# MD-1211 MIDI Keyboard
42-4058

Mixer Function — lets you make the keyboard sound multiple tones for auto accompaniment or memory playback, or to play MIDI data received from another MIDI device (see "Using the Mixer" on Page 12).

100 Auto-Rhythms — provide a steady beat for many styles of music, from rhumba to rock (see "Using the Preset Auto-Rhythms" on Page 9).

32-Note Polyphonic Sound — lets you play and hear up to 32 notes at the same time, so you can play or create almost any type of music.

Large Display — shows you the notes and chords as you play them, along with the current tone, rhythm, and tempo. The built-in backlight makes it easy to read, even in dim light.

248 Tones — uses technology usually found only on professional equipment to allow you to set your keyboard to sound like anything from a harpsichord to a honky-tonk piano. 100 of these tones have corresponding advanced tones, created by programming in digital signal processor (DSP) effects and other settings. You can even create up to 32 of your own tones with the custom tone synthesizer feature (see "Using the Tone Synthesizer" on Page 13).
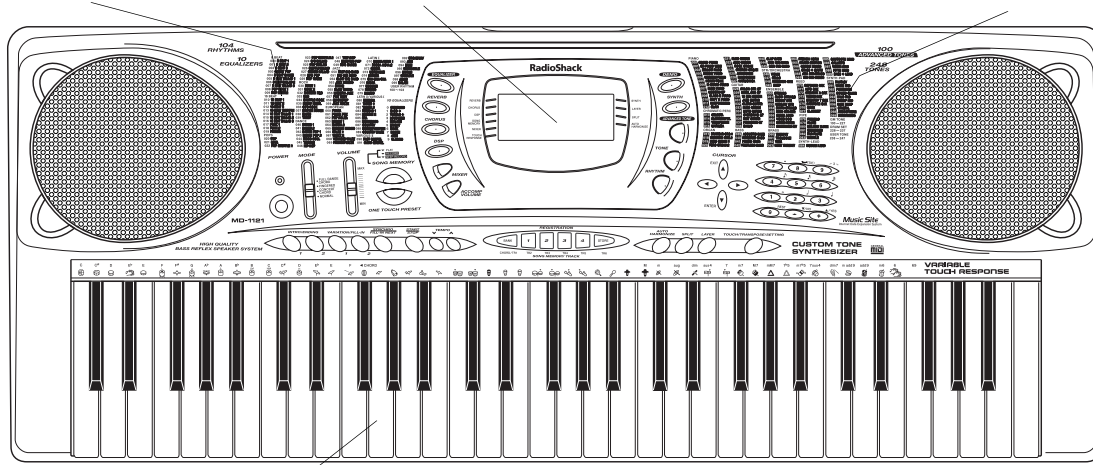
61 Full-Sized Keys with Touch Response — provide the feel of a fine musical instrument. The keyboard's volume varies in response to the force of your touch, just like an acoustic piano, so you can add emotion to your music.

Auto Accompaniment — lets you automatically play a preset harmonic pattern to match the selected auto-rhythm (see "Using Auto Accompaniment" on Page 10).

Data Expansion System — lets you download additional tones, up to four sets of accompaniment data, DSP settings, and registration from your PC and store them in your keyboard's memory (see "Using the Data Download Service" on Page 21).

This Owner's Manual explains how to use this electronic keyboard. It does not teach music.

The keyboard conforms to most, but not all, General MIDI specifications. Because of this, you might experience some incompatibility when using the keyboard with another General MIDI device. For more information, see "Using MIDI" on Page 19. Your keyboard also includes a MIDI (Musical Instrument Digital Interface) feature, which lets you connect it to other MIDI-equipped musical instruments or devices — even your personal computer.

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RadioShack®

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THE FCC WANTS YOU TO KNOW

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the *FCC Rules*. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult your local RadioShack store or an experienced radio/TV technician for help.
- If you cannot eliminate the interference, the FCC requires that you stop using your keyboard.

Changes or modifications not expressly approved by RadioShack may cause interference and void the user's authority to operate the equipment.

You must use shielded interface cables with this equipment.

CONNECTING POWER

You can power your keyboard using internal batteries or with standard AC power using an optional AC adapter.

The keyboard retains the following settings in its memory even when the power is turned off as long as power is supplied to it (either by the batteries or AC adapter):

- tone number
- layer and split
- split point
- touch response
- reverb/chorus
- DSP
- equalizer
- rhythm number
- tempo
- mixer mode
- MIDI keyboard channel
- MIDI in chord judge
- MIDI accompaniment out
- assignable jack
- accompaniment volume
- user area tone (synthesizer tone)
- user area accompaniment
- user area DSP
- song memory
- registration mode

If the keyboard loses power (by disconnecting the AC adapter when batteries are not installed or the batteries lose power), these settings are lost or initialized to factory settings.

You can also delete or initialize some settings independently. See "Resetting the Keyboard" on Page 15.

INSTALLING BATTERIES

Your keyboard can use 6 D batteries (not supplied) for power. For the best performance and longest life, we recommend RadioShack alkaline batteries. ⚡

1. While pressing the tabs on the battery compartment cover on the bottom of the keyboard, pull up the cover to remove it.

2. Place the batteries in the compartment as indicated by the polarity symbols (+ and –) marked next to the compartment.

3. Replace the cover.

When the keyboard stops operating properly, replace the batteries. ⚡ ⚠

USING AC POWER

You can power the keyboard using a 9V, 800 mA AC adapter and a size M Adaptaplug™ adapter (neither supplied). Both are available at your local RadioShack store. Connecting an AC adapter automatically disconnects any internal batteries. ⚡

1. Set the AC adapter's voltage switch to **9V**.

2. Insert the Adaptaplug adapter into the adapter's cord so it reads – TIP.

3. Connect the AC adapter's barrel plug to **DC 9V** on the back of the keyboard.

4. Plug the AC adapter's other end into a standard AC outlet.

CONNECTING HEADPHONES

To listen to your keyboard without disturbing others, you can connect an optional pair of stereo headphones with a $\frac{1}{4}$-inch (6.35 mm) plug. Your local RadioShack store sells a wide selection of headphones. Insert the headphones' plug into **PHONES/OUTPUT** on the back of the keyboard. Connecting headphones disconnects the keyboard's built-in speakers.

LISTENING SAFELY

To protect your hearing, follow these guidelines when you use headphones.

- Set the volume to the lowest setting before you begin listening. After you begin listening, adjust the volume to a comfortable level.

- Do not listen at extremely high volume levels. Extended high-volume listening can lead to permanent hearing loss.

- Once you set the volume, do not increase it. Over time, your ears adapt to the volume level, so a volume level that does not cause discomfort might still damage your hearing.

CONNECTING AN EXTERNAL AMPLIFIER

To amplify your keyboard's sound, you can connect it to an optional external amplifier using an audio cable with a $\frac{1}{4}$-inch (6.35 mm) plug (not supplied). To connect an external amplifier to your keyboard, insert the cable's plug into **PHONES/OUTPUT** on the back of the keyboard, then connect the other end of the cable to the amplifier's input jack(s) (such as AUX IN or TAPE IN). Your local RadioShack store sells a full line of amplifiers, speakers, and cables.

USING THE SHEET MUSIC STAND
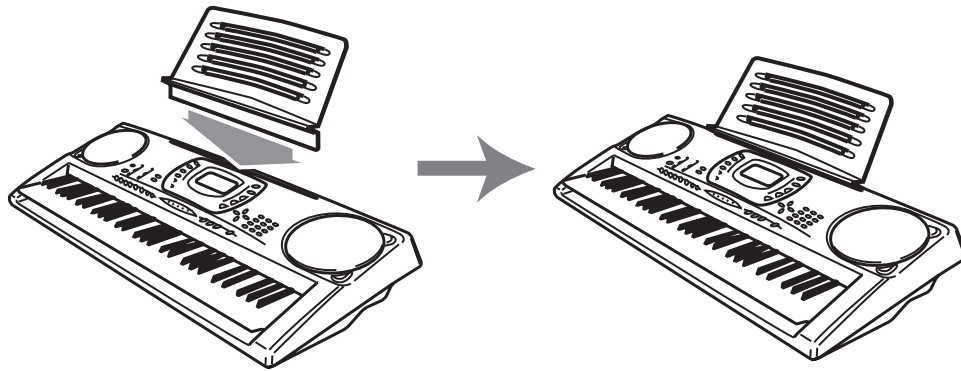
To easily view sheet music while playing your keyboard, insert the supplied sheet music stand into the slot on the top back panel.

A QUICK LOOK AT YOUR KEYBOARD

Preset 4-Band Equalizers — lets you easily set the tone to your favorite sound mix (Standard, Jazz, Rock, Dance, Classic, Mellow, Bright, and so on). You can even tailor the response of each frequency band (see "Using the Equalizers" on Page 7).

Registration Memory — lets you store up to 32 different setups of the keyboard's controls, so you can instantly recall them when you need them (see "Using the Registration Memory" on Page 14).
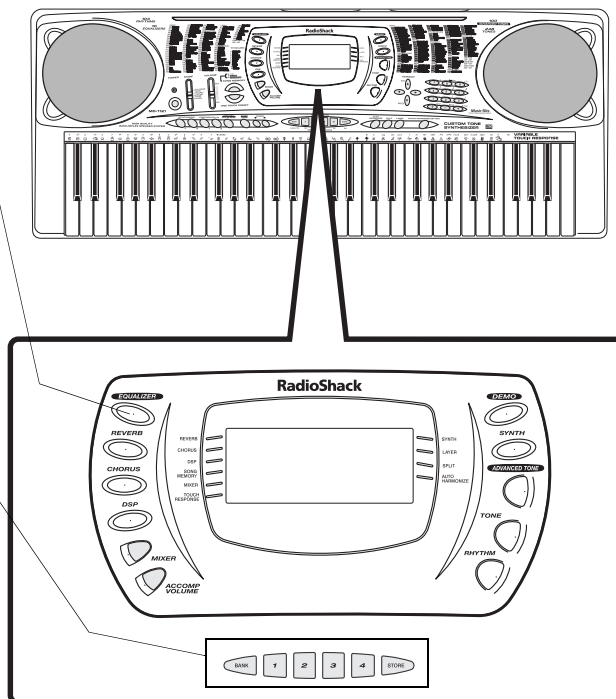
Song Memory — lets you set the keyboard to record up to two songs, six tracks, and 3,500 notes. The recording remains stored even while the keyboard is off (see "Using the Song Memory" on Page 16).

Automatic Intro/Ending Rhythm — you can set the keyboard so it automatically adds a 3- to 8-measure introduction or 3- to 8-measure ending to the selected auto-rhythm (see "Using INTRO" on Page 9).

(Back of Keyboard)
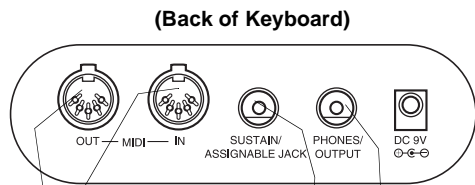
MIDI In/Out Jacks — let you connect the keyboard to another MIDI-equipped device. To connect a MIDI device to your keyboard, see "Making the MIDI Connections" on Page 20.

Headphones/Output Jack — lets you connect headphones so you can play without disturbing others, or an external amplifier so you can play for a crowd (neither supplied).

Sustain/Assignable Jack — lets you connect a sustain pedal (not supplied, available at your local RadioShack store or at *RadioShack.com*) to the keyboard so you can sustain or soften your keyboard's sound, or start/stop an auto-rhythm (see "Using a Sustain Pedal" on Page 15).

Fill-In Rhythm — lets you insert a short variation into any auto-rhythm (see "Using FILL-IN" on Page 9).

Tempo Control — lets you speed up or slow down the tempo of any selected music pattern.

Tune Control — lets you adjust the pitch of your keyboard so you can play in tune with other instruments (see "Tuning the Keyboard" on Page 14).

Effects — lets you add reverb, chorus, and more powerful sound effects – even tailor a parameter to create your own effect (see "Using the Preset Tones" on Page 5).
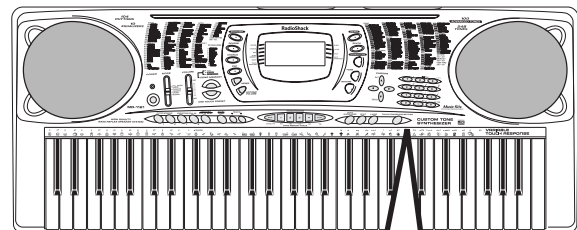
Auto Harmonize — lets you automatically add harmony to your melodies (see "Using Auto Harmonize" on Page 12).

Split Function — lets you use different sounds for the low- and high-end keys (see "Using SPLIT" on Page 8).
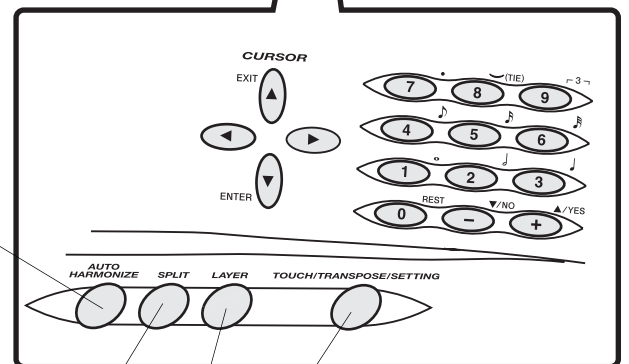
Layer Function — lets you set the keyboard to play two different tones at the same time, giving your music a "layered" effect (see "Using LAYER" on Page 8).

Transpose Function — lets you instantly change the key of the music, even while you are playing (see "Changing Keys" on Page 14).

BASIC OPERATION

1. Slide **VOLUME** to **MIN** (minimum). **!**

2. To turn on the keyboard, press **POWER**. The POWER indicator lights and the display turns on. ✍

3. Slide **MODE** to **NORMAL**.

4. Slide **VOLUME** toward **MAX** slightly and begin playing the keyboard.

   • To select an auto-rhythm, see "Using the Preset Auto-Rhythms" on Page 9.

   • To play auto accompaniment, see "Using Auto Accompaniment" on Page 10.

5. Slide **VOLUME** toward **MAX** to increase the sound level or toward **MIN** to decrease it.

6. To turn off the keyboard, press **POWER**. The POWER indicator and the keyboard's display turn off.

To save power, the keyboard automatically turns off after about 6 minutes if you do not press a key. To turn on the keyboard again, press **POWER**. To cancel auto power off, turn on the keyboard while holding down **TONE**. The next time you turn the keyboard off then back on again, it will automatically turn off after about 6 minutes.

✍ NOTE ✍

Basic Operation

The keyboard automatically selects the tone GRAND PIANO (No. 000) when you turn the power on. Each time you turn it on after that, it selects the last selected tone. To select a different tone, see "Using the Preset Tones".

Using the Preset Tones

• The keyboard has 32-note (maximum) polyphonic sound. This means that you can play up to 32 different notes at the same time with most of the keyboard's preset tones. Some tones are only capable of 16-note polyphony.

• Most tones on this keyboard have been recorded and processed using a technique called *digital sampling*. To ensure a high level of tonal quality, samples are taken in the low, mid, and high ranges and are then combined to sound amazingly close to the originals. You might notice very slight differences in volume or sound quality for some tones when you play them at different positions on the keyboard. This is an unavoidable result of multiple sampling and is not a malfunction.

• Repeatedly press + or – to select the next highest or lowest numbered tone.

• If you enter an incorrect first digit, press **TONE** to clear your entry, then enter the correct digit.

• When you select one of the drum sets (tone numbers 228–237), each key plays a different percussion sound. See "Drum Assignment List" on Page 30. The drum set sounds change when you change the rhythm number, play back data stored in memory, or receive MIDI program change data.

• Tone numbers 238–247 are the user tone area. See "Using the Tone Synthesizer" on Page 13.

PLAYING THE DEMONSTRATION TUNES

Your keyboard can play two pre-programmed demonstration tunes. To start the demonstration, press **DEMO**. The keyboard plays the first demonstration tune (No. 0). To select the other tune, press **–** or **+** on the keypad. The selected tune's number appears and the tune plays.

The demo tune number appears here.

The treble and bass clefs show the notes as they play.
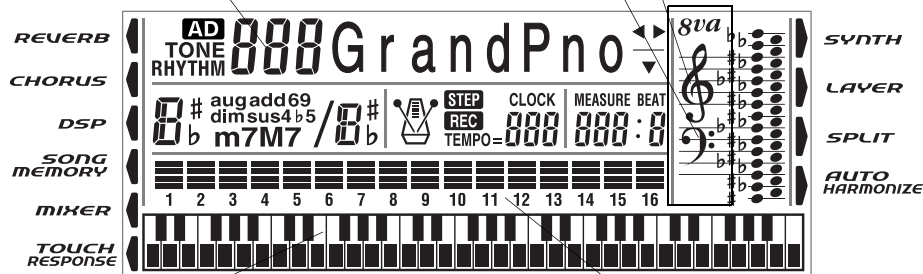
The keyboard at the bottom of the display shows the location of the keys being pressed.

The bar graph shows the sound level on each of the 16 channels. See "Using the Mixer" on Page 12.

USING THE PRESET TONES

Your keyboard can sound like 248 different musical instruments or sound effects. The TONES list on the keyboard's top panel shows the name and three-digit number for the first 100 preset tones. For tones 100-227, see "GM Tones" on Page 27. ✍

Follow these steps to select and play a preset tone.

1. Press **TONE**. TONE and the current tone's number appear. ✍

2. To play a different tone, choose a preset tone from the TONES list and enter its three-digit number on the keypad. Precede a single- or two-digit number with zeroes. As you press the keys, the selected digits appear. ✍

3. Play the keyboard to hear the selected tone and adjust **VOLUME** to the desired level.

Basic Operation

4. To select a different tone, repeat Step 2 while **TONE** appears.

USING AN ADVANCED TONE

The first 100 tones (numbers 00 to 99) have corresponding advanced tones. The advanced tones use variations of standard tones created by programming in effects (DSP) and other settings. For example, PIANO is modified into STEREO PIANO, ORGAN becomes ROTARY SPEAKER ORGAN, and so on. See "Advanced Tones" on Page 25.

If a tone number outside the range of 000 to 099 is selected when you press **ADVANCED TONE**, the tone automatically changes to the advanced tone version of tone number 00.

Only one of the channels (1 to 16) can have an advanced tone. If you assign an advanced tone to another channel, the tone in the currently assigned channel becomes the standard tone.

Press **ADVANCED TONE** to select the advanced tone. **AD** appears, and the currently selected tone changes to its advanced version. Repeatedly press **+** or **–** to scroll through the advanced tones, or use the number buttons to enter the two-digit tone number.

Press **TONE** to return to the standard tone. **AD** disappears.

USING REVERB AND CHORUS

The reverb feature creates ambience by causing the sound to linger and reverberate. You can choose from 16 different reverb effects. See "Reverb" on Page 32 for details.

The chorus feature gives sound greater depth by causing it to vibrate. You can choose from 16 different chorus effects. See "Chorus" on Page 32 for details.

SELECTING REVERB/CHORUS

1. Press **REVERB** or **CHORUS**. The indicator next to REVERB or CHORUS lights.

2. Repeatedly press **+** or **–** or use the number buttons to enter a number to display the effect you want. See "Reverb" or "Chorus" on Page 32 for the type of the effects and the corresponding numbers.

CHANGING THE REVERB OR CHORUS PARAMETERS

You can control the parameters of an effect to change how it sounds. The parameters you can control vary depending on the effect type.

1. After selecting the effect you want, press ▼ (**ENTER**). The parameter setting screen appears.

2. Repeatedly press ◄ or ► (**CURSOR**) to display the parameter you want to change.

   Reverb Parameters

   Reverb effects are classified as reverb or delay type. Parameter settings vary depending on the type.

   Reverb Type Parameters (No. 0 to 5, 8 to 13)

   Rvb (Reverb) **Level** (**000** to **127**) — Controls the reverb size. A larger number produces larger reverb.

Rvb Time (**000** to **127**) —Controls how long reverb continues. A larger number produces longer reverb.

ER Level (Initial Echo Sound) (**000** to **127**) — Controls the initial reverb volume. The initial echo sound is the first sound reflected from the walls and ceiling. A larger value specifies a larger echo sound.

HighDamp (**000** to **127**) — – Adjusts the damping of high frequency reverberation. A smaller value damps high sounds, creating a dark reverb. A larger value does not damp high sounds, creating a brighter reverb.

Delay Type Parameters (No. 6, 7, 14, 15)

Delay Level (**000** to **127**) — Specifies the size of the delay sound. A higher value produces a larger delay sound.

Delay FB (Feedback) (**000** to **127**) —— Adjusts delay repeat. A higher value produces a greater number of repeats.

ER Level (Initial Echo Sound) (**000** to **127**) — Controls the initial reverb volume. The initial echo sound is the first sound reflected from the walls and ceiling. A larger value specifies a larger echo sound.

HighDamp (**000** to **127**) — – Adjusts the damping of high frequency reverberation. A smaller value damps high sounds, creating a dark reverb. A larger value does not damp high sounds, creating a brighter reverb.

   Chorus Parameters

   Cho (Chorus) **Level** (**000** to **127**)—Sets the size of the chorus sound.

   Cho Rate (**000** to **127**)—Sets the undulation speed of the chorus sound. A higher value produces faster undulation.

Cho Depth (000 to 127)—Sets the undulation depth of the chorus sound. A higher value produces deeper undulation.

DSP (DIGITAL SIGNAL PROCESSOR)

DSP effects are applied to the path between the sound source and output. You can add the effect to any sound, even after you added reverb or chorus effect. See "DSP" on Page 32 for more details.

You can also create your own DSP effects or download the data from *www.radioshack.com* and transfer it to the keyboard. The keyboard has ten DSP effect memories so you can store custom DSP effects. See "Saving DSP Parameter Settings" on this page and "Using the Data Download Service" on Page 21 for more information.

SELECTING A DSP TYPE

1. Press **DSP**. The indicator next to DSP lights.

2. Repeatedly press **+** or **–** to select the DSP type you want. See "DSP" under "Effect List" on Page 32 for the type of the effects and the corresponding numbers. The DSP number (000 to 109), **Ad** (advanced tone), or **Usr** (user tone created using DSP) appears.

SETTING BASIC DSP PARAMETERS

You can change these basic DSP parameters.

DSP Vol (Volume) (000 to 127) — Sets the post DSP volume.

DSP Pan (-64 to +63) — Sets the post DSP stereo pan (relative position between left and right channels).

DSP Hold on/oFF—Select **on** to keep the current DSP line after you change the tone. Select **oFF** to change the DSP line to the original setting of the newly selected tone.

For advanced tones, changing the tone turns off all DSP line settings except on the currently selected channel.

1. Press **DSP**.

2. Repeatedly press ◄ or ► (**CURSOR**) to display the parameter you want to change.

3. Repeatedly press **+** or **–** or use the number buttons to input the parameter setting you want.

4. Press ▲ (**EXIT**). This returns to the effect selection screen.

3. Repeatedly press **+** or **–** or enter a number using the number buttons to change the parameter setting.

4. Press ▲ (**EXIT**).

CHANGING DSP PARAMETERS

You can control the relative strength of a DSP and how it is applied.

1. After selecting the DSP type you want, press ▼ (**ENTER**).

2. Repeatedly press ◄ or ► (**CURSOR**) to display the parameter you want to change.

   Parameters 0 to 7 — These depend on the algorithm of the selected DSP. See "DSP Algorithm List" on Page 34.

   D.RvbSnd (DSP Reverb Send) (000 to 127) — Sets how much of the DSP-processed sound is sent to reverb.

   D.ChoSnd (DSP Chorus Send) (000 to 127) — Sets how much of the DSP-processed sound is sent to chorus.

3. Repeatedly press **+** or **–** or enter a number using the number buttons to change the parameter setting.

4. Press ▲ (**EXIT**).

SAVING DSP PARAMETER SETTINGS

You can save up to 10 modified DSP settings in the user area for later recall.

1. After making the DSP parameter settings you want, press ▼ (**ENTER**). The DSP number of the user area flashes.

2. Repeatedly press **+** or **–** to select the user area DSP number (100-109) you want to save.

3. Press ▼ (**ENTER**) to store the effect. **Save OK** briefly appears and the display returns to the tone or rhythm selection screen.

USING THE EQUALIZERS

The keyboard has 10 preset four-band equalizers. You can also adjust the gain of each of the four bands to suit your personal preference.

SELECTING THE EQUALIZER TYPE

1. Press **EQUALIZER**. The currently selected equalizer type appears.

✐ **NOTE** ✐

Changing the Reverb or Chorus Parameters
You can turn effects on/off or change the effect level for each keyboard channel separately. See "Using the Mixer" on Page 12 for more information.

Selecting a DSP Type
You must turn on the DSP lines of the required parts using the mixer function. See "Using the Mixer" on Page 12.

Changing DSP Parameters

• The effects can be turned on/off or have their levels set separately for each keyboard channel. See "Using the Mixer" on Page 12.

• Playing a demo tune automatically changes the effect to the one assigned to the tune. You cannot change or cancel a demo tune effect.

• Changing the effect setting while the keyboard is playing causes a slight break in the sound when the effect changes.

• The advanced tones automatically turn on the DSP line for more effective tones. If you assign an advanced tone to a keyboard part (Channels 1 through 4), the DSP line turns on automatically and the DSP selection changes according to the advanced tone settings.

• In the mixer mode, the DSP line on/off setting for a part with an advanced tone is on, while the setting for a part that does not have an advanced tone is off. DSP effects previously applied to these parts are cancelled and the tone might sound different. Use the mixer editing sequence to turn DSP back on (see"Using the Mixer" on Page 12).

2. Repeatedly press **+** or **–** or enter a number using the number buttons to select the equalizer type you want.

The equalizer type (**Standard**, **Bass +**, **Treble +**, **Loudness**, **Mellow**, **Bright**, **Rock**, **Dance**, **Jazz**, or **Classic**) appears. The bar graph on the display shows the frequency response of the type that appears.

Press ▲ (**EXIT**) or **EQUALIZER** to exit the equalizer setting screen.

ADJUSTING THE GAIN
1. After selecting the equalizer type, press ▼ (**ENTER**).

USING SPLIT

The SPLIT feature lets you play two different tones on opposite ends of the keyboard, so the low-end keys play one tone, and the high-end keys play another. The main tone sounds in Channel 1 and the split tone sounds in Channel 3. You can use the mixer function to change the volume or other settings in each channel. See "Using the Mixer" on Page 12. You can change the split point at any time.

1. Press **TONE.**

2. Use the number buttons to enter the three-digit number for the tone you want the high-end keys to play.

3. Press **SPLIT**. The SPLIT indicator appears.

4. Enter the three-digit number for the tone you want the low-end keys to play.

USING LAYER

The keyboard lets you play two different preset tones at the same time, creating a "layered" effect when you press one key. The first tone you select is called the *base tone* and the second tone is called the *layer tone*.

1. Press **TONE**.

2. Enter the three-digit number for the base tone then press **LAYER**. The LAYER indicator appears.

3. Enter the three-digit number for the layer tone.

USING SPLIT AND LAYER TOGETHER

You can combine the split and layer features, so you can play one layered combination of tones on the low-end keys and another on the high-end keys.

2. Repeatedly press ◄ or ► (**CURSOR**) to select the band you want to adjust (**Low**, **Mid Low**, **Mid High**, or **High**). The bar graphs for the corresponding frequency range flash.

3. Repeatedly press **+** or **–** or enter a number using the number buttons to make the adjustment for the band you want. You can adjust within the range of –12 to +12. The bar graphs change in magnitude as you adjust.

4. Press ▲ (**EXIT**) to return to the equalizer type selection screen, then press **EQUALIZER** to exit the equalizer mode. ✎

5. Hold down **SPLIT**, and press the key where you want the high-end tones to begin. The selected key's name appears.

For example, if you set the split point to be F below middle C, **F3** appears. ✎

6. Play both the low and high-end keys to hear the selected split tones.

To select a different low-end tone, enter the three-digit number for the new low-end tone while the SPLIT indicator appears.

To select a different high-end tone, press **SPLIT** to turn off its indicator, then enter the three-digit number for the new high-end tone. Then press **SPLIT** again so the SPLIT indicator appears.

To cancel SPLIT, repeatedly press **SPLIT** until its indicator disappears. ✎

4. Play the keyboard to hear the selected layered tones.

To select a different layer tone, enter the three-digit number for the new layer tone while the LAYER indicator appears.

To select a different base tone, press **LAYER** to turn off its indicator, then enter the three-digit number for the new base tone. Then press **LAYER** again so the LAYER indicator appears.

To cancel LAYER, repeatedly press **LAYER** until its indicator disappears. ✎

1. If the SPLIT or LAYER indicator is on, press **SPLIT** or **LAYER** to turn it off.

2. Enter the number for the high-end base tone on the keypad.

3. Repeatedly press **SPLIT** until the SPLIT indicator appears.

4. Enter the number for the low-end base tone.

5. Repeatedly press **SPLIT** until the SPLIT indicator disappears.

6. Repeatedly press **LAYER** until the LAYER indicator appears.

7. Enter the number of the layered tone for the high-end keys.

8. Press **SPLIT**. The SPLIT indicator appears.

9. Enter the number of the layered tone for the low-end keys.

10. If desired, hold down **SPLIT** then press the key where you want the high-end tones to begin.

11. Play the keyboard to hear the selected tones.

To cancel the SPLIT/LAYER combination, press each button so both the SPLIT and LAYER indicators disappear.

USING THE PRESET AUTO-RHYTHMS

Your keyboard has 100 preset auto-rhythms that provide a steady beat for your music. The name and two-digit number of each preset auto-rhythm is listed on the keyboard's top panel. You can also download up to 4 sets of accompaniment data and store them into the keyboard's memory. See "Using the Data Download Service" on Page 21.

You can play a preset auto-rhythm on the keyboard in any of the following ways:

- Select and play a rhythm (see "Selecting/Playing an Auto-Rhythm")
- Synchronize the start of a rhythm with your music (see "Using SYNCHRO")
- Start a rhythm with a special introduction (see "Using INTRO")
- Briefly vary the pattern of a rhythm (see "Using FILL-IN")
- Play an alternate version (variation) of a rhythm (see "Using FILL-IN NEXT" on Page 10)
- Stop a rhythm with a special ending (see "Using ENDING" on Page 10)

SELECTING/PLAYING AN AUTO-RHYTHM

1. Press **RHYTHM**. RHYTHM and the name and number of the current auto-rhythm appear.

2. To select a different rhythm, choose an auto-rhythm from the 100 RHYTHMS list and enter its three-digit number on the keypad. Precede a single- or two-digit number with zeroes. Or, repeatedly press **+** or **–** to move to the next higher or lower numbered rhythm.

3. Set **MODE** to **NORMAL**, then press **START/STOP** to start the selected auto-rhythm.

   Or, you can press **VARIATION/FILL-IN 1** or **2** to start the rhythm. Each of the keyboard's preset auto-rhythms has a built-in variation (alternate) to its normal beat pattern. The variation differs

slightly from the normal rhythm, so it is almost like having two rhythms in one!

4. Adjust **VOLUME** to the desired level.

5. To change the auto-rhythm speed, press (or hold down) **TEMPO ∧** or **∨**. The current tempo setting appears.

6. Play the keyboard along with the auto-rhythm.

7. To select a different rhythm, repeat Steps 1 and 2.

8. To stop the auto-rhythm, press **START/STOP**.

USING SYNCHRO

This feature lets you synchronize the start of an auto-rhythm with the beginning of your music.

After you select and enter an auto-rhythm, press **SYNCHRO/FILL-IN NEXT**, then begin playing the keyboard. The keyboard automatically begins to play the rhythm when you press any key in the accompaniment keyboard range (see "Using Auto Accompaniment" on Page 10).

USING INTRO

This feature lets you start the selected auto-rhythm with a light, 3- to 8-measure introduction that blends easily into the selected rhythm.

To start a rhythm with an introduction, select and enter the rhythm, then press **INTRO/ENDING 1** or **2**. The introduction for the selected variation (1 or 2) plays, then the selected auto-rhythm automatically starts.

USING FILL-IN

This feature lets you insert a short (1- to 2-measure) variation in the beat pattern of a selected auto-rhythm. While the auto-rhythm is playing, press and release **VARIATION/FILL-IN 1** or **2**, corresponding to the variation you started with. The keyboard inserts a 1- to 2-measure fill-in of either variation, then the original rhythm

Using Auto Accompaniment

- You can use the keyboard's rhythm controls (**INTRO/ENDING 1** or **2**, **VARIATION/FILL-IN 1** or **2**, and **SYNCHRO/FILL-IN NEXT**) with all three types of auto accompaniment.

- After you press the auto accompaniment keys while using concert chord or standard fingering, the keyboard plays the same chord until you press other accompaniment keys to play a different chord or press **START/STOP**.

- When you select Concert Chord or Standard Fingering mode, the range of the accompaniment keys is set by the split point. See "Using SPLIT" on Page 8.

Concert Chord

You can press any labeled note(s) to the right of the lowest note in the chord to produce a minor, a dominant seventh, or minor seventh chord.

automatically resumes at the end of the current measure.

When you press another variation button (**VARIATION/FILL-IN 2** while you are playing variation 1, for example), the keyboard starts to play the newly-selected variation and does not insert a fill-in.

USING FILL-IN NEXT

To switch to the other variation of the selected auto-rhythm during play, press **SYNCHRO/FILL-IN NEXT** while the rhythm is playing. The fill-in pattern of the current variation plays, then fill-in of the other variation, and the rhythm switches to the other variation.

USING ENDING

To end the selected rhythm with a special flourish, press **INTRO/ENDING 1** or **2** while the auto-rhythm is playing. The keyboard plays a special ending of the selected type (1 or 2), then automatically stops the rhythm.

The ending pattern starts immediately if you press the button before the second beat of the current measure. If you press after the second beat, the ending pattern starts from the next measure.

USING AUTO ACCOMPANIMENT

The 18 keys on the left side of the keyboard with note labels above them are called accompaniment keys.
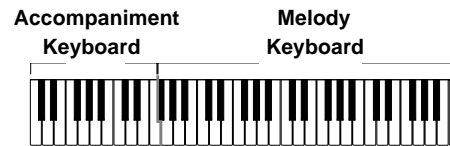
You can set the keyboard to play three different types of auto accompaniment using the accompaniment keys. ✎

- **Concert Chord** — lets you play chords on the accompaniment keys using chord formations of from one to four notes. The number of keys you press determines the type of chord that plays (see "Concert Chord").
- **Standard Fingering** — lets you play chords on the accompaniment keys using standard chord formations of three or four notes (see "Standard Fingering" on Page 11).
- **Full-Range Chord** — lets you play the melody using the entire keyboard while the keyboard plays accompaniment based on your auto-rhythm selection.

The auto-accompaniment patterns consist of four parts: chord 1, chord 2, bass, and rhythm. You can delete any of the parts by using the mixer function. See "Using the Mixer" on Page 12.

ADJUSTING THE ACCOMPANIMENT VOLUME

The keyboard lets you adjust the volume of your accompaniment separately from the overall volume of the keyboard.

1. Press **ACCOMP VOLUME**. The current accompaniment volume setting appears.

2. Within 5 seconds, enter a number from **0 0 0** (softest) to **1 2 7** (loudest) on the keypad. The numbers appear as you press the keys.

   Or, press **ACCOMP VOLUME** then repeatedly press **–** or **+** to select the next lowest or highest accompaniment volume setting.

   To reset the accompaniment volume to its default value of 87, press **ACCOMP VOLUME** then press **–** and **+** at the same time.

CONCERT CHORD

The concert chord method lets beginning keyboard players easily select and play a chord.

The number of accompaniment keys you press determines the type of chord that plays. This chart shows the chord type that plays when you press one, two, three, or four accompaniment keys at the same time.

Number of Keys Pressed	Chord Type
C D E F G A B C D E F	Major
C D E F G A B C D E F	Minor (m)
C D E F G A B C D E F	Dominant Seventh (7)
C D E F G A B C D E F	Minor Seventh (m7)

The lowest note you play determines the key of the chord. For example, if the lowest note is C, the keyboard plays a C chord. ✍

1. Set **MODE** to **CONCERT CHORD**.

2. Enter a two-digit auto-rhythm number.

3. To start the auto-rhythm before the auto accompaniment, press **START/STOP** or I**NTRO/ENDING 1** or **2**.

   Or, to synchronize the start of the selected auto-rhythm with your accompaniment, press **SYNCHRO/FILL-IN NEXT**.

4. Begin the accompaniment at the desired interval by pressing the desired accompaniment key(s).

   To play a melody along with the accompaniment, press any key(s) to the right of the accompaniment keys.

5. Adjust the tempo and **VOLUME** to the desired levels.

6. To change chords without interrupting the rhythm, simply press the auto accompaniment key(s) required to form the new chord.

7. To stop auto accompaniment and the auto-rhythm, press **START/STOP**.

STANDARD FINGERING

The standard fingering method uses standard formations of three or four notes, and lets the experienced musician play a wider variety of accompaniment chords. ✍

This chart shows the 15 chord types you can play on your keyboard by using standard fingering.

Major (M) **Minor (m)** **Augmented (aug)**

Suspended 4th (SUS4) **Dominant 7th (7)** **Minor 7th (m7)**

Major 7th (M7) **Minor Half-Diminished (m7-5)** **Major Half-Diminished (7-5)**

Dominant Suspended 4th (7sus4) **Major 9th (add9)** **Minor 9th (madd9)**

Minor/Major 7th (mM7) **Diminished** **Diminished 7th (dim7)**
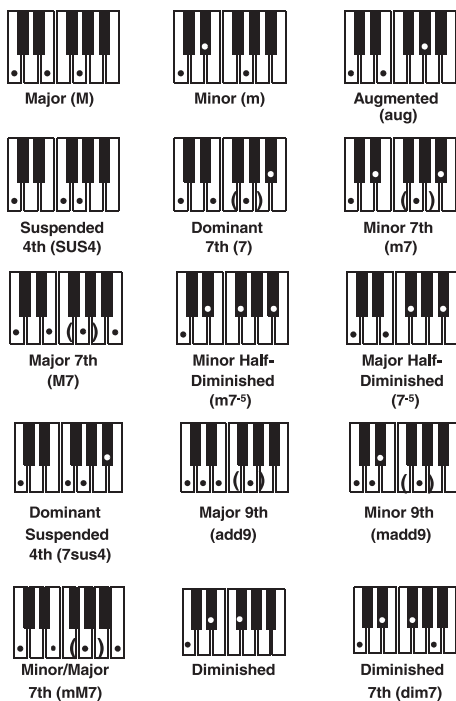
Follow these steps to start standard fingering auto accompaniment.

1. Set **MODE** to **FINGERED**.

2. Select and enter an auto-rhythm.

3. To start the auto-rhythm before your auto accompaniment, press **START/STOP** or **INTRO/ENDING 1** or **2**.

   Or, to synchronize the start of the selected auto-rhythm with your accompaniment, press **SYNCHRO/FILL-IN NEXT**.

4. Begin the accompaniment at the desired interval by pressing at least three accompaniment keys to play the desired chord.

   To play a melody along with the accompaniment, press any key(s) to the right of the accompaniment keys.

5. Adjust **TEMPO** and **VOLUME** to the desired levels.

6. To change chords without interrupting the rhythm, simply press the auto accompaniment keys required to form the new chord.

7. To stop auto accompaniment and the auto-rhythm, press **START/STOP**.

FULL-RANGE CHORDS

While the concert chord and standard fingering methods limit chord formations to the accompaniment keys, the full-range chord method lets you play chords of any type using any of the keyboard's keys.

Set **MODE** to **FULL RANGE CHORD** and follow the steps under "Standard Fingering". If you press three or more keys that form a chord anywhere on the keyboard, the keyboard plays that chord. The keyboard responds with melody sounds if you press fewer than three keys. ✍

In the full-range chord mode, the keyboard recognizes 23 more chords (in addition to the 15 in the fingered chord mode). The following is an example of those chords with C as the base note.

$C_6 \bullet Cm_6 \bullet C_{69}.$

$$\frac{C^\sharp}{C} \bullet \frac{D}{C} \bullet \frac{E}{C} \bullet \frac{F}{C} \bullet \frac{G}{C} \bullet \frac{A^\flat}{C} \bullet \frac{B^\flat}{C}$$

$$\frac{B}{C} \bullet \frac{C^\sharp m}{C} \bullet \frac{Dm}{C} \bullet \frac{Fm}{C} \bullet \frac{Gm}{C} \bullet \frac{Am}{C} \bullet \frac{B^\flat m}{C}$$

$$\frac{Dm_7{}^{\flat 5}}{C} \bullet \frac{A^{\flat 7}}{C} \bullet \frac{F_7}{C} \bullet \frac{Fm_7}{C} \bullet \frac{Gm_7}{C} \bullet \frac{A^{\flat add9}}{C}$$

Using Auto Accompaniment

Using Auto Harmonize

- Auto harmonize does not work when you select full range chord auto accompaniment or no auto accompaniment.

- The harmony melody in auto harmonize mode uses Channel 5. You can change the tone or volume setting of the harmony by using the keyboard's mixer function (see "Using the Mixer").

Using the Mixer

- Normally, keyboard play is assigned to Channel 1. When you use auto accompaniment, parts are assigned to Channels 6–10.

- When you use the keyboard as the sound source for another MIDI device, all 16 channels are assigned musical instrument parts, Channel 10 is reserved for drum parts only, per MIDI standard.

- The mixer settings also affect the corresponding MIDI output.

USING AUTO HARMONIZE

When using auto-accompaniment in the fingered or concert chord modes, press **AUTO HARMONIZE** to automatically add harmony to your melodies. The indicator next to AUTO HARMONIZE lights, and the keyboard adds harmony based on the chord playing on the accompaniment key section. ✏

USING ONE-TOUCH PRESET

The keyboard's one-touch preset feature recalls these characteristics for a selected rhythm:

USING THE MIXER

The keyboard plays multiple parts at the same time in up to 16 separate channels during auto accompaniment, or memory playback, or when receiving MIDI data. You can control the on/off setting, volume, and parameters of each of the keyboard's channels just as you would with a sound mixer.

This table shows the parts assigned to each channel. ✏

Channel	Part
1	Main tone
2	Layered tone
3	Split tone
4	Layered/split tone
5	Harmonize tone
6	Auto accompaniment part 1
7	Auto accompaniment part 2
8	Auto accompaniment part 3
9	Auto accompaniment bass part
10	Auto accompaniment rhythm part
11	Memory track 1
12	Memory track 2
13	Memory track 3
14	Memory track 4
15	Memory track 5
16	Memory track 6

Editing the Status of a Channel

You can turn a channel off to delete a specific part.

1. Press **MIXER**. The MIXER indicator and the last selected channel appear.

2. Repeatedly press **+** or **–** to select the channel you want to edit.

3. Repeatedly press ▼ (**ENTER**) then ▶ (**CURSOR**) to display the current status of the channel — **on** or **oFF**.

4. Press **+** to turn on the channel or **–** to turn it off.

   on (default): Turns on the current channel. A bar appears at the bottom of the level meter for the selected channel.

- tone
- tempo
- layer on/off
- effect type
- auto harmonize on/off

After selecting a rhythm, press **ONE TOUCH PRESET**. The keyboard enters synchro standby mode. Start the accompaniment. The rhythm plays at a suitable setting and the keyboard sounds the selected tone for the selected rhythm.

   oFF: Turns off the current channel. The bar at the bottom of the level meter disappears.

5. To edit other channels, press ▲ (**EXIT**) to return to the channel selection screen, then repeat steps 2–4.

To exit the edit mode, press **MIXER**. The display shows the edited status of the channels.

Editing Parameters

You can change the settings of six parameters for the selected channel.

1. Select the channel you want to edit as described in Steps 1 and 2 of "Editing the Status of a Channel".

2. Press ▼ (**ENTER**) to enter the parameter edit mode.

3. Repeatedly press ◀ or ▶ to select the parameter you want to change.

   Tone Parameters

   Tone No. (**000** to **247**) — sets the tone assigned to the channel. When the assigned tone is an advanced tone, the display shows only two digits.

   Part on/oFF – turns each channel on or off.

   Volume (**000** to **127**) — controls the volume of the selected channel.

   Pan (**-64** to **+63**) — controls the pan (relative position of the tone between left and right speaker channels). **-64** is fully left, **0** is the center position, and **+63** is fully right.

   Oct (Octave) **Shift** (**-2** to **+2**) – shifts the range of the tone up or down by octave.

   Tuning Parameters

   C (Coarse) **Tune** (**-24** to **+24**) — coarsely tunes the pitch of the selected channel in semitone units.

   Fine Tune (**-100** to **+100**) — fine tunes the pitch of the selected channel in cent

units. A cent is one hundredth of a semitone. There are 12 semitones per octave.

Effect Parameters

Rvb (Reverb) **Send** (**000** to **127**) – controls how much reverb is applied. **000** is reverb off, **127** is maximum.

Cho (Chorus) **Send** (**000** to **127**) – controls how much chorus is applied. **000** is no chorus, **127** is maximum.

USING THE TONE SYNTHESIZER

The keyboard's custom tone synthesizer lets you create up to 32 of your own original tones. To create a "user" tone, you simply select one of the keyboard's 100 preset tones or 127 GM tones, change its parameters, then store the new tone in a memory location from 238 to 247. You select and use a user tone as you would a preset tone. ☑

The parameters you can change are divided into the following groups. ☑ ☼

- Volume Characteristic — Attack Time, Release Time, Resonance, Cutoff Frequency
- Tone Pitch — Vibrato type, Vibrato Delay, Vibrato Depth, Vibrato Rate, Octave Shift
- Tone Characteristic — Level, Touch Sense, Reverb Send, Chorus Send, DSP Line, DSP Type, DSP Parameter

Creating and Storing a User Tone

1. Select the preset tone (except 228–237) you want to use as a basis for your user tone.

2. Press **SYNTH**. The keyboard enters the Custom Tone Synthesizer mode and **Atk Time** (Attack Time, the first parameter) appears.

3. Repeatedly press ◀ or ▶ (**CURSOR**) to display the parameter you want to change.

   Attack Time (**Atk Time**) (**-64** to **+63**) — Sets the speed of the attack (the period from when you press a key to when the tone reaches its maximum volume). The greater the value, the quicker the attack.

   Release Time (**Rel. Time**) (**-64** to **+63**) — Controls the speed of a tone's release (the period from when you release a key to when the tone stops sounding). The greater the value, the quicker the release.

   Vibrato Type (**Vib. Type**) **Sin**, **tri**, **SAU**, or **Sqr** — Sets the vibrato type as sine wave (**Sin**), triangle wave (**tri**), sawtooth wave (**SAU**), or square wave (**Sqr**).

DSP Line on/oFF – use to turn the DSP line on or off for a particular channel.

4. Repeatedly press **+** or **–** or enter a number using the number buttons to change the parameter setting.

5. To edit other channels, press ▲ (**EXIT**) to return to the channel selection display, select the channel, then repeat Steps 2–4.

6. To exit the parameter edit mode, press **MIXER**.

Vibrato Delay (**VibDelay**) (**-64** to **+63**) — Sets the amount of time before vibrato starts.

Vibrato Depth (**VibDepth**) (**-64** to **+63**) — Sets the depth of vibrato effect.

Vibrato Rate (**Vib.Rate**) (**-64** to **+63**) — Sets the speed of the vibrato effect.

Cut Off Frequency (**C-offFrq**) (**-64** to **+63**) — – Adjusts the timbre of the sound. A higher cut off frequency gives brighter timber, lower cut off frequency produces a softer timbre.

Resonance (**Resonan**) (**-64** to **+63**) — Sets the resonance of the tone. Resonance enhances the harmonic component around the cut off frequency to create a distinctive sound. The larger the value, the more distinctive the sound. ☑

Octave Shift (**OctShift**) (**-2** to **+2**) — Shifts the range of the tone up or down by octave.

Level (**Level**) (**0** to **127**) — Controls the overall volume of the tone. The greater the value, the greater the volume. Setting a level of zero means that the tone does not sound at all.

Touch Sensitivity (**TchSense**) (**-64** to **+63**) — Controls changes in the volume of the tone depending on how hard you strike the keys. You can specify more volume for stronger striking and less volume for lighter striking, or you can specify 00 to set the same volume regardless of how hard you strike the keys.

Reverb Send (**Rvb Send**) (**0** to **127**) — Controls the reverb effects.

Chorus Send (**Cho Send**) (**0** to **127**) — Controls the chorus effects.

DSP Line (**DSP Line**) **on/oFF** — Sets DSP line on or off.

DSP Type (Number and name of the applied DSP appears) — Selects the DSP type.

DSP Parameter — Sets DSP parameters. See "DSP (Digital Signal Processor)" on Page 7. ☑

Using the Tone Synthesizer

- You cannot use tones 228–237 (drum set tones) as base tones.
- The preset tone you use as the basis for a user tone is not changed.
- Tone locations 238–247 initially contain the tone number 000. The user tone you store in any of those locations replaces it.

Creating and Storing a User Tone

- A new or revised user tone replaces the existing user tone.
- Layer, split, auto accompaniment, demo tune play, and MIDI functions are all disabled while the keyboard is in the Custom Tone Synthesizer mode.
- For some tones, setting the resonance too high might cause distortion or noise. If you encounter this, lower the resonance setting.
- While you are setting the three DSP parameters, an indicator appears next to DSP.

☼ **HINT** ☼

- To make it easier to create your own tone, start with a preset tone that is similar to the one you are trying to create.
- Experiment with different settings. There are no real rules about what a tone should sound like. Let your imagination run free and experiment with different combinations. You might be surprised at what you can achieve!

Using the Tone Synthesizer

When you store a tone with DSP line turned on, all the DSP parameters are recalled as you select the tone.

4. Repeatedly press **+** or **–** to change the parameter's setting, or use the number buttons to directly enter a value for the parameter.

   If you want to change another parameter, repeat Steps 3, 4, and 5.

5. To store the settings, press ▼ (**ENTER**) to display the tone number (**238** – **247**) where you want to save the user tone. ✐

6. Repeatedly press **+** or **–** until the tone number you want appears.

7. Press ▼ (**ENTER**) to save the user tone. **Save OK** appears briefly and the keyboard exits the Custom Tone Synthesizer mode.

   Or, press ▲ (**EXIT**) to exit the Custom Tone Synthesizer mode without storing a new tone.

USING THE REGISTRATION MEMORY

Your keyboard can save different setups of controls in its registration memory. This lets you instantly recall your favorite settings. The registration memory consists of four banks (0 – 3), each with four memory locations (1 – 4), totaling up to 16 settings. You can save each of the following settings in each registration memory: ✐

- tone
- rhythm
- tempo
- split on/off
- split point
- layer on/off
- mixer settings (Channels 1–10)
- effect settings
- equalizer settings
- touch response settings
- assignable jack setting (see "Using a Sustain Pedal" on Page 15)
- transpose (see "Changing Keys" on Page 14)
- tuning (see "Tuning the Keyboard" on Page 14)

- accompaniment volume
- auto harmonize on/off

STORING A SETUP

1. Set the desired controls to the setting you want to store.

2. Within 5 seconds, repeatedly press **BANK** until the desired bank number appears.

3. While holding down **STORE**, press the desired **REGISTRATION** button (**1**, **2**, **3**, or **4**). **Store** appears after the selected bank/location number/letter.

4. Release **STORE** and **REGISTRATION**.

5. Repeat Steps 1–4 to store more setups.

RECALLING A SETUP

1. Repeatedly press **BANK** until the desired bank number appears.

2. Within 5 seconds, press the desired **REGISTRATION** button (**1**, **2**, **3**, or **4**). **Recall** appears after the selected bank/location number/letter.

SPECIAL FEATURES

CHANGING KEYS

The keyboard automatically selects the key of middle C each time you turn it on. For added flexibility as you play, the keyboard lets you change (transpose) the musical key in which it plays. You can transpose the key up or down 24 semitones (two octaves). ✐

1. Press **TOUCH/TRANSPOSE/SETTING**, then repeatedly press ◄ or ► (**CURSOR**) until **00 Trans** appears. The displayed number is the number of semitones to which the keyboard is set, compared to its default key.

2. Within 5 seconds, repeatedly press **–** or **+** to lower or raise the key. Each time you press **–** or **+**, the key changes by 1 semitone. As you raise the key, 1 is

C#, 2 is D, and so on. As you lower the key, –1 is B, –2 is B♭, –3 is A, and so on.

3. Press **TOUCH/TRANSPOSE/SETTING** to exit the menu setting mode.

TUNING THE KEYBOARD

Although your keyboard never goes out of tune, it lets you adjust its pitch to match other instruments or musical recordings.

A cent is the measurement that represents the acoustical interval between two tones. 1,200 cents equal 1 octave. You can tune the keyboard to within –99 to +99 of its default pitch. ✐

1. Press **TOUCH/TRANSPOSE/SETTING**, then repeatedly press ◄ or ► (**CURSOR**) until **00 Tune** appears. The number on

the display is the number of "cents" to which the keyboard is currently tuned, compared to its default pitch.

2. Within 5 seconds, repeatedly press **–** or **+** to lower or raise the keyboard's pitch. Each time you press the key, the number decreases or increases by 1 cent.

USING TOUCH RESPONSE

Your keyboard's touch response feature lets you adjust the volume of your music's tone based on how hard you strike the key(s), so you can add emotion to your music.

1. Press **TOUCH/TRANSPOSE/SETTING**. **Touch** and the current setting (default: **2 Normal**) appear.

2. Within 5 seconds, repeatedly press **–** or **+** to select the touch response level, **oFF Touch**, **1 Light**, **2 Normal**, or **3 Heavy**.

   At the **Light** setting, light key pressure results in a loud sound, and very heavy key pressure results in a more powerful sound. When you select **oFF Touch**, the indicator next to TOUCH RESPONSE disappears and the tone does not change regardless of how you press the key.

USING A SUSTAIN PEDAL

For added flexibility and control as you make music, you can connect an optional sustain pedal, available through your local RadioShack store or online at *www.radioshack.com*. A sustain pedal lets you sustain or soften the keyboard's sound, or even start and stop an auto-rhythm.

To connect a sustain pedal to your keyboard, insert the pedal's plug into **SUSTAIN/ASSIGNABLE JACK** on the back of the keyboard.

You can adjust the keyboard to these settings when you use a sustain pedal.

> **SUS** (Sustain)—Causes one or more notes to linger after they are played.
>
> **Sos** (Sostenuto)—Similar to sustain, but only sustains the key that was pressed when you press the pedal.
>
> **SFt** (Soft)—Softens the sound.
>
> **rhy** — Starts or stops the selected rhythm.

Follow these steps to change the setting for **SUSTAIN/ASSIGNABLE JACK**.

1. Press **TOUCH/TRANSPOSE/SETTING**, then repeatedly press ◄ or ► (**CURSOR**) until **LCD/Jack** appears.

2. Repeatedly press ▼ (**ENTER**) then repeatedly press ◄ or ► (**CURSOR**) until **Jack** and the current setting (default: **SUS**) appear.

3. Within 5 seconds, repeatedly press **+** or **–** until the desired setting (**SUS**, **SoS**, **SFt**, or **rHy**) appears.

   Press the sustain pedal as you play to hear the desired sound or to start/stop the selected auto-rhythm.

ADJUSTING THE DISPLAY CONTRAST

1. Press **TOUCH/TRANSPOSE/SETTING**, then repeatedly press ◄ or ► (**CURSOR**) until **LCD/Jack** appears.

2. Press ▼ (**ENTER**). **06 Contrast** appears.

3. Within 5 seconds, repeatedly press **+** or **–** until you can view the display clearly. The number changes from 0 to 12.

RESETTING THE KEYBOARD

The keyboard retains various settings even when you turn the power off, so long as you do not disconnect power. You can, however, delete or initialize some settings without deleting others.

1. Press **TOUCH/TRANSPOSE/SETTING**, then repeatedly press ◄ or ► (**CURSOR**) until **Init/Del** appears.

2. Press ▼ (**ENTER**). **Init Mix?** appears.

3. Within 5 seconds, repeatedly press ◄ or ► (**CURSOR**) until the item you want to reset appears.

   InitMix? — Initializes the mixer parameters you assigned by the mixer function or by input from an external sequencer.

   InitPar? — Initializes all parameters, except for the display contrast setting.

   rHy nnn Del? — Deletes the data of the user rhythm number *nnn*. See "Using the Data Download Service" on Page 21.

   InitSys? — Deletes all data in the user area.

4. Press **YES**. **Sure?** appears, prompting you to confirm the initialization/deletion. Press **YES** again. The keyboard completes initialization/deletion and exits the menu setting mode.

☑ **NOTE** ☑

- The touch response setting does not affect memory playback, auto accompaniment, or received MIDI data.

- The MIDI data sent out from the keyboard is affected by the touch response setting.

Special Features

USING THE SONG MEMORY

The keyboard lets you record up to two separate songs (with up to about 3,500 notes) in memory for later playback. You can use either of two methods to record a song — real-time recording (you record as you play) or step recording (you enter notes and chords one-by-one).

You can record on each of the keyboard's six tracks separately. Besides notes, each track can have its own tone number. Then, when you play back the tracks together, it sounds like an entire six-piece band. Also, you can use different mixer settings for each track.

Track 1 is the main track, and you can use it to record auto accompaniment, as well as keyboard play. Tracks 2 through 6 are melody tracks, and you can use these for recording a secondary melody that includes keyboard play.

Because each track is independent of the others, you only need to re-record a single track if you make a mistake while recording on it.

If the remaining memory is less than 100 notes, the measure and beat numbers flash. When memory becomes full, recording automatically stops (and auto-accompaniment or rhythm stops playing, if used).

Memory contents are saved as long as power is supplied to the keyboard. Unplugging the adapter without batteries or with weak batteries erases the memory. To prevent data loss, connect an adapter before replacing the batteries.

Turning off the keyboard while recording erases the contents of the track you were recording.

You can transfer memory contents to another MIDI device.

REAL-TIME RECORDING

With real-time recording, the notes are recorded as you play them on the keyboard.
☼

1. Repeatedly press **SONG MEMORY** until **Record** appears. ☑

2. Within 5 seconds, press **+** or **–** (or **0** or **1**) to select a song number.

3. Press **CHORD/TR 1** to select Track 1. While the keyboard is in memory record mode, the level meters for channels 11 through 16 correspond to memory tracks 1 through 6. When all four bars are lit, that channel has something in memory: if only one bar is lit, that track is empty.

4. If desired, you can change the following settings:

- Tone number

- Rhythm number. (To record without an auto-rhythm, skip Step 5 of "Real-Time Recording." Recording starts when you press a key.)

- Tempo. (Do not change the tempo unless you already know the desired tempo. Pressing **START/STOP** to hear the tempo causes recording to begin).

- MODE

5. Press **START/STOP** to start recording. ☼

To start recording with synchro start, press **SYNCHRO/FILL-IN NEXT** instead of **START/STOP.** Recording starts when you play a note or a chord on the accompaniment keys.

To synchro start auto accompaniment with an intro pattern, press **SYNCHRO/FILL-IN NEXT** and then **INTRO/ENDING 1** or **2** instead of **START/STOP.** Recording starts with the intro pattern when you play a note or a chord on the accompaniment keys.

To start auto accompaniment during a recording, press **INTRO/ENDING 1** or **2** instead of **START/STOP.** Play the melody keys to start recording. When you reach the point where you want accompaniment to start, play a chord on the accompaniment keys.

6. Play the keyboard. You can also record auto accompaniment chords, tuning, and pedal operations.

7. Press **START/STOP** to end recording.

If you make a mistake, press **START/STOP** to stop recording and begin again from Step 1, or you can edit the contents. See "Editing Memory Contents" on Page 18.

This data is stored on Track 1 along with the notes you played:

- tone number

- rhythm number

- rhythm controller (INTRO/ENDING 1 or 2, VARIATION/FILL-IN 1 or 2, etc.) operations

- pedal operations

- accompaniment volume

- effect type

See "Recording Multiple Tracks" on Page 18 to record on the other five tracks. ☑

PLAYING BACK FROM SONG MEMORY

1. Repeatedly press **SONG MEMORY** until `Play` appears.

2. Within 5 seconds, repeatedly press **+** or **–** (or **0** or **1**) to select a song number.

3. Within 5 seconds, press **START/STOP** to play back the song you selected. You can use **TEMPO** to adjust the playback tempo.

4. Press **START/STOP** again to stop playback. ✍

STEP RECORDING

With step recording, you can record a chord progression one chord at a time. (If you want to record one note at a time, refer to "Recording Multiple Tracks" on Page 18.)

Follow these steps to record chords with step recording.

1. Repeatedly press **SONG MEMORY** until `Step Rec` appears.

2. Within 5 seconds, repeatedly press **+** or **–** to select a song number.

3. If desired, you can change the rhythm number and MODE settings.

4. Press **CHORD/TR1** to select Track 1. The REC indicator flashes briefly, then lights steadily.

5. Press **SYNCHRO/FILL-IN NEXT**, then play a chord using the chord play method determined by the current MODE setting (Fingered, Concert Chord, Full Range Chord, or Normal).

   When MODE is set to NORMAL, specify the chord using the root keys and chord-type keys. See "Specifying Chords in the Normal Mode".

   To start accompaniment with an intro pattern, press **INTRO/ENDING 1** or **2** after **SYNCHRO/FILL-IN NEXT**.

   To switch to a rhythm variation, press **VARIATION/FILL-IN 1** or **2** immediately before playing the chord.

   To insert an ending or fill in, press **INTRO/ENDING 1** or **2**, or **VARIATION/FILL-IN 1** or **2** immediately before entering the chord.

   To step-record chords without a rhythm, skip this step. The chord of the specified length is recorded. A rest can be specified there, so you can create an original chord pattern.

   To add chord accompaniment during rhythm play, enter rests from the beginning of the recording up to where you want accompaniment to start. Then enter only the chords (no rests).

6. Use the number buttons to specify the length of the chord. See "Specifying the Length of a Note."

7. For each additional chord you want to enter, play the chord and use the number buttons to specify its length.

8. When you finish recording, press **START/STOP**. The keyboard is now in playback standby mode. You can try playing back the song by pressing **START/STOP**. ✍

Specifying Chords in the Normal Mode

To enter chords when **MODE** is set to **NORMAL** during step recording, you must specify them using a method other than Concert Chord or Fingered. That way, you can enter 18 chord types using only two keys.

While holding down the desired chord root key, press the chord key to specify the chord. The root and chord types are labeled above each key. The chord root letter and type of chord also appear as you play a chord.

Specifying the Length of a Note

During step recording, repeatedly press **+** or **–** or enter a number using the number buttons to specify the length of each note. Use numbers **1** through **6** to specify whole notes (1), half notes (2), quarter notes (3), eighth notes (4), 16th notes (5), and 32nd notes (6).

To enter a dot or triplicate, hold down **7** (dot) or **9** (triplicate), then press **1** through **6**.

To enter a tie, press **8** then enter the first and second notes.

To enter a rest, press **0**, then press **1** through **9** to specify the length of the rest.

Correcting Mistakes

Before finishing your step recording entry, you can move the entry point back to correct the data you entered. This deletes all data after the point where you make corrections.

1. Before you press **START/STOP** to end recording, press ◄ (**CURSOR**). This moves the entry point back one "space." The data recorded at the current entry point appears, the REC indicator turns off, and the STEP indicator flashes.

2. While monitoring the data on the display, repeatedly press ◄ or ► (**CURSOR**) to move the entry point to the data you want to change.

3. Press ▼ (**ENTER**) then press ► (**CURSOR**). `Rewrite?` appears.

4. Press **YES** to clear all data after the current entry point. Press **NO** or ▲

✍ **NOTE** ✍

Playing Back from Song Memory

• You can use change the rhythm, use layer and/or split during memory playback.

• Pressing **START/STOP** during the song restarts the song from the beginning.

• You can set the volume and pan position of the playback tracks using the mixer. This setting data is output through MIDI OUT.

• The entire keyboard functions as a melody keyboard during playback, regardless of the MODE setting.

Step Recording

• If you make a mistake, see "Correcting Mistakes".

• When you record on a track that already contains data, the keyboard automatically locates the end of the previous recording — measure, beat, or clock (1/48 of a beat) — and adds your new entry to it.

• You can enter a 0 (a rest) in Step 5 of "Step Recording", but the rest is ignored when the accompaniment plays.

• The rhythm number and INTRO/ENDING 1 or 2, SYNCHRO/FILL-IN NEXT, and VARIATION/FILL-IN 1 or 2 operations are stored on Track 1, along with the notes you played. See "Recording Multiple Tracks" to record on the other five tracks.

• During recording on Tracks 2 through 6, the entire keyboard functions as a melody keyboard, regardless of the current MODE setting.

• The tone number is stored on the selected track in addition to the notes you played.

• You can turn off a track during playback by using the mixer function (see "Using the Mixer" on Page 12).

Correcting Mistakes

The REC indicator lights and the STEP indicator stops flashing when you move to the end of the recording.

RECORDING MULTIPLE TRACKS

In addition to Track 1, where you record auto accompaniment as well as keyboard play, there are five other tracks you can use to record melody parts only. You can record different tones on these tracks and build a full ensemble of instruments.

You can play back what you already recorded on Track 1 (or any other track) while you record on Tracks 2–6.

Real-Time Recording

1. Repeatedly press **SONG MEMORY** until **Record** appears.

2. Within 5 seconds, repeatedly press + or – to select a song number.

3. Press the desired **SONG MEMORY TRACK** (**2**–**6**) to select the track you want to record on.

4. If desired, you can change the tone number and tempo settings. You can change the tempo to one that is easy for you to follow.

5. Press **START/STOP** to start recording. The contents of any tracks already recorded start to play.

6. Play on the keyboard what you want to record on the selected track.

7. Press **START/STOP** to end recording.

If you used them, tone number and optional pedal operation are also stored on the selected track in addition to the notes you played.

Step Recording

1. Repeatedly press **SONG MEMORY** until **Step Rec** appears.

2. Within 5 seconds, repeatedly press **+** or **–** to select a song number.

3. Press the desired **SONG MEMORY TRACK** (**2**–**6**) to select the track you want to record on.

4. Change the tone, if desired. After selecting a tone, press any keyboard key to clear the tone selection display and return to the note input screen.

5. Use the keyboard to enter notes or **0** to enter rests.

   • When you enter a note using the keyboard with touch response turned on, the key pressure is also recorded.

   • To delete a rest entry, press **0** again.

6. Use **1**–**9** to enter the length of the note or rest.

7. Continue entering notes by playing them and specifying their length.

8. Press **START/STOP** to end recording.

EDITING MEMORY CONTENTS

You can recall and change individual notes and parameter settings from a song in memory.

1. Repeatedly press **SONG MEMORY** until **Step Rec** appears.

2. Within 5 seconds, repeatedly press + or – to select a song number.

3. Use **SONG MEMORY TRACK** (**1**–**6**) to select the track you want to edit.

4. Press ◄ (**CURSOR**) to enter edit mode.

5. Repeatedly press ◄ or ► (**CURSOR**) to move to the entry you want to change.

   You can change the parameter that is flashing on the display. To change a different parameter, repeatedly press ◄ or ► (**CURSOR**) so the parameter you want to edit flashes.

6. Make the desired changes to the selected parameter.

   The procedures you use to change a parameter depend on the type of data it contains. See "Editing Techniques and Display Contents".

7. Repeat Steps 5 and 6 to edit other parameters.

8. Press **START/STOP** when you are finished.

Editing Techniques and Display Contents

Key Pressure (Velocity) — Repeatedly press + and – or use the number buttons to adjust the key pressure.

Pitch — Enter a new note on the keyboard or repeatedly press + or – to change to the next higher or lower note. The keyboard and the staff on the display show your new entry.

Chord — Use the appropriate chord fingering method for the MODE setting.

Tone Number/Rhythm Number — Repeatedly press + or – or use the number buttons to enter a number.

Rhythm Controller (INTRO/ENDING 1 or **2, VARIATION/FILL-IN 1** or **2, SYNCHRO/FILL-IN NEXT)** — Press the button for the function you want to change to.

EDITING A SONG

You can delete an entire song, a specific track, or data associated with the song.

NOTE

• Do not change a note identical to the preceding or succeeding note. Doing so might alter the length of the note and you will have to re-record the entire track.

• When you change note, key pressure, or chord, the keyboard sounds the new setting so you can hear what it sounds like.

• Some parameters are stored in the initial portion of the memory, called "Panel Record." You cannot edit data in this field using the procedure described here. See "Rewriting Song Data (Panel Record)" on Page 19.

• The tone and rhythm you selected before beginning recording are stored in the panel record. You can only change tone or rhythm during recording.

• The only parameters that can be edited for Tracks 2–6 are notes and tone numbers.

• You cannot add data to a recording.

• You cannot move portions of a recording to a different location within the recording.

• You cannot change note lengths.

Deleting a Song

1. Repeatedly press **SONG MEMORY** until **Play** appears.

2. Repeatedly press **+** or **–** to select the song number.

3. Press ▼ (**ENTER**). **SongDel?** appears

4. Press **YES**. **Sure?** appears, prompting you to confirm the deletion.

5. Press **YES** again.

Deleting All Data in a Specific Track

1. Repeatedly press **SONG MEMORY** until **Play** appears.

2. Repeatedly press **+** or **–** to select the song number.

3. Press ▼ (**ENTER**). **SongDel?** appears

4. Repeatedly press ◄ or ► (**CURSOR**) until **Tr.Del?** appears.

5. Press the appropriate **SONG MEMORY TRACK** (**1-6**) to select the track(s) you want to delete. You can specify more than one track by pressing more than one button. ☑

6. Press **YES**. **Sure?** appears, prompting you to confirm the deletion.

7. Press **YES** again to delete the track(s).

Rewriting Song Data (Panel Record)

Each song in the keyboard's memory has a section in its header called the *panel record*. This section contains initial data for the recording. You can rewrite this portion if necessary.

The settings stored in panel records are:

- Rhythm
- Tempo
- Accomp Volume
- Reverb On/Off
- Reverb Type
- Chorus On/Off
- Chorus Type
- DSP Type
- Equalizer Type

The following mixer parameters are also stored in the panel record:

- Tone
- Part On/Off
- Volume
- Pan
- Oct Shift
- Coarse Tune
- Fine Tune
- Reverb Send
- Chorus Send

1. Repeatedly press **SONG MEMORY** until **Play** appears.

2. Repeatedly press **+** or **–** to select the song number.

3. Make the changes in settings as desired.

4. Press ▼ (**ENTER**). **SongDel?** appears.

5. Repeatedly press ◄ or ► (**CURSOR**) until **Pnel Rec?** appears.

6. Press **YES** to rewrite the header data.

USING MIDI

Your keyboard includes a feature called MIDI (Musical Instrument Digital Interface). MIDI is the universal standard for sending and receiving performance data between all types of electronic musical instruments, regardless of manufacturer. Using MIDI, you can play music on your keyboard and another instrument at the same time while pressing the keys on only one, record your music to a sequencer, acquire a wider selection of preset tones from a sound module, and much more.

Connecting your keyboard to another MIDI device requires a MIDI cable (not supplied).

For detailed specifications of the MIDI function, see the "MIDI Implementation Chart" on Page 41. For more information about MIDI parameters, visit *www.radioshack.com* and download the "MD-1121 MIDI Implementation."

ABOUT MIDI

Every MIDI-equipped instrument has MIDI OUT and IN terminals, and some also have a MIDI THRU terminal. Each of these terminals serves a different purpose.

MIDI OUT sends MIDI data to ("talks to") other MIDI instrument(s).

MIDI IN receives ("listens to") MIDI data sent by other MIDI instrument(s).

MIDI THRU lets you connect ("network") additional MIDI instruments, and sends other MIDI devices a copy of all data it receives through its MIDI IN terminal.

Your keyboard has **MIDI OUT** and **MIDI IN** terminals.

The cable that connects MIDI devices does not actually carry sound between them, like a speaker wire carries sound from a receiver to a speaker. Instead, MIDI-equipped devices communicate with each other using digital codes (instructions). One MIDI device sends digital instructions representing exactly what is being played on it. The other MIDI device receives and translates those instructions, then produces (or records) the sound exactly as it was played on the first device.

☑ **NOTE** ☑

- To deselect a track, simply press its button again.

- You cannot change the song number while in track delete standby.

- You cannot select a track that does not contain recorded data.

- Pressing **SONG MEMORY** while in track delete standby mode returns to record standby mode.

💥 CAUTION 💥

- Always turn off power to your keyboard and the other MIDI device before you connect or disconnect MIDI cables.

- As you make the cable connections, be sure to align the MIDI cable pins with the matching holes on your keyboard's **MIDI OUT** and **MIDI IN** terminals. If you have trouble plugging in the cable, do not force it! You might damage the plug or the instrument.

MAKING THE MIDI CONNECTIONS

To connect your keyboard to another MIDI-equipped device, you must use a MIDI cable (available at RadioShack). ✔

To send MIDI data from your keyboard, use a MIDI cable to connect the keyboard's **MIDI OUT** terminal to the other device's MIDI IN terminal.

To receive MIDI data on your keyboard, use a MIDI cable to connect the keyboard's **MIDI IN** terminal to the other device's MIDI OUT terminal. ✓

MIDI DATA

Your keyboard can send and receive several different types of MIDI data. The keyboard's tones, rhythms, and other types of MIDI data are sent automatically as you play.

The keyboard parts (Channels 1 through 4) are sent over the corresponding channels. When you turn auto harmonize on (see "Using Auto Harmonize" on Page 12), the harmonized notes are sent.

You can set accompaniment parts to be sent over the corresponding channels (Channels 6 – 10). See "Changing MIDI Settings." The keyboard's prerecorded tunes cannot be sent as MIDI data.

The keyboard can receive data over all 16 MIDI mixer channels at the same time.

The received message is interpreted as chord change data when you set **MODE** to **CONCERT CHORD** or **FINGERED**. See "Changing MIDI Settings."

CHANGING MIDI SETTINGS

1. Press **TOUCH/TRANSPOSE/SETTING**, then repeatedly press ◄ or ► (**CURSOR**) until **MIDI** appears.

2. Press ▼ (**ENTER**). **01 Keybd Ch** appears.

3. Within 5 seconds, repeatedly press ◄ or ► until the parameter you want to change appears.

   Keybd Ch (Keyboard Basic Channel) (Default: **01**) — Sets the channel for sending MIDI data to an external device.

   Chord (MIDI In Chord Judge) (Default: **Off**) — When set to on, the keyboard interprets the received basic channel note data as auto accompaniment chords using the current chord fingering method.

   AcompOut (Accompaniment Out) (Default: **Off**) — Set to **on** to send auto accompaniment as MIDI data.

   Local (Local Control) (Default: **On**) — Set to **on** to send data to the keyboard's speakers and another MIDI device simultaneously. Set to **oFF** to send data only to another MIDI device (the keyboard's speakers are muted).

4. Repeatedly press **+** or **–** or use the number buttons to change the setting as required. Then press ▲ (**EXIT**).

NOTES ABOUT THE MIDI IMPLEMENTATION CHART

The "MIDI Implementation Chart" on Page 41 shows specific details about how your keyboard is compatible with the MIDI standard. The following notes explain how the keyboard works within the MIDI standard.

Basic Channel — The MIDI standard allows for the use of up to 16 channels to exchange data. Like a TV broadcast, each of these channels can contain different data. The keyboard can send and receive data on all 16 of these channels.

Mode — The MIDI standard allows for four separate modes of operation. The keyboard sends and receives data in Mode 3. This means that the data sent and received by the keyboard can be polyphonic and can be sent or received on only one channel at a time.

Note Number — The MIDI standard allows for note numbers from 0 through 127. This number represents each possible note that a device can play. The lowest note number (0) is five octaves below middle C and the highest note number (127) is three octaves above middle C. The keyboard can send and receive all 128 note numbers.

Velocity — The MIDI standard allows for velocity numbers from 0 through 127. Velocity is how fast a key is pressed (or if the key is pressed at all) or how loud a note sounds. A velocity of 0 means that the key is not pressed. The lowest velocity (1) is pianissimo and the highest velocity (127) is fortissimo. The keyboard can send and receive all 128 velocity numbers.

Pitch Bender — The keyboard receives (but cannot send) pitch bending signals.

Control Change — This feature sends data on various controllers, each having its own number. For the details of each parameter, see "MIDI Data".

Program Change — This feature changes the preset sounds. Each sound number corresponds to a program number between 0 and 127. See "MIDI Data".

System Exclusive — This feature sends special signals unique to the keyboard.

All Notes Off — This feature is a kind of panic button: it stops the current sounds from playing. Only the keyboard receives this message.

Active Sense — This means the keyboard's sound turns off in the event the connection cable to the **MIDI IN** terminal is accidentally disconnected.

USING THE DATA DOWNLOAD SERVICE

Visit *www.radioshack.com* to download the preset accompaniments, tones, DSPs, and registration data, as well as the software to transfer the downloaded data from your PC to the keyboard.

The software not only allows you to transfer the downloaded data to the keyboard, but also to store the various settings you made on the keyboard onto your PC's storage device. See the instructions provided with the software.

TROUBLESHOOTING

Trouble	Possible Cause	Remedy
No sound, even if keys are pressed.	The keyboard has turned off automatically.	Press **POWER**.
	The volume is turned down.	Adjust **VOLUME**.
	The headphones are connected.	Disconnect the headphones.
	Power supply problem.	Make sure the batteries are fresh and inserted correctly, or the AC adapter is connected securely.
	You are pressing too few accompaniment keys while MODE is set to FINGERED.	Set MODE to NORMAL or CONCERT CHORD. Or press 3 or 4 keys to form a chord while MODE is set to FINGERED.
	Local control is off.	Set local control to ON (see "Changing MIDI Settings" on Page 20).
	Mixer channel 1 is turned off or its volume is set too low.	Turn on Channel 1 or raise the volume setting (see "Using the Mixer" on Page 12).
No sound when connected to an external amplifier.	The volume is turned down.	Adjust VOLUME.
	Defective connection cord.	Replace the connection cord.
No sound when receiving and playing MIDI data.	MIDI cables are not connected properly.	Check the connection.
	Mixer channel is turned off or its volume is too low.	Turn channel 1 ON or raise the volume setting (see "Using the Mixer" on Page 12).
The key or tuning does not match when playing along with another MIDI instrument.	The tuning or transpose parameter is set to a value other than 0 or 00.	Set the tuning or transpose parameter to 0 or 00.
Some parts do not play during song memory playback.	Channels are turned off or volume set too low.	Use the mixer function to turn the channel on or to raise the volume.
Cannot record auto-accompaniment.	A track other than Track 1 is selected. (Tracks 2 through 6 are for melody only.)	Select Track 1.
Sounds sent to another MIDI device by the keyboard do not sound correct.	The other device's MIDI THRU function is turned on.	Turn off the MIDI THRU function on the other device.
Cannot record chord accompaniment data on a computer.	Accomp MIDI Out is set to **oFF**.	Set MIDI Out to **on**.

CARE

Keep the keyboard dry; if it gets wet, wipe it dry immediately. Use and store the keyboard only in normal temperature environments. Handle the keyboard carefully; do not drop it. Keep the keyboard away from dust and dirt, and wipe it with a damp cloth occasionally to keep it looking new.

SERVICE AND REPAIR

If your keyboard is not performing as it should, take it to your local RadioShack store for assistance. Modifying or tampering with the keyboard's internal components can cause a malfunction and might invalidate its warranty and void your FCC authorization to operate it.

TONE LIST

PANEL TONES

No.	Tone Group	Tone Name	Program Change	Bank Select MSB	Maximum Polyphony	Range Type	DSP Type
0	PIANO	GRAND PIANO	0	65	32	N	-
1		GRAND PIANO WIDE	0	67	16	N	-
2		MELLOW PIANO	0	66	32	N	-
3		BRIGHT PIANO	1	65	32	N	-
4		MODERN PIANO	1	66	16	N	-
5		HONKY-TONK	3	65	16	N	-
6		ELEC.GRAND PIANO	2	65	32	N	-
7		ELEC.PIANO	4	65	32	N	-
8		MODERN E.PIANO	5	65	16	N	-
9		GLASS E.PIANO	4	66	16	N	-
10		SOFT E.PIANO	5	66	16	N	-
11		HARPSICHORD	6	65	32	N	-
12		CLAVI	7	65	32	N	-
13	CHROMATIC PERC	CELESTA	8	65	32	N	-
14		GLOCKENSPIEL	9	65	32	1	-
15		VIBRAPHONE	11	65	32	N	-
16		MARIMBA	12	65	32	N	-
17	ORGAN	DRAWBAR ORGAN 1	16	65	16	N	-
18		DRAWBAR ORGAN 2	16	66	32	N	-
19		PERC.ORGAN 1	17	65	16	N	-
20		PERC.ORGAN 2	17	66	16	N	-
21		ELEC.ORGAN	16	67	32	N	-
22		JAZZ ORGAN	17	67	16	N	-
23		ROCK ORGAN	18	65	16	N	-
24		CHURCH ORGAN	19	65	16	N	-
25		ACCORDION	21	65	16	N	-
26		BANDONEON	23	65	16	N	-
27		HARMONICA	22	65	32	N	-
28	GUITAR	NYLON STR.GUITAR	24	65	32	-1	-
29		STEEL STR.GUITAR	25	65	32	-1	-
30		12 STR.GUITAR	25	66	16	-1	-
31		JAZZ GUITAR	26	65	32	-1	-
32		CLEAN GUITAR	27	65	32	-1	-
33		ELEC.GUITAR	27	66	32	-1	-
34		MUTE GUITAR	28	65	32	-1	-
35		OVERDRIVE GT	29	65	32	-1	-
36		DISTORTION GT	30	65	32	-1	-
37		FEEDBACK GT	30	66	16	-1	-
38		BANJO	105	65	32	N	-
39	BASS	ACOUSTIC BASS	32	65	32	-1	-
40		FINGERED BASS	33	65	32	-1	-
41		PICKED BASS	34	65	32	-1	-
42		FRETLESS BASS	35	65	32	-1	-
43		SLAP BASS	37	65	32	-1	-
44		SAW.SYNTH-BASS	38	65	16	-1	-
45		SQR SYNTH-BASS	39	65	32	-1	-
46	STR/ORCHESTRA	VIOLIN	40	65	32	N	-
47		CELLO	42	65	32	-1	-
48		PIZZICATO STRINGS	45	65	32	N	-
49		HARP	46	65	32	N	-
50	ENSEMBLE	STRINGS	48	65	32	N	-
51		SLOW STRINGS	49	65	32	N	-
52		BRIGHT STRINGS	48	66	32	N	-
53		MELLOW STRINGS	49	66	32	N	-
54		SYNTH-STRINGS	50	65	32	N	-
55		RESO SYNTH-STRINGS	51	65	32	N	-

PANEL TONES (CONTINUED)

No.	Tone Group	Tone Name	Program Change	Bank Select MSB	Maximum Polyphony	Range Type	DSP Type
91		WARM PAD	89	65	32	N	-
92		POLYSYNTH	90	65	16	N	-
93		BOWED GLASS	92	65	16	N	-
94		HALO PAD	94	65	16	N	-
95		SWEEP PAD	95	65	32	N	-
96		RAIN DROP	96	65	16	N	-
97		CRYSTAL	98	65	16	N	-
98		ATMOSPHERE	99	65	16	N	-
99		BRIGHTNESS	100	65	16	N	-

No.	Tone Group	Tone Name	Program Change	Bank Select MSB	Maximum Polyphony	Range Type	DSP Type
56		CHOIR AAHS	52	65	32	N	-
57		VOICE DOO	53	65	32	N	-
58		SYNTH-VOICE	54	65	32	N	-
59		ORCHESTRA HIT	55	65	16	N	-
60	BRASS	TRUMPET	56	65	32	N	-
61		TROMBONE	57	65	32	-1	-
62		TUBA	58	65	32	-1	-
63		MUTE TRUMPET	59	65	32	N	-
64		FRENCH HORN	60	65	16	-1	-
65		BRASS SECTION	61	65	32	N	-
66		OCTAVE BRASS	61	66	16	N	-
67		BRASS+SYNTH	61	67	16	N	-
68		ANALOG SYNTH-BRASS	62	65	32	N	-
69		VINTAGE SYNTH-BRASS	63	65	16	N	-
70	REED	SOPRANO SAX	64	65	32	N	-
71		ALTO SAX	65	65	32	-1	-
72		BREATHY A.SAX	65	66	16	-1	-
73		TENOR SAX	66	65	32	-1	-
74		BREATHY T.SAX	66	66	16	-1	-
75		BARITONE SAX	67	65	32	-1	-
76		OBOE	68	65	32	N	-
77		CLARINET	71	65	32	N	-
78	PIPE	PICCOLO	72	65	32	1	-
79		FLUTE	73	65	32	N	-
80		MELLOW FLUTE	73	66	16	N	-
81		RECORDER	74	65	32	N	-
82		PAN FLUTE	75	65	32	N	-
83		WHISTLE	78	65	32	N	-
84	SYNTH-LEAD	SQUARE LEAD	80	65	16	N	-
85		SAWTOOTH LEAD	81	65	16	N	-
86		CALLIOPE	82	65	16	N	-
87		VOICE LEAD	85	65	16	N	-
88		FIFTH LEAD	86	65	16	N	-
89		BASS+LEAD	87	65	16	N	-
90	SYNTH-PAD	FANTASY	88	65	16	N	-

ADVANCED TONES

No.	Tone Group	Tone Name	Program Change	Bank Select MSB	Maximum Polyphony	Range Type	DSP Type
0	PIANO	STEREO PIANO	0	68	32	N	Reflect
1		SYNTH-STR.PIANO	0	70	16	N	Reflect
2		VOICE PIANO	0	69	16	N	Reflect
3		STRINGS PIANO	1	68	16	N	Reflect
4		DANCE PIANO	1	69	16	N	EnhaDly
5		60'S OCTAVE PIANO	3	68	16	N	Equalize
6		MODERN E.G.PIANO	2	68	16	N	ChoDly1
7		TREMOLO E.PIANO	4	68	32	N	ChoTrem
8		SYNTH-STR.E.PIANO	5	68	16	N	Reflect
9		E.PIANO PAD	4	69	16	N	StPhase
10		STRINGS E.PIANO	5	69	16	N	ChoDly3
11		COUPLED HARPSICHORD	6	68	16	N	CmpChoRf
12		RESONANCE CLAVI	7	68	32	N	AutoWah
13	CHROMATIC PERC	DELAY CELESTA	8	68	32	N	3TapDly
14		DELAY GLOCKENSPIEL	9	68	32	1	Delay
15		TREMOLO VIBRAPHONE	11	68	32	N	ChoTrem
16		PHASER MARIMBA	12	68	32	N	PhaDly2
17	ORGAN	ROTARY DRAWBAR	16	68	32	N	RotRef1
18		OVD ROTARY ORGAN	16	69	32	N	OdRot2
19		ROTARY PERC.ORGAN 1	17	68	16	N	RotRef2
20		ROTARY PERC.ORGAN 2	17	69	16	N	RotRef3
21		ROTARY ELEC.ORGAN	16	70	32	N	Rotary2
22		JAZZ DRAWBAR	17	70	32	N	Rotary1
23		OVD ROCK ORGAN	18	68	16	N	OdRtRef1
24		PURE CHURCH ORGAN	19	68	16	N	Reflect
25		OCTAVE ACCORDION	21	68	16	N	CmpChoRf
26		NEO BANDONEON	23	68	16	N	ChoDly4
27		SLOW HARMONICA	22	68	32	N	Room2
28	GUITAR	MELLOW NYLON GUITAR	24	68	16	-1	ChoDly3
29		ENHANCED STEEL GUITAR	25	68	16	-1	EnhaDly
30		CHORUS STEEL GUITAR	25	69	32	-1	ChoDly4
31		OCT JAZZ GUITAR	26	68	16	-1	Room3
32		CHORUS CLEAN GUITAR	27	68	32	-1	ChoDly4
33		CRUNCH ELEC.GUITAR	27	69	32	-1	CrnDelay
34		MUTED DIST GUITAR	28	68	32	-1	MetalDly
35		AUTO WAH OVERDRIVE GT	29	68	32	-1	AWhOdDly
36		MORE DISTORTION GT	30	68	32	-1	DistDly2
37		FEEDBACK DIST.GT	30	69	16	-1	DistDly1
38		OCT BANJO	105	68	16	N	ChoDly2
39	BASS	RIDE BASS	32	68	16	-1	Room1
40		CHORUS FING.BASS	33	68	16	-1	CrnCho
41		COMP.PICKED BASS	34	68	16	-1	CmpEnDly
42		FLAN.FRETLESS BASS	35	68	16	-1	ChoFlan
43		MORE SLAP BASS	37	68	16	-1	EnhaFlan
44		ADVANCED SYNTH-BASS 1	38	68	32	-1	AwCrDly
45		ADVANCED SYNTH-BASS 2	39	68	16	-1	CrnLofi
46	STR/ORCHESTRA	SLOW VIOLIN	40	68	32	N	Room2
47		SLOW CELLO	42	68	32	-1	StXDelay
48		PIZZICATO ENSEMBLE	45	68	16	N	ChoDly4
49		HARPS	46	68	16	N	3TapDly
50	ENSEMBLE	STEREO STRINGS	48	68	16	N	Reflect
51		CHAMBER	49	69	16	N	Reflect
52		ORCHESTRA STRINGS 1	48	68	16	N	Reflect
53		ORCHESTRA STRINGS 2	49	69	16	N	ChoDly3
54		PURE SYNTH-STRINGS	50	68	16	N	ChoDly3
55		PHASER SYNTH-STR	51	68	16	N	PhaAPan2
56		CHOIRS	52	68	16	N	Reflect
57		SYNTH-DOO	53	68	16	N	DistDly1
58		SYNTH-VOICE PAD	54	68	16	N	FlanDly1
59		TIMPANI HIT	55	68	16	N	GateRvb2
60	BRASS	VELO.TRUMPET	56	68	32	N	EnhaDly
61		TROMBONE SECTION	57	68	16	-1	ChoDly1

No.	Tone Group	Tone Name	Program Change	Bank Select MSB	Maximum Polyphony	Range Type	DSP Type
97		NEW CRYSTAL	98	68	16	N	ChoDly4
98		STAR THEME	99	68	16	N	PhaAPan2
99		BRIGHTER	100	68	16	N	ChoDly3

No.	Tone Group	Tone Name	Program Change	Bank Select MSB	Maximum Polyphony	Range Type	DSP Type
62		STACK TUBA	58	68	16	-1	CmpEnDly
63		WAH MUTE TRUMPET	59	68	32	N	AwCrDly
64		OCT FRENCH HORN	60	68	16	-1	ChoDly3
65		STEREO BRASS	61	68	16	N	EnhaDly
66		TRUMPET + BRASS	61	69	16	N	Plate1
67		BRASS SFZ	61	70	16	N	EnhaDly
68		DEEP SYNTH-BRASS	62	68	16	N	EnhaDly
69		SLOW SYNTH-BRASS	63	68	16	N	ChoDly4
70	REED	MELLOW S.SAX	64	68	16	N	Reflect
71		A.SAXYS	65	68	16	-1	EnhaDly
72		VELO.ALTO SAX	65	69	16	-1	Hall2
73		T.SAXYS	66	68	16	-1	Hall2
74		VELO.TENOR SAX	66	69	16	-1	Hall2
75		STACK BARITONE SAX	67	68	16	-1	OdDelay
76		SYNTH-OBOE	68	68	16	N	ChoDly4
77		VELO.CLARINET	71	68	16	N	Room3
78	PIPE	PICCOLO ENSEMBLE	72	68	16	1	Reflect
79		FLUTE + REED	73	68	16	N	StXDelay
80		VELO.FLUTE	73	69	16	N	EnhaDly
81		SYNTH-RECORDER	74	68	16	N	ChoDly4
82		SYNTH-PAN FLUTE	75	68	16	N	AWhChDly
83		WHISTLES	78	68	16	N	ChoDly4
84	SYNTH-LEAD	MELLOW SQR LEAD	80	68	16	N	ChoDly1
85		MELLOW SAW.LEAD	81	68	16	N	ChoDly2
86		ADVANCED CALLIOPE	82	68	16	N	ChoDly2
87		VOX LEAD	85	68	16	N	FlanDly2
88		4TH LEAD	86	68	16	N	StDelay
89		FRET LEAD	87	68	16	N	EnhaDly
90	SYNTH-PAD	NEW FANTASY	88	68	16	N	ChoDly3
91		WARM VOX	89	68	16	N	AWhChDly
92		POLY SAW	90	68	16	N	ChoDly3
93		BOWED PAD	92	68	16	N	ChoDly4
94		SPACE VOX	94	68	16	N	RotRef1
95		MOVIE SOUND	95	68	16	N	FlanDly1
96		NEW GOBLIN	96	68	16	N	RgChoDly

GM Tones

No.	Tone Group	Tone Name	Program Change	Bank Select MSB	Maximum Polyphony	Range Type	DSP Type
100	PIANO	Piano 1	0	0	32	N	-
101		Piano 2	1	0	32	N	-
102		Piano 3	2	0	32	N	-
103		HONKY-TONK GM	3	0	16	N	-
104		E.PIANO 1	4	0	32	N	-
105		E.PIANO 2	5	0	16	N	-
106		HARPSICHORD GM	6	0	32	N	-
107		CLAVI GM	7	0	32	N	-
108	CHROMATIC PERC	CELESTA GM	8	0	32	N	-
109		GLOCKENSPIEL OCT	9	0	32	N	-
110		MUSIC BOX	10	0	16	N	-
111		VIBRAPHONE GM	11	0	32	N	-
112		MARIMBA GM	12	0	32	N	-
113		XYLOPHONE	13	0	32	N	-
114		TUBULAR BELL	14	0	32	N	-
115		DULCIMER	15	0	16	N	-
116	ORGAN	ORGAN 1	16	0	16	N	-
117		ORGAN 2	17	0	16	N	-
118		ORGAN 3	18	0	16	N	-
119		PIPE ORGAN	19	0	16	N	-
120		REED ORGAN	20	0	32	N	-
121		FRENCH ACCORDION	21	0	16	N	-
122		HARMONICA GM	22	0	32	N	-
123		BANDONEON GM	23	0	16	N	-
124	GUITAR	NYLON STR.GUITAR OCT	24	0	32	N	-
125		STEEL STR.GUITAR OCT	25	0	32	N	-
126		JAZZ GUITAR OCT	26	0	32	N	-
127		CLEAN GUITAR OCT	27	0	32	N	-
128		MUTE GUITAR OCT	28	0	32	N	-
129		OVERDRIVE GT OCT	29	0	32	N	-
130		DISTORTION GT OCT	30	0	32	N	-
131		GT HARMONICS	31	0	32	N	-
132	BASS	ACOUSTIC BASS OCT	32	0	32	N	-
133		FINGERED BASS OCT	33	0	32	N	-
134		PICKED BASS OCT	34	0	32	N	-
135		FRETLESS BASS OCT	35	0	32	N	-
136		SLAP BASS 1 OCT	36	0	32	N	-
137		SLAP BASS 2 OCT	37	0	32	N	-
138		SYNTH-BASS 1 OCT	38	0	16	N	-
139		SYNTH-BASS 2 OCT	39	0	32	N	-
140	STR/ORCHESTRA	VIOLIN GM	40	0	32	N	-
141		VIOLA	41	0	32	N	-
142		CELLO GM	42	0	32	N	-
143		CONTRABASS	43	0	32	N	-
144		TREMOLO STRINGS	44	0	32	N	-
145		PIZZICATO GM	45	0	32	N	-
146		HARP GM	46	0	32	N	-
147		TIMPANI	47	0	32	N	-
148	ENSEMBLE	ORCHESTRA STRINGS 1	48	0	32	N	-
149		ORCHESTRA STRINGS 2	49	0	32	N	-
150		SAW.SYNTH-STRINGS 1	50	0	32	N	-
151		SAW.SYNTH-STRINGS 2	51	0	32	N	-
152		VOICE AHH	52	0	32	N	-
153		VOCAL DOO	53	0	32	N	-
154		SYNTH-VOX	54	0	32	N	-
155		ORCHESTRA HIT GM	55	0	16	N	-
156	BRASS	TRUMPET GM	56	0	32	N	-
157		TROMBONE OCT	57	0	32	N	-
158		TUBA OCT	58	0	32	N	-
159		MUTE TRUMPET GM	59	0	32	N	-
160		FRENCH HORN OCT	60	0	16	N	-
161		BRASS	61	0	32	N	-
162		SYNTH-BRASS 1	62	0	32	N	-
163		SYNTH-BRASS 2	63	0	16	N	-
164	REED	SOPRANO SAX GM	64	0	32	N	-
165		ALTO SAX OCT	65	0	32	N	-
166		TENOR SAX OCT	66	0	32	N	-
167		BARITONE SAX OCT	67	0	32	N	-

GM Tones (continued)

No.	Tone Group	Tone Name	Program Change	Bank Select MSB	Maximum Polyphony	Range Type	DSP Type
168		OBOE GM	68	0	32	N	-
169		ENGLISH HORN	69	0	32	N	-
170		BASSOON	70	0	32	N	-
171		CLARINET GM	71	0	32	N	-
172	PIPE	PICCOLO OCT	72	0	32	N	-
173		FLUTE GM	73	0	32	N	-
174		RECORDER GM	74	0	32	N	-
175		PAN FLUTE GM	75	0	32	N	-
176		BOTTLE BLOW	76	0	16	N	-
177		SHAKUHACHI	77	0	16	N	-
178		WHISTLE GM	78	0	32	N	-
179		OCARINA	79	0	32	N	-
180	SYNTH-LEAD	SQUARE WAVE	80	0	16	N	-
181		SAWTOOTH WAVE	81	0	16	N	-
182		CALLIOPE LEAD	82	0	16	N	-
183		CHIFF LEAD	83	0	16	N	-
184		CHARANG	84	0	16	N	-
185		SOLO VOX	85	0	16	N	-
186		FIFTH SAW	86	0	16	N	-
187		BASS LEAD	87	0	16	N	-
188	SYNTH-PAD	NEW AGE	88	0	16	N	-
189		WARM SYNTH	89	0	32	N	-
190		POLYSYNTH GM	90	0	16	N	-
191		SPACE CHOIR	91	0	16	N	-
192		BOWED PAD	92	0	16	N	-
193		METAL PAD	93	0	16	N	-
194		HALO SYNTH	94	0	16	N	-
195		SWEEP SYNTH	95	0	32	N	-
196	SYNTH-SFX	RAIN PAD	96	0	16	N	-
197		SOUND TRACK	97	0	16	N	-
198		CRYSTAL PAD	98	0	16	N	-
199		ATMOSPHERE PAD	99	0	16	N	-
200		BRIGHT PAD	100	0	16	N	-
201		GOBLINS	101	0	16	N	-
202		ECHOES	102	0	32	N	-
203		SF	103	0	16	N	-
204	ETHNIC	SITAR	104	0	16	N	-
205		BANJO GM	105	0	32	N	-
206		SHAMISEN	106	0	32	N	-
207		KOTO	107	0	32	N	-
208		THUMB PIANO	108	0	32	N	-
209		BAG PIPE	109	0	16	N	-
210		FIDDLE	110	0	32	N	-
211		SHANAI	111	0	32	N	-
212		TINKLE BELL	112	0	32	N	-
213	PERCUSSIVE	AGOGO	113	0	32	N	-
214		STEEL DRUMS	114	0	16	N	-
215		WOOD BLOCK	115	0	32	1/2	-
216		TAIKO	116	0	32	1/2	-
217		MELODIC TOM	117	0	32	1/2	-
218		SYNTH-DRUM	118	0	32	1/2	-
219		REVERSE CYMBAL	119	0	32	1/2	-
220	SOUND EFFECTS	GT FRET NOISE	120	0	32	N	-
221		BREATH NOISE	121	0	32	N	-
222		SEASHORE	122	0	16	1/4	-
223		BIRD	123	0	16	1/4	-
224		TELEPHONE	124	0	32	1/4	-
225		HELICOPTER	125	0	32	1/4	-
226		APPLAUSE	126	0	16	1/4	-
227		GUNSHOT	127	0	32	N	-

❙ NOTE

Range

Symbol	Meaning
N	Normal
-1	1 Octave Down
-2	2 Octave Down
1	1 Octave Up
2	2 Octave Up
1/2	1/2 Octave
1/4	1/4 Octave

DRUM SOUNDS

No.	Tone Group	Tone Name	Program Change	Bank Select MSB
228		STANDARD SET 1	0	120
229		STANDARD SET 2	1	120
230		ROOM SET	8	120
231		POWER SET	16	120
232		ELECTRONIC SET	24	120
233		SYNTH SET 1	25	120
234		SYNTH SET 2	30	120
235		JAZZ SET	32	120
236		BRUSH SET	40	120
237		ORCHESTRA SET	48	120

USER TONES

No.	Tone Group	Tone Name	Program Change	Bank Select MSB
238		User 01	0	71
239		User 02	1	71
240		User 03	2	71
241		User 04	3	71
242		User 05	4	71
243		User 06	5	71
244		User 07	6	71
245		User 08	7	71
246		User 09	8	71
247		User 10	9	71

Tone List

Tone List

Program Change No. / Drum Set Name

Key/Note number	#	0: STANDARD SET 1	1: STANDARD SET 2	8: ROOM SET	16: POWER SET	24: ELEC SET	25: SYNTH 1	30: SYNTH 2	32: JAZZ SET	40: BRUSH SET	48: ORCHESTRA SET
Eb1	27	HIGH Q	↓	↓	↓	↓	↓	↓	↓	↓	CLOSED HI-HAT
E1	28	SLAP	↓	↓	↓	↓	↓	↓	↓	↓	PEDAL HI-HAT
F1	29	SCRATCH PUSH	↓	↓	↓	↓	↓	↓	↓	↓	OPEN HI-HAT
F#1	30	SCRATCH PULL	↓	↓	↓	↓	↓	↓	↓	↓	RIDE CYMBAL 1
G1	31	STICKS	↓	↓	↓	↓	↓	↓	↓	↓	↓
Ab1	32	SQUARE CLICK	↓	↓	↓	↓	↓	↓	↓	↓	↓
A1	33	METRONOME CLICK	↓	↓	↓	↓	↓	↓	↓	↓	↓
Bb1	34	METRONOME BELL	↓	↓	↓	↓	↓	↓	↓	↓	↓
B1	35	STANDARD 1 KICK 2	STANDARD 2 KICK 2	ROOM KICK 2	POWER KICK 2	ELEC KICK 2	SYNTH 1 KICK 1	SYNTH 2 KICK 1	JAZZ KICK 2	JAZZ KICK 2	JAZZ KICK 1
C2	36	STANDARD 1 KICK 1	STANDARD 2 KICK 1	ROOM KICK 1	POWER KICK 1	ELEC KICK 1	SYNTH 1 KICK 2	SYNTH 2 KICK 2	JAZZ KICK 1	JAZZ KICK 1	CONCERT BASS DRUM
C#2	37	SIDE STICK	↓	↓	↓	↓	SYNTH 1 RIM SHOT	↓	↓	↓	↓
D2	38	STANDARD 1 SNARE 1	STANDARD 1 SNARE 1	ROOM SNARE 1	POWER SNARE 1	ELEC SNARE 1	SYNTH 1 SNARE 1	SYNTH 2 SNARE 1	JAZZ SNARE 1	BRUSH TAP	CONCERT SNARE
Eb2	39	HAND CLAP	SYNTH HAND CLAP	↓	↓	↓	SYNTH HAND CLAP	↓	↓	BRUSH SLAP	CASTANETS
E2	40	STANDARD 1 SNARE 2	STANDARD 1 SNARE 2	ROOM SNARE 2	POWER SNARE 2	ELEC SNARE 2	SYNTH 1 SNARE 2	SYNTH 2 SNARE 2	JAZZ SNARE 2	BRUSH SWIRL	CONCERT SNARE
F2	41	LOW TOM 2	↓	ROOM LOW TOM 2	ROOM LOW TOM 2	ELEC LOW TOM 2	SYNTH 1 LOW TOM 2	↓	↓	↓	TIMPANI F
F#2	42	CLOSED HI-HAT	↓	↓	↓	↓	SYNTH 1 CHH 1	↓	↓	↓	TIMPANI F#
G2	43	LOW TOM 1	↓	ROOM LOW TOM 1	ROOM LOW TOM 1	ELEC LOW TOM 1	SYNTH 1 LOW TOM 1	↓	↓	↓	TIMPANI G
Ab2	44	PEDAL HI-HAT	↓	↓	↓	↓	SYNTH 1 CHH 2	↓	↓	↓	TIMPANI Ab
A2	45	MID TOM 2	↓	ROOM MID TOM 2	ROOM MID TOM 2	ELEC MID TOM 2	SYNTH 1 MID TOM 2	↓	↓	↓	TIMPANI A
Bb2	46	OPEN HI-HAT	↓	↓	↓	↓	SYNTH 1 OHH	↓	↓	↓	TIMPANI Bb
B2	47	MID TOM 1	↓	ROOM MID TOM 1	ROOM MID TOM 1	ELEC MID TOM 1	SYNTH 1 MID TOM 1	↓	↓	↓	TIMPANI B
C3	48	HIGH TOM 2	↓	ROOM HI TOM 2	ROOM HI TOM 2	ELEC HI TOM 2	SYNTH 1 HI TOM 2	↓	↓	↓	TIMPANI C
C#3	49	CRASH CYMBAL 1	↓	↓	↓	↓	SYNTH 1 CYMBAL	↓	↓	↓	TIMPANI C#
D3	50	HIGH TOM 1	↓	ROOM HI TOM 1	ROOM HI TOM 1	ELEC HI TOM 1	SYNTH 1 HI TOM 1	↓	↓	↓	TIMPANI D
Eb3	51	RIDE CYMBAL 1	↓	↓	↓	↓	↓	↓	↓	↓	TIMPANI Eb
E3	52	CHINESE CYMBAL	↓	↓	↓	REVERSE CYMBAL	↓	↓	↓	↓	TIMPANI E
F3	53	RIDE BELL	↓	↓	↓	↓	↓	↓	↓	↓	TIMPANI F
F#3	54	TAMBOURINE	↓	↓	↓	↓	↓	↓	↓	↓	↓
G3	55	SPLASH CYMBAL	↓	↓	↓	↓	↓	↓	↓	↓	↓
Ab3	56	COWBELL	↓	↓	↓	↓	SYNTH 1 COWBELL	SYNTH 1 COWBELL	↓	↓	↓
A3	57	CRASH CYMBAL 2	↓	↓	↓	↓	↓	↓	↓	↓	CONCERT CYMBAL 2
Bb3	58	VIBRA-SLAP	↓	↓	↓	↓	↓	↓	↓	↓	↓
B3	59	RIDE CYMBAL 2	↓	↓	↓	↓	↓	↓	↓	↓	CONCERT CYMBAL 1
C4	60	HIGH BONGO	↓	↓	↓	↓	↓	↓	↓	↓	↓
C#4	61	LOW BONGO	↓	↓	↓	↓	↓	↓	↓	↓	↓
D4	62	MUTE HIGH CONGA	↓	↓	↓	↓	SYNTH 1 HIGH CONGA	SYNTH 1 HIGH CONGA	↓	↓	↓
Eb4	63	OPEN HIGH CONGA	↓	↓	↓	↓	SYNTH 1 MID CONGA	SYNTH 1 MID CONGA	↓	↓	↓
E4	64	LOW CONGA	↓	↓	↓	↓	SYNTH 1 LOW CONGA	SYNTH 1 LOW CONGA	↓	↓	↓
F4	65	HIGH TIMBALE	↓	↓	↓	↓	↓	↓	↓	↓	↓
F#4	66	LOW TIMBALE	↓	↓	↓	↓	↓	↓	↓	↓	↓
G4	67	HIGH AGOGO	↓	↓	↓	↓	↓	↓	↓	↓	↓
Ab4	68	LOW AGOGO	↓	↓	↓	↓	↓	↓	↓	↓	↓
A4	69	CABASA	↓	↓	↓	↓	↓	↓	↓	↓	↓
Bb4	70	MARACAS	↓	↓	↓	↓	SYNTH 1 MARACAS	SYNTH 1 MARACAS	↓	↓	↓
B4	71	SHORT HI WHISTLE	↓	↓	↓	↓	↓	↓	↓	↓	↓
C5	72	LONG LOW WHISTLE	↓	↓	↓	↓	↓	↓	↓	↓	↓
C#5	73	SHORT GUIRO	↓	↓	↓	↓	↓	↓	↓	↓	↓
D5	74	LONG GUIRO	↓	↓	↓	↓	↓	↓	↓	↓	↓
Eb5	75	CLAVES	↓	↓	↓	↓	SYNTH 1 CLAVES	SYNTH 1 CLAVES	↓	↓	↓
E5	76	HIGH WOOD BLOCK	↓	↓	↓	↓	↓	↓	↓	↓	↓
F5	77	LOW WOOD BLOCK	↓	↓	↓	↓	↓	↓	↓	↓	↓
F#5	78	MUTE CUICA	↓	↓	↓	↓	↓	↓	↓	↓	↓
G5	79	OPEN CUICA	↓	↓	↓	↓	↓	↓	↓	↓	↓
Ab5	80	MUTE TRIANGLE	↓	↓	↓	↓	↓	↓	↓	↓	↓
A5	81	OPEN TRIANGLE	↓	↓	↓	↓	↓	↓	↓	↓	↓
Bb5	82	SHAKER	↓	↓	↓	↓	↓	↓	↓	↓	↓
B5	83	JINGLE BELL	↓	↓	↓	↓	↓	↓	↓	↓	↓
C6	84	BELL TREE	↓	↓	↓	↓	↓	↓	↓	↓	↓
C#6	85	CASTANETS	↓	↓	↓	↓	↓	↓	↓	↓	↓
D6	86	MUTE SURDO	↓	↓	↓	↓	↓	↓	↓	↓	↓
Eb6	87	OPEN SURDO	↓	↓	↓	↓	↓	↓	↓	↓	↓
E6	88	APPLAUSE	↓	↓	↓	↓	↓	↓	↓	↓	↓

FINGERED CHORD CHART

The upper table has columns: aug, sus4, 7sus4, m add9, mM7, 7⁻⁵ (7^{-5}), add9, with rows by Root: C, C#/(D♭), D, (D#)/E♭, E, F, F#/(G♭), G, (G#)/A♭, A, (A#)/B♭, B.

The lower table has columns: M, m, 7, m7, dim7, M7, m7⁻⁵ ($m7^{-5}$), dim, with rows by Root: C, C#/(D♭), D, (D#)/E♭, E, F, F#/(G♭), G, (G#)/A♭, A, (A#)/B♭, B.

※ marks appear in:
- aug column: rows A and B
- dim7 column: rows A, (A#)/B♭, and B

※ : You can change the keyboard range of dim7 chords for roots A, B♭, and B, and aug chords for roots A, B♭, and B by adjusting the split point setting.

EFFECT LIST

REVERB

No.	Display Name	Type Name
00	Room 1	Room 1
01	Room 2	Room 2
02	Room 3	Room 3
03	Hall 1	Hall 1
04	Hall 2	Hall 2
05	Plate 1	Plate 1
06	Delay	Delay
07	PanDelay	Pan Delay
08	Plate 2	Plate 2
09	Plate 3	Plate 3
10	LrgRoom 1	Large Room 1
11	LrgRoom 2	Large Room 2
12	Stadium 1	Stadium 1
13	Stadium 2	Stadium 2
14	LongDly 1	Long Delay 1
15	LongDly 2	Long Delay 2

CHORUS

No.	Display Name	Type Name
00	Chorus 1	Chorus 1
01	Chorus 2	Chorus 2
02	Chorus 3	Chorus 3
03	Chorus 4	Chorus 4
04	FBChorus	Feedback Chorus
05	Flanger1	Flanger 1
06	SDelay 1	Short Delay 1
07	SDelay 2	Short Delay 2
08	SFChorus	Soft Chorus
09	BRChorus	Bright Chorus
10	DPChorus	Deep Chorus
11	Flanger 2	Flanger 2
12	Flanger 3	Flanger 3
13	Flanger 4	Flanger 4
14	SDelay 3	Short Delay 3
15	SDelay 4	Short Delay 4

DSP

Settable parameters depend on the DSP type. Also, the parameters for each DSP type depend on the algorithm* associated with the DSP type. See the DSP Algorithm List for more information.

* Effector structure and operation type

DSP No.	Algorithm ID	Display Name	DSP Name
Dynamics Fx			
[00]	03	Equalize	Equalizer
[01]	06	Comp 1	Compressor 1
[02]	06	Comp 2	Compressor 2
[03]	07	Limiter	Limiter
[04]	13	Enhancer	Enhancer
Phaser			
[05]	10	Phaser	Phaser
[06]	09	StPhaser	Stereo Phaser
Chorus			
[07]	16	Chorus 1	Chorus 1
[08]	17	Chorus 2	Chorus 2
[09]	19	Chorus 3	Chorus 3
[10]	18	Chorus 4	Chorus 4
[11]	M05	Enha Cho	Enhancer - Chorus

DSP No.	Algorithm ID	Display Name	DSP Name
[67]	08	Dist 2	Distortion 2
[68]	08	Metal	Metal
[69]	08	Fuzz	Fuzz
[70]	M29	CrnPhase	Crunch - Phaser
[71]	M29	Od Phase	Overdrive - Phaser
[72]	M30	Crn Cho	Crunch - Chorus
[73]	M30	OdChorus	Overdrive - Chorus
[74]	M30	Dist Cho	Distortion - Chorus
[75]	M30	MetalCho	Metal - Chorus
[76]	M31	DistFlan	Distortion - Flanger
[77]	M31	Met Flan	Metal - Flanger
[78]	M28	CrnDelay	Crunch - Delay
[79]	M28	Od Delay	Overdrive - Delay
[80]	M28	DistDly 1	Distortion - Delay 1
[81]	M28	DistDly 2	Distortion - Delay 2
[82]	M28	MetalDly	Metal - Delay
[83]	M28	Fuzz Dly	Fuzz - Delay
[84]	M24	CrChoDly	Crunch - Chorus - Delay
[85]	M24	DsChoDly	Distortion - Chorus - Delay
[86]	M25	CmpCrDly	Compressor - Crunch - Delay
[87]	M26	AWhCrDly	Auto Wah - Crunch - Delay
[88]	M26	AWhOdDly	Auto Wah - Overdrive - Delay
[89]	M26	AWhDsDly	Auto Wah - Distortion - Delay
[90]	M27	LWhOdDly	LFO Wah - Overdrive - Delay
[91]	M27	LWhDsDly	LFO Wah - Distortion - Delay

SFX

DSP No.	Algorithm ID	Display Name	DSP Name
[92]	14	Ring Mod	Ring Modulator
[93]	M12	RgChoDly	Ring Modulator - Chorus - Delay
[94]	M13	RingDist	Ring Modulator - Chorus - Distortion
[95]	15	Lo-Fi	Lo-Fi
[96]	M11	CompLoFi	Compressor - Lo-Fi
[97]	M14	LoFi Ref	Lo-Fi - Reflection
[98]	M15	Crn LoFi	Crunch - Lo-Fi
[99]	M15	DistLoFi	Distortion - Lo-Fi

DSP No.	Algorithm ID	Display Name	DSP Name
[40]	23	GateRvb 1	Gate Reverb 1
[41]	23	GateRvb 2	Gate Reverb 2
[42]	24	GateRvb 3	Gate Reverb 3
[43]	24	GateRvb 4	Gate Reverb 4

Pan/Tremolo Fx

DSP No.	Algorithm ID	Display Name	DSP Name
[44]	01	Tremolo	Tremolo
[45]	M09	Cho Trem	Chorus - Tremolo
[46]	00	Auto Pan	Auto Pan
[47]	M10	PhaAPan 1	Phaser - Auto Pan 1
[48]	M10	PhaAPan 2	Phaser - Auto Pan 2
[49]	M20	PhaChoAP	Phaser - Chorus - Auto Pan

Rotary Fx

DSP No.	Algorithm ID	Display Name	DSP Name
[50]	11	Rotary 1	Rotary 1
[51]	11	Rotary 2	Rotary 2
[52]	12	Od Rot 1	Overdrive - Rotary 1
[53]	12	Od Rot 2	Overdrive - Rotary 2
[54]	M17	RotRef 1	Rotary - Reflection 1
[55]	M17	RotRef 2	Rotary - Reflection 2
[56]	M17	RotRef 3	Rotary - Reflection 3
[57]	M16	OdRtRef 1	Overdrive - Rotary - Reflection 1
[58]	M16	OdRtRef 2	Overdrive - Rotary - Reflection 2
[59]	M16	OdRtRef 3	Overdrive - Rotary - Reflection 3

Wah Fx

DSP No.	Algorithm ID	Display Name	DSP Name
[60]	04	LFO Wah	LFO Wah
[61]	05	Auto Wah	Auto Wah
[62]	M21	AWhChDly	Auto Wah - Chorus - Delay
[63]	M22	LWhChDly	LFO Wah - Chorus - Delay

Guitar Fx

DSP No.	Algorithm ID	Display Name	DSP Name
[64]	08	Crunch	Crunch
[65]	08	Ovrdrive	Overdrive
[66]	08	Dist 1	Distortion 1

Flanger

DSP No.	Algorithm ID	Display Name	DSP Name
[12]	26	Flanger	Flanger
[13]	M07	EnhaFlan	Enhancer - Flanger

Delay

DSP No.	Algorithm ID	Display Name	DSP Name
[14]	28	Delay	Delay
[15]	22	3Tap Dly	3-Tap Delay
[16]	20	St Delay	Stereo Delay
[17]	21	StXDelay	Stereo Cross Delay
[18]	M06	Enha Dly	Enhancer - Delay
[19]	25	Reflect	Reflection

Cho/Flanger/Delay Combination

DSP No.	Algorithm ID	Display Name	DSP Name
[20]	M02	PhaCho 1	Phaser - Chorus 1
[21]	M02	PhaCho 2	Phaser - Chorus 2
[22]	M04	PhaDly 1	Phaser - Delay 1
[23]	M04	PhaDly 2	Phaser - Delay 2
[24]	M00	ChoDly 1	Chorus - Delay 1
[25]	M00	ChoDly 2	Chorus - Delay 2
[26]	M01	ChoDly 3	Chorus - Delay 3
[27]	M01	ChoDly 4	Chorus - Delay 4
[28]	M19	CmpDelay	Compressor - Delay
[29]	M18	CmpEnDly	Compressor - Enhancer -Delay
[30]	M23	CmpChoRf	Compressor - Chorus -Reflection
[31]	M08	Cho Flan	Chorus - Flanger
[32]	M03	FlanDly 1	Flanger - Delay 1
[33]	M03	FlanDly 2	Flanger - Delay 2

Reverb

DSP No.	Algorithm ID	Display Name	DSP Name
[34]	27	RvbRoom1	Reverb Room 1
[35]	27	RvbRoom2	Reverb Room 2
[36]	27	RvbRoom3	Reverb Room 3
[37]	27	RvbHall 1	Reverb Hall 1
[38]	27	RvbHall 2	Reverb Hall 2
[39]	27	RvbPlate	Reverb Plate

Effect List

DSP Algorithm List

Number	Name	Function	Parameters
00	Auto Pan	Continually performs left-right panning of the input signal in accordance with an LFO.	0: Rate (0 to 127) – Adjusts the panning rate. 1: Depth (0 to 127) – Adjusts the panning depth.
01	Tremolo	– Adjusts volume of input signal in accordance with an LFO.	0: Rate (0 to 127) – Adjusts the tremolo rate. 1: Depth (0 to 127) – Adjusts the tremolo depth.
02	2BandEQ	This is a two-band equalizer.	0: Low Frequency [0 (200Hz), 1 (400Hz), 2 (800Hz)] – Adjusts the cutoff frequency of the low-band equalizer. 1: Low Gain (-12, -11, -10 to +10, +11, +12) – Adjusts the gain of the low-band equalizer. 2: High Frequency [0 (6.0kHz), 1 (8.0kHz), 2 (10kHz)] – Adjusts the cutoff frequency of the high-band equalizer. 3: High Gain (-12, -11, -10 to +10, +11, +12) – Adjusts the gain of the high-band equalizer.
03	3BandEQ	This is a three-band equalizer.	0: Low Frequency [0 (200Hz), 1 (400Hz), 2 (800Hz)] – Adjusts the cutoff frequency of the low-band equalizer. 1: Low Gain (-12, -11, -10 to +10, +11, +12) – Adjusts the gain of the low-band equalizer. 2: Mid Frequency [0 (1.0kHz), 1 (1.3kHz), 2 (1.6kHz), 3 (2.0kHz), 4 (3.0kHz), 5 (4.0kHz), 6 (6.0kHz), 7 (8.0kHz)] – Adjusts the center frequency of the mid-band equalizer. 3: Mid Gain (-12, -11, -10 to +10, +11, +12) – Adjusts the gain of the mid-band equalizer. 4: High Frequency [0 (6.0kHz), 1 (8.0kHz), 2 (10kHz)] – Adjusts the cutoff frequency of the high-band equalizer. 5: High Gain (-12, -11, -10 to +10, +11, +12) – Adjusts the gain of the high-band equalizer.
04	LFO Wah	This is a "wah" effect that can automatically affect the frequency in accordance with an LFO.	0: Input Level (0 to 127) – Adjusts the input level. The input signal can become distorted when the level of the sound being input, the number of chords, or the resonance value is large. Adjust this parameter to eliminate such distortion. 1: Resonance (0 to 127) – Adjusts the resonance of the sound. 2: Manual (0 to 127) – Adjusts the frequency used as the basis for the wah filter. 3: LFO Rate (0 to 127) – Adjusts the rate of the LFO. 4: LFO Depth (0 to 127) – Adjusts the depth of the LFO.
05	Auto Wah	This is a "wah" effect that can automatically affect the frequency in accordance with the level of the input signal.	0: Input Level (0 to 127) – Adjusts the input level. The input signal can become distorted when the level of the sound being input, the number of chords, or the Resonance value is large. Adjust this parameter to eliminate such distortion. 1: Resonance (0 to 127) – Adjusts the resonance of the sound. 2: Manual (0 to 127) – Adjusts the frequency used as the basis for the wah filter. 3: Depth (-64 to 0 to +63) – Adjusts the depth of the wah in accordance with the level of the input signal. Setting a positive value causes the wah filter to open in direct proportion with the size of the input signal, producing a bright sound. Setting a negative value causes the Wah filter to close in accordance with the size of the input signal, which produces a dark tone quality. However, large input re-opens the Wah filter, even if it is closed.
06	Compressor	Compresses the input signal, which can suppress level variation and make it possible to sustain dampened sounds longer.	0: Depth (0 to 127) – Adjusts compression of the audio signal. 1: Attack (0 to 127) – Adjusts the attack amount of the input signal. A smaller value causes prompt compressor operation, which suppresses the attack of the input signal. A larger values delays compressor operation, which causes attack to be output as-is. 2: Release (0 to 127) – Adjusts the time from the point when the input signal drops below a certain level until the compression operation is stopped. When an attack feeling is desired (no compression at the onset of the sound), set this parameter to as low a value as possible. To apply compression at all times, set a high value. 3: Level (0 to 127) – Adjusts the output level. The output volume changes in accordance with the Depth setting and the characteristics of the input tone. Use this parameter to correct for such changes.
07	Limiter	This is an effector that you can use to set an upper limit value on the level of the input signal.	0: Limit (0 to 127) – Adjusts the volume level from which the limit is applied. 1: Attack (0 to 127) – Adjusts the attack amount of the input signal. 2: Release (0 to 127) – Adjusts the time from when the input signal drops below a certain level until the limit operation stops. 3: Level (0 to 127) – Adjusts the level being output. The output volume changes in accordance with the Limit setting and the characteristics of the input tone. Use this parameter to correct for such changes.
08	Distortion	This effect provides Distortion + AmpSimulator.	0: Gain (0 to 127) – Adjusts the input gain. 1: Low (0 to 127) – Adjusts the low-band gain. The cutoff frequency differs according to the preset DSP. 2: High (0 to 127) – Adjusts the high-band gain. The cutoff frequency differs according to the preset DSP. 3: Level (0 to 127) – Adjusts the output level.

Number	Name	Function	Parameters
09	Stereo Phaser	This is a stereo phaser that modulates the phase in accordance with a sine wave LFO.	0: Resonance (0 to 127) – Adjusts the resonance of the sound. 1: Manual (-64 to 0 to +63) – Adjusts the phaser shift volume, which is used for reference. 2: Rate (0 to 127) – Adjusts the rate of the LFO. 3: Depth (0 to 127) – Adjusts the depth of the LFO. 4: Wet Level (0 to 127) – Adjusts the volume level of the effect.
10	Phaser	This is a monaural phaser that modulates the phase in accordance with a sine wave LFO.	0: Resonance (0 to 127) – Adjusts the resonance of the sound. 1: Manual (-64 to 0 to +63) – Adjusts the phaser shift volume, which is used for reference. 2: Rate (0 to 127) – Adjusts the rate of the LFO. 3: Depth (0 to 127) – Adjusts the depth of the LFO. 4: Wet Level (0 to 127) – Adjusts the level of the effect sound.
11	Rotary	This is a rotary speaker simulator.	0: Speed (Slow, Fast) Switches the speed mode between fast and slow. 1: Break (Rotate, Stop) Stops speaker rotation. 2: Fall Accel (0 to 127) – Adjusts acceleration when the speed mode is switched from fast to slow. 3: Rise Accel (0 to 127) – Adjusts acceleration when the speed mode is switched from slow to fast. 4: Slow Rate (0 to 127) – Adjusts speaker rotation speed in the slow speed mode. 5: Fast Rate (0 to 127) – Adjusts speaker rotation speed in the fast speed mode.
12	Drive Rotary	This is an overdrive-rotary speaker simulator.	0: Overdrive Gain (0 to 127) – Adjusts overdrive gain. 1: Overdrive Level (0 to 127) – Adjusts the output level of the overdrive. 2: Speed (Slow, Fast) Switches the speed mode between fast and slow. 3: Break (Rotate, Stop) Stops speaker rotation. 4: Fall Accel (0 to 127) – Adjusts acceleration when the speed mode is switched from fast to slow. 5: Rise Accel (0 to 127) – Adjusts acceleration when the speed mode is switched from slow to fast. 6: Slow Rate (0 to 127) – Adjusts speaker rotation speed of the slow speed mode. 7: Fast Rate (0 to 127) – Adjusts speaker rotation speed of the fast speed mode.
13	Enhancer	Enhances the outlines of the low range and high range of the input signal.	0: Low Frequency (0 to 127) – Adjusts the low range enhancer frequency. 1: Low Gain (0 to 127) – Adjusts the low range enhancer gain. 2: High Frequency (0 to 127) – Adjusts the high range enhancer frequency. 3: High Gain (0 to 127) – Adjusts the high range enhancer gain.
14	Ring Modulator	This is a ring modulator (AM modulator) that makes it possible to modulate the frequency of internal oscillator (OSC) in accordance with an internal LFO.	0: OSC Frequency (0 to 127) Sets the reference frequency of the internal OSC. 1: LFO Rate (0 to 127) – Adjusts the rate of the LFO. 2: LFO Depth (0 to 127) – Adjusts the depth of the LFO. 3: Wet Level (0 to 127) – Adjusts the level of the effect sound. 4: Dry Level (0 to 127) – Adjusts the level of the original sound.
15	Lo-Fi	This is an effector that reproduces a retro-type Lo-Fi sound using Noise Generator 1 (phonograph record player type scratch noise generator) and Noise Generator 2 (FM radio type white noise and pink noise continuous noise generator), and by using noise modulation (amplitude modulation = AM) and distortion of frequency characteristics.	0: Noise Level 1 (0 to 127) – Adjusts the level of Noise Generator 1. 1: Noise Density 1 (0 to 127) – Adjusts the noise density of Noise Generator 1. 2: Noise Level 2 (0 to 127) – Adjusts the level of Noise Generator 2. 3: Noise Density 2 (0 to 127) – Adjusts the noise density of Noise Generator 2. 4: Tone (0 to 127) – Adjusts the tone. 5: Resonance (0 to 127) – Adjusts the resonance of the sound. 6: Bass (-64 to 0 to +63) – Adjusts the volume of low sounds. 7: Level (0 to 127) – Adjusts the output level.
16	1-Phase Chorus	This is a monaural chorus in accordance with a sine wave LFO.	0: LFO Rate (0 to 127) – Adjusts the rate of the LFO. 1: LFO Depth (0 to 127) – Adjusts the depth of the LFO. 2: Feedback (-64 to 0 to +63) – Adjusts the feedback of the sound. 3: Wet Level (0 to 127) – – Adjusts the level of the effect sound.
17	Sin 2-Phase Chorus	This is a stereo chorus in accordance with a sine wave LFO.	0: LFO Rate (0 to 127) – – Adjusts the rate of the LFO. 1: LFO Depth (0 to 127) – Adjusts the depth of the LFO. 2: Feedback (-64 to 0 to +63) – Adjusts the feedback of the sound. 3: Wet Level (0 to 127) – Adjusts the level of the effect sound.
18	3-Phase Chorus	This is a 3-phase chorus in accordance with two LFOs of with different sine wave rates.	0: Rate1 (Fast LFO Rate, 0 to 127) – Adjusts the rate of LFO1. 1: Depth1 (Fast LFO Depth, 0 to 127) – Adjusts the depth of LFO1. 2: Rate2 (Slow LFO Rate, 0 to 127) – Adjusts the rate of LFO2. 3: Depth2 (Slow LFO Depth, 0 to 127) – Adjusts the depth of LFO2. 4: Wet Level (0 to 127 – Adjusts the level of the effect sound.
19	Tri 2-Phase Chorus	This is a stereo chorus in accordance with triangular wave LFO.	0: LFO Rate (0 to 127) – Adjusts the rate of the LFO. 1: LFO Depth (0 to 127) – Adjusts the depth of the LFO. 2: Feedback (-64 to +63) – Adjusts the feedback of the sound. 3: Wet Level (0 to 127) – Adjusts the level of the effect sound.
20	Stereo Delay 1	This is a delay of stereo input and output.	0: Delay Time (0 to 127) – Adjusts the delay time. 1: Wet Level (0 to 127) – Adjusts the level of the effect sound. 2: Feedback (0 to 127) – Adjusts the repeat of the delay. 3: High Damp (0 to 127) – Adjusts damping of the high-range delay sound. The smaller the value, the greater the damping of high-range delay sound. 4: Ratio L (0 to 127) – Adjusts the delay time of the left channel, proportional to the value set for Delay Time. 5: Ratio R (0 to 127) – Adjusts the delay time of the right channel, proportional to the value set for Delay Time.

Effect List

Number	Name	Function	Parameters
21	Stereo Delay 2	This is a cross feedback delay of stereo input and output.	0: Delay Time (0 to 127) – Adjusts the delay time. 1: Wet Level (0 to 127) – Adjusts the level of the effect sound. 2: Feedback (0 to 127) – Adjusts the repeat of the delay. 3: High Damp (0 to 127) – Adjusts damping of the high-range delay sound. The smaller the value, the greater the damping of high-range delay sound. 4: Ratio L (0 to 127) – Adjusts the delay time of the left channel, proportional to the value set for Delay Time. 5: Ratio R (0 to 127) – Adjusts the delay time of the right channel, proportional to the value set for Delay Time.
22	3-Tap Delay	This is left/center/right 3-tap delay.	0: Delay Time (0 to 127) – Adjusts the delay time. 1: Wet Level (0 to 127) – Adjusts the level of the effect sound. 2: Feedback (0 to 127) – Adjusts the repeat of the delay. 3: High Damp (0 to 127) – Adjusts damping of the high-range delay sound. The smaller the value, the greater the damping of high-range delay sound. 4: Ratio L (0 to 127) – Adjusts the delay time of the left channel. Proportional to the value set for Delay Time. 5: Ratio C (0 to 127) – Adjusts the delay time of the center channel. Proportional to the value set for Delay Time. 6: Ratio R (0 to 127) – Adjusts the delay time of the right channel. Proportional to the value set for Delay Time.
23	Gate Reverb	This is a fader that creates artificial reverb that sounds like it is being cut with a gate.	0: LPF (0 to 127) – Adjusts the cutoff frequency of the low-pass filter. A smaller value cuts the high range. 1: HPF (0 to 127) – Adjusts the cutoff frequency of the high-pass filter. A larger value cuts the low range. 2: Feedback (0 to 127) – Adjusts the repeat of the reverb. 3: High Damp (0 to 127) – Adjusts damping of the high-range delay sound. The smaller the value, the greater the damping of high-range delay sound. 4: Diffusion (0 to 127) Provides fine adjustment of the reverb. 5: Wet Level (0 to 127) – Adjusts the level of the effect sound. 6: Dry Level (0 to 127) – Adjusts the level of the original sound.
24	Reverse Gate Reverb	This is gate reverb with a reverse rotation effect.	0: LPF (0 to 127) – Adjusts the cutoff frequency of the low-pass filter. A smaller value cuts the high range. 1: HPF (0 to 127) – Adjusts the cutoff frequency of the high-pass filter. A larger value cuts the low range. 2: Feedback (0 to 127) – Adjusts the repeat of the reverb. 3: High Damp (0 to 127) – Adjusts damping of the high-range reverb sound. The smaller the value, the greater the damping of high-range reverb sound. 4: Diffusion (0 to 127) Provides fine adjustment of the reverb. 5: Wet Level (0 to 127) – Adjusts the level of the effect sound. 6: Dry Level (0 to 127) – Adjusts the level of the original sound.
25	Reflection	This is an effector that extracts the first reflected sound from a reverb sound.	0: Type (0 to 7) Selects from among the eight available reflection patterns. 1: Wet Level (0 to 127) – Adjusts the level of the effect sound. 2: Feedback (0 to 127) – Adjusts the repeat of the reflected sound. 3: Tone (0 to 127) – Adjusts the tone of the reflected sound.
26	Reflection	This is a flanger in accordance with a sine wave LFO.	0: LFO Rate (0 to 127) – Adjusts the rate of the LFO. 1: LFO Depth (0 to 127) – Adjusts the depth of the LFO. 2: Feedback (-64 to +63) – Adjusts the feedback of the sound. 3: Wet Level (0 to 127) – Adjusts the level of the effect sound.
27	Reverb	This is an effector that preserves the breadth of a sound by adding a reverb sound.	0: Tone (0 to 127) – Adjusts the tone of the reverb sound. 1: Time (0 to 127) – Adjusts the reverb time. 2: High Damp (0 to 127) – Adjusts damping of the high-range reverb sound. The smaller the value, the greater the damping of high-range reverb sound. 3: ER Level (0 to 127) – Adjusts the level of the initial reflection. 4: Wet Level (0 to 127) – Adjusts the level of the effect sound.
28	2-Tap Delay	This is left/right 2 tap delay.	0: Delay Time (0 to 127) – Adjusts the delay time. 1: Wet Level (0 to 127) – Adjusts the level of the effect sound. 2: Feedback (0 to 127) – Adjusts the repeat of the delay. 3: High Damp (0 to 127) – Adjusts damping of the high-range delay sound. The smaller the value, the greater the damping of high-range delay sound. 4: Ratio L (0 to 127) – Adjusts the delay time of the left channel, proportional to the value set for Delay Time. 5: Ratio R (0 to 127) – Adjusts the delay time of the right channel, proportional to the value set for Delay Time.

The following "Multi" algorithms are used in combination with the algorithms described previously in this section. Parameters are shared by both types of algorithms.

Number	Name	Function	Parameters
M00	Multi00 (Sin 2-Phase Chorus — 2-Tap Delay)	This is a multi effector that is related to Sin 2-Phase Chorus — 2-Tap Delay.	0: Chorus LFO Rate 1: Chorus LFO Depth 2: Chorus Feedback 3: Chorus Wet Level 4: Delay Time 5: Delay Wet Level 6: Delay Feedback 7: Delay High Damp
M01	Multi01 (3-Phase Chorus — 3-Tap Delay)	This is a multi effector that is related to 3-Phase Chorus — 3-Tap Delay.	0: Chorus Rate 1 1: Chorus Depth 1 2: Chorus Rate 2 3: Chorus Depth 2 4: Chorus Wet Level 5: Delay Time 6: Delay Wet Level 7: Delay Feedback
M02	Multi02 (Phaser — 3-Phase Chorus)	This is a multi effector that is related to Phaser — 3-Phase Chorus.	0: Phaser Resonance 1: Phaser Manual 2: Phaser Rate 3: Phaser Depth 4: Chorus Rate 1 5: Chorus Depth 1 6: Chorus Rate 2 7: Chorus Depth 2
M03	Multi03 (Flanger — 2-Tap Delay)	This is a multi effector that is related to Flanger — 2-Tap Delay.	0: Flanger LFO Rate 1: Flanger LFO Depth 2: Flanger Feedback 3: Flanger Wet Level 4: Delay Time 5: Delay Wet Level 6: Delay Feedback 7: Delay High Damp
M04	Multi04 (Stereo Phaser — Stereo Delay 1)	This is a multi effector that is related to Stereo Phaser — Stereo Delay 1.	0: Phaser Resonance 1: Phaser Manual 2: Phaser Rate 3: Phaser Depth 4: Phaser Wet Level 5: Delay Time 6: Delay Wet Level 7: Delay Feedback
M05	Multi05 (Enhancer — 1- Phase Chorus)	This is a multi effector related to Enhancer — 1- Phase Chorus.	0: Enhancer Low Frequency 1: Enhancer Low Gain 2: Enhancer High Frequency 3: Enhancer High Gain 4: Chorus LFO Rate 5: Chorus LFO Depth 6: Chorus Feedback 7: Chorus Wet Level
M06	Multi06 (Enhancer — 2- Tap Delay)	This is a multi effector that is related to Enhancer — 2-Tap Delay.	0: Enhancer Low Frequency 1: Enhancer Low Gain 2: Enhancer High Frequency 3: Enhancer High Gain 4: Delay Time 5: Delay Wet Level 6: Delay Feedback 7: Delay High Damp
M07	Multi07 (Enhancer — Flanger)	This is a multi effector related to Enhancer — Flanger.	0: Enhancer Low Frequency 1: Enhancer Low Gain 2: Enhancer High Frequency 3: Enhancer High Gain 4: Flanger LFO Rate 5: Flanger LFO Depth 6: Flanger Feedback 7: Flanger Wet Level

Number	Name	Function	Parameters
M08	Multi08 (Sin 2-Phase Chorus — Flanger)	This is a multi effector that is related to Sin 2-Phase Chorus — Flanger.	0: Chorus LFO Rate 1: Chorus LFO Depth 2: Chorus Feedback 3: Chorus Wet Level 4: Flanger LFO Rate 5: Flanger LFO Depth 6: Flanger Feedback 7: Flanger Wet Level
M09	Multi09 (Sin 2-Phase Chorus — Tremolo)	This is a multi effector that is related to Sin 2-Phase Chorus — Tremolo.	0: Chorus LFO Rate 1: Chorus LFO Depth 2: Chorus Feedback 3: Chorus Wet Level 4: Tremolo Rate 5: Tremolo Depth
M10	Multi10 (Stereo Phaser — Auto Pan)	This is a multi effector that is related to Stereo Phaser — Auto Pan.	0: Phaser Resonance 1: Phaser Manual 2: Phaser Rate 3: Phaser Depth 4: Phaser Wet Level 5: Auto Pan Rate 6: Auto Pan Depth
M11	Multi11 (Compressor — Lo- Fi)	This is a multi effector related to Compressor — Lo-Fi.	0: Compressor Depth 1: Compressor Attack 2: Compressor Level 3: Lo-Fi Noise 1 4: Lo-Fi Noise 2 5: Lo-Fi Tone 6: Lo-Fi Resonance 7: Lo-Fi Bass
M12	Multi12 (Ring Modulator — Sin 2-Phase Chorus — 2-Tap Delay)	This is a multi effector that is related to Ring Modulator — Sin 2-Phase Chorus.	0: Ring OSC Frequency 1: Ring LFO Rate 2: Ring LFO Depth 3: Ring Wet Level 4: Ring Dry Level 5: Chorus LFO Depth 6: Delay Time 7: Delay Wet Level
M13	Multi13 (Ring Modulator — Distortion)	This is a multi effector related to Ring Modulator — Distortion.	0: Ring OSC Frequency 1: Ring LFO Rate 2: Ring LFO Depth 3: Ring Wet Level 4: Ring Dry Level 5: Distortion Gain 6: Distortion Tone 7: Distortion Level
M14	Multi14 (Lo- Fi — Reflection)	This is a multi effector related to Lo-Fi — Reflection.	0: Lo-Fi Noise1 1: Lo- Fi Noise2 2: Lo- Fi Tone 3: Lo- Fi Resonance 4: Reflection Type 5: Reflection Wet Level 6: Reflection Feedback 7: Reflection Tone
M15	Multi15 (Distortion — Lo- Fi)	This is a multi effector related to Distortion — Lo- Fi.	0: Distortion Gain 1: Distortion Low 2: Distortion High 3: Distortion Level 4: Lo- Fi Noise1 5: Lo- Fi Noise2 6: Lo- Fi Tone 7: Lo- Fi Resonance
M16	Multi16 (Drive Rotary — Reflection)	This is a multi effector related to Drive Rotary — Reflection.	0: Drive Rotary Gain 1: Drive Rotary Level 2: Drive Rotary Speed 3: Drive Rotary Slow Rate 4: Drive Rotary Fast Rate 5: Reflection Wet Level 6: Reflection Feedback 7: Reflection Tone

Number	Name	Function	Parameters
M17	Multi17 (Rotary — Reflection)	This is a multi effector related to Rotary — Reflection.	0: Rotary Speed 1: Rotary Break 2: Rotary Slow Rate 3: Rotary Fast Rate 4: Reflection Wet Level 5: Reflection Feedback 6: Reflection Tone
M18	Multi18 (Compressor - Enhancer — 2-Tap Delay)	This is a multi effector that is related to Compressor - Enhancer — 2-Tap Delay.	0: Compressor Depth 1: Compressor Attack 2: Compressor Level 3: Enhancer Low Gain 4: Enhancer High Gain 5: Delay Time 6: Delay Wet Level 7: Delay Feedback
M19	Multi19 (Compressor — Stereo Delay 1)	This is a multi effector related to Compressor — Stereo Delay 1.	0: Compressor Depth 1: Compressor Attack 2: Compressor Release 3: Compressor Level 4: Delay Time 5: Delay Wet Level 6: Delay Feedback 7: Delay High Damp
M20	Multi20 (Phaser - 1-Phase Chorus — Auto Pan)	This is a multi effector that is related to Phaser - 1-Phase Chorus — Auto Pan.	0: Phaser Resonance 1: Phaser Manual 2: Phaser Rate 3: Phaser Depth 4: Chorus LFO Rate 5: Chorus LFO Depth 6: Auto Pan Rate 7: Auto Pan Depth
M21	Multi21 (Auto Wah - Tri 2 Phase Chorus — 2- Tap Delay)	This is a multi effector that is related to Auto Wah - Tri 2-Phase Chorus — 2-Tap Delay.	0: Wah Resonance 1: Wah Manual 2: Wah Depth 3: Chorus LFO Rate 4: Chorus LFO Depth 5: Delay Time 6: Delay Wet Level 7: Delay Feedback
M22	Multi22 (LFO Wah -Tri 2-Phase Chorus — 2- Tap Delay)	This is a multi effector that is related to LFO Wah - Tri 2-Phase Chorus — 2-Tap Delay.	0: Wah Resonance 1: Wah Manual 2: Wah LFO Rate 3: Wah LFO Depth 4: Chorus LFO Depth 5: Delay Time 6: Delay Wet Level 7: Delay Feedback
M23	Multi23 (Compressor - Sin 2-Phase Chorus — Reflection)	This is a multi effector that is related to Compressor - Sin 2-Phase Chorus — Reflection.	0: Compressor Depth 1: Compressor Attack 2: Compressor Level 3: Chorus LFO Rate 4: Chorus LFO Depth 5: Reflection Wet Level 6: Reflection Feedback 7: Reflection Tone
M24	Multi24 (Distortion - 1-Phase Chorus — 2-Tap Delay)	This is a multi effector that is related to Distortion - 1-Phase Chorus — 2- Tap Delay.	0: Distortion Gain 1: Distortion Low 2: Distortion High 3: Distortion Level 4: Chorus LFO Depth 5: Delay Time 6: Delay Wet Level 7: Delay Feedback
M25	Multi25 (Compressor - Distortion — 2-Tap Delay)	This is a multi effector that is related to Compressor - Distortion — 2-Tap Delay.	0: Compressor Depth 1: Distortion Gain 2: Distortion Low 3: Distortion High 4: Distortion Level 5: Delay Time 6: Delay Wet Level 7: Delay Feedback

Number	Name	Function	Parameters
M26	Multi26 (Auto Wah - Distortion — 2-Tap Delay)	This is a multi effector that is related to Auto Wah - Distortion — 2-Tap Delay.	0: Wah Manual 1: Wah Depth 2: Distortion Gain 3: Distortion Tone 4: Distortion Level 5: Delay Time 6: Delay Wet Level 7: Delay Feedback
M27	Multi27 (LFO Wah - Distortion — 2-Tap Delay)	This is a multi effector that is related to LFO Wah - Distortion — 2-Tap Delay.	0: Wah Manual 1: Wah LFO Rate 2: Wah LFO Depth 3: Distortion Gain 4: Distortion Level 5: Delay Time 6: Delay Wet Level 7: Delay Feedback
M28	Multi28 (Distortion — 3-Tap Delay)	This is a multi effector that is related to Distortion — 3-Tap Delay.	0: Distortion Gain 1: Distortion Low 2: Distortion High 3: Distortion Level 4: Delay Time 5: Delay Wet Level 6: Delay Feedback 7: Delay High Damp
M29	Multi29 (Distortion — Phaser)	This is a multi effector related to Distortion — Phaser.	0: Distortion Gain 1: Distortion Low 2: Distortion High 3: Distortion Level 4: Phaser Resonance 5: Phaser Manual 6: Phaser Rate 7: Phaser Depth
M30	Multi30 (Distortion — Sin 2-Phase Chorus)	This is a multi effector that is related to Distortion — Sin 2-Phase Chorus.	0: Distortion Gain 1: Distortion Low 2: Distortion High 3: Distortion Level 4: Chorus LFO Rate 5: Chorus LFO Depth 6: Chorus Feedback 7: Chorus Wet Level
M31	Multi31 (Distortion — Flanger)	This is a multi effector related to Distortion — Flanger.	0: Distortion Gain 1: Distortion Low 2: Distortion High 3: Distortion Level 4: Flanger LFO Rate 5: Flanger LFO Depth 6: Flanger Feedback 7: Flanger Wet Level

MIDI IMPLEMENTATION CHART

Version: 1.0

Function ...		Transmitted	Recognized	Remarks
Basic Channel	Default	1-16	1-16	
	Changed	1-16	1-16	
Mode	Default	Mode 3	Mode 3	
	Messages	X	X	
	Altered	****************	****************	
Note Number:		0-127	0-127	
	True voice	****************	0-127*[1]	*[1] Depends on tone.
Velocity	Note ON	O 9nH v = 1-127	O 9nH v = 1-127	
	Note OFF	X 9nH v = 0	X	
After Touch	Key's	X	X	
	Ch's	X	O	
Pitch Bender		X	O	
Control Change	0, 32	O	O	Bank select
	1	O	O	Modulation
	6, 38	O	O	Data entry
	7	O	O	Volume
	10	O	O	Pan
	11	O	O	Expression
	16	O	O	DSP Parameter0
	17	O	O	DSP Parameter1
	18	O	O	DSP Parameter2
	19	O	O	DSP Parameter3
	64	O*[2]	O	Hold1
	66	O*[2]	O	Sostenuto
	67	O*[2]	O	Soft pedal
	71	O	O	Resonance
	72	O	O	Release Time
	73	O	O	Attack Time
	74	O	O	Brightness
	76	O	O	Vibrato rate
	77	O	O	Vibrato depth
	78	O	O	Vibrato delay
	80	O	O	DSP Parameter4
	81	O	O	DSP Parameter5
	82	O	O	DSP Parameter6
	83	O	O	DSP Parameter7
	91	O	O	Reverb send
	93	O	O	Chorus send
	98, 99	X	O	NRPN LSB, MSB
	100, 101	O	O	RPN LSB, MSB
	120	X	O	All sound off
	121	O	O	Reset all controller
Program Change :	True #	O 0-127	O 0-127	
		****************	****************	
System Exclusive		O	O	
System Common	: Song Pos	X	X	
	: Song Sel	X	X	
	: Tune	X	X	
System Real Time	: Clock	X	X	
	: Commands	X	X	
Aux Messages	: Local ON/OFF	X	X	
	: All notes OFF	X	O	
	: Active Sense	X	O	
	: Reset	X	X	
Remarks		*[2] **Selected in accordance with sustain pedal setting.**		

Mode 1 : OMNI ON, POLY   Mode 2 : OMNI ON, MONO   O : Yes
Mode 3 : OMNI OFF, POLY   Mode 4 : OMNI OFF, MONO   X : No

SPECIFICATIONS

Number of Keys 61

Polyphonic Sound .... 32-note (Max.)

Preset Tones 348
(100 panel tones, 128 General MIDI,
10 drum sounds, 10 user,
100 advanced tones)
with Layer and Split

Rhythm Instrument Tones 61

Effects .... DSP
(110 types: internal, 10 user areas)
Reverb (16 types)
Chorus (16 types)

Demo Tunes 2

Auto Accompaniment

Rhythm Patterns .... 100 + 4 user areas

Tempo .... Variable (226 steps, 30 to 255)

Chords .... 3 fingering methods
(Concert Chord, Fingered, Full Range)

Rhythm Controller .... Start/Stop,
Intro/Ending 1/2
Variation/Fill-In 1/2
Synchro/Fill-In Next

Accompaniment Volume ..... 0 to 127 (128 steps)

One-Touch Preset .... Recalls tone and tempo
settings best suited for the selected rhythm

Registration Memory

Number of Setups .... 16 (4 locations, 4 banks)

Memory Contents .... Tone, rhythm, tempo
split setting, split point, layer setting
mixer settings, mixer settings
effect setting, equalizer setting
touch response setting
SUSTAIN/ASSIGNABLE JACK setting
transpose setting, tuning setting
accompaniment volume setting
harmonize setting

Memory Function

Songs 2

Recording Tracks 6
(2 through 6 are melody tracks)

Recording Methods .... Real-time, Step

Memory Capacity ..... Approximately 3,500 notes
(total for two songs)

Edit Function .... Equipped

Custom Tone Parameter Function

Parameters .... Attack time, release time,
resonance, cutoff frequency, vibrato type,
vibrato delay, vibrato depth, vibrato rate,
octave shift, level, touch sense, reverb send,
chorus send, DSP line, DSP type,
DSP parameter

Mixer Function

Channels 16

Parameters .... Program change number,
volume, expression, pan, coarse tuning,
fine tuning, on/off/solo

MIDI .... 16 multi-timbre receive,
GM Level 1 standard

Transpose .... −24 semitones to +24 semitones

Tuning .... Adjustable A4 = 440 Hz ±100 cents

Built-In Speakers .... 12 cm × 2

Terminals

MIDI Terminals .... IN, OUT

Assignable Terminal .... $1/4$-Inch Phone Jack
(sustain, sostenuto, soft, rhythm start/stop)

Power Supply .... 9V DC Jack

Headphones .... Stereo Standard Jack

Output Impedance: .... 140 Ohms

Output Voltage .... 4.5 V (RMS) MAX
at 47K ohm load

Power Sources .... DC: 6 D batteries
AC: 9V with AC adapter

Power Consumption .... 7.7 W

Dimensions (HWD) $5^{13}/_{16} \times 37^{7}/_{8} \times 14^{3}/_{4}$ Inches
$(14.7 \times 96 \times 37.5$ cm)

Weight (Without Batteries) .... 12 lbs 12 oz
(5.8 kg)

Included Accessories .... Sheet Music Stand

Specifications are typical; individual units might
vary. Specifications are subject to change and
improvement without notice.

NOTES

Notes

Free Manuals Download Website

http://myh66.com

http://usermanuals.us

http://www.somanuals.com

http://www.4manuals.cc

http://www.manual-lib.com

http://www.404manual.com

http://www.luxmanual.com

http://aubethermostatmanual.com

Golf course search by state

http://golfingnear.com

Email search by domain

http://emailbydomain.com

Auto manuals search

http://auto.somanuals.com

TV manuals search

http://tv.somanuals.com