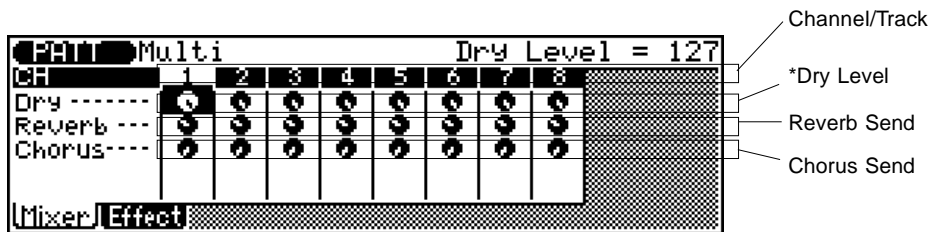


To return to the previous Mixer page press **EXIT**.

## Pattern Multi **EFFECT** Send

**Path:** PATTERN  $\rightarrow$  F4 (Multi)  $\rightarrow^*$  F2 (Effect)

\* Pressing this may not be necessary if the appropriate page has already been called up.



\* This parameter is only available when Variation Mode is set to System.

The Effect Send page in the Pattern mode provides effect level controls for the Patterns. These are the same as the corresponding pages in the Song mode. (See page 76.)

● **Dry Level**

Range: 0 — 127

Same as the corresponding parameter in the Song mode.  
(See page 76.)

## ● Reverb Send

Range: 0 — 127

Same as the corresponding parameter in the Song mode.  
(See page 76.)

## ● Chorus Send

Range: 0 — 127

Same as the corresponding parameter in the Song mode.  
(See page 76.)

# Pattern Playback Effects

As with the Song Playback Effects (page 89), the Pattern Playback Effects allow you to modify the playback data in a number of ways, without changing the actual data in memory.

The Playback Effects include:

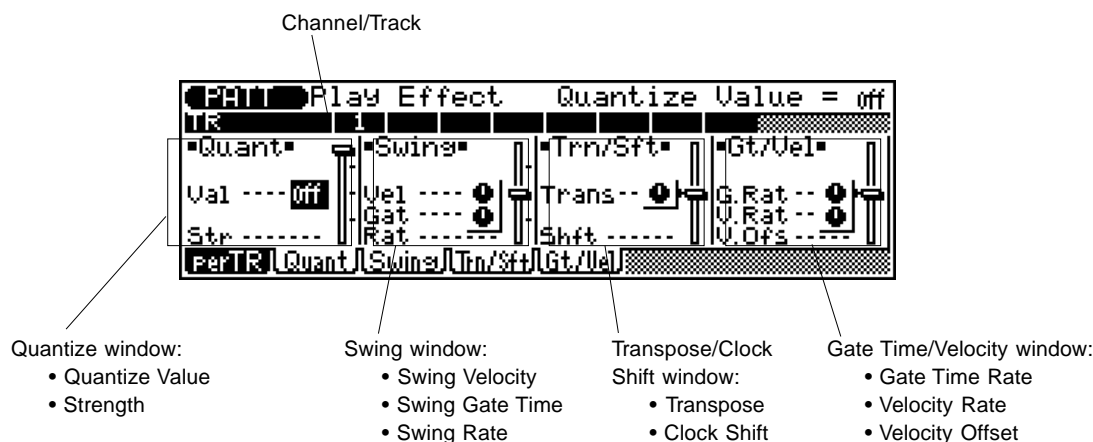
- **Quantization** — for cleaning up the timing of recorded tracks.
- **Swing** — for introducing a “swing” feel to the tracks.

- **Transpose** — for changing the key of a track.
- **Clock Shift** — for advancing or delaying the notes of a recorded track in time.
- **Gate Time** — for adjusting all the note durations in a track.
- **Velocity** — for adjusting all the note velocities in a track.

## Pattern Playback Effect Per Track

Path: **PATTERN** → **F1** (P.Efct) → \* **F1** (perTR)

\* Pressing this may not be necessary if the appropriate page has already been called up.



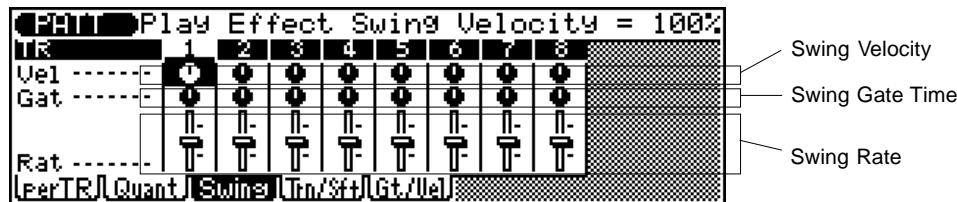
The Per Track page shows and allows you to modify all Playback Effect parameters for a single track at a time. The Per Track page contains all the same Playback Effect parameters that are in the other four pages. For more details on the Per Track page, see the corresponding section in the Song mode (page 89).



## Pattern Playback Effect Swing

Path: **PATTERN** → **F1** (P.Efct) → \* **F3** (Swing)

\* Pressing this may not be necessary if the appropriate page has already been called up.



The Swing effect can only be used when Quantize (above) is set to a value other than **off**. This effect produces a “swing” feel by shifting the timing of “back beats,” as specified by the Quantize setting. For more details on the Swing page, see the corresponding section in the Song mode (page 91).

### ● Swing Velocity (Vel)

Range: 0 — 200%

Same as the corresponding parameter in the Song mode. (See page 91.)

### ● Swing Gate Time (Gat)

Range: 0 — 200%

Same as the corresponding parameter in the Song mode. (See page 91.)

### ● Swing Rate (Rat)

Range:

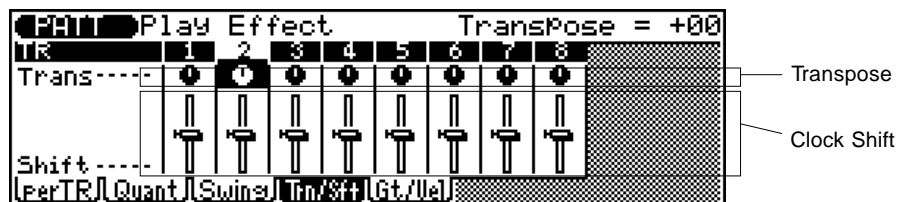
- 50% (no swing) to 75% (maximum swing) for even note lengths
- 66% to 83% for triplet note lengths
- 50% to 66% for even-plus-triplet note lengths (e.g., 8th note + 8th note triplet)

Same as the corresponding parameter in the Song mode. (See page 91.)

## Pattern Playback Effect **Transpose/Clock Shift**

**Path:** PATTERN  $\rightarrow$  F1 (P.Efct)  $\rightarrow$  \* F4 (Trn/Sft)

\* Pressing this may not be necessary if the appropriate page has already been called up.



### ● Transpose (Trans)

Range: -99 — +99 semitones

Same as the corresponding parameter in the Song mode.  
(See page 92.)

### ● Clock Shift (Shift)

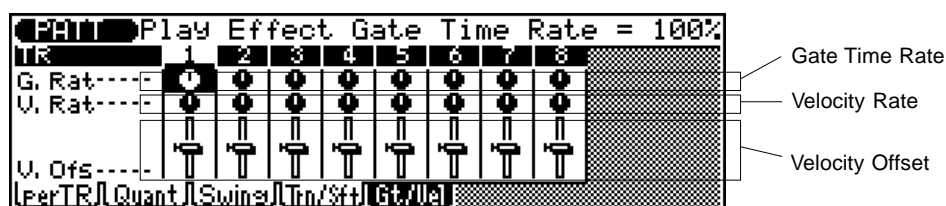
Range: -999 — 0 — +999

Same as the corresponding parameter in the Song mode.  
(See page 92.)

## Pattern Playback Effect Gate Time/Velocity

**Path:** PATTERN  $\rightarrow$  F1 (P.Efct)  $\rightarrow$  \* F5 (GT/Vel)

\* Pressing this may not be necessary if the appropriate page has already been called up.



● **Gate Time Rate (G.Rat)**

Range: 0 — 200%

Same as the corresponding parameter in the Song mode.  
(See page 93.)

- **Velocity Rate (V.Rat)**

Range: 0 — 200%

Same as the corresponding parameter in the Song mode.  
(See page 93.)

### ● Velocity Offset (V.Ofs)

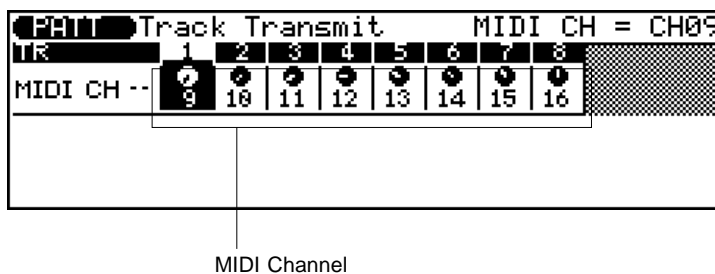
Range: -99 — +99

Same as the corresponding parameter in the Song mode.  
(See page 93.)

# Other Pattern Functions

## Pattern Track Transmit Channel

Path: **PATTERN** → **F2** (TxCh)



The Track Transmit Channel page allows you to set the MIDI channel output assignments for the selected Pattern's tracks. This makes it possible to play the accompaniment sounds on external MIDI tone generators. Simply match the channel settings here to the appropriate receive channels on the tone generators.

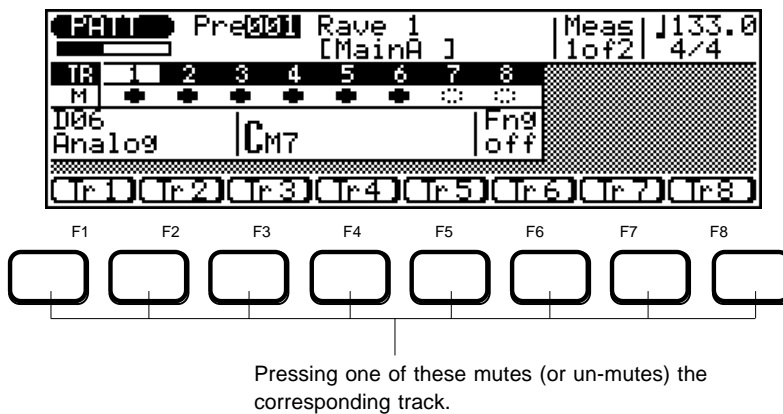
### ● MIDI Channel

Range: off, 1 — 16

This determines which MIDI channels are assigned to the corresponding Pattern tracks for transmission.

## Pattern **Track Mute**

**Path:** PATTERN → F5 (TrMut)



The Track Mute page allows you to quickly and easily mute/un-mute the Pattern tracks by using the function buttons ([F1] - [F8]). Press the appropriate button to alternately mute or un-mute the corresponding Pattern track.

As with normal recording (page 97), accompaniment recording has two different record modes: Realtime and Step Recording. The realtime method is the fastest and easiest, letting you record pattern and chord changes “on the fly.” The step method gives you more detailed control, and is an excellent way to add the finishing touches to an accompaniment recorded in real time. (For more information on Realtime and Step Recording, see page 120.)

Realtime Accompaniment Recording .....	120
Step Accompaniment Recording .....	122

# Realtime Accompaniment Recording

In Realtime Accompaniment Recording, you select the appropriate track for recording (first Pattern, then Chord), then enter the Pattern/Chord changes in real time.

Once you know how to select styles, sections, and enter chords in the Pattern mode (page 108), recording a basic accompaniment in real time is easy. Tempo changes can be added later using the Edit mode (page 186).

**To use Realtime Accompaniment Recording: .....**

- 1. Call up the Song mode and select an empty Song.**  
Accompaniment Recording can only be used with an empty song (indicated by a row of asterisks at the Song name). If for some reason all 10 songs contain data, use the Clear Song Job (page 160) to clear a song for recording. (Be sure to save any important song data first!)
- 2. Select the Pattern track (Pat) for recording Pattern and Section changes.**
- 3. Set the desired Tempo for the Song.**

**1. Select an empty Song.**  
Highlight the Song parameter, and change the value.

**2. Select the Pattern track.**  
Highlight the Pattern track (Pat).

**3. Set the Tempo.**  
Highlight the Tempo parameter, and change the value.

**4. Select a Pattern.**  
First, highlight the Pattern number, and set it to a value other than 000. Then, select User or Preset, and finally, select the desired Pattern number.

**5. Select a Section.**  
Highlight the Section parameter, and change the value.

## 4. Select a Pattern.

**To do this:**

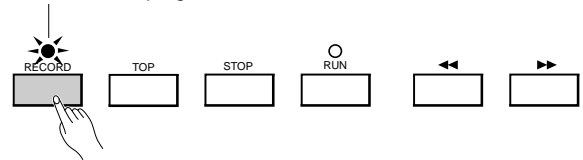
- **Turn Pattern selection on** — by highlighting the Pattern number and setting it to a value other than 000 (off).
- **Select the Pattern bank (User or Preset)** — by highlighting the bank parameter, below the Pattern number, and selecting **Usr** (User) or **Pre** (Preset).
- **Select the Pattern number** — by highlighting the Pattern number and changing the value.

Since Pattern selection is automatically off by default when you call up an empty Song, you must first turn it on. Then, you can select the Pattern bank and Pattern number.

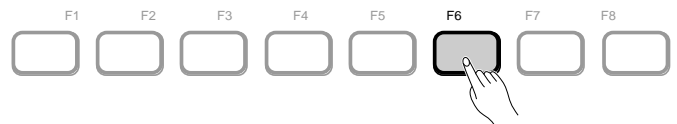
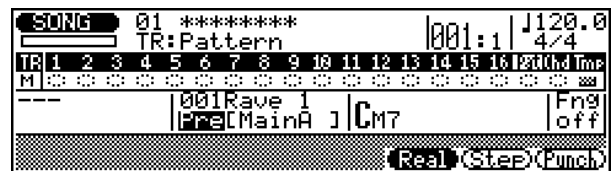
## 5. Select a Section.

## 6. Press **RECORD** to set record to standby.

RECORD lamp lights.



## 7. Select Realtime Recording by pressing **F6** (Real).



Press **F6** to enable Realtime Recording.

## 8. Press **RUN** to begin recording.

The metronome will sound (if set properly; see page 192), and you'll be given a two-measure lead-in prior to the first measure actually recorded. The lead-in is also indicated by negative numbers in the Measure parameter (at the top, next to Tempo/Time Signature). If the time signature of the Pattern is 4/4, for example, the lead-in will run from measure -08 to -01, then recording will begin from measure 001.

Since you selected Pattern recording (with the “**Pat**” track), the cursor will automatically move to the Pattern number when you start recording. All you have to do to record Pattern and Section changes is to select the desired Pattern or Section. Remember that all changes occur from the top of the **next** measure after the change is entered. Also keep in mind that when changing Sections, Intro automatically switches to Main A, Fill AB switches to Main B, and Fill BA switches to Main A.

- 9 To stop recording, press .**

Normal Song playback (standby) is automatically re-selected when you stop recording, and you'll automatically be returned to the top (first measure) of the song.

- 10.** Press **RECORD** again (to set record to standby) and select the Chord track (Chd) for recording Chord changes.

**NOTE:** Selecting Realtime Recording (in step 7) will not be necessary here, as long as you haven't changed to a different method.

- 11. Press  to begin recording.**

The metronome will sound, and you'll be given a two-measure lead-in.

Since you selected Chord recording (with the “**Chd**” track), the cursor will automatically move to the Chord window when you start recording. All you have to do to record chord changes is to enter the desired chords (see page 124).

**HINT:** Chord changes normally occur on quarter-note divisions, so try to press the **ENTER** button to enter each chord either exactly on the beat or a fraction of a section before the beat on which you want the chord change to occur. Syncopated chord changes can be recorded by entering the chord an eighth or sixteenth note before the beat. (Syncopated changes can also be programmed in the Step Record mode; see page 124.)

- 12.** To stop recording, press **STOP**.

Normal Song playback (standby) is automatically re-selected when you stop recording, and you'll automatically be returned to the top (first measure) of the song.

- 13.** Press **[RUN]** to playback the Song and listen to the results.

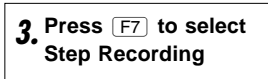
**NOTE:** See the section **Editing Songs & Phrases**, page 179, for information on how to edit recorded song data.


**HINT:** Don't worry if you've made a few mistakes. Simple slip-ups made in the realtime record mode can usually be corrected in the Step Record mode — described next.

In Step Accompaniment Recording, there are two separate displays for recording, depending on the track you select: Pattern or Chord. In each of these you can individually enter or delete Pattern and chord changes at precisely the desired locations.

- 1. Call up the Song mode and select a Song.**  
Select an empty song if you want to record a new song in the step record mode, or select a song that already contains data if you want to make changes or additions.





**3. Select Step Recording by pressing F7 (Step).**



**5. Press  to call up the Pattern Entry or Chord Entry display, and begin recording the data.**  
Refer to the corresponding section below (**Pattern Entry** or **Chord Entry**) for details on how to enter the desired data.

## ■ Pattern Entry

**Select a measure.**

Use the  /  buttons or the cursor  /  buttons to move through the measures.

**Enter an End-of-Song  
marker, if desired.**

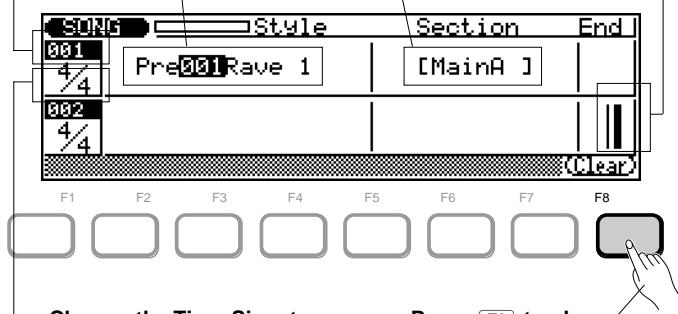
Highlight the End-of-Song block, and press the **INC** button to enter a marker. Press the **DEC** button to delete a marker.

### Select a Pattern.

Highlight the Bank or Number parameter, and change the value.

## Select a Section.

Highlight the Section parameter, and change the value.



- **Change the Time Signature, if desired.**

Highlight the Time Signature parameter, and change the value. (Though each Pattern has a default Time Signature, this can be changed.)

Press **F8** to clear  
the highlighted data.

**To move the highlight to different blocks and measures:** .....

- Use the cursor buttons.

**To scroll up or down through the measures: .....**

- Use the  /  buttons.

**To return to the first measure of the Song: .....**

- Press the **TOP** button.

**In the Pattern Entry page, you can:**

- **Select the Pattern Bank: User (Usr) or Preset (Pre).**
- **Select the Pattern number: 001 - 100.**
- **Change the Time Signature: 1/16 - 16/16, 1/8 - 16/8, 1/4 - 8/4.**

Each Pattern has a default Time Signature, but this can be changed as desired. Each measure can also be assigned a different Time Signature.

**NOTE:** If the selected time signature results in shorter measures than the pattern default, the pattern will be truncated (cut short) accordingly. If the selected time signature results in longer measures than the pattern default, the pattern will be repeated to fill the specified measure length.

- **Enter an End-of-Song marker.**  
An End-of-Song marker causes playback to stop at the end of the corresponding measure. This allows you to stop playback at any point without having to use an Ending section. To erase an End-of-Song marker, highlight it and press **[F8] (Clear)** or the **[DEC]** button.
- **Erase any entered data at the highlight by pressing **[F8] (Clear)**.**

**NOTE:** Tempo (**Tmp**) track data is entered in the Edit mode (see page 186).

## ■ Chord Entry

**Select a chord block and enter a chord.**  
Use the designated keys on the keyboard to enter the root note and chord type.  
(See page 108.)  
You can also specify a bass note and a bass phrase chord (see below).  
In Step Recording, there is no need to press **ENTER** after specifying a chord.

**Select a measure.**

**Change the Time Signature, if desired.**

**Press **F8** to clear the highlighted data.**

The basic operations (moving around, selecting measures, changing time signatures, clearing data at the highlight, etc.) are exactly the same as in Pattern Entry above.

**To selecting chords in the Chord Entry page: .....**

### 1. Highlight the desired chord “block.”

Each measure row in the Chord Entry page is divided into quarter-note blocks. One chord can be entered in each quarter-note block. Highlight the block corresponding to the beat at which you want the chord change to occur. Syncopated chords (chords playing slightly ahead of the beat) can also be entered. (See “Syncopated Chords” below for details.)

### 2. Specify the chord root note and chord type by pressing the designated keys on the keyboard.

Specifying the chord is done in the normal manner. The chord root and type are automatically entered; it is not necessary to press **ENTER** in Step Recording here.

## Specifying the Bass Note For a Chord

This function allows you to specify the bass note (other than the normal root) to be used with the current chord.

**To specify the bass note: .....**

### 1. Highlight the chord block in the display.

### 2. Simultaneously hold down **SHIFT** and press the desired note on the lowest octave of the keyboard (C1 - B1).

## Specifying the Bass Phrase Chord Type (Harmonization)

This function takes the Bass Note function above one step further by allowing you to specify the chord type on which the bass pattern will be based.

**To specify the bass phrase chord: .....**

### 1. Highlight the chord block in the display.

### 2. Simultaneously hold down **SHIFT** and press the desired note on the lowest octave of the keyboard (C1 - B1).

### 3. Continue to hold down **SHIFT** and select a chord type, by pressing the appropriately marked key (from C2 to E♭4).

Refer to the **Chord Types** chart on page 108.

## Syncopated Chords

Entered chords can be syncopated, allowing you to have a chord “anticipate” a downbeat by beginning an eighth-note or sixteenth-note before the beat.

**To enter a syncopated chord: .....**

### 1. Highlight the chord block in the display and enter a chord in the normal way.

### 2. Press numeric keypad button **4** (eighth-note syncopation) or **5** (sixteenth-note syncopation).

Eighth-note syncopation.

A note with a tie marking appears just before the chord name, crossing the beat line. In the example above, the chord is syncopated by an eighth-note, so that it begins sounding an eighth-note before the third beat of the fourth measure.

To cancel the syncopation, make sure the chord is highlighted, and press the same button (**4** or **5**) a second time.

Phrases, and 100 User memory locations for your original Phrases. In the Phrase mode, you can listen to the Preset Phrases as well as record User Phrases of your own. These can then be combined to create complete Patterns in the Pattern mode.

```
graph TD; Phrase[Phrase] --- A[Selecting and Playing Phrases ..... 126]; Phrase --- B[Combining Phrases (in the Pattern Mode) ..... 127]; Phrase --- C[Recording Original Phrases ..... 129]; C --- D[Realtime Phrase Recording ..... 129]; C --- E[Step Phrase Recording ..... 132];
```

**Phrase**

- Selecting and Playing Phrases ..... 126
- Combining Phrases (in the Pattern Mode) ..... 127
- Recording Original Phrases ..... 129
  - Realtime Phrase Recording ..... 129
  - Step Phrase Recording ..... 132



# Combining Phrases (in the Pattern Mode)

In the Pattern mode, you can combine Phrases to create Patterns, which can then be used in Song recording with the automatic accompaniment features.

## 1. Call up the Pattern mode by pressing [PATTERN].

### 2. Select a User Pattern.

First, select the User bank, then select a Pattern number.

### 3. Select a Section.

Highlight the parameter, and change the value.

### 4. Change the Pattern Length, if desired.

Highlight the second number in the parameter, and change the value.

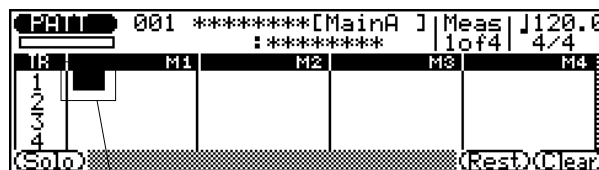
## 5. Change the Tempo and Time Signature, if desired.

## 6. Press [F3] (Patch) to call up the Patch page.

In the Patch page, you can “patch” together Phrases to create custom Patterns.

## 7. Enter the desired Phrase numbers.

When empty, the Patch page appears as shown below:

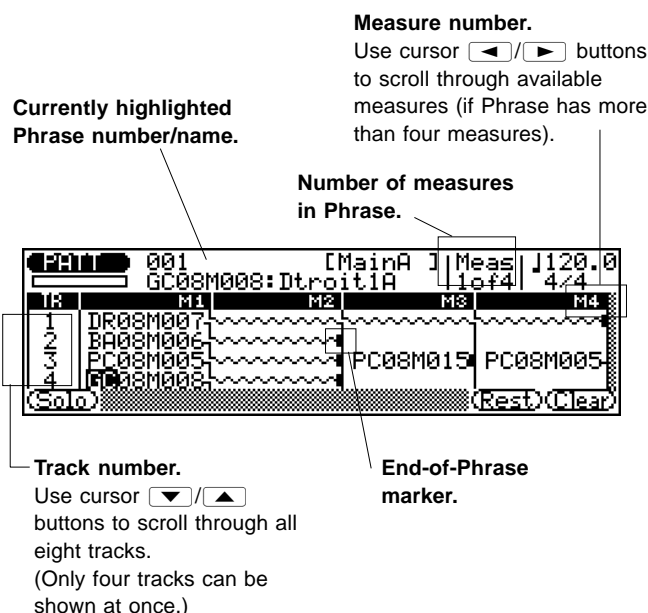


Highlight is at top of first measure in the first track.

Use the cursor buttons to move the highlight around in the display, selecting different measures and tracks as desired. Use normal data entry methods to enter different Phrases at the highlight.

If no other data is entered, a Phrase entered on the first measure of a track will repeat for the entire track. Phrases which are longer than one measure are indicated by a wavy line extending for the length of the Phrase.

When the Pattern contains Phrase data, the resulting display will look like this:



## 2. Select a User Pattern.

Empty patterns are indicated by a row of asterisks (\*\*\*\*\*). Note that only User Patterns can be selected for combining Phrases in the Pattern mode.

## 3. Select the desired Section for the Pattern: Intro, Main A, Main B, Fill AA, Fill BB, Fill AB, Fill BA, or Ending.

## 4. Change the Pattern length, if desired.

**NOTE:** Although the Pattern length parameter can be set from 1 to 8 measures for the Intro, Main A, Main B, and Ending sections, the Fill sections can only have a length of 1 measure.

- **Track 1** — A drum Phrase (DR08M007) plays for four measures.
- **Track 2** — A bass Phrase (BA08M006) plays for three measures.
- **Track 3** — Three different percussion Phrases (PC08M005, PC08M015, and PC16M005) fill out the four measures.
- **Track 4** — A guitar chord Phrase (GC08M008) plays for three measures.

Pressing **[RUN]** plays back the newly edited Pattern. You can leave playback on and continue editing the Pattern, and hear how the Pattern sounds as you make changes to it. Also, you can use the Solo function (see below) during playback to hear only the highlighted Phrase.

When completed with your newly created Pattern, press **EXIT**.

Use the Style Name Job (see page 168) to name the newly created Pattern. You can press **F8** (**Save**) from the Pattern play display to directly call up the Save operation (see page 137), or do the same operation from the Disk mode (see page 197).

**HINT:** Keep in mind that if you have User Patterns in memory, you don't have to start from scratch in creating new Patterns. You can call up a previous User Pattern and use that as the basis for a new Pattern. This is especially helpful in maintaining musical consistency if you're creating several Sections in a specific Style.

## Phrase Mode

The Phrase mode provides two ways to create original Phrases: Realtime and Step Recording.

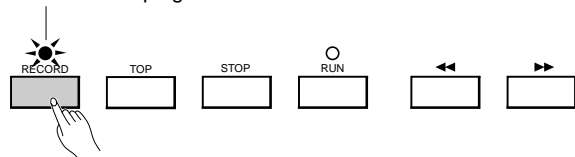
In the Realtime record mode you select the Phrase you want to record, then play the part on the keyboard in real time.

Unlike Realtime recording in the Song mode, Realtime Phrase recording does not replace previous data, but adds to it. This means that you can do “loop” recording, a convenient function often found on rhythm machines which lets you build up a Phrase, note-by-note, as it loops. You can easily delete any mistakes as the Phrase loops, as well.

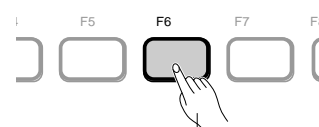
**To use Realtime Phrase Recording:.....**

• You can select either an empty Phrase (to start from scratch), or an existing Phrase that you want to add to or modify. Note that only User Phrases can be selected for recording.

RECORD lamp lights.



**3. Select Realtime Recording by pressing F6 (Real).**



**3. Press F6 to enable Realtime Recording.**

**4. Set the desired Phrase Length, Tempo and Time Signature.**

- **Phrase Length:**  
1 - 8
- **Tempo:**  
25.0 - 300.0
- **Time Signature:**  
1/16 - 16/16, 1/8 - 16/8, 1/4 - 8/4



**5. Select a Voice Bank and Voice number.**

**6. Select the Source Chord.**

#### 4. Set the desired Phrase Length, Tempo and Time Signature.

The Time Signature and Phrase Length **cannot** be changed if the Phrase already contains data.

#### 5. Select a Voice.

Select both the desired Voice Bank and Voice number.

#### 6. Select the Source Chord (Src Chord).

Use the designated keys on the keyboard to specify the chord root and type. (See page 108.) You can also use the Bass Note and Bass Phrase Chord Type functions (on page 124). The Source Chord parameter is very important, since it determines how the Phrase will be re-harmonized when used later in a Pattern with the automatic accompaniment features.

**NOTE:** The “---” (Thru) chord type cannot be specified as the Source Chord.

You may also want to make changes to the Retrigger and Type parameters. For details, see the section following step 10 below.

#### 7. Press **[RUN]** to begin recording.

The metronome will sound (if set properly; see page 192), and you’ll be given a two-measure lead-in prior to the first measure actually recorded. The lead-in is also indicated by negative numbers in the Measure parameter (at the top, next to Tempo/Time Signature). If the time signature is 4/4, for example, the lead-in will run from measure -08 to -01, then recording will begin from measure 1.

Play the desired part on the keyboard. The Phrase automatically loops or repeats indefinitely and records as it loops, allowing you to build up the recording note-by-note. Other controller data — such as that of the PITCH wheel, Sustain pedal, MODULATION wheel, and so on — can also be recorded as to the Phrase.

**HINT:** Since the recorded Phrase will be re-harmonized with the automatic accompaniment, there are a few simple rules of thumb you should follow when recording to ensure the best results:

- **Keep it simple.** Complex passages may not be musically appropriate when re-harmonized. In general, use primarily the root, 3rd, 5th, and major 7th.
- **Keep it rhythmic.** In general, avoid melodic lines (for the same reason as above).
- **Keep within the harmonic structure of the Source Chord.** For example, don’t play a minor third when you’ve specified a major chord for the Source Chord.

#### 8. Delete mistakes if necessary, by using the **[SHIFT]** button.

To delete any mistakes or unwanted notes in the Phrase, simply hold down the **[SHIFT]** button and simultaneously play the note to be deleted. All corresponding notes in the Phrase that occur while **[SHIFT]** and the note are being held will be deleted.

**HINT:** Keep in mind that more detailed controls for editing Phrases are available in the Phrase Edit mode. (See page 179.)

This function can also be used while the Phrase is looping; in fact, you can alternate between entering new notes and deleting old ones while the Phrase plays back.

#### 9. To stop recording, press **[STOP]**.

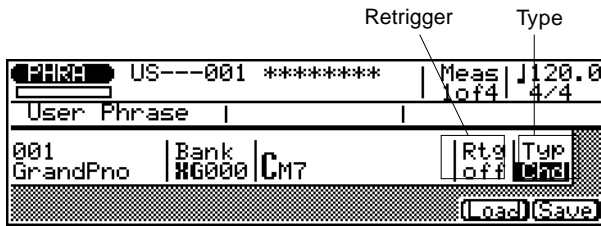
The normal Phrase play mode is automatically re-selected when you stop recording.

#### 10. Give your new Phrase a name and save it to disk.

Use the Phrase Name Job (see page 177) to name the newly created Phrase. You can press **[F8]** (**Save**) from the Phrase play display to directly call up the Save operation (see page 137), or do the same operation from the Disk mode (see page 195).

# Retrigger and Type Parameters

These two parameter settings are recorded as part of the Phrase data, and they determine how the Phrase responds to chord changes when used with the automatic accompaniment.



## Retrigger (Rtg)

Settings: On, Off

When this is set to **Off**, any notes playing when a chord change occurs will be immediately muted. When set to **On**, notes playing when a chord change occurs will continue playing for their specified length, re-harmonized to match the new chord. [Retrigger is not available when Drums (**Dr**) is selected in the Type parameter below.]

## Type

Settings: Melody (Mel), Chord (Chd), Bass (Bas), Drums (Dr)

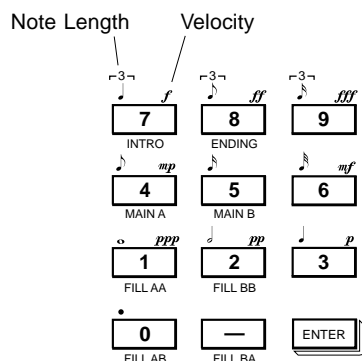
This determines how the Phrase will be harmonized to the specified chords: **Mel** produces harmonization appropriate for melody or single-line Phrases, **Chd** produces harmonization ideally suited to chords, **Bas** produces bass-line type harmonization, and **Dr** produces no harmonization to prevent the instruments in a drum track from changing unexpectedly when a chord change occurs.



**8. Set the desired note parameters: Note Length, Velocity, and Gate Time.**

Highlight the desired parameter and change the value.

For Note Length and Velocity, you can use the numeric keypad to quickly and easily enter the desired values. The note values and dynamic indications are printed directly above the buttons:



Simply highlight the Note Length or Velocity parameter, and press the appropriate button. The dot key (**0**) can be used to add one or more dots to the currently selected note length.

To enter intermediate values, use the **DEC/INC** buttons, rotary dial, or enter the value directly by simultaneously holding down **SHIFT** and using the numeric keypad.

**9** Enter a note by playing it from the keyboard.

Once you've defined the note parameters above, you can enter the note simply by playing the appropriate key on the keyboard. A note symbol appears on the note entry line and the note pointer advances to the next note position. The note symbol always appears as a 1/4 note, regardless of the actual note entered (chords are also indicated by the 1/4-note symbol).

You can change the octave setting for keyboard entry by using **[F5]** and **[F6]** (**Oct ▼/▲**).

You can enter chords simply by moving the note pointer back to a note and entering a note of a different pitch at the same location (this can be repeated as many times as necessary). For details on moving the note pointer, see “Moving Around In the Note Display,” below.

**10. Complete recording on the rest of the Phrase.**

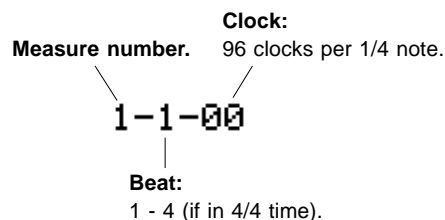
Repeat steps **8** and **9** until the current Phrase is complete, then press **[STOP]** to stop recording.

**NOTE:**

- You can only hear the results of Step Recording by pressing **[STOP]** (to return to the main Phrase display), then pressing **[RUN]**. Also, if you need to use any of the Phrase jobs, you must first press **[STOP]**.
- See the section **Editing Songs & Phrases**, page 179, for information on how to edit recorded song data.

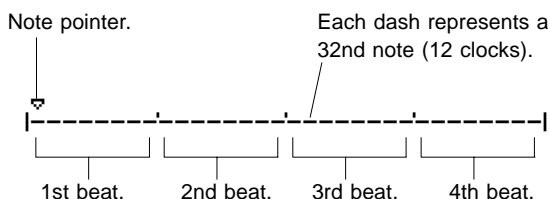
### ■ Measure/Beat/Clock Display

The **Meas** area of the step record display shows the current position of the note pointer in measures, 1/4-note beats, and clocks (there are 96 clocks per 1/4 note). If you're not sure what measure you're seeing on the note display while recording, check the measure/beat/clock display.

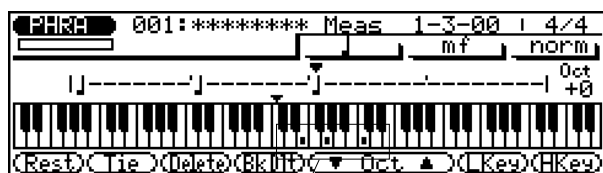


## ■ The Note & Keyboard Displays

The note display shows up to four 1/4 notes worth of data at once (a single measure in 4/4 time). If the selected time signature results in more than four 1/4 notes per measure, then the display will scroll to show the extra notes.



The keyboard display shows the pitch(es) of the note(s) at the current note pointer position. In the example below, the keyboard displays that a chord (C major) consisting of three notes exists at the current note pointer location.



These dots indicate the note pitches that have been recorded (at the current position).

### Moving Around In the Note Display

To move the note pointer forward or backward on the note entry line: .....

1. Highlight the note pointer.

2. Use the cursor ◀/▶ buttons.

Or:

With any other parameter highlighted, use the ◀◀/▶▶ buttons.

To move to a different measure: .....

1. Highlight the Measure/Beat parameter.

2. Use the [DEC]/[INC] buttons, rotary dial, or enter the measure number directly by using the numeric keypad.

You will actually hear the appropriate note or chord when the note pointer is moved to an existing note symbol. When you move the note pointer past the end of the note display, the next measure will appear. If you move past the last measure in the phrase, the first measure of the phrase will appear.

## ■ Step Mode Function Keys

The function keys immediately below the display provide access to a number of handy functions in the Step Record mode.



### Rest

Enters a rest of the current note length.

### Tie

Lengthens the selected note by "tying" another note of same length and pitch.

### Delete

Deletes the note or chord at pointer.

### Back Delete (BkDlt)

Moves backward (by current note length) and deletes corresponding note or chord.

### Octave (Oct) ▼/▲

Raises or lowers pitch in octaves (± 3 octaves).

### High Key (HKey)

Displays the highest keyboard range. Press again to restore normal "centered" display.

### Low Key (LKey)

Displays the lowest keyboard range. Press again to restore normal "centered" display.

The QS300's built-in floppy disk drive makes high-volume data storage and retrieval easy. It also facilitates data management, allowing you to create a well-organized personal floppy disk data library.

**IMPORTANT!**

- *The QS300 uses 2DD (double density) or 2HD (high density) 3.5-inch floppy disks. When formatted, a single disk provides a total data capacity of about 713 kilobytes.*
- *Any new disk you intend to use with the QS300 must be formatted first. The format operation is described on page 202.*

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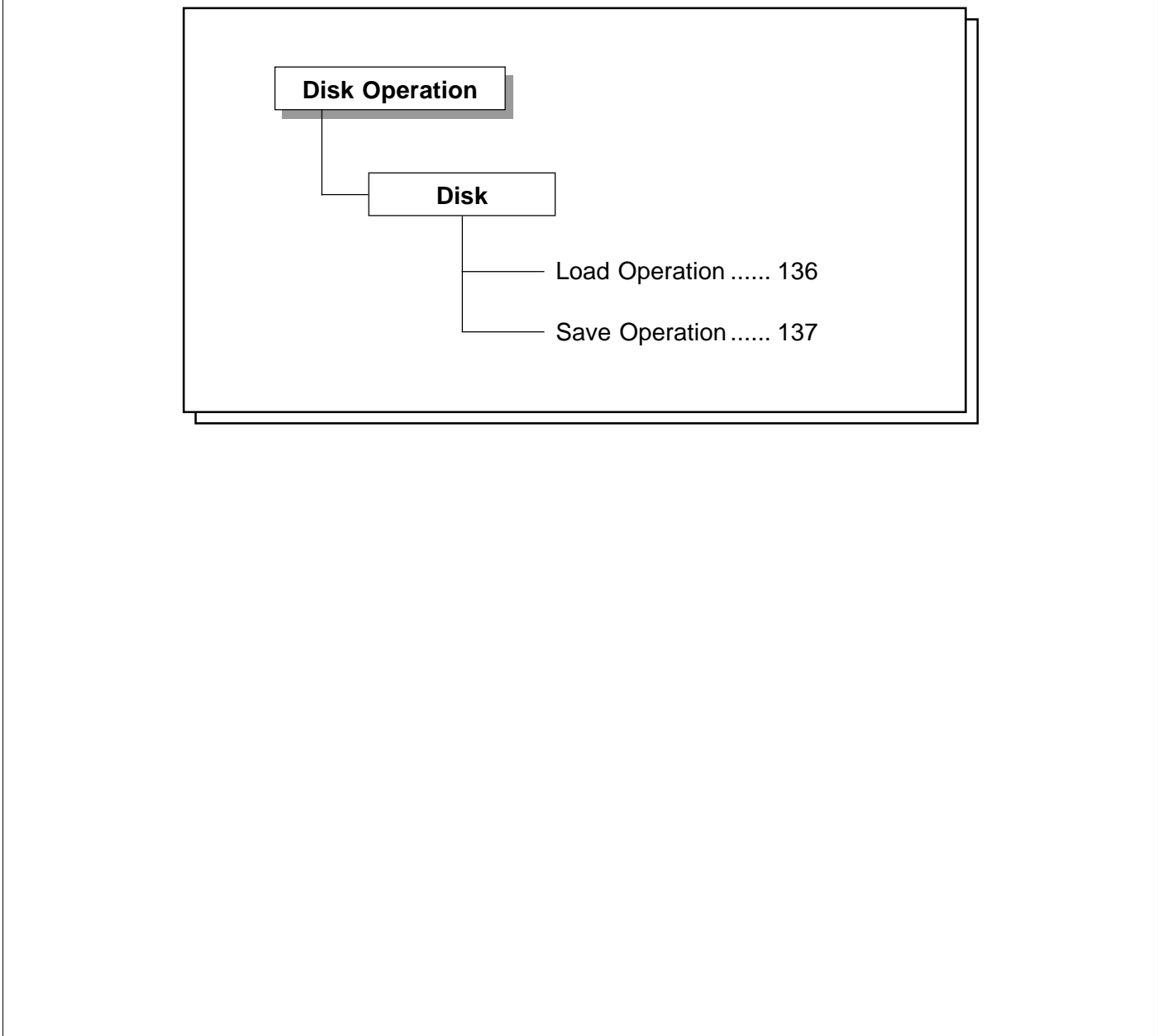
**IMPORTANT!**

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# Direct Load and Save Operations

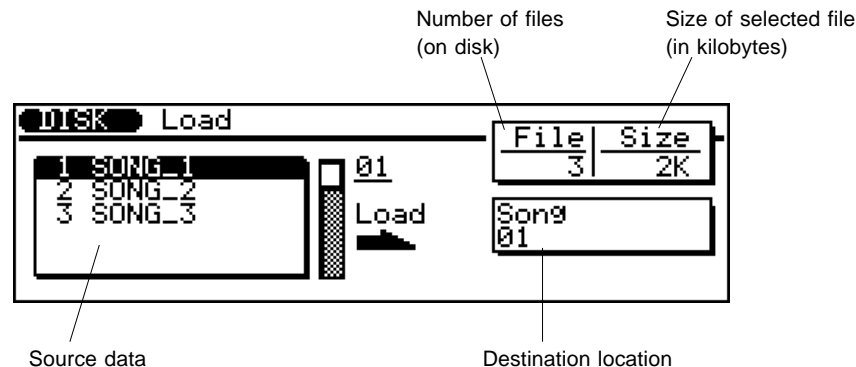
Loading and saving of songs can also be done directly from within the Song, Pattern, or Phrase mode, without having to enter the Disk mode. The Load and Save operations are contained in the main display of each mode, and are called up by pressing **[F7]** and **[F8]**, respectively. The type of data loaded or saved corresponds to the current mode.

Mode	Data Saved or Loaded
<b>SONG</b>	Single songs (01 — 10). When saving you can specify the song number to be saved and the file name under which it will be saved on disk. When loading you specify the song file to be loaded and the song number to which it is to be loaded.

<b>PATTERN</b>	Single style (001 — 100). When saving you can specify the number of the style to be saved and the file name under which it will be saved to disk. When loading you specify the style file to be loaded and the style number to which it is to be loaded.
<b>PHRASE</b>	Single user phrases (001 — 100). When saving you can specify the number of the phrase to be saved and the file name under which it will be saved to disk. When loading you specify the phrase file to be loaded and the phrase number to which it is to be loaded.

## Disk Load Operation

Path: **[SONG]** / **[PATTERN]** / **[PHRASE]** → **[F7]** (Load)



To load the desired data: .....

1. Enter the appropriate mode — Song, Pattern or Phrase — by pressing the corresponding **MODE** button.
2. Press **[F7]** to call up the Load operation.
3. Select the specific data you wish to load.  
Do this by highlighting the desired number/title in the left (source data) box, or select the number of the data directly.
4. Select the destination location (right box).  
Highlight the destination location, and use the data entry controls to change the destination number.

### 5. Press **[ENTER]**.

If the destination location already contains data, a “Delete Old Data?” prompt appears in the display.

Answer the prompt by pressing the **[INC]** button to go ahead with the Load operation, or pressing **[DEC]** to cancel.

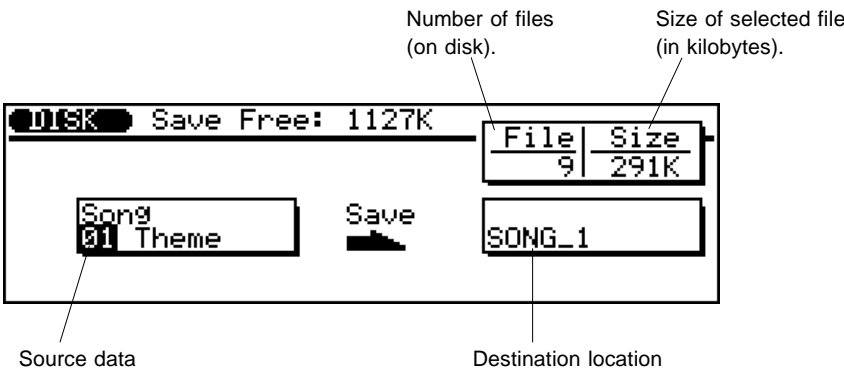
After the operation is completed, press **[EXIT]** to return to the previous mode display, or press any of the **MODE** buttons.

**NOTE:** You can use the **[EXIT]** button to leave the Load display at any time except while the operation is actually in progress.

# — From Song, Pattern, and Phrase Modes

## Disk Save Operation

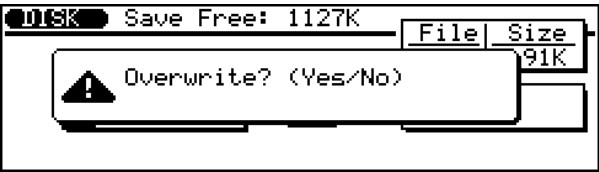
Path: **SONG** / **PATTERN** / **PHRASE** → **F8** (Save)



To save the desired data: .....

- 1. Enter the appropriate mode — Song, Pattern or Phrase — by pressing the corresponding **MODE** button.
- 2. Press **F8** to call up the Save operation.
- 3. Select the specific data you wish to save.  
Do this by highlighting the desired number/title in the left (source data) box, or select the number of the data directly.
- 4. Enter a file name if necessary.  
When the destination location is highlighted, the name operation popup page (below) is automatically called up. (See page 197 for instructions on entering names.)

- 5. Press **ENTER**.  
If the destination location already contains data, a “Delete Old Data?” prompt appears in the display.  
Answer the prompt by pressing the **INC** button to go ahead with the Save operation, or pressing **DEC** to cancel.  
After the operation is completed, press **EXIT** to return to the previous mode display, or press any of the **MODE** buttons.  
***NOTE:** You can use the **EXIT** button to leave the Save display at any time except while the operation is actually in progress.*





# Song Jobs

The Song mode includes 24 different “jobs” (or operations) that perform a variety of important and useful functions.

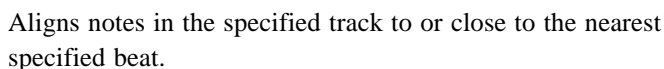
**CAUTION:** Keep in mind that the Song Jobs permanently alter the data of the Song, unlike the playback effects (covered on page 89). For example, the Quantize playback effect simply changes the quantization during playback and does not affect the actual data, whereas the Quantize Song Job changes the actual data permanently.

## Song Jobs

00: Undo/Redo .....	140	12: Thin Out .....	153
01: Quantize .....	141	13: Create Measure .....	154
02: Modify Velocity .....	143	14: Delete Measure .....	155
03: Modify Gate Time ....	144	15: Copy Track .....	156
04: Crescendo .....	145	16: Mix Track .....	157
05: Transpose .....	146	17: Clear Track .....	158
06: Shift Note .....	147	18: Expand Backing .....	158
07: Shift Clock .....	148	19: Init (Initialize) Play Effect ....	159
08: Chord Sort .....	149	20: Normalize Effect .....	159
09: Copy Event .....	150	21: Copy Song .....	160
10: Erase Event .....	151	22: Clear Song .....	160
11: Extract Event .....	152	23: Song Name .....	161



## Song Jobs



## Range: 01 — 16, All

This determines the track to be affected by the Quantize Job. A setting of **All** quantizes all 16 tracks simultaneously.

Quantize Range is actually four separate settings (as shown below). These determine the range of the play data that is to be quantized.



Settings: off,  $\mathbb{F}$ ,  $\mathbb{F}\overline{\mathbb{F}}$ ,  $\mathbb{F}$ ,  $\mathbb{F}\overline{\mathbb{F}}$ ,  $\mathbb{F}$ ,  $\mathbb{F}\overline{\mathbb{F}}$ ,  $\mathbb{F}$ ,  $\mathbb{F}_{+3}$ ,  $\mathbb{F}_{+3}$

This determines to what beats the note data in the specified track will be aligned. If you select “**F**,” for example, all notes in the track will be aligned to the nearest 16th-note beat, to a degree determined by the “Strength” parameter.

This determines to what beats the note data in the corresponding track will be aligned. If you select “**F**,” for example, all notes in the track will be aligned to the nearest 16th-note beat, to a degree determined by the Strength parameter below.

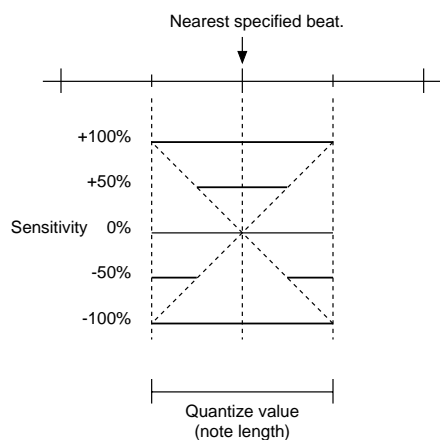
## Range: 0 — 100%

This determines how “strongly” the notes are attracted to the specified quantize value. At a setting of **0%**, no quantization will occur, while a setting of **100%** will cause all notes to be aligned precisely to the nearest specified beat value. Intermediate settings produce a corresponding shift in the position of all off-beat notes to the nearest specified beat value. With a value setting of **♩** and a strength setting of **50%**, for example, a note that does not fall precisely on an 8th-note beat will be shifted about halfway to the nearest 8th-note beat.

## ● Sensitivity

Range: -100 — 0 — +100%

This determines the range over which notes will be quantized. At 0% no quantization will occur. A setting of either **-100%** or **+100%** will cause all notes to be quantized. Refer to the graph below for an idea of how the quantize range is determined by other settings. The heavy solid lines in the sensitivity graph represent the range over which notes will be quantized. At a setting of **+50%**, for example, only notes that fall within the range that is less than halfway to the quantize range of the adjacent note will be quantized. Notes outside this range and those of adjacent notes will be left un-quantized.



## ● Swing Rate

Range:

- 50% (no swing) to 75% (maximum swing) for even note lengths
- 66% to 83% for triplet note lengths
- 50% to 66% for even-plus-triplet note lengths (e.g., 8th note + 8th note triplet)

This determines the strength of the swing feel, or how much the timing of the affected notes will be shifted. This effect produces a “swing” feel by shifting the timing of “back beats,” as specified by the Quantize setting. For example, if the specified Quantize value is 8th notes, then the Swing effect will shift the 2nd, 4th, 6th, and 8th beats of each measure forward to create a swing feel. If the Quantize value is set to a triplet note length, the last note in each triplet group will be shifted. If the Quantize value is set to a compound note length (e.g. 8th note + 8th note triplet), then the even-numbered back beats will be shifted.

## ● Gate Time

Range: 0 — 200%

This determines how much the note durations are affected by the Swing effect. This parameter sets 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.

## ● Velocity

Range: 0 — 200%

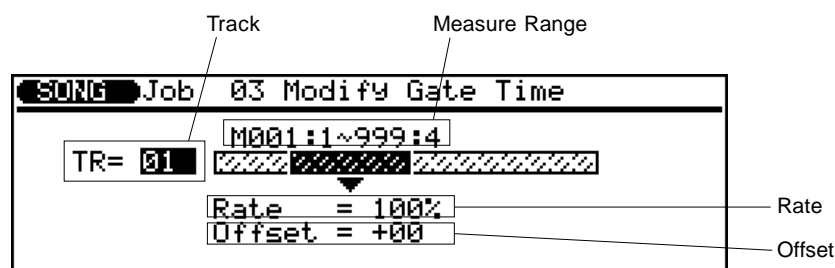
This determines how much the note velocities are affected by the Swing effect. This parameter sets the ratio between the lower and higher velocity values. A setting of 100% maintains the original relationship between the notes, while lower values produce a narrower dynamic range, and higher values produce a broader dynamic range.

Press **ENTER** to execute the Quantize Job. A “Completed” message appears briefly when the Job is done.

## Song Jobs



### 03: Modify Gate Time



This operation increases or decreases the gate times (duration) of all notes in the specified track and range of measures.

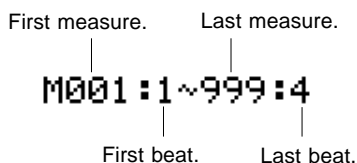
● **Track**

Range: 01 — 16

This determines the track to be affected by the Modify Gate Time Job.

### ● Measure Range

Measure Range is actually four separate settings (as shown below). These determine the range of the play data that is to be affected.



- **Rate**

Range: 0 — 200%

This determines 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.

- **Offset**

Range: -99 — 0 — +99

This determines the amount of gate time modification. Negative settings shorten the gate time while positive settings increase the gate time.

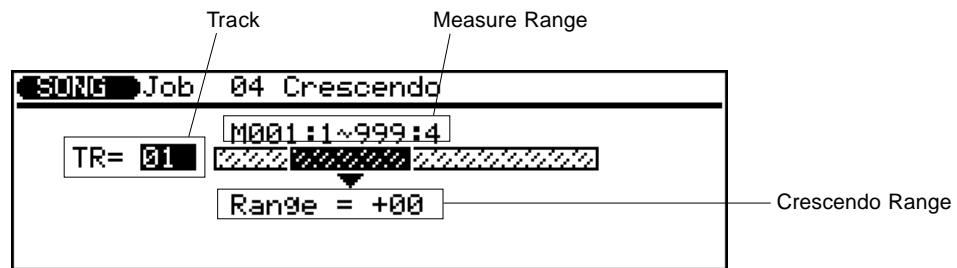
**NOTE:** The Rate and Offset parameters change the Gate Time (note duration) according to the following formula:

**New Gate Time = Original Gate Time x Rate/100 + Offset**  
(If the right side of the equation is less than 0, the new Gate Time becomes 1)

Press **ENTER** to execute the Modify Gate Time Job. A “Completed” message appears briefly when the Job is done.

**HINT:** The Modify Gate Time Job can be used to produce a more staccato or legato feel, as required. Experiment with the parameters to get a feel for what they do and how you can use them.

# 04: Crescendo



This operation produces a gradual crescendo (increase in note velocity) or decrescendo (decrease in note velocity) in the specified track over the specified range of measures.

## ● Track

Range: 01 — 16

This determines the track to be affected by the Crescendo Job.

## ● Measure Range

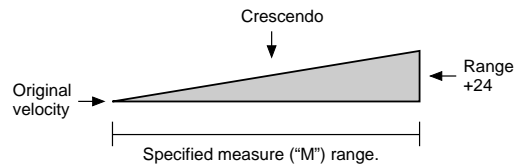
Measure Range is actually four separate settings (as shown below). These determine the range of the play data that is to be affected.

First measure.      Last measure.  
M001:1~999:4  
First beat.      Last beat.

## ● Crescendo Range

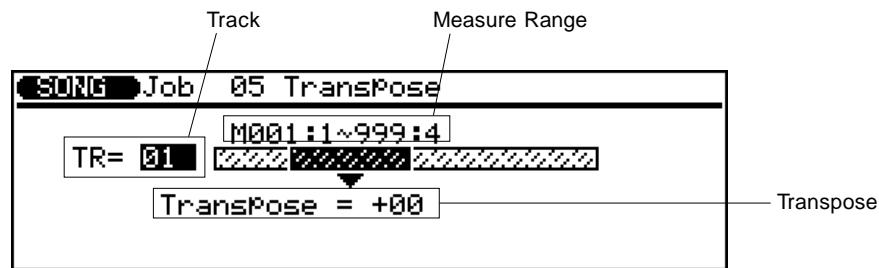
Range: -99 — +99

This determines the range of velocity values over which the crescendo will occur. A setting of +24, for example, will cause the MIDI velocity values to increase by 24 over the specified measure range. Negative values will produce a decrescendo, or cause velocity values to decrease. (The MIDI velocity value range is from 1 to 127.)



Press **[ENTER]** to execute the Crescendo Job. A “Completed” message appears briefly when the Job is done.

# 05: Transpose



This operation transposes all notes in the specified part up or down by the specified number of semitones.

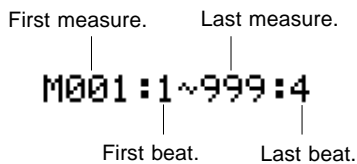
## ● Track

Range: 01 — 16, Chd (Chord track)

This determines the track to be affected by the Transpose Job: sequencer tracks 1 - 16, or the accompaniment Chord track (**Chd**).

## ● Measure Range

Measure Range is actually four separate settings (as shown below). These determine the range of the play data that is to be affected.



## ● Transpose

Range: -99 — +99 semitones

This determines the pitch transposition of the specified data, up or down in semitone increments.

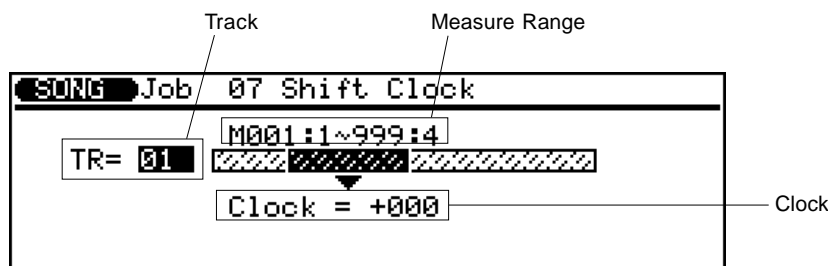
Press **[ENTER]** to execute the Transpose Job. A “Completed” message appears briefly when the Job is done.

**HINT:** Of course, you can transpose all parts as required to shift the entire song to a different key, but the Transpose Job is actually more suited to changing the pitch of a section of a single track. This can be done to produce key modulations within a song, or to create harmony with another track.

## Song Jobs



## 07: Shift Clock



This operation moves all notes and events in the specified track and range of measures forward or backward by the specified number of clocks (96 clocks = 1/4 note).

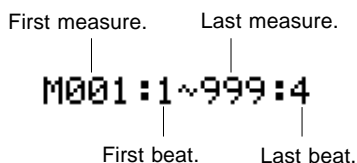
- **Track**

Range: 01 — 16, Tmp (Tempo track)

This determines the track to be affected by the Shift Clock  
Job: sequencer tracks 1 - 16, or the Tempo track (**Tmp**).

### ● Measure Range

Measure Range is actually four separate settings (as shown below). These determine the range of the play data that is to be affected.



- **Clock**

Range: -999 — +999

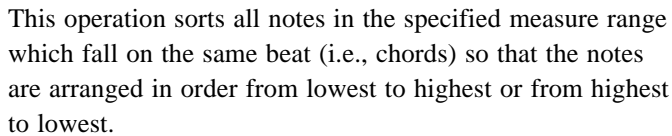
This determines the direction and number of clocks by which the notes in the specified measure range will be shifted. Positive settings shift the notes forward (toward the end of the song) and negative settings shift the notes backward (toward the beginning of the song).

Press **ENTER** to execute the Clock Shift Job. A “Completed” message appears briefly when the Job is done.

**NOTE:** The Shift Clock Job will not shift data beyond the specified measure range. Events near the beginning and end of the specified range may therefore sound “bunched” together in some cases.

**HINT:** Since the Shift Clock Job actually shifts the timing of all notes and other events in the specified measures forward or backward, it can significantly alter the “feel” of the song. You could move the notes forward (positive values) to create a more “laid back” feel, or backward (negative values) to produce a more “driving” feel. Of course, you can also use this parameter to correct timing that is consistently off in the first place.

## Song Jobs



## Range: 01 — 16

### ● Measure Range

First measure.      Last measure.

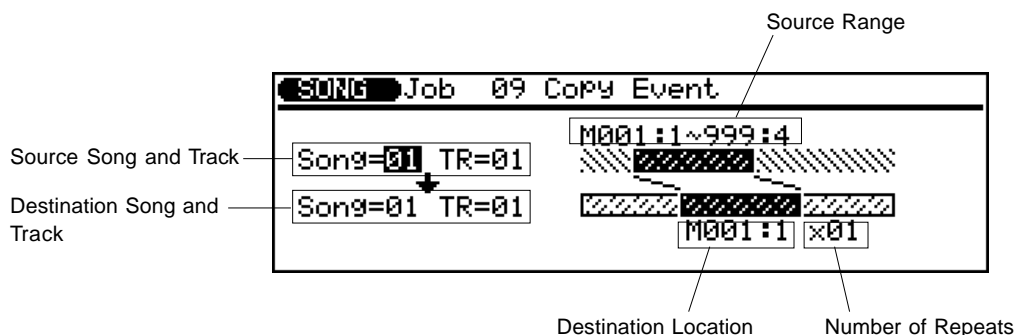
M001:1~999:4

First beat.      Last beat.

## Settings: Normal (Norm), Reverse (Rev)

Press **ENTER** to execute the Chord Sort Job. A “Completed” message appears briefly when the Job is done.

# 09: Copy Event



This operation copies all data from a specified range of measures from one track of a specified song to the specified measure in the specified track of the specified song. Be careful when using this operation, since it overwrites the data from the beginning of the specified destination measure with the data from the source measures, erasing all previous data in the overwritten measures.

## ● Source Song/Track

Settings:

Song: 01 — 10  
Track: 01 — 16, Pattern (Pat), Chord (Chd),  
Tempo (Tmp), All

This determines the song and track (or tracks) from which the data is to be copied. In the Track parameter, **Pat** is for the accompaniment pattern track, **Chd** is for the accompaniment chord track, **Tmp** is for the tempo track, and **All** is for all tracks in the selected song. When any of the latter four are selected, the Destination Track parameter is automatically set to the same setting.

## ● Destination Song/Track

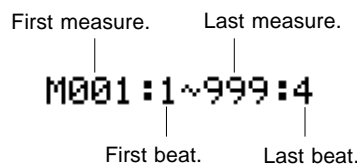
Settings:

Song: 01 — 10  
Track: 01 — 16, Pattern (Pat), Chord (Chd),  
Tempo (Tmp), All

This determines the song and track (or tracks) to which the source data (selected above) is to be copied. In the Track parameter, **Pat** is for the accompaniment pattern track, **Chd** is for the accompaniment chord track, **Tmp** is for the tempo track, and **All** is for all tracks in the selected song. When any of the latter four are selected, the Source Track parameter is automatically set to the same setting.

## ● Source Range

Range is actually four separate settings (as shown below). These determine the range of the play data that is to be affected.



## ● Destination Location

This determines the position in the song to which the source data is to be copied. The data is copied starting at the specified measure and beat.

## ● Number of Repeats

This determines the number of times the data is to be copied.

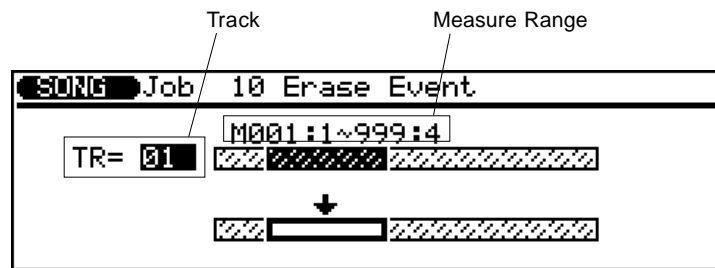
Press **ENTER** to execute the Copy Event Job. A “Completed” message appears briefly when the Job is done.

### NOTE:

- Previous data in measures overwritten by the Copy Event Job will be completely erased and replaced by the copied data.
- The time signature is copied by the Copy Event Job, but Voice and Play Effect data is not copied.

**HINT:** The Copy Event Job makes it easy to use phrases or even complete sections (an entire chorus, for example) in more than one place in a song. You can copy a phrase played by one voice, and have it repeated by a different voice later in the song. You can always edit the copied sections to create variations.

# 10: Erase Event



This operation erases all note and event data from the specified measure or range of measures in the specified track. Erase Event creates a space of blank measures in the track, leaving all subsequent measures intact; in other words, the subsequent measures are **not** moved back to fill the blank space.

## ● Track

Range: 01 — 16

This determines the track to be affected by the Erase Event Job.

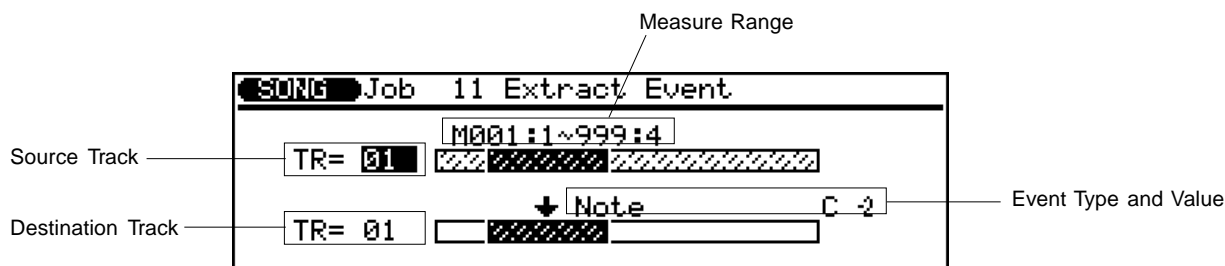
## ● Measure Range

Measure Range is actually four separate settings (as shown below). These determine the range of the play data that is to be affected.

First measure.      Last measure.  
 |                      |  
 M001:1~999:4  
 |                      |  
 First beat.        Last beat.

Press **ENTER** to execute the Erase Event Job. A “Completed” message appears briefly when the Job is done.

## 11: Extract Event



This operation removes (or extracts) a specified type of event — note, program change, pitch bend, control change, channel aftertouch, polyphonic aftertouch, or exclusive message — from a specified range of measures in a specified track. The extracted data can be moved to the same range of measures in any other specified track.

## ● Source Track

Range: 01 — 16

This determines the track from which the data is to be extracted.

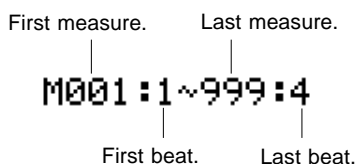
### ● Destination Track

Range: 01 — 16, off

This determines the track to which the source data (selected above) is to be copied. Use the **off** setting to delete the selected event.

### ● Measure Range

Measure Range is actually four separate settings (as shown below). These determine the range of the play data that is to be affected.



### ● Event Type and Value

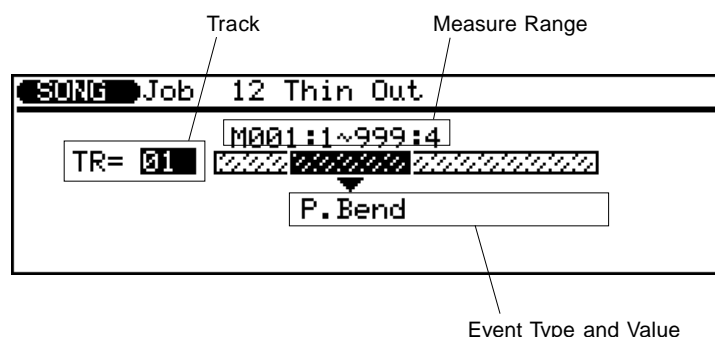
This determines the event type to be extracted, and (where applicable) the value.

<b>NOTE</b>	<b>Range: C-2 — G8, all notes (All)</b> Note events. When this event type is selected, the Value parameter appears, determining the specific note name to be extracted.
<b>PRGM</b>	Program change events.
<b>P.BEND</b>	Pitch bend events.
<b>CTRL</b>	<b>Range: 000 — 127, all control numbers (All)</b> Control change events. When this event type is selected, the Value parameter appears, determining the specific control change number to be extracted.
<b>CH A.T</b>	Channel aftertouch events.
<b>POLY A.T</b>	Polyphonic aftertouch events.
<b>EXCL</b>	Exclusive events.

Press **[ENTER]** to execute the Extract Event Job. A “Completed” message appears briefly when the Job is done.

**HINT:** Although you can remove events individually in the edit mode (page 183), the Extract Event Job makes it simple to remove all occurrences of the specified event within the specified measure range in a single operation. This is particularly convenient when removing slow pitch bends or volume changes that may employ many individual events to create a single effect.

# 12: Thin Out



This operation “thins out” data on a track by removing every other recorded event of the specified type. This is particularly useful for reducing the volume of data required for pitch bends, aftertouch and other control change operations, thus making more efficient use of the available memory.

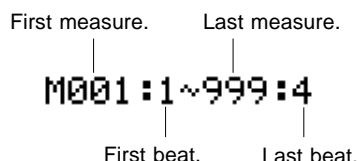
## ● Track

Range: 01 — 16, Tempo (Tmp)

This determines the track to be affected by the Thin Out Job. The **Tmp** setting is for the Tempo track.

## ● Measure Range

Measure Range is actually four separate settings (as shown below). These determine the range of the play data that is to be affected.



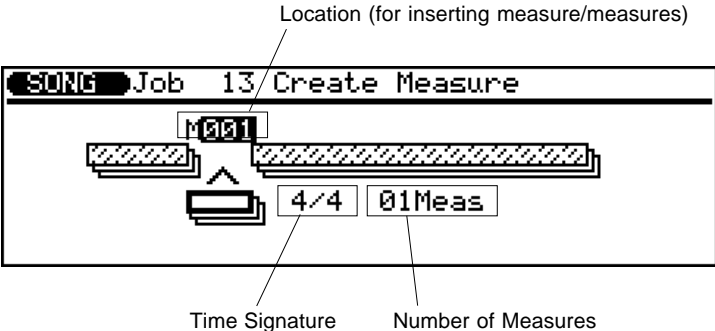
## ● Event Type and Value

This determines the event type to be extracted, and (where applicable) the value.

<b>P.BEND</b>	Pitch bend events.
<b>CTRL</b>	<b>Range: 000 — 127, all control numbers (All)</b> Control change events. When this event type is selected, the Value parameter appears, determining the specific control change number to be extracted.
<b>CH A.T</b>	Channel aftertouch events.
<b>POLY A.T</b>	Polyphonic aftertouch events.

Press **ENTER** to execute the Thin Out Job. A “Completed” message appears briefly when the Job is done.

## 13: Create Measure



This operation creates a specified number of blank measures having the specified time signature for all tracks. The created measures are inserted at a specified measure number, and all subsequent measures are moved forward to make room.

### ● Location

This determines the measure at which the newly created measures will be inserted.

## ● Time Signature

Settings: 1/16 — 16/16; 1/8 — 16/8; 1/4 — 8/4

This determines the time signature of the measures to be created.

### ● Number of Measures

This determines the number of measures to be created.

Press **ENTER** to execute the Create Measure Job. A “Completed” message appears briefly when the Job is done.

**NOTE:**

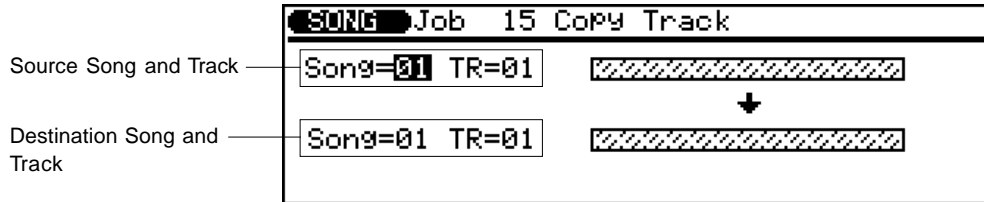
- All existing measures after the point at which the new measures are created will be moved forward to make room for the new measures.
- If you use the Create Measure Job with an empty song, the specified new measures will be placed in track 1 only.

**HINT:** Use Create Measure when you want to add new material somewhere in the middle of data you've already recorded, without erasing the existing data. First create the required measures, then either copy the data from existing measures using the Copy Event Job (9), or record new data as required.

## Song Jobs



## 15: Copy Track



This operation copies all data from the specified track of a specified song to any other specified track of a specified song. Use this operation (instead of Copy Event above) when you want to copy an entire track or tracks.

● **Source Song/Track**

Settings:

Song: 01 — 10

Track: 01 — 16, Pattern (Pat), Chord (Chd),  
Tempo (Tmp), All

This determines the song and track (or tracks) from which the data is to be copied. In the Track parameter, **Pat** is for the accompaniment pattern track, **Chd** is for the accompaniment chord track, **Tmp** is for the tempo track, and **All** is for all tracks in the selected song. When any of the latter four are selected, the Destination Track parameter is automatically set to the same setting.

### ● Destination Song/Track

Settings:

Song: 01 — 10

Track: 01 — 16, Pattern (Pat), Chord (Chd),  
Tempo (Tmp), All

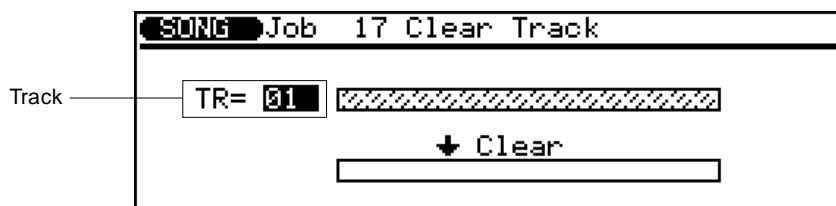
This determines the song and track (or tracks) to which the source data (selected above) is to be copied. In the Track parameter, **Pat** is for the accompaniment pattern track, **Chd** is for the accompaniment chord track, **Tmp** is for the tempo track, and **All** is for all tracks in the selected song. When any of the latter four are selected, the Source Track parameter is automatically set to the same setting.

Press **ENTER** to execute the Copy Track Job. A “Completed” message appears briefly when the Job is done.

## Song Jobs



## 17: Clear Track



This operation completely clears the specified track from the currently selected song (including all Play Effect parameters).

- **Track**

Settings: Track: 01 — 16, Pattern (Pat), Chord (Chd),  
Tempo (Tmp), All

This determines the track (or tracks) which is to be cleared.  
In the Track parameter, **Pat** is for the accompaniment

pattern track, **Chd** is for the accompaniment chord track, **Tmp** is for the tempo track, and **All** is for all tracks in the selected song.

Press **ENTER** to execute the Clear Track Job. A “Completed” message appears briefly when the Job is done.

## 18: Expand Backing



This operation converts or “expands” the accompaniment Pattern and Chord track data (which cannot be edited) to that of standard MIDI format (which **can** be edited). The resulting expanded data is placed in the normal sequencer tracks 8, 9, 11, 12, 13, 14, 15, and 16 (see chart below).

**Two cautions:**

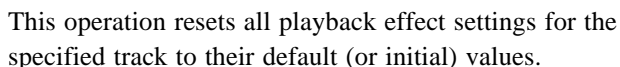
- Be careful when using this, since any previous data in tracks 8 - 16 will be erased!
- Be judicious in expanding accompaniment tracks, since they will take up more memory space after being expanded.

Press **[ENTER]** to execute the Expand Backing Job. A “Completed” message appears briefly when the Job is done.

Pattern Track	Sequencer Track
1	8
2	9
3	11
4	12
5	13
6	14
7	15
8	16

**HINT:** The main use for Expand Backing is when you want to make small changes in the accompaniment that cannot be made otherwise. For example, you may wish to change a few notes in a bass part, or change some individual drum sounds in the rhythm track.

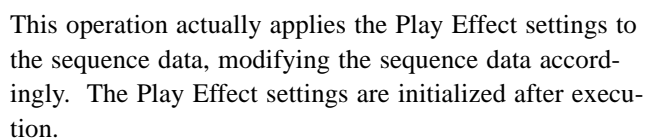
## Song Jobs



## Range: 01 — 16, All

Press **[ENTER]** to execute the Init Play Effect Job. A “Completed” message appears briefly when the Job is done.

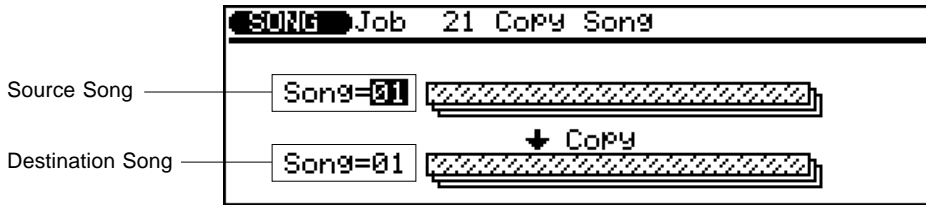
## Song Jobs



## Range: 01 — 16, All

Press **[ENTER]** to execute the Normalize Effect Job. A “Completed” message appears briefly when the Job is done.

## 21: Copy Song



This operation copies all data from all tracks of the specified song to any other specified song (including song name, play effect, voice assignment, and output assignment settings).

### ● Source Song

Range: 01 — 10

This determines the song from which the data is to be copied.

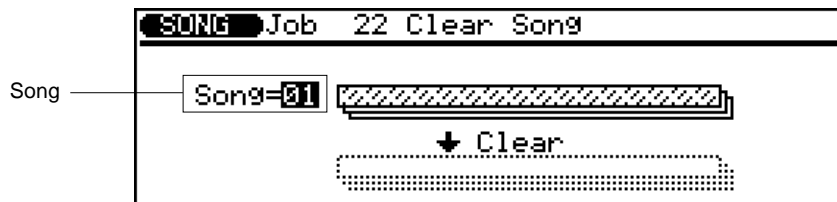
## ● Destination Song

Range: 01 — 10

This determines the song to which the source data (selected above) is to be copied.

Press **ENTER** to execute the Copy Song Job. A “Completed” message appears briefly when the Job is done.

## 22: Clear Song



This operation completely clears all data from all tracks of the currently selected song. It also initializes the play effect, voice, and output settings.

### ● Song

Range: 01 — 10

This determines the song whose data is to be cleared.

Press **ENTER** to execute the Clear Song Job. A “Completed” message appears briefly when the Job is done.

## Song Jobs





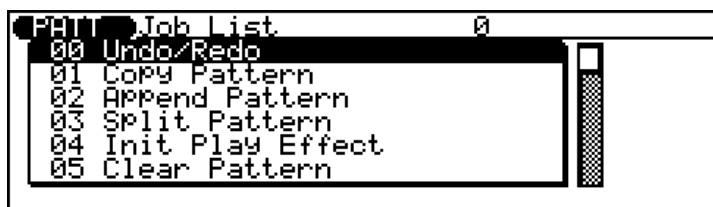
# Pattern Jobs

The Pattern mode includes seven different “jobs” (or operations) that perform a variety of important and useful functions.



**CAUTION:** Keep in mind that the Pattern Jobs permanently alter the data of the selected Patterns.

## Pattern Jobs

00: Undo/Redo .....	164
01: Copy Pattern .....	165
02: Append Pattern .....	166
03: Split Pattern .....	167
04: Init (Initialize) Play Effect ....	168
05: Clear Pattern .....	168
06: Style Name .....	168



**To use the Pattern Jobs: .....**

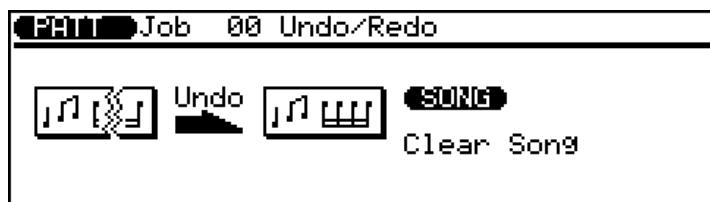
- 1. Enter the Pattern mode by pressing .**
- 2. Press  to call up the Pattern Jobs page.**
- 3. Select the desired Job number/title.**

Enter the Job number directly from the numeric keypad, or select the Job by moving the highlight in the normal manner.

- Press **ENTER** to call up the desired Job.
- For help in using a specific Job, refer to the appropriate explanation in this section.

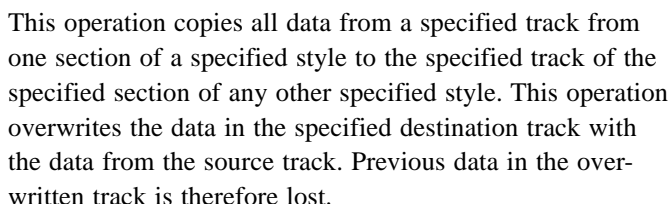
To exit from the Pattern Jobs, press the **EXIT** button or any of the **MODE** buttons.

## 00: Undo/Redo



Same as the corresponding Job in the Song Jobs. (See page 140.)

## Pattern Jobs



## Range:

Preset bank (Pre): 001 — 100

This determines the style from which the data is to be copied. This is actually two parameters: the bank (User, Preset) and the style number.

Settings: Intro, Main A, Main B, Fill AA, Fill BB, Fill AB, Fill BA, Ending, All

This determines the section(s) of the style from which the data is to be copied. A setting of **All** selects all sections for copying. (The Destination Section parameter is automatically set to **All** if **All** is selected here).

## Range: 1 — 8, All

This determines the track(s) of the style from which the data is to be copied. A setting of **All** selects all tracks for copying. (The Destination Track parameter is automatically set to **All** if **All** is selected here).

## Range: 001 — 100

This determines the style number to which the source data (selected above) is to be copied.

Settings: Intro, Main A, Main B, Fill AA, Fill BB, Fill AB, Fill BA, Ending, All

This determines the style section(s) to which the source data (selected above) is to be copied. A setting of **All** selects all sections for copying. (The Source Section parameter is automatically set to **All** if **All** is selected here).

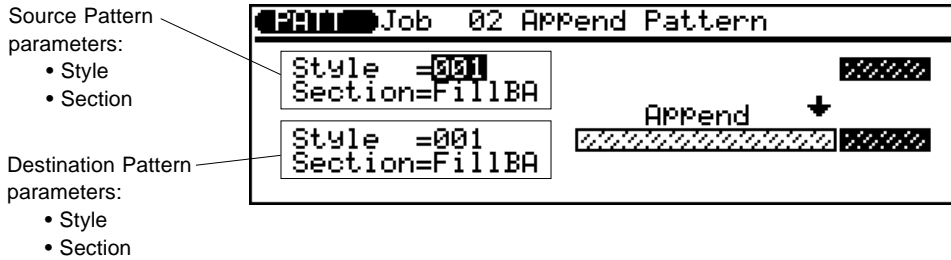
## Range: 1 — 8, All

This determines the style track(s) to which the source data (selected above) is to be copied. A setting of **All** selects all tracks for copying. (The Source Track parameter is automatically set to **All** if **All** is selected here).

Press **[ENTER]** to execute the Copy Pattern Job. A “Completed” message appears briefly when the Job is done.

**NOTE:** When **All** is selected for the Destination Section or Destination Track, the Multi parameter data is copied as well.

## 02: Append Pattern



This operation appends the specified section of one style to the end of the specified section of a second style.

## ● Source Style

Range: 001 — 100

This determines the style from which the data is to be copied.

### ● Source Section

Settings: Intro, Main A, Main B, Fill AA, Fill BB, Fill AB, Fill BA, Ending

This determines the section of the style from which the data is to be copied.

## ● Destination Style

Range: 001 — 100

This determines the style number to which the source data (selected above) is to be appended.

### ● Destination Section

Settings: Intro, Main A, Main B, Ending

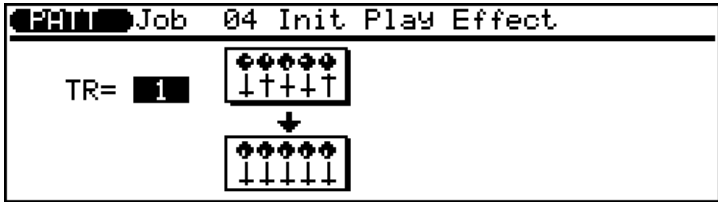
This determines the style section to which the source data (selected above) is to be appended. Fills cannot be selected as the destination since they can be only one measure in length.

Press **[ENTER]** to execute the Append Pattern Job. A “Completed” message appears briefly when the Job is done.

## Pattern Jobs

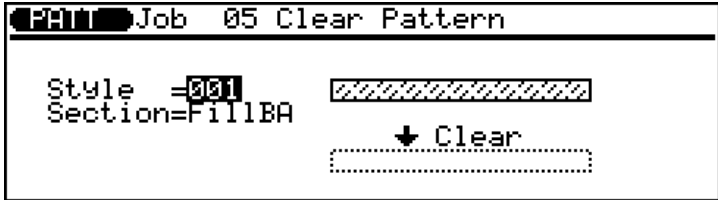


## 04: Init (Initialize) Play Effect



Same as the corresponding Job in the Song Jobs. (See page 159.)

## 05: Clear Pattern



This operation clears all data from the specified section of the specified style.

## ● Style

Range: 001 — 100

This determines the style in which the specified section is to be cleared.

## ● Section

Settings: Intro, Main A, Main B, Fill AA, Fill BB, Fill AB,  
Fill BA, Ending, All

This determines the section to be cleared. A setting of **All** selects all sections for clearing.

Press **[ENTER]** to execute the Clear Pattern Job. A “Completed” message appears briefly when the Job is done.

**NOTE:** When **All** is selected, the Multi parameter data is cleared as well.

## 06: Style Name



This operation allows an original name of up to eight characters to be assigned to the current Style. The method

of entering the name is the same as the corresponding Job in the Song mode; see page 23 for details.

# Phrase Jobs

The Phrase mode includes fifteen different “jobs” (or operations) that perform a variety of important and useful functions.

**CAUTION:** Keep in mind that the Phrase Jobs permanently alter the data of the Phrase.

## Phrase Jobs

00: Undo/Redo .....	170
01: Quantize .....	171
02: Modify Velocity .....	171
03: Modify Gate Time .....	171
04: Crescendo .....	172
05: Transpose .....	172
06: Shift Note .....	172
07: Shift Clock .....	173
08: Copy Phrase .....	173
09: Append Phrase .....	174
10: Split Phrase .....	174
11: Get Phrase .....	175
12: Put Phrase .....	176
13: Clear Phrase .....	177
14: Phrase Name .....	177



## Phrase Jobs

This operation aligns notes in the specified user phrase to or close to the nearest specified beat. The basic parameters,

## 02: Modify Velocity

This operation increases or decreases the velocity values of all notes in the specified user phrase. The basic parameters,

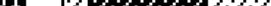
### 03: Modify Gate Time

This operation increases or decreases the gate times (duration) of all notes in the specified user phrase. The basic parameters, functions and operations are the same as for the

## 04: Crescendo

PHRH Job 04 Crescendo

M1:1 ~ 8:4

Phrase=001 

Range = +00

This operation produces a gradual crescendo (increase in note velocity) or decrescendo (decrease in note velocity) in the specified user phrase over the specified range of

measures. The basic parameters, functions and operations are the same as for the corresponding Job in the Song mode; see page 145 for details.

## 05: Transpose

PHR Job 05 TransPose

Phrase=001


TransPose = +00

This operation transposes all notes in the specified user phrase up or down by the specified number of semitones. The basic parameters, functions and operations are the same

as for the corresponding Job in the Song mode; see page 146 for details.

## 06: Shift Note

PHRH Job 06 Shift Note

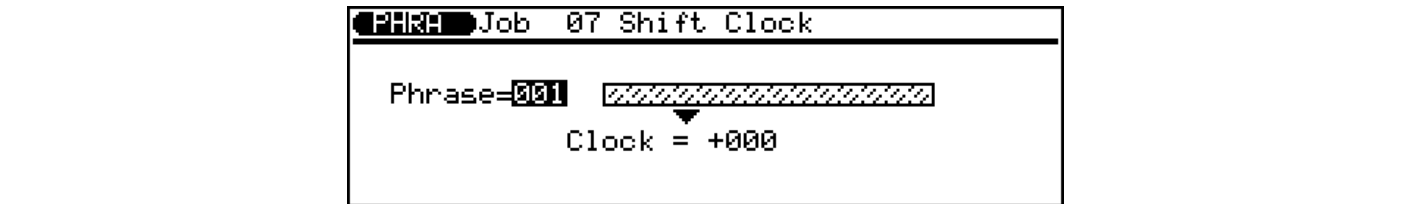
Phrase=001 

C 3 → C 3

This operation changes the pitch of all specified notes within the specified user phrase. The basic parameters,

functions and operations are the same as for the corresponding Job in the Song mode; see page 147 for details.

## 07: Shift Clock



This operation moves all notes and events in the specified track and range of measures forward or backward by the specified number of clocks (96 clocks = 1/4 note). The

basic parameters, functions and operations are the same as for the corresponding Job in the Song mode; see page 148 for details.

## 08: Copy Phrase

Source Phrase:

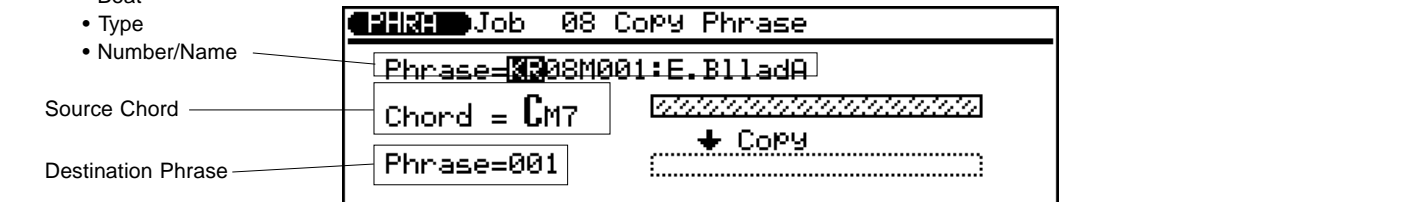
- Instrument Category
- Beat
- Type
- Number/Name

- Instrument Category
- Beat
- Type
- Number/Name

Source Chord \_\_\_\_\_

Destination Phrase \_\_\_\_\_

Destination Phrase \_\_\_\_\_



This operation copies the specified preset or user phrase to a specified user phrase number, using the specified source chord.

### ● Source Phrase

This determines the preset or user phrase to be copied. This is actually divided into four separate parameters: Instrument Category, Beat, Type, and Number/Name.

○ **Instrument Category**

Settings: User (**US**); Preset: Drums (**DR**), Percussion (**PC**), Bass (**BA**), Guitar Chord (**GC**), Guitar Riff (**GR**), Keyboard Chord (**KC**), Keyboard Riff (**KR**)

Select US for the User Phrases; any other for Preset Phrases.

☐ **Beat**  
Settings: 8 beat **(08)**, 16 beat **(16)**, 3/4 time **(34)**

Settings: 8 beat (**08**), 16 beat (**16**), 3/4 time (**34**)

○ **Type**  
Settings: Main (**M**), Fill Loop (**O**), Fill Cross (**X**), Intro (**I**),

Settings: Main (**M**), Fill Loop (**O**), Fill Cross (**X**), Intro (**I**),  
Ending (**E**), Specific (**S**), General (**G**)

○ **Number/Name**  
Range: 001 — 100

Range: 001 — 100

### ● Source Chord

This determines the source chord with which the phrase will be copied. Enter the chord root and type by using the standard chord entry procedure (see page 124).

### ● Destination Phrase

Range: 001 — 100

This determines the user phrase to which the source phrase will be copied.

Press **ENTER** to execute the Copy Phrase Job. A “Completed” message appears briefly when the Job is done.

## 09: Append Phrase

PHRASE Job 09 Append Phrase

Phrase=001

Phrase=001

Append

This operation appends the specified user phrase to the end of a second specified user phrase.

### ● Source Phrase

Range: 001 — 100

This determines the user phrase from which the data is to be copied.

### ● Destination Phrase

Range: 001 — 100

This determines the user phrase to which the data is to be appended.

Press **ENTER** to execute the Append Phrase Job. A “Completed” message appears briefly when the Job is done.

## 10: Split Phrase

PHR Job 10 Split Phrase

Source Phrase — Phrase=001

Destination Phrase — Phrase=001

Split +

Starting Measure (for split) — M1

This operation splits a specified user phrase into two parts at the specified measure, and moves the latter half to another specified user phrase.

● **Source Phrase**

Range: 001 — 100

This determines the user phrase which is to be split.

### ● Starting Measure

Range: 1 — 8 (depending on length of source phrase)

This determines the starting measure for the split. The selected measure and all that follow will be split. If a value of 1 is selected, the entire phrase will be moved to the specified destination.

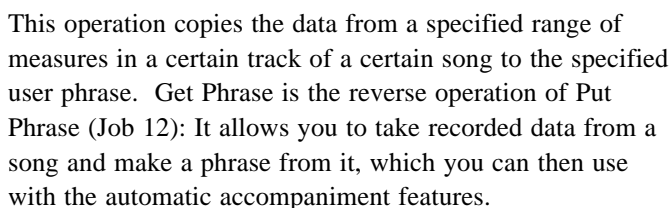
### ● Destination Phrase

Range: 001 — 100

This determines the user phrase to which the source data (selected above) is to be moved.

Press **ENTER** to execute the Split Phrase Job. A “Completed” message appears briefly when the Job is done.

## Phrase Jobs



## Range: 01 — 10

## ● Source Track

Range: 01 — 16

### ● Measure Range

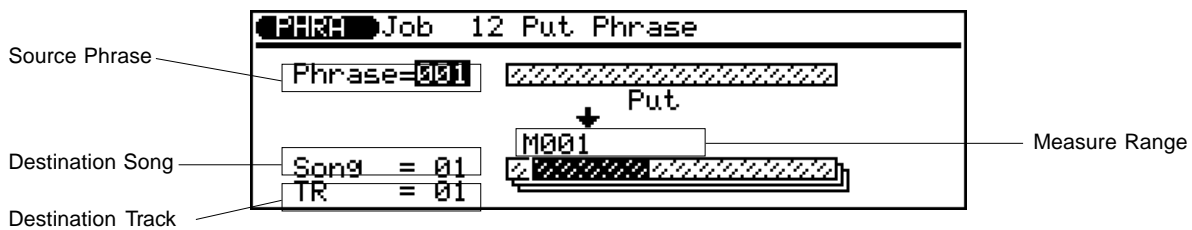
Measure Range is actually two separate settings (as shown below). These determine the range of the play data that is to be copied.

### ● Destination Phrase

Press **ENTER** to execute the Get Phrase Job. A “Completed” message appears briefly when the Job is done.

**HINT:** The *Get Phrase Job* is a convenient way to create new phrases by copying a few appropriate measures from songs. In fact, it's sometimes easier to create phrases in the *Song mode* and then copy them to the *Phrase mode* using the *Get Phrase Job*, simply because the *Song mode* lets you hear what you're recording as you're recording.

## 12: Put Phrase



This operation copies the data from a specified user phrase to the specified range of measures in the specified track of a specified song. Put Phrase is the reverse operation of Get Phrase (Job 11): It allows you to take a user phrase and put it into a song as normal recorded data.

● **Source Phrase**

This determines the user phrase from which the data is to be copied.

### ● Measure Range

Measure Range is actually two separate settings (as shown below). These determine the range of the play data that is to be copied.

First measure.      Last measure.

M001 ~ 999

### ● Destination Song

Range: 01 — 10

This determines the song to which the data is to be copied.

## ● Destination Track

Range: 01 — 16

This determines the track to which the data is to be copied.

Press **ENTER** to execute the Put Phrase Job. A “Completed” message appears briefly when the Job is done.

**NOTE:** The time signature of the phrase will not affect the time signature of the song.

## Phrase Jobs

This operation completely clears all data from the specified user phrase. The basic parameters, functions and operations are the same as for the corresponding Job in the Song mode; see page 160 for details.

This operation allows an original name of up to eight characters to be assigned to the specified user phrase. The method of entering the name is the same as the corresponding Job in the Song mode; see page 161 for details.



The Edit functions for both Song and Phrase are actually divided into two different modes: Edit Change and Edit Insert. The Edit Change mode lets

you individually modify the timing, pitch (note), gate time (length) and velocity (loudness) of each recorded note. It also allows you to change the data values of other recorded events, such as pitch bend, program change and after touch. The Edit Insert mode, on the other hand, allows insertion of note, pitch bend, program change, control change, after touch, or exclusive events at any point in the Song or Phrase.

## Editing Songs and Phrases

Edit Change Mode ..... 180

Edit Insert Mode ..... 184



• **To enter a new pitch for the note:** .....

Highlight the Note parameter and play the desired note on the keyboard, or use the [DEC]/[INC] buttons or rotary dial.

The note range is from C-2 to G8.

• **To enter a new note duration:** .....

Highlight the Gate Time (**Gate**) parameter value, and change as desired; or highlight the note symbol and use the numeric keypad.

Gate Time is the length of the note in clocks. A normal 1/4 note, for example, is 86 clocks long. This is about 90% of the actual length of a 1/4-note division, which is 96 clocks. The “normal” length of the note is slightly shortened to prevent notes from running into each other and sounding slurred (a slur is produced by setting the full note length). The left number is 1/4-note beats (96-clock units) and the right number is clocks. The range is from 00-00 to 99-95.

The simplest and most efficient way to enter note lengths is by using the numeric keypad, pressing the button corresponding to the desired note value. (The note values are printed directly above the buttons.)

• **To enter a new note volume:** .....

Highlight the Velocity (**Vel**) parameter value, and change as desired; or highlight the dynamic indication and use the numeric keypad.

This parameter controls the velocity (loudness) of the note. The range is from 001 to 127.

A simple and efficient way to enter note velocities is by using the numeric keypad, pressing the button corresponding to the desired dynamic value. (The dynamic values are printed directly above the buttons.)

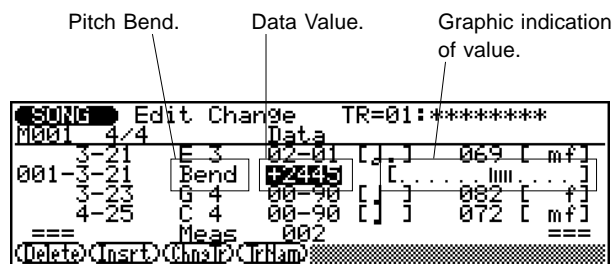
## To Change Controller Data

You can also change controller data values from the Edit Change mode. Controllers include pitch bend, after touch, modulation, sustain (damper switch), MIDI volume, portamento, and many others.

1. Highlight the desired Event line containing controller data.
2. Highlight the appropriate parameter and change the value. Press [ENTER] to actually change the value, or highlight another Event line to cancel the change.

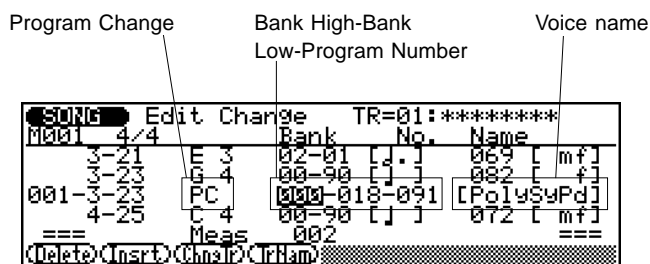
● **For controllers such as pitch bend and after touch:**

Highlight the Data parameter and change as desired.



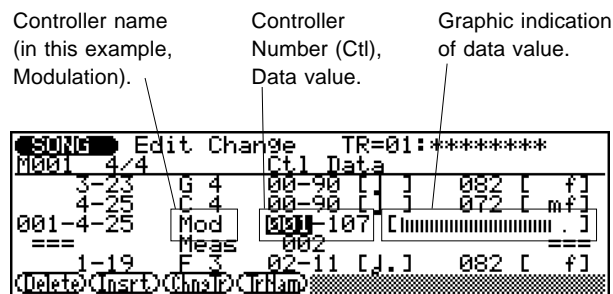
● **For bank select/program change data:**

Highlight the appropriate parameter and change as desired. This contains three parameters, from left to right: Bank High, Bank Low, and Program Number (**No.**).



● **For controller numbers (0 - 127):**

Highlight and change the controller number (**Ctl**), then highlight and change the Data value as desired. (See Controller List below.)

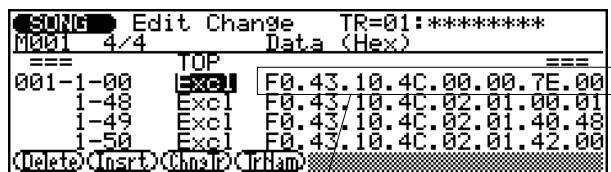


## Controller List

Number (Ctl)	Display Indication	Controller Name
000, 002, 003, 008, 009, 012-037, etc.	CC	Control change. (This is shown for all controller numbers that do not have commonly recognized names.)
001	Mod	Modulation.
004	FC1	Foot Controller 1.
005	PrtT	Portamento time.
006	DatM	Data entry MSB.
007	Vol	Volume.
010	Pan	Panpot.
011	Exp	Expression.
038	DatL	Data entry LSB.
064	Sus	Sustain (damper pedal).
065	Prt	Portamento.
066	Sos	Sostenuto.
067	Soft	Soft pedal.
071	Harm	Harmonic content.
072	RlsT	Release time (of EG).
073	AtkT	Attack time (of EG).
074	Brgt	Brightness.
084	PrtC	Portamento control.
091	Rev	Reverb send level.
093	Cho	Chorus send level.
094	Vari	Variation send level.
096	DatI	Data entry increment.
097	DatD	Data entry decrement.
098	NRPL	NRPN LSB.
099	NRPM	NRPN MSB.
100	RPNL	RPN LSB.
101	RPNM	RPN MSB.
120	SnOf	All sound off.
121	RstC	Reset all controllers.
124	OmOf	Omni off.
125	OmOn	Omni on.
126	Mono	Mono.
127	Poly	Poly.

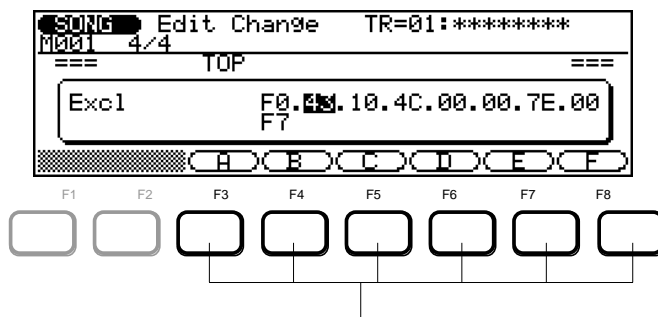
● **For System Exclusive data:**

Highlight the Data parameter.



System Exclusive Data

When the Data parameter is highlighted, the following popup window appears:



Pressing these enters the corresponding letter for the hexadecimal value.

Select the desired hexadecimal byte (numbers separated by dots) and change as needed. Use **F3** - **F8** to enter the letters A - F, and use the numeric keypad to enter numbers. The **DEC/INC** buttons and rotary dial can also be used. Press **ENTER** to actually enter the new value.

## Other Functions

### ● [F1] — Delete

This deletes the event (note or controller data) at the highlight position.

### ● [F2] — Insert (Insrt)

This calls up the Edit Insert mode for inserting an event (note or controller data) at the highlight position. (See **Edit Insert Mode** below.)

### ● [F3] — Change Track (ChngTr)

Pressing this lets you select a different track for editing.

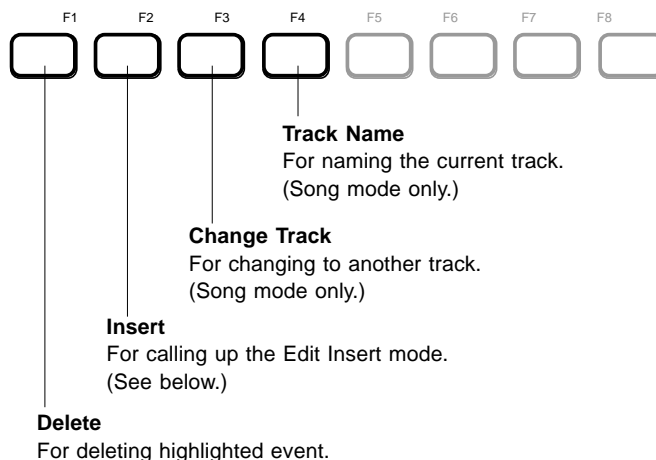
**To use Change Track:** .....

1. Press [F3]. The Track Number parameter is automatically highlighted.
2. Use any data entry method to select a track: 1 - 16, or the Tempo track. (For details on editing the Tempo track, see page 186.)
3. Press [ENTER] (or [F3] again, or [EXIT]) to change to the newly selected track.

### ● [F4] — Track Name (TrNam)

This lets you specify a name for the track. (For instructions on entering names, see page 161.) When done entering the name, press [EXIT].

SONG Edit Change				TR=01:*****			
M002	4/4	Note	Gate	Vel			
4-25	C 4	00-90	[ ]	072	[ mf]		
===	Meas	002					===
002-1-19	[F3]	02-11	[.]	082	[ f]		
1-20	H 4	01-02	[.]	090	[ f]		
2-19	G 4	00-57	[.]	081	[ f]		
Delete Insrt ChngTr TrNam							



The Edit Insert mode allows you to insert new notes and other events at any specified point in the Song or Phrase.

- NOTE:** You can specify the location later in step 3, if you want. However, it is usually easier to find the location in the Edit Change mode, then insert an event at that point.

2. Press **F2** to enter the Edit Insert mode.
3. Highlight and change the Insert Location, if desired.
4. Highlight the Event Type parameter and select the desired type of event.

- 
- Previous Event line.
- SUNG Edit Insert TR=01:\*\*\*\*\*  
 M002 4/4  
 2-19 G 4 00-57 [.] ] 081 [ f]  
 002-2-71  
 Note C 3 00-86 [.] ] 072 [ mf]
- Event parameters

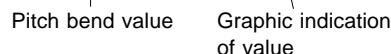
- 4. Highlight Event Type and select desired type of event.**

- ## 5. Set the Event parameters as desired.
- Refer to the explanations below for each event type and its parameters: Note, Pitch Bend, Program Change, Control Change, Channel After Touch, Key After Touch, and System Exclusive.

New notes can be inserted at any specified location. The note parameters are the same as those available in the Edit Change mode and the values can be edited in the same way. (See page 180.)

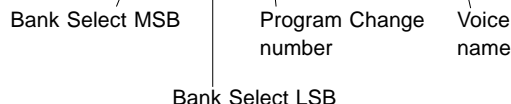


Pitch bend events can be used to produce pitch bend effects. The amount of pitch bend produced by each event can be set from -8192 through +00 to +8191. Each increment corresponds to a fraction of a semitone. To produce smooth pitch bends you'll need to insert several small pitch bend events, appropriately spaced, to create smooth pitch bend effects. Remember to use more pitch bend effects to return the pitch to normal (+00) after a bend. A graphic bar in the display indicates the amount of pitch bend applied — positive bends move the bar to the right and negative bends move the bar to the left.



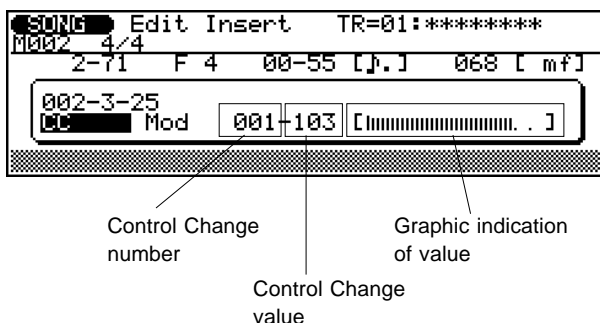
Program change events can be used to switch voices at any point in the track. The program change parameter has three sections: The MSB (most significant byte) of the bank select number, the LSB (least significant byte) of the bank select number, and the program change number itself. The range of the bank select parameters is 0 to 127, while the program change range is 001 to 128.

The bank select parameters make it possible to select any Voice in any of the banks of the QS300 (or any other MIDI instrument that has more than 128 programs). Generally, the MSB should be set to 000, and the LSB to the corresponding bank number. For example, if you want to select the User bank, set the LSB to 000 and the MSB to 063. The name of the selected Voice is shown at the right.



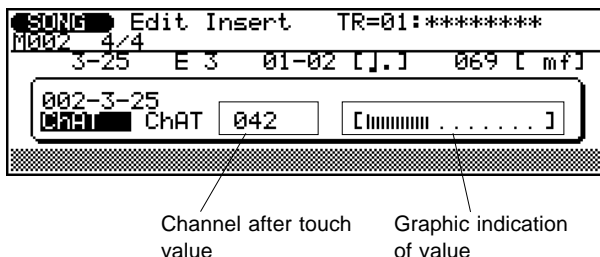
## Control Change (CC)

Control change events can be used to apply modulation, sustain, volume, and other types of control according to the standard MIDI control change controller assignments. (Refer to the list on page 182.) The left parameter is the control change number (the type of control), and the right parameter is the control change value (the amount of control). The control change value is also represented graphically by a bar in the display. The range of both parameters is 000 to 127.



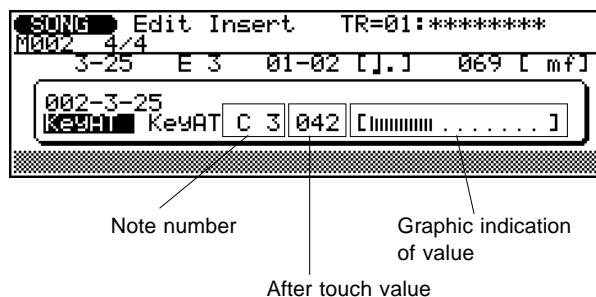
## Channel After Touch (ChAT)

This event can be used to apply channel (monophonic) aftertouch, in which pressure on any key controls all notes being played by the same amount. The range is 0 to 127. The amount of after touch “pressure” is also represented graphically by a bar in the display.



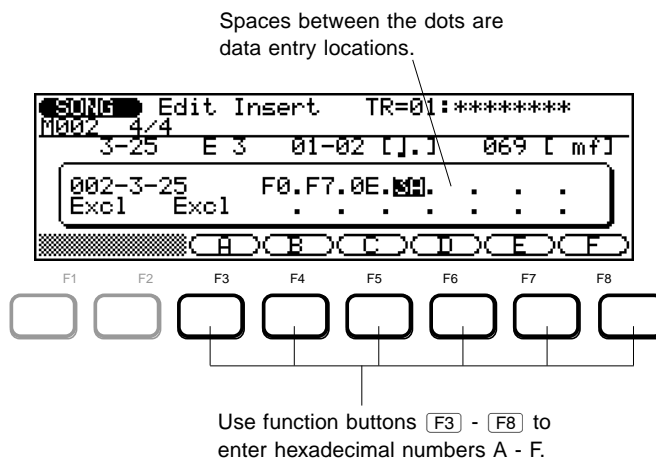
## Key After Touch (KeyAT)

Key aftertouch allows independent aftertouch values to be applied to each note played. This event has two parameters: a note number and a value. The note number corresponds to standard MIDI note number assignments and can be entered from the keyboard (C-2 - G8). The range of both parameters is 000 to 127. The amount of after touch “pressure” is also represented graphically by a bar in the display.



## System Exclusive (Excl)

This event allows you to insert 16-byte system exclusive data blocks (first byte is fixed at F0) in the sequence data to control external MIDI devices as required. Move the cursor to any of the data byte locations following the initial F0 byte and enter the hexadecimal number directly using the function buttons F3 - F8 (to enter A - F) and the numeric keypad (to enter 0 - 9). The **DEC/INC** buttons and rotary dial can also be used.

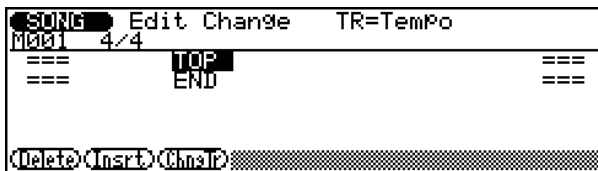


**NOTE:** In the Edit Change mode, system exclusive events can be displayed in the Event line only up to the first eight bytes.

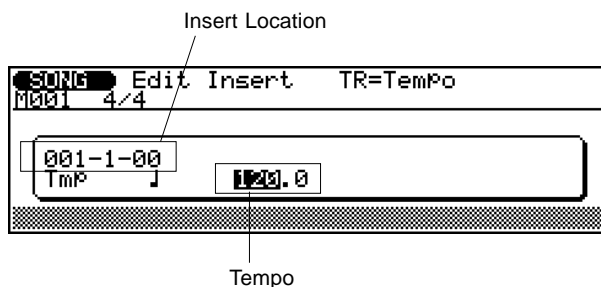
## ■ Editing the Tempo Track

The Edit Insert mode can also be used for the Tempo track.

1. From the Edit Change mode display, press **[F3]** (**ChngTr**) and select the Tempo track.



2. Press **[F2]** (**Insrt**) to call up the Edit Insert mode for the Tempo track.



3. Highlight and change the Insert Location parameter, if desired.

4. Highlight either part of the Tempo parameter and change the value.

Tempo (Tmp) is the only parameter here, and the range is 25.0 to 300.0.

To actually insert the new Tempo event, go on to step **6** in the main instructions below.

6. Enter the event by pressing **[ENTER]**.

A click sounds as the event is entered. (When a note is entered, the actual note sounds.)

7. Press **[EXIT]** to return to the Edit Change mode, and continue editing as desired.

Events that you've inserted (with the exception of system exclusive) can be edited in the Edit Change mode. If you want to delete the event you've just inserted, select the appropriate Event line in Edit Change, then press **[F1]** (**Delete**).

To return to the Song or Phrase mode, press the corresponding mode button or press **[EXIT]**.

# Utility Mode

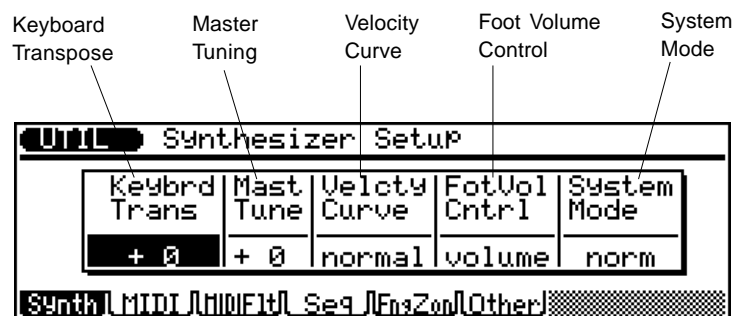
The Utility mode includes a number of functions that are important for general operation. These functions include MIDI data handling, interfacing with external equipment, global sequencer settings and controls, ABC system operation, and more.

Utility	
— Synthesizer Setup .....	188
— MIDI Setup .....	190
— MIDI Input Filter .....	191
— Sequencer Setup .....	192
— Fingered Chord Zone .....	193
— Others Setup .....	194

**1. Enter the Utility mode by pressing UTILITY.**

Refer to the explanations below for help in using specific pages and their functions.

## Utility Synthesizer Setup



- Overall transpose and tuning
- Velocity Curve
- FOOT VOLUME controller assignment
- Tone generation System mode

Range: -36 — +36 semitones

This determines the amount by which the keyboard note data is transposed. This is a global setting that affects the Voice played in the Voice mode, data recorded to the sequencer, and the data transmitted via the MIDI OUT terminal.

Range: -99 — +99 cents (+/- 1 semitone)

This determines the overall tuning of the instrument. (At a pitch of 440 Hz, 4 cents equals approximately 1 Hz.)

Settings: normal, soft 1, soft 2, easy, wide, hard, cross 1, cross 2

This determines how the strength of your playing affects the overall volume of the instrument. The various curves let you tailor the velocity response to your particular needs or technique. This is a global setting that affects the Voice played in the Voice mode, data recorded to the sequencer, and the data transmitted via the MIDI OUT terminal.

### ● Foot Volume Control

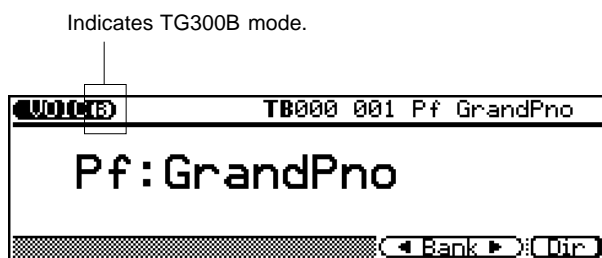
Settings: volume (MIDI Volume, controller #7), expres  
(MIDI Expression, controller #11)

This determines the MIDI controller assignment for the foot controller connected to the FOOT VOLUME jack. When this is set to **volume**, foot controller movements are transmitted as controller number 7 (Volume); when set to **expres**, they are transmitted as controller number (Expression).

## ● System Mode

Settings: norm (normal), TG-B (TG300B)

This determines the basic tone generation mode of the QS300. The **norm** setting provides compatibility with GM and XG song data, while the **TG-B** setting provides semi-compatibility with popular computer music software. The **TG-B** setting is indicated in the display by a “B” in the mode bar at the top left (as shown below).



**NOTE:** When the System Mode is set to **TG-B**:

- *Voice Edit mode and Voice Job setting cannot be made.*
- *Pattern mode and Phrase mode settings cannot be made.*
- *Pattern Track (in Song mode) is not available.*



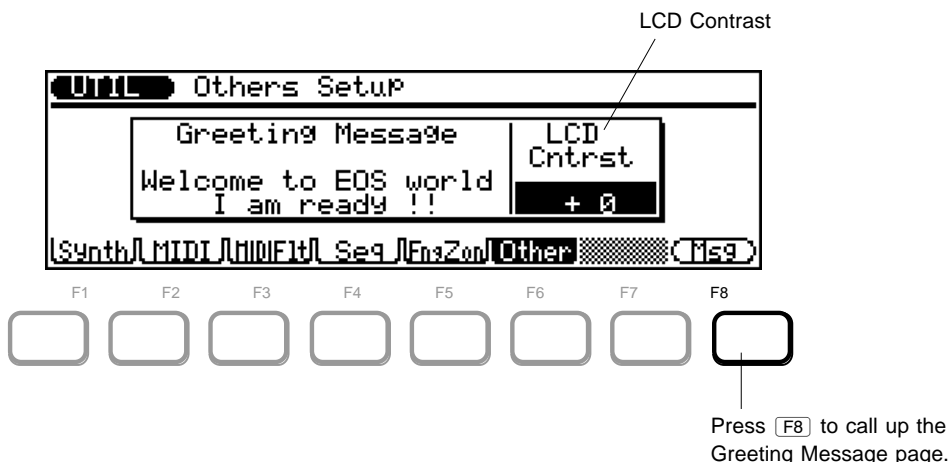






## Utility Others Setup

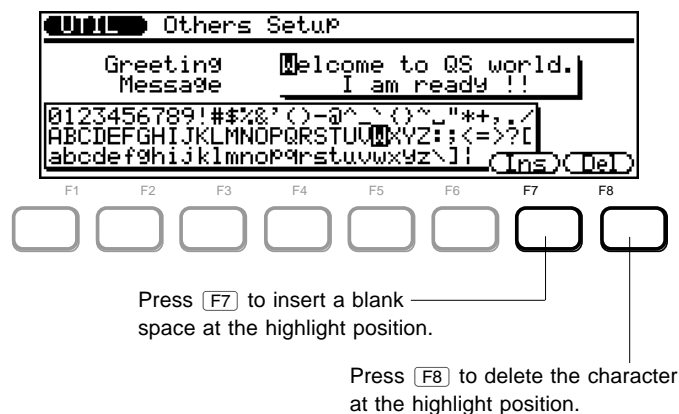
**Path:** UTILITY → F6 (Others)



In the Others Setup page, you can:

- Enter a custom “greeting” message.
- Set the LCD (display) contrast.

## ● Greeting Message



From the Others Setup page (shown above), press **[F8]** to call up the following Greeting Message page.

**To enter a new Greeting Message: .....**

- 1. Move the highlight in the message box to the desired position.**
- 2. Change the character at the highlight by using the panel controls.**  
The available characters (40 ASCII characters) are shown in the display.

After entering the new message, press **EXIT** to leave the Greeting Message page.

**F7 — Insert**

This inserts a blank space at the highlight position.

**F8 — Delete**

This deletes the character at the highlight position.

### ● LCD Contrast

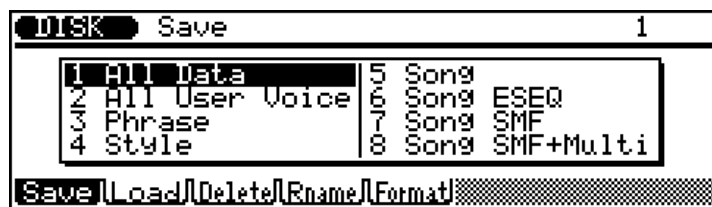
Range: -15 — +15

This adjusts the contrast of the display (LCD). If the contrast setting makes the display unreadable, you can reset the contrast to **0** (from any mode) by simultaneously pressing the **SHIFT** and **UTILITY** buttons.

# Disk Mode

In addition to save and load operations, the Disk mode allows you to format new disks as well as delete and rename existing files.

<b>Disk</b>	
Save Operation .....	197
Load Operation .....	198
Delete Operation .....	200
Rename Operation .....	201
Format Operation .....	202




- 1. Enter the Disk mode by pressing **[DISK]**.**
- 2. Press the appropriate function button (**[F1]** - **[F5]**) to call up the desired operation: Save (**[F1]**), Load (**[F2]**), Delete (**[F3]**), Rename (**[F4]**), or Format (**[F5]**).**
- 3. Select the type of data you wish to save, load, delete or rename.**  
Do this by highlighting the data type, or entering the corresponding number directly. (This is unnecessary for the Format operation, which simply formats a blank disk.) The following chart describes the data types.

<b>All Data</b>	<b>File Extension: .Q3A</b> This comprises all song, phrase, user pattern, user Voice, and chain data.
<b>All User Voice</b>	<b>File Extension: .Q3V</b> This comprises all user Voice data.
<b>Phrase</b>	<b>Range: 001 — 100</b> <b>File Extension: .Q3H</b> This comprises a single specified user Phrase.
<b>Style</b>	<b>Range: 001 — 100</b> <b>File Extension: .Q3P</b> This comprises a single specified Style.
<b>Song</b>	<b>Range: 01 — 10</b> <b>File Extension: .Q3S</b> This comprises a single specified Song. The Voice, output select, play effect, and pattern/ chord/tempo track data is also saved.
<b>Voice</b> (Load only)	<b>Range: 001 — 128 (Max 280 elements)</b> <b>File Extension: .Q3V</b> This comprises a single specified User Voice.
<b>Song ESEQ</b>	<b>Range: 01 — 10</b> <b>File Extension: .ESQ</b> This comprises a single specified Song in the ESEQ format. The ESEQ format is used by some sequencers and synthesizers with built-in sequencers. This option provides data compatibility with such devices. Voice, output select, and play effect data is not saved with an ESEQ file. The tempo data is saved.

<p><b>Song SMF</b></p>	<p><b>Range: 01 — 10</b>  <b>File Extension: .MID</b></p> <p>This comprises a single specified song in the Standard MIDI File format. The Standard MIDI File format is widely used by computer music software, sequencers, and synthesizers with built-in sequencers. This option provides data compatibility with such devices. Voice, output select, and play effect data is not saved with an SMF file. The tempo data is saved.</p>
<p><b>Song SMF + Multi</b>          (Save only)</p>	<p><b>Range: 01 — 10</b>  <b>File Extension: .MID</b></p> <p>This comprises a single specified song in the Standard MIDI File format, and includes the data of the Multi parameters. The track settings memorized as part of the Multi data are automatically converted into control change or system exclusive data (according to the XG format), then inserted with an appropriate number of measures at the beginning of the Song, before saving. Also, when MIDI data is inserted, the necessary number of measures are added to the beginning of the Song.</p>

The available data types depend on the selected operation, as listed below.

- **Save** — All Data, All User Voice, Phrase, Style, Song, Song ESEQ, Song SMF, Song SMF + Multi
- **Load** — All Data, All User Voice, Phrase, Style, Song, Song ESEQ/SMF, Voice
- **Delete and Rename** — All Data, All User Voice, Phrase, Style, Song, Song ESEQ/SMF

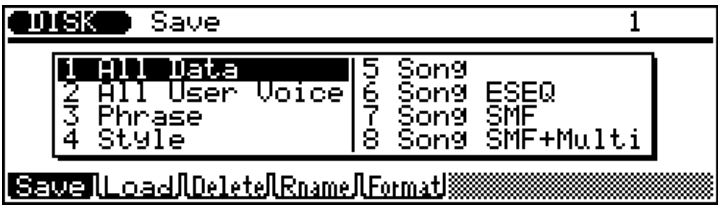
- 4. Press  to call up the selected operation.**  
Refer to the specific explanations below for help in using/executing each of the specific operations.

To exit from the Disk mode — or to cancel an operation before actually executing it — press the **EXIT** button or any of the other **MODE** buttons.

**NOTE:** The file extensions listed in the chart are used by the QS300 operating system to identify and organize the different types of data. When a file of each type is saved, the QS300 automatically assigns an appropriate file extension to the end of the file name. (When saving Songs in the Song ESEQ, Song SMF, and Song SMF + Multi, the file extension can be changed.)

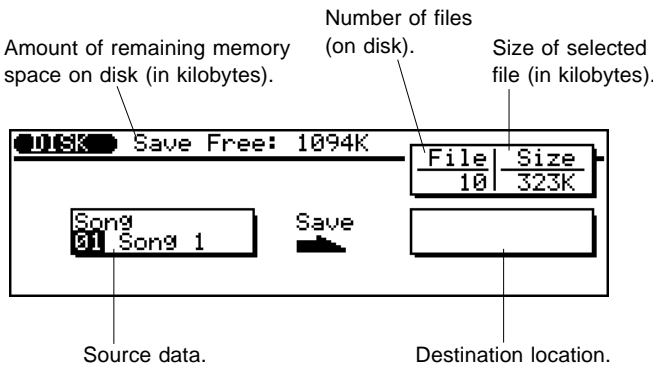
# Disk Save Operation

Path: **DISK** → **F1** (Save)



The Save operation allows you to store files to floppy disk for future recall. Select the desired data type from the above display (by any data entry method), and press **ENTER**.

**IMPORTANT:** The disk write-protect slide **must** be in the write-enable position to perform a Save operation. If it is not, the "Write Protected!" error message will appear when you attempt to execute the Save operation.



To use the Save operation: .....

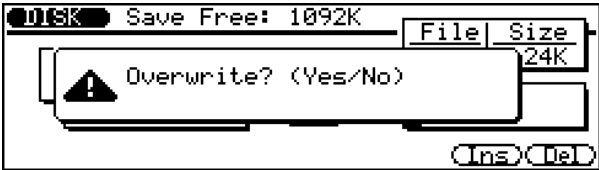
- 1. From the above display, select the specific data file you wish to save.  
Do this by highlighting the desired number/title in the left (source data) box, or select the number of the data directly. (Note: This step is unnecessary for the **All Data** and **All User Voice** types.)

- 2. Select the destination location (right box).

- 3. Enter a file name if necessary.  
When the destination location is highlighted, the name operation popup page (below) is automatically called up. (See page 161 for instructions on entering names.)



- 4. Press **ENTER**.  
If the destination location already contains data under the same file name, a "Overwrite?" prompt appears in the display.



Answer the prompt by pressing the **INC** button to go ahead with the Save operation, or pressing **DEC** to cancel.

After the operation is completed, press **EXIT** to return to the previous mode display, or press any of the **MODE** buttons.

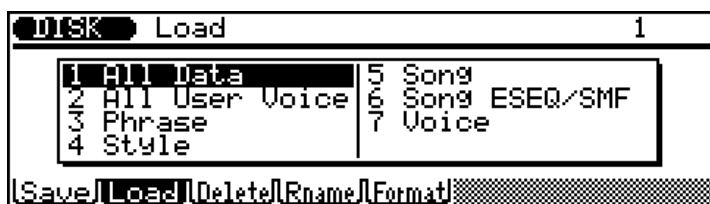
**NOTE:** You can use the **EXIT** button to leave the Save display at any time except while the operation is actually in progress.

- NOTE:**
- When saving **All Data**, if no Song data has been recorded, the Multi data is **not** saved. If you wish to save Multi data as well, simply record a few "empty" measures to a Song.
  - For Song data, only data from tracks 1 - 16 is saved (Pattern, Chord and Tempo track data is not saved). When saving the **Song** data type (number 5), User Patterns and User Phrases in the Song data are not saved.

- NOTE:**
- File names can be up to 8 characters in length. Spaces will be converted to hyphens when the file is saved. Entering all spaces for a name will result in an "Illegal File Name" message.
  - The last-entered file name is automatically shown by default.
  - If you use characters not recognized by the MS-DOS operating system, the file name may not be recognized when attempting to read the disk on different equipment.

## Disk Load Operation

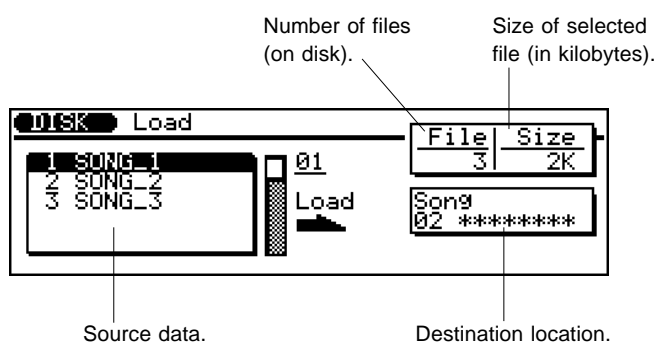
**Path:** DISK → F2 (Load)



The Load operation allows you to retrieve files on floppy disk and load them to the QS300 so that you can play/use them. Select the desired data type from the above display (by any data entry method), and press **[ENTER]**.

The Voice data type (number 7) has a different loading procedure than the other data types (covered in the instructions that follow). See **Loading a Voice** below for details.

There is also an Auto Load function which automatically loads the contents of a floppy disk to internal memory when the power is turned on. (For details, see page 19.)



**To use the Load operation: .....**

- 1. From the above display, select the specific data file you wish to load.**

Do this by highlighting the desired number/title in the left (source data) box, or select the number of the data directly.

- 2. Select the destination location (right box).**

(Note: This step is unnecessary for the **All Data** and **All User Voice** types.)

- 3. Press .**

If the destination location already contains data, a “Are you sure?” prompt appears in the display.



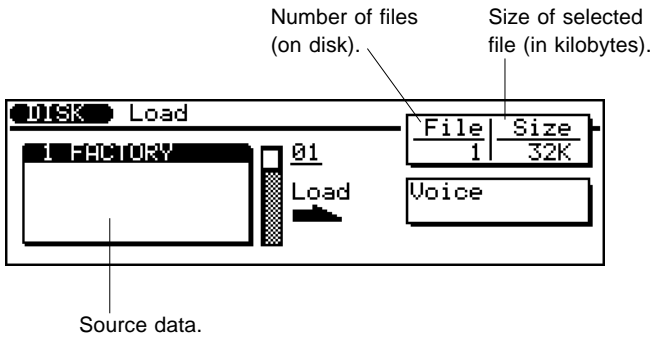
Answer the prompt by pressing the **INC** button to go ahead with the Load operation, or pressing **DEC** to cancel.

After the operation is completed, press **EXIT** to return to the previous mode display, or press any of the **MODE** buttons.

**NOTE:** You can use the **EXIT** button to leave the Load display at any time except while the operation is actually in progress.

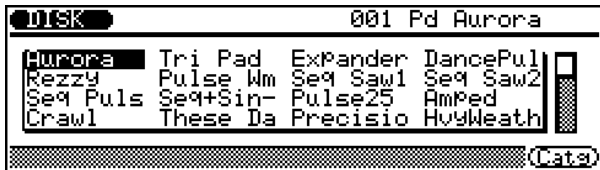
To load a Voice from disk: .....

1. Select Voice as the data type from the initial Load display, and press **ENTER**.



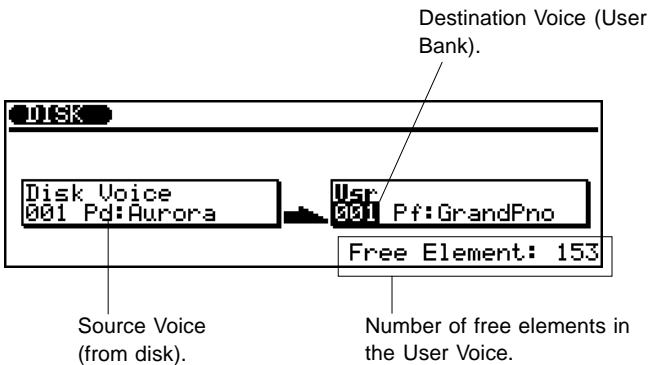
2. From the above display, select the desired set of Voices, and press **ENTER**.

After the Voice directory is loaded, the following display appears.



3. From the display above, select a Voice and press **ENTER**.

You can also use the Category function to quickly browse through the Voices by pressing **F8** and then using **F4** and **F5** to jump among the categories.



4. Select the User Voice destination for loading.

5. Press **ENTER** to start loading the selected Voice to the specified User Voice location.

Answer the “Are you sure?” prompt by pressing **INC** to execute the load operation, or pressing **DEC** to cancel.

## Disk Delete Operation

**Path:** DISK → F3 (Delete)



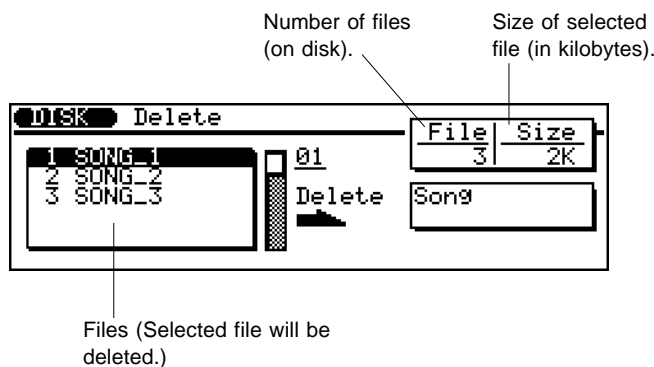
The Delete operation completely erases the specified file from the current disk. Select the desired data type from the above display (by any data entry method), and press **ENTER**.

**IMPORTANT:** The disk write-protect slide **must** be in the write-enabled position to perform a Delete operation. If it is not, the "Write Protected!" error message will appear when you attempt to execute the Delete operation.

Answer the prompt by pressing the **[INC]** button to go ahead with the Delete operation, or pressing **[DEC]** to cancel.

After the operation is completed, press **EXIT** to return to the previous mode display, or press any of the **MODE** buttons.

**NOTE:** You can use the **EXIT** button to leave the Delete display at any time except while the operation is actually in progress.



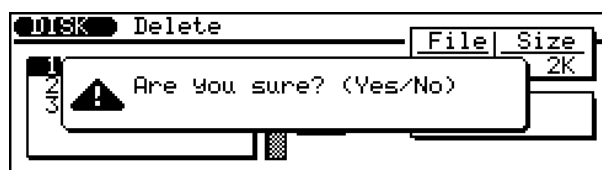
**To use the Delete operation: .....**

- 7. From the above display, select the specific data file you wish to delete.**

Do this by highlighting the desired number/title in the left (source data) box, or select the number of the data directly.

- 2.** Press **ENTER**.

An “Are you sure?” prompt appears in the display.





## Disk Format Operation

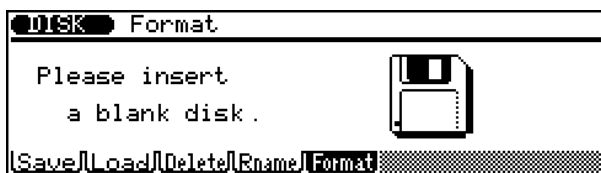
**Path:** DISK → F5 (Format)

This operation formats new (blank) 2DD or 2HD 3.5-inch floppy disks for use with the QS300. (2DD disks are formatted to MS-DOS, 720 kBytes; 2HD disks to MS-DOS 1.44 MBytes.) It can also be used to format disks previously used with other equipment for use with the QS300. The format operation is also a convenient way to clear all data from a disk that contains unwanted material.

**CAUTION!** The format operation erases all data from the disk!

**IMPORTANT:**

- The disk write-protect slide **must** be in the write-enable position to perform a Format operation. If it is not, the "Write Protected!" error message will appear when you attempt to execute the Format operation.
- 2HD disks having 2DD format cannot be used.

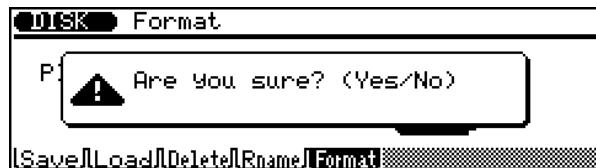


**To format a disk: .....**

- 7. Insert the disk to be formatted.**

- 2. Press .**

An “Are you sure?” prompt appears in the display.



Answer the prompt by pressing the **INC** button to go ahead with the Format operation, or pressing **DEC** to cancel.

After the operation is completed, press **EXIT** to return to the previous mode display, or press any of the **MODE** buttons.

**NOTE:** You can use the **EXIT** button to leave the Format display at any time except while the operation is actually in progress.



# APPENDIX

<b>Troubleshooting .....</b>	<b>204</b>
<b>Warning and Error Messages .....</b>	<b>206</b>
<b>Specifications .....</b>	<b>208</b>
<b>Index .....</b>	<b>209</b>

## Troubleshooting

The following table provides troubleshooting hints and page references for some common problems. Since the QS300 is a complicated device with many function, most problems are simply the result of incorrect settings. Before calling for professional service, refer to the troubleshooting advice below to see if you can find and correct the cause of the problem.

Problem	Possible Cause
No power.	Is the power cable fully inserted?
No sound.	<ul style="list-style-type: none"> <li>• Is the volume set appropriately?</li> <li>• Are the volume settings for each track (page 73) appropriate?</li> <li>• Are there enough free Elements?</li> <li>• Are the Note Limit settings (page 49) appropriate?</li> <li>• Is Local (Utility, page 190) set to off?</li> <li>• If you are using the Song mode, are any of the tracks being muted (page 69)?</li> </ul>
Pressing <b>[RUN]</b> does not start playback.	<ul style="list-style-type: none"> <li>• Does the selected Song, Pattern, or Phrase actually contain data?</li> <li>• Is MIDI Sync (Utility, page 192) set to <b>MIDI</b>?</li> </ul>
Cannot record or playback a Song. Also, the tempo cannot be set.	If so, the word “MIDI” appears in place of the Tempo parameter at the top of the Song display, and pressing <b>[RUN]</b> does not start recording or playback. Start playback from a connected MIDI device, or set MIDI Sync to <b>int</b> .
Chord in Chord Window (Song display) changes unexpectedly.	<ul style="list-style-type: none"> <li>• Is Fingered Chord (page 193) set to <b>on</b>?</li> <li>• Is the Chord window currently highlighted (page 108)? (Move the highlight elsewhere to prevent inadvertent chord changes.)</li> </ul>
Cannot enter Voice Edit mode, Voice Job, Pattern mode, or Phrase mode.	Is System Mode (Utility, page 189) set to <b>TG-B</b> ?
No metronome sound.	Is Click Mode (Utility, page 192) set properly?
Panel buttons do not work; cannot select other modes, etc.	Is Record set to standby? (If RECORD lamp is on, you cannot enter other modes; press STOP first to take record out of standby.)
The drum sounds in a User Phrase are wrong or unexpected.	Did you set the Type to drums ( <b>Dr</b> ) when recording the Phrase (page 131)?
Cannot enter Edit mode.	<ul style="list-style-type: none"> <li>• Are you pressing EDIT in Pattern mode? (Pattern mode does not have an Edit mode.)</li> <li>• In the Song mode, are you pressing EDIT while the Pattern or Chord track is highlighted? (In Song mode, Song Edit cannot be called up for the Pattern or Chord tracks.)</li> </ul>
Some notes on the keyboard do not sound.	If the Fingered Chord Switch and the <b>Fng</b> parameter in the Song or Pattern mode display are both set to on, the keys in the specified Fingered Chord zone will not sound normally, but will be used to determine the accompaniment chords. (See page 36.)

Problem	Possible Cause
Cannot set the time signature.	Does the Song or Phrase already contain data?
The pitch of the Voice or Voices is off.	Are the tuning-related parameters set to 0? Check the Voice Element Tuning Parameters (page 58), Instrument Tuning/Filter (Multi controls, page 82), and Master Tuning (Utility, page 188).
Cannot change the Phrase length.	Does the Phrase already contain data? (See page 132.)
Song playback stops midway.	<ul style="list-style-type: none"> <li>• Has an end mark (page 123) been set somewhere within the Pattern track?</li> <li>• Has an Ending Section (page 123) been set somewhere within the Pattern track?</li> </ul>
Chord changes within a measure fail to produce new sound.	Is the Phrase Retrigger parameter (page 131) set to <b>off</b> ?
The timing, rhythm, pitch or other aspects of recorded tracks are unexpected or different than at recording.	Have any of the Play Effects (page 89) been changed? Use the Play Effect Bypass function (page 70) to temporarily “mute” the offending settings, or use the Initialize Play Effects Job (pages 159 & 168) to reset the Play Effects.
Sound is choppy and	The maximum polyphony of 32 notes (the number of notes that can be played simultaneously) has been exceeded.

## Warning and Error Messages

The following messages may appear during operation, indicating problems or incorrect operation. Follow the instructions in the explanations below to remedy the problem.

## Warning/Information Messages

<b>Battery Low</b>	The memory-backup battery is low; memory cannot be backed up. Have the battery changed by your local Yamaha dealer or any other authorized Yamaha service personnel.
<b>Now TG-B Mode Active</b>	When the System Mode (in the Utility mode, page 189) is set to <b>TG-B</b> , the following modes are not available: Voice Edit mode, Voice Job, Pattern mode, and Phrase mode. Pressing any of the corresponding mode buttons results in the message above; press <b>EXIT</b> to return to normal operation.
<b>Bulk</b>	Currently receiving bulk data in a receivable format.

## Error Messages

- **Monitor**

<b>Illegal Input</b>	Improper data was input.
<b>Preset Pattern</b>	Attempted to edit a Preset Pattern. Only User Patterns can be edited.
<b>No Data</b>	There is no data (in the specified track, measures, etc.), and the job/function cannot be executed. Select a track or range of measures having data and attempt the operation again.
<b>Illegal Backup Data</b>	The memory-backup battery may have been too low to back up the data properly, resulting in corrupted backup data. Have the battery changed by your local Yamaha dealer or any other authorized Yamaha service personnel.

● **MIDI**

<b>MIDI Data Error</b>	A data error resulted during reception of MIDI messages. Check that the MIDI cable connections are secure or that the MIDI cable itself is not bad, and attempt the operation again.
<b>Checksum Error</b>	The checksum of the received System Exclusive message is incorrect. Check the message and try transmitting again.
<b>Buffer Full</b>	Too much MIDI data is being received by the QS300 at one time. Reduce the amount of data being transmitted.
<b>DvNum</b>	Cannot receive MIDI bulk data, due to improper Device Number setting (page 190). (Bulk data operations only.)

- **Disk**

<b>No Disk</b>	There is no disk in the disk drive. Insert a proper disk and attempt the operation again.
<b>Illegal Format Disk</b>	The inserted floppy disk is not of the proper format. Insert a disk of the appropriate format, or format the disk (page 202).
<b>Bad Disk</b>	The floppy disk is damaged or dirty and cannot be read. Clean the disk surface if possible, and try cleaning the disk drive itself, then attempt the operation again.
<b>File Not Found</b>	Unable to find the specified file. Try specifying a different file name, or insert a disk containing the proper file name.
<b>Write Protected</b>	Cannot write to the disk because the write-protect tab is set to the “protect” position. Set the tab to the “write” position and attempt the operation again.
<b>Disk Full</b>	Cannot write additional data to the disk, because the disk’s data capacity or director capacity has been exceeded. Delete unnecessary files from the disk and attempt the operation again, or use another blank disk.
<b>Illegal File Type</b>	Attempted to read a file type not supported by the QS300. (The QS300 supports SMF and ESEQ files only.)
<b>Can’t Change File Name</b>	Attempted to change an existing file name.

## ● System

<b>Memory Full</b>	The sequencer's memory is full and no more data can be recorded. Also, no related jobs can be executed. If possible, delete unneeded data from the Song and try recording again.
<b>Voice Memory Full</b>	The User Voice memory is full and no more data can be stored. Save the desired User Voice data to floppy disk (page 197), and delete that User Voice data from internal memory, then attempt the operation again.

## Specifications

## Tone Generator

Type	AWM2 (Advanced Wave Memory 2)
Maximum Polyphony	32 notes
System Module	Normal (XG), TG-B (TG300B)
Multi-timbral Capacity	Song mode: 24 (16 for Sequencer tracks + 8 for Pattern tracks) Pattern mode: 8
Voices	XG: 480, and 11 drum kits TG300B: 579 and 10 drum kits Preset: 128 User: 128, and 1 drum kit

## Sequencer

Tracks	Song mode: 19 (Tracks 1 — 16, Pattern, Chord, Tempo) Pattern mode: 8 (Tracks 1 — 8) Phrase mode: 1
Data Capacity	Approx. 86,000 notes 10 Songs 100 Styles x 8 Sections (800 Patterns) 100 User Phrases
Preset Phrases	3093 Preset Styles 100 Styles x 8 Sections(800 Patterns)
Record Modes	Realtime, Step, Punch-in, Edit Insert
Preset Chords	28 (including “Thru”)
Note Resolution	96 clocks/quarter note
Edit modes	Song Edit, Phrase Edit
Jobs	Song: 24 Pattern: 7 Phrase: 15
Song Chain	10 Songs
Sequence File Format	SMF (Standard MIDI File), ESEQ, QY300

## General

Keyboard	61 keys, with initial touch and after touch
Display	240 x 64 dot graphic liquid crystal display (backlit, with contrast control)
External Memory	3.5" 2DD/2HD-type floppy disk drive
Connectors	PHONES, OUTPUT (L/MONO, R), FOOT VOLUME, FOOT CONTROLLER, SUSTAIN, MIDI IN/OUT/THRU, AC INLET
Output Level	PHONES: +7.0 dBm (33 ohm) Main OUTPUT: +6.5 dBm (10 kohm)
Power	Consumption: 20 W Requirements: U;120V,OTHER;220~240V
Dimensions (W x D x H)	1067 x 371 x 121 mm (42" x 14-5/8" x 4-3/4")
Weight	13.0 kg (28 lbs., 10 oz.)
Included Accessories	Factory Set & Demonstration Disk, Owner's Manual, power cord

\* Specifications and appearance subject to change without notice.

# Index

 /  buttons ..... 40

**A**

Accompaniment recording, Realtime .....	33, 120
Step .....	122
All-track recording .....	100
Amplitude (Voice Edit) .....	51
Append Pattern (Pattern Job) .....	166
Append Phrase (Phrase Job) .....	174

# B

bass note (Pattern) .....	109
(Song) .....	124
bass phrase chord type (Pattern) .....	109
(Song) .....	124

## C

Chord entry (Accompaniment recording) . . . . .	36, 124
Chord Sort (Song Job) . . . . .	149
Chord track . . . . .	36, 121, 122
Chord, bass note (Pattern) . . . . .	109
(Song) . . . . .	124
Chord, Fingered Zone . . . . .	193
Chord, type, bass phrase (Pattern) . . . . .	109
(Song) . . . . .	124
Chords, changing (Pattern) . . . . .	36, 108
chords, syncopated . . . . .	124
Chorus . . . . .	24, 79
Clear Pattern (Pattern Job) . . . . .	168
Clear Phrase (Phrase Job) . . . . .	177
Clear Song (Song Job) . . . . .	160
Clear Track (Song Job) . . . . .	158
Compare . . . . .	27, 64
connections, audio and MIDI . . . . .	16-17
Controller (Voice Edit) . . . . .	46
Controller data, changing . . . . .	181
Controller Edit parameters . . . . .	86-88
Copy Event (Song Job) . . . . .	150
Copy Pattern (Pattern Job) . . . . .	165
Copy Phrase (Phrase Job) . . . . .	173
Copy Song (Song Job) . . . . .	160
Copy Track (Song Job) . . . . .	156
Create Measure (Song Job) . . . . .	154
Crescendo (Phrase Job) . . . . .	172
(Song Job) . . . . .	145

## D

Delete (Disk) .....	195
Delete Measure (Song Job) .....	155
Demo Song, playing .....	18
Disk mode .....	195-202
Disk operations .....	135
Drum Set .....	60

# E

Edit Change mode . . . . .	180
Edit Insert mode . . . . .	184
Edit Recall (Voice Job) . . . . .	64
editing, Songs and Phrases . . . . .	179-186
Voice . . . . .	23, 43
Effect Parameters (Song Multi) . . . . .	79
Effect Send (Pattern Multi) . . . . .	112
(Song Multi) . . . . .	76
(Voice Edit) . . . . .	45
Effect Type (Song Multi) . . . . .	77
EG (envelope generator) . . . . .	28, 53-57
EG Template . . . . .	57
EG Time (Song Multi) . . . . .	84
Element Copy . . . . .	50
Elements, about . . . . .	48
Erase Event (Song Job) . . . . .	151
Expand Backing (Song Job) . . . . .	158
Extract Event (Song Job) . . . . .	152

## F

Filter EG.....	53
Fingered Chord Zone (Utility) .....	193
Format (Disk).....	202

## G

Gate Time/Velocity (Pattern Playback) . . . . .	116
(Song Playback) . . . . .	93
Get Phrase (Phrase Job) . . . . .	175
Graphic EG Edit (Voice Edit) . . . . .	55
Greeting Message . . . . .	194

Initialize Play Effect (Pattern Job) .....	168
(Song Job) .....	159
Instrument Mode/Velocity (Song Multi) .....	83
Instrument Tuning/Filter (Song Multi) .....	82

<b>L</b>	
LCD Contrast . . . . .	194
LFO (Voice Edit) . . . . .	59
Load (direct from Song/Pattern/Phrase modes) . . . . .	136
(Disk) . . . . .	198
Loop playback . . . . .	65

<b>M</b>	
Mark/Jump . . . . .	40, 68
Measure/Beat . . . . .	68, 102, 133
MIDI Input Filter (Utility) . . . . .	191
MIDI Setup (Utility) . . . . .	190
Mix Track (Song Job) . . . . .	157
Mixer Search (Pattern Multi) . . . . .	111
(Song Multi) . . . . .	75
Mixer Voice (Pattern Multi) . . . . .	111
(Song Multi) . . . . .	74
Mixer Volume (Pattern Multi) . . . . .	110
(Song Multi) . . . . .	73
Mode/Velocity (Song Multi) . . . . .	83
Modify Gate Time (Phrase Job) . . . . .	171
(Song Job) . . . . .	144
Modify Velocity (Phrase Job) . . . . .	171
(Song Job) . . . . .	143
Multi control parameter values, storing . . . . .	72
Multi controls (Pattern) . . . . .	110-112
(Song) . . . . .	71-85
Mute . . . . .	69
muting/unmuting tracks . . . . .	41, 69

<b>N</b>	
naming a Voice.....	30, 63
Normalize Effect (Song Job).....	159
note/keyboard display (Step recording) .....	103, 134

	<b>O</b>	
<hr/>		
Overall (Voice Edit) . . . . .		44

## P

---

Pattern Entry . . . . .	123
Pattern Jobs . . . . .	163-168
Pattern mode . . . . .	105
Pattern Playback Effects . . . . .	113-116
Pattern track . . . . .	33,, 120, 122
Patterns . . . . .	106
Patterns, selecting and playing . . . . .	107
Per Track (Pattern Playback) . . . . .	113
(Song Playback) . . . . .	89

Phrase edit . . . . .	179-186
Phrase Jobs . . . . .	169-177
Phrase mode . . . . .	125
Phrase Name (Phrase Job) . . . . .	177
Phrase recording . . . . .	129-134
Phrases . . . . .	106
Phrases, combining (Pattern) . . . . .	127
Realtime recording . . . . .	129
selecting and playing . . . . .	125
Step recording . . . . .	132
Pitch Bend . . . . .	26
Pitch EG . . . . .	54
Play Effect Bypass . . . . .	70
Playback Effects, Pattern . . . . .	113-116
Song . . . . .	89-93
Portamento (Song Edit) . . . . .	86
(Voice Edit) . . . . .	45
Punch-in recording . . . . .	40, 99
Put Phrase (Phrase Job) . . . . .	176

<b>Q</b>	
Quantize (Pattern Playback) . . . . .	114
(Phrase Job) . . . . .	171
(Song Job) . . . . .	141
(Song Playback) . . . . .	90
Quick Program Change . . . . .	20

## R

---

Real-time Controllers . . . . .	87
Realtime recording . . . . .	97, 98
recording a keyboard performance . . . . .	38
recording Phrases, Realtime . . . . .	129
Step . . . . .	132
recording, accompaniment Patterns . . . . .	33, 119
All-track . . . . .	100
Phrase . . . . .	129-134
Punch-in . . . . .	40, 99
Realtime . . . . .	97, 98
Step . . . . .	97, 101, 102
Rename (Disk) . . . . .	201
Retrigger . . . . .	131
Reverb . . . . .	23, 79

## S

---

Save (direct from Song/Pattern/Phrase modes) . . . . .	137
(Disk) . . . . .	197
Sections . . . . .	35, 106
Sequencer Setup (Utility) . . . . .	192
setting up . . . . .	16

**T**

U

**V**

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