

SP-404

Owner's Manual

Thank you, and congratulations on your choice of the Roland Sampler SP-404.

Before using this unit, carefully read the sections entitled: "USING THE UNIT SAFELY" and "IMPORTANT NOTES" (pp. 3–4; pp. 5–6). These sections provide important information concerning the proper operation of the unit. Additionally, in order to feel assured that you have gained a good grasp of every feature provided by your new unit, Owner's manual should be read in its entirety. The manual should be saved and kept on hand as a convenient reference.

Main Features

Quick and Easy Sampling!

Sample via Line/Mic input or use the onboard mic. Also operates on batteries.

Pro Quality Effects Onboard!

29 DSP effects including Filter, Lo-Fi, Isolator and unique effects such as Subsonic and new looper FX.

Realtime Performance!

3 rubber control knobs, 12 trigger pads, and an extra Sub Pad for realtime action.

Create Your Own Tracks!

Record patterns in real time with the Pattern Sequencer, complete with quantize. Perform with smooth triggering from pattern to pattern.

More Samples on Memory Card!

Store up to 1 GB of samples on optional CompactFlash cards. Also reads WAV/AIFF files from CF cards.

Conventions Used in This Manual

Operating buttons are enclosed by square brackets []; e.g., [REC].

Reference pages are indicated by (p. **).

The following symbols are used.

- NOTE** This indicates an important note; be sure to read it.
- MEMO** This indicates a memo regarding the setting or function; read it as desired.
- TIP** This indicates a useful hint for operation; read it as necessary.
- cf.** This indicates information for your reference; read it as necessary.
- TERM** This indicates an explanation of a term; read it as necessary.

IMPORTANT: THE WIRES IN THIS MAINS LEAD ARE COLOURED IN ACCORDANCE WITH THE FOLLOWING CODE.

BLUE: NEUTRAL
BROWN: LIVE

As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:

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

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

Under no circumstances must either of the above wires be connected to the earth terminal of a three pin plug.

USING THE UNIT SAFELY

INSTRUCTIONS FOR THE PREVENTION OF FIRE, ELECTRIC SHOCK, OR INJURY TO PERSONS

About ⚠ WARNING and ⚠ CAUTION Notices

⚠ WARNING	Used for instructions intended to alert the user to the risk of death or severe injury should the unit be used improperly.
⚠ CAUTION	Used for instructions intended to alert the user to the risk of injury or material damage should the unit be used improperly. * Material damage refers to damage or other adverse effects caused with respect to the home and all its furnishings, as well to domestic animals or pets.

About the Symbols

	The ⚠ symbol alerts the user to important instructions or warnings. The specific meaning of the symbol is determined by the design contained within the triangle. In the case of the symbol at left, it is used for general cautions, warnings, or alerts to danger.
	The ⚡ symbol alerts the user to items that must never be carried out (are forbidden). The specific thing that must not be done is indicated by the design contained within the circle. In the case of the symbol at left, it means that the unit must never be disassembled.
	The Ⓢ symbol alerts the user to things that must be carried out. The specific thing that must be done is indicated by the design contained within the circle. In the case of the symbol at left, it means that the power-cord plug must be unplugged from the outlet.

ALWAYS OBSERVE THE FOLLOWING

⚠ WARNING

- Before using this unit, make sure to read the instructions below, and the Owner's Manual.
- Do not open (or modify in any way) the unit or its AC adaptor.
- Do not attempt to repair the unit, or replace parts within it (except when this manual provides specific instructions directing you to do so). Refer all servicing to your retailer, the nearest Roland Service Center, or an authorized Roland distributor, as listed on the "Information" page.
- Never use or store the unit in places that are:
 - Subject to temperature extremes (e.g., direct sunlight in an enclosed vehicle, near a heating duct, on top of heat-generating equipment); or are
 - Damp (e.g., baths, washrooms, on wet floors); or are
 - Humid; or are
 - Exposed to rain; or are
 - Dusty; or are
 - Subject to high levels of vibration.
- Make sure you always have the unit placed so it is level and sure to remain stable. Never place it on stands that could wobble, or on inclined surfaces.

⚠ WARNING

- Be sure to use only the AC adaptor supplied with the unit. Also, make sure the line voltage at the installation matches the input voltage specified on the AC adaptor's body. Other AC adaptors may use a different polarity, or be designed for a different voltage, so their use could result in damage, malfunction, or electric shock.
- Use only the attached power-supply cord. Also, the supplied power cord must not be used with any other device.
- Do not excessively twist or bend the power cord, nor place heavy objects on it. Doing so can damage the cord, producing severed elements and short circuits. Damaged cords are fire and shock hazards!
- This unit, either alone or in combination with an amplifier and headphones or speakers, may be capable of producing sound levels that could cause permanent hearing loss. Do not operate for a long period of time at a high volume level, or at a level that is uncomfortable. If you experience any hearing loss or ringing in the ears, you should immediately stop using the unit, and consult an audiologist.
- Do not allow any objects (e.g., flammable material, coins, pins); or liquids of any kind (water, soft drinks, etc.) to penetrate the unit.

WARNING

- Immediately turn the power off, remove the AC adaptor from the outlet, and request servicing by your retailer, the nearest Roland Service Center, or an authorized Roland distributor, as listed on the "Information" page when:
 - The AC adaptor, the power-supply cord, or the plug has been damaged; or
 - If smoke or unusual odor occurs
 - Objects have fallen into, or liquid has been spilled onto the unit; or
 - The unit has been exposed to rain (or otherwise has become wet); or
 - The unit does not appear to operate normally or exhibits a marked change in performance.



- In households with small children, an adult should provide supervision until the child is capable of following all the rules essential for the safe operation of the unit.



- Protect the unit from strong impact. (Do not drop it!)



- Do not force the unit's power-supply cord to share an outlet with an unreasonable number of other devices. Be especially careful when using extension cords—the total power used by all devices you have connected to the extension cord's outlet must never exceed the power rating (watts/amperes) for the extension cord. Excessive loads can cause the insulation on the cord to heat up and eventually melt through.



- Before using the unit in a foreign country, consult with your retailer, the nearest Roland Service Center, or an authorized Roland distributor, as listed on the "Information" page.



- Batteries must never be recharged, heated, taken apart, or thrown into fire or water.



CAUTION

- The unit and the AC adaptor should be located so their location or position does not interfere with their proper ventilation.



- Always grasp only the plug on the AC adaptor cord when plugging into, or unplugging from, an outlet or this unit.



- At regular intervals, you should unplug the AC adaptor and clean it by using a dry cloth to wipe all dust and other accumulations away from its prongs. Also, disconnect the power plug from the power outlet whenever the unit is to remain unused for an extended period of time. Any accumulation of dust between the power plug and the power outlet can result in poor insulation and lead to fire.



CAUTION

- Try to prevent cords and cables from becoming entangled. Also, all cords and cables should be placed so they are out of the reach of children.



- Never climb on top of, nor place heavy objects on the unit.



- Never handle the AC adaptor or its plugs with wet hands when plugging into, or unplugging from, an outlet or this unit.



- Before moving the unit, disconnect the AC adaptor and all cords coming from external devices.



- Before cleaning the unit, turn off the power and unplug the AC adaptor from the outlet (p. 10).



- Whenever you suspect the possibility of lightning in your area, disconnect the AC adaptor from the outlet.



- If used improperly, batteries may explode or leak and cause damage or injury. In the interest of safety, please read and observe the following precautions (p. 10).



- Carefully follow the installation instructions for batteries, and make sure you observe the correct polarity.



- Avoid using new batteries together with used ones. In addition, avoid mixing different types of batteries.



- Remove the batteries whenever the unit is to remain unused for an extended period of time.

- If a battery has leaked, use a soft piece of cloth or paper towel to wipe all remnants of the discharge from the battery compartment. Then install new batteries. To avoid inflammation of the skin, make sure that none of the battery discharge gets onto your hands or skin. Exercise the utmost caution so that none of the discharge gets near your eyes. Immediately rinse the affected area with running water if any of the discharge has entered the eyes.

- Never keep batteries together with metallic objects such as ballpoint pens, necklaces, hairpins, etc.

- Used batteries must be disposed of in compliance with whatever regulations for their safe disposal that may be observed in the region in which you live.



- Keep screws for CARD LOCK and Ground Terminal you may remove and the included memory card cover in a safe place out of children's reach, so there is no chance of them being swallowed accidentally.



IMPORTANT NOTES

In addition to the items listed under “USING THE UNIT SAFELY” on page 2–3, please read and observe the following:

Power Supply: Use of Batteries

- Do not connect this unit to same electrical outlet that is being used by an electrical appliance that is controlled by an inverter (such as a refrigerator, washing machine, microwave oven, or air conditioner), or that contains a motor. Depending on the way in which the electrical appliance is used, power supply noise may cause this unit to malfunction or may produce audible noise. If it is not practical to use a separate electrical outlet, connect a power supply noise filter between this unit and the electrical outlet.
- The AC adaptor will begin to generate heat after long hours of consecutive use. This is normal, and is not a cause for concern.
- The use of an AC adaptor is recommended as the unit’s power consumption is relatively high. Should you prefer to use batteries, please use the alkaline type.
- When installing or replacing batteries, always turn off the power on this unit and disconnect any other devices you may have connected. This way, you can prevent malfunction and/or damage to speakers or other devices.
- Before connecting this unit to other devices, turn off the power to all units. This will help prevent malfunctions and/or damage to speakers or other devices.

Placement

- Using the unit near power amplifiers (or other equipment containing large power transformers) may induce hum. To alleviate the problem, change the orientation of this unit; or move it farther away from the source of interference.
- This device may interfere with radio and television reception. Do not use this device in the vicinity of such receivers.
- Noise may be produced if wireless communications devices, such as cell phones, are operated in the vicinity of this unit. Such noise could occur when receiving or initiating a call, or while conversing. Should you experience such problems, you should relocate such wireless devices so they are at a greater distance from this unit, or switch them off.
- Do not expose the unit to direct sunlight, place it near devices that radiate heat, leave it inside an enclosed vehicle, or otherwise subject it to temperature extremes. Excessive heat can deform or discolor the unit.

- When moved from one location to another where the temperature and/or humidity is very different, water droplets (condensation) may form inside the unit. Damage or malfunction may result if you attempt to use the unit in this condition. Therefore, before using the unit, you must allow it to stand for several hours, until the condensation has completely evaporated.

Maintenance

- For everyday cleaning wipe the unit with a soft, dry cloth or one that has been slightly dampened with water. To remove stubborn dirt, use a cloth impregnated with a mild, non-abrasive detergent. Afterwards, be sure to wipe the unit thoroughly with a soft, dry cloth.
- Never use benzine, thinners, alcohol or solvents of any kind, to avoid the possibility of discoloration and/or deformation.

Repairs and Data

- Please be aware that all data contained in the unit’s memory may be lost when the unit is sent for repairs. Important data should always be backed up on a memory card, or written down on paper (when possible). During repairs, due care is taken to avoid the loss of data. However, in certain cases (such as when circuitry related to memory itself is out of order), we regret that it may not be possible to restore the data, and Roland assumes no liability concerning such loss of data.

Additional Precautions

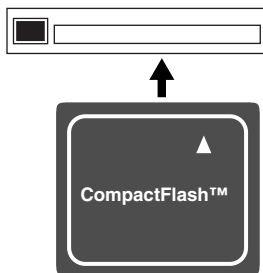
- Please be aware that the contents of memory can be irretrievably lost as a result of a malfunction, or the improper operation of the unit. To protect yourself against the risk of losing important data, we recommend that you periodically save a backup copy of important data you have stored in the unit’s memory on a memory card.
- Unfortunately, it may be impossible to restore the contents of data that was stored in the unit’s memory and on a memory card once it has been lost. Roland Corporation assumes no liability concerning such loss of data.
- Use a reasonable amount of care when using the unit’s buttons, sliders, or other controls; and when using its jacks and connectors. Rough handling can lead to malfunctions.
- Never strike or apply strong pressure to the display.
- When connecting / disconnecting all cables, grasp the connector itself—never pull on the cable. This way you will avoid causing shorts, or damage to the cable’s internal elements.

- To avoid disturbing your neighbors, try to keep the unit's volume at reasonable levels. You may prefer to use headphones, so you do not need to be concerned about those around you (especially when it is late at night).
- When you need to transport the unit, package it in the box (including padding) that it came in, if possible. Otherwise, you will need to use equivalent packaging materials.
- Use a cable from Roland to make the connection. If using some other make of connection cable, please note the following precautions.
 - Some connection cables contain resistors. Do not use cables that incorporate resistors for connecting to this unit. The use of such cables can cause the sound level to be extremely low, or impossible to hear. For information on cable specifications, contact the manufacturer of the cable.

Before Using Cards

Using Memory Cards

- Carefully insert the memory card all the way in—until it is firmly in place.




- Never touch the terminals of the memory card. Also, avoid getting the terminals dirty.
- This unit's memory card slot accepts CompactFlash memory cards. Microdrive storage media are not compatible.
- Memory cards are constructed using precision components; handle the cards carefully, paying particular note to the following.
 - To prevent damage to the cards from static electricity, be sure to discharge any static electricity from your own body before handling the cards.
 - Do not touch or allow metal to come into contact with the contact portion of the cards.
 - Do not bend, drop, or subject cards to strong shock or vibration.
 - Do not keep cards in direct sunlight, in closed vehicles, or other such locations (storage temperature: -25 to 85° C).
 - Do not allow cards to become wet.
 - Do not disassemble or modify the cards.

Copyright

- Unauthorized recording, distribution, sale, lending, public performance, broadcasting, or the like, in whole or in part, of a work (musical composition, video, broadcast, public performance, or the like) whose copyright is held by a third party is prohibited by law.
- Do not use this unit for purposes that could infringe on a copyright held by a third party. We assume no responsibility whatsoever with regard to any infringements of third-party copyrights arising through your use of this unit.

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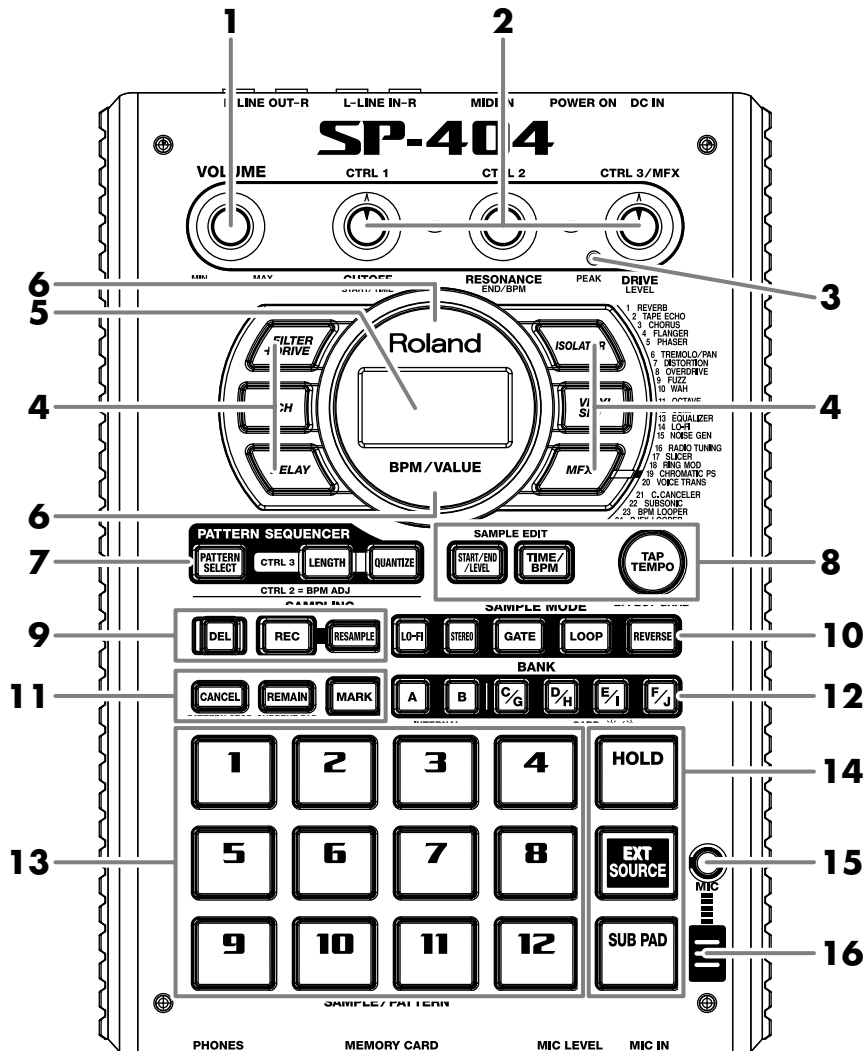
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Before You Start

Names of Things and What They Do

Top Panel



1. VOLUME Knob

This knob adjusts the volume of the line output and the headphones.

2. CTRL 1–3 Knobs

These knobs control the parameters that are assigned to each knob according to the effect you've selected. The knobs are also used in the following ways:

CTRL 1 Knob

You can use this knob to adjust the sample start location or the sample playback time.

CTRL 2 Knob

You can use this knob to adjust the pattern's BPM (tempo) or the sample end location.

CTRL 3/MFX Knob

You can use this knob to select an MFX type, or to adjust the sampling level or the sample volume.

3. PEAK Indicator

This indicator helps you adjust the level when sampling. In order to sample at the correct level, adjust the level so that this indicator lights occasionally.

4. Effect Buttons

Use these buttons to select the effect you want to use. An effect is on when its button is lit, and off when the button is dark. (p. 12, p. 18, p. 26, p. 45)

* You can't turn two or more effects on simultaneously.

5. Display

This provides information such as the BPM (tempo) of the sample or pattern, the values of various settings, and error messages. The display can also show the remaining available sampling time.

6. Display Illumination

This will blink in synchronization with the tempo of the pattern.

Before You Start

7.

PATTERN SELECT Button

Use this button to play or record a pattern. When this button is lit, you can press a pad to select a pattern. (p. 13, p. 34, p. 44)

LENGTH Button

Use this button to specify the length of the pattern when recording a pattern. (p. 35, p. 44)

QUANTIZE Button

Use this button to make quantize settings for automatic timing correction when recording a pattern. (p. 35, p. 44)

8.

START/END/LEVEL Button

Use this button to change the start point, end point, or volume of a sample. (p. 17, p. 29, p. 32, p. 35, p. 44)

TIME/BPM Button

Use this button to specify the playback time or BPM (tempo) of a sample. (p. 14, p. 25, pp. 33–35, p. 44)

TAP TEMPO Button

By pressing this button several times at the desired interval, you can set the tempo to the corresponding timing. (p. 25, p. 34)

9.

DEL Button

Use this button to delete a sample or pattern. (p. 15, p. 27, p. 32, p. 36)

REC Button

Use this button to start/stop sampling or to record a pattern. (p. 14, p. 23, p. 34, p. 44)

RESAMPLE Button

Use this button to apply an effect to a sample and then sample it again (“resampling”). (p. 26)

10.

LO-FI Button

This button switches the grade (standard/lo-fi) when sampling. Lo-fi sampling is selected when the button is lit, and standard sampling is selected when the button is dark. (p. 23)

STEREO Button

This button switches between monaural and stereo sampling. Stereo sampling is selected when the button is lit, and monaural sampling is selected when the button is dark. (p. 17, p. 23)

GATE Button

This button switches between **gate playback** (whereby the sample plays only while you hold down the pad) and **trigger playback** (sample alternately begins playing or stops with each press of the pad). Gate playback is selected when the button is lit, and trigger playback is selected when the button is dark. (p. 29)

LOOP Button

This button switches between **loop playback** (whereby the sample plays repeatedly when you press the pad) and **one-shot playback** (the sample plays only once). Loop playback is selected when the button is lit, and one-shot playback is selected when the button is dark. (p. 29)

REVERSE Button

This button selects **reverse playback**, which causes the sample to play backward. Reverse playback is selected when the button is lit, and normal playback is selected when the button is dark. (p. 30)

11.

CANCEL Button

You can press this button to cancel a sampling or sample-delete operation before it’s actually executed. This button also stops pattern playback or recording.

By pressing this button four times in rapid succession, you can stop all currently sounding notes.

REMAIN Button

When you press this button, the display will indicate the remaining time available for sampling. By holding down this button and pressing a pad, you can select the sample to which you want to apply an effect or the sample whose settings you want to change. (p. 18, p. 28)

MARK Button

Use this button to play just a portion of a sampled sound. If this button is lit, only the specified portion of the sound will play. (p. 31)

12. **BANK Buttons (A, B, C/G, D/H, E/I, F/J)**

When [PATTERN SELECT] is not lighted or when you’re recording a pattern, these buttons switch sample banks. When [PATTERN SELECT] is lit, these buttons switch pattern banks. If you press BANK [A] or [B] so it’s lit, the SP-404’s internal bank A or B will be selected. If you press BANK [C/G]–[F/J] to light a button, banks C–F on the memory card can be selected. If you press BANK [C/G]–[F/J] once again so a button is blinking, banks G–J on the memory card can be selected.

13. **Pads (1–12)**

When [PATTERN SELECT] is not lighted, pressing a pad will play the sample assigned to that pad. The pad will light while the sample plays.

When [PATTERN SELECT] is lit, you can use the pads to select the pattern you want to play or record.

14.

HOLD Pad

When you hold down a pad and press the HOLD pad, the sample will continue playing even after you release the pad. (p. 16)

EXT SOURCE Pad

By pressing the external source pad so the button is lit, you can mute/unmute or apply an effect to an external audio input source (line or mic). (p. 17, p. 45)

SUB PAD

You can use the sub pad to play the sample of the pad you pressed most recently. For example, this is a convenient way to play a drum roll by hand.

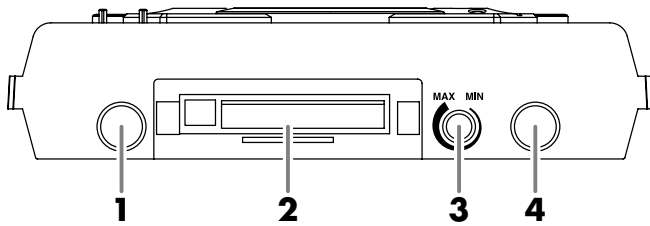
15. **MIC Button**

This button switches the mic input on/off. The mic input is on when the button is lit. (p. 17, p. 24)

16. **Internal Mic**

This is the SP-404’s internal mic. The internal mic is disabled if a separately available mic is plugged into the front panel MIC IN jack.

Front Panel



1. PHONES Jack

A set of stereo headphones can be connected here. They will output the same sound as the LINE OUT jacks. (p. 10)

2. MEMORY CARD Slot

A separately available memory card (CompactFlash) can be inserted here. You can use memory card banks C-J to record extended samples that would be too large for the internal memory. (p. 11, p. 38)

MEMO

When the SP-404 is shipped from the factory, a memory card cover is attached in front of the memory card slot. To remove the cover, pinch the left and right edges of the cover toward the inside and pull it toward yourself. (p. 11)

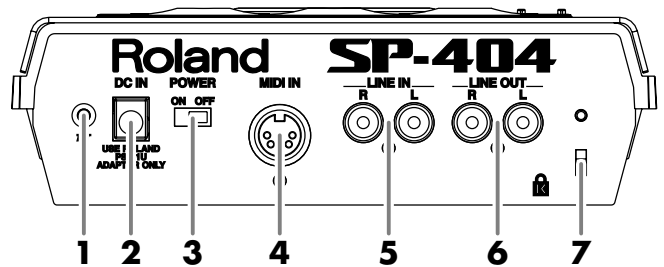
3. MIC LEVEL Knob

This knob adjusts the volume of the SP-404's internal mic or a mic connected to the MIC IN jack.

4. MIC IN Jack

A separately available mic can be connected here. (p. 10)

Rear Panel



1. Ground Terminal

Depending on the circumstances of a particular setup, you may experience a discomforting sensation, or perceive that the surface feels gritty to the touch when you touch this device, microphones connected to it, or the metal portions of other objects. This is due to an infinitesimal electrical charge, which is absolutely harmless. However, if you are concerned about this, connect the ground terminal with an external ground. When the unit is grounded, a slight hum may occur, depending on the particulars of your installation. If you are unsure of the connection method, contact the nearest Roland Service Center, or an authorized Roland distributor, as listed on the "Information" page.

Unsuitable places for connection

- Water pipes (may result in shock or electrocution)
- Gas pipes (may result in fire or explosion)
- Telephone-line ground or lightning rod (may be dangerous in the event of lightning)

2. DC IN Jack

Connect the included AC adaptor here. (p. 10)

3. POWER Switch

This turns the power on/off. (p. 10)

4. MIDI IN Connector

Connect this to your MIDI device. (p. 41)

5. LINE IN Jacks (L/R)

Connect these to the audio source (e.g., CD player) that you're sampling. (p. 10)

6. LINE OUT Jacks (L/R)

Connect these to your audio system, amp, or mixer. (p. 10)

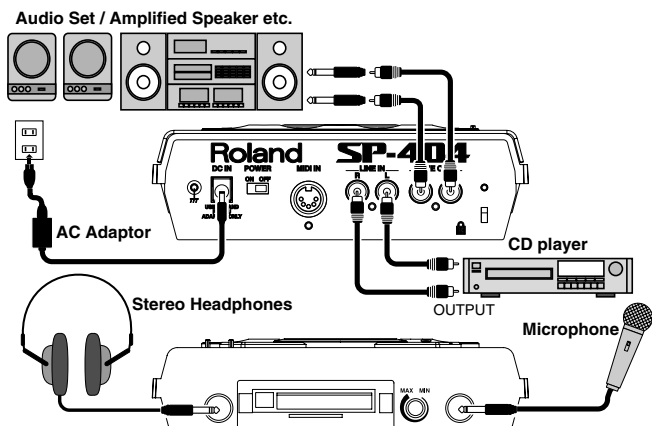
7. Security Slot ()

<http://www.kensington.com/>

Before You Start

Connecting Other Equipment

Refer to the illustration, and make connections in the order given below.



1. Turn off the power of all devices before you make connections.

NOTE

To prevent malfunction and/or damage to speakers or other devices, always turn down the volume, and turn off the power on all devices before making any connections.

2. Connect the included AC adaptor to the DC IN jack. Alternatively, you can power the SP-404 on six AA batteries. If you're running the SP-404 on batteries, this step is not necessary.

Installing the Batteries

Remove the battery compartment cover located on the bottom of the SP-404, and insert the batteries in the correct polarity (direction) as marked on the bottom of the unit. Then close the cover securely.

When the remaining battery capacity decreases, the display illumination will remain lit, and the dot in the lower right of the display will alternately blink at short and long intervals. If the batteries run down completely, "Lo" appears in the display and no further operations will be possible. If this occurs, replace the batteries immediately.

MEMO

The contents of the SP-404's internal memory are preserved even if the batteries run down.

MEMO

When the remaining battery capacity decreases, the sound may be distorted when the VOLUME knob is in certain positions. If this occurs, replace the batteries.

NOTE

When turning the unit upside-down, get a bunch of newspapers or magazines, and place them under the four corners or at both ends to prevent damage to the buttons and controls. Also, you should try to orient the unit so no buttons or controls get damaged.

NOTE

When turning the unit upside-down, handle with care to avoid dropping it, or allowing it to fall or tip over.

3. Connect the LINE OUT jacks to your audio system or amp. If you're using headphones, connect them to the PHONES jack.

If you want to record a sample (p. 14, p. 23), connect your CD player or other audio source to the LINE IN jacks, or connect a mic to the MIC IN jack. (If you will be using the SP-404's internal mic, this is not necessary.)

NOTE

When connection cables with resistors are used, the volume level of equipment connected to the inputs (LINE IN, MIC IN) may be low. If this happens, use connection cables that do not contain resistors, such as those from the Roland PCS series.

NOTE

Howling could be produced depending on the location of microphones relative to speakers. This can be remedied by:

1. Changing the orientation of the microphone(s).
2. Relocating microphone(s) at a greater distance from speakers.
3. Lowering volume levels.

4. Connect the AC adaptor to an AC power outlet.

Turning the Power On/Off

Turning the Power On

NOTE

Once the connections have been completed, turn on power to your various devices in the order specified. By turning on devices in the wrong order, you risk causing malfunction and/or damage to speakers and other devices.

1. Turn the SP-404's VOLUME knob all the way to the left to minimize the volume.
2. Minimize the volume of the connected amp or audio system.
3. Turn the SP-404's POWER switch to the ON position.

NOTE

Always make sure to have the volume level turned down before switching on power. Even with the volume all the way down, you may still hear some sound when the power is switched on, but this is normal, and does not indicate a malfunction.

4. Turn on the power of the connected amp or audio system.
5. While striking the SP-404's pads to produce sound, gradually raise the VOLUME knob to adjust the volume. Also, adjust the connected amp or audio system to the appropriate volume level.

Turning the Power Off

1. Minimize the volume of the SP-404 and the connected amp or audio system.
2. Turn off the power of the amp or audio system.
3. Turn off the power of the SP-404.

Inserting/Removing a Memory Card

NOTE

The power of the SP-404 must be turned off when you insert or remove a memory card. If you insert or remove a memory card while the power is on, you risk damaging the data of the memory card or rendering it unusable.

Inserting a Memory Card

1. Insert the memory card into the card slot located on the front panel.

NOTE

Carefully insert the memory card all the way in—until it is firmly in place.

NOTE

If a memory card is being used for the first time, you'll have to format it on the SP-404. (p. 38)

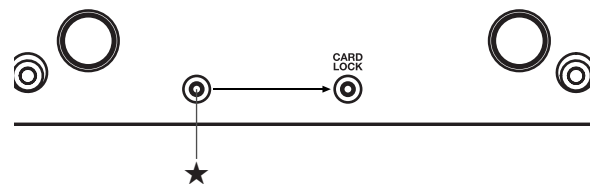
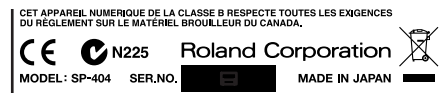
Memory cards that were formatted on another device will not be recognized by the SP-404.

Removing a Memory Card

1. Press the eject button located beside the front panel card slot. The memory card pops out partway. Grasp the memory card and pull it all the way out.

Preventing Theft of the Memory Card

When the SP-404 is shipped from the factory, a special screw is installed in the location marked ★ on the bottom of the unit. With the memory card cover attached, you can use a Phillips screwdriver to remove this screw and move it over to the hole marked "CARD LOCK." Once screwed in there, the memory card cover cannot be removed. This will help prevent theft of the memory card.



NOTE

When turning the unit upside-down, get a bunch of newspapers or magazines, and place them under the four corners or at both ends to prevent damage to the buttons and controls. Also, you should try to orient the unit so no buttons or controls get damaged.

NOTE

When turning the unit upside-down, handle with care to avoid dropping it, or allowing it to fall or tip over.

Quick Start

Listen to the Samples

When the SP-404 is shipped from the factory, pads 1–12 of sample bank A and pads 1 and 2 of sample bank B contain samples. Let's start by listening to these samples.

TERM

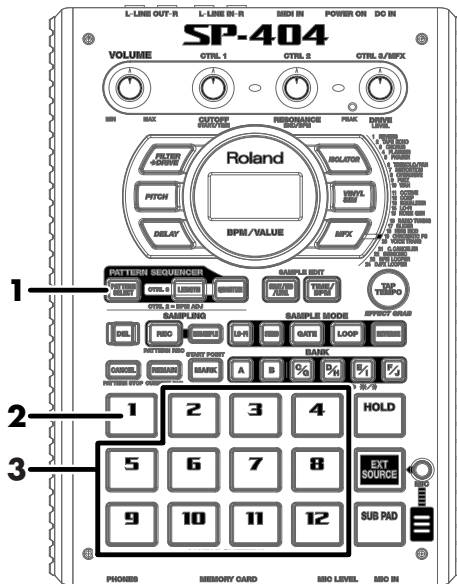
What's a **sample**?

A "sample" is a piece of recorded sound (a sampled waveform) together with various settings that specify how the sound will play, which is assigned to a pad.

TERM

What's a **sample bank**?

A "sample bank" is a group of twelve samples assigned to the pads. The SP-404 has ten sample banks: A–J.



1. **Make sure that [PATTERN SELECT] is not lit.**
If it's lit, press [PATTERN SELECT] to switch it off.
2. **Press pad 1.**
The pad lights while the sound plays.
3. **After you've verified that you can hear the sound, try pressing pads 2–12 as well.**
If you can't hear anything when you press a pad, make sure that sample bank A is selected (BANK [A] should be lit). If a different bank is selected, press BANK [A] to switch to bank A.

cf.

The force with which you press a pad won't change the volume. Using unnecessary force will cause malfunctions. For details on how to adjust the volume of the samples, refer to "Adjusting the Volume of a Sample" (p. 29).

About the Factory-set Samples and Patterns

NOTE

All rights reserved. Unauthorized use of this material for purposes other than private, personal enjoyment is a violation of applicable laws.

The samples (sample bank A, and pads 1 and 2 of sample bank B) and patterns (pattern bank A) that are assigned when the SP-404 is shipped cannot be restored to their factory-set state once you have erased or modified them.

If you want to preserve the factory-set state, you will need to purchase a separately available memory card (CompactFlash) and back up the data to the memory card.

cf.

Before you purchase a memory card, please read "Recommended Memory Cards" (p. 50).

cf.

For details on formatting a memory card and backing up the data, refer to "Chapter 6. Using a Memory Card" (p. 38).

Apply Effects to the Samples

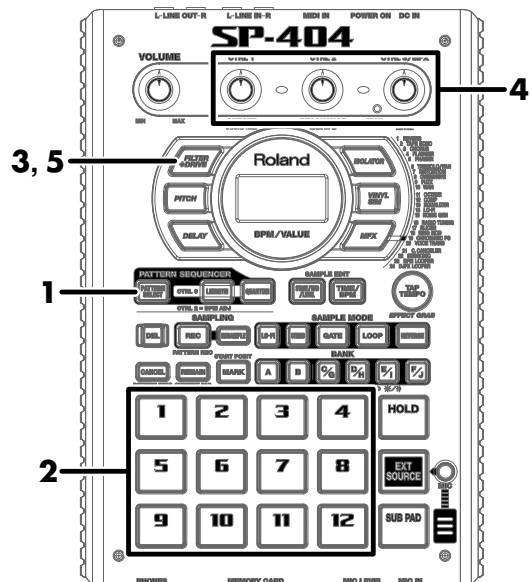
The SP-404 provides 29 different built-in effects, which can modify the sound in various ways.

Let's try out these effects to hear what they do.

Of the 29 effects, five of them—filter + overdrive, pitch shifter, delay, isolator, and vinyl simulator—can be selected directly by pressing a button.

The remaining 24 effects are found in MFX (multi-effects); hold down [MFX] and turn the CTRL 3/MFX knob to select the desired effect.

As an example, here's how to apply "filter + overdrive" to the sound of a sample.



1. **Make sure that [PATTERN SELECT] is not lighted.**
If it's lit, press [PATTERN SELECT] to switch it off.
2. **Press the pad that plays the sample to which you want to apply the filter + overdrive effect.**
The pad lights, and the sample begins playing.
3. **Press [FILTER+DRIVE] so it's lit.**
The filter + overdrive effect is applied to the sound of the sample.
4. **Turn the CTRL 1–3 knobs to adjust the filter + overdrive effect.**

CTRL 1 (CUTOFF)

This adjusts the cutoff frequency of the filter. Turning the knob toward the left will make the sound darker and more mellow. Turning the knob toward the right will make the sound brighter and clearer.

CTRL 2 (RESONANCE)

This adjusts the resonance of the filter. Turning the knob toward the right will give the sound a more distinctive character.

CTRL 3 (DRIVE)

This adjusts the amount of distortion. Turning the knob toward the right will increase the distortion, producing a more intense sound.

5. **To turn off the filter + overdrive effect, press [FILTER+DRIVE] so its LED goes out.**



For details on the pitch shifter, delay, isolator, and vinyl simulator, and for more about selecting the MFX effects and how they work, refer to "Chapter 2. Using Effects" (p. 18).

Play the Patterns

TERM

What's a **pattern**?

On the SP-404, you can press the pads to play several samples in the desired order, and record this performance as a song. Such a sequence of samples in a playback order is called a "pattern."

TERM

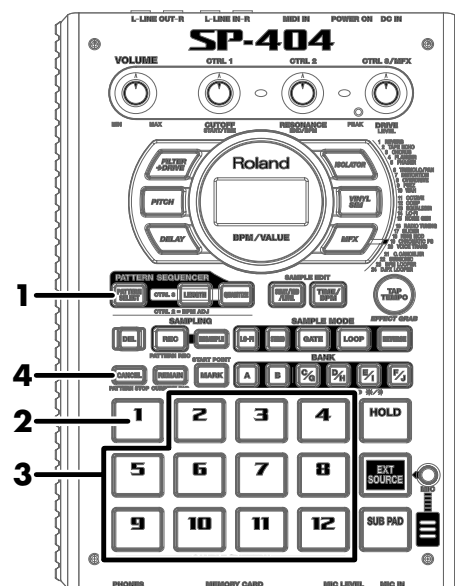
What's a **pattern bank**?

Like samples, patterns are also assigned to pads. A "pattern bank" is a group of twelve patterns assigned to pads 1–12. The SP-404 has ten pattern banks: A–J.

MEMO

Pattern banks and sample banks are independent. For example, the patterns of bank A are not restricted to using only the samples of sample bank A.

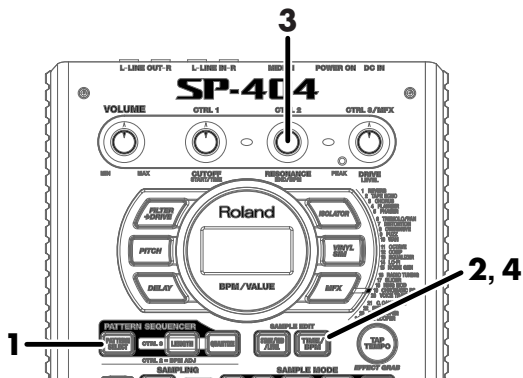
With the factory settings, patterns are assigned to pads 1–12 of pattern bank A. Let's go ahead and listen to them.



1. **Press [PATTERN SELECT] so it's lit.**
"Ptn" appears in the display.
 2. **Press pad 1.**
Pad 1 changes from blinking to lit, and the pattern begins playing.
If the pattern does not start playing when you press the pad, make sure that [PATTERN SELECT] is lit and bank A is selected (BANK [A] should be lit). If another bank is selected, select bank A by pressing BANK [A] while [PATTERN SELECT] is lit.
 3. **When you've heard the pattern play, try pressing pads 2–12 as well.**
If you press another pad while a pattern is playing, that pattern will be "reserved" for playback next. When the currently playing pattern has finished, the reserved pattern will begin playing automatically.
- TIP**
If you press a pad while holding down [SUB PAD], playback will change immediately to the pattern assigned to that pad.
4. **Press [CANCEL] (PATTERN STOP) to stop pattern playback.**

Changing the Tempo at Which a Pattern Plays

Here's how to change the playback tempo of a pattern.



1. Press [PATTERN SELECT] so it's lit.
2. Press [TIME/BPM] so it's lit.
3. Turn the CTRL 2 knob.
The playback tempo of the pattern changes. The display indicates the playback tempo as a BPM value.

TERM

What's **BPM**?
This stands for Beats Per Minute, indicating the number of quarter notes played in one minute.

4. Press [TIME/BPM] once again so it's no longer lit.

Sample Your Own Sounds

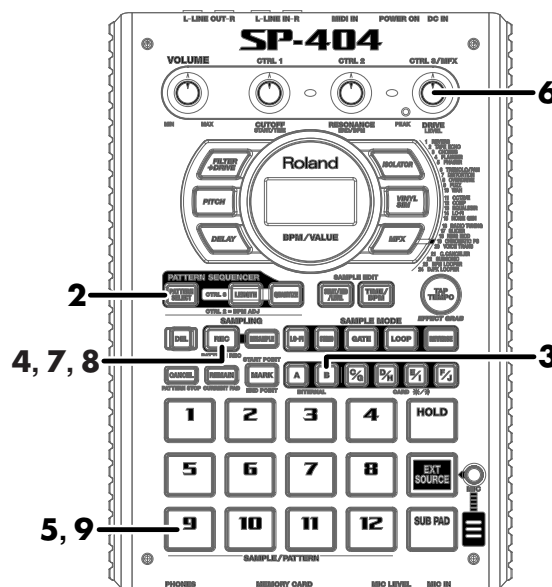
Let's try sampling into pad 9 of sample bank B, to which no samples were assigned when the SP-404 was shipped from the factory.

NOTE

Recording (sampling) audio material whose copyright is the property of another party without permission from the copyright owner for any purpose other than personal enjoyment is a violation of copyright law. Don't make illegal recordings.

NOTE

Roland Corporation shall assume no responsibility whatsoever with regard to any damages or penalties you may incur by using Roland products to make illegal recordings.



1. Connect your CD player as described in p. 10.
2. Make sure that [PATTERN SELECT] is not lighted.
If it's lit, press [PATTERN SELECT] to switch it off.
3. Press **BANK [B]** so it's lit.
4. Press [REC] so it's lit.
The SP-404 enters sampling-standby mode; pads to which no sample is assigned start blinking.
If at this point you decide not to sample, press [CANCEL] so [REC] goes out.
5. Press pad 9.
Pad 9 lights, while the other pads go out.
[REC] starts blinking.

6. Adjust the sampling level.

While playing the sound you want to sample, turn the CTRL 3 (LEVEL) knob to adjust the level so that the PEAK indicator lights occasionally.

TIP

If the PEAK indicator does not light even when you've turned the CTRL 3 (LEVEL) knob all the way toward the right, the volume of your audio input source may be too low. You could simply proceed with sampling, but in order to get the best possible audio quality, we recommend that you adjust the volume of your audio input source so that the PEAK indicator lights occasionally.

7. Play back the sound you want to sample, and press [REC] at the moment you want to begin sampling.

[REC] lights, and sampling begins.

8. Press [REC] at the moment you want to stop sampling.

Pad 9 and [REC] go out.

cf.

If you exceed the available sampling time, "FuL" appears in the display and sampling will end automatically. For details on the messages that appear in the display, refer to "Message List" (p. 49).

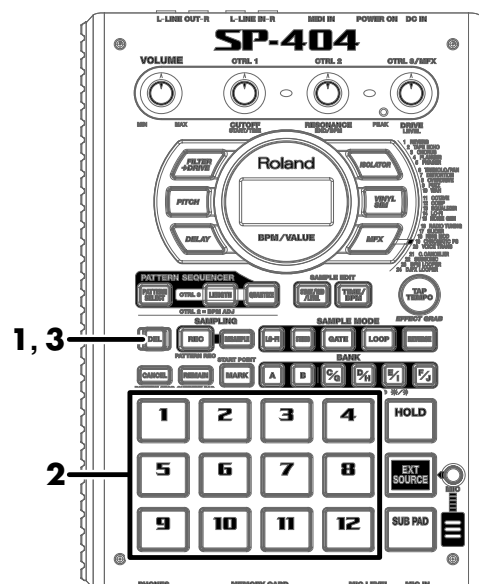
9. Press pad 9 to play back the sound you just sampled.

cf.

If the beginning or end of the sample contains unwanted sound or silence, you can make settings so that only the desired portion of the sample is played. For details, refer to "Omitting Unwanted Portions of the Sample (Marker/Start Point/End Point)" (p. 30).

If You're Not Happy with the Sound You Sampled

Here's how to delete the sampled sound and try again from step 4 of "Sample Your Own Sounds." Proceed as follows.



- 1. Press [DEL] so it's lit.**
Pads to which a sample is displayed start blinking. "dEL" appears in the display.
- 2. Press the pad to which the sample you want to delete is assigned.**
The pad lights, and [DEL] starts blinking.
- 3. Press [DEL].**
[DEL] changes from blinking to lit, and the dot in the display starts blinking.
Once the sample has been deleted, the blinking stops.

NOTE

Never turn off the power while the dot is blinking. If you turn off the power during this time, not only the sample you're deleting but the data of other samples may also be lost.

Chapter 1. Playing Samples

On the SP-404, pads 1–12 and the bank buttons are used to play samples.

A pad whose sample is playing will light.

The pad you pressed most recently to play it is called the **current pad**. The panel will show the settings for the current pad.

MEMO

When you edit the settings for a sample, your changes apply to the sample that is assigned to the current pad.

How Samples Are Organized

You can assign one sample to each pad 1–12 on the panel. The set of samples assigned to the twelve pads is called a **sample bank**. The SP-404 provides ten sample banks: A–J. Banks A and B are internal banks inside the SP-404 itself. Banks C–J are located on the memory card.

MEMO

When the power is turned on, sample bank A is selected.

Switching Sample Banks

* *Make sure that [PATTERN SELECT] is not lighted.*

To switch sample banks, press one of the BANK [A]–[F/J] buttons. The button you pressed will light, and that bank will be selected. If you press BANK [C/G]–[F/J] once again, the button will change from lit to blinking, and bank G–J will be selected.

MEMO

If no memory card is inserted in the slot, pressing BANK [C/G]–[F/J] will not select sample banks C–J.

NOTE

Never remove the memory card while playing a sample from sample banks C–J. Doing so may produce a loud sound that could damage your speakers or amp, and may damage the memory card itself.

When you insert an unused memory card (a card that has not been formatted on the SP-404), BANK [C/G]–[F/J] will blink, and “FMt” appears in the display.

To execute formatting of the memory card, press BANK [C/G]–[F/J].

BANK [C/G]–[F/J] changes from blinking to lit, and [DEL] begins blinking. Now, if you press [DEL], formatting will begin. Formatting will erase all of the data on the memory card, and prepare it for use with the SP-404.

NOTE

Never turn off the power or remove the memory card while formatting is in progress (while [DEL] is lit).

How Many Samples Can Play Simultaneously (Polyphony)

The SP-404 is able to play up to twelve samples simultaneously (i.e., the polyphony is 12 notes). However, each stereo sample will occupy two notes.

cf.

The stereo/mono setting of a sample can be specified only at the time of sampling; it cannot be changed afterward. For details on how to specify this at the time of sampling, refer to “Sampling from a CD” (p. 23).

Please note that the polyphony will be four notes when resampling.

cf.

For details on resampling, refer to “Applying an Effect to a Sample and Sampling It Again (Resampling)” (p. 26).

The Number of Samples That Can Play Simultaneously

	Monaural samples	Stereo samples
Normally	12	6
While resampling	4	2

Having a Sample Continue Playing After You Take Your Finger Off the Pad (Hold)

The Hold function allows you to get a sample to continue playing even after you take your finger from the pad.

This is useful when you want a sample to continue repeating. (Loop Playback, p. 29)

As an example, here’s how to use the Hold function on the sample assigned to pad 1 of bank B.

1. **Make sure that [PATTERN SELECT] is not lighted.**
If it’s lit, press [PATTERN SELECT] to switch it off.
2. **Make sure that BANK [B] is lit, and press pad [1] to play the sample.**
3. **Before you release your finger from the pad, press [HOLD].**
Hold is turned on ([HOLD] is lit), and the sample will continue playing even after you take your finger off the pad.
4. **Press [HOLD] once again to stop the sound.**
The pad will remain lit while the sample is playing.

TIP

The Hold function works only for samples that are set to Gate Playback ([GATE] is lit). If the sample is set to Trigger Playback ([GATE] is dark), the playback method is not affected by whether [HOLD] is pressed.

cf.

Gate Playback and Trigger Playback can be specified individually for each pad. Refer to p. 29 for details.

Playing an External Input Sound (External Source)

The SP-404 lets you control the playing/muted status of (and apply effects to) an external audio input source such as a CD player connected to the LINE IN jacks, a mic connected to the MIC IN jack, or sound from the SP-404's internal mic.

Using a CD Player

1. Start playback on your CD player.

* Make sure that [MIC] is not lighted.

2. Press [EXT SOURCE] so the pad is lit.

The line input sound will be heard while this pad is lit.

If [GATE] is lit, the sound will be heard only while you hold down [EXT SOURCE]. When you release the pad, the line input sound will be muted (the pad goes out).

If [GATE] is not lighted, the sound will alternately be heard (pad lit) or muted (pad dark) each time you press [EXT SOURCE].

MEMO

You can press [GATE] to switch the lit/unlit status of GATE.

3. To switch the external input between stereo and monaural, press [STEREO] to make the button light or go dark.

[STEREO] lit: The external input will be heard in stereo.

[STEREO] unlit: The external input will be heard in monaural.

TIP

You should have [STEREO] lit for sources that are originally stereo, such as a CD.

4. You can apply an effect to the external audio input by pressing one of the effect buttons to make it light. (p. 18)

TIP

If the effect is not applied to the external audio input when you press an effect button to make it light, you should hold down [REMAIN] (CURRENT PAD) and press [EXT SOURCE]. This will cause the effect to be applied to the external audio input.

Using Line Input and Mic Input Simultaneously

1. Input an audio signal from the device connected to the LINE IN jacks and from the mic.

2. Press [EXT SOURCE] and [MIC] so they are both lit.

MEMO

If [MIC] is not lighted, you won't be able to input sound from the mic.

NOTE

Howling could be produced depending on the location of microphones relative to speakers. This can be remedied by:

1. Changing the orientation of the microphone(s).
2. Relocating microphone(s) at a greater distance from speakers.
3. Lowering volume levels.

If [GATE] is lit, the sound will be heard only while you continue

holding down [EXT SOURCE]; the sound from the line and mic inputs will be muted when you release the pad (the pad goes out).

If [GATE] is not lighted, the sound will alternately be heard (pad lit) or muted (pad dark) each time you press [EXT SOURCE].

MEMO

You can press [GATE] to switch between lit/unlit states of GATE.

3. Press [STEREO] to make the button light or go dark; this switches the stereo/mono status of the external audio input.

[STEREO] lit: The external input will be heard in stereo.

[STEREO] unlit: The external input will be heard in monaural.

TIP

You should have [STEREO] lit for sources that are originally stereo, such as a CD.

4. You can apply an effect to the external audio input by pressing one of the effect buttons to make it light. (p. 18)

TIP

If the effect is not applied to the external audio input when you press an effect button to make it light, you should hold down [REMAIN] (CURRENT PAD) and press [EXT SOURCE]. This will cause the effect to be applied to the external audio input.

Adjusting the Volume of the External Audio Input

If the external input is distorted because the volume is too high, or if there is an obtrusive amount of noise because the volume is too low, you should adjust the volume as follows.

1. Press [EXT SOURCE] so the pad is lit. If you're inputting from a mic, you should also press [MIC] so it's lit.

The external audio input will be heard.

2. Press [START/END/LEVEL] so it's lit.

3. Turn the CTRL 3 (LEVEL) knob to adjust the volume of the audio input.

Turning the knob toward the left decreases the volume, and turning it toward the right increases the volume.

Adjust the volume so that the PEAK indicator lights occasionally.

TIP

If the volume of the external audio input does not change when you turn the CTRL 3 (LEVEL) knob, hold down [REMAIN] (CURRENT PAD) and press [EXT SOURCE]. (This operation will select the external input as the target for the volume adjustment.)

Then press [START/END/LEVEL] again and turn the CTRL 3 (LEVEL) knob to adjust the volume.

4. Press [START/END/LEVEL] once again.

[START/END/LEVEL] goes out, and the volume is set.

TIP

In some cases, the volume from a CD or the like may be too high, or if you're using a mic the sound may be distorted or too soft even though you've adjusted the volume. In such cases, you should adjust the volume at your CD player, or if using a mic, turn the MIC LEVEL knob to adjust the volume appropriately.

Chapter 2. Using Effects

Since the SP-404 provides 29 different effects, you can apply an effect to a sample to modify the sound without needing any other equipment.

- Of the 29 effects, five of them—filter + overdrive, pitch shifter, delay, isolator, and vinyl simulator—can be selected directly by pressing a button.
The remaining 24 effects are found in MFX (multi-effects), and you can select one of these for use.
- You can turn on only one effect at a time. It's not possible to turn more than one effect on simultaneously.
If you want to use multiple effects on one sample, or apply a different effect to each sample, you can perform **resampling**.

cf.

By resampling you can apply an effect to a sample and re-record it as a new sample. For details, refer to “Applying an Effect to a Sample and Sampling It Again (Resampling)” (p. 26).

Applying an Effect to a Sample

1. **Make sure that [PATTERN SELECT] is not lighted.**
If it's lit, press [PATTERN SELECT] to switch it off.
2. **Make sure that all effect buttons are dark.**
If any button is lit, press that button to make it go dark.
3. **Press the pad of the sample to which you want to apply an effect.**
The pad lights, and the sample starts playing. This pad is now the **current pad**.
4. **Press one of the effect buttons.**
The button you pressed lights.
An effect is on when its button is lit, and off when the button is dark.

MEMO

For some effects, there will be a brief interval of time from when you turn on the effect until the effect is actually applied to the sound.

5. **Turn the CTRL 1–3 knobs to adjust the effect.**

cf.

The actual change caused by turning the CTRL 1–3 knobs will depend on the effect that is selected. For details, refer to “Effect List” (p. 20).

Switching an Effect On/Off with Precise Timing (Effect Grab)

Normally, an effect button will switch the effect on/off each time you press the button, meaning that you'll need to press the button many times if you need to switch an effect on/off repeatedly. It's particularly difficult to turn an effect on/off rapidly with precise timing.

In such cases you can use the **Effect Grab function**.

To use the Effect Grab function, hold down [TAP TEMPO] (EFFECT GRAB) and press an effect button.

When you hold down [TAP TEMPO] (EFFECT GRAB) and press an effect button, the effect will be on only while you are pressing that button; this makes it easier to turn an effect on/off in precise timing with the tempo of the song.

Switching the Effect Selected by MFX

Here's how to switch the effect (MFX type) selected by MFX.

Using the CTRL 3/MFX Knob

1. **Hold down [MFX] and turn the CTRL 3/MFX knob.**
The display indicates the MFX type as a number 1–24. Turn the knob toward the right to increase the number, or toward the left to decrease it.
2. **When you've selected the number for the desired MFX type, release [MFX].**
MFX is turned on.

Using the Pads

1. **Hold down [MFX] and press a pad [1]–[12] to select MFX 1–12 directly. Hold down [MFX] and [VINYL SIM] and press a pad [1]–[12] to select MFX 13–24 directly.**
The display indicates the MFX type as a number 1–24, and MFX is turned on.

Applying an Effect to Multiple Samples

Normally, when you turn an effect on, it will be applied only to the sample of the current pad; the effect will not be applied to other samples.

However, you can use the following procedure to apply an effect to multiple pads including the current pad.

1. **Make sure that [PATTERN SELECT] is not lighted.**
If it's lit, press [PATTERN SELECT] to switch it off.
2. **Press the button for the effect you want to use, making the button light.**
3. **Press [REMAIN] (CURRENT PAD).**
The current pad starts blinking.
4. **While continuing to hold down [REMAIN] (CURRENT PAD), consecutively press each pad to which you want to apply the effect.**

Each pad you press starts blinking, and becomes the current pad. Of the pads you've pressed, pads other than the current pad will be lit.

	Effect
Pad lit	O
Pad unlit	X
Current pad: long blinking	O
Current pad: short blinking	X

TIP

Each time you hold down [REMAIN] (CURRENT PAD) and press the same pad, the effect will alternately be turned on/off for that pad.

5. **When you've pressed each pad to which you want to apply the effect, take your finger off of [REMAIN] (CURRENT PAD).**

MEMO

You can't apply a different type of effect to each pad. The same effect will be applied to each pad you specify.

Applying an Effect to All Samples

If you want an effect to apply to all pads at once, you would have to perform the above procedure for each pad, which would take some time.

However if you want to apply the effect to all pads, there's an easier way. Proceed as follows.

MEMO

This procedure will apply the effect to all pads of banks A–J.

1. **Make sure that [PATTERN SELECT] is not lighted.**
If it's lit, press [PATTERN SELECT] to switch it off.
2. **Hold down [REMAIN] (CURRENT PAD) and press the button of the effect you want to use.**

The selected effect button starts blinking.

All pads will be lit (the current pad will blink), and the effect will be applied to all pads.

Effect button	Effect
Lit	The effect will be applied to one or more samples.
Blinking	The effect will be applied to all 120 samples (10 banks x 12 pads).

Pads to which no sample is assigned will not light.

TIP

To return to the state in which the effect is applied only to the current pad, once again hold down [REMAIN] (CURRENT PAD) and press the effect button that's blinking.

NOTE

When an effect button is blinking, you can't switch the effect on/off for individual pads.

Checking the Previously Used Effect

This function is convenient when you've forgotten the type of effect (current effect) you were previously using.

MEMO

You can check this when an effect is not applied.

1. **Hold down [TAP TEMPO].**
The button of the current effect will blink while you hold down [TAP TEMPO].

MEMO

When you turn on the power, FILTER+DRIVE will be the current effect.

Pre-specifying the Parameters of the Effect You'll Select Next

Here's how you can pre-specify the desired parameter settings before you actually switch the effect type.

1. **Hold down [REMAIN] and turn the CTRL 1–3 knobs to set the parameters as desired.**

The display will indicate "C-1" when you turn the CTRL 1 knob, and "C-2" or "C-3" when you turn the CTRL 2 or CTRL 3 knobs, respectively.

2. **Press the effect button for the effect that you want to use next.**

The knob settings you adjusted in step 1 will be applied to the next effect.

MEMO

If you turn the CTRL 1–3 knobs while no effect is applied, the values will apply to the parameters of the current effect. If you don't need to change the effect type (i.e., if you press the same effect button in step 2), there's no need to perform step 1 "Hold down [REMAIN]."

Effect Limit Mode

If you turn on Effect Limit mode, the depth of the effect will be limited to prevent unintentionally loud sounds or oscillation. You may find this function convenient in high-volume situations, such as in a club or live performance.

1. **Hold down [CANCEL] and press [MFX] to turn Effect Limit mode on/off.**

"L.on": Effect Limit mode is on

"L.oF": Effect Limit mode is off

MEMO

When you turn on the power, this function will be off.

Send/Return Mode (FLANGER, PHASER)

If you turn on Send/Return mode, you'll be able to use the CTRL 3 knob to adjust the balance (the volume balance between the effect sound and direct sound) for the FLANGER or PHASER effect.

This allows you to completely eliminate the direct sound.

When Send/Return mode is ON, the CTRL 1 knob can be used to simultaneously adjust both DEPTH and RESONANCE.

When Send/Return mode is OFF, adjustments can be made independently, with the CTRL 1 knob adjusting the DEPTH while the CTRL 3 knob adjusts the RESONANCE.

This function is convenient when you've connected the SP-404 to the SEND/RETURN jacks of a DJ mixer (or other device), and are using the SP-404 as an effects processor.

1. **Hold down [CANCEL] and press [VINYL SIM] to switch the function on/off.**

"S.on": Send/Return mode is on

"S.oF": Send/Return mode is off

MEMO

When you turn on the power, this function will be on.

Effect List

Effects You Can Select by Directly Pressing a Button

Type	CTRL 1 (display)	CTRL 2 (display)	CTRL 3 (display)
FILTER+DRIVE ★	CUTOFF (CoF)	RESONANCE (rES) ★	DRIVE (drV) ★
Low-pass filter with overdrive. Cuts the high range and adds distortion.	Adjusts the frequency at which the cut occurs.	Adjusts the amount of peak located at the cutoff frequency.	Adds distortion.
PITCH ★	PITCH (Pit)	FEEDBACK (Fdb) ★	BALANCE (bAL)
Changes the pitch.	Specifies the pitch change in a +/-2 octave range.	Adjusts the amount by which the pitch-shifted sound is repeated.	Adjusts the volume balance between the direct sound and effect sound.
DELAY ★	DELAY TIME (t32-t1)	FEEDBACK (Fdb) ★	BALANCE (bAL)
Repeats the sound.	Adjusts the time at which the sound is repeated. (*1)	Adjusts the number of times that the sound is repeated.	Adjusts the volume balance between the direct sound and the effect sound.
ISOLATOR ★	LOW (Lo) ★	MID (Mid) ★	HIGH (Hi) ★
Extracts or eliminates low/mid/high ranges from the sound.	Extracts or eliminates the low range.	Extracts or eliminates the mid range.	Extracts or eliminates the high range.
VINYL SIM	COMPRESSOR (CMP)	NOISE LEVEL (noS)	WOW FLUTTER (FLu)
Gives the sound a character similar to an analog record.	Adjusts the amount of compression that is typical of an analog record.	Adjusts the volume of the noise that is typical of an analog record.	Adjusts the irregularity of rotation that is typical of an analog record.

★: These effects will be limited if Effect Limit mode (p. 19) is on.

The ★ symbol in the CTRL 1-3 columns indicates the parameters whose depth will be limited.

*1: For the time parameter (Delay Time), the value is specified in note-value units based on the current tempo for the length of the longest sample to which the effect is applied.

Available note values:

32nd note (t32) / 16th note (t16) / 8th note triplet (t8t) / dotted 16th note (t16.) / 8th note (t8) / quarter note triplet (t4t) / dotted eighth note (t8.) / quarter note (t4) / half note triplet (t2t) / dotted quarter note (t4.) / half note (t2) / dotted half note (t2.) / whole note (t1)

However, you cannot choose a setting that would cause the delay time to exceed approximately 2000 ms.

While a pattern is playing, the pattern tempo will be used.

MFx

Type	CTRL 1 (display)	CTRL 2 (display)	CTRL 3 (display)
1. REVERB	REVERB TIME (tiM)	TONE (ton)	BALANCE (bAL)
Adds reverberation to the sound.	Adjusts the reverberation time.	Adjusts the tone of the reverberation.	Adjusts the volume balance between the direct sound and effect sound.
2. TAPE ECHO ★	REPEAT RATE (rAt)	INTENSITY (int) ★	BALANCE (bAL)
Simulates a tape-based echo unit of the past.	Specifies the tape speed.	Specifies the amount of echo repeats.	Adjusts the volume balance between the direct sound and effect sound.
3. CHORUS	DEPTH (dBt)	RATE (rAt)	BALANCE
Adds spaciousness and depth to the sound.	Adjusts the depth of modulation.	Adjusts the rate of modulation.	Adjusts the volume balance between the direct sound and effect sound.
4. FLANGER ★ (S/R = ON)	DEPTH/RESONANCE (d-r) ★	RATE (rAt)	BALANCE (bAL)
Creates a twisting modulation reminiscent of a jet airplane taking off and landing. * When Send/Return mode is on:	Adjusts both DEPTH and RESONANCE simultaneously.	Adjusts the rate of modulation.	Adjusts the volume balance between the direct sound and effect sound.
(S/R = OFF)	DEPTH/MANUAL (dPt)	RATE (rAt)	RESONANCE (rES) ★
* When Send/Return mode is off:	Adjusts the depth of modulation. If the CTRL 2 knob (RATE) is turned all the way to the left, this knob adjusts the pitch (MANUAL).	Adjusts the rate of modulation. If this knob is turned all the way to the left, the modulation will stop, and the CTRL 1 knob (DEPTH) will adjust the pitch (MANUAL).	Gives a distinctive character to the sound.

Type	CTRL 1 (display)	CTRL 2 (display)	CTRL 3 (display)
5. PHASER ★ (S/R = ON)	DEPTH/RESONANCE (d-r) ★	RATE (rAt)	BALANCE (bAL)
Adds modulation to the sound. * When Send/Return mode is on:	Adjusts both DEPTH and RESONANCE simultaneously.	Adjusts the rate of modulation.	Adjusts the volume balance between the direct sound and effect sound.
(S/R = OFF)	DEPTH/MANUAL (dPt)	RATE (rAt)	RESONANCE (rES) ★
* When Send/Return mode is off:	Adjusts the depth of modulation. If the CTRL 2 knob (RATE) is turned all the way to the left, this knob adjusts the pitch (MANUAL).	Adjusts the rate of modulation. If this knob is turned all the way to the left, the modulation will stop, and the CTRL 1 knob (DEPTH) will adjust the pitch (MANUAL).	Gives a distinctive character to the sound.
6. TREMOLO/PAN	DEPTH (dPt)	RATE (rAt)	WAVEFORM (trM/PAn)
Cyclically varies the volume or pan.	Adjusts the amount of volume/pan change.	Adjusts the speed of volume/pan change.	Changes the type of curve by which the volume or pan will change cyclically. Turn the knob toward the left for volume change, or toward the right for pan change.
7. DISTORTION ★	DRIVE (drV) ★	TONE (ton) ★	LEVEL (LEV) ★
Intensely distorts the sound.	Adjusts the amount of distortion.	Adjusts the tone.	Adjusts the volume.
8. OVERDRIVE ★	DRIVE (drV) ★	TONE (ton) ★	LEVEL (LEV) ★
Mildly distorts the sound.	Adjusts the amount of distortion.	Adjusts the tone.	Adjusts the volume.
9. FUZZ ★	DRIVE (drV) ★	TONE (ton) ★	LEVEL (LEV) ★
Adds overtones to the sound to distort it intensely.	Adjusts the amount of distortion.	Adjusts the tone.	Adjusts the volume.
10. WAH ★	SENS (SnS)	FREQUENCY (Frq)	RESONANCE (rES) ★
Creates a wah effect.	Adjusts the sensitivity of the wah effect.	Adjusts the pitch of the effect sound.	Adjusts the peak amount of the wah.
11. OCTAVE	-2OCT LEVEL (oC2)	-1OCT LEVEL (oC1)	DIRECT LEVEL (dir)
Adds a lower pitch at octave intervals.	Adds a pitch two octaves below.	Adds a pitch one octave below.	Adjusts the volume of the direct sound.
12. COMP ★ (LIMIT = OFF)	SUSTAIN (SuS)	ATTACK (Att)	LEVEL (LEV) ★
Makes the volume more consistent. * When Effect Limit mode is off:	Adjusts the amount of compression.	Adjusts the sense of attack.	Adjusts the volume.
(LIMIT = ON)	SUSTAIN (SuS)	RELEASE (rEL)	LEVEL (LEV) ★
* When Effect Limit mode is on:	Adjusts the amount of compression.	Adjusts the sense of release.	Adjusts the volume.
13. EQUALIZER ★	LOW (Lo) ★	MID (Mid) ★	HIGH (Hi) ★
Adjusts the volume of each frequency range.	Adjusts the volume of the low-frequency range.	Adjusts the volume of the mid-frequency range.	Adjusts the volume of the high-frequency range.
14. LO-Fi ★	SAMPLE RATE (rAt)	BIT (bit) ★	FILTER (FLt)
Gives the sound a low-fidelity character.	Adjusts the sampling frequency.	Adjusts the bit depth.	Adjusts the filter depth.
15. NOISE GEN ★	COLOR (CoL)	QUALITY (qLt) ★	LEVEL (LEV) ★
Creates noise.	Adjusts the tone of the “shhh” noise.	Adjusts how often scratch noise (typical of an analog record) will be heard.	Adjusts the level of the “shhh” noise.
16. RADIO TUNING	TUNING (tun)	NOISE LEVEL (noS)	FREQUENCY RANGE (Frq)
Simulates the sound heard from a radio.	Adjusts the tuning drift of a radio.	Adjusts the volume of the noise.	Adjusts the tonal character.
17. SLICER ★	TIMING PTN (P01–16)	RATE (t1–t8)	FEEDBACK (Fdb) ★
Repetitively cuts the sound. A flanger is also applied.	Specifies the timing at which the sound is cut. (*2)	Adjusts the length of TIMING PTN. (*3)	Adjusts the depth of the flanger.
18. RING MOD ★	FREQUENCY (Frq) ★	SENS (SEn) ★	BALANCE (bAL)
Gives a metallic character to the sound.	Adjusts the pitch of the metallic sound.	Adjusts the depth of frequency modulation.	Adjusts the volume balance of the direct sound and effect sound.
19. CHROMATIC PS	PITCH 1 (-C–CC)	PITCH 2 (-C–CC)	BALANCE (bAL)
This is a two-voice pitch shifter that changes the pitch in semitone steps.	Adjusts Pitch 1 in semitone steps over a +/-1 octave range.	Adjusts Pitch 2 in semitone steps over a +/-1 octave range.	Adjusts the volume balance of the direct sound and effect sound.

Chapter 2. Using Effects

Type	CTRL 1 (display)	CTRL 2 (display)	CTRL 3 (display)
20. VOICE TRANS.	FORMANT (FrM)	EFFECT LEVEL (EFF)	DIRECT LEVEL (dir)
Transforms a human voice into various other voices.	Adjusts the basic character (formant) of the voice.	Adjusts the volume of the effect sound.	Adjusts the volume of the direct sound.
21. C.CANCELER	L-R BALANCE (L-r)	LOW BOOST (Lo)	HIGH BOOST (Hi)
Cancels the vocal or other sound localized at the center of the soundfield.	Find the point at which the unwanted sound is cancelled most effectively.	Boosts the low-frequency sound localized at the center of the soundfield, such as the bass.	Boosts the high-frequency sound.
22. SUBSONIC	PITCH (Pit)	THRESHOLD (tHr)	BALANCE (bAL)
Adds a low-frequency sine wave according to the volume that is being input to the effect. (*4)	Adjusts the frequency of the sine wave.	Adjusts the volume level at which the sine wave begins to sound.	Adjusts the volume balance of the direct sound and effect sound.
23. BPM LOOPER ★	LENGTH (LEn) ★	TIMING (oFF, 1-8)	LOOP SW (oFF, on)
Loops the input sound at a rapid rate.	Specifies the length of the loop.	Specifies the timing (8th note units) at which the looped sound will play automatically within the measure. (*5) * Set this to "oFF" if you don't want the loop to play automatically.	If you turn this on while playing sound, the sound at that moment will be looped. Turn this off to defeat looping.
24. DJFX LOOPER ★	LENGTH (LEn) ★	SPEED (-1.0-1.0)	LOOP SW (oFF, on)
This effect is essentially BPM LOOPER where TIMING is replaced by SPEED. You can change the playback direction and playback speed of the input sound, creating an effect as though you were manipulating a turntable.	Specifies the length of the loop.	Adjusts the playback direction and speed. Turning the knob left of the 12 o'clock position will play the sound in reverse, and turning it right of the 12 o'clock position will play the sound forward. Playback will stop at the 12 o'clock position.	If you turn this on while playing sound, the sound at that moment will be looped. Turn this off to defeat looping.

★: This indicates an effect that will be limited if Effect Limit mode (p. 19) is on.

The ★ symbol in the CTRL 1-3 columns indicates the parameters whose depth will be limited.

*2: If "17. SLICER" is selected as the MFX, turning the CTRL 1 knob will select from the following TIMING PTN (timing patterns).

P01 | 4/4 | |

P02 | 4/4 | |

P03 | 4/4 | |

P04 | 4/4 | |

P05 | 4/4 | |

P06 | 4/4 | |

P07 | 4/4 | |

P08 | 4/4 | |

P09 | 4/4 | |

P10 | 4/4 | |

P11 | 4/4 | |

P12 | 4/4 | |

P13 | 4/4 | |

P14 | 4/4 | |

P15 | 4/4 | |

P16 | 4/4 | |

*3: The TIMING PTN cycle will synchronize to the tempo of the longest sample to which the effect is applied.

However, if a pattern is playing, the TIMING PTN cycle will synchronize to the pattern tempo.

You can use RATE to adjust the rate as follows.

RATE minimum (CTRL 2 knob turned fully counterclockwise): One cycle of TIMING PTN is equivalent to one measure.

RATE maximum (CTRL 2 knob turned fully clockwise): One cycle of TIMING PTN is equivalent to an eighth note.

You can turn the CTRL 2 knob to select rates of one measure, 1/2 measure, 1/4 measure, or 1/8 measure.

*4: Turn the CTRL 3 balance to the 12 o'clock position, turn the CTRL 1 pitch all the way to the right, and adjust the CTRL 2 threshold so that the sine wave plays appropriately for the input source. When you've finished setting the threshold, adjust the pitch and balance.

This is a useful way to supplement a kick drum sound.

*5: The TIMING cycle will synchronize to the tempo of the longest sample to which the effect is applied.

However, if a pattern is playing, the TIMING cycle will synchronize to the pattern tempo.

Chapter 3. Sampling

NOTE

Recording (sampling) audio material whose copyright is owned by another party for any purpose except personal enjoyment without permission of the copyright owner is forbidden by law. Don't make illegal recordings.

NOTE

Roland Corporation shall assume no responsibility whatsoever with regard to any damages or penalties you may incur by using Roland products to make illegal recordings.

Before You Sample

Before you sample, read this section to understand the settings you'll make for sampling, and the amount of sampling time that is available.

Choosing High Quality or Lo-Fi Sampling (Sampling Grade)

For each pad, you can choose from two levels of audio quality (Sampling Grade): STANDARD or LO-FI.

Use the [LO-FI] button to switch the sampling grade.

[LO-FI] unlit: STANDARD

Choose this when you want to sample with high audio quality.

[LO-FI] lit: LO-FI

Choose this when you want to sample with lower fidelity for a much longer sampling time.

NOTE

You can't change the sampling grade after you've sampled.

Selecting Stereo or Monaural Sampling

For each pad, you can choose whether to sample in stereo or in monaural.

Press [STEREO] so it's lit for stereo sampling, or make the button go dark for monaural sampling.

NOTE

You can't switch between stereo and mono after you've sampled.

About the Sampling Time

The time available for sampling into the SP-404's internal memory and a memory card is described below.

MEMO

The times given here are for monaural sampling. For sampling into the SP-404's internal memory, the time shown is the total time for sample banks A and B. For sampling into a memory card, the time shown is the total time for sample banks C-J.

MEMO

For stereo sampling, the available sample time will be half the time listed here.

The SP-404's Internal Memory

STANDARD	LO-FI
Approximately 5 minutes	Approximately 11 minutes

Memory Card

Capacity	STANDARD	LO-FI
32 Mbyte	Approximately 12 minutes	Approximately 24 minutes
64 Mbyte	Approximately 24 minutes	Approximately 48 minutes
128 Mbyte	Approximately 48 minutes	Approximately 96 minutes
256 Mbyte	Approximately 96 minutes	Approximately 193 minutes
512 Mbyte	Approximately 193 minutes	Approximately 386 minutes
1 Gbyte	Approximately 386 minutes	Approximately 772 minutes

NOTE

If you've created patterns or saved backup data on a memory card, the available sampling time will be less than shown above.

cf.

If you've already sampled to all pads, or have used up the available sampling time, you'll need to delete unneeded samples before you continue, and sample to a vacant pad. For details, refer to "Deleting a Sample" (p. 27).

Sampling from a CD

Here's how to sample from a CD in stereo.

As an example, here's how to sample in stereo to pad 10 of bank B.

1. **As described on p. 10, connect your CD player to the LINE IN jacks.**
2. **Put the CD in play-standby mode.**
3. **Make sure that [PATTERN SELECT] is not lighted.**
If it's lit, press [PATTERN SELECT] to switch it off.
4. **Press [REC] so it's lit.**

The pads to which you can sample start blinking, and the SP-404 enters sampling-standby mode.

MEMO

If you decide to cancel sampling at this point, press [CANCEL] so [REC] goes out.

Chapter 3. Sampling

5. Press BANK [B] so it's lit.

Sample bank B is selected.

6. Press pad 10.

Pad 10 lights, and [REC] starts blinking.

7. Press [LO-FI] to select the sampling grade.

[LO-FI] unlit: STANDARD (high audio quality)

[LO-FI] lit: LO-FI (low fidelity audio)

8. Press [STEREO] so it's lit.

Stereo sampling is selected.

MEMO

If you select monaural sampling when the input source is stereo, the same sound will be recorded for L/R. In this case, the sense of stereo will be lost, but the sound will use only one note of polyphony and the memory consumption will also be half that of stereo; use the setting that's appropriate for your situation.

9. Start playback of your CD, and turn the CTRL 3 (LEVEL) knob to adjust the sampling level so that the PEAK indicator lights occasionally.

When you've finished making adjustments, stop your CD player and return it to play-standby mode.

10. If you want to apply an effect while you sample, press an effect button at this point.

The effect button you pressed will light, and the effect will be applied to the sound of the CD.

MEMO

You can use the CTRL 1 knob and CTRL 2 to adjust the effect at this time. The CTRL 3 knob is used to adjust the sampling level, so you won't be able to use it to adjust the effect.

11. Start playback of your CD, and press [REC] at the moment you want to begin sampling.

[REC] lights, and sampling begins.

NOTE

Never turn off the power while sampling is in progress. Doing so may damage not only the sample being recorded, but also other samples as well.

12. At the moment you want to stop sampling, press [REC].

[REC] and pad 10 go out.

If you applied effects in step 10 while sampling, the effect button will also go dark.

13. Press pad 10 to play back the sound you just sampled.

cf.

If the beginning or end of the sample contains unwanted sound or silence, you can make settings so that only the desired portion of the sample is played. For details, refer to "Omitting Unwanted Portions of the Sample (Marker/Start Point/End Point)" (p. 30).

Sampling from a Mic

Here's how to sample an audio source from a mic (monaural).

As an example, here's how to sample in monaural to pad 11 of bank B.

1. Connect a mic to the MIC IN jack as described on p. 10.

* If you're using the SP-404's internal mic, you don't need to make this connection.

2. Make sure that [PATTERN SELECT] is not lighted.

If it's lit, press [PATTERN SELECT] to switch it off.

3. Press [REC] so it's lit.

The pads to which sampling is possible start blinking, and the SP-404 enters sampling-standby mode.

MEMO

If you decide to cancel sampling at this point, press [CANCEL] so [REC] goes out.

4. Press BANK [B] so it's lit.

Sample bank B is selected.

5. Press pad 11.

Pad 11 lights, and [REC] starts blinking.

6. Press [LO-FI] to select the sampling grade.

[LO-FI] unlit: STANDARD (high audio quality)

[LO-FI] lit: LO-FI (low fidelity audio)

7. If [STEREO] is lit, press [STEREO] so its LED goes out.

Monaural sampling is selected.

MEMO

You can select stereo sampling when the input source is monaural, but this will use twice as much polyphony and consume twice as much memory space.

8. Press [MIC] so it's lit.

Now you can input audio from the mic.

9. Turn the CTRL 3 (LEVEL) knob all the way to the right, and while inputting sound into the mic, turn the MIC LEVEL knob to adjust the sampling level so that the PEAK indicator lights occasionally.

TIP

If the audio input is distorted, turn the CTRL 3 (LEVEL) knob toward the left until the sound is no longer distorted.

NOTE

Howling could be produced depending on the location of microphones relative to speakers. This can be remedied by:

1. Changing the orientation of the microphone(s).
2. Relocating microphone(s) at a greater distance from speakers.
3. Lowering volume levels.

10. If you want to apply an effect while you sample, press an effect button at this point.

The effect button you pressed will light, and the effect will be applied to the sound from the mic.

MEMO

You can use the CTRL 1 knob and CTRL 2 to adjust the effect at this time. The CTRL 3 knob is used to adjust the sampling level, so you won't be able to use it to adjust the effect.

cf.

At this point, you can specify the tempo or enter a count for sampling. For details, refer to "Sampling at a Specific Tempo" (p. 25) or "Using a Count When You Sample" (p. 26).

11. Press [REC].

[REC] lights, and sampling begins.

NOTE

Never turn off the power while sampling is in progress. Doing so may damage not only the sample being recorded, but also other samples as well.

12. When you want to stop sampling, press [REC].

[REC] and pad 11 go out.

If you applied effects in step 10 while sampling, the effect button will also go dark.

13. Press pad 11 to play back the sound you just sampled.**cf.**

If the beginning or end of the sample contains unwanted sound or silence, you can make settings so that only the desired portion of the sample is played. For details, refer to "Omitting Unwanted Portions of the Sample (Marker/Start Point/End Point)" (p. 30).

Sampling to a Memory Card Bank

As an example, here's how to sample to bank C of a memory card.

NOTE

The power of the SP-404 must be off when you insert or remove a memory card. If you insert or remove a card while the power is on, you risk damaging the data in the memory card or rendering it unusable.

1. Insert the memory card into the front panel card slot.**2. Turn on the power of the SP-404 (p. 10).****3. Press BANK [C] so it's lit.**

If the memory card has not been formatted for the SP-404, BANK [C/G]–[F/J] will blink, and the display will show "FMT" to indicate that you need to format the card.

1. Press any one of the BANK [C/G]–[F/J] buttons.

BANK [C/G]–[F/J] changes from blinking to lit, and [DEL] begins blinking.

2. Press [DEL] to begin formatting the card.

While the card is being formatted, the dot in the display will be blinking.

When formatting is complete, the blinking will stop.

3. Press BANK [C] once again so it's lit.**4. For the rest of the procedure, refer to "Sampling from a CD" (p. 23) or "Sampling from a Mic" (p. 24).**

Sampling at a Specific Tempo

If you specify a BPM (tempo) while you're in sampling-standby mode, the timing of the end point will be automatically set to the most recent BPM interval preceding the moment at which you pressed the button.

1. Make preparations for sampling as described in steps 1–10 of "Sampling from a CD" (p. 23) or "Sampling from a Mic" (p. 24).**2. Press [TIME/BPM] so it's lit.****3. Turn CTRL 2 (BPM) to specify the desired BPM.**

Turning the knob toward the right will increase the BPM (faster tempo), and turning it toward the left will decrease the BPM (slower tempo). If you turn the knob all the way toward the left, "----" appears in the display and the tempo setting will be canceled.

Range: 40–200

MEMO

If the BPM is 40–60 or 160–180, only even-numbered values can be set.

If the BPM is 180–200, you can specify a value of 180, 183, 186, 190, 193, 196, or 200.

MEMO

As an alternative to using the CTRL 2 (BPM) knob, you can set the BPM by using [TAP TEMPO]. When you press [TAP TEMPO] at regular intervals, those intervals will be taken to be the timing of the quarter notes, the BPM will be set to the corresponding tempo, and this value will appear in the display. This is useful when sampling from a CD or the like for which you don't know the actual BPM value.

4. Press [TIME/BPM] so its LED goes out.**5. Press [REC].**

[REC] lights, and sampling begins.

6. At the point where you want sampling to end, press [REC].

[REC] and the pad go out.

cf.

When sampling ends, the end point will automatically be set according to the BPM you specified, and [MARK] will light. Refer to "Omitting Unwanted Portions of the Sample (Marker/Start Point/End Point)" (p. 30).

cf.

If the sampled time extends across more than one measure or is less than one measure, the displayed BPM value may be doubled or halved. In this case, press [TIME/BPM] so it's lit, and turn the CTRL 2 (BPM) knob to correct the value as desired. Refer to "Changing a Sample's BPM" (p. 33).

MEMO

The displayed BPM value is an approximation based on the sampled time, and is subject to a certain amount of inaccuracy.

MEMO

Depending on the BPM value, the time corresponding to the BPM may not precisely match the time between the Start Point and End Point. For this reason, the timing may drift if you use Loop Playback (p. 29) to continue looping the sample for an extended length of time.

7. Press the pad into which you sampled, and the sound you sampled will play.

Using a Count When You Sample

You can make the SP-404 generate a count (1, 2, 3, 4) when you start sampling. This is convenient when you have a specific tempo or time signature in mind.

1. **Make preparations for sampling as described in steps 1–10 of “Sampling from a CD” (p. 23) or “Sampling from a Mic” (p. 24).**

cf.

You can specify a BPM (tempo) while in sampling-standby mode. For details, refer to “Sampling at a Specific Tempo.”

2. **Press [START/END/LEVEL] so it’s lit.**
3. **Press [REC].**
[REC] lights, and the display will indicate “-1-” -> “-2-” -> “-3-” -> “-4-” -> “rEC.” A count will also sound.
Sampling begins when the “rEC” indication appears.
4. **At the point where you want to stop sampling, press [REC].**
[REC], the pad, and [START/END/LEVEL] go out.
5. **Press the pad into which you sampled, and the sound you sampled will play.**

Initiating Sampling Automatically (Auto Sampling)

The SP-404 provides an Auto Sampling function that allows sampling to start automatically when the audio input signal exceeds the level you specify. This is useful when you want to begin sampling a song from the beginning.

The procedure described below will set the sampling-start level. Sampling will begin automatically when the input exceeds this level.

1. **Make sure that [PATTERN SELECT] is not lighted.**
If it’s lit, press [PATTERN SELECT] to switch it off.
2. **Hold down [CANCEL] and press [REC].**
[REC] starts blinking and “-0-” appears in the display
3. **Turn the CTRL 3 (LEVEL) knob to set the level.**
The level at which the PEAK indicator lights will be the sampling-start level. Turning the knob toward the right increases the level. The display shows the level (ten steps from 0–9) you’ve specified.
Example display: -3-

MEMO

If the display shows “-0-”, normal sampling (no auto sampling) will occur.

MEMO

If you decide to cancel auto sampling at this point, press [CANCEL] so [REC] goes out.

4. **Press [REC] to confirm the sampling-start level.**
[REC] goes out.
 5. **Make preparations for sampling as described in steps 1–10 of “Sampling from a CD” (p. 23) or “Sampling from a Mic” (p. 24).**
 6. **Press [REC].**
[REC] lights, and the SP-404 waits for an input signal. “rdY” appears in the display.
When the input from the LINE IN or mic exceeds the sampling-start level, sampling will begin.
When sampling begins, the indication in the display changes to “rEC.”
- NOTE**
- Never turn off the power while sampling. Doing so may destroy not only the sample being recorded, but also the other samples as well.
7. **At the point where you want to stop sampling, press [REC].**
[REC] and the pad go out.

When You Want to Disable Auto Sampling

1. **Make sure that [PATTERN SELECT] is not lighted.**
If it’s lit, press [PATTERN SELECT] to switch it off.
2. **Hold down [CANCEL] and press [REC].**
[REC] starts blinking.
3. **Turn the CTRL 3 (LEVEL) knob toward the left until the display indicates “-0-.”**
4. **Press [REC].**
[REC] goes out.

Applying an Effect to a Sample and Sampling It Again (Resampling)

The SP-404 lets you play back one or more samples with an effect applied, and sample the result as a new sample. This process is called **resampling**.

In the following example we’ll explain how to apply the “filter + overdrive” effect to pad 1 of bank A, and resample the result to pad 12 of bank B.

1. **Make sure that [PATTERN SELECT] is not lighted.**
If it’s lit, press [PATTERN SELECT] to switch it off.
2. **Press [RESAMPLE] so it’s lit.**
“LEV” appears in the display.
3. **Press BANK [A] (the resampling source) so it’s lit, and then press pad 1.**
Pad 1 lights, and the sample of pad 1 starts playing.

4. Press [FILTER+DRIVE] so it's lit.

The filter + overdrive effect is turned on, and the effect is applied to pad 1 of bank A.

As desired, turn the CTRL 1 and CTRL 2 knobs to adjust the effect.

MEMO

If [RESAMPLE] is lit, you can't use the CTRL 3 knob to adjust the effect. If you want to use the CTRL 3 knob to adjust the effect, press [CANCEL] to make [RESAMPLE] go dark.

5. Turn the CTRL 3 (LEVEL) knob to adjust the sampling level so that the PEAK indicator lights occasionally.**6. Press [REC] so it's blinking.**

The bank buttons and pads available for resampling start blinking.

7. Specify the resampling-destination by pressing the BANK [B] button to make it light, and then press pad 12.

Pad 12 lights.

NOTE

You can't resample to the same pad of the same bank of the original sample.

8. Press [LO-FI] to select the sampling grade.

[LO-FI] unlit: STANDARD (high audio quality)

[LO-FI] lit: LO-FI (low fidelity audio)

9. Press [STEREO] to select stereo or monaural sampling.

[STEREO] lit: stereo sampling

[STEREO] unlit: monaural sampling

10. Press [REC] so it's lit.

Resampling has not yet started at this point.

11. To specify the resampling source, press BANK [A] so it's lit, and press pad 1.

The pad 1 sample starts playing, and resampling starts at the same moment.

NOTE

Never turn off the power while resampling is in progress. Doing so may destroy not only the sample being resampled, but also other samples as well.

12. At the point where you want to stop resampling, press [REC].

[REC], pad 1, and [FILTER+DRIVE] go out.

BANK [A] goes out, and BANK [B] lights.

13. Press pad 12 to play the sound you just resampled.

Deleting a Sample

1. Make sure that [PATTERN SELECT] is not lighted.

If it's lit, press [PATTERN SELECT] to switch it off.

2. Press [DEL] so it's lit.

"dEL" appears in the display, and pads to which samples are assigned start blinking.

MEMO

If no samples are assigned to any pad in a bank, "EMP" appears in the display and you won't be able to execute the Delete operation.

3. Use the bank buttons and pads to specify the bank and pad for the sample you want to delete.

The selected pad lights, and [DEL] begins blinking again.

Nothing will happen if you press a pad to which no sample is assigned (i.e., an unlit pad).

TIP

You can simultaneously select more than one pad within the same bank.

MEMO

If you specify a bank that is protected (p. 43), "PrT" (Protected) appears in the display, and you won't be able to delete the sample.

MEMO

If you decide not to delete, press [CANCEL].

4. Press [DEL].

[DEL] changes from blinking to lit, and the dot in the display begins blinking.

The pad whose sample is being deleted lights.

Once the sample has been deleted, the dot will go dark.

NOTE

Never turn off the power while the dot is blinking. Doing so may destroy not only the sample you're deleting but also other samples and even the memory card.

Deleting All Samples

Here's how to delete all samples from internal memory or the memory card in a single operation.

1. Make sure that [PATTERN SELECT] is not lighted.

If it's lit, press [PATTERN SELECT] to switch it off.

2. Hold down [CANCEL] and press [DEL].

"dAL" appears in the display and [DEL] lights. BANK [A]-[F/J] begin blinking.

MEMO

If no memory card is inserted in the slot, BANK [C/G]-[F/J] will not blink.

3. Press one of the bank buttons to specify the memory that you want to delete.

BANK [A] or [B]: Internal memory

BANK [C/G]-[F/J]: Memory card

MEMO

If the memory is protected (p. 43), "PrT" (Protected) appears in the display, and you won't be able to delete any samples.

MEMO

If you decide not to delete, press [CANCEL].

4. Press [DEL].

[DEL] changes from blinking to lit, and the dot in the display begins blinking.

Once the samples have been deleted, the dot will go dark.

NOTE

Never turn off the power while the dot is blinking. Doing so may destroy not only the samples you're deleting but also other samples and even the memory card.

Exchanging Sample Pad Assignments

You can change the pad to which a sample is assigned by exchanging samples between two pads.

You can also exchange assignments between a pad to which a sample is assigned and a pad to which no sample is assigned.

1. Make sure that [PATTERN SELECT] is not lighted.

If it's lit, press [PATTERN SELECT] to switch it off.

2. Hold down [DEL] and press [REC].

"CHG" appears in the display and [DEL] and [REC] both light.

Pads to which samples are assigned start blinking.

3. Use the bank buttons and the pads to select one of the samples that you want to exchange.

The pad you pressed changes from blinking to lit.

4. Use the bank buttons and the pads to select the other sample you want to exchange.

The pad you pressed lights, and [REC] starts blinking.

Except for the two pads you pressed, all other pads go out.

MEMO

If you decide to cancel the exchange operation, press [CANCEL].

5. Press [REC].

[DEL] and [REC] both light, and the dot in the display starts blinking.

The pads being exchanged light.

When the exchange is complete, the dot goes dark.

NOTE

When exchanging samples between internal memory and a memory card, "FuL" appears in the display if there is not enough space in internal memory and the memory card, and the exchange will not be possible.

NOTE

Never turn off the power while the dot in the display is blinking. Doing so may destroy not only the samples being exchanged, but also the entire contents of internal memory and the memory card.

Checking the Remaining Sampling Time

1. Make sure that [PATTERN SELECT] is not lighted.

If it's lit, press [PATTERN SELECT] to switch it off.

2. Choose the memory for which you want to check the remaining time.

If you want to check the remaining time for internal memory, press BANK [A] or [B] so it's lit.

If you want to check the remaining time for a memory card, press one of the BANK [C/G]-[F/J] buttons so it's lit.

MEMO

The result is the same whether you press BANK [A] or [B] (or any button of BANK [B/G]-[F/J]).

3. Press [REMAIN].

The display shows the remaining time available for sampling at the "STANDARD" "monaural" setting.



MEMO

There will be a small amount of inaccuracy in the remaining time indication.

MEMO

When viewing the remaining time on a memory card, the method of displaying the minutes and seconds will depend on the amount of remaining time. If the remaining time is greater than ten minutes, only the number of seconds in the ten's place and higher will be displayed.



If the remaining time is greater than one hundred minutes, the number of seconds will not be displayed; only the "minutes" will be shown.



Chapter 4. Changing the Settings of a Sample

Specifying the Volume of a Sample

The SP-404 lets you specify the volume with which each sample is to play.

This is a convenient way to create a consistent volume balance between the samples of each pad.

- 1. Make sure that [PATTERN SELECT] is not lighted.**
If it's lit, press [PATTERN SELECT] to switch it off.
- 2. Press the pad to which the sample whose volume you want to adjust is assigned.**
The pad lights, and the sample starts playing. This pad is now the current pad.
- 3. Press [START/END/LEVEL] so it's lit.**
- 4. Turn the CTRL 3 (LEVEL) knob to adjust the volume of the sample.**
Turning the knob toward the left decreases the volume, while turning the knob toward the right increases it. A setting of 127 is the maximum volume. This will be the same volume as immediately after sampling.
- 5. Press [START/END/LEVEL] so its LED goes out.**
This completes the volume setting.

MEMO

While [START/END/LEVEL] is lit, you can also use the CTRL 1 and 2 knobs to adjust the Start Point and Edit Point (p. 30) as well. If you moved the CTRL 1 or 2 knob by accident, turn the CTRL 1 or 2 knob back to the center position. This will restore the original setting. If you press [START/END/LEVEL] to make the button go dark without turning the knobs back to the center, the Start Point and End Point will be remembered in their edited state.

Playing a Phrase Repeatedly (Loop Playback) or Only Once (One-shot Playback)

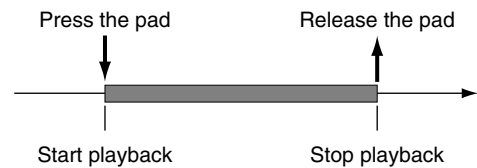
Use Loop Playback when you want to sample a phrase of several measures and play it back repeatedly.

Use One-shot Playback when you want the sample to play only once when you press the pad, for example in the case of a drum sound.

- 1. Make sure that [PATTERN SELECT] is not lighted.**
If it's lit, press [PATTERN SELECT] to switch it off.
- 2. Press the pad to which the sample whose setting (Loop/One-shot) you want to change is assigned.**
The pad lights, and the sample begins playing. This pad is now the current pad.
- 3. Press [LOOP] to make the button light or go dark.**
[LOOP] lit: Loop playback
[LOOP] unlit: One-shot playback

Making a Sample Play Only While You Hold Down the Pad (Gate Playback) or Continue Even If You Release the Pad (Trigger Playback)

If you choose Gate Playback, the sample will begin playing when you press the pad and will stop playing when you release the pad.

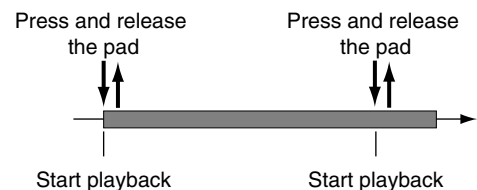


If you choose Trigger Playback, the sample will begin playing when you press the pad and will continue playing even when you release the pad.

What happens the next time you press the same pad will depend on whether the sample is set to One-shot or Loop playback.

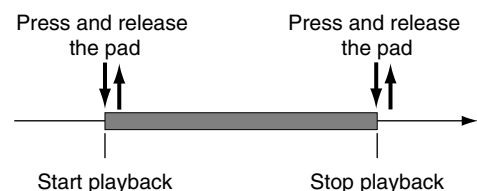
If One-shot Playback is selected ([LOOP] is dark):

The sample will play again from the beginning.



If Loop Playback is selected ([LOOP] is lit):

The sample playback will stop.



TIP

If you want a long phrase to continue playing, you'll probably choose Trigger Playback and Loop Playback as the settings here. In the case of a drum sample, you will usually choose Trigger Playback and One-shot Playback so that the sample will play to the end even if you press the pad only briefly.

MEMO

After sampling, the following settings are made automatically.
If the length resulting from automatic BPM calculation (p. 33) is less than one measure: Trigger Playback
If the length resulting from automatic BPM calculation (p. 33) is one measure or greater: Gate Playback

TIP

If you assign a long sample to Trigger Playback and One-shot Playback, the sound may continue beyond what you would like. To stop the sound, change the setting to Loop Playback and then press that pad. Alternatively, you can press [CANCEL] four times in rapid succession to get it to stop sounding.

Chapter 4. Changing the Settings of a Sample

1. Make sure that [PATTERN SELECT] is not lighted.

If it's lit, press [PATTERN SELECT] to switch it off.

2. Press the pad that plays the sample whose Gate/Trigger setting you want to change.

The pad lights and the sample begins playing. This pad is now the current pad.

3. Press [GATE] to make the button light or go dark.

[GATE] lit: Gate Playback

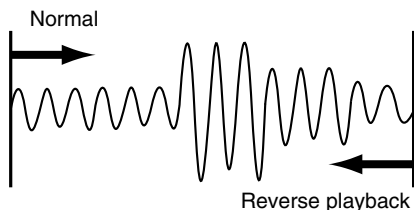
[GATE] unlit: Trigger Playback

MEMO

If [LOOP] is not lighted, and the sample plays to the end, playback will stop automatically and the pad will go dark even if you continue holding down the pad.

Playing a Sample Backward (Reverse Playback)

Reverse Playback plays a sample backward, creating an effect similar to playing a tape in the opposite direction.



MEMO

You can't use Time Modify (p. 33) and Reverse Playback at the same time. If you've specified Reverse Playback, the Time Modify setting is ignored.

1. Make sure that [PATTERN SELECT] is not lighted.

If it's lit, press [PATTERN SELECT] to switch it off.

2. Press the pad that plays the sample whose Reverse Playback setting you want to change.

The pad lights and the sample begins playing. This pad is now the current pad.

3. Press [REVERSE] so it's lit.

[REVERSE] lit: Reverse Playback

Each time you press [REVERSE], the setting will alternate between Reverse Playback and Normal Playback ([REVERSE] unlit).

MEMO

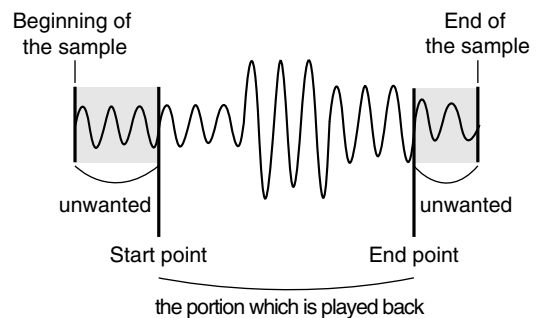
If you've chosen Reverse Playback, the relation between the Start Point and End Point will be inverted.

Omitting Unwanted Portions of the Sample (Marker/Start Point/End Point)

For each sample in the SP-404, you can specify the portion of that sample's waveform data that will actually play.

The point at which the waveform data will start being played is called the **Start Point**, and the point at which playback will end is called the **End Point**.

If the beginning of a sample you recorded contains unwanted noise or silence, you can set the Start Point to omit this portion. Similarly, you can set the End Point to omit an unwanted portion at the end.



cf.

When you set the Start Point and End Point, the BPM (tempo) will automatically be calculated and displayed according to the newly specified duration. If this duration is several measures or is less than one measure, the displayed BPM value may be half or double. If you want to correct the BPM to the desired value, refer to "Changing a Sample's BPM" (p. 33).

MEMO

For some time settings (for example three beats), it may not be possible to calculate or adjust the BPM value correctly.

Changing Both the Start Point and the End Point

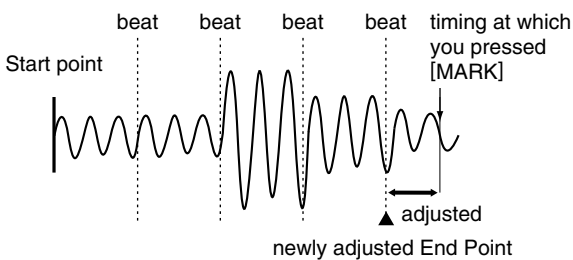
- 1. Make sure that [PATTERN SELECT] is not lighted.**
If it's lit, press [PATTERN SELECT] to switch it off.
- 2. Press the pad that plays the sample whose setting you want to change.**
The pad lights and the sample begins playing. This pad is now the current pad.
- MEMO**
If Gate Playback (p. 29) is selected, continue holding down the pad.
- 3. When you reach the point that you want to specify as the Start Point, press [MARK].**
[MARK] starts blinking, and "----" appears in the display
- 4. When you reach the point that you want to specify as the End Point, press [MARK] once again.**
When the setting has been made, [MARK] lights.

MEMO

If you were not able to make the setting as you wished, press the lit [MARK] button once again during playback to make it go dark, and try again from step **1**.

MEMO

If you specify the BPM (tempo) between steps **3** and **4**, the end point will automatically be set to the location of the beat closest to the moment you pressed [MARK] in step **4** (i.e., a number of beats from the Start Point). To specify the BPM, you can press [TIME/BPM] so it's lit and turn the CTRL 2 knob, or press [TAP TEMPO] several times.



Changing Only the End Point

- 1. Make sure that [PATTERN SELECT] is not lighted.**
If it's lit, press [PATTERN SELECT] to switch it off.
- 2. Hold down [MARK] and press the pad that plays the sample whose setting you want to change.**
The pad lights and the sample begins playing. This pad is now the current pad.
- MEMO**
If Gate Playback (p. 29) is selected, continue holding down the pad.
- 3. Release [MARK].**
[MARK] starts blinking, and "----" appears in the display
- 4. When you reach the point that you want to specify as the End Point, press [MARK].**
When the setting has been made, [MARK] lights.

MEMO

If you were not able to make the setting as you wished, press the lit [MARK] button once again during playback to make it go dark, and try again from step **1**.

MEMO

If you specify the BPM (tempo) between steps **3** and **4**, the end point will automatically be set to the location of the beat closest to the moment you pressed [MARK] in step **4** (i.e., a number of beats from the Start Point). To specify the BPM, you can press [TIME/BPM] so it's lit and turn the CTRL 2 knob, or press [TAP TEMPO] several times.

Changing Only the Start Point (the End Point Is the End of the Sample)

- 1. Make sure that [PATTERN SELECT] is not lighted.**
If it's lit, press [PATTERN SELECT] to switch it off.
- 2. Press the pad that plays the sample whose setting you want to change.**
The pad lights and the sample begins playing. This pad is now the current pad.
- MEMO**
If Gate Playback (p. 29) is selected, continue holding down the pad.
- 3. When you reach the point that you want to specify as the Start Point, press [MARK].**
[MARK] starts blinking.
- 4. Press the pad once again. (If Gate Playback is selected, release the pad.)**
When the setting has been made, [MARK] lights.

MEMO

If you were not able to make the setting as you wished, press the lit [MARK] button once again during playback to make it go dark, and try again from step **1**.

Making Fine Adjustments to the Start Point or End Point

1. **Make sure that [PATTERN SELECT] is not lighted.**
If it's lit, press [PATTERN SELECT] to switch it off.
2. **Press the pad that plays the sample whose setting you want to change.**
The pad lights and the sample begins playing. This pad is now the current pad.
3. **Press [START/END/LEVEL] so it's lit.**
4. **Turn the CTRL 1 (START) knob.**

The center position of the knob corresponds to the current Start Point. Turn the knob toward the left to move the Start Point earlier, or turn it toward the right to move the Start Point later in time.

MEMO

If the Start Point is set at the beginning of the sample, turning the knob toward the left won't move the Start Point.

MEMO

If you decide to discard the change you made, return the CTRL 1 (START) knob to the center position so that the display indicates "0."

5. **Turn the CTRL 2 (END) knob.**

The center position of the knob corresponds to the current End Point. Turn the knob toward the left to move the End Point earlier, or turn it toward the right to move the End Point later in time.

MEMO

If the End Point is set at the end of the sample, turning the knob toward the right won't move the End Point.

MEMO

If you decide to discard the change you made, return the CTRL 2 (END) knob to the center position so that the display indicates "0."

6. **Press [START/END/LEVEL] so its LED goes out.**
This completes the Start Point and End Point settings.

MEMO

Performing this procedure once allows you to move the Start Point or End Point a maximum of approximately 130 ms forward or backward. If you need to move a point farther than this, simply repeat steps 3–6 as many times as necessary.

MEMO

You can't set the Start Point and End Point closer than approximately 100 ms from each other.

MEMO

If the Start Point and End Point both return to the beginning and end of the sample (respectively) as a result of this operation, [MARK] will go dark.

MEMO

If you move the Start Point or End Point of a sample for which [MARK] is not lighted, [MARK] will light.

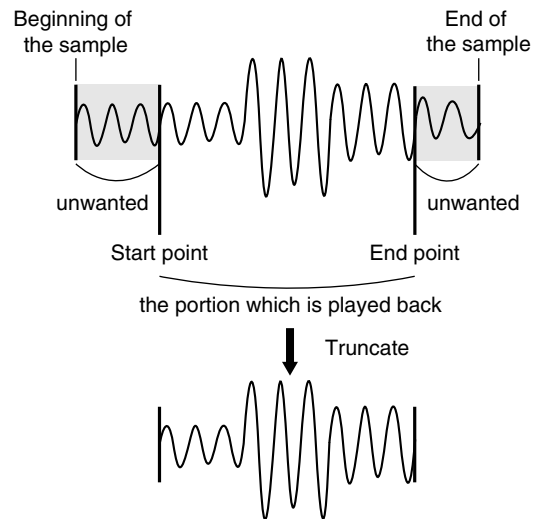
MEMO

When you move the Start Point or End Point, the BPM (tempo) of the sample will automatically change accordingly. However, there will be a slight inaccuracy in this BPM value.

Deleting an Unwanted Portion (Truncate)

Adjusting the Start/End Points will result in some of the waveform data being unneeded.

You can delete (truncate) this portion of the waveform to make the most efficient use of memory.



1. **Make sure that [PATTERN SELECT] is not lighted.**
If it's lit, press [PATTERN SELECT] to switch it off.
2. **Press the pad that plays the sample whose setting you want to change.**
The pad lights and the sample begins playing. This pad is now the current pad.
3. **Verify that you've set the Start Point and/or End Point ([MARK] is lit).**
4. **Press [DEL] so it's lit.**

MEMO

The pad will also blink at this time, but don't press the pad.

5. **Press [MARK].**
[DEL] changes from lit to blinking, and "trC" appears in the display.
6. **Press [DEL].**
[DEL] lights, and the Truncate operation is executed. The dot in the display will blink while the operation is being executed.

NOTE

Never turn off the power while the dot is blinking. Doing so may destroy not only the sample being truncated, but also the other samples or the memory card itself.

Changing a Sample's BPM

The BPM (tempo) of a sample is determined automatically by the length of the interval between the sample's Start Point and End Point. However depending on this length, the calculated BPM value may be half or double the correct BPM. If this occurs, proceed as follows to set the BPM correctly.

- 1. Make sure that [PATTERN SELECT] is not lighted.**
If it's lit, press [PATTERN SELECT] to switch it off.
- 2. Press the pad that plays the sample whose setting you want to change.**
The pad lights and the sample begins playing. This pad is now the current pad.
- 3. Press [TIME/BPM] so it's lit.**
- 4. Turn the CTRL 2 (BPM) knob to change the BPM value.**
Turn the knob toward the left if you want to halve the displayed value, or toward the right if you want to double it.
- 5. Press [TIME/BPM] once again so it's no longer lit.**
This completes the BPM setting.

MEMO

Note that while [TIME/BPM] is lit, you can also use the CTRL 1 (TIME) knob to adjust the sample playback time.

Changing the Length of a Sample without Affecting the Pitch (Time Modify)

If you want to consecutively play samples that are in the same key but have a different tempo, you can use the Time Modify function to ensure that the samples play smoothly in succession without disrupting the tempo.

MEMO

If Reverse Playback (p. 30) is enabled, the Time Modify setting is ignored and will not be applied. If you want to use Time Modify, you'll need to turn Reverse Playback off.

- 1. Make sure that [PATTERN SELECT] is not lighted.**
If it's lit, press [PATTERN SELECT] to switch it off.
- 2. Press the pad that plays the sample whose setting you want to change.**
The pad lights and the sample begins playing. This pad is now the current pad.
- 3. Press [TIME/BPM] so it's lit.**
- 4. Turn the CTRL 1 (TIME) knob.**

The BPM value shown in the display changes, and the length of the sample is adjusted.

Turning the knob toward the left will lengthen the sample, slowing down the tempo. Turning the knob toward the right will shorten the sample, speeding up the tempo.

If you turn the knob all the way to the left, the Time Modify function will be turned off, and the sample will play at its original length. ("oFF" appears in the display.)

If you turn the knob all the way to the right, the sample will play at the pattern tempo. ("Ptn" appears in the display.)

MEMO

The BPM can be adjusted in a range between half and approximately 1.3 times the original BPM of the sample. However, the BPM cannot exceed the range of 40–200.

MEMO

If the Time Modify setting is "Ptn," the tempo of the sample will change to follow the pattern tempo as long as it is within the range of between half and approximately 1.3 times the original BPM of the sample. If the pattern tempo is set outside this range, the tempo of the sample will be limited to a maximum of 200 or a minimum of 40.

- 5. Press [TIME/BPM] once again so it's no longer lit.**
This completes the Time Modify setting.

MEMO

A sample to which Time Modify is applied may appear as though the sound is quavering, or you may notice noise.

Chapter 5. Recording a Performance of Samples (Pattern Sequencer)

You can play samples and record this performance as a pattern that can be played back later.

Another way to use this capability is to combine several phrase samples to create a simple song, or to combine rhythm samples to create rhythm patterns.

How Patterns Are Organized

If [PATTERN SELECT] is lit, a different pattern can be assigned to each of the pads 1–12. A group of twelve patterns assigned to the pads is called a **pattern bank**. The SP-404 provides ten pattern banks; A–J. Pattern banks A and B are in the SP-404's internal memory, and pattern banks C–J are on the memory card.

MEMO

When you turn on the power, pattern bank A is selected.

If [PATTERN SELECT] is lit, BANK [A]–[F/J] are used to specify a pattern bank, and pads 1–12 are used to specify a pattern.

Changing the Tempo of a Pattern

The pattern tempo is common to all patterns.

NOTE

You can't store a tempo setting for each individual pattern.

1. Press [PATTERN SELECT] so it's lit.

"Ptn" appears in the display.

2. Press [TIME/BPM] so it's lit.

The pattern tempo (BPM) appears in the display.

NOTE

If the pattern tempo is synchronized to the tempo of your MIDI sequencer (p. 42), "Mid" appears in the display and you won't be able to perform the remaining steps of this procedure.

3. Turn the CTRL 2 (BPM) knob to set the BPM.

The BPM you specify is shown in the display.

Turning the knob toward the right increases the BPM (faster tempo), while turning it toward the left decreases the BPM (slower tempo).

Range: 40–200

MEMO

If the BPM is 40–60 or 160–180, only even-numbered values can be set.

If the BPM is 180–200, you can specify a value of 180, 183, 186, 190, 193, 196, or 200.

4. Press [TIME/BPM] so its LED goes out.

This completes the BPM setting.

Matching the Tempo of a CD or Turntable

You can set the pattern tempo by pressing [TAP TEMPO] in rhythm with the playback of a CD or turntable.

When you press [TAP TEMPO] at regular intervals, those intervals will be detected as quarter notes and the BPM will be set accordingly. This value will appear in the display.

Stopping Pattern Playback

Once playback begins, the pattern will continue playing even after you take your finger off of the pad.

To stop pattern playback, press [CANCEL] (PATTERN STOP).

TIP

When [PATTERN SELECT] is lit and the display indicates "Ptn," you can also stop pattern playback by pressing the lit pad (the pad for the currently playing pattern).

Switching Patterns During Playback

1. Press [PATTERN SELECT] so it's lit.

"Ptn" appears in the display, and the pads to which patterns are assigned lights.

2. Press one of the BANK [A]–[F/J] buttons to specify the bank of the pattern you want to select. (The selected bank button lights.)

If you want to select a bank G–J, press BANK [C/G]–[F/J] once again so it's blinking.

MEMO

If no memory card is inserted, you can't select pattern banks C–J.

3. Press the pad of the desired pattern.

If you press a pad while a pattern is already playing, the pattern of the newly pressed pad will be reserved for playback next. When the currently playing pattern has played to the end, the reserved pattern will begin playing automatically.

TIP

You can switch immediately to another pattern by holding down [SUB PAD] and pressing the desired pad.

MEMO

If you press a pad to which no pattern is assigned (i.e., an unlit pad), nothing will happen.

Recording a Pattern

When you play samples and record your performance as a pattern, recording will continue repeatedly over the specified number of measures (Loop Recording), allowing you to continue layering (overdubbing) samples to build up your pattern.

1. Press [PATTERN SELECT] so it's lit.

"Ptn" appears in the display and the pads to which patterns are assigned start blinking.

NOTE

If [PATTERN SELECT] is not lighted, the SP-404 is in Sampling mode.

2. Press [REC] so it's lit.

All pads to which no pattern is assigned begin blinking.

3. Press one of the BANK [A]–[F/J] buttons to select the pattern bank that you want to use for recording.

Chapter 5. Recording a Performance of Samples (Pattern Sequencer)

MEMO

If no memory card is inserted, you can't select pattern banks C–J.

4. Press the pad to which you want to assign the pattern to be recorded.

The pad you pressed lights, and the remaining pads go out. [REC] starts blinking, and the metronome begins sounding.

5. Press [START/END/LEVEL] so it's lit.

6. Turn the CTRL 3 (LEVEL) knob to adjust the metronome volume.

7. Press [TIME/BPM] so it's lit.

The display shows the pattern tempo (BPM).

8. While listening to the metronome, turn the CTRL 2 (BPM) knob to adjust the pattern tempo.

Range: 40–200

MEMO

If the BPM is 40–60 or 160–180, only even-numbered values can be set.

If the BPM is 180–200, you can specify a value of 180, 183, 186, 190, 193, 196, or 200.

TIP

You can also set the tempo by pressing [TAP TEMPO] several times at a regular interval. If you use [TAP TEMPO], you'll be able to set the BPM to any desired value in the range of 40–200.

9. Press [LENGTH] so it's lit.

The display shows the length of the pattern to be recorded (as a number of measures).

10. Turn the CTRL 3 knob to specify the length of the pattern.

The display shows the pattern length (the number of measures) that you specify.

Range: 1–99

MEMO

If a pattern already contains data, you can't make it shorter than its current length.

Lengths of 1–20 measures can be specified in one-measure steps, and lengths greater than this can be specified in four-measure steps.

11. Press [QUANTIZE] so it's lit.

[LENGTH] goes out.

The display shows the current quantization setting.

TERM

What is **quantization**?

When you press the pads to play samples, a certain amount of timing inaccuracy will inevitably occur. Quantization is a function that automatically corrects these timing inaccuracies when you record. If you're using quantization, the recorded timing will automatically be corrected to precise intervals of quarter notes, eighth notes, sixteenth notes, etc. In particular for groove-based music, this function is a convenient way to ensure that your timing is tight. It's also convenient when creating rhythm patterns.

12. Turn the CTRL 3 knob to specify the quantization.

The display shows the quantization setting you specify.

The indications in the display have the following meanings.

4: Adjust timing to quarter note intervals.

4-3: Adjust timing to quarter note triplet intervals.

8: Adjust timing to eighth note intervals.

8-3: Adjust timing to eighth note triplet intervals.

16: Adjust timing to sixteenth note intervals.

16-3: Adjust timing to sixteenth note triplet intervals.

32: Adjust timing to thirty-second note intervals

OFF: No quantization. The exact timing you use in pressing pads will be recorded.

13. Press [QUANTIZE] so its LED goes out.

14. Press [REC].

[REC] changes from blinking to lit, and recording begins.

A one-measure count will occur before recording actually begins. Wait for one measure while you listen to the metronome. During the count, the display will show the count as -4, -3, -2, -1.

When the count ends, recording will begin, and the display will show the measure and beat.

MEMO

Pads you play during the count will not be recorded.

15. Press pads at the desired timing to record them.

During recording, pressing the pads will play the assigned samples. You can also use the bank buttons to switch sample banks.

The samples of the pads you press will sound, and they will be recorded with the timing corrected by the Quantize setting.

When the measure number shown in the display exceeds the specified length of the pattern, recording will automatically return to the first measure and continue (Loop Recording).

At this time, the performance you recorded on the previous passes will play.

TIP

If you press [REC] once again so it's blinking, "rEH" appears in the display, indicating you are in **rehearsal** mode. While in this mode, pressing a pad causes its sample to play, but it will not be recorded. If you press [REC] once again so it's lit, rehearsal mode will be cancelled and you will return to normal recording. Rehearsal mode provides a convenient way to check the sound of the sample you intend to record next.

16. Press the pads of the other samples you want to record.

The pad presses you perform on this pass will be added to the pad presses you recorded on the previous pass. (This is called overdubbing.) This allows you to build up complex performances that might be difficult to play in a single pass, or that would require you to play several samples simultaneously.

If you want to change the quantization while recording

1. Press [QUANTIZE] so it's lit.

2. Turn the CTRL 3 knob to change the quantization setting.

3. Press [QUANTIZE] to turn off its LED.

The new quantization setting is activated, and is immediately applied to pattern recording.

17. When you have finished recording, press [CANCEL].

The dot in the display starts blinking. When the recorded data has been stored, the blinking stops.

NOTE

Never turn off the power while the dot is blinking. Doing so may destroy not only the recorded pattern but also other patterns and even the memory card.

Erasing Mistakes from the Recorded Data

If you recorded a pad press by mistake, you can erase it as follows.

1. Press [PATTERN SELECT] so it's lit.

"Ptn" appears in the display.

Pads to which a pattern is assigned start blinking.

NOTE

If [PATTERN SELECT] is not lighted, you're in Sampling mode.

2. Press [REC] so it's lit.

3. Press the pad for the pattern that contains the performance with the mistake you want to delete.

The pad you pressed lights, and the other pads go out.

[REC] starts blinking, and the metronome begins sounding.

4. Press [REC].

[REC] changes from blinking to lit, and recording begins.

The recorded performance starts playing.

NOTE

If you press a sample pad at this time, it will be recorded.

5. Press [DEL] so it's lit.

"ErS" is shown in the display.

6. At the appropriate moment, press the pad of the sample you want to erase.

While you hold down the pad, the dot in the display will blink, and the recorded presses of that pad will be erased.

TIP

You can erase the recorded performance of all pads by holding down [HOLD].

7. Repeat step 6 as necessary.

8. When you're finished erasing mistakes, press [DEL].

[DEL] goes out, and the pattern returns to normal recording mode.

NOTE

If you press a sample pad at this time, it will be recorded.

9. Press [CANCEL].

The dot in the display starts blinking. Once the data you specified has been erased, the blinking stops.

NOTE

Never turn off the power while the dot is blinking. Doing so may destroy not only the recorded pattern but also other patterns and even the memory card.

Deleting a Pattern

1. Press [PATTERN SELECT] so it's lit.

"Ptn" appears in the display.

Pads that have been recorded start blinking.

NOTE

If [PATTERN SELECT] is not lighted, this procedure will delete samples (p. 27).

2. Press [DEL] so it's lit.

"dEL" appears in the display.

MEMO

If no patterns are assigned to any pads of the bank, "EMP" appears in the display and you won't be able to execute the Delete operation.

3. Use the bank buttons and pads to specify the bank and pad of the pattern you want to delete.

The selected pad lights, and [DEL] starts blinking.

Nothing will happen if you press a pad to which no pattern is assigned (i.e., an unlit pad).

TIP

You can simultaneously select more than one pad within the same bank.

MEMO

If you specify a bank that is protected (p. 43), "Prt" (Protected) appears in the display, and you won't be able to delete the pattern.

MEMO

If you decide not to delete the pattern, press [CANCEL].

4. Press [DEL].

[DEL] lights, and the dot in the display starts blinking.

When the pattern you specified has been deleted, the blinking will stop.

NOTE

Never turn off the power while the dot is blinking. Doing so may destroy not only the pattern you're deleting but also other patterns and even the memory card.

Deleting All Patterns

Here's how to delete all patterns from internal memory or the memory card in a single operation.

1. Press [PATTERN SELECT] so it's lit.

"Ptn" appears in the display.

Pads that have been recorded start blinking.

NOTE

If [PATTERN SELECT] is not lighted, this procedure will delete samples (p. 27).

2. Hold down [CANCEL] and press [DEL].

"dAL" appears in the display and [DEL] lights. BANK [A]-[F/J] begin blinking.

MEMO

If no memory card is inserted in the slot, BANK [C/G]-[F/J] will not blink.

3. Press one of the bank buttons to specify the memory that you want to delete.

BANK [A] or [B]: Internal memory

BANK [C/G]-[F/J]: Memory card

MEMO

If the memory is protected (p. 43), "Prt" (Protected) appears in the display, and you won't be able to delete any patterns.

MEMO

If you decide not to delete, press [CANCEL].

4. Press [DEL].

[DEL] changes from blinking to lit, and the dot in the display begins blinking.

Once the patterns have been deleted, the dot will go dark.

NOTE

Never turn off the power while the dot is blinking. Doing so may destroy not only the patterns you're deleting but also other patterns and even the memory card.

Changing the Assignments of Patterns to Pads

You can change the pad to which a pattern is assigned by exchanging patterns between two pads.

You can also exchange assignments between a pad to which a pattern is assigned and a pad to which no pattern is assigned.

1. Press [PATTERN SELECT] so it's lit.

"Ptn" appears in the display.

NOTE

If [PATTERN SELECT] is not lighted, this operation will change the assignments of samples (p. 28).

2. Hold down [DEL] and press [REC].

[DEL] and [REC] both light, and "CHG" is indicated in the display.

Pads to which patterns are assigned start blinking.

3. Use the bank buttons and the pads to select one of the patterns that you want to exchange.

The pad lights.

4. Use the bank buttons and the pads to select the other pattern you want to exchange.

The pad lights, and [REC] starts blinking.

5. Press [REC].

[DEL] and [REC] both light, and the dot in the display starts blinking.

Once the exchange is complete, the dot goes dark.

NOTE

When exchanging patterns between internal memory and a memory card, "FuL" appears in the display if there is not enough space in internal memory and the memory card, and the exchange will not be possible.

NOTE

Never turn off the power while the dot in the display is blinking. Doing so may destroy not only the patterns being exchanged, but also the other patterns and the memory card.

Chapter 6. Using a Memory Card

NOTE

You must switch OFF the SP-404's power before inserting or removing a memory card. If you insert or remove a memory card while the power is on, you risk damaging the data on the memory card, or rendering the memory card unusable.

NOTE

Make sure that the memory card is oriented correctly, and push it firmly all the way into the slot. Do not use excessive force.

NOTE

Before using a memory card for the first time, you must format it on the SP-404. The SP-404 will not recognize a memory card that was formatted on another device.

cf.

When inserting or removing a memory card, refer to "Inserting/Removing a Memory Card" (p. 11).

cf.

For a list of the recommended memory cards, refer to "Recommended Memory Cards" (p. 50) in the appendix.

Formatting (Initializing) a Memory Card

NOTE

Formatting a memory card will erase all the data on the card.

1. **Hold down [CANCEL] and press [REMAIN].**
BANK [C/G]–[F/J] begins blinking, and "FMt" appears in the display.
2. **Press any one of the BANK [C/G]–[F/J] buttons.**
BANK [C/G]–[F/J] changes from blinking to lit, and [DEL] begins blinking.

MEMO

If you decide not to format the card, press [CANCEL].

3. **Press [DEL].**
[DEL] begins blinking, and formatting of the card begins. While formatting is in progress, the dot in the display will blink. When the blinking stops, formatting is complete.

NOTE

Never turn off the power while the dot is blinking. Doing so may damage the memory card, rendering it unusable.

NOTE

Do not modify or delete any files or folders created when the memory card was formatted. The SP-404 will be unable to recognize the card correctly if you do so.

Importing Audio Files

Here's how to import audio files from a memory card.

Note When Importing Audio Files (WAV/AIFF)

- When you use a computer or other device to copy or save an audio file (WAV/AIFF) onto a memory card, you must place the file in **the root folder (top level) of the memory card**. If the file is placed anywhere else on the card, you won't be able to import it into the SP-404.
- When importing, the SP-404 is able to recognize a maximum of 120 audio files.
- You cannot use a period "." at the beginning of a file name. Certain other characters (\ / : ; * : " < > |) can also not be used in a file name.
- The file name extension for WAV files must be **WAV**, and for AIFF files it must be **AIF**. The file cannot be recognized if the extension is anything else.
- Audio files will be imported in the ASCII code order of their file names.
- Only bit depths of 8-bit and 16-bit are supported.
- Sample rate conversion is not performed. The file will be imported as if it were 44.1 kHz data. If the actual sample rate of the file is not 44.1 kHz, the playback pitch will be incorrect.
- The loop point settings of a AIFF file will be ignored.
- If you attempt to import a WAV/AIFF file in a format that the SP-404 does not support, the error message "UnS" (Unsupported) will appear, and you will be unable to import the file.
- You cannot import compressed audio files.
- In some cases, you may be unable to import extremely short audio files.
- An import will require approximately the same length of time as playing the audio file.
- You cannot cancel an import operation once you have started it.

1. **Make sure that [PATTERN SELECT] is not lighted.**
If it's lit, press [PATTERN SELECT] to switch it off.
 2. **Hold down [CANCEL] and press [RESAMPLE].**
"FiL" (File I/E) appears in the display, and [REC] and [RESAMPLE] begin blinking.
 3. **Press [REC].**
"iMP" (File Import) appears in the display, [REC] lights, and [RESAMPLE] goes out.
Pads [1]–[12] begin blinking.
- MEMO**
- If there are no files in the root level of the memory card, "EMP" (Empty) appears in the display and the Import operation cannot be performed.

4. Select the sample bank into which you want to import the file.

Press one of the BANK [A]–[F/J] buttons. The button you pressed lights, and that bank (A–F) is selected. If you press a BANK [C/G]–[F/J] button once again, the button starts blinking, and a G–J bank is selected.

5. Press the import-destination pad.

The pad you pressed lights, while the other pads stop blinking. Also, [REC] begins blinking.

NOTE

If a sample is assigned to the pad you selected (or to subsequent pads if there are two or more files), it will be overwritten.

MEMO

If you specify a pad that is protected (p. 43), “Prt” (Protected) appears in the display and you will be unable to import the file.

6. Press [REC] so it’s lit.

If there is more than one file, the files will be imported in the order of their file name, starting with the pad you selected in step 5.

While the import is in progress, the dot in the display will blink. When the blinking stops, the import is complete.

Exporting Audio Files

Specifying the Type of Audio File

With the factory settings, samples will be exported as WAV files. If you want to change the type of audio file for export, proceed as follows.

- 1. Hold down [RESAMPLE] and turn on the power.**
- 2. Press [PATTERN SELECT] to switch between WAV and AIF.**
Either “WAV” (WAV) or “AIF” (AIFF) appears in the display when you press this button, showing you the current selection.
- 3. Press [RESAMPLE] to confirm your choice of file type.**

MEMO

This setting will be remembered even after the power is switched off.

Exporting a Sample to an Audio File

Here’s how to convert a sample to an audio file and write it to a memory card.

- 1. Make sure that [PATTERN SELECT] is not lighted.**
If it’s lit, press [PATTERN SELECT] to switch it off.
- 2. Hold down [CANCEL] and press [RESAMPLE].**
“Fil” (File I/E) appears in the display, and [REC] and [RESAMPLE] begin blinking.
- 3. Press [RESAMPLE]. “EXP” (File Export) appears in the display, [REC] lights, and [RESAMPLE] goes out.**
- 4. Select the export-source sample bank.**
Press one of the BANK [A]–[F/J] buttons. The button you pressed lights, and that bank (A–F) is selected. If you press a BANK [C/G]–[F/J] button once again, the button starts blinking, and a G–J bank is selected.
Pads to which a sample is assigned begin blinking.
- 5. Select the export-source pad.**
The pad you pressed lights, and the remaining pads stop blinking. Also, [REC] begins blinking.

TIP

You can select multiple pads if they are within the same sample bank. Press any pad that was blinking at step 4 to select it.

- 6. Press [REC] so it’s lit.**
During the export operation, the dot in the display will blink. When the export is complete, the blinking will cease.

NOTE

If there is an identically-named audio file in the root directory of the memory card, it will be overwritten.

How Exported Audio Files (WAV/AIFF) Will Appear

Audio files (WAV/AIFF) exported to a memory card will be in the root directory (top level) of the memory card.

When you use your computer or other device to view the root directory of the memory card, the exported audio files (WAV/AIFF) will appear with the following file names.

If you’ve exported the sample from pad 1 of sample bank A:

WAV: **A_01.WAV**

AIFF: **A_01.AIF**

If you’ve exported the samples from pads 6–12 of sample bank E:

WAV: **E_06.WAV–E_12.WAV**

AIFF: **E_06.AIF–E_12.AIF**

Saving Backup Data (Backup Save)

Here's how to save backup data (all of the SP-404's data including sample banks and pattern banks) to a memory card. You can save up to twelve sets of backup data.

NOTE

If the card runs out of free space because you save large amounts of sample or pattern data, the number of backup sets that can be saved will be fewer.

1. **Hold down [CANCEL] and press one of the BANK [C/G]–[F/J] buttons.**

"SAV" appears in the display and pads for which backup data has not been saved begin blinking.

2. **Select a backup-destination pad.**

The selected pad lights, and the other pads stop blinking. [REC] begins blinking.

MEMO

You can't select a pad that was dark in step 1 (i.e., a pad for which data has already been saved).

MEMO

If you decide to cancel the operation at this point, press [CANCEL].

3. **Press [REC].**

[REC] lights, and the Backup Save operation begins. The dot in the display will blink while the operation is in progress. When saving is complete, the blinking will stop.

NOTE

Never turn off the power while the dot is blinking. Doing so may damage the backup data or the memory card.

Loading Backup Data (Backup Load)

Here's how to load backup data (all of the SP-404's data including sample banks and pattern banks) from a memory card.

NOTE

When you execute the Backup Load operation, the internal settings of the SP-404 will be erased and replaced by the backup data you loaded.

1. **Hold down [CANCEL] and press BANK [A] or [B].**

"Lod" appears in the display and the pads for which backup data has been saved begin blinking.

MEMO

If the Protect setting (p. 43) is enabled, "Prt" (Protected) appears in the display, and you will be unable to execute the Backup Load operation.

2. **Press a pad to select the backup data that you want to load.**

The selected pad lights, and the other pads stop blinking. [REC] begins blinking.

MEMO

You can't select a pad that was dark in step 1 (i.e., a pad for which no data has been saved).

MEMO

If you decide to cancel the operation at this point, press [CANCEL].

3. **Press [REC].**

[REC] lights, and the Backup Load operation begins. The dot in the display will blink while the operation is in progress. When loading is complete, the blinking will stop.

NOTE

Never turn off the power while the dot is blinking. Doing so may damage the backup data or the memory card.

Deleting Backup Data (Backup Delete)

Here's how to delete unwanted backup data (containing all of the SP-404's data including sample banks and pattern banks) from a memory card.

1. **Hold down [DEL] and press one of the BANK [C/G]–[F/J] buttons.**

"bdL" appears in the display and the pads for which backup data has been saved begin blinking.

2. **Press a pad to select the backup data that you want to delete.**

The selected pad lights, and the other pads stop blinking. [DEL] begins blinking.

MEMO

You can't select a pad that was dark in step 1 (i.e., a pad for which no data has been saved).

MEMO

If you decide to cancel the operation at this point, press [CANCEL].

3. **Press [DEL].**

[DEL] lights, and the Backup Delete operation begins. The dot in the display will blink while the operation is in progress. When the Backup Delete operation is complete, the blinking will stop.

NOTE

Never turn off the power while the dot is blinking. Doing so may damage the backup data or the memory card.

Chapter 7. Other Functions

Using the SP-404 with Other MIDI Equipment

About MIDI

MIDI stands for Musical Instrument Digital Interface. It is a universal standard that allows electronic musical instruments and computers to exchange performance data. The SP-404 supports the MIDI standard, and provides a MIDI IN connector. You can connect this connector to another MIDI device to do a variety of things.

The SP-404's **MIDI IN** connector receives MIDI messages from another connected MIDI device.

cf.

The "MIDI Implementation Chart" (p. 51) provides an easy way to check which MIDI messages the SP-404 is able to receive. You can compare this chart to the MIDI implementation chart of your other MIDI device to see which messages can actually be sent by your other device and received by the SP-404.

MIDI on the SP-404

To play the SP-404's pads using an external MIDI device, transmit the following note numbers.

Note	Note#	MIDI Ch	
		Pad Base Ch	Pad Base Ch + 1
A2#	46 (0x2E)	EXT SOURCE	
B2	47 (0x2F)	[A] Pad 1	
:	:	:	
A3#	58 (0x3A)	Pad 12	
B3	59 (0x3B)	[B] Pad 1	
:	:	:	
A4#	70 (0x46)	Pad 12	
B4	71 (0x47)	[C] Pad 1	[G] Pad 1
:	:	:	:
A5#	82 (0x52)	Pad 12	Pad 12
B5	83 (0x53)	[D] Pad 1	[H] Pad 1
:	:	:	:
A6#	94 (0x5E)	Pad 12	Pad 12
B6	95 (0x5F)	[E] Pad 1	[I] Pad 1
:	:	:	:
A7#	106 (0x6A)	Pad 12	Pad 12
B7	107 (0x6B)	[F] Pad 1	[J] Pad 1
:	:	:	:
A8#	118 (0x76)	Pad 12	Pad 12

TIP

You can change the MIDI channel by changing the **Pad Base Ch**.

Changing the MIDI Channel (Pad Base Ch)

Here's how to specify the channel (Pad Base Channel) on which you can play the SP-404's pads from an external MIDI device.

1. Refer to the following table, and turn on the power while holding down the pad that corresponds to the channel you want to use.

Channel	Display	Pad
1	C.1	1
:	:	:
12	C.12	12
13	C.13	HOLD
14	C.14	EXT SOURCE
15	C.15	SUB PAD

MEMO

This setting is remembered even after you turn off the power.

Synchronizing to an External MIDI Device

1. While holding down [TIME/BPM], turn on the power.

The MIDI synchronization mode will appear in the display. The MIDI synchronization mode determines how the SP-404 operates in synchronization with another device.

MIDI synchronization mode	Explanation
"Aut" (Auto Sync)	When MIDI Clock messages are received, the SP-404 will automatically detect them and synchronize to their tempo. MIDI Start/Stop/Continue messages can be received to start/stop pattern playback. * MIDI Start/Stop/Continue messages will not be received during pattern recording.
"tMp" (Tempo Sync)	When MIDI Clock messages are received, the SP-404 will automatically detect them and synchronize to their tempo. MIDI Start/Stop/Continue messages will not be received. * Choose this setting if you want to play the SP-404's patterns at the timing you choose but in synchronization with a performance sent from an external MIDI sequencer.
"oFF" (Sync OFF)	MIDI Clock and Start/Stop/Continue messages will not be received. * Choose this setting if you only want the SP-404's samples to play in response to Note messages received from your external MIDI sequencer.

2. Turn the CTRL 1 (TIME) knob to select the MIDI synchronization mode.

MEMO

With the factory settings, "Aut" is selected.

3. Press [TIME/BPM] so its LED goes out.

This completes the MIDI synchronization mode setting.

MEMO

This setting is remembered even after you turn off the power.

Synchronizing the Pattern Tempo and Playback Start/Stop with an External MIDI Sequencer

With the factory settings (MIDI synchronization mode “Aut”), you can simply connect your external MIDI sequencer to the SP-404 and control pattern playback Start/Stop and tempo from your sequencer.

1. Use a MIDI cable to connect the MIDI OUT connector of your external MIDI sequencer to the SP-404’s MIDI IN connector.

2. Press [PATTERN SELECT] so it’s lit.

3. Press one of the BANK [A]–[F/J] buttons to select the bank of the pattern you want to play.

You can select pattern banks G–J by pressing BANK [C/G]–[F/J] once again to make the button blink.

MEMO

You can’t select pattern banks C–J if no memory card is inserted.

4. Hold down [HOLD] and press the pad of the pattern you want to play. (This specifies the pattern.)

The pad of the specified pattern lights.

NOTE

If you simply press a pad without holding down [HOLD], the pattern will begin playing immediately.

5. Start your external MIDI sequencer.

The pattern you selected will begin playing in synchronization with your external MIDI sequencer.

The pattern tempo will synchronize to the tempo of your external MIDI sequencer.

6. When you stop your external MIDI sequencer, pattern playback will also stop.

MEMO

If the pattern does not begin playing when you start your external MIDI sequencer, or if the tempo does not synchronize to the sequencer, it is possible that the sequencer is not transmitting MIDI Clock or Start/Continue/Stop messages. Refer to the owner’s manual for your external MIDI sequencer, and check its settings.

Adjusting the Blinking Speed of the Display Illumination

Here’s how you can adjust the speed at which the blue illumination around the edge of the display will blink.

1. Hold down [TAP TEMPO] and turn on the power.

“LED” appears in the display.

2. Turn the CTRL 1 knob to adjust the speed.

[REC] will blink as you turn the knob.

Setting	Explanation
“oFF”	No blinking. * The illumination will not blink even during pattern playback.
“1–9”	The illumination will blink at a fixed speed. Higher values produce faster blinking. * During pattern playback, the illumination will blink in synchronization with the pattern tempo.
“Ptn”	The illumination will blink in synchronization with the pattern tempo.

3. Press [REC] to confirm the blinking speed you specified.

MEMO

If you decide to cancel, press [CANCEL].

MEMO

This setting is remembered even after you turn off the power.

Checking the Remaining Battery Level

1. Make sure that [PATTERN SELECT] is not lighted.

If it’s lit, press [PATTERN SELECT] to switch it off.

2. Hold down [REMAIN].

While you hold down the button, the BANK [A]–[F/J] buttons light to indicate the remaining battery level.

BANK [A]–[F/J] lit: There is sufficient remaining battery power.

BANK [A]–[E/I] lit: The buttons will go dark one by one as the batteries run down.

BANK [A] only lit: Replace the batteries. If you continue using the SP-404, “Lo” appears in the display and it will no longer be possible to operate the SP-404.

MEMO

If the AC adaptor is connected and the power is on, the BANK [A]–[F/J] buttons will all be lit.

TIP

If the remaining battery capacity becomes extremely low, the display illumination will remain lit blue, and the dot in the lower right of the display will alternately blink at short and long intervals.

Using the Protect Setting

You can enable the Protect setting to prevent samples or patterns from being overwritten or erased accidentally.

Protecting All Samples and Patterns

1. While holding down [REMAIN], turn on the power. "P.on" appears in the display; the samples and patterns of banks A–J are now protected.

NOTE

If you use the memory card on the same SP-404 unit, the card banks will be protected. However, if you use the same memory card on another device or computer, the banks of that card will not be protected.

MEMO

This setting is remembered even after you turn off the power.

Protecting the Preset Samples and Patterns (Sample Bank A, Pattern Bank A)

1. While holding down BANK [A] and [REMAIN], turn on the power. "A.on" appears in the display; the samples and patterns of bank A are now protected.

MEMO

This setting is remembered even after you turn off the power.

MEMO

With the factory settings, sample bank A and pattern bank A are protected.

MEMO

With the factory settings, samples are assigned to pads 1 and 2 of sample bank B, but these samples are not protected.

Canceling the Protect Setting

1. While holding down [CANCEL], turn on the power. "P.oF" appears in the display; the samples and patterns of banks A–J are now unprotected.

NOTE

The factory-set samples and patterns will no longer be protected. If you erase or modify them, it will not be possible to restore their factory-set state. (p. 12)

MEMO

This setting is remembered even after you turn off the power.

Initializing the SP-404's Internal Memory

NOTE

Performing this operation will erase all samples and patterns from internal memory (banks A and B).

NOTE

You cannot restore the factory-set samples and patterns. (p. 12)

MEMO

You can't initialize if the Protect setting is on. ("Prt" appears in the display.)

1. While holding down [CANCEL], [REMAIN], and [DEL], turn on the power.

"ini" appears in the display and [REC] begins blinking.

MEMO

If you decide to cancel at this point, simply turn off the power.

2. If you are sure you want to initialize the internal memory, press [REC].

[REC] lights, and the dot in the display begins blinking.

Once the initialization is complete, the dot goes dark.

NOTE

Never turn off the power while the dot is blinking. Doing so may damage the data.

MEMO

After initialization, the Protect setting will be enabled.

Checking the Version Number

1. While holding down [MARK], turn on the power.

The version number is indicated in the display.

MEMO

Press [CANCEL] to return to normal operation.

Setting the Internal Processing Level of the SP-404

The internal processing of the SP-404 can be modified in order to adjust the overall volume.

1. Hold down [CANCEL] while you also hold down [START/END/LEVEL], and turn the CTRL 3 knob.

Range: -3 dB, 0 dB, 3 dB, 6 dB, 9 dB, 12 dB

TIP

The SP-404 has a maximum polyphony of twelve notes. There will be a significant difference in the volume depending on the number of notes (one to twelve) being played simultaneously. If you play only a few pads simultaneously, or if you've connected the SP-404 to a DJ mixer or the like and are using it as an effects processor, you can increase this internal processing level to obtain a higher level of output.

If you play numerous pads simultaneously and distortion occurs in the sound, decrease this internal processing level.

MEMO

When you turn on the power, this will always be set to 0 dB.

Chapter 8. Examples of Using the SP-404

Using the Pattern Sequencer to Create a Rhythm Pattern

In this example we'll use the factory-assigned samples to create a two-measure rhythm pattern at 102 BPM.

We'll use the following samples that are assigned to sample bank A:

- Pad 9:** Kick
- Pad 10:** Snare
- Pad 12:** Hi-hat
- Pad 4:** Voice

1. Press [PATTERN SELECT] so it's lit.
2. Press [REC] so it is blinking.
All pads to which no pattern is assigned begin blinking.
3. Press one of the BANK [A]–[F/J] buttons to select the pattern bank you want to use for recording.

MEMO

You can't select pattern banks C–J if no memory card is inserted.

4. Press the pad to which you want to assign the pattern you're going to record.
The pad you pressed lights, and the other pads go out. [REC] begins blinking, and the metronome starts sounding.
5. Adjust the metronome level.
Press [START/END/LEVEL] so it's lit, and turn the CTRL 3 (LEVEL) knob to adjust the volume as desired.
6. Set the pattern tempo to 102.
Press [TIME/BPM] so it's lit, and turn the CTRL 2 (BPM) knob to make the display indicate "102."
7. Set the pattern length to two measures.
Press the [LENGTH] button so it's lit, and turn the CTRL 3 knob to make the display indicate "2."
8. Set the quantization to quarter notes.
Press [QUANTIZE] so it's lit, and turn the CTRL 3 knob to make the display indicate "4."
9. Press [REC] to begin recording.
There will be a one-measure count before recording begins.

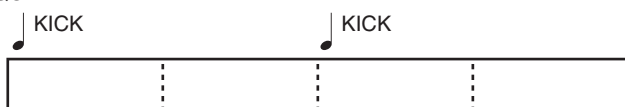
TIP

If you press [REC] once again and get it to start blinking, "rEH" appears in the display, meaning you are in **rehearsal** mode. In this mode, samples will sound when you press the pads, but will not be recorded. To cancel rehearsal mode and return to normal recording mode, press [REC] once again so it lights steadily.

Rehearsal mode is convenient when you want to check the sound of the samples before you actually record.

10. While listening to the metronome, enter pad 9 (kick) on the first beat and third beat.

QUANTIZE = 4



When the two measures have been recorded, you will automatically return to the beginning.

The kick sound you just recorded will play back precisely on the beat.

11. On the next cycle, enter pad 10 (snare) on the second and fourth beats.

QUANTIZE = 4



12. Switch the quantization to 8th notes.

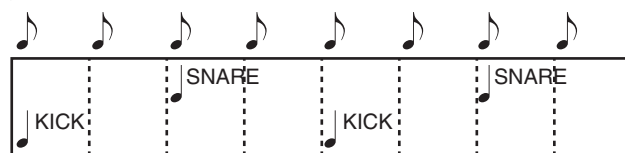
Press [QUANTIZE] so it's lit, and turn the CTRL 3 knob to make the display indicate "8."

Press [QUANTIZE] once again so its LED goes out.

13. From the beginning of the next cycle, enter pad 12 (hi-hat) at 8th note intervals.

Notice that the hi-hat sound is played back precisely on the beat.

QUANTIZE = 8



14. Turn off quantization.

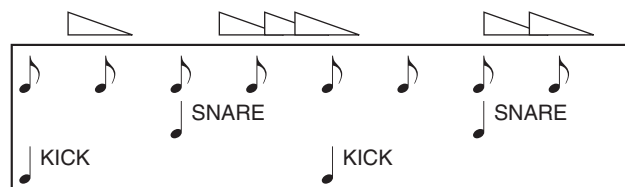
Press [QUANTIZE] so it's lit, and turn the CTRL 3 knob to get "oFF" to be shown in the display.

Press [QUANTIZE] once again so its LED goes out.

15. Finally, enter pad 4 (voice) at the desired timing.

The voice will be recorded at the timing you enter.

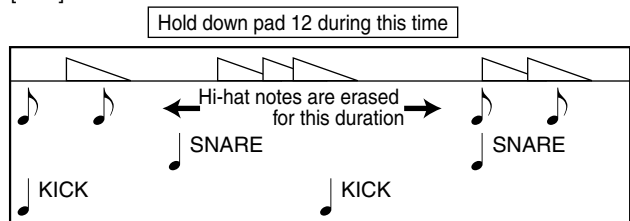
QUANTIZE = OFF



MEMO

If you want to delete a mistakenly entered note, press [DEL] during recording so it's lit, and hold down the pad to which the sample note you want to delete is assigned. Sample notes for that pad will continue being deleted as long as you continue holding down that pad. Deletion will stop when you release the pad. (p. 36)

[DEL] lit



16. When you're ready to stop recording, press [CANCEL] so it goes out.

The dot in the display will blink for a while, then stop.

NOTE

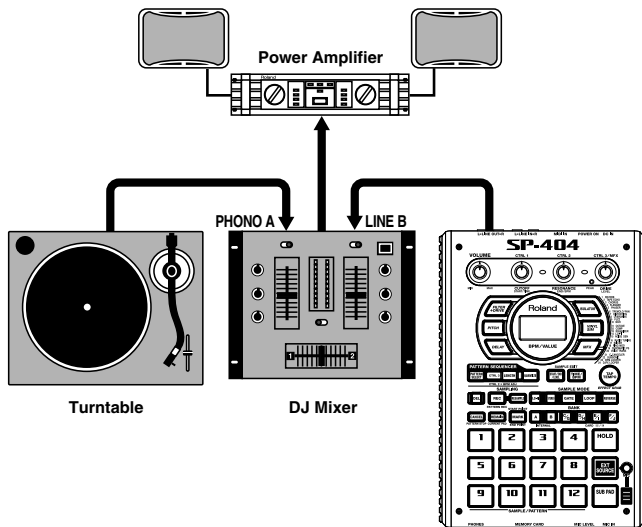
Never turn off the power while the dot is blinking.

Using the SP-404 with a Turntable

Playing Samples along with the Sound from a Turntable

Here's how you can use the SP-404 to play samples along with a turntable performance.

Connections

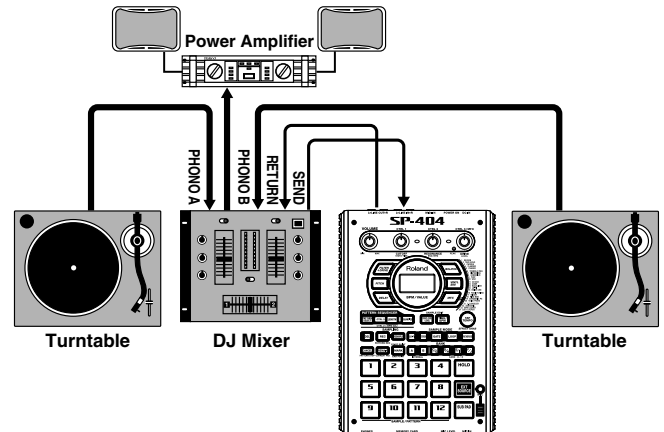


1. Set the crossfader of your DJ mixer to the turntable position.
Start your turntable.
2. While pressing the pads of the SP-404 to play the sounds, monitor the SP-404's sound through the DJ mixer.
Use the trim knob of the DJ mixer to adjust the volume.
3. Set the crossfader of the DJ mixer to the center position.
4. Press the SP-404's pads to accompany the sounds from your turntable.

Applying Effects to the Sound of a Turntable

Here's how you can apply the SP-404's effects to the turntable or other sounds routed through your DJ mixer.

Connections



1. Lower the send level and return level of your DJ mixer.
2. Start the turntable.
3. On the SP-404, press [EXT SOURCE] so it's lit.
4. Press one of the effect buttons on the SP-404 so it's lit.
5. Raise the volume of the SP-404.
6. Gradually raise the send level and return level of the DJ mixer to adjust the volume.
7. Turn CTRL 1-3 to modify the effect.

TIP

To specify the BPM (tempo) relative to the audio input...

1. With no sample or pattern playing, press [EXT SOURCE] so it's lit.
2. Press [TIME/BPM] so it's lit.
3. Adjust the BPM by turning the CTRL 2 knob or by pressing [TAP TEMPO] several times.
4. Press [TIME/BPM] once again so it goes out.

Appendices

Quick Reference to Operations

Purpose	Operation
Play a sample	Pad [1]–[12]
Play an external input sound	[EXT SOURCE]
Mono/stereo setting for external input	[EXT SOURCE] → [STEREO]
Sampling	[REC] → Pad [1]–[12] → [REC]
Specify auto sampling	[CANCEL] + [REC] → CTRL 3 (LEVEL) knob → [REC]
Defeat auto sampling	[CANCEL] + [REC] → turn CTRL 3 (LEVEL) knob to the far left → [REC]
Resampling	[RESAMPLE] → CTRL 3 (LEVEL) knob → [REC] → Pads [1]–[12] → [REC] → Pads [1]–[12]
Delete individual samples	[DEL] → Pad [1]–[12] → [DEL]
Delete all samples	[CANCEL] + [DEL] → BANK [A]–[F/J] → [DEL]
Set the volume of a sample	Pad [1]–[12] → [START/END/LEVEL] → CTRL 3 (LEVEL) knob
Set start point	Pad [1]–[12] → [MARK] → press pad [1]–[12] once again to stop sound
Set end point	[MARK] + pad [1]–[12] → [MARK]
Set start/end points	Pad [1]–[12] → [MARK] → [MARK]
Adjust start/end points	Pad [1]–[12] → [START/END/LEVEL] → CTRL 1 (START) knob / CTRL 2 (END) knob
Time Modify setting	Pad [1]–[12] → [TIME/BPM] → CTRL 1 (TIME) knob
Exchange samples between pads	[DEL] + [REC] → specify source pad → specify destination pad → [REC]
Save backup	[CANCEL] + BANK [C/G]–[F/J] → press pad [1]–[12] to specify an area → [REC]
Load backup	[CANCEL] + BANK [A] or [B] → press pad [1]–[12] to specify the area → [REC]
View remaining sampling time	[REMAIN]
Select MFX type	Hold down [MFX] and turn CTRL 3/MFX knob (MFX types 1–24) or [MFX] + pad [1]–[12] (MFX types 1–12) [MFX] + [VINYL SIM] + pad [1]–[12] (MFX types 13–24)
Specify effect send	[REMAIN] + pad [1]–[12]
Effect send for all samples	[REMAIN] + effect button
Effect grab	[TAP TEMPO] + effect button
Play pattern	[PATTERN SELECT] → pad [1]–[12]
Stop pattern (1)	[CANCEL]
Stop pattern (2)	[PATTERN SELECT] → pad of currently playing pattern
Record a pattern	[PATTERN SELECT] → [REC] → pad [1]–[12] → [CANCEL]
Specify pattern tempo (1)	[PATTERN SELECT] → [TIME/BPM] → CTRL 2 (BPM) knob
Specify pattern tempo (2)	[PATTERN SELECT] → press [TAP TEMPO] several times
Quantize setting	While recording a pattern or in recording standby, [QUANTIZE] → CTRL 3 knob
Specify pattern length	In standby mode, [LENGTH] → CTRL 3 knob
Metronome volume setting	While recording a pattern or in recording standby, [START/END/LEVEL] → CTRL 3 (LEVEL) knob
Rehearse pattern recording	During pattern recording, [REC]
Delete recorded notes	During pattern recording, [DEL] → pad [1]–[12]
Exchange patterns between pads	[PATTERN SELECT] → [DEL] + [REC] → pad [1]–[12] → pad [1]–[12] → [REC]
Delete individual pattern	[PATTERN SELECT] → [DEL] → pad [1]–[12] → [DEL]
Delete all patterns	[PATTERN SELECT] → [CANCEL] + [DEL] → BANK [A]–[F/J] → [DEL]
Specify MIDI channel	Pad [1]–[12] + Switch ON power (Ch 1–12) [HOLD] + Switch ON power (Ch 13) [EXT SOURCE] + Switch ON power (Ch 14) [SUB PAD] + Switch ON power (Ch 15)
MIDI synchronization mode setting	[TIME/BPM] + Switch ON power → CTRL 1 (TIME) knob → [TIME/BPM]
Initialize internal memory	[CANCEL] + [DEL] + [REMAIN] + Switch ON power
Turn off Protect	[CANCEL] + Switch ON power
Protect a bank A–J	[REMAIN] + Switch ON power
Protect bank A	[REMAIN] + BANK [A] + Switch ON power
Format memory card	[CANCEL] + [REMAIN] → BANK [C/G]–[F/J] → [DEL]
Effect Limit Mode	[CANCEL] + [MFX]
Send/Return Mode	[CANCEL] + [VINYL SIM]
Set the internal processing level	[CANCEL] + [START/END/LEVEL] + CTRL 3 knob

Troubleshooting

This section lists the points to check and the steps to take if you experience problems. Refer to the topic that applies to your situation.

Problems When Playing Sounds

No Sound/Insufficient Volume

Are the SP-404 and your connected equipment powered up?

Are the SP-404 and your external equipment connected correctly?

Check the connections. (p. 10)

**Could the audio cables be broken?
Could you be using an audio cable with a built-in resistor?**

Use connection cables that do not contain resistors (such as one from the Roland PCS series).

Could the volume be lowered on the connected amp or mixer?

Adjust the level appropriately.

Could the SP-404's volume be lowered?

Adjust the level appropriately.

Is there sound from the headphones?

If you hear sound from the headphones, a connection cable may be broken or there may be a problem with the connected amp or mixer. Check the connected equipment and the connections. (p. 10)

If you're using a memory card, is it inserted correctly?

Check the memory card. (p. 11)

If you're trying to play a sample, is the sample's pad lit?

When you press the pad of a sample, that sample will sound. If a pad does not light when you press it, no sample has been assigned to that pad.

A Specific Sample Fails to Sound

Could the sample level be lowered?

Adjust the level of the sample. (p. 29)

Could the effect level be lowered?

For some types of effects, an effect control knob adjusts the level. For details on the effect types and control knobs, refer to p. 20.

Sound from a Device Connected to LINE IN Is Inaudible or Too Soft

Is [EXT SOURCE] lit?

In order to hear the sound from the line inputs, you must press [EXT SOURCE] so its LED is turned on.

Could the level of the external input be lowered?

Turn the CTRL 3 knob to adjust the level appropriately. (p. 17)

Could the volume of the device connected to LINE IN be lowered?

Adjust the level appropriately.

Are the audio cables connected correctly?

Check the connections. (p. 10)

Could the audio cables be broken?

Could you be using an audio cable with a built-in resistor?

Use connection cables that do not contain resistors (such as one from the Roland PCS series).

Sound from the Mic Is Inaudible or Too Soft

Is [EXT SOURCE] lit?

In order to hear the sound from the mic input, you must press [EXT SOURCE] so its LED is turned on.

Is [MIC] lit?

In order to hear the sound from the mic input, you must press [MIC] so it's lit.

Could the external input level be lowered?

Turn the CTRL 3 knob to adjust the level appropriately. (p. 17)

Could the level of the mic connected to MIC IN or the SP-404's internal mic be lowered?

Turn the MIC LEVEL knob to adjust the level appropriately.

Is the mic cable connected correctly?

Check the connections. (p. 10)

Could the mic cable be broken?

Can't Sample

Could you be out of memory?

If you are out of memory, "FUL" (Memory Full) appears in the display when you attempt to sample. Delete unwanted samples to increase the amount of free memory. (p. 27)

If you're sampling into sample banks C-J, is the memory card inserted correctly?

Check the memory card. (p. 11)

If you're sampling into sample banks C-J, has the memory card been formatted by the SP-404?

Format the memory card on the SP-404. (p. 38)

Could samples already be assigned to all pads?

You can't sample if there are no vacant pads. Delete unwanted samples to free up some of the pads. (p. 27)

Could [PATTERN SELECT] be lit?

If [PATTERN SELECT] is lit, you will be selecting patterns; you cannot sample in this state.

Press [PATTERN SELECT] so its LED is switched off.

Could [DEL] be lit or blinking?

If [DEL] is lit or blinking, you are deleting samples; you cannot sample in this state.

Sampled Sound Is Noisy or Distorted

Is the input level appropriate?

If the input level is too high, the sampled sound will be distorted. If the input level is too low, the sampled sound will be noisy. Adjust the level so that the PEAK indicator lights occasionally.

Are the effect settings appropriate?

Some types of effect boost the level higher than the original sample, or intentionally distort the sound. Some effects may also emphasize any noise that is present.

Try turning the effect off temporarily to see whether the original sample itself contains noise or distortion. Then change the effect settings as appropriate.

Could you be playing multiple samples simultaneously?

Even if the level of each individual sample is appropriate, playing multiple samples simultaneously may raise the overall level to a point where distortion occurs. Lower the level of each sample so that distortion does not occur.

Problems with Memory

Data Is Not Correctly Saved in Internal Memory

You may have turned off the power while data was being written into internal memory (while the dot in the display was blinking). The lost data cannot be recovered.

In this case, it is possible that all of the data in internal memory has been damaged. Since there is a danger that the SP-404 will not operate correctly if you continue using it in this state, please initialize the internal memory. (p. 43)

* All data in the SP-404's internal memory will be lost when you initialize.

Data Is Not Correctly Saved in a Memory Card

You may have turned off the power while data was being written into the memory card (while the dot in the display was blinking). The lost data cannot be recovered.

In this case, it is possible that all of the data in the memory card has been damaged. Since there is a danger that the SP-404 will not operate correctly if you continue using the card in this state, please format the memory card. (p. 38)

* All data in the memory card will be lost when you format it.

Memory Card Is Not Detected When You Insert It Can't Select Data from the Memory Card

Is the memory card inserted correctly?

Check the memory card. (p. 11)

Is the memory card the correct type?

The SP-404 can use CompactFlash cards of a capacity ranging from 32 MB to 1 GB. No other types of memory card can be used. (p. 50)

Has the memory card been formatted correctly?

Only memory cards that were formatted by the SP-404 can be used. Please format the memory card. (p. 38)

Problems with MIDI or Synchronization

Can't Play Samples from an External MIDI Device

Is the external MIDI device powered up?

Is the MIDI cable connected correctly?

Check the connection.

Could the MIDI cable be broken?

Is the MIDI channel set correctly?

Set the SP-404 and the external MIDI device to the same MIDI channel. (p. 41)

Is the external MIDI device set to transmit MIDI Note messages?

Check the settings of the external MIDI device.

Pattern Sequencer Does Not Synchronize to the External MIDI Device's Tempo

Is the pattern sequencer correctly set to synchronize?

Check the setting. (p. 41)

Is the external MIDI device set to transmit MIDI Clock messages?

Some devices have a setting to turn MIDI Clock transmission on/off. Some external devices such as sequencers may transmit MIDI Clock messages only during playback.

Could the tempo of the external MIDI device be exceeding the range of tempos to which the SP-404 can synchronize?

The SP-404 can synchronize to a tempo in the range of 40–200. It may be unable to synchronize correctly if the tempo is outside this range.

Message List

Message	Meaning
A.on (Bank A protect on)	Bank A is protected.
AiF (AIFF)	Audio files will be exported in AIFF format.
bdL (Backup Delete)	Backup data will be deleted.
C-1, C-2, C-3 (CTRL 1-3)	Pre-adjust the parameters of the effect you will select next.
CHG (Change)	Samples or patterns will be exchanged between two pads.
dAL (Delete All)	All samples or patterns in the bank will be deleted.
dEL (Delete)	The sample or pattern will be deleted.
Edt (Edit)	The sample is being edited.
EJC (Eject)	The memory card was removed, so processing is not possible. * Don't remove the card while the power is on.
EMP (Empty)	There is no sample, pattern, or backup data to delete.
	There is no backup data to load.
	There is no WAV or AIFF data to import.
	There is no data to export as WAV or AIFF.
Err (Error)	Faulty data was found in internal memory; it has been repaired or deleted.
ErS (Erase)	Data will be erased from the pattern.
EXP (File Export)	The sample will be exported as WAV or AIFF.
FiL (File I/E)	WAV or AIFF data will be imported/exported.
FMT (Format)	Memory card will be formatted.
FUL (Memory Full)	Processing could not be executed because there is insufficient memory.
iMP (File Import)	WAV or AIFF data will be imported.
ini (Initialize)	All data will be initialized.
L.oF (Limit mode off)	Effect Limit mode is off.
L.on (Limit mode on)	Effect Limit mode is on.
LEd (LED)	The blinking speed of the display illumination will be specified.
LEV (Level)	The resampling volume (level) will be specified.
Lo (Battery Low)	If the batteries run down completely, no further operations will be possible. Replace the batteries immediately.
Lod (Backup Load)	Backup data will be loaded.
Mid (MIDI)	Synchronized to MIDI Clock.
P.oF (Protect off)	Protect is turned off.
P.on (All data protect on)	All banks are protected.
Prt (Protected)	The operation cannot be performed because Protect is enabled.
Ptn (Pattern)	Pattern playback or recording will be performed.
rdy (Ready)	Waiting for input signal during Auto Sampling.

Appendices

Message	Meaning
rEC (Recording)	Sampling. Resampling. Recording a pattern.
rEh (Rehearsal)	Rehearsal mode during pattern recording.
S.oF (Send/Return mode off)	Send/Return mode is off.
S.on (Send/Return mode on)	Send/Return mode is on.
SAV (Backup Save)	Backup data will be saved.
trC (Truncate)	Sample will be truncated.
UnS (Unsupported format)	The operation was cancelled because the WAV or AIFF is in a format not supported by the SP-404.
WAV	When exporting an audio file, it will be exported in WAV format.

Recommended Memory Cards

As of the date of writing, Roland has confirmed that the following memory cards work correctly with the SP-404.

Manufacturer	Model
BUFFALO	RCF-G (256 MB, 1 GB), RCF-X (32 MB, 64 MB, 128 MB, 512 MB)
HAGIWARA SYS-COM	Zpro: HPC-CF128ZP (128 MB), HPC-CF512ZP (512 MB), HPC-CF1GZP (1 GB)
I•O DATA	CFS-32M (32 MB)
SanDisk	ultra II: SDCFH-256-903 (256 MB), SDCFH-512-903 (512 MB), SDCFH-1024-903 (1 GB)

* Supported capacities: 32 MB, 64 MB, 128 MB, 256 MB, 512 MB, 1 GB

MIDI Implementation

Model: SP-404
Date: July 12, 2005
Version: 1.02

1. Receive data

■ Channel Voice Messages

* For the correspondence between note numbers and pads, refer to "MIDI on the SP-404" (p. 41).

● Note Off

Status	2nd byte	3rd byte
8nH	kkH	vvH
9nH	kkH	00H

n = MIDI channel number: 0H - FH (ch.1 - ch.16)
kk = note number: 2EH - 76H (46 - 118)
vv = note off velocity: 00H - 7FH (0 - 127)

● Note On

Status	2nd byte	3rd byte
9nH	kkH	vvH

n = MIDI channel number: 0H - FH (ch.1 - ch.16)
kk = note number: 2EH - 76H (46 - 118)
vv = note on velocity: 01H - 7FH (1 - 127)

■ Channel Mode Messages

* If the following channel mode message is received during realtime recording, note-off messages will be generated for all notes on the corresponding channel that are currently on, and those note-off messages will be recorded.

● All Sounds Off (Controller number 120)

Status	2nd byte	3rd byte
BnH	78H	00H

n = MIDI channel number: 0H - FH (ch.1 - ch.16)

* If the All Sound Off message is received, all notes will be silenced regardless of their channel.

■ System Common Message

● Song Position Pointer

Status	2nd byte	3rd byte
F2H	mmH	llH

(mm ll: 00 00H - 7F 7FH (0 - 16383))

* This message is received if Sync Mode is AUTO.

■ System Realtime Message

● Timing Clock

Status
F8H

* This message is received if Sync Mode is AUTO or TEMPO.

● Start

Status
FAH

* This message is received if Sync Mode is AUTO.

● Continue

Status
FBH

* This message is received if Sync Mode is AUTO.

● Stop

Status
FCH

* This message is received if Sync Mode is AUTO.

● Active Sensing

Status
FEH

Date : July 12, 2005

Model SP-404

MIDI Implementation Chart

Version : 1.02

Function...	Transmitted	Recognized	Remarks
Basic Default Channel Changed	X X	1-16 1-16	
Mode Default Messages Altered	X X *****	Mode 3 X	
Note Number : True Voice	X *****	46-118 46-118	
Velocity Note On Note Off	X X	O X	
After Key's Touch Channel's	X X	X X	
Pitch Bend	X	X	
Control Change	X	X	
Program Change : True Number	X *****	X	
System Exclusive	X	X	
System : Song Position Common : Song Select : Tune Request	X X X	O X X	*1
System : Clock Real Time : Commands	X X	O O	*2 *1
Aux : All Sound Off Messages : Reset All Controllers : Local On/Off : All Notes Off : Active Sensing : System Reset	X X X X X X	O X X X O X	*3
Notes	* 1 Received if Sync Mode is AUTO. * 2 Received if Sync Mode is AUTO or TEMPO. * 3 All notes will be silenced regardless of their channel.		

Mode 1 : OMNI ON, POLY
Mode 3 : OMNI OFF, POLY

Mode 2 : OMNI ON, MONO
Mode 4 : OMNI OFF, MONO

O : Yes
X : No

Specifications

SP-404: Sampler

Maximum Polyphony

12 voices

Internal Memory

Samples: 24 (12 samples x 2 banks)

* Including Pre-loaded Samples

Patterns: 24 (12 patterns x 2 banks)

* Including Pre-loaded Patterns

Memory Card (CompactFlash)

Samples: 96 (12 samples x 8 banks)

Patterns: 96 (12 patterns x 8 banks)

Maximum Sampling Time (mono, approx.)

Internal Memory (Including Pre-loaded Samples)

STANDARD	LO-FI
5 min.	11 min.

Memory Card

Card capacity	STANDARD	LO-FI
32 MB	12 min.	24 min.
64 MB	24 min.	48 min.
128 MB	48 min.	96 min.
256 MB	96 min.	193 min.
512 MB	193 min.	386 min.
1 GB	386 min.	772 min.

Sampling Frequency

44.1 kHz

Data Format

SP-404 original format

(WAV/AIFF import/export possible)

Sampling Mode

STANDARD, LO-FI

Pattern Sequencer

Maximum recordable notes:

Internal Memory: Approx. 8,000 notes

* Including Pre-loaded Patterns

Memory Card (CompactFlash): Approx. 8,000 notes

Resolution: 96 ticks per quarter note

Pattern Length: 1-99 measures

Recording method: Realtime Loop Recording
(with quantize function)

Effects

29 types

Signal Processing

AD Conversion: 24 bits

DA Conversion: 24 bits

Display

7 segments, 3 characters (LED)

Onboard Mic

Mono x 1

Connectors

LINE INPUT Jacks (L, R) (RCA phono type)

LINE OUTPUT Jacks (L, R) (RCA phono type)

Headphones (PHONES) Jack (Stereo 1/4 inch phone type)

MIC Jack (1/4 inch phone type)

MIDI IN Connector

AC Adaptor Jack

Memory Card Slot (CompactFlash)

Power Supply

DC 9 V (Dry battery LR6 (AA) type x 6 or AC Adaptor)

Expected battery life under continuous use:

Alkaline: 6 hours

* These figures will vary depending on the actual conditions of use.

Current Draw

300 mA

Dimensions

177.6 (W) x 256.7 (D) x 72.1 (H) mm

7 (W) x 10-1/8 (D) x 2-7/8 (H) inches

Weight

1.3 kg

2 lbs 14 oz

(excluding batteries)

Accessories

AC Adaptor

Owner's Manual

* In the interest of product improvement, the specifications and/or appearance of this unit are subject to change without prior notice.

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For EU Countries

This product complies with the requirements of European Directive 89/336/EEC.

For the USA

FEDERAL COMMUNICATIONS COMMISSION RADIO FREQUENCY INTERFERENCE STATEMENT

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 the dealer or an experienced radio/TV technician for help.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference, and
- (2) This device must accept any interference received, including interference that may cause undesired operation.

Unauthorized changes or modification to this system can void the users authority to operate this equipment.
This equipment requires shielded interface cables in order to meet FCC class B Limit.

For Canada

NOTICE

This Class B digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

AVIS

Cet appareil numérique de la classe B respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.



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NORTH AMERICA

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Roland Canada Music Ltd.
(Head Office)
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CANADA
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Roland Canada Music Ltd.

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U. S. A.

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5100 S. Eastern Avenue
Los Angeles, CA 90040-2938,
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