

ES Korg

- A rhythm production sampler in which samples recorded by the user can be assigned to ten sample parts (including one Slice Sample part). The sound of each part can be processed as desired.
- Up to 150 sounds (100 monaural, 50 stereo) sampled by the user can be saved in internal memory (to a maximum total of 95 seconds of monaural sampling).
- Parts (created by editing samples) can be combined with rhythms to create patterns, letting you use the **ES-1** as a totally new type of rhythm machine.
- Up to 128 patterns (maximum of 64 steps) can be created using the Sample data and stored in internal memory.
- The **ES-1** provides a Motion Sequence function that can record and loop knob movements, and can be recorded for each part of each pattern.
- The sixteen step keys (grid) provide the ideal way to step-record rhythm patterns. It's also easy to record in realtime.
- Since sounds and rhythm patterns can be modified instantly, you can use these changes as part of your performance expression.
- By combining multiple patterns and adding event data such as knob movements, you can create and save up to sixteen songs.
- Eleven types of effects and delay are provided.
- The Pattern Set play function lets you register 64 different patterns to the 16 step keys, and successively select and play them.
- Tap Tempo and MIDI Clock can be used to synchronize the performance with an external sequencer, turntable, etc.
- The **ES-1** can be controlled from an external sequencer or keyboard as a MIDI sound module.
- Sample sounds, patterns, and songs you create can be stored on SmartMedia™.
- WAVE files or AIFF files you created on a computer etc. can be loaded and used as samples.

The data you create on the ES-1

The samples, patterns, and songs you create (edit) on the **ES-1** will return to their previous state if you re-select them or turn off the power before performing the Write operation.

If you wish to save recorded samples or edited patterns, songs, or global data, you must be sure to perform the Write operation. Be aware that once the Write operation has been performed, it is no longer possible to return the sample, song, and pattern data to their factory settings. If you do not want to lose the factory preset patterns and songs, purchase an appropriate SmartMedia™ card and use the Save operation to make a backup.

What is a Sample?

A “Sample” is a sound that has been recorded, or a sound that has been recorded and then processed. A sample can be assigned to each Part (👉p.15). The **ES-1** lets you create and save up to 150 samples (100 monaural, 50 stereo), as long as the maximum sampling area of 95 seconds is not exceeded. A stereo sample will occupy twice the sampling area of a monaural sample.

What is a Part?

A Part is the smallest unit that makes up a Pattern, and consists of a sound and the timing (rhythm pattern) at which it is played, effect on/off settings, and motion sequence data. There are a total of twelve parts, as follows. (☞p.33 “Pattern mode”)

- Sample parts (1—5, 6A-6B, 7A-B): A sample sound and a rhythm pattern.
- Slice Sample part: A sample sound and a rhythm pattern.
- Audio In part: A rhythm pattern for the external input.
- Accent part: A rhythm pattern that specifies the points of emphasis (accents) for the entire pattern.

The sound can be modified independently for each part, and the rhythm pattern, effect on/off settings, and motion sequence etc. are also stored individually for each part (☞p.35 “Editing the sound of a part”).

What is a Rhythm Pattern?

A Rhythm Pattern is a sequence of rhythms (i.e., the timing at which a sound is heard) for an individual part. You can use the sixteen step keys to modify the rhythm pattern of each part. A rhythm pattern can also be recorded as you listen to the playback (realtime input). (👉 p.27 "Creating a Rhythm Pattern.")

Using a Motion Sequence

What is a Motion Sequence?

Changes that you make to the parameters of each part using the knobs and keys can be recorded and looped. These are called Motion Sequences.

A Motion Sequence lets you record either **Pitch/Speed**, **Filter**, **Level**, or **Pan**, and **Effect**, **Roll** and **Reverse** individually for each part. An Effect Motion Sequence and Delay Motion Sequence can be recorded individually for each pattern. (👉p.41 “Motion Sequence”)

Motion sequences for **Effect**, **Roll**, **Reverse**, and the Accent part will always occur in **Trig Hold** mode.

The following knobs and keys are valid for each part.

- **Sample parts, Slice sample part : Pitch/Speed, Filter, Pan, Level, Effect, Roll, Reverse**
- **Audio In part : Pitch/Speed (functions as gate time), Filter, Pan, Level**
- **Accent part : Level**

Connecting various sources to the audio inputs

Let's try connecting various types of audio devices (radio, MD or CD player or tone generator) to the audio input jacks.

Try out various types of sounds or music. Depending on the content, you may discover unexpectedly interesting results.

1. Connect an audio device to the audio in jack (**AUDIO IN**). Set the MIC/LINE gain select switch appropriately for the level of the connected device. The jack is a stereo phone plug. If necessary, use an adapter plug appropriate for the connected device. To switch between monaural and stereo, change the Global mode **Audio In Mode** setting (⇒p.54).
2. Adjust the output level of the external device so that the peak LED does not light even when the connected device is producing its maximum output level. When making this adjustment, turn on the Audio In Thru key (the key will light) so you can hear the input sound without having to press the part key.
3. Select the pattern or song for which you wish to adjust the volume of the external input sound, and press the Play/Pause button to begin playback.
4. In the connection section, rotate the **LEVEL** knob to set the appropriate balance with the volumes of the other parts.

The input sound will be heard while you press the Audio In part key. The Audio In parts that are recorded in a pattern or song do not produce the sound that was being input when the parts were being recorded; they simply allow the sound that is received in the audio input at that moment to be heard from when the trigger is turned on, for the duration set by the **Pitch/Speed** knob.

Let's record a sample

The **ES-1** makes it very easy for you to record a sample. Sampled sounds (samples) can be easily assigned to the parts of each pattern. The sampling area of internal memory can hold a maximum of 95 seconds, with up 150 samples (100 monaural, 50 stereo).

If the factory preloaded samples are rewritten or erased, they cannot be restored to their original state. If you do not want to lose the factory preloaded samples, purchase a SmartMedia™ card and perform the Save operation (⇒p.55) to make a backup.

If you run out of memory while sampling, sampling will stop automatically. Before you start sampling, use the Sample mode Memory function (⇒p.32) to check the remaining amount of sampling time.

Here's how to sample the output of an audio device (e.g., MD or CD).

1. Press the Sample mode key (the key will light). Use the cursor keys [▲][▼] to make the parameter select LED indicate **Sample**.
2. Connect the audio device that you wish to sample to the audio in jack (**AUDIO IN**). The jack is a stereo phone jack, but you may also use a monaural phone plug if desired. Use the Global mode **Audio In Mode** setting to switch between monaural and stereo (⇒p.54).
3. In the connection section, set the MIC/LINE gain select switch to the **LINE** position.
4. Turn on the Audio In Thru key (the key will light) so that you can hear the input sound.
5. Either by adjusting the output level of the external device or by rotating the LEVEL knob, adjust the output level of the connected device so that the peak LED does not light even when the maximum output level is reached.
6. Hold down the Pattern Set key, and press the Rec key to enter sampling-ready mode. (The Rec key will light, and the Pattern Set key and Play/Pause key will blink.)
7. Rotate the dial to set the sampling mode either to stereo "**StE**" or monaural "**Mo.**"
8. Press the Play/Pause key to begin sampling at the desired moment. (The Rec key, Pattern Set key, and Play/Pause key will light.)
9. When you press the Stop/Cancel key, sampling will end. (The Rec key, Pattern Set key, and Play/Pause key will go dark.)

After sampling, the display will indicate "- -." (or in the case of stereo, "- -.**S**") to indicate that a new sample has been recorded.

By pressing the Play/Pause key you can hear the recorded sample.

If you wish to save the sample you recorded here, you can perform the Write operation (⇒p.32 "Saving a sample (WRITE)"). If you do not wish to save the sample you recorded, simply switch samples or record another sample without performing the Write operation.

There are other ways in which you can record a sample, or modify the sound of a sample after recording it. For details refer to p.27 "Sample mode."

About the Slice function

The sound of a saved sample can be automatically divided (“time-sliced”) at intervals of the time axis. A sample sound processed this way is called a Slice Sample.

Slice samples are indicated by a “11” following the sample number in the display. (For example, “01.11” means that a slice sample has been saved in 01.) Only a slice sample can be assigned to the Slice Sample part. For details refer to p.30 “Slice.”

About the Resample function

Part sounds, patterns, and songs that you create on the **ES-1** can themselves be sampled to create a new sample sound. This procedure is called Resampling.

This allows sample sounds processed by effects and delay to be used as a new sample, letting you create samples that have even greater tonal variation. For details refer to p.28 “Directly sampling the sound of the **ES-1** (Resampling).”

Assigning a sample sound to a sample part

Here’s how to assign a sample (“02.” in this example) to the sample part of a pattern. In this example, we will assign the sample to Sample Part 1 of Pattern **A10**.

1. Enter Pattern mode and select Pattern **A10**. (☞ “Listening to patterns.”)
2. Press the Sample Part 1 key to select Sample Part 1.
3. Use the cursor keys [▲][▼] to make the parameter select LED indicate **Sample**.
4. Rotate the dial to select the desired sample sound. For this example, select sample number “02.”
5. When you press the Sample Part 1 key, you will hear sample “02.”

Start the pattern. The sound of Sample Part 1 has been changed to the sampled sound.

By doing this, you can change the sample assigned to a part simply by selecting a sample and pressing the Sample Part key to which you want to assign that sample.

If you wish to save the pattern of the part you just changed, use the Write operation (p.20 “Saving a pattern you create (Write).” If you do not wish to save it, simply select a different pattern.

If the factory preset patterns or songs are rewritten or erased, they cannot be restored to their original state. If you do not want to lose the factory preset patterns or songs, purchase a SmartMedia card and perform the Save operation (☞ p.55) to make a backup.

Recording a sample

The **ES-1** lets you connect an audio device (e.g., CD or MD) or mic and record various sounds to use as samples. A maximum of 95 seconds can be sampled and kept in internal memory .

If the factory preloaded samples are rewritten or erased, they cannot be restored to their original state. If you do not want to lose the factory preloaded samples, purchase a SmartMedia card and perform the Save operation (⇒p.55) to make a backup.

If you run out of memory while sampling, sampling will stop automatically. Before you start sampling, use the Sample mode Memory function (⇒p.32) to check the remaining amount of sampling time.

Stereo samples occupy twice as much memory. The available time for sampling will be one half of the time displayed in Memory (⇒p.32).

Connect an audio device (e.g., CD or MD) or mic to the Audio In jack. If you connect a line-level device such as a CD or MD, set the **MIC/LINE** select switch to the **LINE** position. If you connect a mic, set the switch to the **MIC** position.

For details on the sampling procedure, refer to 3. Basic operation (Quick Start), p.23 “Recording a sample.”

Directly sampling the sound of the ES-1 (Resampling)

The sound being played back by the ES-1 can be sampled directly. This is called “resampling.” By resampling, you can create a sample that combines multiple samples, or use the sound of effects applied to an existing sample as a new sample.

A newly sampled sample is displayed as “- -.” (or “- -.S” for a stereo) in Sample mode.

If you sample again without saving the sample, the previous sample data will be lost.

A sample cannot be used in Pattern mode unless it has been saved.

It is not possible to record a motion sequence and a sample at the same time.

Resampling from the beginning of a pattern or song

1. Make sure that you are in Pattern mode or Song mode.
2. Press the Stop/Cancel key to stop playback.
3. Hold down the Pattern Set key and press the Rec key to enter sampling-ready mode (the Rec key will light, and the Pattern Set key and Play/Pause key will blink). The display will blink to indicate the sampling method (monaural/stereo).
4. Rotate the dial to select monaural (“**Mo**”) or stereo (“**StE**”).
5. When you press the Play/Pause key, the pattern or song will begin playing, and at the same time sampling will begin. (The Pattern Set key and the Play/Pause key will light.)
6. When you press the Stop/Cancel key, the pattern or song playback will stop, and sampling will also stop. (The Pattern Set key, Rec key, and Play/Pause key will go dark.)
Alternatively if you press the Rec key without pressing the Stop/Cancel key, sampling will stop but playback will continue. (The Pattern Set key and Rec key will go dark, and the Play/Pause key will be lit.)

To cancel sampling-ready mode, press the Stop/Cancel key.

Resampling just one note of a part

1. Make sure that you are in Pattern mode, Song mode, or Sample mode.
2. Press the Stop/Cancel key to stop playback.
3. Hold down the Pattern Set key and press the Rec key to enter sampling-ready mode. (The Rec key will light, and the Pattern Set key and Play/Pause key will blink). The display will blink to indicate the sampling method (monaural/stereo).
4. Rotate the dial to select monaural ("**Mo**") or stereo ("**St**").
5. Press the key for the part that you wish to sample. The part you pressed will sound, and at the same time, sampling will begin. (The Pattern Set key, Rec key, and Play/Pause key will light.)
6. Press the Stop/Cancel key when you want to stop sampling. (The Pattern Set key, Rec key, and Play/Pause key will go dark.)

If you wish to cancel sampling-ready mode, press the Stop/Cancel key before you start sampling.

Slice

Slice is a function that can be used to cut up a phrase into smaller elements so you can:

- change the tempo of its playback without affecting pitch
- change the rhythm pattern by turning on and off different sliced samples
- affect each sample (using a motion sequence) to change its pitch, forward/backward playback, effect on/off and filter setting for new, creative possibilities

Slice works best on samples that have a clearly defined attack, such as rhythm phrases, to divide them into separate notes. For example if you had a rhythm phrase containing kick, snare drum, and hi-hat, you could detect the attack of each element, and slice the phrase into individual notes. Once this is done, you are able to deal with each step key to which a sliced sample is assigned individually, giving you amazing new control over the playback of the phrase.

A sample that has been divided in this way is called a Slice sample.

A slice sample can be used only by the Slice Sample part. Unlike sample parts 1—7B, individual notes are assigned to each step in Pattern mode. If a note does not exist, there will be no sound.

If you select a slice sample in Sample mode, step keys at which a note exists will light to indicate the way in which the slice sample has been divided.

You can also press a step key that is lit to hear the sound.

The slice sample will be divided into either 1, 2, 4, 8, 16, 32, 48, or 64 steps. Each step is a 16th note, and the scale will be calculated automatically from the sample length and the BPM. The assigned step locations will depend on this.

Creating a slice sample (Time Slice)

It is not possible to slice a stereo sample.

1. Use the dial to select a monaural sample that you wish to slice.
2. Hold down the Shift key, and press step key 13 (**Time Slice**). (Key 13 will light, and the Slice sample part key will blink.)
3. If you press the Slice sample part key, the tempo of the sample will automatically be calculated and shown in the display, and the sample will be played repeatedly in time with the tempo. If the Global mode Metronome setting is on, the metronome sound will also play.
4. Use the dial to adjust the tempo. You can also use Tap Tempo to adjust the tempo. Make adjustments so that the transitions occur in a natural-sounding way.

The pitch and tempo of the playing sample will not change.

5. Press the Slice sample part key once again. Playback will stop, and the step keys at each note interval will light. The display will indicate the sensitivity at which slices will be detected. If you press a step key that is lit, you will hear the sound.
6. If you use the dial to change the sensitivity, the sample will be divided in a different way. The resolution value is within **0r—9r, 0—9**. Lower values will result in a greater sensitivity, allowing finer slices to be detected. When you choose a resolution value number which includes the letter "r", each slice will have an extended release "tail" to help sliced patterns play better at slower tempos.

When you change the sensitivity, a certain amount of time may be required for the sample to be re-divided.

Depending on the volume or type of the sample, there may be cases in which changing the sensitivity will not change how the sample is divided.

7. Press the Slice sample part key once again to complete the Slice procedure. (The Slice sample part key will go dark.)

If you decide to cancel mid-way through the procedure, press the Stop/Cancel key.

A slice sample is indicated by a "11" after the sample number.

Tips for achieving good results with Time Slice

- While it is best to first try to set a BPM that results in the smoothest playback of the sampled phrase, this may not always result in the best Slice playback. In fact, it may be necessary to try different BPM values (including fractional BPM settings) within a +/- 3 BPM range. This means that if you have a sampled phrase that you know should playback at 120 BPM, when you make this setting and execute Slice, the playback of your new Slice sample phrase possibly may not be perfect when placed into a Pattern. If this is the case it is likely that there would be an irregular rhythm introduced. So to correct this you should delete the newly sliced sample and try again setting the BPM to 119, or 118.5, or even 121. Trying a few settings like this will help you to find the BPM setting which produces the best slicing.
- Even before you finish executing the Slice command you can tell if a phrase is going to come out OK. After choosing a BPM setting and pressing the Slice sample part key, the step keys will light at certain note intervals based on the current sensitivity setting. Now you can audition each lit step key to hear how the slice is going to turn out. You should check the timing of critical step keys, like step key 5 (beat 2), step key 9 (beat 3) etc. to hear if the sample timing is lining up with critical downbeats in your phrase. If they're sounding strange you should press the Stop/Cancel key right away and start the procedure again, this time using a different BPM setting until you hear these critical step keys/beats matching up better.
- When a phrase is cut into individual samples, each sample is given a small loop at the end to keep the sample from ending too abruptly. If the tonality of this short loop is not to your liking try changing the sensitivity to a higher number. This will result in less slices, so each slice will be longer and you won't notice these loops as much. Note that this may not allow you to vary the tempo of your phrase as much, but each step will likely sound more natural.
- Phrases with swung, or irregular rhythms (including many hip-hop and jazz rhythms) are the most difficult to get the sliced timing right on. In these types of phrases you will need to try a combination of different BPM settings and slice sensitivity. Finally, setting the Pattern Swing parameter to a higher value will help to re-introduce the correct feel back into your playback. Experimenting with combinations of these ideas will yield the best results.
- If a newly sliced phrase has some space between the step, you will find that after you run it through an effect (or two), and change the tempo that this small gap is covered up, or even adds a cool and unique quality to your music. So don't just listen back to the pure phrase and make a final judgement – play around with it, add some other parts, and listen to how it works in context with your music. You may very well like the new quality that was introduced during the slicing!

So with a little experimentation you will find the best results, and remember that this is a new creative tool – you want to do more than simply cut your phrase up, you want to use all the parameters to create your own unique sound from the original source. Enjoy!

Other functions for editing a sample

If you wish to save a sample that was edited using these functions, you must perform the Write operation before you move to another sample or turn off the power. (p.32 "Saving a sample (WRITE)")

Normalize

This function boosts the level of the sample as far as possible without causing it to become distorted.

1. Use the dial to select the sample that you wish to normalize.
2. Hold down the Shift key and press step key 11 (**Normalize**). (Key 11 will blink.)
3. Press step key 11 once again to execute the Normalize operation. (Key 11 will go dark.)

If you decide to cancel without executing, press the Stop/Cancel key.

Truncate

This function deletes the portions of the sample that are earlier than **Start** and later than **End**.

1. Use the dial to select the sample that you wish to Truncate.
2. Hold down the Shift key and press step key 12 (**Truncate**). (Key 12 will blink.)
3. Press step key 12 once again to execute the Truncate operation. (Key 12 will go dark.)

If you decide to cancel without executing, press the Stop/Cancel key.

After the Truncate function has been executed, the Start value will be 0 and the End value will be the length of the sample.

Creating a pattern

There are two ways to create a pattern. You can start with a pattern that is similar to the desired result and then edit it, or you can create a pattern from scratch by specifying the sound and rhythm pattern for each part. Either way, the **ES-1** makes it easy for you to create your own original rhythm patterns.

If you wish to save a pattern you create, you must perform the Write operation before you select a different pattern or turn off the power.

Assigning a sample

Sample	Off, 00. (00.II) ... 99. (99.II) 00.S...49.S
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The **ES-1** has 150 sampling areas to hold the samples you record (100 monaural, 50 stereo). Samples you create can be freely assigned to the parts of each pattern.

It is not possible to make sample settings for the audio in part or the accent part. (The display will indicate “- - -”.)

1. Use the cursor keys to make the parameter select LED indicate **Sample**.
2. Press the part key to which you wish to assign the sample (the key will light). At this time, the number of the sample assigned to that key will appear in the display, and the sample will be played.
3. Rotate the dial to select a sample. At this time if you press the part key that was selected in step 2, the selected sample number will be played, and the assignment will be completed.

If you do not want to assign any sample, select “**OFF**.”
Only slice samples (00.111...99.111) can be selected for the slice sample part.

Stereo samples can be assigned only to sample parts 1 or 3.

If a stereo sample is assigned to sample part 1 or 3, sample part 2 or 4 will not sound. In this case, the sample number will blink if you select sample part 2 or 4.

If you use a slice sample in sample parts 1—7B, it will be handled as an ordinary sample.

If the assigned sample has been deleted (p.32), the sample number will blink.

Editing the sound of a part

Select a pattern that is close to what you have in mind (or a pattern which contains no sound or rhythm). Strike the part keys to hear each sound, and use the knobs and keys to edit the sounds. At this time, the **Original Value LED** will light when the knob etc. that you are currently moving reaches the same value as the original sound of the pattern.

You can also edit while playing back a pattern. It is also possible to use an external MIDI device to control the value of each knob (👉 p.57 "About MIDI").

The parameters that are valid for each part are shown in the following diagram.

If the sound does not change when you rotate a knob or switch the setting of a key, either that knob or key is not valid for that part, or the Motion Sequence function (p.41 "Motion Sequence") is operating.

The Audio In parts are valid only when a signal is being input to the audio input jacks.

Although sample parts 6A and 6B, and 7A and 7B can be edited independently, they cannot be played simultaneously. If triggers for both exist at the same step, the 6B or 7B part will sound.

Effect

This turns the effect **on** (lit) or **off** (dark) for each part.

Roll

This turns the Koll (successive strike) effect **on** (lit) or **off** (dark) for each part. The roll interval is determined by the tempo of the pattern and by the roll type (p.40 “Setting the roll type”). If you press and hold a part key when Roll is on, roll playback will continue as long as you continue holding the part key.

Roll playback of the Slice Sample part is not possible when pattern playback is stopped.

Reverse

This turns Reverse Playback of the sample **on** (lit) or **off** (dark).
This has no effect for the Audio In part.

Pitch/Speed

–64...63

This specifies the playback pitch of the sample. Raising the pitch will speed up the playback, and lowering it will slow down the playback. The pitch can be adjusted over a range of +/-2 octaves, and will change in the following way.

For the Audio In part, this will function as a gate time (duration of the sound) synchronized to the tempo.

Filter

0...127

Adjusts the cutoff frequency of the low pass filter. Rotating this toward the left will cut the overtones that are higher than the cutoff frequency, producing a milder tone.

Pan

L64...R63

Adjusts the stereo position (panpot) of the sound. When the knob is located at the center, the sound is panned to the center. Rotating the knob toward the left will move the sound toward the left, and rotating it toward the right will move the sound toward the right.

Level

0...127

Adjusts the output level. Rotating the knob toward the right will increase the level.
For the Accent part, this adjusts the accent level (the degree to which the volume is emphasized when the accent is on). (⌘p.40 “Adding accents to the rhythm pattern”)

Motion Seq (motion sequence)

This records and plays back knob movements. Each time you press this key, it will alternate between **on** (Smooth lit), **on** (Trig Hold lit), and **off** (dark). (⌘p.41 “Playing motion sequences”)

Editing effect and delay

EFFECT

On the **ES-1**, you can select and use one of eleven types of effect for each pattern. The effect can be turned on/off for each part by using the Effect key in the Part Edit section. Use the two knobs (**Edit 1**, **Edit 2**) to adjust the parameters, which will differ depending on the selected type of effect.

Although the effect can be turned on/off independently for each part, the type and parameter values cannot be changed independently.

Motion Seq (motion sequence)

This is the motion sequence for the effect (⌘p.41 “Motion sequence”). Each time you press the key, this will alternate between **on** (lit) and **off** (dark).

Effect types and parameters

Reverb

This simulates the reverberation and acoustics of a plate reverb unit.

Edit 1 _ Time

0...127

The reverb time will lengthen as the knob is rotated toward the right.

Edit 2 _ Level

0...127

The level of the reverberation will increase as the knob is rotated toward the right.

Flg./Cho. (flanger/chorus)

Flanger and chorus are effects that modulate the pitch of a slightly time-delayed copy of the sound and add it to the original sound to create a sense of spaciousness, modulation, and vibrato.

Edit 1 _ LFO Rate

0...127

Adjusts the LFO speed of the flanger/chorus.
The LFO speed will become faster as the knob is rotated toward the right.

Edit 2 _ Depth

0...127

Adjusts the depth of the flanger/chorus effect. The effect will change from chorus to flanger as the knob is rotated toward the right.

Raising the depth excessively may cause the sound to distort.

Phaser

This effect adds modulation to the sound by mixing a cyclically phase-shifted sound with the original sound.

Edit 1 _ LFO Rate

0...127

Adjusts the LFO speed of the phaser. The LFO speed will become faster as the knob is rotated toward the right.

Edit 2 _ Depth

0...127

Adjusts the depth of the phaser. The modulation will become greater as the knob is rotated toward the right.

Ring Mod. (ring modulation)

This effect applies modulation to the sound in order to create metallic resonances or unusual sound effects.

Edit 1 _ Frequency 0...127
Specifies the frequency of the modulation that will be applied. The frequency will rise as the knob is rotated toward the right.

Edit 2 _ Balance 0...127
Specifies the balance of the effect sound and direct sound. As the knob is rotated toward the right, the effect sound will increase and the direct sound will decrease.

Pitch Shifter

This effect shifts the pitch.

Edit 1 _ Pitch 0...127
Specifies the amount of pitch shift. When the knob is in the center position, the output pitch will be the same as the input pitch. As the knob is rotated toward the left the pitch will become lower, and as the knob is rotated toward the right the pitch will become higher. The available range of pitch shift is +/-2 octaves, and will change as shown below.

Edit 2 _ Dry level 0...127
This adds the original sound to the pitch-shifted sound. As the knob is rotated toward the right, increasing amounts of the original sound will be added to the effect sound.

Compressor

A compressor boosts low level sounds and reduces high level sounds in order to minimize differences in volume and make the sound more consistent.

Edit 1 _ Sensitivity 0...127
Specifies the sensitivity of the compressor. When the knob is in the far left position, there will be no effect. As the knob is rotated toward the right, the effect will apply more strongly.

Edit 2 _ Attack 0...127
Specifies the attack speed until the compressor begins to take effect. The attack will become slower as the knob is rotated toward the right.

Distortion

By boosting the volume appropriately, this effect causes the sound to distort and produces a rich overtone structure.

Edit 1 _ Gain 0...127
Specifies the degree of distortion. The sound will be distorted more greatly as the knob is rotated toward the right.

Edit 2 _ Level 0...127
Adjusts the output level. The output level will increase as the knob is rotated toward the right.

Decimator

This effect lowers the sampling frequency and the number of sampling bits, producing a grainy sound characteristic of cheap samplers.

Edit 1 _ Sampling frequency 0...127
Rotating the knob toward the right produces a more lo-fi sound, and rotating it toward the left produces a more hi-fi sound.

Edit 2 _ Number of sampling bits 0...127
Rotating the knob toward the right will produce a sound typical of fewer bits (lo-fi), and rotating it toward the left will produce a sound typical of more bits (hi-fi).

If the input volume is extremely low, there may be no output. If there is a high noise level during silent times, noise may be generated.

Isolator

This effect cuts the sound of a specific frequency. You can use this to cut just the vocal range, or just the bass range, etc. Edit 2 (Mid Control) will take priority.

Edit 1 _ Low / High Control 0...127
This controls the low or high range. Rotating the knob toward the left will cut the high range, and rotating it toward the right will cut the low range.

Edit 2 _ Mid control 0...127
This controls the mid range. Rotating the knob toward the left will cut the mid range, and rotating it toward the right will retain only the mid range.

Reso. Filt. (resonance filter)

This is a low pass filter with resonance. It cuts the overtones that are above the cutoff frequency, producing a milder tone.

Edit 1 _ Cutoff Frequency 0...127
Adjusts the cutoff frequency of the low pass filter. The cutoff frequency will rise as the knob is rotated toward the right.

Edit 2 _ Resonance 0...127
This emphasizes the sound in the region of the cutoff frequency, adding a distinctive character to the sound.

Depending on the cutoff frequency or input sound, high resonance settings may cause the sound to distort.

Wah

This is a wah that uses an LFO to control the cutoff frequency.

Edit 1 _ LFO Rate 0...127
Adjusts the speed of the LFO that controls the cutoff frequency. Rotating the knob toward the right will increase the LFO speed.

Edit 2 _ Cutoff Frequency 0...127
Adjusts the cutoff frequency. Rotating the knob toward the right will raise the cutoff frequency.

DELAY

Delay is an effect that adds one or more delayed "echoes" to the sound. The delay effect of the **ES-1** is a "cross-feedback delay." This feeds the delayed L and R signal back into the opposite side to produce a greater feeling of spaciousness from left to right.

You can record delay knob movements as a Motion Sequence, or use the effect as a Tempo Delay.

The delay effect will apply to the entire rhythm pattern, and it is not possible to change the effect independently for each part.

Motion Seq (motion sequence)

This is the delay motion sequence (⇒p.41 "Motion Sequence"). Each time you press the key, the setting will alternate between **on** (lit) and **off** (dark).

BPM Sync

This allows the delay time to be automatically synchronized to the tempo of the pattern. Each time you press the key, the setting will alternate between **on** (lit) and **off** (dark). When the MIDI Clock setting is **Ext**, the delay time can also be synchronized to the clock of an external device (⇒p.53 "Synchronizing the **ES-1** and an external MIDI device (MIDI Clock)")

Depth

0...127

Adjusts the level of the delay sound and the amount of feedback (the number of delay repeats).

Rotating the knob toward the right will increase the level of the delay sound, and will also increase the amount of feedback.

The further left or right the Pan of each part is set, the more the sound will be spread to left and right.

Raising the Depth excessively may cause the sound to distort (clip).

Time (delay time)

5 msec ... 2 sec

(for BPM Sync) 1/4...8

Specifies the delay time. Rotating the knob toward the right will lengthen the delay time. Rotating the knob toward the left to shorten the delay time will produce a "doubling" effect (an impression as though multiple instruments are playing in unison).

When **BPM Sync** is "on", this parameter will let you set the tempo in terms of sixteen different multiples of the tempo: 1/4, 1/3, 1/2, 2/3, 3/4, 1, 1.33, 1.5, 2, 2.5, 3, 4, 5, 6, 7, or 8.

If you change the delay time during playback, the pitch of the delayed sound will change.

Depending on the tempo setting, it may be impossible to set the delay time. In such cases, set the delay time to half the desired value.

If the Time value is lowered excessively, the sound may distort (clip).

Setting the Length

1, 2, 3, 4

1. If a pattern is playing, press the Stop/Cancel key to stop playback.
2. Use the dial to select the pattern whose length you wish to set.
3. Hold down the Shift key and press step key 1 (**Length**). (Key 1 will blink.)
4. The value will blink in the display. Use the dial to specify the length.
5. Press step key 1 once again to finalize the value. (Key 1 will go dark.)

If you wish to cancel without changing the setting, press the Stop/Cancel key.

Setting the Scale/Beat

16, 32, tri

1. If a pattern is playing, press the Stop/Cancel key to stop playback.
2. Use the dial to select the pattern whose scale/beat you wish to set.
3. Hold down the Shift key and press step key 2 (**Scale/Beat**). (Key 2 will blink.)
4. The value will blink in the display. Use the dial to specify the scale/beat.
5. Press step key 2 once again to finalize the value. (Key 2 will go dark.)

If you wish to cancel without changing the setting, press the Stop/Cancel key.

Swing settings

By adjusting the Swing settings you can offset the note timing of the steps. For example, you can change a straight 16-beat by adding a slight "bounce" or shuffle. The Swing value can be adjusted from **50** to **75** (%), and will affect the note timing of even-numbered steps. A setting of **50** will produce a perfect 16-beat, and a setting of **66** will produce a shuffle.

1. If a pattern is playing back, press the Stop/Cancel key to stop playback.
2. Rotate the dial to select the pattern for which you wish to make Swing settings.
3. Hold down the Shift key, and press step key 3 (**Swing**). (Key 3 will blink.)
4. A value will blink in the display. Rotate the dial to set the Swing value.
5. Once again press step key 3 to execute the Swing setting (key 3 will go dark).

If you decide to cancel without making the setting, press the Stop/Cancel key.

If the Length and Beat/Scale settings are set to triplets "**tri**" (♩₃ x 12), the Swing setting has no effect.

It is not possible to view or adjust the Swing parameter during playback or recording, or during Pattern Set Play.

Motion sequence

Playing a motion sequence

A motion sequence can be played back in one of the following two ways, and you can select the playback method independently for each part.

Smooth

Knob values will be connected smoothly, and the sound will change smoothly.

Trig Hold (trigger hold)

The value of the motion sequence knob will be held at the note timing of that part.

Playing an effect motion sequence

This is a motion sequence dedicated to the effect. Unlike a part motion sequence, the knobs of both knobs **Edit 1** and **Edit 2** can be played simultaneously. The playback method is the same as for the **Smooth** setting of a part motion sequence.

There will be no effect if the Motion Seq setting of the effect is off (dark).

Recording an effect motion sequence

You can record the movements of both **Edit 1** and **Edit 2** knobs.

1. Select the pattern that you wish to edit.
2. Turn the Motion Seq key on (lit).
3. Press the Rec key to enter record-ready mode. (The Rec key will light, and the Play/Pause key will blink.)
4. Press the Play/Pause key to start the pattern. (The Rec key and Play/Pause key will light.)
5. Move the **Edit 1** knob to create various changes until the pattern plays for one cycle (16 steps \times length, or 12 steps \times length).
6. When the pattern has played for one cycle after you began moving the knob, the Rec key will automatically go dark and playback will resume, allowing you to hear the motion sequence that you just recorded.

You can record the movements of the **Edit 2**

The effect motion sequence will not apply unless the effect of each part is on (lit).

Recording a motion sequence

You can record knob movements (motion sequence) for each part. One knob per part and the **Effect**, **Roll**, and **Reverse** keys are valid for a motion sequence. If you attempt to record a motion for another knob of the same part, the effect of the previous knob will disappear.

For the procedure, refer to 3. Basic operation (Quick Start) p.21 "Using a motion sequence."

To modify a previously-recorded motion sequence, refer to p.45 "Editing motion sequence data."

Effect, Roll, and Reverse will be played as Trig Hold even if Smooth is selected as the type.

Setting the MIDI note number for each part (Note No.)

Note No.

C-1...G9

Here you can specify the MIDI note number for each part.

If you specify the same note number for two or more parts, the sounds of those parts will be played simultaneously when that note is received from an external MIDI device.

1. Use the cursor keys to make the parameter select LEDs indicate **Note No.**
2. Press the part key whose note number you wish to change (the key will light).
3. Rotate the dial to select the note number.

The factory settings are as follows.

Part	Note name	Note number
Sample 1	C2	36
Sample 2	D2	38
Sample 3	E2	40
Sample 4	F2	41
Sample 5	G2	43
Sample 6A	C4	60
Sample 6B	C#4	61
Sample 7A	F#2	42
Sample 7B	A#2	46
Slice Sample	B2	47
Audio In	A2	45

Using SmartMedia™

The **ES-1** allows you to use SmartMedia to save or load internal data.

Samples (WAVE files, AIFF files) you create on your computer can also be loaded into the **ES-1**.

The **ES-1** can use 3 V (3.3V) SmartMedia of 4 MB — 64 MB.

When saving is complete, the display will return to the condition in which it was before you executed Save (key 15 will be dark).

To cancel, press the Stop/Cancel key.

If a write protect label is affixed to the SmartMedia, data cannot be saved. In this case, remove the write protect label from the SmartMedia before executing Save.

Never turn off the power or remove the SmartMedia while Save or Format is being executed. Doing so may render the SmartMedia unusable.

Approximately 4 Mbytes of space is required to save one file. Saving will not be possible if there is insufficient space on the SmartMedia.

Loading all data from SmartMedia to the ES-1 (All Load)

Here's how to load all **ES-1** Pattern data, Song data, Sample data, and Global data from SmartMedia.

1. Insert the SmartMedia into the SmartMedia slot.
2. Hold down the shift key and press step key 15 (**Card**).
3. The display will indicate "**Lod.**" Press key 15.
4. The display will show a file number. Use the dial to select a file number **1—9** (file "[**E**]" is not an **ES-1** file, so do not select it here), and then press key 15.
5. The display will indicate "**ALL.**" Press Write key to execute the Load operation. (Key 15 will light, and the Write key will blink.) The loading progress will be shown by the step keys (the Write key will light.)

When loading is finished, the **ES-1** will enter Pattern mode with **A01** selected.

If you decide to cancel the procedure, use the mode keys to move to Pattern mode, Song mode, or Sample mode.

Saving data to SmartMedia (Save)

Here's how to save all **ES-1** Pattern data, Song data, Sample data, and Global data on a SmartMedia card.

1. Insert the SmartMedia card into the SmartMedia slot.
2. Hold down the Shift key, and press step key 15 (**Card**). (Key 15 will blink.)
3. The display will indicate "**Lod.**" Rotate the dial toward the right to select "**SAU,**" and press key 15.
4. If the SmartMedia has not been formatted, the display will indicate "**For.**" If it has already been formatted, proceed to step 5. To format the SmartMedia, press key 15.
5. The display will indicate the file number that will be saved. If the display indicates (for example) "**-1-**," a new file is being saved. If the display indicates "**[1]**," data is being saved to an existing file. (In this case the old data will be overwritten.) Use the dial to select a file.
6. Press key 15 to execute the Save operation. While the data is being saved, the progress will be shown by the step keys.

Loading only a single sample from SmartMedia (Sample Load)

1. Insert the SmartMedia into the SmartMedia slot.
2. Hold down the shift key, and press step key 15 (**Card**). (Key 15 will blink.)
3. The display will indicate "**Lod**." Press key 15.
4. A file number will blink in the display. Use the dial to select the desired file number. If you wish to load a WAVE file or AIFF file that you created on your computer, select file "**[E]**." After you select a file, press key 15.
5. The display will indicate "**ALL**" (if you selected file "**[E]**," the number will blink). Rotate the dial toward the right and the sample number will blink. At this time you can press the Play/Pause key to play back the sample and audition it.
6. After selecting the sample, press key 15. (Key 15 will light, and the Write key will blink.)
7. The load destination sample number will blink in the display. Use the dial to select the sample number. In the case of a monaural sample (or slice sample) you can select from "**00**." through "**99**." In the case of a stereo sample you can select from "**00.S**" through "**49.S**".
When you choose the unused sample number, a period is indicated on the lower right side of display.
8. Press the Write key to begin loading (the Write key will light). The loading progress will be shown by the step keys.

When loading ends (the Write key will go dark), you will return to step 5.

If you decide to cancel, use the mode keys to move to Pattern mode, Song mode, or Sample mode.

7. Synchronization in Song mode

In Song mode, the **ES-1** can transmit and receive Song Select and Song Position Pointer messages. When you switch songs, a Song Select [F3 ss] message will be transmitted (ss: song number, where one of 128 songs can be selected. On the **ES-1** you can select 16 songs.) If the **ES-1** receives a Song Select message in Song mode, it will switch songs. Transmission and reception of Song Select messages can be restricted by the MIDI Filter settings of MIDI mode. If you change the current position on the master device (i.e., the device whose Clock is set to INT) when the song is stopped, a Song Position Pointer message [F2 pp pp] will be transmitted. (pp: the number of MIDI beats from the beginning of the song; i.e., the number of Timing Clocks divided by six.) Song Position Pointer indicates the location at which the sequencer is currently stopped. When Song Position Pointer is received in Song mode by a slave device (i.e., a device whose Clock is set to EXT), it will change the location at which its song is currently stopped to match the location of the master. However on the **ES-1**, the length of each pattern may be different, so the master and slave will not necessarily be in the same location. When the Start/Pause key is pressed on the master device, a Continue message is transmitted, and the song will begin playback from the currently selected position. When the slave device receives the Continue message, it will synchronize to the Timing Clock messages and begin playback from the current point in the song. In the same way as synchronizing the playback from the beginning of the song, you can specify the location at which playback will start, and then playback in synchronization. If you use the dial or Select keys to fast-forward or rewind while the song is playing, Song Position Pointer messages will not be transmitted. Be aware that if you perform these operations during synchronized playback, the synchronization will be lost. Also, even if Song Position Pointer messages are received during playback, the playback location will not change.

Specifications

System:	Sampling
Number of parts:	12 parts Sample parts × 9 Slice sample part Audio in part Accent part
Sample capacity:	150 (100 monaural, 50 stereo) Maximum total of 95 seconds (monaural)
Memory capacity:	128 patterns, 16 songs
Master effects:	Delay Normal, Motion Sequence, BPM Sync
Insert effects:	11 types Reverb, Flanger/Chorus, Phaser, Ring Modulator, Pitch Shifter, Compressor, Distortion, Decimator, Isolator, Resonance Filter, Wah
Sequencer:	Pattern Maximum 64 steps per part, Motion Sequence, 1 parameter per part, 64 events Song Maximum 256 steps per song, Maximum 35,700 events of event recording
Connectors:	PHONES Phone jack: stereo Nominal level: 21 mW + 21 mW (32 ohm) OUTPUT (L/MONO, R) Phone jack: monaural x 2 Nominal output level: -10 dBu Output impedance: 1 k-ohm AUDIO IN (phone jack: mono/stereo) Nominal input level: -10 dBu(LINE) -40 dBu(MIC) Input impedance: 47 k-ohm MIDI (IN, OUT, THRU) SmartMedia™: 4—64 MB, 3V (3.3V)
Power supply:	DC9V (included AC adapter)
Power consumption:	6 W
Dimensions:	300 (W) x 224.9 (D) x 55.4 (H) (including rubber feet)
Weight:	1.28 kg