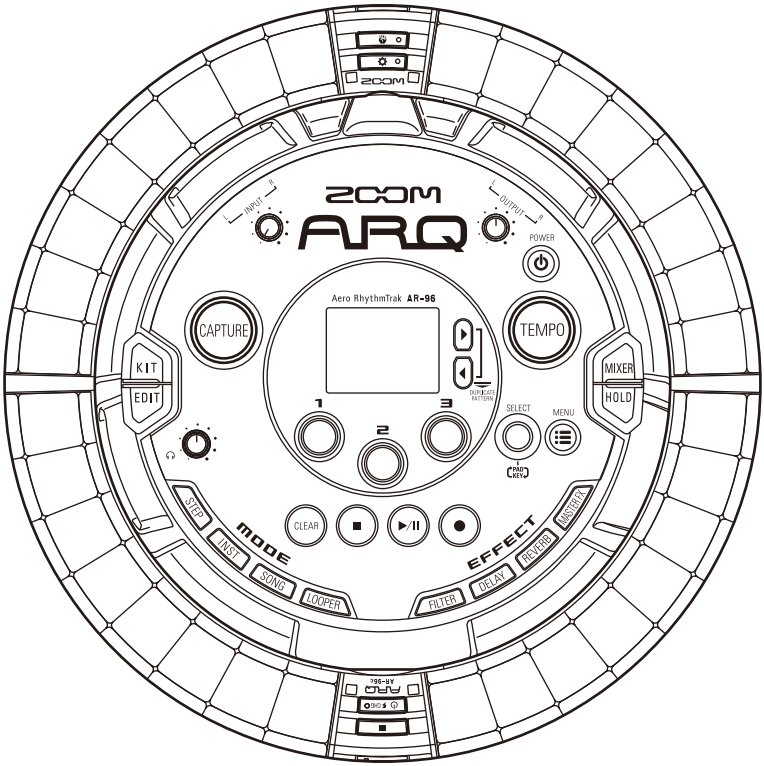
ARQ
Aero RhythmTrak
AR-96



Version 2.0 Operation Manual

Contents

Usage and Safety Precautions

Safety Precautions

In this manual, symbols are used to highlight warnings and cautions that you must read to prevent accidents. The meanings of these symbols are as follows.

Warning	**Something that could cause serious injury or death**
Caution	**Something that could cause injury or damage to the equipment**

Other symbols used

!	**An action that is mandatory**
⃠	**An action that is prohibited**

⚠ Warning

Operation using an AC adapter

- ! Never use any AC adapter other than a ZOOM AD-14.
- ⃠ Do not do anything that could exceed the ratings of outlets and other electrical wiring equipment
- ⃠ Connect the AC adapter only to an AC outlet that supplies the rated voltage required by the adapter.

Operation using the rechargeable battery

- ! Always use a ZOOM BT-04 rechargeable battery.
- ! Carefully study warning indications on batteries before use.
- ! Always keep the battery cover closed during use.

Alterations

- ⃠ Do not open the case or modify the product.

⚠ Caution

Product handling

- ! Do not drop, bump or apply excessive force to the unit.
- ! Be careful not to allow foreign objects or liquids to enter the unit.

Operating environment

- ⃠ Do not use in extremely high or low temperatures.
- ⃠ Do not use near heaters, stoves and other heat sources.
- ⃠ Do not use in very high humidity or where it could be splashed by water.
- ⃠ Do not use in places with frequent vibrations.
- ⃠ Do not use in places with much dust or sand.

AC adapter handling

- ! When disconnecting the power plug from an outlet, always pull on the plug itself.
- ! Disconnect the power plug from the outlet when the unit will not be used for a long time and whenever there is lightning.

Connection cables and input/output jacks

- ! Always turn the power OFF for all equipment before connecting any cables.
- ! Always disconnect all connection cables and the AC adapter before moving the unit.

Volume

- ⃠ Do not use at a loud volume for a long time.

Usage Precautions

Interference with other electrical equipment

In consideration of safety, the **AR-96** has been designed to minimize its emission of electromagnetic waves and to suppress interference from external electromagnetic waves. However, equipment that is very susceptible to interference or that emits powerful electromagnetic waves could result in interference if placed nearby. If this occurs, place the **AR-96** and the other device farther apart.

With any type of electronic device that uses digital control, including the **AR-96**, electromagnetic interference could cause malfunction, corrupt or destroy data and result in other unexpected trouble. Always use caution.

Cleaning

Use a soft cloth to clean the exterior of the unit if it becomes dirty. If necessary, use a damp cloth that has been wrung out well to wipe it.

If the Ring Controller surface becomes dirty, wipe it with a soft damp cloth that does not shed fibers.

Never use abrasive cleansers, wax or solvents such as alcohol, benzene or paint thinner.

Breakdown and malfunction

If the unit becomes broken or malfunctions, immediately disconnect the AC adapter, turn the power off and disconnect other cables. Contact the store where you bought the unit or ZOOM service with the following information: product model, serial number and specific symptoms of breakdown or malfunction, along with your name, address and telephone number.

Copyrights

- Windows®, Windows® 10, Windows® 8 and Windows® 7 are trademarks or registered trademarks of Microsoft® Corporation.
- Mac, Mac OS, iPad and iOS are trademarks or registered trademarks of Apple Inc.
- Intel and Intel Core are trademarks or registered trademarks of Intel Corporation or its subsidiaries in the US and other countries.
- The SD, SDHC and SDXC logos are trademarks.
- Bluetooth and the Bluetooth logo are registered trademarks of Bluetooth SIG, Inc. and are used under license by ZOOM CORPORATION.
- MIDI is a registered trademark of the Association of Musical Electronics Industry (AMEI).
- Ableton and Ableton Live are trademarks of Ableton AG.
- Other product names, registered trademarks and company names in this document are the property of their respective companies.

Note: All trademarks and registered trademarks in this document are for identification purposes only and are not intended to infringe on the copyrights of their respective owners.

Recording from copyrighted sources, including CDs, records, tapes, live performances, video works and broadcasts, without permission of the copyright holder for any purpose other than personal use is prohibited by law.

ZOOM CORPORATION will not assume any responsibility related to infringements of copyrights.

For optimal performance

The **AR-96** uses Bluetooth LE wireless communication for communication between the Ring Controller and the Base Station. Communication at up to 10 meters is possible in an unobstructed indoor space. If interference from electromagnetic waves or other causes prevent good communication, try the following.

- Bring the Ring Controller and the Base Station closer together.
- Move any obstacles between the Ring Controller and the Base Station.
- Stop unnecessary 2.4GHz transmissions or move interfering devices (including the following) further away.
  - WiFi access points
  - Smartphones and other devices that use WiFi
  - Microwave ovens
  - Audio monitors, lighting controllers and other devices that communicate at 2.4GHz

Warnings and requests regarding safe battery use

Carefully read the following warnings in order to avoid serious injuries, burns, fires and other problems caused by leaking, heat generation, combustion, rupture or accidental swallowing.

⚠ DANGER

- ⃠ Do not charge the lithium-ion battery (BT-04) in any way other than using the **AR-96** and an AD-14.
- ⃠ Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type.
- ⃠ Do not disassemble the battery, put it in fire, or heat it in a microwave or conventional oven.
- ⃠ Do not leave the battery near a fire, in strong sunlight, inside a vehicle that has become hot or in similar conditions. Do not recharge in conditions like these.
- ⃠ Do not carry or store the battery with coins, hairpins or other metal objects.
- ⃠ Do not allow the battery to be wet by any liquid, including water, seawater, milk, soft drinks or soapy water. Do not charge or use a battery that is wet.

⚠ Warning

- ⃠ Do not hit the battery with a hammer or other object. Do not step on it or drop it. Do not otherwise impact or apply force to the battery.
- ⃠ Do not use the battery if it becomes deformed or damaged.
- ⃠ Do not remove or damage the outer seal. Never use a battery that has had all or part of its outer seal removed or a battery that has been torn.

Recycling request

Please recycle batteries to help conserve resources. When discarding used batteries, always cover their terminals and follow all laws and regulations that are applicable to the location.

Usage and Safety Precautions (continued)

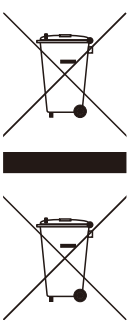
FCC regulation warning (for U.S.A.)
This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment 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.**

For EU Countries

CE **Declaration of Conformity**

Disposal of Old Electrical & Electronic Equipment (Applicable in European countries with separate collection systems)



Products and batteries that have been marked with the symbol of a crossed-out wheeled waste bin must not be disposed of with household waste.
Old electrical/electronic equipment and batteries should be recycled at facilities that are able to process them and their byproducts.
Contact the local government for information about nearby recycling facilities. Conducting recycling and waste disposal properly helps conserve resources and prevents harmful impacts on human health and the environment.

For U.S.A. and CANADA

This device complies with part 15 of the FCC Rules and Industry Canada license-exempt RSS standard(s). 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.

This equipment complies with FCC/IC radiation exposure limits set forth for an uncontrolled environment and meets the FCC radio frequency (RF) Exposure Guidelines and RSS-102 of the IC radio frequency (RF) Exposure rules. This equipment has very low levels of RF energy that are deemed to comply without testing of specific absorption ratio (SAR).

For CANADA

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

Cet équipement est conforme aux limites d'exposition aux rayonnements énoncées pour un environnement non contrôlé et respecte les règles d'exposition aux fréquences radioélectriques (RF) CNR-102 de l'IC. Cet équipement émet une énergie RF très faible qui est considérée conforme sans évaluation du débit d'absorption spécifique (DAS).

Label is located at the bottom of the unit.

The contents of this document and the specifications of the product could be changed without notice.

Introduction

Thank you very much for purchasing a ZOOM Aero RhythmTrak **AR-96**. The **AR-96** has the following features.

• Loop-shaped controller

The loop shaped Ring Controller makes inputting loop sequences intuitive.

• Ring Controller with 3 rows of 32 pads and 5 rows of 32 LEDs

During step input, you can use the 3 rows of pads to input 3 instruments at the same time. In addition, the multicolor LEDs allow you to see the input status of up to five instruments at a glance.
Furthermore, each pad row can be used separately for real-time input, allowing diverse performance options.

• Ring Controller can be removed from Base Station

The Ring Controller can be removed from the Base Station to perform with it in hand. You can now realize entertaining performances in ways that are not possible with conventional rhythm machines.

•Accelerometer built into the Ring Controller

You can control effect parameters by tilting the Ring Controller. Enjoy a new feeling of controlling sound with your body.

• Automatic detection of the grip area

The grip area setting function can prevent misoperation when holding the Ring Controller during performances.
The position can be set easily when holding it in the most comfortable position.

• The Ring Controller and Base Station connect with Bluetooth LE

The Ring Controller and Base Station connect wirelessly using Bluetooth LE. Power consumption is low, so use for long periods of time is possible.
In addition, the Ring Controller can be independently connected to Mac computers and iOS devices to be used as a multifunction MIDI controller.

• Built-in sound sources can be edited in various ways

The sounds included in the **AR-96** have a variety of adjustable parameters that increase their expressive ranges.
Each of the sound parameters can be set easily on an icon-based editor screen.
In addition, each kit can use the sounds of up to 33 instruments (16 simultaneous voices), allowing the creation of rich musical pieces.

• More than 400 PCM sound sources and 70 synthesizer oscillator types built-in

From the rich selection of sound sources, you will be able to find sounds that fit your image of the music you want to make.
The sounds are organized by categories so you can find them quickly.

• Various creation modes

Create music using different modes for different purposes. Build patterns one step at a time in STEP mode. Perform patterns in INST mode. Arrange patterns you have made into complete pieces of music in SONG mode. Assign captured audio to pads and perform with them in LOOPER mode.

• Use up to five effects simultaneously

You can use an insert effect on individual instruments, as well as global filter, delay, reverb and master effects at the same time. This vastly increases sound design possibilities.

• Inputs for electronic instruments and audio devices

You can perform while listening to the input from a connected device and capture input sounds to use as loops and sound sources.

• Loading of audio files possible

You can use a computer to save WAV files on an SD card and load them for use as loops and sound sources. (An SD card (not included) is required.)

• Headphone output independent from other outputs

The second stereo output allows you to output a metronome just to the headphones, for example.

Explanation of terms

Pattern

This is a short musical part of several bars. Patterns are made of sequences (performance information) and kits (sound sets). You can also save parameters controlled by the Ring Controller, quantization and other settings for each pattern separately.

The **AR-96** has preset patterns that cover a variety of musical genres.

Song

This is a combination of multiple patterns that form a single musical piece.

Step

A step is the length of the shortest notes that can be input to a sequence.

Steps are usually one 16th of a measure, so you can set sounds to occur in 16th note intervals. This length can be changed in the settings.

Sequence

A sequence is performance data that records the timing when various sounds are played.

The **AR-96** has a STEP mode that allows you to record sequences one step at a time and an INST mode that allows you to record playing the pads in real time.

Instrument

These are the smallest elements of sounds. A variety of sound sources, including drum sets, percussion instruments, basses and synthesizers, are already prepared for use.

You can also use WAV files saved on an SD card by a computer as instruments.

In addition to selecting sounds, various settings are available in each instrument. These include envelopes with attack and sustain times, filters and effects.

Kit

One pattern can use up to 33 instruments. This collection of instruments is called a "kit".

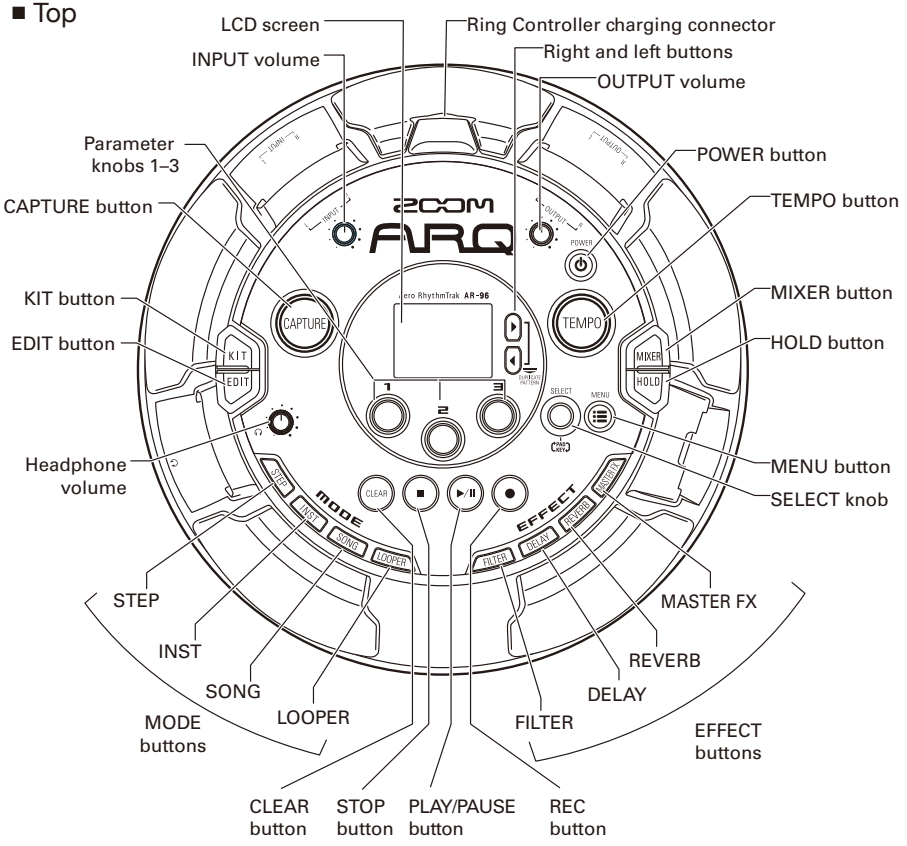
A kit created in one pattern can be copied to another pattern.

Overview

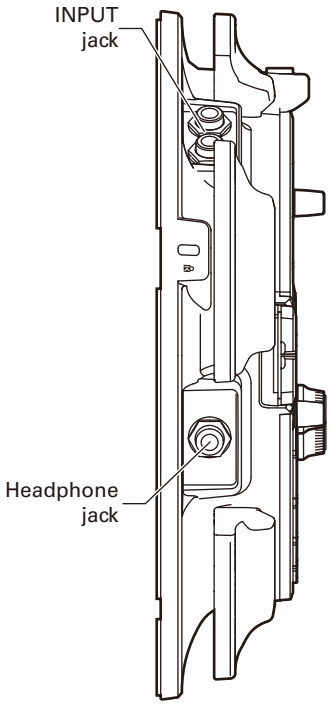
Names of parts

Base Station

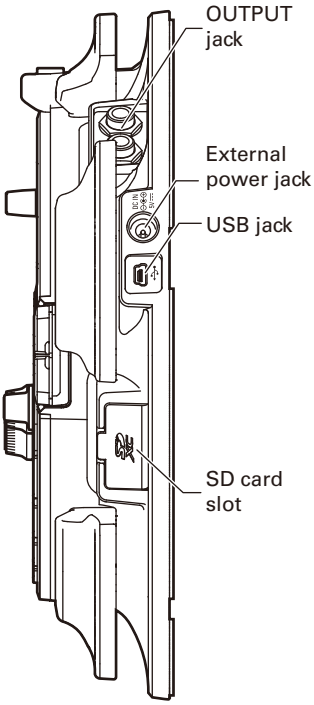
■ Top



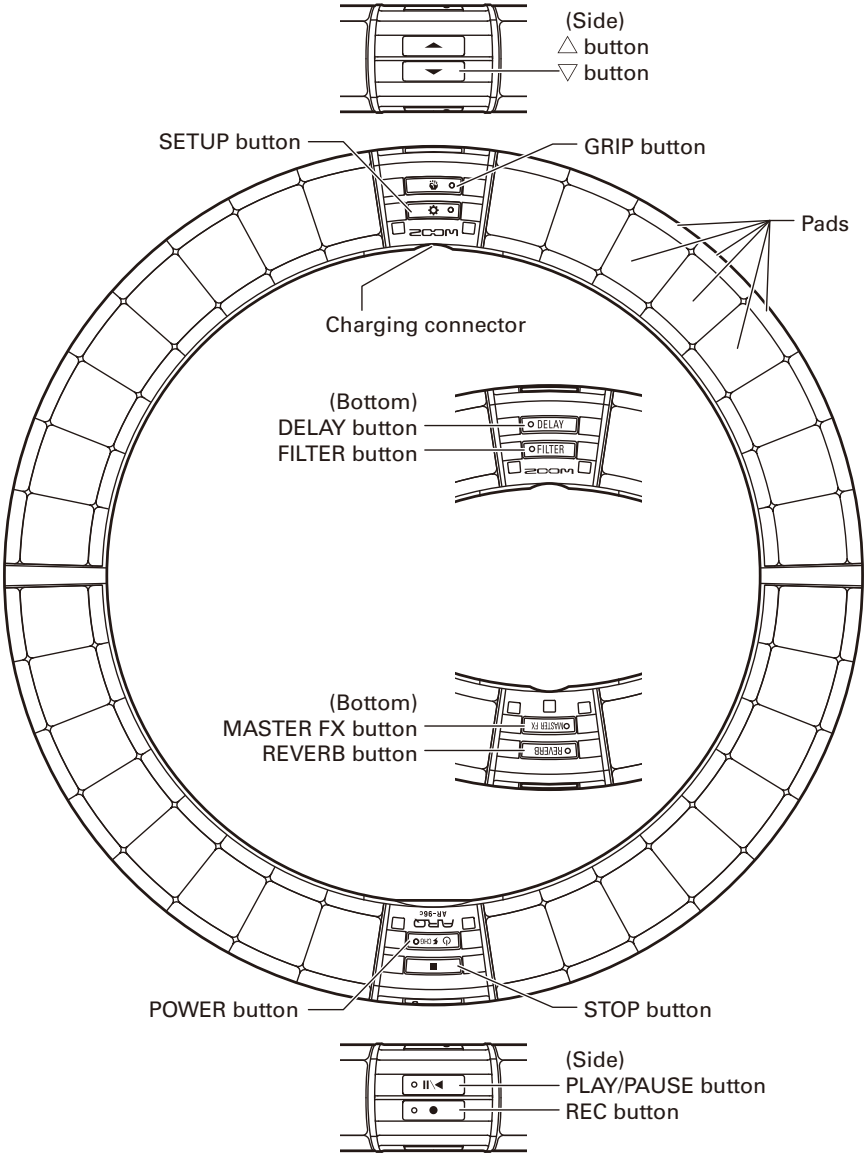
■ Left side



■ Right side



Ring Controller

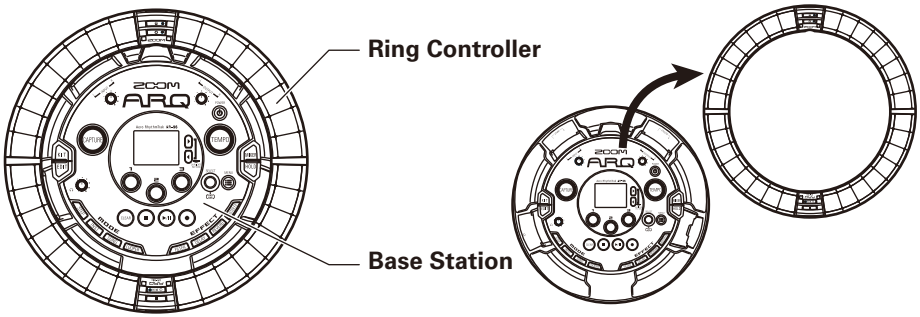


HINT

- You can use the Ring Controller buttons for the same operations as the Base Station buttons.
- The Ring Controller corresponds to the Base Station .
- Press on the Ring Controller to show the remaining battery charge on the Base Station screen.

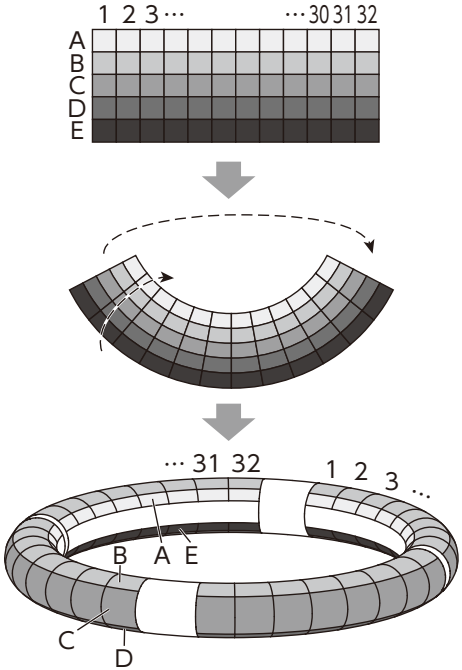
Using the AR-96

The **AR-96** consists of a Base Station and a Ring Controller.



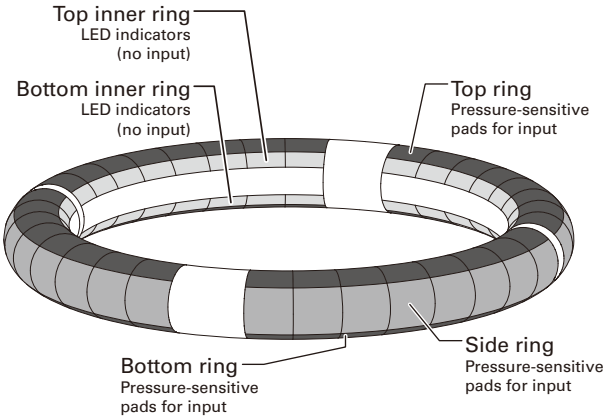
With the Base Station, you can edit tones, create songs and save them, for example. Use the Ring Controller for input when creating songs.
Since the Ring Controller can be detached from the Base Station, you can hold it in your hand and play it like an instrument. You can also connect it wirelessly to a Mac computer or iOS device and use it as a MIDI controller (→ P. 108).

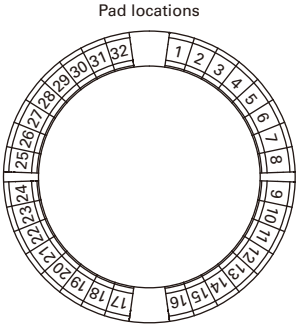
The Ring Controller includes an LED matrix with 5 rows of 32 blocks (3 rows with pads and 2 rows for display only). Placing a two-dimensional matrix on the surface of a three-dimensional hoop enables confirmation and operation of all steps in a compact form.



Ring Controller overview

The **AR-96** Controller surface has 5 ring-shaped areas. The top, side and bottom rings each have 32 pressure-sensitive pads. Using these pads, you can input and edit songs and perform in real-time, for example.

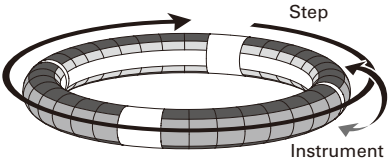




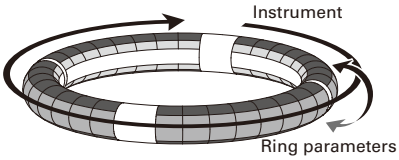
Assignment of functions

Various functions are assigned to the Ring Controller rings and pads according to the operation status and mode.

Example: In STEP mode PAD layout, the rings display 5 different instrument sequences (3 when set to Guideline display), and each pad and indicator corresponds to a step between 1 and 32.



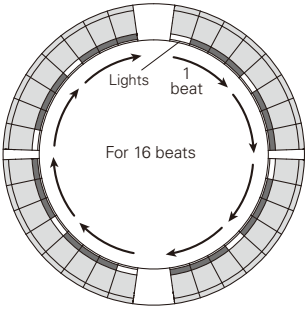
Example: In INST mode PAD layout, each pad controls 1 of 32 instruments with each ring assigned to a different parameter setting.



HINT
Since input procedures differ for each mode, see the explanation pages for each operation for details.

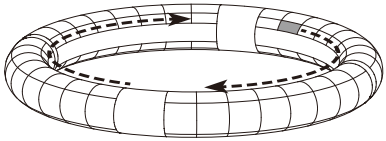
Guideline

In STEP mode, the LEDs of the top and bottom inner rings can light for each beat to assist in step recording.
See "Setting inner ring display" (→ P. 96) for setting instructions.



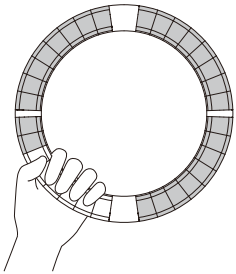
Playback position

When Guideline mode is active, the LEDs of the top and bottom inner rings light green at the step currently playing during playback of patterns and songs, for example.
In addition, in INST mode and during other real-time input, the LEDs light red.



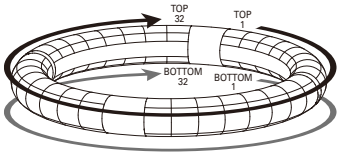
Grip area

You can set a grip area that does not respond to touch in order to prevent pads from being pressed unintentionally when using the Ring Controller separately from the Base Station. You can set the grip area range as you like.
For details about how to set this, see "Grip area setting" (→ P. 103).



Turning the Ring Controller over

If you turn the ring controller over and place it so that the side with the power key and the side with the effect keys are reversed, the functions assigned to the rings and the display of LEDs will be reversed top to bottom. Moreover, the direction of movement will also be switched. As a result, when the Ring Controller is viewed from above, movement will always be clockwise and the top ring will always be on top when you use it.

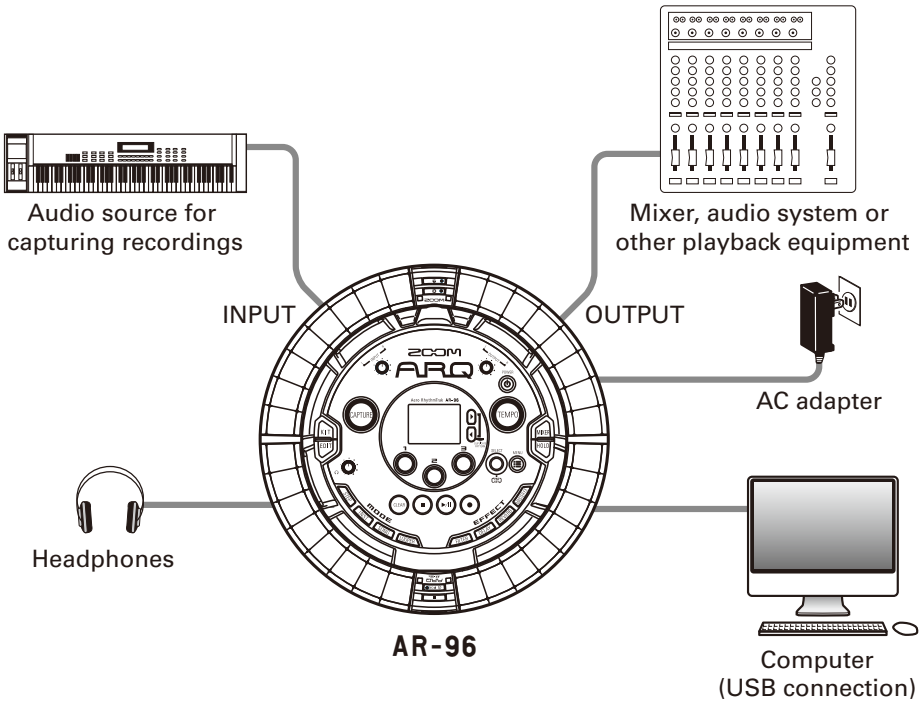


Use the same way even when turned over

NOTE

If the grip area has been set, turning the ring controller over will not reverse assignments or the direction.

Connecting other devices



Switching modes

With the **AR-96**, you can create patterns and combine multiple patterns to create songs.

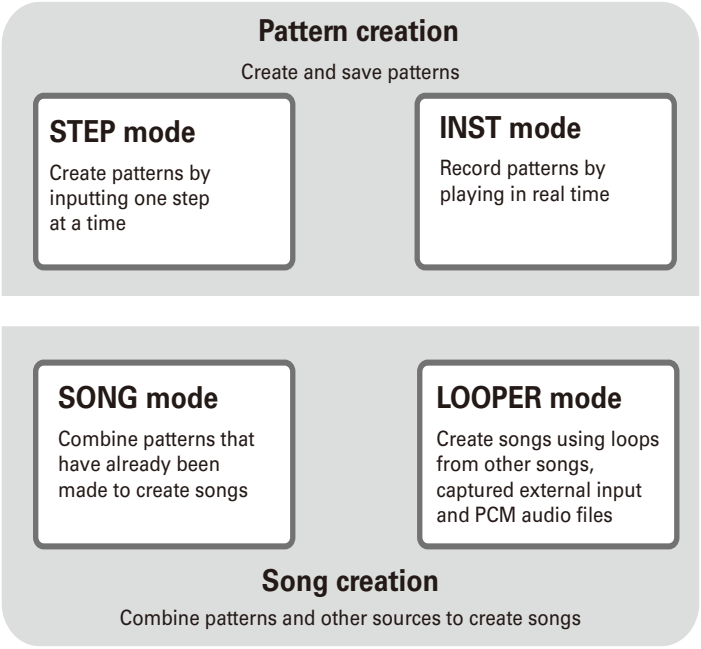
Editing with the **AR-96** mainly uses the following four modes. By switching between these modes, you can alternate between creating patterns and creating songs.

The two modes for creating patterns are STEP and INST.

- In STEP mode, you can record instrument sounds one step at a time to create patterns.
- In INST mode, and you can record a performance as a pattern by playing the pads in real-time.

Use SONG and LOOPER modes to create songs.

- In SONG mode, create songs by playing and changing patterns in real-time and recording the results.
- In LOOPER mode, use audio data captured from the input of devices connected to the INPUT jacks, patterns and songs, as well as WAV files loaded from SD cards, for example, as materials to build looper sequences and create songs.



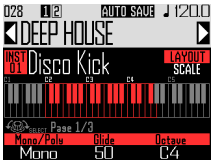
Instrument overview

The **AR-96** can use up to 33 sound sources in a single kit. Each of these is called an instrument and produces sound from waveform data, such as a drum hit, from a WAV file loaded from an SD card, or from the built-in synthesizer. In addition to its sound (oscillator), each instrument has various settings. These include envelopes with attack and sustain times, filters, effects and pad colors.
Instruments are assigned numbers from 1 to 33. In EDIT and STEP modes, you can edit the sound and sequence for the instrument selected by number.

HINT

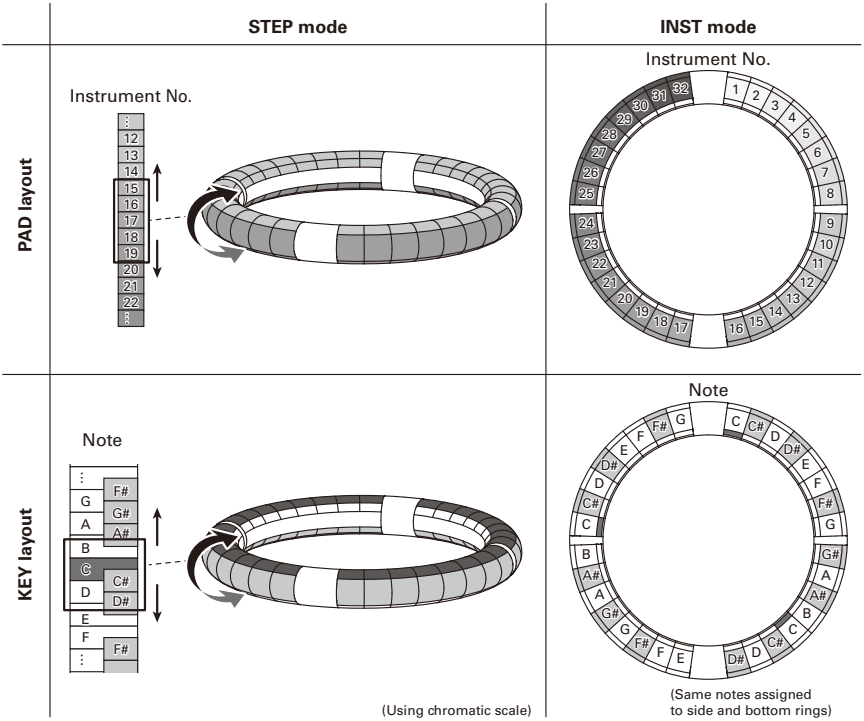
Instrument number 33 is the one used in KEY layout in **AR-96** Version 1.00. It can only be edited in STEP mode.

The **AR-96** Ring Controller has the two following layouts. In STEP or INST mode, press SELECT to switch between them. Up to 16 sounds can be generated simultaneously in either layout.

PAD layout	In this performance mode, you can assign different instruments to each of the 32 pads. Instruments 1–32 are assigned individually to pads 1–32. The selected instrument is shown on the display and the corresponding pad lights white. 
SCALE layout	This performance mode allows you to use a musical scale to play the instrument selected in PAD layout. The pads become like a keyboard in a musical scale order. The Ring Controller LEDs light with a pale color for white keyboard keys and a dark color for black keyboard keys. The scale can also be set to major or minor, for example.  Unlike in **AR-96** Version 1.00, any of the 1–32 instruments can be switched to SCALE layout. The note (pitch) that sounds when a pad is played in PAD layout is C4.

Instrument overview (continued)

Assignments of instruments to the Ring Controller are different for STEP and INST modes as well as for PAD and SCALE layouts.

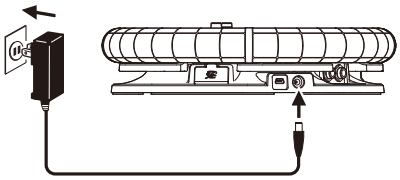


Preparations

Turning the power on and off

Base Station power

1. Connect the included AC adapter to the Base Station.



2. Press and hold POWER on the Base Station.

3. Press and hold POWER to turn the power OFF.

HINT

When the Ring Controller is asleep and connected to the Base Station, turning the Base Station power ON/OFF will also turn the Ring Controller ON/OFF.

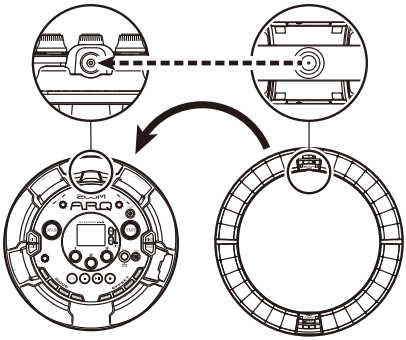
NOTE

Use the AC adapter to power the **AR-96** even when it is connected to a computer or other device by USB.

Ring Controller power

■ Charging the Ring Controller

1. Place the Ring Controller on the Base Station.



Align their charging connectors before placement.
Charging will start and the Ring Controller [CHG] LED will light.

Charging (Power off or asleep)	Red
Charging during use	Orange
Using battery (Remaining battery charge at least 12%)	Green
Using battery (Remaining battery charge less than 12%)	Blinking green

HINT

Even when the Base Station is OFF, if it is connected to a power supply, it can recharge the Ring Controller.

■ Putting the Ring Controller to sleep

When the Ring Controller is charging, the power will not turn OFF. Instead, it will go to sleep.

1. CONTROLLER Press and hold ⏻ CHG.

2. CONTROLLER Press and hold ⏻ CHG to wake it from sleep.

HINT

When asleep, the Ring Controller ⏻ CHG LED will light red (charging) or blink red (not charging).

■ Turning the Ring Controller OFF

To turn the Ring Controller OFF, follow these steps when it is not charging.

1. CONTROLLER Press and hold ⏻ CHG for at least 7 seconds when not charging.

2. CONTROLLER Press and hold ⏻ CHG to turn the power on.

NOTE

- When the power is OFF, the ⏻ CHG LED becomes unlit.
- When the Ring Controller's power is OFF, if you place it on a Base Station that is connected to power, recharging will start automatically and the Ring Controller will do the following.
  - Turn ON (if Base Station is ON)
  - Sleep (if Base Station is OFF)

Loading SD cards

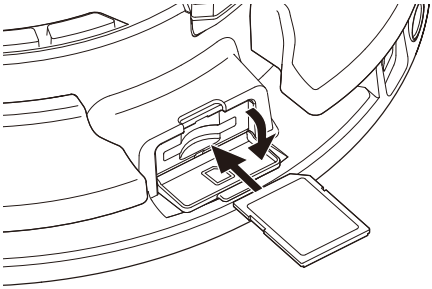
■ Loading and removing SD cards

1. Turn the power off.

2. Open the SD card slot cover on the Base Station.

3. Insert the SD card into the slot.

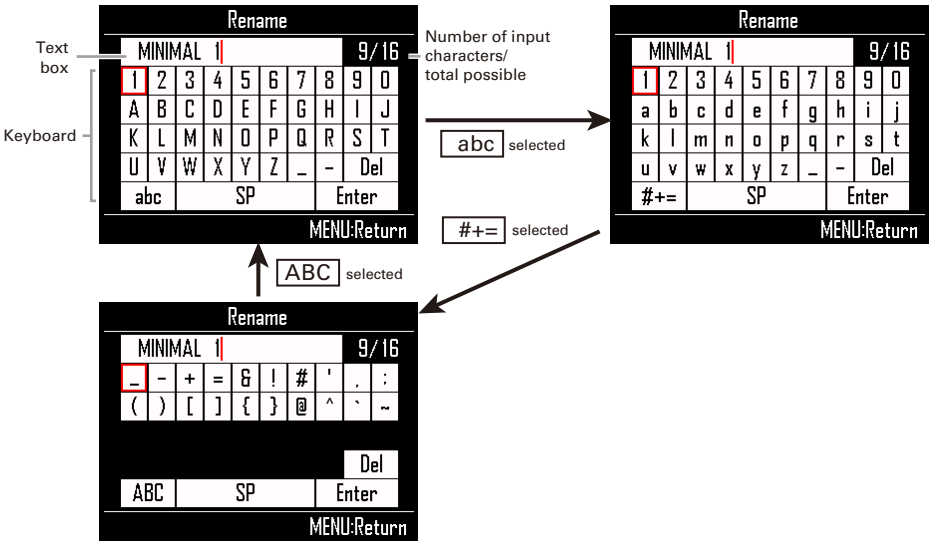
To eject an SD card:
Push the card further into the slot and then pull it out.



NOTE

- If no SD card is loaded in the **AR-96**, captured data cannot be saved and patterns and songs that are created cannot be backed up.
- When inserting an SD card, be sure to insert the correct end with the top side up as shown.
- Before using SD cards that have just been purchased or that have been formatted on a computer, they must be formatted by the **AR-96**.
- SD card formatting instructions (→ P. 114)

Character input screen use



■ Editing operations

Move cursor in text box:	Use ◎
Select character:	Turn SELECT
Confirm character:	Press SELECT
Complete editing:	Move cursor to "Enter" and press SELECT
Cancel editing:	Press MENU

HINT

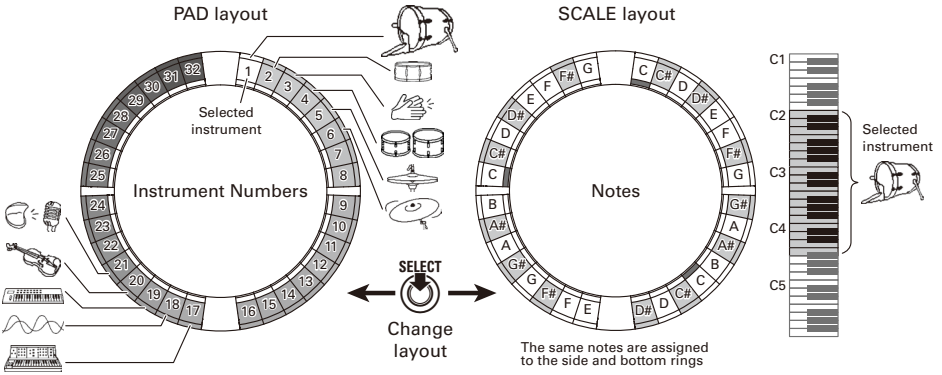
- The following characters can be used.
  (space) ! # & ' ( ) + , - 0 1 2 3 4 5 6 7 8 9 ; = @ A B C D E F G H I J K L M N O P Q R S T U V W X Y Z [ ] ^ _ ` a b c d e f g h i j k l m n o p q r s t u v w x y z { } ~
- Some characters might not be usable depending on the item being input.

INST (instrument) mode

INST mode overview

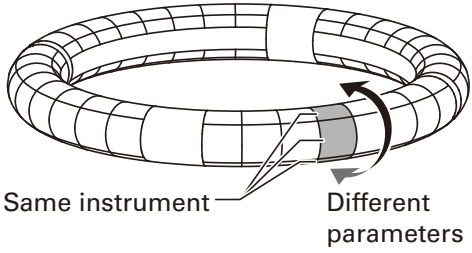
You can tap pads to perform as you like. You can also record performances in real-time to create patterns.

In this mode, each pad around the Ring Controller corresponds to a single instrument (PAD layout) or note (SCALE layout).



HINT
In PAD layout, the note (pitch) C4 is output when a pad is played.

Different parameter settings are assigned to the side and bottom rings, so they can be used for different tones (→ P. 93).

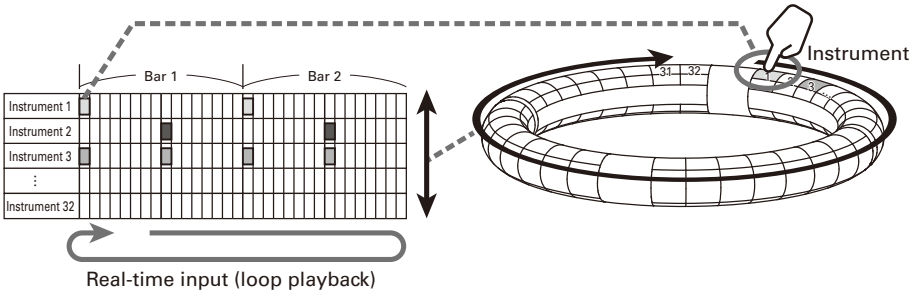


INST mode overview (continued)

Pattern creation in PAD layout

After starting real-time input, tap pads for an instrument to input it.

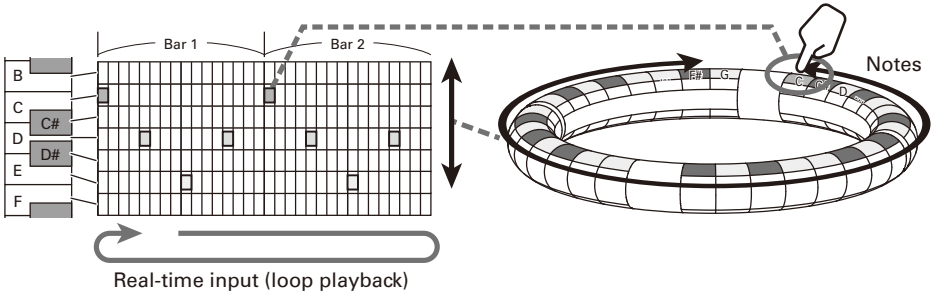
The pattern will start loop playback, and you can overdub as many times as you like.



Pattern creation in SCALE layout

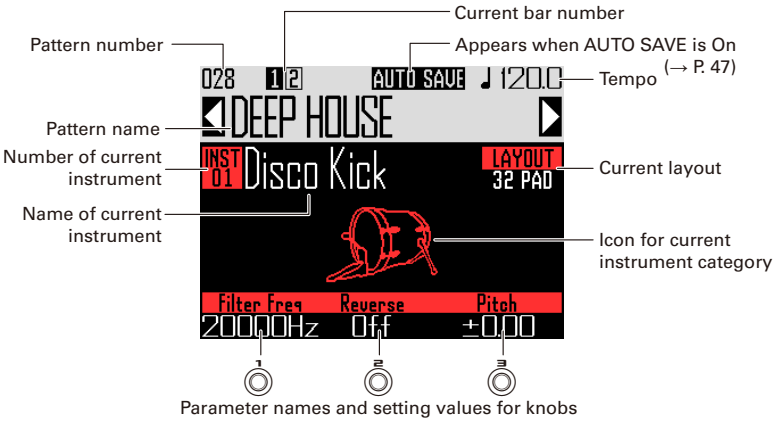
After starting real-time input, tap pads for notes to input them.

Scales can be used to input every instrument numbered 1–32.



Screen overview

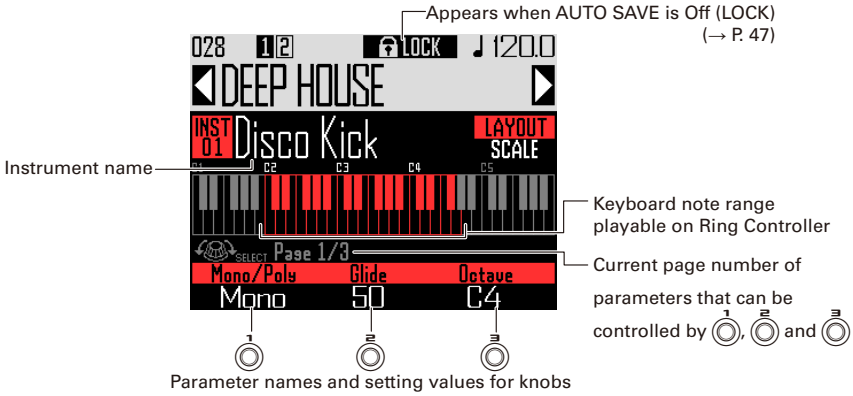
■ PAD layout



HINT

- By pressing INST as you tap a pad, you can select its instrument without playing its sound.
- The parameters assigned to 1, 2 and 3 can be selected using the Quick Access function (→ P. 92).

■ SCALE layout



HINT

The parameters assigned to 1, 2 and 3 can be set to the following options using SELECT.

Page 1: Mono/Poly, Glide, Octave

Page 2: PAD layout Quick Access functions 1–3

Page 3: Scale, Key

Operation summary

Enter INST mode

Press INST to enter INST mode.

Select a pattern

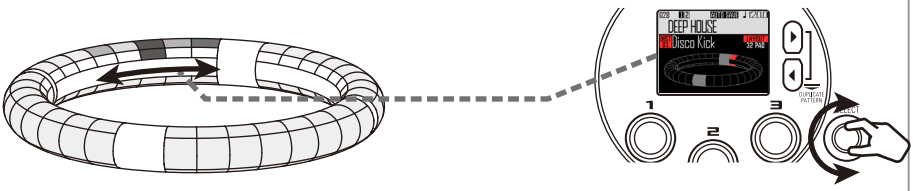
Use ◀▶ to select a pattern number.

Check the instruments

Play the pads to hear the sounds of the input instruments.

When a pad is tapped, it becomes “selected” and lights white. The name and parameters of the instrument are shown on the display.

To select an instrument without making a sound press and hold INST while tapping the pad.

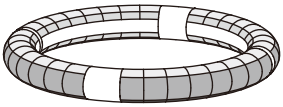


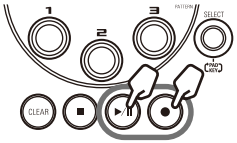
To use SCALE layout to input the selected instrument, press SELECT to change the layout.

You can also use SELECT to check the instruments.

Start input

Press ● to enter standby, and press ▶/II to start real-time input.

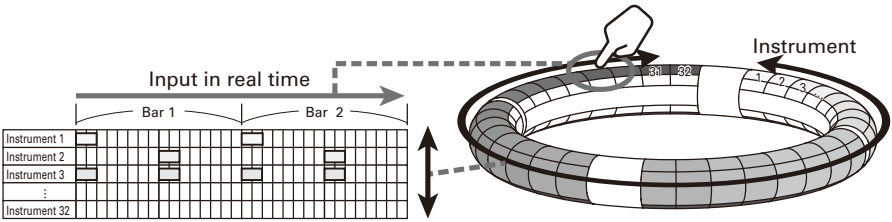




Start real-time input

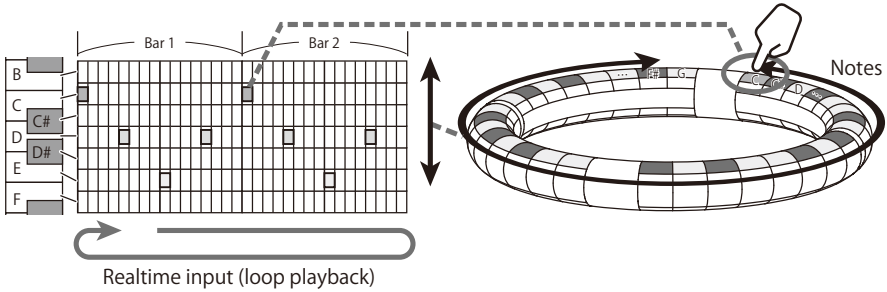
In PAD layout

Tap instrument pads to input them in time with the looping pattern that is playing back.



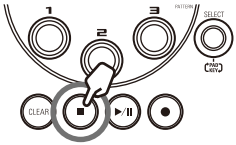
In SCALE layout

Tap the pads of notes to input them in time with the looping pattern that is playing back.



End input

Press ■ to end real-time input.



Preparations

■ Enter the mode

1. Press INST.

■ Selecting patterns

Select a pattern to use for input.

1. Use ◀▶ to select a pattern.

The name of the selected pattern appears on the display.

HINT

If a pattern is in the middle of playing back, the pattern will change after the current one completes. The name of the pattern will blink until it changes.

■ Select sounds

Switch between layouts and check instruments as necessary.

Example using ◎ to change the pitch

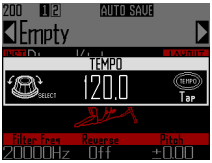
HINT

You can also edit the sounds (→ P. 85).

■ Set the tempo

1. Press TEMPO.

The tempo setting appears on the display.



2. Use SELECT ◎ to set the tempo.

The tempo can be set from 40.0–250.0 BPM in 0.1BPM increments.

HINT

You can also press TEMPO repeatedly at the desired tempo to set it (in quarter notes).

Real-time pattern input

Inputting patterns

■ Input a pattern

1. Press ⊙.

⊙ lights, showing that recording standby has started.

2. Press ▶/II.

This starts the precount.

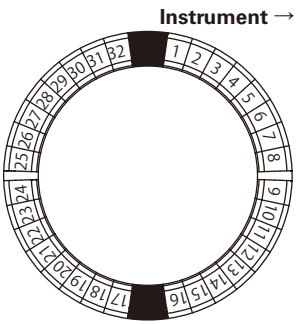
After the precount completes, you can input instruments. The bar, beat and tick (smallest recordable time unit) values shown on the display also start to change.

HINT

- Changing the type of precount (→ P. 35)
- You can press ⊙ during pattern playback to start input. In this case, there will be no precount.

3. CONTROLLER Tap the pad for the instrument to be input.

Play along with the metronome.



HINT

- By setting quantization, input can automatically be corrected if it varies from the rhythm (→ P. 47).
- Changing the metronome settings (→ P. 35)

4. Press ■ to end input.

This ends recording.

HINT

Press ▶/II to pause recording.

Press ⊙ to stop recording but continue playback. You can tap pads at this point to check the sounds.

■ Inputting patterns by tapping pads one step at a time

You can also input patterns by manually moving through them one step at a time and playing pads at the desired steps (step-by-step input).

1. Press ⊙.

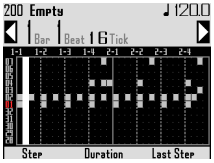
⊙ lights, showing that recording standby has started.

2. Press ◀ ▶.

The pattern will move one step by the set step value (→ P. 43).

During movement, the display will change showing the current step position.

You can also use ◎ to change the step unit.



HINT

If an instrument has been input at the current step position, that pad will light brightly. Pads that have not been input will be lit dimly.

3. ◎ CONTROLLER Tap the pad for the instrument to be input.

The tapped pad will light brightly. Tap a brightly lit pad to cancel its input. The pad light will dim.

HINT

- Press ◀ ▶ while pressing a pad to move between steps and release the pad to sustain the input sound to that step (note length).
- During step-by-step input, press ▶/II to switch to real-time input.

4. Press ■ to end input.

This ends recording.

■ Playing the pattern

1. Press ▶/II.

Playback starts and ▶/II lights.

2. Press ▶/II again to pause.

Playback pauses and ▶/II blinks.

3. Press ■ to stop playback.

▶/II becomes unlit when playback stops.

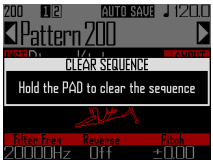
■ Clearing part of a pattern

1. Press ▶/II.

The pattern plays back.

2. Press CLEAR.

CLEAR will blink.



3. ◎ CONTROLLER While the part you want to clear is playing back, press the pad for the instrument to clear.

The sequence (performance data) will be deleted while the pad is being pressed.

4. ◎ CONTROLLER Stop pressing the pad when playback of the part you want to clear has stopped.

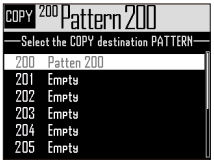
5. Press CLEAR to stop clearing.

Quickly copying patterns

This function copies the contents of the pattern you are editing to a different pattern and switches to editing that pattern. This allows you to easily create pattern variations.

1. Press both ◀ ▶ at the same time.

This opens the COPY screen.



2. Use SELECT to select the copy destination pattern, and press SELECT.

If the copy destination pattern is not empty, a confirmation screen will open.

3. Use SELECT to select Yes, and press SELECT.

This copies the pattern and switches to editing that pattern.

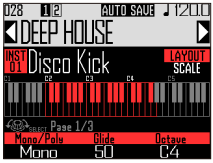
Making SCALE layout settings

You can set, for example, the octave, scale and whether only a single sound (monophonic) or multiple sounds (polyphonic) can be output when the Ring Controller is in SCALE layout.

■ Polyphony setting (Mono/Poly)

This sets whether only a single sound (monophonic) or multiple sounds (polyphonic) are output when multiple pads are pressed at the same time.

1. When in SCALE layout, use SELECT to open page 1 at the bottom of the display.



2. Use ◀ to select the polyphony mode.

Select Mono or Poly.

■ Setting the glide (Glide)

When a different note is triggered, the pitch can change instantly or gradually over time according to this setting.

1. When in SCALE layout, use SELECT to open page 1 at the bottom of the display.

HINT
Glide is only enabled when the polyphony mode is Mono.

2. Use 3 to set the glide value.

This can be set from 0 to 100.
The higher this value is set, the more gradual the change will be.

■ Octave setting (Octave)

You can change the note range that can be played on the Ring Controller.

1. When in SCALE layout, use SELECT to open page 1 at the bottom of the display.

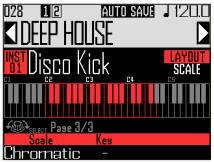
2. Use 3 to change the octave.

The octave shown will start on pad 1.

■ Changing the scale (Scale)

The layout of notes on the Ring Controller changes according to the scale set.
This allows you to assign only notes from the desired scale to the Ring Controller.

1. When in SCALE layout, use SELECT to open page 3 at the bottom of the display.



2. Use 1 to select the scale.

You can select from the following.
Chromatic, Major (Ionian), Harmonic Minor, Melodic Minor, Dorian, Phrygian, Lydian, Mixolydian, Aeolian, Locrian, Super Locrian, Major Blues, Minor Blues, Diminished, Com Dim, Major Pentatonic, Minor Pentatonic, Raga1 (Bhairav), Raga2, Raga3, Arabic, Spanish, Gypsy, Minor Gypsy (Hungarian Minor), Egyptian, Hawaiian, Pelog, Hiro-joshi, In-Sen, Iwato, Kumoi, Miyakobushi, Ryukyu, Chinese, Whole Tone, Whole Half, 5th Interval

■ Changing the key (Key)

You can change the key when the scale is set to anything other than Chromatic.

1. When in SCALE layout, use SELECT to open page 3 at the bottom of the display.

2. Use 2 to change the key.

You can select from C, C#, D, D#, E, F, F#, G, G#, A, A# and B.

NOTE

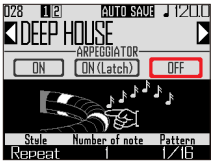
The Ring Controller layout also changes according to the key setting.

Arpeggiator

This function can be used to make an instrument play automatically when triggered by a pad. Pressing multiple pads will trigger multiple instruments in order.
By pressing chord tones in SCALE layout, the notes in the chord can be played back one at a time.

1. Press HOLD.

This opens the arpeggiator setting screen.



2. Use SELECT to select any setting other than OFF.

When ON is selected, sound will be output automatically while pads are being pressed.
When ON (Latch) is selected, sounds will automatically start output when pads are pressed and stop when their pads are pressed again.

HINT

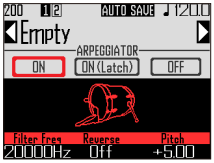
Automatic output in ON (Latch) mode can also be stopped by pressing ■.

3. Turn 1 to change the arpeggiator style.

The style can be set to Repeat, Sequence, Up, Down, Up & Down, or Random.
The selected Style changes the arpeggiator type and the functions of 2 and 3 as shown in the table on the following page.

4. Press HOLD to end arpeggiator setting.

When the arpeggiator is enabled, the display changes when you tap a pad.



At this time, you can use SELECT to turn the arpeggiator OFF.

Arpeggiator parameter list

Style	Effect	Parameter 2 (use ◎2 to set)	Parameter 3 (use ◎3 to set)
Repeat	Pressed pads will sound repeatedly. If multiple pads are pressed, they will all sound at the same time repeatedly.	Number of note In addition to the note of the pad, a number of intervals can also be set to sound. When set to 1, only the pad sounds. Higher numbers add fifths and octaves above. If the number is set to 2 or higher, you can select Up, Down, Up-Down or Random as the order they make sound. (Arpeggiator parameter list → P. 143)	Pattern This sets the timing of the arpeggiator. In addition to simply repeating the sounds at fixed intervals (1/32, 1/16Tri, 1/16, 1/8Tri, 1/8, 1/4, 1/2 or 1/1), you can also select preset sequences (Seq 1–32). (Arpeggiator parameter list → P. 144)
Sequence	If the pressed pad has a recorded sequence, the instrument will play with that sequence. If the pad does not have a recorded sequence, it will sound just once without repeating. If multiple pads are pressed at the same time, they will sound at the same time repeatedly.		
Up	If multiple pads are pressed at the same time, they will sound in order from the lowest instrument number.	Octave This can be set from 1 to 4. If Octave is set to 1, only the pads pressed will sound. If it is set to 2, notes one octave above will sound in addition to the pads. In the same manner, if sets to 3 or 4, notes 2–3 octaves above will also sound.	Pattern This sets the timing of the arpeggiator. In addition to simply repeating the sounds at fixed intervals (1/32, 1/16Tri, 1/16, 1/8Tri, 1/8, 1/4, 1/2 or 1/1), you can also select preset sequences (Seq 1–32). (Arpeggiator parameter list → P. 144)
Down	If multiple pads are pressed at the same time, they will sound in order from the highest instrument number.		
Up & Down	If multiple pads are pressed at the same time, they will sound in order from the lowest to the highest instrument number. Then, they will sound from the highest to the lowest.		
Random	If multiple pads are pressed at the same time, they will sound in random order.		

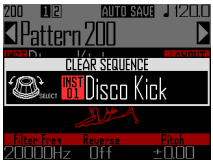
Clearing patterns

Completely clearing instruments

1. Use SELECT to select the instrument to clear.

2. When playback is stopped, press CLEAR.

This opens the CLEAR screen.
Press CLEAR again to cancel.



HINT

- You can also turn SELECT on the CLEAR screen to select the instrument to clear. Select "All Instruments" to clear the entire sequence.
- In SCALE layout, notes will be cleared. Select "All Notes" to clear the entire SCALE layout sequence.
- If an instrument is cleared in PAD layout, notes input in SCALE layout will also all be cleared.

3. Press SELECT.

A confirmation message appears.

4. Use SELECT to select Yes, and press SELECT.

This clears all programmed sequences for the selected instrument.

Metronome settings

Make settings related to the metronome that plays back as a guide during recording.

1. Press MENU.

2. Use SELECT to select Settings, and press SELECT.

This opens the Settings screen.

3. Use SELECT to select METRONOME, and press SELECT.

This opens the METRONOME settings screen.

4. Use SELECT to select menu items and SELECT to confirm them.

Press MENU to move up one level in the menu.

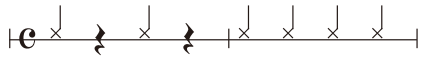
■ Setting the precount (Precount)

- Use SELECT to select the precount.

  Select Off, 1–8 or Special

HINT

When Special is selected, the count will sound as follows.



■ Setting the sound (Sound)

- Use SELECT to select the metronome sound.

  The sounds that can be selected are Bell, Stick, Click, Cowbell and Hi-Q.

■ Setting the pattern (Guide Click)

- Use SELECT to select the metronome pattern.

  Set the frequency that the metronome sounds in note intervals. The interval can be set to 1/16, 1/8, 1/4 or 1/2.

■ Setting the volume (Volume)

- Use SELECT to set the metronome volume.

  The volume can be set from 0–10.

■ Select the output used (Output Routing)

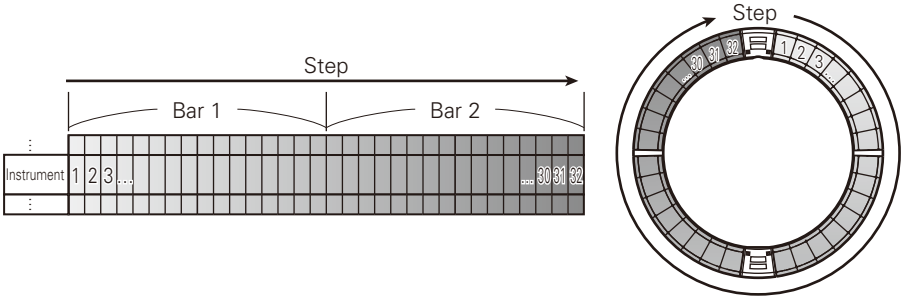
- Use SELECT to select the metronome output destination.

  Select PHONES, OUTPUT or PHONES+OUTPUT.

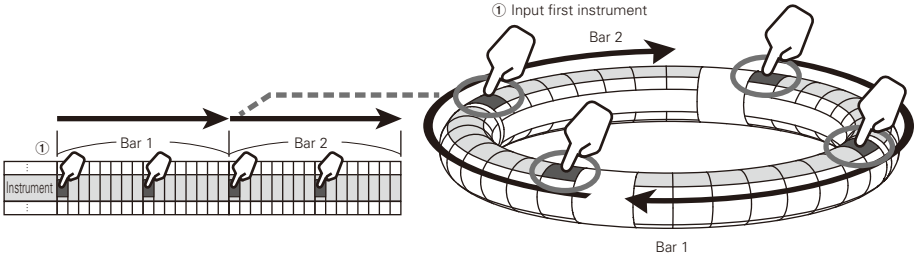
STEP mode

STEP mode overview

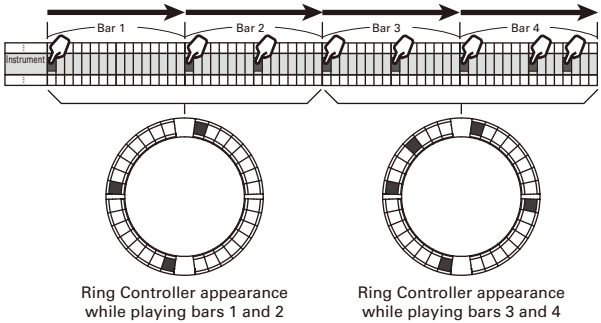
In STEP mode, you can create patterns by inputting them one step at a time.
In this mode, each pad around the Ring Controller corresponds to a single sequential step.



Since the Ring Controller rings are divided into 32 steps, you can input up to two musical bars (①) at a time (when the smallest step is a 16th note).



If the pattern is longer than two bars, the Ring Controller display will switch every two bars (in cases when the smallest step is a 16th note).

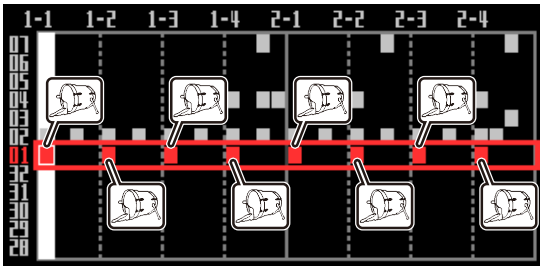


STEP mode overview (continued)

In PAD layout

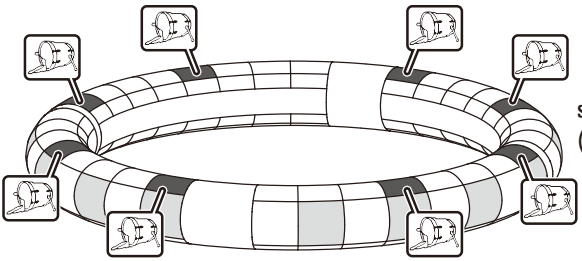
The 5 rings (3 when set to Guideline display) on the Ring Controller each show a different instrument. You can use SELECT to change which instruments are shown by which rings.

Since multiple instruments can be shown by the Ring Controller, you can check instruments that have already been input as you input the next instrument.



SELECT

Select the instrument shown on the top ring

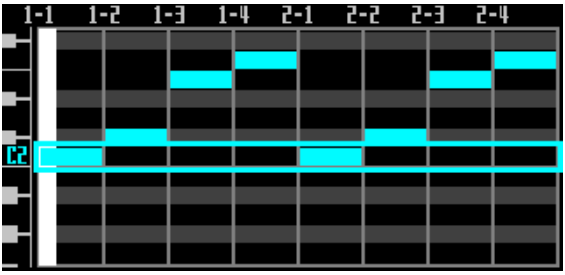


SELECT

When instrument 2 is selected:
Top ring shows the sequence for instrument 2
Side ring shows the sequence for instrument 3

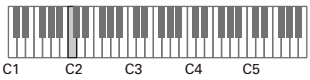
In SCALE layout

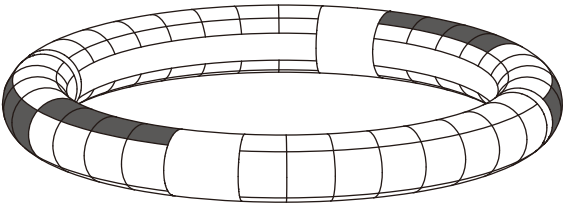
You can use SELECT to select the note input.



SELECT

Select the note shown on the top ring



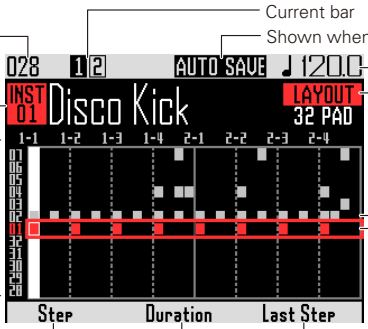


SELECT

When C#2 is selected:
Top ring shows C#2 sequence
Side ring shows D2 sequence

Screen overview

■ PAD layout



Use ① to change the instrument input position.
Input is possible at beat and triplet intervals.
The number of bars per cycle around the Ring Controller depends on the settings (→ P. 41).

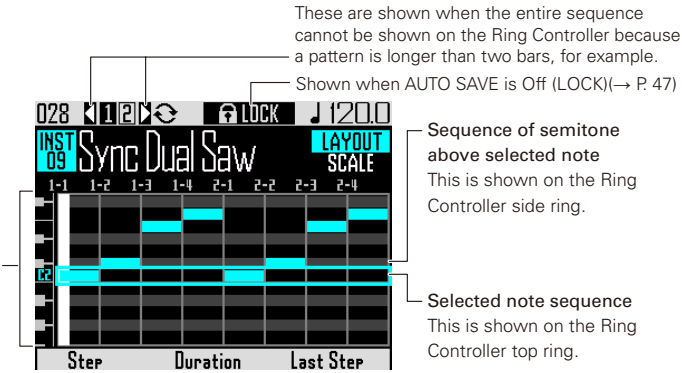
Use ② to change the length that will be used for future notes input for the instrument (→ P. 42).

Use ③ to change the number of steps in one Ring Controller cycle (→ P. 41)

HINT

The settings for ①, ② and ③ are only shown when their knobs are being turned.

■ SCALE layout



Operation summary

Select a pattern

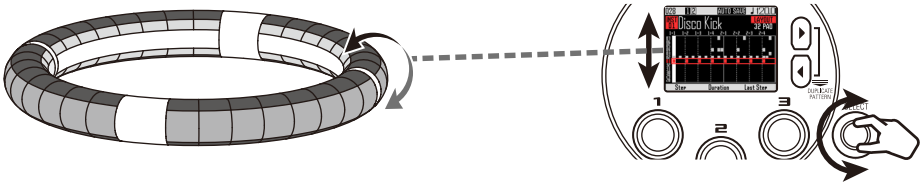
Use ◀ ▶ to select a pattern number.

Enter STEP mode

Press STEP to enter STEP mode.

Select the instrument to input

Use SELECT to select the instrument to use for input from the 32 instruments. That instrument moves to the top ring of the Ring Controller.



① Use SELECT to select the input instrument

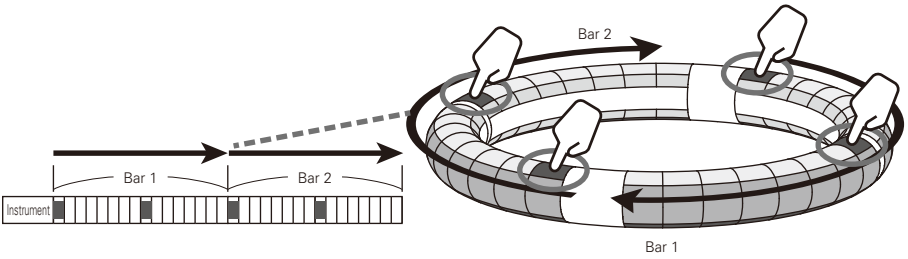
② The instrument color shown on the ring moves

To use SCALE layout for input, press SELECT to change the mode.

After finishing, switch to a different instrument

Step input

Tap pads to input the sound at those points.



Pattern step input

Preparations

■ Select a pattern

Select a pattern to use for input.

1. Use ⏻ to select a pattern.

The name of the selected pattern appears on the display.

■ Enter the mode

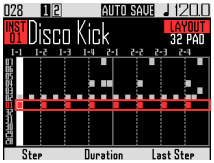
1. Press STEP.

Inputting patterns

■ Select an instrument

1. Use SELECT to select the instrument to input.

The instrument to be input appears in the middle of the display.

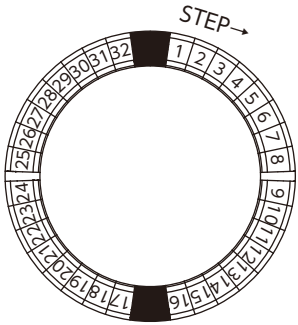


CONTROLLER The input instrument is shown by the top ring of the Ring Controller.

■ Input a pattern

1. CONTROLLER Tap the pad for the step to be input.

The LED for the tapped pad will light in the instrument color.



HINT

You can set the pads to be velocity sensitive and respond to how hard they are tapped (→ P. 121).

2. CONTROLLER To clear an input step, tap the pad again.

The step will be cleared and the LED will become unlit.

■ Play the pattern

1. Press ⏯.

Playback starts and ⏯ lights.

2. Press ⏯ again to pause.

Playback pauses and ⏯ blinks.

3. Press ■ to stop playback.

⏯ becomes unlit when playback stops.

Selecting notes

In SCALE layout, you can select notes to input.

1. Turn SELECT when SCALE layout is active.

The note to be input appears in the middle of the display.

Changing the last step position on the Ring Controller

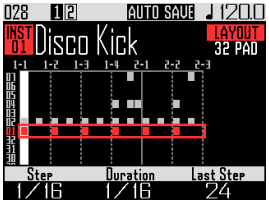
You can change the last step in the cycle on the Ring Controller

By setting the cycle to 24 steps, you can create patterns in triple time, for example.

1. Turn 3 to show the Last Step value.

This shows the number of the last step on the Ring Controller.

This can be set between 1 and 32.

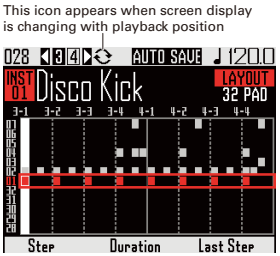


NOTE

- If the Last Step is less than 32, sequence data up to that step will not be cleared.
- If the Step setting is 1/32 or 1/16Tri, one step will be 1/32nd of a bar. If the Step setting is 1/16 or 1/8Tri, one step will be 1/32nd of 2 bars. So, the timing change when setting the Last Step will be different.

Inputting steps for patterns that are longer than one Ring Controller cycle

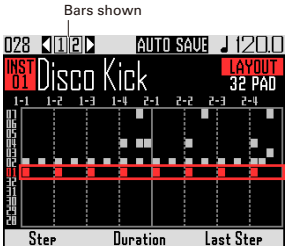
If the Step setting is 1/16 and the pattern exceeds 2 bars or the Step setting is 1/32 and the pattern exceeds 1 bar, the entire sequence cannot be shown on the Ring Controller, so the part of the sequence shown depends on the playback position.



Screen during playback of bar 3

1. Press ◀ ▶ to show the bar used for step input.

The display will not change even when a different bar is playing.



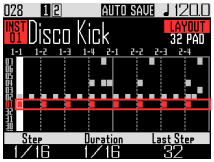
Changing note lengths

The lengths of input sounds (notes) can be set in two ways.

■ Setting the note length before input

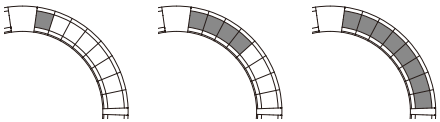
1. Use 2 to show the Duration value.

This shows the length that will be used for future notes input for the instrument.



2. CONTROLLER After setting the Duration, tap the pad for the step to be input.

The sound will be input for the set Duration.



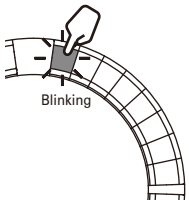
NOTE

The Duration setting will have no effect if the LOOP item is × in the Oscillator list (→ P. 133).

■ Setting when a sound starts and stops

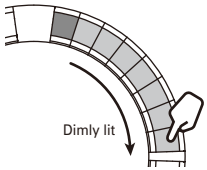
1. CONTROLLER Press and hold the pad for the step to be input.

The pressed pad will blink.



2. CONTROLLER Tap the pad where you want the note to stop playing.

This changes the note length.



HINT

The steps included in the length of the changed note light dimly.

NOTE

The note length cannot be changed if the LOOP item is × in the Oscillator list (→ P. 133).

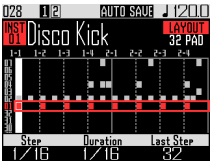
■ Changing where a sound is input

You can change where a sound can be input. Sounds can be input on the beat or in triplet units.

1. Use ⟳ to show the Step value.

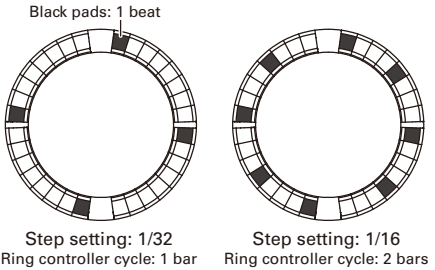
You can change the positions of following input notes.

Step can be set to unit lengths of 1/32 (32nd note), 1/16Tri (16th note triplet), 1/16 (16th note) or 1/8Tri (8th note triplet).



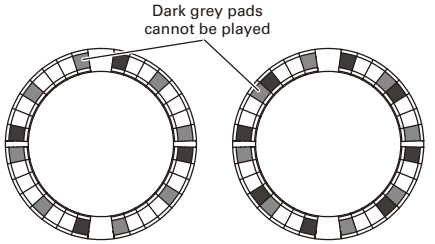
The Step setting determines the number of bars per cycle around the Ring Controller.

This setting also changes the length of the sequence shown on the display.



Step setting: 1/32
Ring controller cycle: 1 bar

Step setting: 1/16
Ring controller cycle: 2 bars



Step setting: 1/16Tri
Ring controller cycle: 1 bar

Step setting: 1/8Tri
Ring controller cycle: 2 bars

Display when Step set to 1/32 or 1/16Tri

Motion sequences

Setting changes for effect parameters and parameters controlled by 1, 2 and 3 in INST mode (Quick Access functions → P.92) can be recorded as sequences.

You can record changes in real time while a pattern is playing as well as record parameter setting values step-by-step.

These recorded changes will be saved as a part of the pattern and re-created during playback.

Recording motion sequences in real time

1. Select the pattern for which you want to record a motion sequence.

2. Press ●.

3. Press ▶/II.

▶/II lights and pattern playback starts after the precount.

4. Use effect buttons and change Quick Access function parameters, for example.

These changes will be recorded as a motion sequence.

- Setting effects (→ P. 98)
- Setting Quick Access functions (→ P. 92)

HINT

- Recording starts from the moment that a parameter is operated, and recorded parameter values are shown in red.
- If a parameter that has already been recorded is recorded again, the new data will overwrite the old.

5. Press ● or ■ when done recording.

Recording motion sequences step by step

1. Select the pattern for which you want to record a motion sequence.

2. Press ⊙.

3. Use ◁▷ to move to the step where you will change a parameter.

4. Use effect buttons and change Quick Access function parameters, for example.

Changes are recorded, and recorded parameter values are shown in red.

5. Press ⊙ or ⊡ when done recording.

Clearing motion sequences

1. Select the pattern for which you want to clear the motion sequence.

2. Use SELECT to select an instrument that has a motion sequence recorded.

HINT

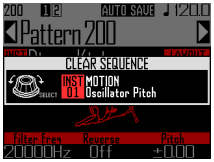
This step is not necessary when clearing effect parameter motion sequences.

3. Press CLEAR.

This opens a screen where you can clear sequences for the selected instrument.

4. Use SELECT to select the motion sequence you want to clear.

Effect parameter motion sequences are next to “All Instruments” and “All Notes”.



5. Press SELECT to confirm

This opens a confirmation screen.

6. Use SELECT to select Yes, and press SELECT.

This clears the sequence for the selected parameter.

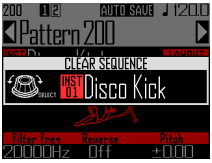
Clearing patterns

Completely clearing an instrument

1. Use SELECT to select the instrument to clear.

2. Press CLEAR.

This opens the CLEAR screen.
Press CLEAR again to cancel.



HINT

- You can also turn SELECT on the CLEAR screen to select the instrument to clear. Select "All Instruments" to clear the entire sequence.
- In SCALE layout, notes will be cleared. Select "All Notes" to clear the entire SCALE layout sequence.
- If an instrument is cleared in PAD layout, notes input in SCALE layout will also all be cleared.

3. Press SELECT.

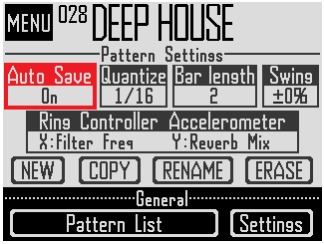
A confirmation message appears.

4. Use SELECT to select Yes, and press SELECT.

This clears all programmed sequences for the selected instrument.

Pattern settings

Pattern settings include Auto Save, Quantize, Bar length, and Swing, as well as Ring Controller Accelerometer parameters.
These settings are saved separately for each pattern.



Auto Save setting

You can set whether or not the results of changes to sounds and effects are saved to the pattern.
When Auto Save is set to Off (LOCK), the results of changes to sounds and effects will not be saved to the pattern. Changes made will be discarded when you switch to song or looper mode or select a different pattern. Moreover, you will not be able to save sequences.
This setting is useful when you want to change sounds during a live performance, for example, but do not want to save the results or change pattern settings.

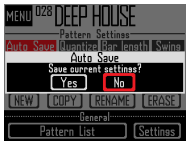
1. Press MENU.

2. Use SELECT to select Auto Save, and press SELECT.

3. Use SELECT to make the Auto Save setting, and press SELECT to confirm.

NOTE

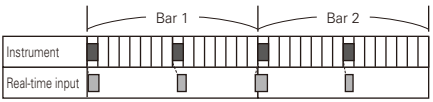
When you switch the Auto Save setting from Off (LOCK) to On, a screen will appear to confirm whether you want to save the current settings. If you select "No", the current settings will not be saved, but future changes will be saved.



Quantization setting

This sets the shortest note length that can be input into the sequence.
This setting is the value that will be used to correct (quantize) real-time input.
When using the capture function and "Capture with metronome" is enabled, capturing will start using the quantization time set here.

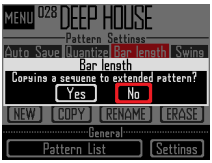
Example with 1/16 quantization



Sequence is aligned to 16th notes even if played timing is off

Pattern length setting

You can change the pattern length and set it between 2 and 8 bars.
When making a pattern longer, you can also copy the sequence you have already input to the lengthened part.
When a pattern is shortened, the already input sequence will not be cleared.

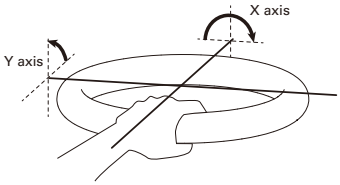


Swing setting

The amount of swing (rhythmic groove) can be set. The swing range is ±50%.

Ring Controller accelerometer settings

The Ring Controller accelerometer can be used to control the effect parameters and parameters controlled by 1, 2 and 3 in INST mode (Quick Access functions → P.92), as well as arpeggiator notes and repetition speed. Parameters can be changed by tilting the Ring Controller.



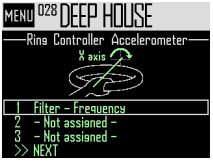
NOTE

- This can be used when the Ring Controller grip area has been set (→ P. 119).
- The directions of the X and Y axes are automatically set based on the grip area position.
- Do not hit the Ring Controller with excessive force.

■ Assigning parameters

1. Select Ring Controller Accelerometer.

This opens the X-axis parameter assignment screen.

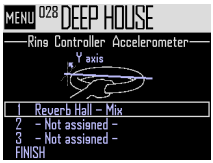


2. Use SELECT to select parameter 1, 2 or 3 to be assigned to the X axis, and press SELECT.

3. Use SELECT to select the parameter to assign, and press SELECT.

4. After assigning the parameter, select NEXT, and press SELECT.

This opens the Y axis parameter assignment screen.



5. Assign parameters to the Y axis in the same way as the X axis, select FINISH, and press SELECT.

This completes the setting of parameters controlled by the Ring Controller.

NOTE

The lowest-numbered assigned parameters are shown on the Pattern Settings screen.
If multiple parameters have been assigned, "+" will appear next to that parameter name to show that others have also been assigned.

■ Using the Ring Controller to control effects

1. Remove the Ring Controller from the Base Station.

2. Set the Ring Controller grip area.

Setting the grip area (→ P. 119)

3. Use the Ring Controller to control assigned parameters.

If an effect parameter has been assigned, press the button for that effect to turn it on.

If an arpeggiator parameter has been assigned, press HOLD to turn the arpeggiator on. The parameter values will change according to the tilt and direction.

List of parameters that can be assigned to the Ring Controller

Filter - Frequency	
Filter - Resonance	
Filter - Level	
Mono Delay - Time	
Mono Delay - Feedback	
Mono Delay - Mix	
Stereo Delay - Time	
Stereo Delay - Feedback	
Stereo Delay - Mix	
Reverse Delay - Time	
Reverse Delay - Feedback	
Reverse Delay - Mix	
Reverb Hall - Decay	
Reverb Hall - Tone	
Reverb Hall - Mix	
Reverb Room - Decay	
Reverb Room - Tone	
Reverb Room - Mix	
Reverb Plate - Decay	
Reverb Plate - Tone	
Reverb Plate - Mix	
nn Quick Access 1*	Cannot be assigned when in looper mode
nn Quick Access 2*	
nn Quick Access 3*	
Arpeggiator - Note Shift	
Arpeggiator - Repeat Rate	

HINT

- The “nn” is replaced by the instrument number (1–32).
- When Arpeggiator - Note Shift is assigned, the notes output by the arpeggiator will change in response to the tilt of the Ring Controller. The notes will change according to the scales set in the SCALE layout of each instrument (→ P. 31).
- When Arpeggiator - Repeat Rate is assigned, the speed of the arpeggiator output will change in response to the tilt of the Ring Controller. When the arpeggiator Style is not “Sequence”, this is enabled only if “Pattern” is set to 1/1–1/32.

Managing patterns

You can create new patterns, and copy or erase the selected pattern, for example.

Pattern management

1. Press MENU.

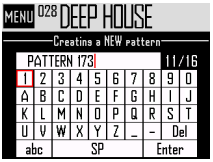
2. Use SELECT to select the function to use, and press SELECT.

You can select NEW, COPY, RENAME or ERASE.

■ Creating new patterns (NEW)

- Use SELECT to select NEW, and press SELECT.

  This opens the character input screen.



HINT

Character input screen use (→ P. 21)

- After editing the pattern name, select Enter, and press SELECT.

  A new pattern will be created with that name. After creation, the new pattern will be selected.

NOTE

The new pattern will be created with the lowest empty pattern number.
A new pattern cannot be created if there are no empty patterns.

■ Copying patterns (COPY)

- Use SELECT to select COPY, and press SELECT.

  This opens a screen for selecting the copy destination pattern.

- Use SELECT to select the copy destination pattern, and press SELECT.

  This opens a confirmation screen.

- Use SELECT to select Yes, and press SELECT.

  This copies the contents of the pattern selected previously over the destination pattern that was just selected.
  After copying, the copied pattern will be selected.

■ Changing pattern names (RENAME)

- Use SELECT to select RENAME, and press SELECT.

  This opens the character input screen.

HINT

Character input screen use (→ P. 21)

- After editing the pattern name, select Enter, and press SELECT.

  This changes the pattern name.

■ Erasing patterns (ERASE)

- Use SELECT to select ERASE, and press SELECT.
  This opens a confirmation screen.
- Use SELECT to select Yes, and press SELECT.
  This erases the pattern.

■ Loading patterns from the pattern list

- Press MENU.
- Use SELECT to select Pattern List, and press SELECT.

- Use SELECT to select the pattern you want to load, and press SELECT.
  This loads the selected pattern.

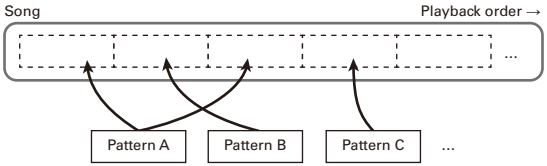
HINT

If a pattern is in the middle of playing back, the pattern will change after the current one completes.

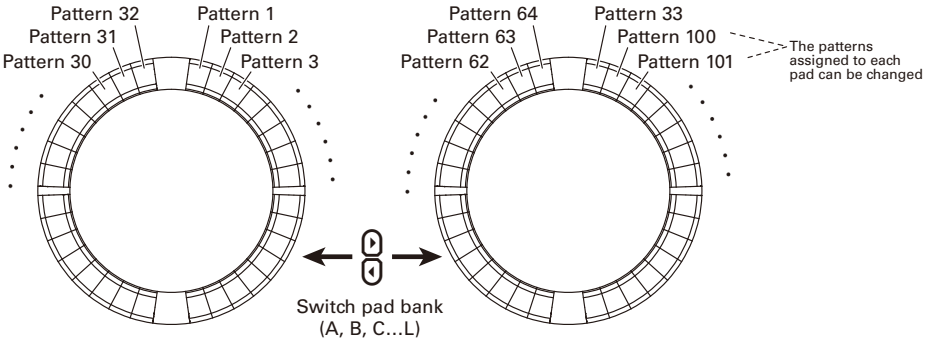
SONG mode

SONG mode overview

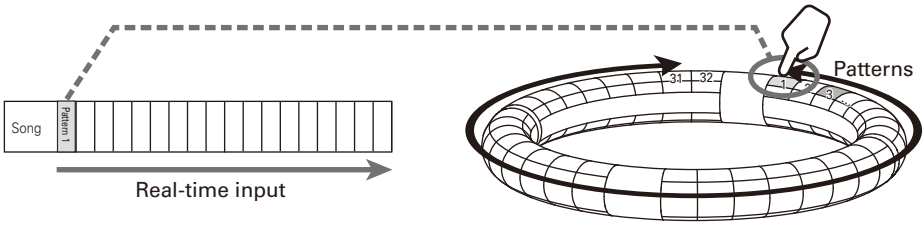
In SONG mode, you can combine multiple patterns that you have created into one complete song.



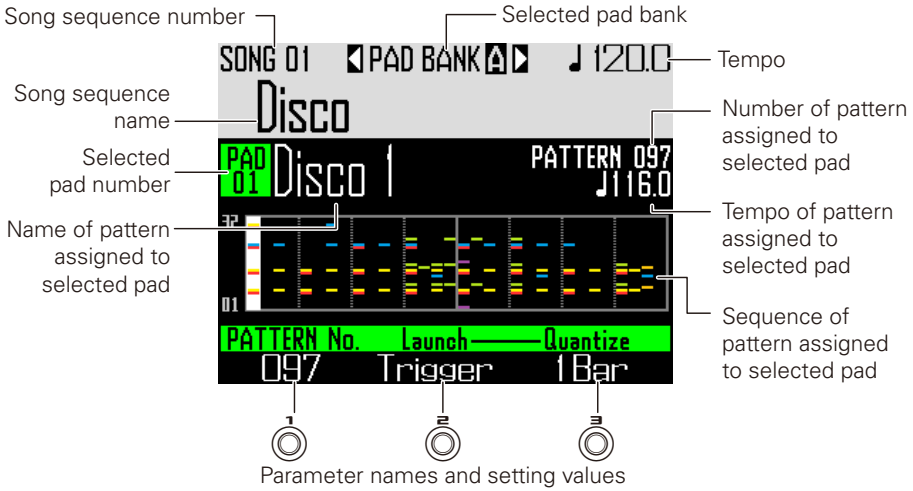
The pads on the Ring Controller are assigned 32 patterns.
The same patterns are assigned to the top, side and bottom rings.
You can change the patterns assigned to each pad.
SONG mode also has A–L pad banks.
By changing banks, you can assign 32 different patterns to the Ring Controller.



After completing preparation, start real-time input and tap pads to play their patterns.



Screen overview



Operation summary

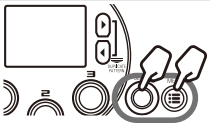
Enter SONG mode

Press SONG to enter SONG mode.

Select a song

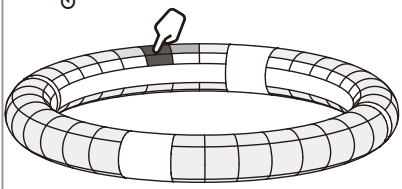
Press MENU and use SELECT to open the Song Sequence List.

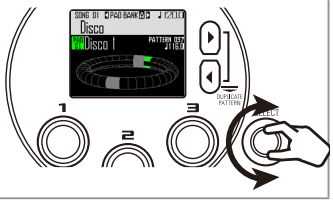
Then, use SELECT and SELECT to select a song sequence.



Select a pattern to play

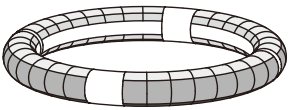
Use ◀▶ to change the pad bank as necessary.

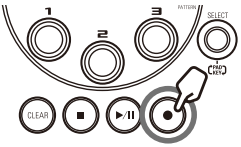




Start input

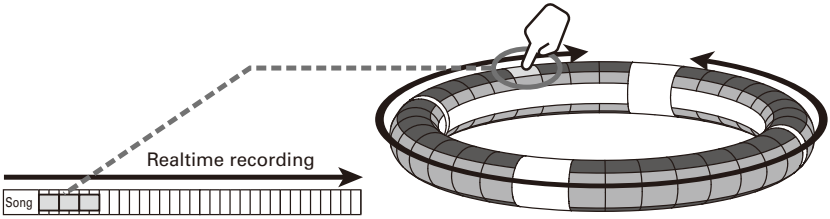
Press ● to start real-time input.





Create a song

Tap pads for patterns to play them and add them to the song in real time.



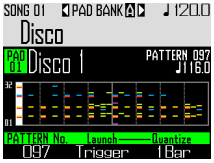
End input

Press ■ to end song input.

Assigning patterns to pads

1. Tap a pad, or use SELECT to select a pad.

The pattern assigned to the selected pad is shown on the display and starts playing back.



HINT

- By tapping the Ring Controller pads, you can select patterns and listen to them at the same time.
- Tap a pad while pressing SONG to select a pad without playing the pattern.
- Press EDIT when a pad is selected to open the setting screen for that pattern (→ P. 47).

2. Use SELECT to select a pattern number.

This assigns the pattern of that number to the pad.

Switching pad banks

By switching banks, you can change the 32 different patterns assigned to the pads.

1. Press .

This switches the pad bank and assigns the 32 patterns in that bank to the Ring Controller.

Real-time input

1. Press ⊙.

This starts the count.

2. CONTROLLER Tap a pad to select a pattern to play.

The tapped pad will light according to the pattern animation type setting (→ P. 59).

HINT

- If no animation has been set, the tapped pad will light brightly.
- If even a single animation has been set, the tapped pad will show the animation, and it will light with the pattern color.
- What happens after a pattern completes playing depends on the ◎ pattern playback method setting (→ P. 59).

3. CONTROLLER Play other pads to switch patterns.

Until the pattern switches, the display will appear as follows.

HINT

- The timing of pattern changes depends on the pattern quantize and pattern playback method settings (→ P. 59).
- The maximum number of measures in a song is 999. Song creation will stop when this number is reached.

4. Press ⊙ when done playing all patterns.

This ends song creation.

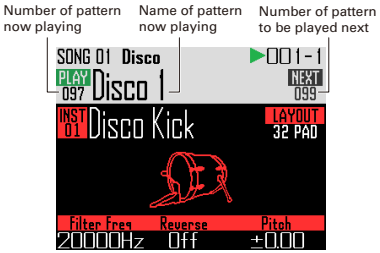
Playing back songs

1. Press ▶/II.

This starts song playback.

HINT

- During song playback, you can use the Ring Controller to perform with the instruments assigned to the playing patterns.
- Press SELECT to switch between PAD and SCALE layouts.



2. Press ▶/II to pause.

▶/II will blink.

Press ▶/II again to resume playback.

3. Press ■ to stop playback.

Playback stops, and the playback position returns to the beginning.

NOTE

Sound parameters changed during playback are not recorded to patterns.

Clearing a song sequence

1. Press CLEAR.

A confirmation message appears on the display and CLEAR lights.

2. Use SELECT to select Yes.

This clears the song sequence.

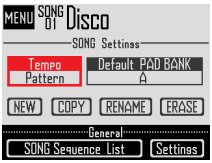
Song settings

Setting tempo synchronization

Set whether each pattern uses its own tempo setting or all patterns use the same tempo when playing a song.

1. Press MENU.

2. Use SELECT to select Tempo, and press SELECT.



3. Use SELECT to select the synchronization type, and press SELECT.

Song: Use the same tempo for everything.
Pattern: Use each pattern's tempo.

Setting the default pad bank selected

You can set the pad bank that is selected whenever song mode is activated or a song sequence is loaded.

1. Press MENU.

2. Use SELECT to select Default PAD BANK, and press SELECT.

3. Use SELECT to select a pad bank, and press SELECT.

You can select from A–L.

Mixing

1. Press MIXER.

This opens the Mixer Screen.
You can set send effects and STEREO/MONO for audio input through the INPUT jacks.

HINT
Mixer (→ P. 100)

Making pattern settings

■ Setting the pattern playback method

You can set what happens after a pattern plays back.

1. CONTROLLER Select a pad.

2. Use  to change the playback method.

One Shot: The pattern plays once and stops.
Trigger: The same pattern will loop continuously until you select the next pattern or press the STOP button.
Toggle: Tapping the pad alternately starts and stops pattern playback. When a pattern is stopped, silence will continue to be recorded.

■ Setting quantization when changing patterns

1. CONTROLLER Select a pad.

2. Use  to change the quantization.

HINT

Quantization is applied in the following situations.

- When the pattern is switched (the quantization of the latter pattern is used)
- Toggle is stopped

■ Setting pad colors

Set on the EDIT screen (→ P. 95).

■ Setting the LED animation type.

Set on the EDIT screen (→ P. 95).

■ Setting the LED animation timing

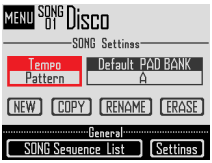
Set on the EDIT screen (→ P. 95).

Managing song sequences

1. Press MENU.

2. Use SELECT to select the function to use, and press SELECT.

You can select NEW, COPY, RENAME or ERASE.



■ Creating new song sequences (NEW)

- Use SELECT to select NEW, and press SELECT.

  This opens the character input screen.

HINT

Character input screen use (→ P. 21)

- After editing the sequence name, select Enter, and press SELECT.

  A new song sequence will be created with that name.

  After creation, the new song sequence will be selected.

NOTE

The new song sequence will be created with the lowest empty song sequence number.

A new song sequence cannot be created if there are no empty ones.

■ Copying song sequences (COPY)

- Use SELECT to select COPY, and press SELECT.

  This opens a screen for selecting the copy destination song sequence.

- Use SELECT to select the copy destination song sequence, and press SELECT.

  This opens a confirmation screen.

- Use SELECT to select Yes, and press SELECT.

  This copies the contents of the song sequence selected previously over the destination song sequence that was just selected. After copying, the copy destination song sequence is selected.

■ Changing song sequence names (RENAME)

- Use SELECT to select RENAME, and press SELECT.

  This opens the character input screen.

HINT

Character input screen use (→ P. 21)

- After editing the song sequence name, select Enter, and press SELECT.

  This changes the song sequence name.

■ Erasing song sequences (ERASE)

- Use SELECT to select ERASE, and press SELECT.

  This opens a confirmation screen.

- Use SELECT to select Yes, and press SELECT.

  This erases the song sequence.

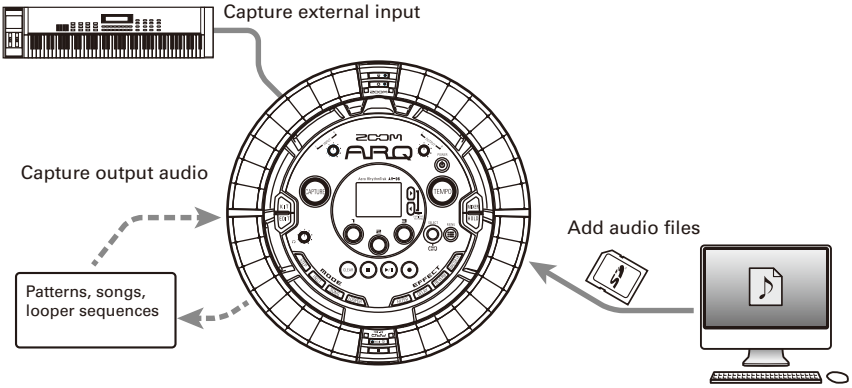
Capturing audio (recording)

Capture overview

The **AR-96** can capture (record) audio it is playing back and audio input through its INPUT jacks in every mode.

You can use captured audio as instruments and in LOOPER mode.

WAV files saved on SD cards can also be used in the same way as captured audio.



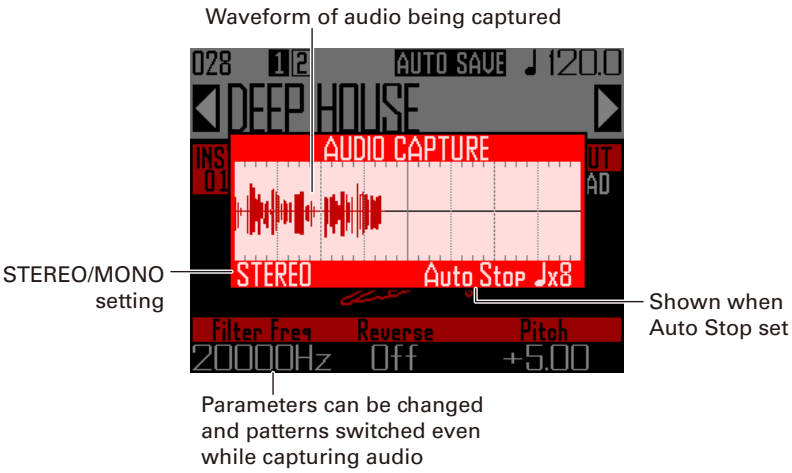
HINT

- In LOOPER mode, up to 96 captured recordings can be assigned to pads and used to perform.
- The total time of captured audio that can be used for instruments is 6 minutes (or 12 minutes if mono).

NOTE

Captured audio data is saved on the SD card. Be aware that you will not be able to use the captured recordings if you remove the SD card or replace it with a different SD card.

Screen overview



Operation summary

Make capture settings

• Set to stereo or mono

… Switching between stereo and mono (→ P. 69)

• Stop recording captured audio after a number of beats set in advance

… Setting the auto stop function (→ P. 69)

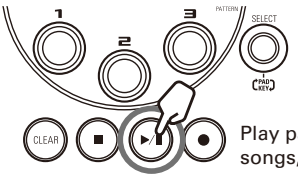
• Listen to a pre count or guide click when capturing audio

… Using the metronome while capturing audio (→ P. 70)

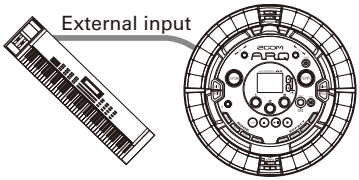
Play the material to capture

• Play a pattern or song, for example, that you want to use as a captured recording.

• Input from the sound source connected to the INPUT jacks.

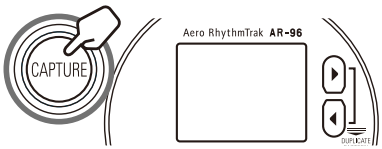


Play patterns, songs, etc.



Start capturing

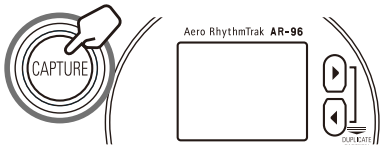
Press (CAPTURE) to start capturing.



Stop capturing

Press (CAPTURE) again to stop capturing.

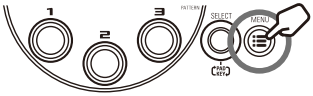
On the setting screen that appears after capturing stops, you can assign it to pads and set the range that is sounded, for example.



Save

You can select and save captured audio to use as an instrument or in LOOPER mode.

Captured audio can also be saved to an SD card without changing its name or using it as an instrument or in LOOPER mode.



Capturing audio

Capturing internal sound sources

1. Play a pattern or song, for example, that you want to capture.

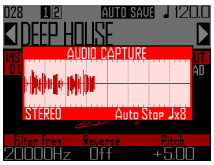
HINT

By inputting audio through the INPUT jacks at the same time, you can capture a mixed recording of both sound sources.

2. Press (CAPTURE).

The capture screen opens, and capturing starts.

Press (CLEAR) to cancel.



HINT

- Up to 6 minutes stereo or 12 minutes mono can be captured.
- If "Capture with METRONOME" is set, the timing of capture start will automatically be adjusted to the beat, for example (→ P. 70).
- Turning effects ON/OFF, changing parameters, playing pads, and changing patterns, for example, will be recorded while capturing.

3. After the audio has been captured, press (CAPTURE).

You can adjust the captured recording and save it on the Capture Setting screen that opens (→ P. 65).

Capturing external input

1. Connect the instrument or other audio device that you want to use to capture recordings to the Base Station INPUT jacks.

HINT

If the external input is a mono audio source, check the external input Stereo/Mono setting (→ P. 103).

2. Start playing the connected equipment.

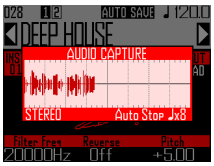
Use the INPUT volume to adjust the input level.

NOTE

If the input level is too high, (CAPTURE) will flash rapidly.

3. Press (CAPTURE).

The capture screen opens, and capturing starts.



HINT

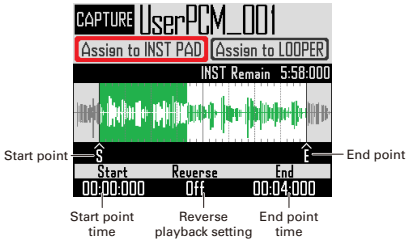
You can use "Capture with METRONOME" to set a precount and a guide click (→ P. 70).

4. After the audio has been captured, press (CAPTURE).

You can adjust the captured recording and save it on the Capture Setting screen that opens.

Adjusting and saving captured audio

After capturing audio completes, the CAPTURE settings screen opens, and the captured recording begins loop playback.
The captured audio can be edited on the screen.



HINT

- Press ▶II to pause and resume playback.
- Press ■ to stop playback and reset the playback position to the beginning of the loop.
- One Ring Controller cycle corresponds to the time between start and end points. Press ▶II, and tap a pad to start playback of the loop from that position. Tap a pad when stopped to play only the interval assigned to that pad.
- The playback position lights according to the position of the captured audio during playback.

■ Editing captured audio to use as instruments assigned to pads

Make the following settings to use captured audio in INST mode, for example.

1. Use SELECT to select "Assign to INST PAD".

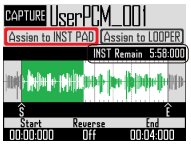
2. Use 1 and 3 to set the range of the captured audio to assign to the pad.

1: Start point
Change the starting point of the captured audio.

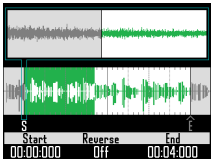
3: End point
Change the ending point of the captured audio.

NOTE

The "INST remain" time shown on the display is the remaining amount of time that can be assigned to pads (maximum of 6 minutes stereo or 12 minutes mono). Captured audio that exceeds this length cannot be assigned to the pads.
To make more time available, remove captured audio from other pads or shorten intervals between start and end points.



When setting start and end points, the waveforms around those points are shown magnified.



HINT

- Pressing any MODE button, MENU or CLEAR will cancel editing of the captured recording and reopen the original screen.
- Start and end points can be set after the first 500 ms and before the last 500 ms of the captured recording.

3. Use  to set the playback direction of the captured audio.

When this is On, playback will be reversed.

4. Use  to select "Assign to INST PAD", and press  .

The screen where you can assign captured audio to pads opens.

Press  or  to return to the previous screen.

5. To change the name of the captured audio, use  to select RENAME, and press  .

You can edit the name of the captured recording.

6. Use  to select the pattern to which to assign the captured recording.

The pattern name changes at the bottom of the screen.

7. Tap pads to select ones for assignment.

Tap pads to listen to the instruments currently assigned to them.

8. To save the captured audio to the SD card without assigning it to a pad, use  to select "Save only", and press  .

This will save the captured audio as a WAV file to the SD card.

You can use it as an instrument and in LOOPER mode later (→ P. 71).

9. To assign it to a pad, use  to select Assign, and press  .

This assigns the captured audio to the selected pads.

This also saves the captured audio as a WAV file to the SD card.

HINT

- The captured audio will be saved inside the “Capture” subfolder in the “AR-96” folder on the SD card.
- The capture name will be used unchanged as the file name.
- captured audio that has been assigned to a pad can have envelopes, filters and other parameters set in the same way as the built-in instruments.

■ Editing captured audio to use in LOOPER mode

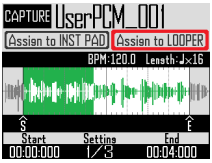
Make the following settings to use captured audio in LOOPER mode.

1. Use SELECT to select "Assign to LOOPER".

2. Use 1 and 3 to set the range of the captured audio to assign to the pad.

1: Start point
Change the starting point of the captured audio.

3: End point
Change the ending point of the captured audio.



When setting start and end points, the waveforms around those points are shown magnified.

3. Use 2 to show the following settings.

The following settings can be made.

BPM: Use 1 on Setting screen 2 to set the tempo of the captured audio.

Length: Use 3 on Setting screen 2 to set the length of the captured audio.

Reverse: Use 1 on Setting screen 3 to reverse the playback direction of the captured audio.

NOTE

The LOOPER mode tempo sync function (→ P. 95) cannot be used if BPM and Length are not set. You can also set these later.

4. Use SELECT to select "Assign to LOOPER", and press SELECT.

The screen where you can assign captured audio to pads opens.
Press MENU or CLEAR to return to the previous screen.

5. To change the name of the captured audio, use SELECT to select RENAME, and press SELECT.

You can edit the name of the captured recording.

6. Use ◀▶ to select the pad bank (→ P. 71) to which to assign the captured audio.

The pad bank name changes at the bottom of the screen.

7. Tap pads to select ones for assignment.

Pads that already have captured audio assigned will light with their set colors.
Unlit pads can be selected. Selected pads will light white.

8. To save the captured audio to the SD card without assigning it to a pad, use 

to select "Save only", and press 

.

This will save the captured audio as a WAV file to the SD card.
You can use it as an instrument and in LOOPER mode later (→ P. 71).

9. To assign it to a pad, use 

to select Assign, and press 

.

This assigns the captured audio to the selected pads.
This also saves the captured audio as a WAV file to the SD card.

NOTE

Assign cannot be selected if no pads have been selected.

Capture settings

Setting the auto stop function

You can set capture to automatically stop a set time after starting.

1. Press MENU.

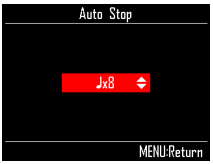
2. Use SELECT to select Settings, and press SELECT.

3. Use SELECT to select CAPTURE, and press SELECT.

4. Use SELECT to select Auto Stop, and press SELECT.

5. Use SELECT to select the timing, and press SELECT.

Select Off or 1–32 quarter notes.



Switching between stereo and mono

Captured audio can be saved as stereo or mono.

Audio capture is possible for up to 6 minutes in stereo or 12 minutes in mono.

1. Press MENU.

2. Use SELECT to select Settings, and press SELECT.

3. Use SELECT to select CAPTURE, and press SELECT.

4. Use SELECT to select Stereo/Mono, and press SELECT.

5. Use SELECT to change the setting, and press SELECT.

Select Stereo or Mono.

Using the metronome while capturing audio

You can use a precount and listen to a guide click when capturing audio.
This is convenient when capturing patterns that are playing, for example, and synchronizing the timing of pattern starts and the beginning of capturing.

1. Press MENU.

2. Use SELECT to select Settings, and press SELECT.

3. Use SELECT to select CAPTURE, and press SELECT.

4. Use SELECT to select "Capture with METRONOME", and press SELECT.

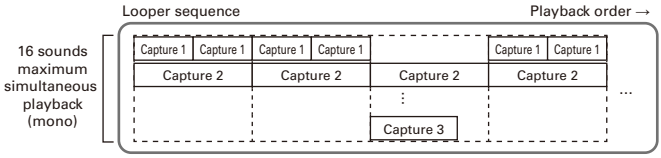
5. Use SELECT to select On, and press SELECT.

The metronome will function while capturing audio (metronome settings → P. 35).
When this function is on, after pressing the CAPTURE button, the actual start of capturing will be synchronized with the pattern's quantize setting (→ P. 47).

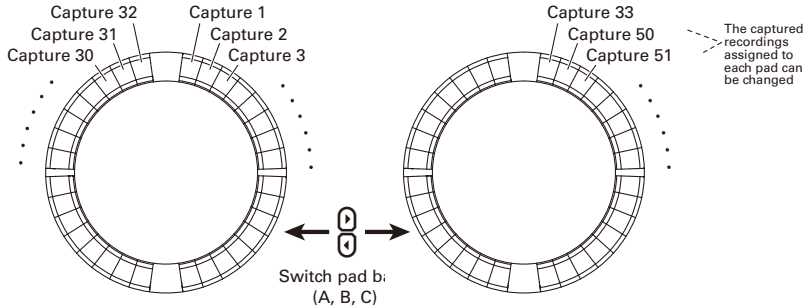
LOOPER mode

LOOPER mode overview

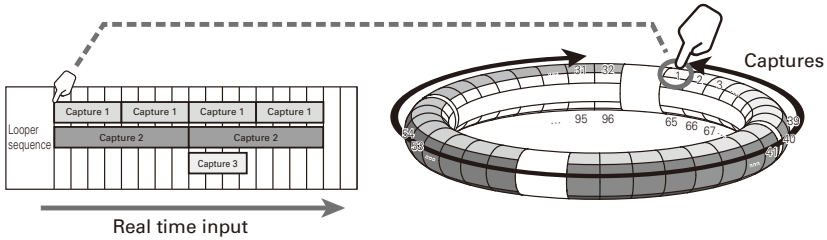
In LOOPER mode, you can combine patterns and songs that have already been created, input from the INPUT jacks, WAV files and other captured audio into a single song as a looper sequence.



32 captured recordings are assigned to the Ring Controller pads.
The captured recordings assigned to the pads can be changed. The same captured recordings are assigned to the top, side and bottom rings.
LOOPER mode has A, B and C pad banks. By changing banks, you can assign 32 different captured recordings to the Ring Controller.



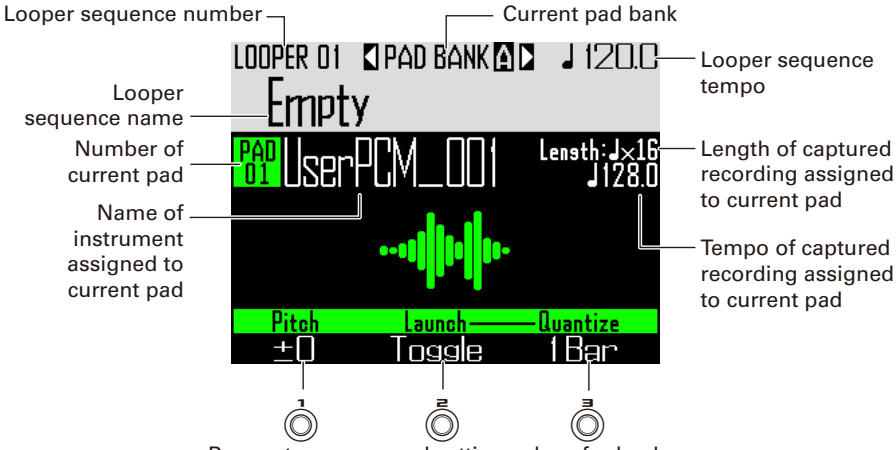
After completing preparation, start real-time input and tap pads to play their captured recordings. Up to 16 captured mono recordings can be played back at the same time.



HINT

See "Captured recordings" (→ P. 61) for how to create captured recordings.

Screen overview



Operation summary

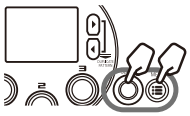
Enter LOOPER mode

Press LOOPER to enter LOOPER mode.

Select the looper sequence

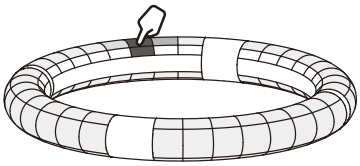
Press MENU and use SELECT to open the Looper Sequence List.

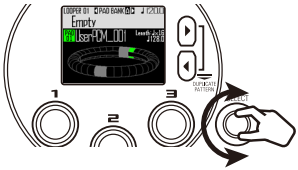
Use SELECT and SELECT to select a loop sequence from the list.



Select captured audio for playback

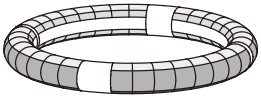
Tap a pad or use to change the pad bank as necessary.

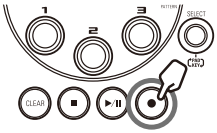




Start input

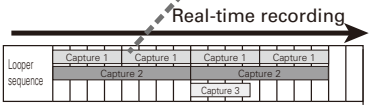
Press to start real-time input.

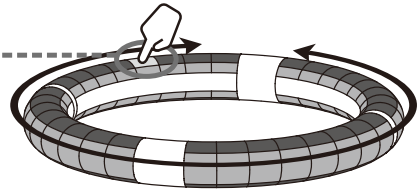




Create a looper sequence

Tap pads for captured recordings to play them and add them to the sequence in real time.





End input

Press to end looper sequence input.

Assigning WAV files as captured recordings

WAV files saved on an SD card can be assigned to pads.

1. Save WAV files to assign in the "Capture" subfolder in the "AR-96" folder on the SD card.

HINT

Files that meet the following conditions can be added as captured audio.

- WAV format files with 44.1kHz sampling frequency and 16/24-bit resolution
- Playback time is 6 minutes (12 minutes if mono) or less
- File name uses only English letters and numbers

If the WAV file contains Logic format tempo information, that information can be read.

2. Load the SD card into the Base Station, and turn the power ON.

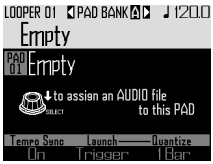
3. Press LOOPER.

4. Tap a pad, or use SELECT to select an unlit pad.

NOTE

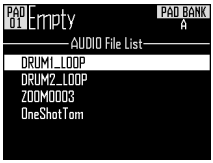
Pads that do not have captured audio assigned to them are unlit. Pads that already have captured audio assigned to them will light with their set colors.

The selected pad will light white and the following screen will open.



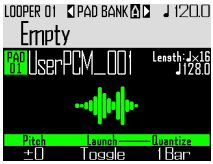
5. Press SELECT.

WAV files saved in the "Capture" subfolder in the "AR-96" folder on the SD card will be shown.



6. Use SELECT to select the file to assign, and press SELECT.

This assigns the WAV file to the pad.



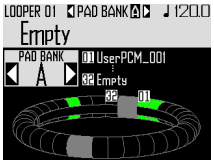
Recording the playback of captured audio as looper sequences in real-time

■ Switching pad banks

32 different captured recordings can be assigned to each of the pad banks.

1. Press .

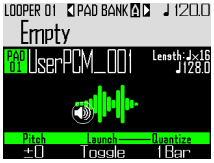
This switches the pad bank and assigns the 32 captured recordings in that bank to the Ring Controller.



2. Tap a lit pad or use SELECT to select a captured recording.

The selected captured recording starts playing and its name appears on the display.

If a pad does not have a captured recording assigned to it, assign one to it (→ P. 61).



HINT

- By tapping the Ring Controller pads, you can select and listen to them at the same time.
- Tap a pad while pressing LOOPER to select it without playing the captured audio.
- Press EDIT when a pad is selected to open the setting screen for the captured audio (→ P. 65).

3. Press .

This starts the precount. After the precount, looper sequence recording will start.

4. CONTROLLER Tap a pad that has a captured recording assigned to it.

The tapped pad will light according to the capture animation type setting (→ P. 77).

HINT

- If no animation has been set, the tapped pad will light brightly.
- If even a single animation has been set, the tapped pad will show the animation, and it will light with the capture color.
- Up to 16 captured mono recordings can be played back at the same time.
- What happens after captured recording playback completes depends on the capture playback mode setting (→ P. 77).

5. CONTROLLER Tap other pads to play their captured recordings.

HINT

The timing of when captured recordings start playback depends on the quantize setting (→ P. 77).

6. Press when all captured recordings are done playing.

This ends looper sequence recording.

Playing back looper sequences

1. Press (▶/II).

This starts looper sequence playback.
Pads will light during playback according to the pattern animation type setting (→ P. 77).

HINT

- If no animation has been set, pads will light brightly during playback.
- If even a single animation has been set, playing pads will show the animation or light with the capture color.

2. Press (▶/II) to pause.

(▶/II) will blink.
Press (▶/II) again to resume playback.

3. Press (■) to stop playback.

Playback stops, and the playback position returns to the beginning.

Clearing looper sequences

1. Press (CLEAR).

A confirmation message appears on the display and (CLEAR) lights.

2. Use SELECT to select Yes, and press SELECT.

This clears the looper sequence.

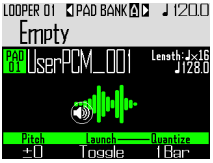
Looper settings

Making capture settings

■ Setting the capture playback method

You can set what happens after a captured recording plays back.

1. Select a captured recording.



2. Use 2 to change the playback method.

One Shot: The captured recording plays once and stops.
Toggle: Tapping the pad alternately starts and stops playback of the captured audio.
Gate: The captured audio plays back in a loop while the pad is being pressed. Playback stops when it is released.

■ Setting the pitch of the captured recording

1. Select a captured recording.

2. Use 1 to change the pitch.

■ Setting capture quantization

You can set the timing of captured audio playback.

1. Select a captured recording.

2. Use 3 to change the quantization.

HINT

Quantization is applied in the following situations.

- When playback of captured audio starts
- When Gate or Toggle stops

Making additional capture settings

Make additional capture settings on the EDIT screen.

■ Setting the capture synchronization

Set on the EDIT screen (→ P. 95).

■ Set the capture tempo, which is necessary for synchronization.

Set on the EDIT screen (→ P. 95).

■ Set the capture length, which is necessary for synchronization.

Set on the EDIT screen (→ P. 95).

■ Setting the capture level

Set on the EDIT screen (→ P. 96).

■ Setting the send effects

Set on the EDIT screen (→ P. 96).

■ Setting the capture pad color

Set on the EDIT screen (→ P. 95).

■ Setting the LED animation type.

Set on the EDIT screen (→ P. 95).

■ Setting the LED animation timing

Set on the EDIT screen (→ P. 95).

■ Changing captured recordings assigned to pads

Set on the EDIT screen (→ P. 97).

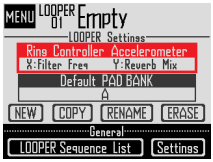
Ring Controller accelerometer settings

You can use the Ring Controller's accelerometer to control effect parameters. Parameters can be changed by tilting the Ring Controller.

■ Assigning parameters

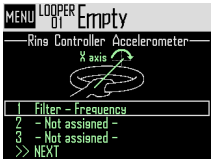
1. Press MENU.

Settings for the selected looper sequence are shown.



2. Use SELECT to select Ring Controller Accelerometer, and press SELECT.

This opens the X-axis parameter assignment screen.



3. Use SELECT to select parameter 1, 2 or 3 to be assigned to the X axis, and press SELECT.

4. Use SELECT to select the parameter to assign, and press SELECT.

5. Set the parameter to assign to the X axis.

6. Select NEXT, and press SELECT.

This opens the Y axis parameter assignment screen.

7. Assign parameters to the Y axis in the same way as the X axis, select FINISH, and press SELECT.

This completes the setting of parameters controlled by the Ring Controller.

Selecting the default pad bank

You can set the pad bank that starts selected when looper mode is activated or a looper sequence is loaded.

1. Press MENU.

2. Use SELECT to select Default PAD BANK, and press SELECT.

3. Use SELECT to select a pad bank, and press SELECT.

You can select A, B or C.

HINT
The Ring Controller accelerometer and default pad bank settings are saved as settings for the selected looper sequence.

Mixing

1. Press MIXER.

This opens the Mixer Screen.

You can set send effects and STEREO/MONO for audio input through the INPUT jacks.

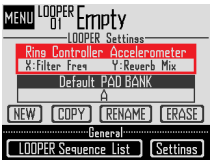
HINT
Mixer (→ P. 100)

Managing looper sequences

1. Press MENU.

2. Use SELECT to select the function to use, and press SELECT.

You can select NEW, COPY, RENAME or ERASE.



■ Creating new looper sequences (NEW)

- Use SELECT to select NEW, and press SELECT.

  This opens the character input screen.

HINT

Character input screen use (→ P. 21)

- After editing the sequence name, select Enter, and press SELECT.

  A new looper sequence will be created with that name.

  After creation, the new looper sequence will be selected.

NOTE

The new looper sequence will be created with the lowest empty looper sequence number.

A new looper sequence cannot be created if there are no empty ones.

■ Copying looper sequences (COPY)

- Use SELECT to select COPY, and press SELECT.

  This opens a screen for selecting the copy destination looper sequence.

- Use SELECT to select the copy destination looper sequence, and press SELECT.

  This opens a confirmation screen.

- Use SELECT to select Yes, and press SELECT.

  This copies the contents of the looper sequence selected previously over the destination looper sequence that was just selected.

  After copying, the copied looper sequence will be selected.

■ Changing looper sequence names (RENAME)

- Use SELECT to select RENAME, and press SELECT.

  This opens the character input screen.

HINT

Character input screen use (→ P. 21)

- After editing the looper sequence name, select Enter, and press SELECT.

  This changes the looper sequence name.

■ Erasing looper sequences (ERASE)

- Use SELECT to select ERASE, and press SELECT.

  This opens a confirmation screen.

- Use SELECT to select Yes, and press SELECT.

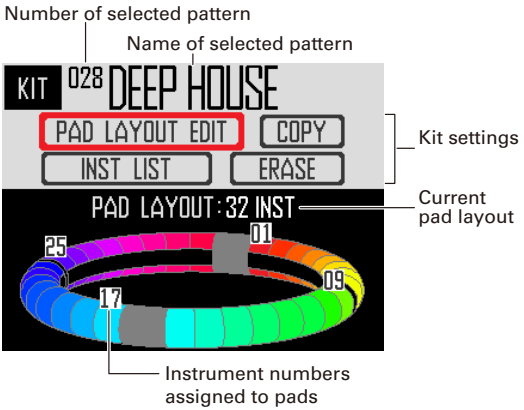
  This erases the looper sequence.

Kits (sound sets)

Kit overview

One pattern can use up to 33 instruments. This collection of instruments is called a "kit".
A kit created in one pattern can be copied to another pattern.

Screen overview



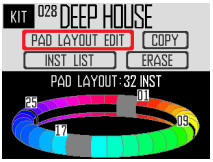
Setting the PAD layout

When pad layout is selected, you can change the number of instruments assigned to the Ring Controller.

By default, you can play 32 instruments with the Ring Controller. You can, however, also reduce the number of instruments and play it like a handheld tambourine.

1. Press KIT.

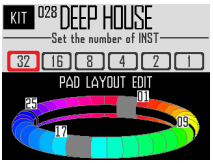
This opens the KIT screen.



2. Use SELECT to select PAD LAYOUT EDIT, and press SELECT.

This opens a screen where you can set the number of instruments assigned to the Ring Controller.

Press MENU to return to the previous screen.



3. Use SELECT to select the number of assigned instruments.

This can be set to 32, 16, 8, 4, 2 or 1.

HINT

When set to any value other than 32, that number of instruments will be assigned to pads in order starting with instrument number 1.

For example, when set to 4, instruments numbered 1–4 will be assigned to pads.

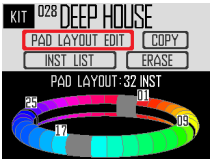
If you want to change the instruments assigned to pads, use the SWAP function to switch them (→ P. 83).

Instrument management

Instruments can be copied, and their positions can be swapped.

1. Press KIT.

This opens the KIT screen.



2. Use SELECT to select INST LIST, and press SELECT.

This opens a list of the instruments used in the selected pattern.

HINT

If PAD layout is set to a value other than 32, the instruments assigned to the Ring Controller are shown with checks.

3. Use to select the instrument to manage, and press SELECT.

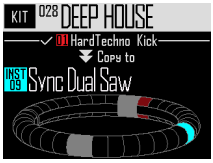
Press MENU to return to the instrument list.

■ Copying instruments (COPY)

Instruments can be copied to different pads. This is convenient for using the same sound with a different pitch or parameter settings.

- Use SELECT to select COPY, and press SELECT.

  This opens a screen for selecting the copy destination instrument.



- Use to select the copy destination instrument, and press SELECT.

  This opens a confirmation screen.
- Use SELECT to select Yes, and press SELECT.

  This copies the instrument selected previously over the destination instrument that was just selected.

  This does not change the number of the copied instrument.

■ Swapping instruments (SWAP)

The pad positions of two instruments can be switched.

- Use SELECT to select SWAP, and press SELECT.

  This opens a screen where you can select the instrument to swap.
- Use to select the instrument to swap, and press SELECT.

  This opens a confirmation screen.
- Use SELECT to select Yes, and press SELECT.

  This swaps the instrument selected previously with the instrument that was just selected.

NOTE

This does not change the numbers of the swapped instruments.

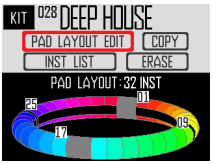
■ Erasing an instrument (ERASE)

- Use SELECT to select ERASE, and press SELECT.
  This opens a confirmation screen.
- Use SELECT to select Yes, and press SELECT.
  This will set the instrument oscillator to OFF and all other parameters to default values.

Managing kits

A kit created in one pattern can be copied to another pattern. The instruments in a kit can also be removed.

1. Press KIT.
This opens the KIT screen.



2. Use SELECT to select the function to use, and press SELECT.
You can select COPY or ERASE.

■ Copying kits (COPY)

This copies the contents of the current kit to a different pattern.

- Use SELECT to select COPY, and press SELECT.
  This opens a screen for selecting the copy destination pattern.

- Use SELECT to select the copy destination pattern, and press SELECT.
  This opens a confirmation screen.
- Use SELECT to select Yes, and press SELECT.
  This copies the current kit to the selected pattern.

■ Erasing kits (ERASE)

This removes all the instruments from the current kit.

- Use SELECT to select ERASE, and press SELECT.
  This opens a confirmation screen.
- Use SELECT to select Yes, and press SELECT.
  This will set the oscillator to OFF and all other parameters to default values for every instrument.

Editing sounds (EDIT)

Editing overview

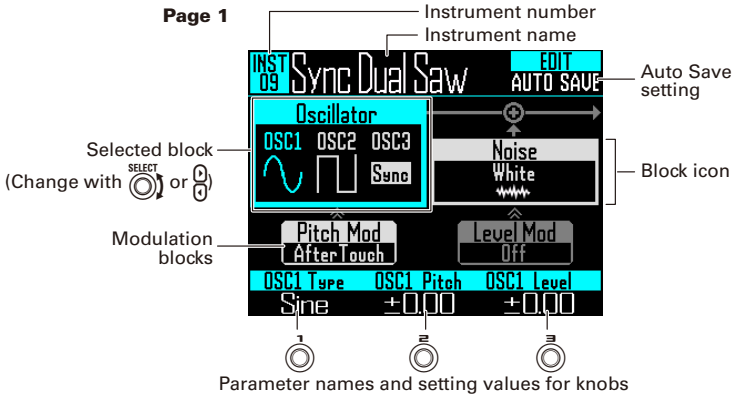
Use the EDIT screen to edit sounds.

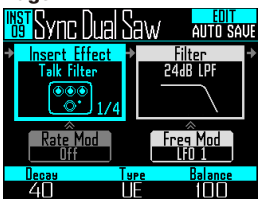
Edit sounds when STEP mode or INST mode is active.

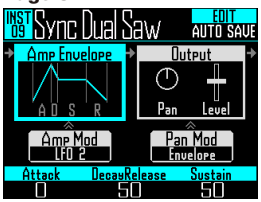
HINT

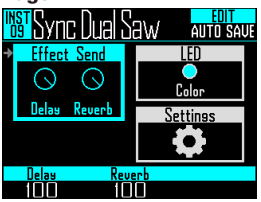
- The EDIT screens in SONG and LOOPER modes have different settings (→ P. 94).
- To edit the sound of instrument number 33, select it in STEP mode and press [EDIT].

Screen overview



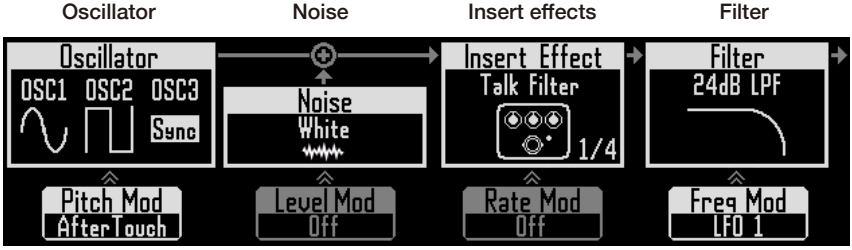






Block structure

The EDIT screen uses the following block structure to edit sounds.



Oscillator

This sets the basic instrument sound. You can select from built-in sound sources, captured recordings and WAV files loaded from the SD card.
For information about these sound parameters, see the Oscillator list (→ P. 133).

(Lower) Oscillator pitch modulation
The oscillator pitch can be altered with an envelope or LFO.

Noise

Noise can be added to the sound.

(Lower) Noise level modulation
The noise level can be can be altered with an envelope or LFO.

Insert effects

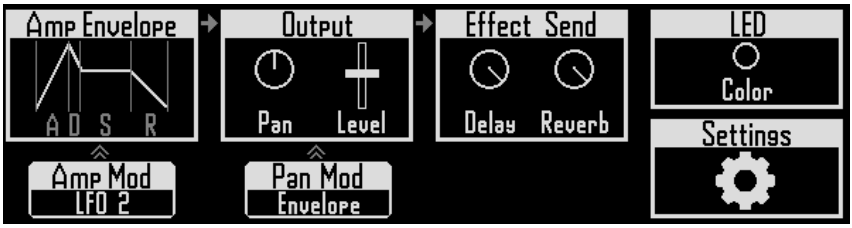
Sounds can be altered with effects. Up to four effects can be used in a kit.

(Lower) Insert effect modulation
Insert effect parameters can be can be altered with an envelope or LFO. This cannot be used with some effects.

Filter

Sounds can be altered with filters.

(Lower) Filter frequency modulation
The filter frequency can be altered with an envelope or LFO.



Amp envelope

This sets how quickly sound starts when a pad is tapped, the sound level while it is being pressed, and how quickly it becomes silent after the pad is released.

(Lower) Amp modulation
The volume can be can be altered with an envelope or LFO.

Output

This sets the panning (stereo position) and level.

(Lower) Pan modulation
The panning can be can be altered with an envelope or LFO.

Effect sends

These set the amounts sent to the delay and reverb effects.

LED
This sets the pad color and lighting style.

Settings
Use this to set the MIDI channel and Quick Access functions.

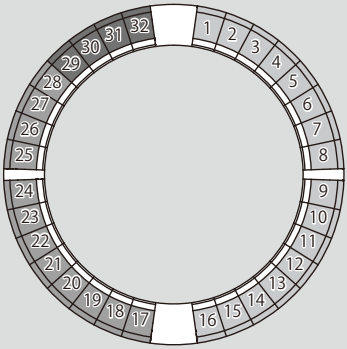
Starting editing

1. Use ◀▶ to select a pattern, use SELECT to select the instrument to edit, and press EDIT.

This opens the EDIT screen.

CONTROLLER When editing in INST mode, you can tap a pad to change the instrument being edited.

Instrument numbers



HINT

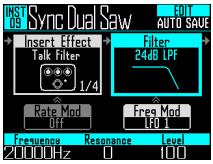
Tap a pad while pressing INST to change the instrument without outputting sound.

Common operations for each block

■ Changing setting items and parameters

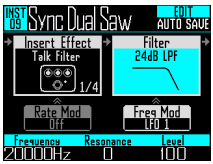
1. Use SELECT or ◀▶ to select the block to change.

The names and values of the parameters at the bottom of the screen will change. Use 1, 2 and 3 to change values that can be adjusted.



2. Use 1, 2 and 3 to select and change parameters.

Press SELECT to show submenus for blocks that have them, including filter and noise. Use SELECT to select and change setting values, and press SELECT to confirm.



HINT

See "EDIT menu parameter list" for block menu details (→ P. 133).

Oscillator block settings

This sets the basic instrument sound.

■ Selecting internal sound sources

Internal sound sources, which include drum sets, percussion instruments, and synthesizers,-can be selected.

1. Press EDIT.

2. Use SELECT to select the oscillator block, and press SELECT.

This opens the oscillator list.

Press MENU to move up one category level.

Press MENU at the top level to return to the EDIT screen.

HINT

- The check shows the currently selected oscillator.
- You can also use the buttons to change categories.

3. Use SELECT to select the oscillator, and press SELECT.

This selects the oscillator.

■ Selecting captured audio files and WAV files

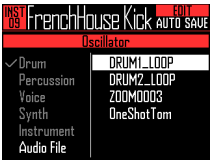
WAV files saved in the “Capture” subfolder in the "AR-96" folder on the SD card can be selected.

1. Press EDIT.

2. Use SELECT to select the oscillator block, and press SELECT.

3. Press MENU repeatedly to open the top category level, and use SELECT to select Audio File.

Selectable WAV files will be shown.



4. Use SELECT to select a file, and press SELECT.

This selects the file as an oscillator.

NOTE

When an audio file is selected as an oscillator, the filter and other parameters will be reset to default values.

■ Playing audio files

The total possible playback time of audio files used as oscillators is 6 minutes if stereo or 12 minutes if mono.

Files that meet the following conditions can be used as oscillators.

- WAV format files with 44.1kHz sampling frequency and 16/24-bit resolution
- Playback time is 6 minutes (12 minutes if mono) or less
- File name uses only English letters and numbers

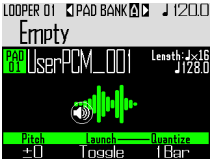
The playback of audio files can be set as in looper mode.

One Shot: The captured recording plays once and stops.

Toggle: Tapping the pad alternately starts and stops playback of the captured audio.

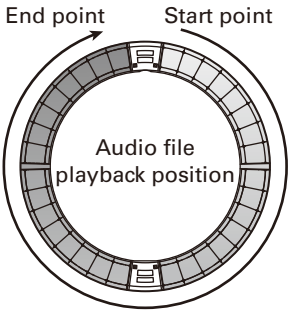
Gate: The captured audio plays back in a loop while the pad is being pressed. Playback stops when it is released.

When an audio file is set to Toggle and is playing back, a screen like the following appears with a mark that shows it is playing back.



Tap the pad again to stop playback. You can also press ■ to stop playback.

When the playback method is set to Toggle, press SELECT to open WAVE layout for the Ring Controller as shown in the following illustration. One Ring Controller cycle corresponds to the time between start and end points.



·Press ▶II to start audio file loop playback.

· Tap a pad to start playback of the loop from that position.

· Tap a pad when stopped to play only the interval assigned to that pad.

NOTE

WAVE layout cannot be changed during playback. Moreover, playback and recording are not possible when in WAVE layout.

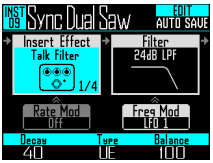
Insert effect block settings

You can use up to 4 insert effects at the same time.

1. Press EDIT.

2. Use SELECT to select the insert effect block, and press SELECT.

This selects the inside of the block.



3. Use SELECT to select the effect type, and press SELECT.

This selects the outside of the block.

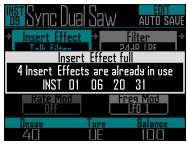
HINT

See the "Effect list" appendix for details about insert effects (→ P. 141).

NOTE

The number of insert effects being used is shown at the bottom right of the effect icon.
If 4 insert effects are already being used, more effects cannot be selected.

In this case, a message will appear showing which instruments are using effects. You can turn off unneeded effects and try again.



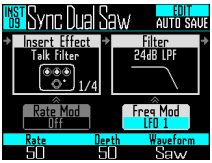
Modulation blocks settings

In modulation blocks, you can use envelopes and LFOs to alter parameters for blocks, including the oscillator and filter.

1. Press EDIT.

2. Use SELECT to select a modulation block, and press SELECT.

This selects the inside of the block.



3. Use SELECT to select the modulation type.

Select Off, Envelope, LFO 1, LFO 2, or Aftertouch.

4. Use 1, 2 and 3 to set parameters.

Parameters can be set according to the modulation type.

5. Press SELECT when you are done making settings.

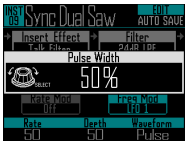
This selects the outside of the block.

NOTE

When the following settings are made, additional settings will be shown.

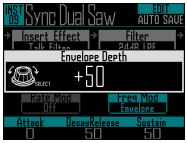
· If the LFO Waveform is set to Pulse

The following screen will open, and you can set the pulse width to 1–99%.



· If Envelope is selected

The following screen will open, and you can set the envelope depth in a range between –100% and +100%.

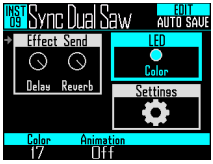


LED block settings

You can set the color used on the display and by the Ring Controller LEDs, as well as how pads light when a pad is tapped.

1. Press EDIT.

2. Use SELECT to select the LED block.



3. Use 1 to change the color.

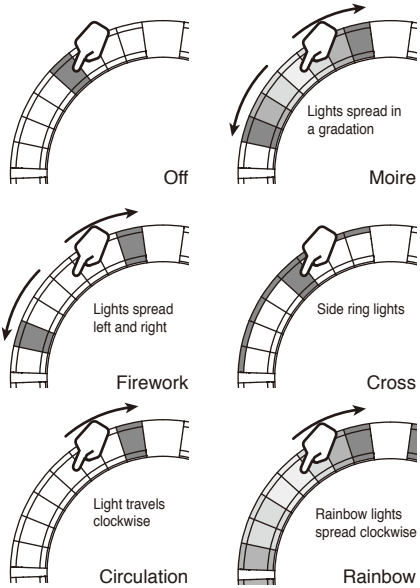
You can select from 32 colors. When set to OFF, LEDs will not light.

HINT

When you change oscillators, the LED color will automatically change according to the oscillator type.

4. Use 2 to select the animation to use.

The animation can be set to Off, Moire, Firework, Cross, Circulation or Rainbow.



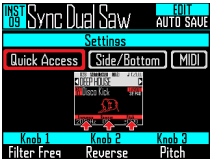
Settings block settings

Use this to make Quick Access and MIDI settings.

1. Press EDIT.

2. Use SELECT to select the Settings block, and press SELECT.

This opens the settings menu.
Use SELECT to select a setting item.

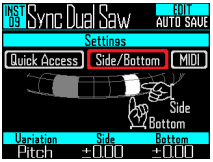


■ Quick Access function settings (Quick Access)

- Use SELECT to select Quick Access.
  The functions assigned to 1, 2 and 3 in INST mode are shown.
- Set the functions assigned to 1, 2 and 3. The set functions can be used to make changes in INST mode.

■ Using tonal variations on the Ring Controller side and bottom rings (Side/Bottom)

Parameter variations can be set for the side and bottom rings of the Ring Controller in INST mode so playing them is different from the top ring. By changing where you tap, you can add variation when playing.



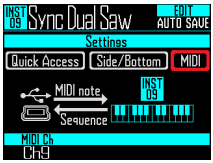
- Set the parameter and change the values with ①, ② and ③.
  ① selects the parameter, and ② and ③ set its value changes when the side and bottom rings are tapped.

■ Setting the MIDI channel for the selected pad

The MIDI channel can be set for the selected pad.

If the unit receives a MIDI message on this channel by USB, the instrument assigned to the pad will play at the pitch that corresponds to the note number.

In addition, if a sequence is recorded for the selected pad, note numbers will be output on the set MIDI channel during pattern playback.



- Use ① to set the MIDI channel.
  This can be set to OFF or from 1 to 16.
  The **AR-96** can output sounds for note numbers 0–108.

NOTE

The **AR-96** cannot record MIDI messages received by USB as a sequence.

SONG mode EDIT screen

The following settings can be made with the SONG mode EDIT screen.

LED settings

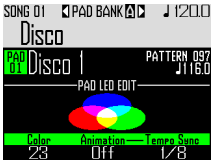
You can set the color used on the display and by the Ring Controller LEDs, as well as how pads light when a pad is tapped.

■ Setting pattern pad colors

1. Select a pattern.

2. Press EDIT.

This opens the LED settings for the selected pattern.



3. Use 1 to change the color.

■ Setting the LED animation type.

1. Select a pattern.

2. Press EDIT.

3. Use 2 to change the animation type.

The animation can be set to Off, Moire, Firework, Cross, Circulation or Rainbow (→ P. 92).

■ Setting the LED animation timing

1. Select a pattern.

2. Press EDIT.

3. Use 3 to change the animation playback timing.

This sets the repetition timing of the animation based on the playback tempo. The interval can be set to 1/8, 1/4, 1/2, 1 or 2.

LOOPER mode EDIT screen

The following settings can be made with the LOOPER mode EDIT screen.

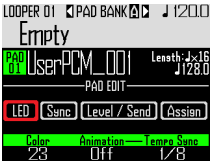
LED settings

You can set the color used on the display and by the Ring Controller LEDs, as well as how pads light when a pad is tapped.

1. Select a captured recording.

2. Press EDIT.

The EDIT screen for the captured audio of the selected pattern opens.



3. Use SELECT to select LED.

4. Use 1 to select a color.

5. Use 2 to select an animation type.

The animation can be set to Off, Moire, Firework, Cross, Circulation or Rainbow (→ P. 92).

6. Use 3 to change the animation playback timing.

This sets the repetition timing of the animation based on the playback tempo. The interval can be set to 1/8, 1/4, 1/2, 1 or 2.

Setting the synchronization of the captured audio (Sync)

The playback of the captured audio can be synchronized with the looper sequence tempo.

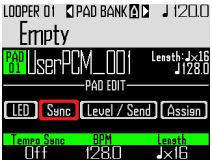
1. Select a captured recording.

2. Press EDIT.

The EDIT screen for the captured audio of the selected pattern opens.

3. Use to select Sync.

Settings related to synchronization are shown.



4. Use 1 to turn synchronization on or off (Tempo Sync).

When on, the captured audio will play back synchronized with the looper sequence tempo. In addition, loop playback will also be synchronized with the tempo.

NOTE

To turn Tempo Sync On, the BPM and Length parameters must also be set. If they are not set, it cannot be turned on.

5. Use 2 to set the tempo of the captured recording (BPM).

Set the original tempo of the captured recording.
This can be set from 40.0 to 250.0.

6. Use SELECT to select the length of the captured recording (Length).

The length of the captured audio can be set in units of quarter notes or bars.

NOTE

BPM and Length values must be set correctly to synchronize accurately.
When Tempo Sync is Off, the captured recording is played back at its original speed. During loop playback, the file will loop between its start and end points without synchronizing to the tempo.

Level and send settings (Level/Send)

The playback level of captured audio and the amounts sent to the delay and reverb effects can be set.

1. Select a captured recording.

2. Press EDIT.

The EDIT screen for the captured audio of the selected pattern opens.

3. Use SELECT to select Level/Send.

4. Use 1 to set the playback level of the captured audio.

This can be set from 0 to 100.

5. Use 2 to set the amount sent to the delay effect.

This can be set from 0 to 100.

6. Use 3 to set the amount sent to the reverb effect.

This can be set from 0 to 100.

Changing assigned captured recordings (Assign)

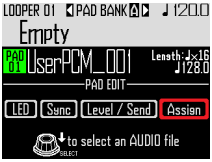
The captured audio assigned to the selected pad can be changed.

1. Select a captured recording.

2. Press EDIT.

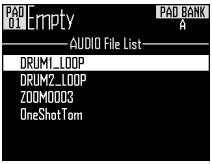
The EDIT screen for the captured audio of the selected pattern opens.

3. Use SELECT to select Assign.



4. Press SELECT.

Assignable files saved in the “Capture” subfolder in the "AR-96" folder on the SD card will be shown.



5. Use SELECT to select a file,

and press SELECT.

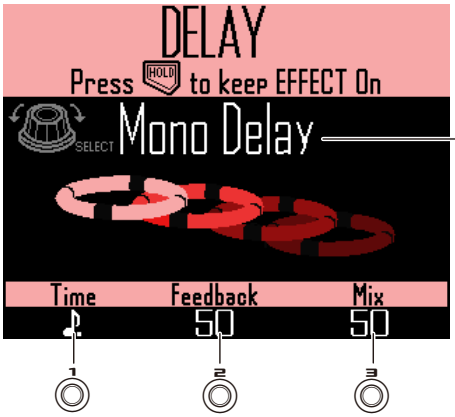
This assigns the selected file to the pad.

Effects

Effects overview

Global filter, delay, reverb and master effects can be applied to the playback of patterns, songs and looper sequences.

Screen overview



Name of selected effect type

Parameter names and setting values for knobs

Effect types

FILTER
This enables the global filter.

DELAY
This enables the delay.

REVERB
This enables the reverb.

MASTER FX
You can select one of a variety of effects as the master effect that is applied to all output.
The parameters that can be set depend on the type of effect.

HINT
See the "Effect list" appendix for details about effect parameters (→ P. 141).

Using effects

Turning effects ON/OFF

1. During pattern, song and looper sequence playback, press and hold FILTER, DELAY, REVERB or MASTER FX for the effect you want to use.

The effect is turned on only while the button is being pressed.

CONTROLLER Press the button for the effect you want to use. When using the Ring Controller, just pressing the button will hold the effect.

HINT

- Multiple effects can be turned on at the same time In this case, information about the effect turned on last appears on the display.
- When an effect is on, its Ring Controller effect button LED lights.

1. To hold an effect, press FILTER, DELAY, REVERB or MASTER FX while pressing HOLD.

The effect will stay on even after its button is released.

HINT

Multiple effects can be held at the same time

2. To stop holding an effect, press HOLD while pressing its button (FILTER, DELAY, REVERB or MASTER FX).

CONTROLLER Press the button for the effect you want to stop holding.

Changing effect types

1. During song playback, press FILTER, DELAY, REVERB or MASTER FX for the effect type you want to change.

The type of the selected effect appears on the display.

2. Use SELECT to change the effect type.

Changing parameters

1. Press FILTER, DELAY, REVERB or MASTER FX for the effect you want to change.

The parameters of the selected effect appear on the display.

HINT

When multiple effects are being held, press the button of the effect you want to change.

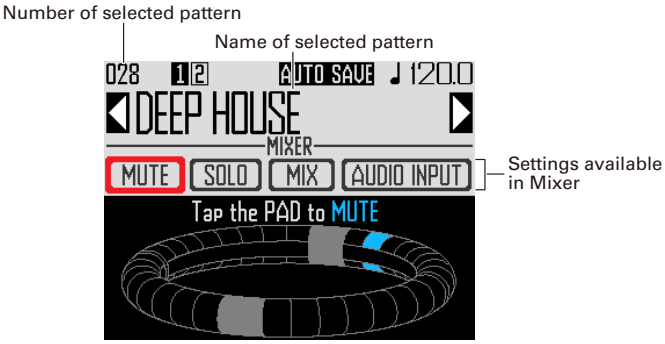
2. Turn 1, 2 and 3 to change the parameters you want.

Mixer

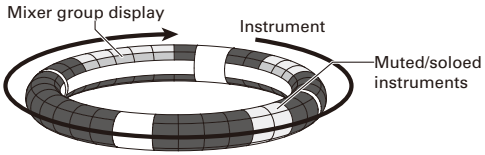
Mixer overview

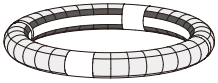
The audio from the external inputs can be adjusted. In INST and STEP modes, the levels of each instrument in the mix can also be adjusted.

Screen overview



Using the Ring Controller





In SCALE layout, tapping any pad has the same effect

The pads on the rings correspond to 32 instruments. After selecting mute or solo on the display, you can turn muting or soloing ON/OFF by tapping the pads.

Starting mixing

1. Press MIXER when the pattern to mix is selected or playing back.

This opens the MIXER screen.

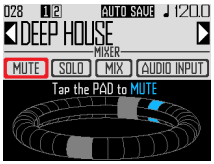
HINT

In SONG and LOOPER modes, you can set send effects and levels, as well as stereo/mono, for audio input through the INPUT jacks.

Muting

You can mute just the selected instrument.

1. Use ◀▶ to select MUTE.



2. CONTROLLER Tap the pad for the instrument to be muted.

The instrument for the tapped pad will be muted.

HINT

The pads of muted instruments become unlit.

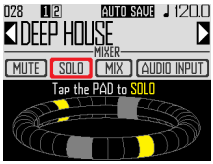
3. CONTROLLER To end muting, tap the muted pad again.

The instrument for the tapped pad will be unmuted.

Soloing

You can solo the playback of just the selected instrument.

1. Use ◀▶ to select SOLO.



2. CONTROLLER Tap the pad for the instrument to be soloed.

Only the instrument for the tapped pad will be played back.

HINT

When an instrument is soloed, only the pad for the solo playback is lit.

3. CONTROLLER To end soloing, tap the soloed pad again.

Solo playback of the instrument for the tapped pad will end.

Group mixer

You can group multiple instruments and adjust their levels together.

■ Setting the group mixer

1. Use to select MIX.

HINT

The top ring of the Ring Controller lights with the group colors of each instrument.

Group 1: red
Group 2: green
Group 3: blue
No group: unlit
Pad shown on the display: blinking (blinking white if no group)

2. CONTROLLER Tap the pad for an instrument to change its mixer Group setting.

The name and group number of the instrument for the tapped pad will be shown on the display. Tap the same pad repeatedly to set its group.

3. Turn 1, 2 and 3 to adjust the volumes of the mixer groups.

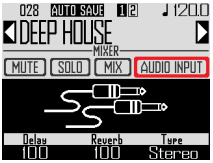
This adjusts the volume of the mixer groups.

HINT

- The maximum volume values of the mixer group will be the volumes set for each instrument.
- The volumes of instruments not set to groups will not be adjusted.

Using INPUT send effects

1. Use SELECT to select AUDIO INPUT.



2. Use 1 and 2 to adjust the amount of each effect send.

These can be set from 0 to 100.

Setting the external input to stereo or mono.

Make the following settings if an audio source with mono output is connected to the external input.

1. Connect a mono cable to the left INPUT jack.

2. Press MIXER.

3. Use SELECT to select AUDIO INPUT.

4. Use 3 to select the type of external input.

Stereo: Receive the left and right channel inputs as a stereo audio signal
Mono (Lch): Receive the left channel input as a mono audio signal

System settings

Changing various settings

Settings related to unit operation and other features can be made.

1. Press MENU.

2. Use SELECT to select SETTING, and press SELECT.

This opens the setting screen.

3. Use SELECT to select menu items and SELECT to confirm them.

Press MENU to move up one level in the menu.

■ Setting the quantization (Quantize)

- Use SELECT to select the quantization value.

  Set the input adjustment timing as a fraction of a musical measure. This can be set to OFF, 1/32, 1/16Tri, 1/16, 1/8Tri, 1/8, 1/4, 1/2 or 1.

HINT

This affects motion sequences and real-time input in INST mode, for example.

■ Setting inner ring display (Inner Ring LED)

- Use SELECT to select what the inner ring of the Ring Controller shows.

  Select Instruments (instrument display) or Guideline (guideline display).

■ Setting the clock mode (Clock Mode)

Set whether the internal clock or an external clock is used when connected to other MIDI devices by USB.

- Use SELECT to select the clock mode.

  Select Internal or External USB.

NOTE

When External USB is selected, songs and looper sequences cannot be recorded.

■ Setting the display brightness (LCD Backlight)

- Use SELECT to set the brightness of the Base Station display.

  Select Low, Mid or High.

■ Show the software versions (Software Version)

- Use SELECT to show the software versions.

■ Restoring default settings (Factory Reset)

- Press SELECT to restore the **AR-96** Base Station to its default settings.

  A confirmation message appears on the display, and then the settings are restored to their factory defaults.

NOTE

Restoring settings to their defaults will erase everything you have created including patterns and songs. Save them to an SD card in advance if you do not want to lose them.
Backing up data (→ P. 98)

Outputting MIDI messages from the Base Station (USB MIDI Output)

When the Ring Controller pads and Base Station knobs and buttons are used, the Base Station can send MIDI messages from the USB port. You can set the MIDI messages output. The **AR-96** will output the set MIDI messages without change regardless of the mode it is in.
These messages can be used to control DAW software, for example.

1. Press MENU.

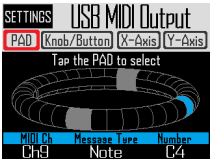
2. Use SELECT to select Settings, and press SELECT.

This opens the Settings screen.

3. Use SELECT to select SETTING, and press SELECT.

This opens the setting screen.

4. Use SELECT to select USB MIDI Output, and press SELECT.



■ MIDI messages output when Ring Controller pads are tapped

The 32 pads on the Ring Controller can each be assigned different MIDI messages.

- Use SELECT to select PAD.
- Tap the pad you want to set.

  The tapped pad lights blue and settings are shown at the bottom of the display.
- Use 1, 2 and 3 to edit the MIDI message.

  You can set each value as follows.

MIDI Ch	Message Type	Number
1-16	Off	–
	Note	0-127
	CC (control change)	0-127
	Prg Chg (program change)	0-127
	Ch Press (output same aftertouch value on entire MIDI channel)	–
	PolyPress (output aftertouch only on each pad)	0-127 (Note Number)

HINT

If the Message Type is set to CC, the CC number set by “Number” is sent with the strength (velocity) that the pad is tapped. “0” is sent when the pad is released

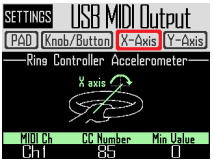
NOTE

Sequences recorded on the **AR-96** are output independently of the MIDI messages sent when pads are pressed (→ P. 93).

■ MIDI messages output when the Ring Controller is moved

The MIDI messages sent when the Ring Controller is moved in the X and Y directions can be edited.

- Use SELECT to select X-Axis or Y-Axis



- Use 1, 2 and 3 to edit the MIDI message.

  You can set each value as follows.

MIDI Ch	CC Number	Min Value
1-16	OFF	–
	0-127	0-127

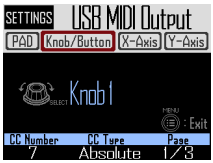
HINT

Sent values will be in a range from the Min Value set by 3 to 127.

■ MIDI messages output when Base Station knobs and buttons are used

The MIDI messages sent when controls, including 1, 2, 3, SELECT, ⊙, TEMPO and MIXER, are used can be edited

- Use SELECT to select Knob/Button, and press SELECT.



- Use SELECT to select the knob or button to edit.

  The settings for the selected knob or button will appear on the display with the setting values at the bottom.

- Use 1, 2 and 3 to edit the MIDI message.

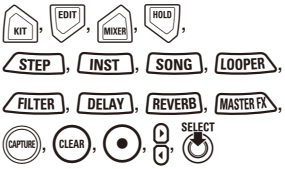
  You can set the values as detailed on the next page.

MIDI message settings (continued)

Page 1		Page 2		Page 3
CC Number	Type	Minimum/Dec Number	Maximum/Inc Number	MIDI Ch
0-127	Off	–	–	1-16
	Absolute (send the knob rotation position as an absolute value)	0-127 (Minimum)	0-127 (Maximum)	
	Relative (when the knob is turned, send the difference in values between counterclockwise (Dec) and clockwise (Inc))	0-127 (Dec Number)	0-127 (Inc Number)	

HINT

- When Type is set to Absolute, the value of the current knob rotation position is output if is within the range between Minimum and Maximum. If turned counterclockwise from the Minimum value or turned clockwise from the Maximum value, no message will be output. Beware that even though this can be used with many DAW applications, differences could occur with the values sent by the **AR-96** if the controlled parameters are changed in the DAW.
- When Type is set to Relative, the value set by Dec Number is sent when the knob is turned counterclockwise, and the value set by Inc Number is sent when the knob is turned clockwise.
  Even if parameters have been changed in the DAW, values can be increased or decreased relatively. However, correctly setting the Dec Number and Inc Number might be necessary depending on the DAW.



MIDI Ch	Message Type	Number
1-16	Off	–
	Note	0-127
	CC (control change)	0-127
	Prg Chg (program change)	0-127

HINT

When Message Type is set to Note, pressing a button will send the note set by “Number” at a velocity of 127. Releasing the button will send it at a velocity of 0.
When Message Type is set to CC, pressing a button will send the CC number set by “Number” at a value of 127. Releasing the button will send it at a value of 0.

System real-time messages

When the system settings Clock Mode is set to Internal, MIDI clock is output from the USB port on the **AR-96**.

Moreover, with this setting, the **AR-96** will send a start message when playback starts and a stop message when it stops.

In addition, it will send a continue message when playback resumes from a paused state.

Start, stop and continue messages will not be output, however, when the **AR-96** does not play back because, for example, it does not have song or looper sequences.

Backing up data and managing audio files

Data utilities

You can manage audio files on SD cards and back up the data for patterns, song sequences and looper sequences that you created to an SD card all at once.
When restoring data, you can load all the data at once or choose only some data to load.
Moreover, you can specify single patterns to be backed up and restored.

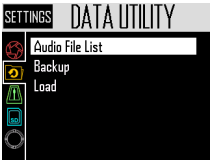
1. Press MENU.

2. Use SELECT to select Settings, and press SELECT.

This opens the Settings screen.

3. Use SELECT to select DATA UTILITY, and press SELECT.

This opens the DATA UTILITY screen.



4. Use SELECT to select menu items and SELECT to confirm them.

Press MENU to move up one level in the menu.

■ Backing up all data (Backup All Data)

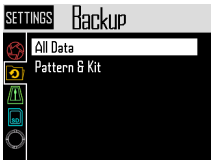
This function backs up all pattern data, song sequences and loop sequences.

- Use SELECT to select Backup, and press SELECT.

  This opens the backup extent selection screen.

  All Data: This backs up all data.

  Pattern & Kit: This backs up a single pattern.



- Use SELECT to select All Data, and press SELECT.

  This opens the backup file name input screen.

HINT

Character input screen use (→ P. 21)

- After inputting the data name, select Enter, and press SELECT.

  This backs up all data.

NOTE

WAV format audio files used for captured recordings are not backed up.

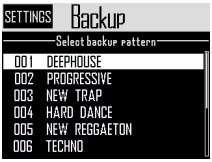
HINT

- The default backup file name is "DATAxxxx.ARD" ("xxxx" is a 4-digit number).
- The backup data will be saved inside the “Data” subfolder in the “AR-96” folder on the SD card.

■ Backing up selected patterns (Backup Pattern & Kit)

This backs up only the selected pattern.
This backs up the sequence and kit data contained in the pattern.

- Use SELECT to select Backup, and press SELECT.
  This opens the backup extent selection screen.
- Use SELECT to select "Pattern & Kit", and press SELECT.
  This opens the pattern list.



- Use SELECT to select a pattern to back up, and press SELECT.
  This opens the backup file name input screen.

HINT

Character input screen use (→ P. 21)

- After inputting the data name, select Enter, and press SELECT.
  This backs up the selected pattern.

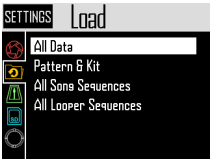
HINT

The default backup file name is "[pattern name].PAT".

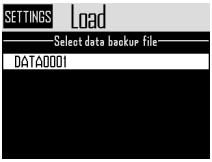
■ Loading all data (Load All Data)

This function loads all pattern data, song sequences and loop sequences.

- Use SELECT to select Load, and press SELECT.
  This opens the load range selection screen.



- Use SELECT to select All Data, and press SELECT.
  This opens a list with the backup data on the SD card.



- Use SELECT to select the backup data, and press SELECT.
  This opens a confirmation screen.
- Use SELECT to select Yes, and press SELECT.
  The data will be loaded from the SD card.

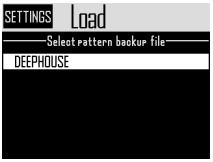
NOTE

When you load data, the contents on the **AR-96** are overwritten.

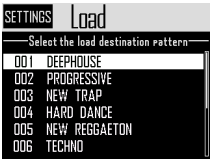
■ Loading patterns (Load Pattern & Kit)

This function loads only selected pattern data.

- Use SELECT to select Load, and press SELECT.
  This opens the load range selection screen.
- Use SELECT to select "Pattern & Kit", and press SELECT.
  This opens a list with the backup data on the SD card.



- Use SELECT to select the backup data, and press SELECT.
  This opens the pattern list.



- Use SELECT to select the load destination pattern, and press SELECT.
  This opens a confirmation screen.
- Use SELECT to select Yes, and press SELECT.
  The data will be loaded from the SD card.

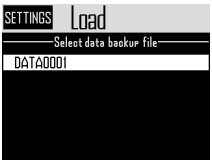
NOTE

If the loaded pattern uses audio files as instrument oscillators, those audio files must be saved in the “Capture” subfolder in the "AR-96" folder on the SD card.

■ Loading song and looper sequences (Load All Song/Looper Sequences)

These functions load song sequences and looper sequences.
In order to load these data sets, a backup of all data must have already been made.

- Use SELECT to select Load, and press SELECT.
  This opens the load range selection screen.
- Use SELECT to select "All Song Sequences" or "All Looper Sequences", and press SELECT.
  This opens a list with the backup data on the SD card.



- Use SELECT to select the backup data, and press SELECT.
  This opens a confirmation screen.
- Use SELECT to select Yes, and press SELECT.
  The data will be loaded from the SD card.

NOTE

- Pattern data used by a song sequence will not be loaded. If the current pattern data is different from the data at the time of backup, also load the pattern data used by the sequence.
- Audio files used by the looper sequence must be saved in the “Capture” subfolder in the "AR-96" folder on the SD card.

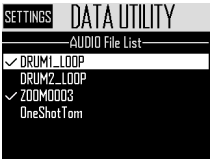
■ Audio file list

Audio files used as instrument oscillators and in looper mode can be managed.

- Use SELECT to select Audio File List, and press SELECT.

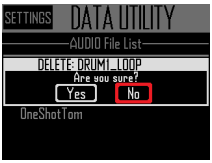
  This opens the list of audio files on the SD card.

  Audio files with checks are used as instrument oscillators or in looper mode.



- To delete a file, use SELECT to select it, and press SELECT.

  This opens a confirmation screen.



- Use SELECT to select Yes, and press SELECT.

  This deletes the audio file.

NOTE

Be aware that if audio files used as instrument oscillators and in looper mode are deleted, the pads they are assigned to will no longer play back.

SD card management

Checking SD card open space

1. Press MENU.

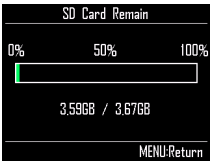
2. Use SELECT to select Settings, and press SELECT.

This opens the Settings screen.

3. Use SELECT to select SD CARD, and press SELECT.

4. Use SELECT to select SD Card Remain, and press SELECT.

This shows the amounts of space used and open on the SD card.



Formatting SD cards

1. Press MENU.

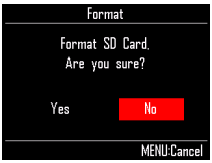
2. Use SELECT to select Settings, and press SELECT.

This opens the Settings screen.

3. Use SELECT to select SD CARD, and press SELECT.

4. Use SELECT to select Format, and press SELECT.

A confirmation message appears.



5. Use SELECT to select Yes, and press SELECT.

This formats the SD card.

NOTE

- Before using SD cards that have just been purchased or that have been formatted on a computer, they must be formatted by the **AR-96**.
- Be aware that all data previously saved on the SD card will be deleted when it is formatted.

Testing SD card performance

You can test whether an SD card can be used with the **AR-96**. A basic test can be done quickly, while a full test examines the entire SD card.

■ Quick testing

1. Press MENU.

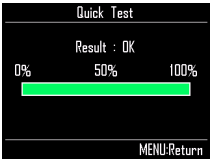
2. Use SELECT to select Settings, and press SELECT.
This opens the Settings screen.

3. Use SELECT to select SD CARD, and press SELECT.

4. Use SELECT to select Performance Test, and press SELECT.

5. Use SELECT to select Quick Test, and press SELECT.
This will start the quick SD card test.

6. The test completes.
The result of the evaluation will be shown.



■ Full testing

1. Press MENU.

2. Use SELECT to select Settings, and press SELECT.
This opens the Settings screen.

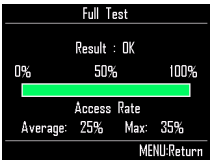
3. Use SELECT to select SD CARD, and press SELECT.

4. Use SELECT to select Performance Test, and press SELECT.

5. Use SELECT to select Full Test, and press SELECT.
The amount of time required and a confirmation message appears.

6. Use SELECT to select Yes, and press SELECT.
This will start the full SD card test.

7. The test completes.
The result of the test will be shown.



NOTE

Even if a performance test result is "OK", there is no guarantee that writing errors will not occur. This information is just to provide guidance.

Exchanging data with a computer (SD Card Reader)

By connecting the **AR-96** with a computer, you can check and copy data on the SD card loaded in it.

■ Connecting

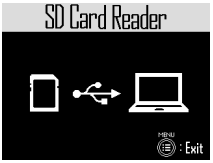
1. Press MENU.

2. Use SELECT to select Settings, and press SELECT.

3. Use SELECT to select SD CARD, and press SELECT.

4. Use SELECT to select SD Card Reader, and press SELECT.

5. Use a USB cable to connect the **AR-96** and the computer.



NOTE

- The supported operating systems are as follows.
  Windows: Windows 7 or later
  Mac: OS X (10.8) or later
- The **AR-96** cannot operate on USB bus power. Use the AC adapter to supply power.

■ Disconnecting

1. Disconnect on the computer.

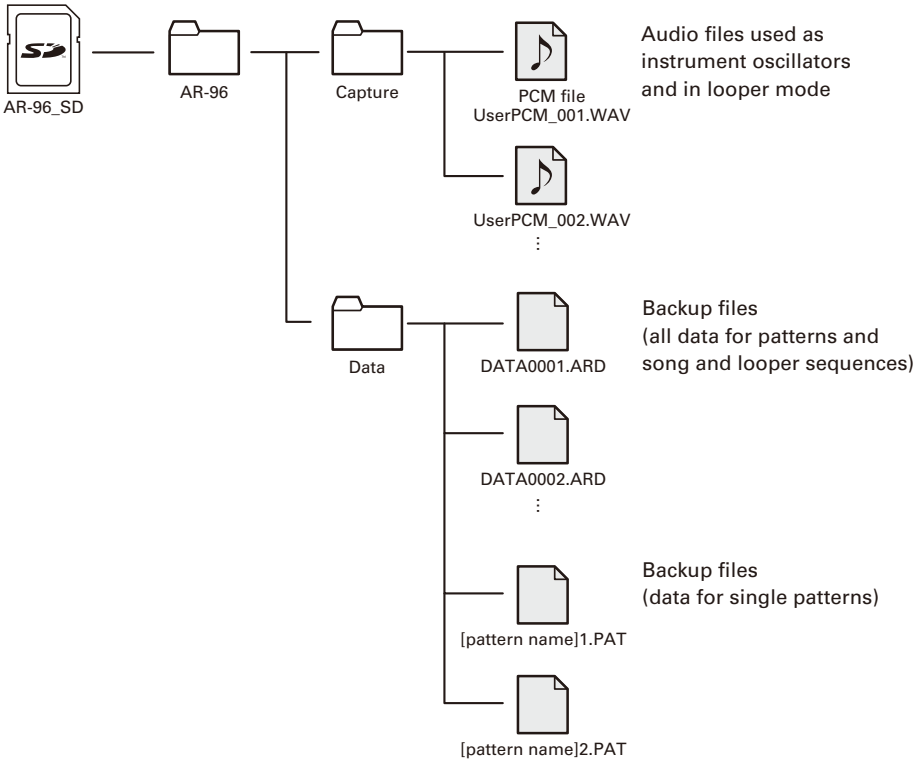
Windows: Select **AR-96** from "Safely Remove Hardware".
Mac OS: Drag the **AR-96** icon to the Trash and drop it.

NOTE

Always conduct computer disconnection procedures before removing the USB cable.

2. Disconnect the USB cable from the computer and the **AR-96**, and press MENU.

SD card folder structure



Ring Controller and Base Station connection and disconnection

The Ring Controller and Base Station connect through wireless communication using Bluetooth LE.

Making setting connections is necessary when, for example, connecting a Ring Controller and Base Station that were not originally in the same set.

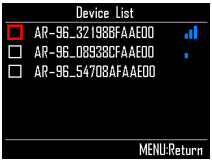
■ Connecting

1. Press MENU.

2. Use SELECT to select CONTROLLER, and press SELECT.

3. Use SELECT to select Device List, and press SELECT.

A list of Ring Controllers that can be connected will appear.



HINT

The number of bars in the antenna icon shows the strength of the connection.

4. Use SELECT to select the Ring Controller to connect, and press SELECT.

The selected Ring Controller will be connected and all its lights will flash blue.

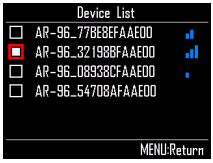
■ Disconnecting

1. Press MENU.

2. Use SELECT to select CONTROLLER, and press SELECT.

3. Use SELECT to select Device List, and press SELECT.

The list of Ring Controllers will appear. A white square will appear next to the connected Ring Controller.



4. Use SELECT to select a connected Ring Controller, and press SELECT.

The Ring Controller will be disconnected and all its lights will flash red.

Setting the grip area

1. CONTROLLER Press [ ].

All the Ring Controller LEDs will light blue.

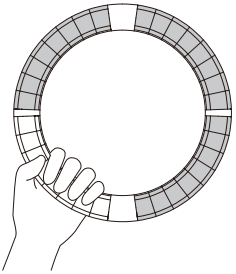
HINT

When automatic grip setting (→ P. 120) is ON, lifting the Ring Controller will automatically put it in this same state.

2. CONTROLLER Grasp the area to set as the grip area.

The pads in the grasped range blink white.

The pads at the same positions on the top and bottom rings are also affected.



HINT

If a grip is not detected for 30 seconds, detection will automatically cancel.

3. CONTROLLER Press [ ].

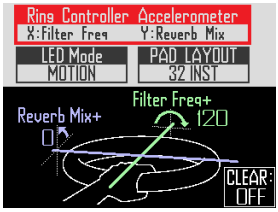
The LED lighting of the Ring Controller returns to its previous state, except the LEDs in the grip area become unlit showing that they will not respond to use.

HINT

- If a grip is detected and 1 second passes, it will be set automatically.
- When the grip area is set, the [ ] LED will light.

Operations when grip area set

When STEP mode or INST mode is active abd the grip area is set, the display will change and show settings related to the Ring Controller, as well as the current X and Y axis values.



■ Setting parameters to change using the Ring Controller accelerometer

- Use SELECT to select Ring Controller Accelerometer.

  Select the parameter to change (→ P. 78).

■ Setting how the Ring Controller lights

- Use SELECT to select LED Mode.

  Select NORMAL (ordinary lighting), MOTION (light in response to accelerometer) or PAD 1 (light when pad 1 makes sound). Even when MOTION or PAD 1 is selected, tapping pads will output sound as usual.

■ Changing the PAD layout

You can change the number of instruments that can be played when pad layout is selected (→ P. 82).

NOTE

Press MENU to reopen the regular screen.
Disabling the grip area setting will also reopen the regular screen.
On this screen, press CLEAR to stop parameter control with the Ring Controller. Press CLEAR again to resume parameter control with the Ring Controller.

■ Disabling the grip area setting

1. CONTROLLER Press .

All the Ring Controller LEDs will light blue.

2. Place the Ring Controller on the Base Station.

3. CONTROLLER Press .

This disables the grip area setting, making all pads usable again.

HINT

If automatic grip cancellation (→ P. 120) is ON, the grip area will automatically be canceled when the Ring Controller is placed on the Base Station.

Ring Controller function settings

In this section, we explain setting items that can be used when connected to the Base Station.

HINT

Using the Ring Controller for MIDI control (→ P. 125)

1. Press MENU.

2. Use SELECT to select CONTROLLER, and press SELECT.

3. Use SELECT to select Setting, and press SELECT.

This opens the Ring Controller Setting screen.

4. Use SELECT to select menu items and SELECT to confirm them.

Press MENU to move up one level in the menu.

■ Setting the LED brightness (LED Brightness)

- Use SELECT to select LED brightness.

Select Low or High.

■ Automatic grip setting (Auto Grip)

You can set automatic grip to ON or OFF.

- Use SELECT to set the automatic grip setting.

Select Off or On.

■ Velocity (For AR-96 > Velocity Curve)

This sets the pad sensitivity.

- Use 

to set the pad sensitivity.

  Low: Low sensitivity (playing strength affects velocity little)
  Mid: Standard
  High: High sensitivity (playing strength greatly affects velocity)
  Max: Velocity is always maximum regardless of playing strength

■ Aftertouch (For AR-96 > After Touch)

You can turn aftertouch ON or OFF.

- Use 

to set the aftertouch.

  Select Off or On.

■ Aftertouch threshold (For AR-96 > After Touch Threshold)

Set how easily aftertouch is activated.

- Use 

to set the aftertouch threshold.

  Low: Aftertouch activates easily
  Mid: Standard
  High: Aftertouch does not activate easily

■ Accelerometer sensitivity (For AR-96 > Accelerometer Sensitivity)

This sets the accelerometer sensitivity.

- Use 

to set the accelerometer sensitivity.

  Low: Low sensitivity (less response to tilting)
  Mid: Standard
  High: High sensitivity (responds even to slight tilting)

■ Setting functions with the Ring Controller

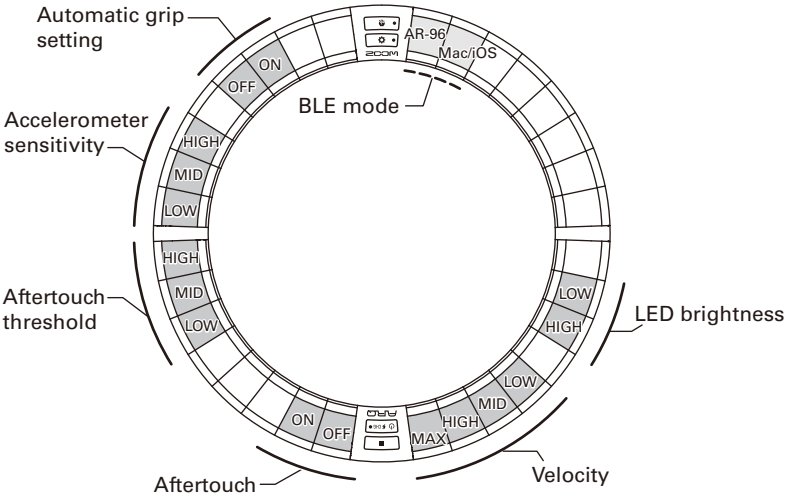
You can also use the Ring Controller pads to set its functions.

- CONTROLLER Press [☼].

The Ring Controller enters setting mode and the pads function as setting keys.

HINT

- BLE mode: To use the Ring Controller for MIDI control, select Mac/iOS.
- BLE mode cannot be activated while connected to the Base Station. Turn the Base Station power OFF or disconnect from it (→ P. 118).



Changing the Ring Controller battery

Change the battery if it begins to run out of power quickly or cannot be charged.

NOTE

Always use a ZOOM BT-04 rechargeable battery.

■ Checking the remaining battery charge

1. Press [⏻ CHG] on the Ring Controller.

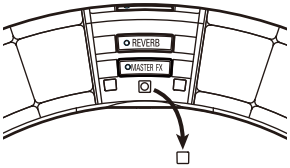
The remaining battery charge of the Ring Controller will be shown on the display.

■ Removing the battery

1. Remove the cap from the back of the Ring.

The cap is below [MASTER FX].

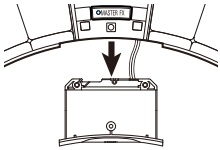
Ring Controller bottom



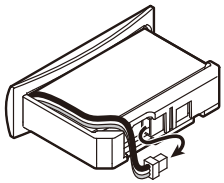
2. Remove the screw under the cap.

Use a Phillips head screwdriver to remove the screw.

3. Pull the battery holder out.



4. Disconnect the cable connector that connects the battery and the battery holder.

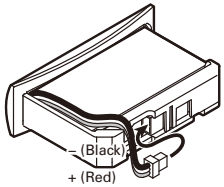


5. Remove the battery from the battery holder.

■ Installing a battery

1. Put the battery into the battery holder.

2. Connect the battery and battery holder with the cable.



3. Install the battery holder in the Ring Controller.

4. Tighten the screw and replace the cap.

Updating the firmware

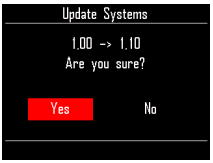
The product firmware can be updated to the latest version.
An update file for the latest version can be downloaded from the ZOOM website (www.zoom.co.jp).

Updating the Base Station

1. Copy the file for updating to the root directory on an SD card.

2. Insert the SD card into the card slot. Then, while pressing MENU, press and hold POWER.

This opens an update confirmation screen.

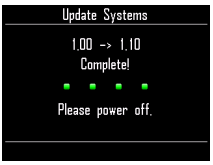


3. Use SELECT to select Yes, and press SELECT.

NOTE

Do not turn the power off or remove the SD card during the update. Doing so could cause the **AR-96** to become unstartable.

4. After the update completes, press and hold POWER to turn the power off.



Updating the Ring Controller

If you connect a Ring Controller that is using old firmware to a Base Station, an update alert will appear on its display.
If this occurs, follow the procedures below to update the Ring Controller.

1. CONTROLLER While pressing and holding ▶\II, press CHG.

The Ring Controller will start in update mode, and an update screen will appear on the Base Station.

NOTE

Confirm that the pad next to CHG is lit blue. If it lights purple, connect the Ring Controller and the Base Station (→ P. 102).

2. Use SELECT to select Yes, and press SELECT.

The update progress screen opens on the Base Station.

3. CONTROLLER After the update completes, press and hold CHG to turn the power off.

NOTE

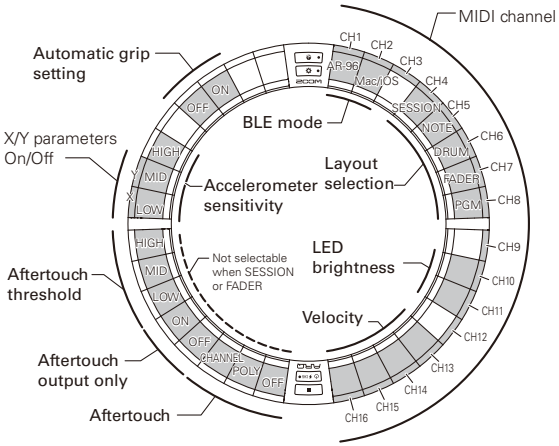
Confirm the update result with the color of the pad next to CHG.
· Update completed successfully: Green
· Update failed: Red
If the update failed, try again from step 1.

MIDI controller

Using the Ring Controller for MIDI control

The **AR-96** Ring Controller can be connected independently to a Mac/iOS device and used as a MIDI controller.

MIDI controller settings



■ BLE mode

Select the device to be connected to the Ring Controller.

AR-96: This is the normal mode. It connects to an **AR-96** Base Station (→ P. 118).

Mac/iOS: This allows you to connect the Ring Controller directly to a Mac or iOS device and use it as a MIDI controller.

■ Layout selection

Set the MIDI message layout of the Ring Controller.

For details about each layout, see "MIDI controller layouts" (→ P. 127).

■ MIDI channels

Set the combination of MIDI channels for the Ring Controller to use.

CH 1–11 (12–16 are fixed for session layout)

■ X/Y parameter On/Off

Set whether or not the accelerometer values of the X and Y axes are output.

■ Aftertouch

Set the aftertouch type.

OFF: No aftertouch

POLY: When multiple pads are pressed simultaneously, they are each treated independently

CHANNEL: The same value is output for the entire MIDI channel

■ Aftertouch only output

Only aftertouch MIDI messages are output.

HINT

- These settings can also be made by pressing MENU on the Base Station and using the CONTROLLER > Setting > For Mac/iOS item.
- For velocity and other setting items in common with the **AR-96**, refer to "Ring Controller settings" (→ P. 118).

Connecting with Mac/iOS devices

Using Bluetooth LE, you can connect the Ring Controller directly to a Mac or iOS device, and use it as a MIDI controller.

NOTE

To use this function, turn the Base Station power OFF or disconnect from it (→ P. 118).

■ Switching the Ring Controller mode

1. CONTROLLER Press [⚙].

This puts the Ring Controller into setup mode.

2. CONTROLLER Tap the pad for Mac/iOS BLE mode.

This puts the Ring Controller into Mac/iOS mode.

■ Connecting with a Mac

1. Open the Audio MIDI Setup application on the Mac

2. Select Window in the menu bar, and then Show MIDI Window.

This opens the MIDI Studio window.

3. Double-click the Bluetooth icon.

This opens the Bluetooth Configuration screen.

4. Click "Connect" for the Ring Controller shown in the list.

When connection succeeds, all of the LEDs will blink blue on the Ring Controller.

NOTE

If connection fails, open the System Preferences and click the × next to the Ring Controller in the list of Bluetooth devices before trying again.

■ Connecting with iOS devices

1. Launch an app that supports MIDI over BLE on the iOS device.

2. On the app Settings screen, conduct Bluetooth connection.

When connection succeeds, all of the LEDs will blink blue on the Ring Controller.

HINT

For app setting procedures, see the manual for that app.

MIDI controller layouts

When using the Ring Controller for MIDI control, you can select from five types of pad layouts.

Layout types

■ SESSION layout

This layout is designed for use with the Session View of Ableton Live. You can use it to play clips and scenes and use it to control volume, panning and send effects, for example.

■ NOTE layout

This layout distributes notes on the pads like piano keys.
Use ▲▼ to change the octave.

■ DRUM layout

This layout is designed for use with drum racks in DAW software.
The pads on 1/4 of each ring correspond to one drum rack section.
Use ▲▼ to raise or lower groups of note numbers.

■ FADER layout

This lets you use the Ring Controller as faders.
The pads on half of each ring function as a single fader.

■ PROGRAMMER mode

This mode allows you to program each pad and its LED lighting as you like.

HINT

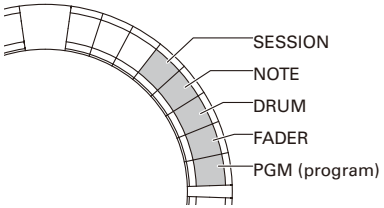
For details about MIDI messages sent and received in each mode, see "Ring Controller MIDI messages" (→ P. 145).

Selecting layouts

1. CONTROLLER Press ☼.

This puts the Ring Controller into setup mode.

2. CONTROLLER Tap the pad for one of the modes.



This changes the Ring Controller layout.

3. CONTROLLER Press ☼.

This ends setting mode.

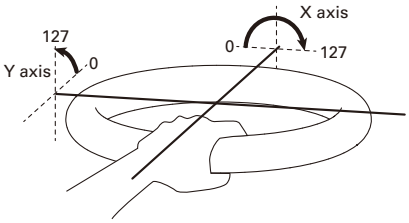
Other functions

Accelerometer

You can use the Ring Controller accelerometer to send MIDI messages.

NOTE

- This can be used when the Ring Controller grip area has been set (→ P. 119).
- The grip area determines the directions of the X and Y axes.



MIDI messages sent

X axis: Control Change 85, 0–127

Change occurs in a range from level (0°) to upside down (180°).

Y axis: Control Change 86, 0–127

Change occurs in a range from level (0°) to vertical (90°).

■ Turning the accelerometer ON/OFF

1. CONTROLLER Press MASTER FX.

The MASTER FX LED lights, and the accelerometer turns ON.

2. CONTROLLER Press MASTER FX again to turn the accelerometer OFF.

The MASTER FX LED becomes unlit, and the accelerometer turns OFF.

Restoring default settings

1. CONTROLLER While pressing [☼], turn the Ring Controller on.

This enables factory reset mode.

2. CONTROLLER Tap the pad with a blinking LED.

This restores the Ring Controller to its default settings, and turns the Ring Controller off automatically

■ Restoring default settings from the Base Station

You can use the Base Station to restore the Ring Controller to its factory default settings.

1. Press MENU.

2. Use SELECT to select CONTROLLER, and press SELECT.

3. Use SELECT to select Setting, and press SELECT.

4. Use SELECT to select Factory Reset, and press SELECT.

This opens a confirmation screen.

5. Use SELECT to select Yes, and press SELECT.

This restores the Ring Controller to its factory default settings.

Troubleshooting

If you think that the **AR-96** is operating strangely, check the following items first.

■ **There is no sound or it is very quiet**

- Confirm that the power is ON.
- Check the connections
- Adjust the levels of the instruments
- Adjust mixer group levels.
- Confirm that it is not muted.
- Check the headphone and OUTPUT volume levels.

■ **There is a lot of noise**

- Confirm that nothing is wrong with the shielded cable.
- Use a genuine ZOOM AC adapter.

■ **Effects are not working**

- Confirm that the effect is properly assigned to an instrument.
- Effects are only enabled when their individual keys are being pressed. Use HOLD to keep an effect enabled even after releasing its key.

■ **The Ring Controller does not work well**

- Confirm that the power is ON.
- Confirm its connection with the Base Station.
- Adjust the pad sensitivity.
- Confirm the grip setting.
- If using it as a MIDI controller, check the Mac or iOS device settings.

Product specifications

Base Station

Inputs	INPUT L/R	Connector type	Standard mono phone jacks (unbalanced)
		Input gain	+10 to –65 dB
		Input impedance	50 kΩ
Outputs	OUTPUT L/R	Connector type	Standard mono phone jacks (unbalanced)
		Output impedance	200 Ω
	PHONES	Connector type	Standard stereo phone jacks 20mW × 2 (into 32Ω load)
		Output impedance	10 Ω
Dynamic range			ANALOG IN (AD): 92 dB typ (IHF-A) PHONE OUT (DA): 102 dB typ (IHF-A) MAIN OUT (DA): 106 dB typ (IHF-A)
Recording media			16MB–2GB SD cards, 4GB–32GB SDHC cards, 64GB–128GB SDXC cards
MIDI IN/OUT			USB MIDI or MIDI over Bluetooth LE
Power			5V 1A AC adapter
Power consumption			Base Station: 1.25 W maximum When powering Ring Controller: 4.5 W maximum (including charging current)
External dimensions			260.0 mm (D) × 260.0 mm (W) × 64.0 mm (H)
Weight (main unit only)			990 g
Display	LCD		2.0" full-color LCD (320×240)
Interface	USB 2.0 (standard USB MIDI)	Supported operating systems	Windows 7 (SP1 or later), Windows 8 (including 8.1) or later, Windows 10 Mac OS X 10.8 or later
		Minimum specifications	Chipset that includes USB 2.0 as standard, Intel Core i3 or faster CPU
	MIDI over Bluetooth LE	Transmission speed	31.25 kbps (±1%) maximum
		Latency (with Ring Controller)	5–12.5 ms

Ring Controller

MIDI IN/OUT			MIDI over Bluetooth LE
Sensors			PAD pressure sensors, 3-axis accelerometer
Power			Lithium polymer rechargeable battery (DC4.2V maximum voltage, 3.7V nominal voltage, 450mAh 3.7V capacity), direct supply from Base Station
Power consumption			When using battery: 2 W maximum
Recharging time			About 2.5 hours
Battery operation time			About 4.5 hours when LED brightness is Low About 2.5 hours when LED brightness is High (differs according to use conditions)
External dimensions			280.5 mm (D) × 280.5 mm (W) × 33.5 mm (H)
Weight (main unit only)			540 g
Trigger pads		Number of pads	96
		Velocity curves	4 types
Interface	MIDI over Bluetooth LE	Supported iOS devices	iPad devices running iOS 8.0 or later
		Supported Macs	Mac OS X 10.10.5 Yosemite or later MacBook, iMac and Mac pro series computers that support BLE transmission
		Transmission speed	31.25 kbps (±1%) maximum
		Latency (with Base Station)	5–12.5 ms
		Latency (iOS and Mac OS)	16.25–20 ms

Appendix

■ Oscillator block

Oscillator list

Category	Instrument name	LOOP
aKick Instrument color: 1 	2Step Kick	O
	BigBeat Kick	O
	Blubber Kick	O
	BreakBeat Kick	×
	Breaks Kick	×
	Classic Kick	O
	Cyber Kick	O
	DeepDark Kick	×
	DeepHouse Kick	O
	Disco Kick	×
	D&B Kick	×
	Dubstep Kick	×
	EDM Kick	O
	Electro Kick	O
	EuroBeat Kick	O
	EuroDance Kick	O
	EuroTrance Kick	O
	FrenchHouse Kick	O
	Funk Kick	×
	Hardcore Kick	×
	HardHouse Kick	O
	HardTechno Kick	×
	HipHop Kick 1	O
	HipHop Kick 2	O
	Oldschool Kick	O
	HR&HM Kick	×
	Jazz Kick	×
	Jungle Kick	×
	Kicker Kick	O
	Berlin Kick	O
	D Kick	O
	Muted Kick	O
	Lounge Kick	×
	MainRoom Kick	×
	Minimal Kick	O
	NuDisco Kick	×
	ProgHouse Kick	O
	R&B Kick	O
	Reggae Kick	O
	Reggaeton Kick	×
	Rock Kick	×
	Sub Kick	O
	Synth Kick	O
	Techno Kick	O
	TechHouse Kick	O
	Kit707 Kick	×
	Kit808 Kick	O
	Kit909 Kick	O
	Trap Kick	O
	TrapMe Kick	O
	TribalHouse Kick	O
Snare Instrument color: 31 	2Step RS	×
	2Step Snare	
	BigBeat RS	
	BigBeat Snare	
	Breaks RS	
	Breaks Snare	
	Chicago Snare	
	DeepHouse Snare	
	DeepHouse RS	
	D&B RS	
	D&B Snare	
	Dubstep RS	
	Dubstep Snare 1	
	Dubstep Snare 2	

Category	Instrument name	LOOP
Snare Instrument color: 31 	EDM Snare	×
	EDM RS	
	Electro RS	
	Electro Snare	
	EuroBeat RS	
	EuroBeat Snare	
	EuroDance RS	
	EuroDance Snare	
	EuroTrance RS	
	EuroTranceSnare	
	FlashBulb Snare	
	Future Snare	
	Garage Snare	
	Hardcore RS	
	Hardcore Snare	
	HardHouse RS	
	HardHouse Snare	
	HardTechnoRS	
	HardTechnoSnare	
	HH Snare	
	HipHop RS	
	HipHop Snare	
	HR&HM RS	
	HR&HM Snare	
	Jazz RS	
	Jazz Snare	
	Jazz Brush	
	Jungle RS	
	Jungle Snare	
	MainRoom Snare	
	Minimal RS	
	Minimal Snare	
	NuDisco RS	
	NuDisco Snare	
	ProgHouse RS	
	ProgHouse Snare	
	R&B RS	
	R&B Snare	
	Reggae RS	
	Reggae Snare	
	Reggaeton RS	
	Reggaeton Snare	
	Rock RS	
	Rock Snare	
	Gangsta Snare	
	South Snare	
	TechHouse RS	
	TechHouse Snare	
	Kit707 Snare	
	Kit808 Snare	
	Kit808 RS	
	Kit909 Snare	
	Kit909 RS	
	Trap RS	
	Trap Snare	
	TribalHouse RS	
	TribalHouseSnare	
	UK Snare	
	Vintage Snare	

EDIT menu parameter lists (continued)

Category	Instrument name	LOOP
Clap Instrument color: 31 	Building Clap	×
	ClasRave Clap	
	Dance Clap	
	Disco Clap	
	D&B Clap	
	Breaks Clap	
	Electro Clap	
	Techno Clap 1	
	HipHop Clap	
	House Clap 1	
	Minimal Clap	
	House Clap 2	
	NY Clap	
	Reggae Clap	
	Short Clap	
	SlapVerb Clap	
	Step Clap	
	Techno Clap 2	
	Thug Clap	
	Kit707 Clap	
	Kit808 Clap	
	Kit909 Clap	
	Trance Clap	
	Trap Clap	
HiHat Instrument color: 30 	Berlin CloseHH	×
	Berlin OpenHH	
	Chicago Hi-Hat	
	ComputerNoise	
	DeadLeaser Hat	
	Disco CloseHH	
	Disco OpenHH	
	Dance CloseHH	
	Dance OpenHH	
	D&B CloseHH	
	D&B OpenHH	
	Breaks CloseHH	
	Breaks OpenHH	
	Electro CloseHH	
	Electro OpenHH	
	Techno CloseHH	
	Techno OpenHH	
	Feedback Hat	
	Garage Hat	
	GlitchTick Hat	
	HardHouse Hat	
	Standard OpenHH	
	HipHop CloseHH	
	HipHop OpenHH	
	House CloseHH	
	House OpenHH	
	Minimal CloseHH	
	Minimal OpenHH	
	HR&HM CloseHH	
	HR&HM OpenHH	
	Jazz CloseHH	
	Jazz OpenHH	
	London Hat	
	Milano Hat	
	NY Hat	
	Paris Hat	
	R&B CloseHH	
	R&B OpenHH	
	Reggae CloseHH	
	Reggae OpenHH	
	Rock CloseHH	
	Rock OpenHH	

Category	Instrument name	LOOP
HiHat Instrument color: 30 	Short Hi-Hat	×
	Kit707 CloseHH	
	Kit707 OpenHH	
	Kit808 CloseHH	
	Kit808 OpenHH	
	Kit909 CloseHH	
	Kit909 OpenHH	
	Trance CloseHH 1	
	Trance OpenHH 1	
	Trance CloseHH 2	
	Trance OpenHH 2	
Cymbal Instrument color: 30 	Short Crash	×
	Long Crash	
	Splash Cymbal	
	Disco Crash	
	Disco Ride	
	Dance Crash	
	Dance Ride	
	D&B Crash	
	D&B Ride	
	Breaks Crash	
	Breaks Ride	
	Electro Crash	
	Electro Ride	
	Techno Crash	
	Techno Ride	
	HipHop Crash	
	HipHop Ride	
	House Crash	
	House Ride	
	Minimal Crash	
	Minimal Ride	
	HR&HM Crash	
	HR&HM Ride	
	Jazz Crash	
	Jazz Ride	
	R&B Crash	
	R&B Ride	
	Reggae Crash	
	Reggae Ride	
	Standard Ride	
	Rock Crash	
	Rock Ride	
	Kit707 Crash	
	Kit707 Ride	
	Kit808 Crash	
	Kit909 Crash	
	Kit909 Ride	
	Trance Crash	
	Trance Ride	
Tom Instrument color: 2 	80's Tom	×
	Acoustic Tom 1	×
	Acoustic Tom 2	×
	DoubleElectroTom	O
	FrenchHouseTom	×
	Ind. Tribe Tom	×
	Industry Tom	×
	Long Tom	×
	NewWave Tom	×
	Noise Tom	×
	Synth Tom	O
	Kit707 Tom	×
	Kit808 Tom	×
	Kit909 Tom	×
	Vintage Tom	×

EDIT menu parameter lists (continued)

Category	Instrument name	LOOP
Percussion Instrument color: 2 	BellTree	×
	Bottle	×
	BrightData	×
	Cabasa Hit	×
	Cabasa Shake	×
	Castanets	×
	CementClick	×
	Clave	×
	Conga Open	×
	Conga Close	×
	Conga Slap	×
	Cowbell	×
	Darbuka	×
	Davul Chember	×
	Davul Dum	×
	Davul Kasnak	×
	Davul Tek	×
	Djembe	×
	Droplet	×
	GlitchClave	×
	Hi-Bongo	×
	Hi-Timbales	×
	Hi-Agogo	×
	IDM Prec.	×
	Lo-Bongo	×
	Lo-Timbales	×
	LongGuiro	×
	LongWhistle	O
	Lo-Agogo	×
	Maracas	×
	MouthPop	×
	MuteCuica	×
	MuteSurdo	×
	MuteTriangle	×
	OpenCuica	×
	OpenSurdo	×
	OpenTriangle	×
	OrganicPrec.	×
	Lo-Pop	O
	PlasticLid	×
	Hi-Pop	×
	Quijada	×
	Quijada Hit	×
	RimPercussion	×
	Riq Doum	×
	Riq Pa	×
	Riq Tak	×
	Shaker 1	×
	Shaker 2	×
	Shaker Hit	×
	ShortData	×
	ShortGuiro	×
	ShortPercussion	×
	ShortWhistle	×
	Snap	×
	SquishyZap	×
	Sticks	×
	SynthPercussion	O
	Tabla Ge	×
	Tabla Ke	×
	Tabla Na	×
	Tabla Te	×
	Jingle	×
	Tambourine	×
	Timpani	×
	Kit808 Cowbell	O
	Vibraslap	O
	WindChime	×
	WoodBlock	×

Category	Instrument name	LOOP
Voice Instrument color: 14 	Ai-Low House	×
	Hey Trap	
	Female Oh	
	Male Oh	
	Oh Garage	
	Technologic Vox	
	U DeepHouse	
	VocalStab	
	Yah Dubstep	
	Male Ahaa	
	Male Ahaaw	
	AncientWisdom	
	Male Baaa	
	Male Che	
	Male ComeOn	
	Male Doh	
	Male Doo	
	Female Aan	
	Female Ah	
	Female Am	
	Female Haa	
	Female Ho	
	Female On	
	Female So	
	Female Yo	
	Female Your	
	Ghostly	
	Male Haa	
	Male Hey 1	
	Male Hey 2	
	Male Nahh	
	Male Ohooo	
	Male Paa	
	Male Wao	
	Male Whoo	
Synth Basic Instrument color: 14 	Saw	□
	Square	
	Pulse	
	Sine	
	Triangle	
	Saw + Square	
	Saw + Pulse	
	Saw + Sine	
	Saw + Triangle	
	Sine + Triangle	
	Saw Harmony	
	Square Harmony	
	Pulse Harmony	
	Sine Harmony	
	Tri Harmony	
	Dual Saw	
	Dual Square	
	Dual Pulse	
	Dual Sine	
	Dual Triangle	
	Triple Saw	
	Triple Square	
	Triple Pulse	
	Triple Sine	
	Triple Triangle	
	Oct Saw	
	Oct Square	
	Oct Pulse	
	Oct Sine	
	Oct Triangle	
	Ring Saw	
	Ring Square	
	Ring Pulse	
	Ring Sine	
	Ring Triangle	

EDIT menu parameter lists (continued)

Category	Instrument name	LOOP
Synth Basic Instrument color: 14 	Ring Dual Saw	
	Ring Dual Square	
	Ring Dual Pulse	
	Ring Dual Sine	
	Ring Dual Tri	
	Ring Oct Saw	
	Ring Oct Square	
	Ring Oct Pulse	
	Ring Oct Sine	
	Ring Oct Tri	
	FM Saw	
	FM Square	
	FM Pulse	
	FM Sine	
	FM Triangle	
	FM Dual Saw	
	FM Dual Square	
	FM Dual Pulse	
	FM Dual Sine	
	FM Dual Triangle	
	FM Oct Saw	
	FM Oct Square	
	FM Oct Pulse	
	FM Oct Sine	
	FM Oct Triangle	
	Sync Saw	
	Sync Square	
	Sync Pulse	
	Sync Sine	
	Sync Triangle	
	Sync Dual Saw	
	Sync Dual Square	
	Sync Dual Pulse	
	Sync Dual Sine	
	Sync Dual Tri	
Synth Bass Instrument color: 14 	AngerBass	O
	DeepBass	O
	DubstepDirtBass	×
	FlatRicBass	×
	GarageFatBass	×
	ParisBass	O
	PulseButtomBass	×
	SubspenseBass	O
	VoiceBass	×
	WarmSawBass	O
Synth Fx Instrument color: 14 	AirCloud	O
	Alarm	O
	AlienWarning	×
	Arpness	×
	BeatBang	×
	BlackStar	×
	BottleVox	×
	Closer	×
	CompBlip	O
	DangerZone	×
	ElectricSwipe	×
	EpicAir	×
	ForcedAir	×
	Lazer 1	×
	Lazer 2	×
	Lazer 3	×
	LazerGun	×
	MarsInvaders	×
	MazG	×
	NoiseFloor	×
	Revange	×

Category	Instrument name	LOOP
Synth Fx Instrument color: 14 	SawDown	×
	Shreakback	×
	SirenFX	×
	Spacer	O
	StarGate	×
	TrapBounce	×
	TunyPluck	×
	Twister	×
	U Tone	O
	WideFive	O
	X Scape	×
Synth Hit Instrument color: 14 	1980sAnalog5ths	O
	ClubChord	×
	DecadeChord	×
	DubstepStab	×
	EdgeOfStab	O
	EDM MinorChord	×
	EDM Stab	×
	FadeChord	×
	FatMash	O
	FatPad	×
	FluteSpaceLead	×
	FutureSax	×
	LeadChord	×
	LeadChordRave	×
	LeadDirt	×
	LeadDrop	×
	LegacyChord	×
	LowTech	O
	MetalicPad	O
	PartyChord	×
	PlasticTube	O
	PumpChord	×
	RaggaTone	O
	RaveLead	O
	RaveStabLead	×
	SimpleChord	×
	StringBreath	×
	SubyChord	×
	SyncLift	×
	TechChord	×
	TightAnalog5ths	O
Instrument Basic Instrument color: 14 	AltoSax	O
	AcousticBass	O
	AcousticGuitar	O
	Bell	×
	BrassEnsemble	×
	Clav	O
	ElectricPiano	O
	E.Bass Finger	O
	E.Bass Pick	O
	E.Bass Slap	O
	ElectricGuitar	O
	DistGuitar	O
	GuitarFeedback	×
	Kalimba	×
	MajorPartials	×
	MetalBell	×
	MinorPartials	O
	MutedStab	×
	OldMovieMinor	×
	Organ 1	O
	Organ 2	O
	Piano	O
	StringsEnsemble	×
	TenorSax	O

EDIT menu parameter lists (continued)

Category	Instrument name	LOOP
Instrument Hit Instrument color: 14 	Brass Hit 1	×
	Brass Hit 2	
	Cluster	
	E.Guitar 1	
	E.Guitar 2	
	Hammond	
	Orchestra Hit	
	Piano Hit	
	PianoJazz Hit	
	Pulse	
	SlideOrgan	
	Strings Hit	

Category	Instrument name	LOOP
Audio File Instrument color: 23 	Audio file name (first 16 characters)	×

Parameters

■ Oscillator types other than Synth Basic and Audio File

Parameter 1	Parameter 2	Parameter 3
Pitch*	Reverse	–
–24.00–+24.00	Off, On	–

■ Synth Basic

OSC1

Parameter 1	Parameter 2	Parameter 3
OSC1 Type	OSC1 Pitch*	OSC1 Level
Saw, Square, Pulse, Sine, Triangle	–24.00–+24.00	0–100

OSC2

Parameter 1	Parameter 2	Parameter 3
OSC2 Type	OSC2 Pitch*	OSC2 Level
Saw, Square, Pulse, Sine, Triangle	–24.00–+24.00	0–100

OSC3

Parameter 1	Parameter 2	Parameter 3
OSC3 Type	OSC3 Pitch*	OSC3 Level
Saw, Square, Pulse, Sine, Triangle, Ring Src, FM Src, Sync Src	–24.00–+24.00	0–100

*When Ring Src, FM Src, or Sync Src is selected, OSC3 functions as a source to modulate OSC1 and OSC2.

■ Pulse Width

Pulse Width
1–99

Note: This can be set when the selected OSC Type is Pulse.

■ Audio File

Parameter 1	Parameter 2	Parameter 3
Pitch*	Reverse	Launch
–24.00 – +24.00	Off, On	One Shot, Toggle, Gate

*This parameter can be controlled by the Pitch Mod block.

■ Mod blocks (same for all Mod blocks)

Selection type

Selection knob selection
Off, LFO 1, LFO 2, Envelope, AfterTouch

Parameters

■ LFO 1, LFO 2

Parameter 1	Parameter 2	Parameter 3
Rate	Depth	Waveform
1–100, ♪ (Type 1)	–100 – +100	Saw, Square, Pulse, Sin, Tri, Random

Note: See Tempo sync parameters for details about ♪ setting values (→ P. 142).

■ Envelope

Parameter 1	Parameter 2	Parameter 3
Attack	Decay/Release	Sustain
0–100	0–100	0–100

Depth

Envelope Depth
–100 – +100

■ AfterTouch

Parameter 1	Parameter 2	Parameter 3
Depth	–	–
–100 – +100	–	–

■ Noise block

Selection type

Selection knob selection
Off, White, Pink

Parameters

Parameter 1	Parameter 2	Parameter 3
Level*	–	–
0–100	–	–

*This parameter can be controlled by the Level Mod block.

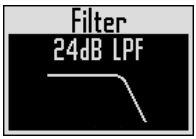
■ Insert effect block

Effects list

Type name	Parameter 1	Parameter 2	Parameter 3
BitCrush	Bit	SMPL*	Balance
	4–16	0–50	0–100
Distortion	Gain*	Tone	Level
	0–100	0–100	0–100
Chorus	Depth	Rate*	Mix
	0–100	1–50	0–100
Phaser	Rate*	Color	Mix
	1–50, ♪ (Type 1)	4STG, 8STG, inv 4, inv 8	0–100
Flanger	Depth	Rate*	Mix
	0–100	0–50, ♪ (Type 1)	0–100
Ring Modulator	Frequency*	Tone	Balance
	1–50	0–10	0–100
3Band EQ	Low	Mid	Hi
	–12 – +12	–12 – +12	–12 – +12
Talk Filter	Decay*	Type	Balance
	0–100	iA, UE, UA, oA	0–100
Sub Bass	Frequency	Mix	–
	30–250	0–100	–
Pumper	Depth	Rate	–
	0–100	♪ (Type 3)	–
Compressor	Sense	Attack	Tone
	0–10	Slow, Fast	0–10

*These parameters can be controlled by the Effect Mod block.

■ Filter block



Selection type

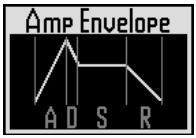
Selection knob selection
LPF [–12dB], LPF [–24dB], BPF [–12dB], BPF [–24dB], HPF [–12dB], HPF [–24dB], Peaking Filter, Off

Parameters

Parameter 1	Parameter 2	Parameter 3
Frequency*	Resonance	Level
20 Hz – 20000 Hz	0–100	0–100

*This parameter can be controlled by the Freq Mod block.

■ Amp envelope block

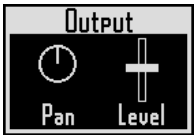


Parameters

Parameter 1	Parameter 2	Parameter 3
Attack	Decay/Release	Sustain
0–100	0–100	0–100

Note: The level can be controlled by the Amp Mod block.

■ Output block



Parameters

Parameter 1	Parameter 2	Parameter 3
Pan*	Level	–
L100 – Center – R100	0–100	–

*This parameter can be controlled by the Pan Mod block.

■ Send effect block

Parameters

Parameter 1	Parameter 2	Parameter 3
Delay	Reverb	–
0–100	0–100	–

Effects lists

■ Delay

Type name	Parameter 1	Parameter 2	Parameter 3
	Parameter name/setting value	Parameter name/setting value	Parameter name/setting value
Mono Delay	Time	Feedback	Mix
	1–2000, ♪ (Type 2)	0–100	0–100
Stereo Delay	Time	Feedback	Mix
	1–2000, ♪ (Type 2)	0–100	0–100
Reverse Delay	Time	Feedback	Mix
	10–2000, ♪ (Type 2)	0–100	0–100

■ Reverb

Type name	Parameter 1	Parameter 2	Parameter 3
	Parameter name/setting value	Parameter name/setting value	Parameter name/setting value
Hall, Room, Plate	Decay	Tone	Mix
	1–30	–12 – +6	0–100

Note: See Tempo sync parameters for details about ♪ setting values (→ P. 142).

■ Master effects

Category	Type name	Parameter 1	Parameter 2	Parameter 3
		Parameter name/setting value	Parameter name/setting value	Parameter name/setting value
Distortion	BitCrush	Bit	SMPL	Balance
		4–16	0–50	0–100
	Distortion	Gain	Tone	Level
		0–100	0–100	0–100
Modulation	Chorus	Depth	Rate	Mix
		0–100	1–50	0–100
	Phaser	Rate	Color	Mix
		1–50, ♪ (Type 1)	4STG, 8STG, inv 4, inv 8	0–100
	Flanger	Depth	Rate	Mix
		0–100	0–50, ♪ (Type 1)	0–100
	Ring Modulator	Frequency	Tone	Balance
		1–50	0–10	0–100
	Wah	Frequency	–	–
		1–50	–	–
	AutoPan	Rate	Width	Clip
		0–50, ♪ (Type 1)	0–10	0–10
Filter	Isolator	Low	Mid	Hi
		0–100	0–100	0–100
	3Band EQ	Low	Mid	Hi
		–12 – +12	–12 – +12	–12 – +12
Delay	Reverse Delay	Time	Feedback	Hi Damp
		10–2000, ♪ (Type 2)	0–100	0–10
Dynamics	Limiter	Threshold	Ratio	Release
		0 – –24	1–54, ∞	0–10
	Compressor	Threshold	Ratio	Attack
		0 – –24	1–26	0–10
Time manipulation	Glitter	Type	Complex	Mix
		1–8	0–100	0–100

· Only one master effect can be used at a time.
· See Tempo sync parameters for details about ♪ setting values.

■ Tempo sync parameters

When ♪ appears for a parameter or effect, it is a value that can be synchronized to the tempo.

Type 1	Type 2	Type 3
32nd note	16th note	32nd note
16th note	Quarter note triplet	16th note
Quarter note triplet	Dotted 16th note	Quarter note triplet
Dotted 16th note	8th note	Dotted 16th note
8th note	Half note triplet	8th note
Half note triplet	Dotted 8th note	Half note triplet
Dotted 8th note	Quarter note	Dotted 8th note
Quarter note	Dotted quarter note	Quarter note
Dotted quarter note	Half note	Dotted quarter note
Half note	3 quarter notes	Half note
3 quarter notes	4 quarter notes	3 quarter notes
4 quarter notes	…	4 quarter notes
…	8 quarter notes	
19 quarter notes		
20 quarter notes		

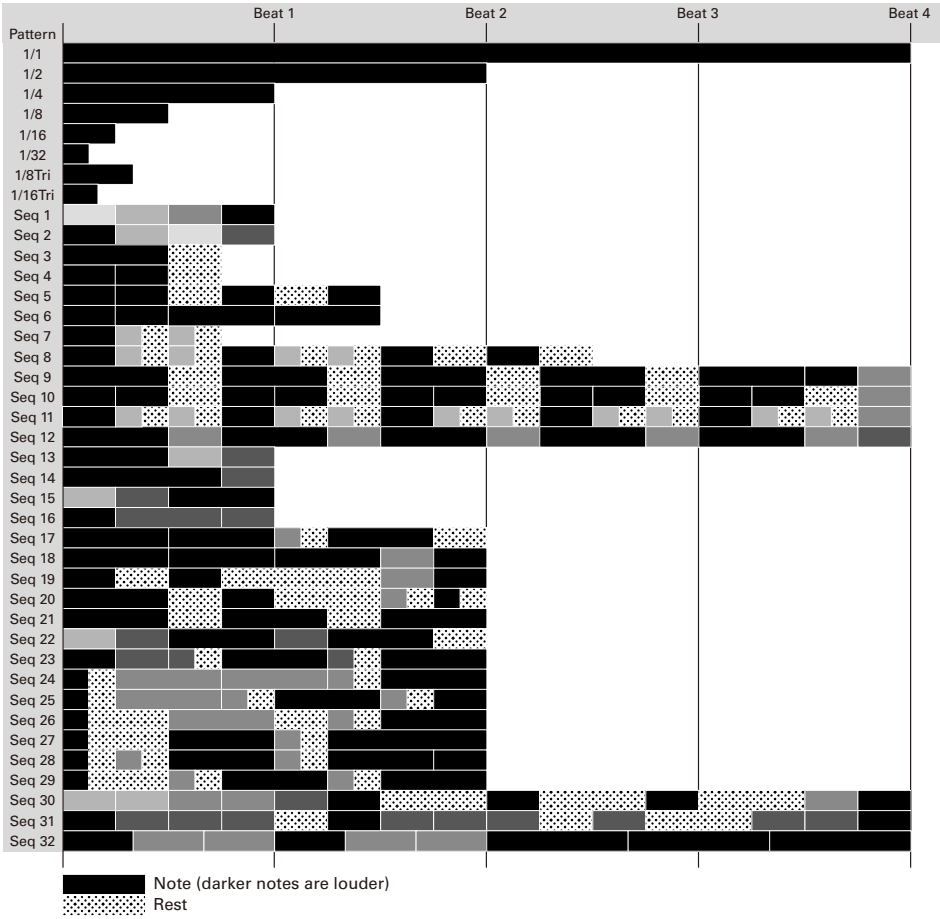
Arpeggiator parameter lists

■ Number of note

Number of note	Pad note	+5th	+1 Oct	+1 Oct +5th	+2 Oct	+2 Oct +5th	+3 Oct	+3 Oct +5th
1	•							
2 Up 2 Down 2 UpDown 2 Random	•	•						
3 Up 3 Down 3 UpDown 3 Random	•	•	•					
4 Up 4 Down 4 UpDown 4 Random	•	•	•	•				
5 Up 5 Down 5 UpDown 5 Random	•	•	•	•	•			
6 Up 6 Down 6 UpDown 6 Random	•	•	•	•	•	•		
7 Up 7 Down 7 UpDown 7 Random	•	•	•	•	•	•	•	
8 Up 8 Down 8 UpDown 8 Random	•	•	•	•	•	•	•	•

Arpeggiator parameter lists (continued)

■ Pattern

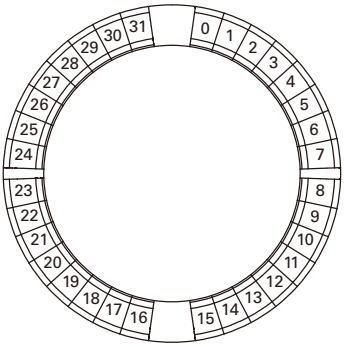


Ring Controller MIDI messages

■ Ring Controller key numbers

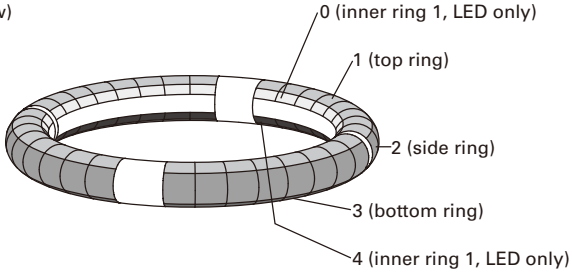
The pads on the Ring Controller are assigned different key numbers. These key numbers are expressed as a combination of Column and Row.

Ring direction (column)

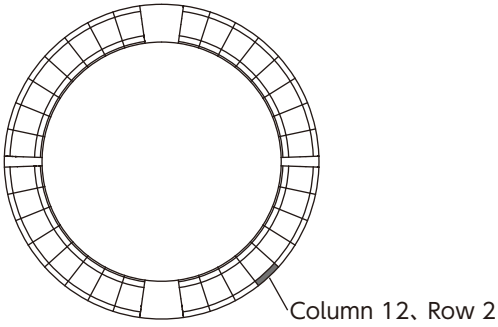


When viewed from top (side with ARQ logo)

Circumference direction (row)



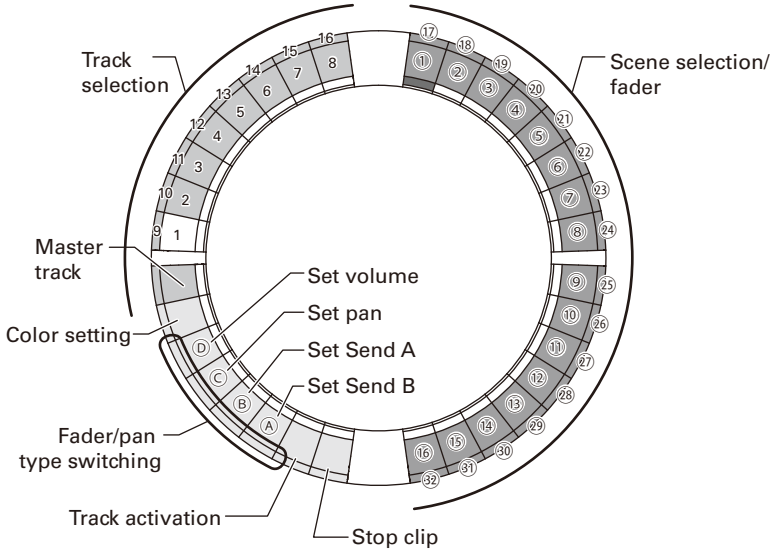
Example: 12x2



■ Session layout

This layout is designed for use with the Session View of Ableton Live.

You can use the Ring Controller to play clips and scenes and to control volume, panning and send effects, for example.



Track selection

You can select tracks 1–16 and the master track. Selected tracks light white.

Setting colors

You can set the Ring Controller LED colors.

1. Press a side ring pad to change the top ring LED color.
2. While pressing a top ring pad, press a pad for a track, a scene or volume, for example, to change its color.

Setting volume, pan and sends A and B.

You can set the volume, panning and send effects for the selected track. (Ⓐ–Ⓓ in the illustration.)

Switching between fader and pan types

Operation of the right side of the Ring Controller can be set independently to fader type or pan type for setting volume, pan and sends A and B.

Fader type lights green and pan type lights orange.

Track activation setting

You can switch the selected track between being active and muted. When active, the LED is bright. When muted, the LED is dim.

Stopping clips

You can stop playback of the clip on the selected track.

Scene selection and fader/pan

While pressing a pad to set volume, pan or send A or B, these pads function together as a fader or pan control. At all other times, they select scene numbers. (①–㉜ in the illustration.)

HINT
The functions above are a setting example.

Ring Controller MIDI messages (continued)

	Track Select/Stop/Active		Clip Launch		Fader/Pan Control	
Track Number	MIDI Channel	Note Number (Select, Stop, Active)	MIDI Channel	Note Number (①–㉜)	MIDI Channel	Control Change Number (Ⓐ, Ⓑ, Ⓒ, Ⓓ)
1	12	0, 17, 18	16	0–31	16	3, 9, 14, 15
2	12	1, 19, 20	16	32–63	16	20, 27, 28, 29
3	12	2, 21, 22	16	64–95	16	30, 31, 35, 41
4	12	3, 23, 24	16	96–127	16	46, 47, 52, 53
5	12	4, 25, 26	15	0–31	15	3, 9, 14, 15
6	12	5, 27, 28	15	32–63	15	20, 27, 28, 29
7	12	6, 29, 30	15	64–95	15	30, 31, 35, 41
8	12	7, 31, 32	15	96–127	15	46, 47, 52, 53
9	12	8, 33, 34	14	0–31	14	3, 9, 14, 15
10	12	9, 35, 36	14	32–63	14	20, 27, 28, 29
11	12	10, 37, 38	14	64–95	14	30, 31, 35, 41
12	12	11, 39, 40	14	96–127	14	46, 47, 52, 53
13	12	12, 41, 42	13	0–31	13	3, 9, 14, 15
14	12	13, 43, 44	13	32–63	13	20, 27, 28, 29
15	12	14, 45, 46	13	64–95	13	30, 31, 35, 41
16	12	15, 47, 48	13	96–127	13	46, 47, 52, 53
master	12	16, 49, 50	12	96–127	12	3, 9, 14, 15

Ring Controller MIDI messages (continued)

■ NOTE layout

This layout arranges notes on the pads like piano keys.

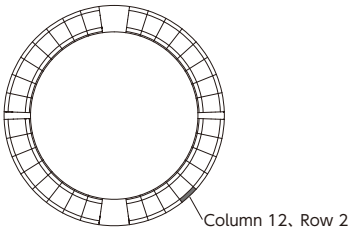
You can use ▼▲ to change the octave.

			Row						
			0	1/2/3 (common)					4
			▼ × 2	▼ × 1	At startup	▲ × 1	▲ × 2	▲ × 3	
Column	0		20	32	44	56	68	80	
	1		21	33	45	57	69	81	
	2		22	34	46	58	70	82	
	3		23	35	47	59	71	83	
	4		24	36	48	60	72	84	
	5		25	37	49	61	73	85	
	6		26	38	50	62	74	86	
	7		27	39	51	63	75	87	
	8		28	40	52	64	76	88	
	9		29	41	53	65	77	89	
	10		30	42	54	66	78	90	
	11		31	43	55	67	79	91	
	12		32	44	56	68	80	92	
	13		33	45	57	69	81	93	
	14		34	46	58	70	82	94	
	15		35	47	59	71	83	95	
	16		36	48	60	72	84	96	
	17		37	49	61	73	85	97	
	18		38	50	62	74	86	98	
	19		39	51	63	75	87	99	
	20		40	52	64	76	88	100	
	21		41	53	65	77	89	101	
	22		42	54	66	78	90	102	
	23		43	55	67	79	91	103	
	24		44	56	68	80	92	104	
	25		45	57	69	81	93	105	
	26		46	58	70	82	94	106	
	27		47	59	71	83	95	107	
	28		48	60	72	84	96	108	
	29		49	61	73	85	97	109	
	30		50	62	74	86	98	110	
	31		51	63	75	87	99	111	

Example: Pad at Column 12, Row 2 (when MIDI channel 1 selected)

The note number is 56 (38h) and the MIDI channel is 1 (00h).

- When this pad is tapped, "90h" (Note on/MIDI ch), "38h" (Note Number) and the velocity are transmitted. The pad also lights yellow when it is tapped.
- This pad will also light yellow if "90h" (Note on/MIDI ch), "38h" (Note Number) and a velocity are transmitted to the Ring Controller.



Ring Controller MIDI messages (continued)

■ DRUM layout

This layout is designed for use with drum racks in DAW software. The pads on 1/4 of each ring correspond to one drum rack section.

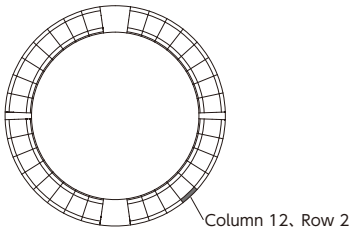
You can use ⇕ to move groups of note numbers in the column direction.

		Row								
		0	1/3 (common)	2	1/3 (common)	2	1/3 (common)	2	1/3 (common)	2	4
			⇕ × 2		⇕ × 1		At startup		▼ × 1		
Column	0		52	56	36	40	20	24	4	8	
	1		53	57	37	41	21	25	5	9	
	2		54	58	38	42	22	26	6	10	
	3		55	59	39	43	23	27	7	11	
	4		60	64	44	48	28	32	12	16	
	5		61	65	45	49	29	33	13	17	
	6		62	66	46	50	30	34	14	18	
	7		63	67	47	51	31	35	15	19	
	8		68	72	52	56	36	40	20	24	
	9		69	73	53	57	37	41	21	25	
	10		70	74	54	58	38	42	22	26	
	11		71	75	55	59	39	43	23	27	
	12		76	80	60	64	44	48	28	32	
	13		77	81	61	65	45	49	29	33	
	14		78	82	62	66	46	50	30	34	
	15		79	83	63	67	47	51	31	35	
	16		84	88	68	72	52	56	36	40	
	17		85	89	69	73	53	57	37	41	
	18		86	90	70	74	54	58	38	42	
	19		87	91	71	75	55	59	39	43	
	20		92	96	76	80	60	64	44	48	
	21		93	97	77	81	61	65	45	49	
	22		94	98	78	82	62	66	46	50	
	23		95	99	79	83	63	67	47	51	
	24		100	104	84	88	68	72	52	56	
	25		101	105	85	89	69	73	53	57	
	26		102	106	86	90	70	74	54	58	
	27		103	107	87	91	71	75	55	59	
	28		108	112	92	96	76	80	60	64	
	29		109	113	93	97	77	81	61	65	
	30		110	114	94	98	78	82	62	66	
	31		111	115	95	99	79	83	63	67	

Example: Pad at Column 12, Row 2 (when MIDI channel 1 selected)

The note number is 64 (40h) and the MIDI channel is 1 (00h).

- When this pad is tapped, "90h" (Note on/MIDI ch), "40h" (Note Number) and the velocity are transmitted. The pad also lights yellow when it is tapped.
- This pad will also light yellow if "90h" (Note on/MIDI ch), "40h" (Note Number) and a velocity are transmitted to the Ring Controller.



■ FADER layout

This lets you use the Ring Controller as faders. The pads on half of each ring comprise a single fader. The transmitted MIDI messages are Control Change (number and specified value). You can change the amount of time until the specified value is reached according to the velocity when pressing the pads.

Control Change number

		Row				
		0	1	2	3	4
Column	0		24	25	26	
	1					
	2					
	3					
	4					
	5					
	6					
	7					
	8					
	9					
	10					
	11					
	12					
	13					
	14					
	15					
	16		23	22	21	
	17					
	18					
	19					
	20					
	21					
	22					
	23					
	24					
	25					
	26					
	27					
	28					
	29					
	30					
	31					

Value

		Row		
		0	1–3 (common)	4
Column	0		127	
	1		123	
	2		114	
	3		105	
	4		96	
	5		87	
	6		78	
	7		69	
	8		59	
	9		50	
	10		41	
	11		32	
	12		23	
	13		14	
	14		5	
	15		0	
	16		0	
	17		5	
	18		14	
	19		23	
	20		32	
	21		41	
	22		50	
	23		59	
	24		69	
	25		78	
	26		87	
	27		96	
	28		105	
	29		114	
	30		123	
	31		127	

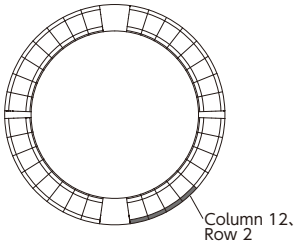
HINT

- When the velocity is 127, it takes 20 milliseconds for the specified value to be reached.
- When the velocity is 1, it takes 2 seconds for the specified value to be reached.

Example: Pad at Column 12, Row 2 (when MIDI channels 1 and 2 are selected)

The Control Change number is 25 (19h) and the MIDI channel is 1 (00h).

- When this pad is tapped (gently) with a velocity of "b0h" (Control Change/MIDI ch), "19h" (Control Change Number) and the "value" start to be transmitted. For two seconds, this message will be continuously transmitted as the value changes. Transmission will stop when the value reaches 23. The pads at Row 2, Column 12–15 will also light pink.
- The Row 2, Column 12–15 pads will also light pink if "b0h" (Control Change/MIDI ch), "19h" (Control Change Number) and "17h" are transmitted to the Ring Controller.



Ring Controller MIDI messages (continued)

■ PROGRAMMER mode

This mode allows you to program the LED lighting of each pad as you like.

		Row				
		0	1	2	3	4
Column	0	0	0	32	64	32
	1	1	1	33	65	33
	2	2	2	34	66	34
	3	3	3	35	67	35
	4	4	4	36	68	36
	5	5	5	37	69	37
	6	6	6	38	70	38
	7	7	7	39	71	39
	8	8	8	40	72	40
	9	9	9	41	73	41
	10	10	10	42	74	42
	11	11	11	43	75	43
	12	12	12	44	76	44
	13	13	13	45	77	45
	14	14	14	46	78	46
	15	15	15	47	79	47
	16	16	16	48	80	48
	17	17	17	49	81	49
	18	18	18	50	82	50
	19	19	19	51	83	51
	20	20	20	52	84	52
	21	21	21	53	85	53
	22	22	22	54	86	54
	23	23	23	55	87	55
	24	24	24	56	88	56
	25	25	25	57	89	57
	26	26	26	58	90	58
	27	27	27	59	91	59
	28	28	28	60	92	60
	29	29	29	61	93	61
	30	30	30	62	94	62
	31	31	31	63	95	63
		2	1	1	1	2
		MIDI Channel				

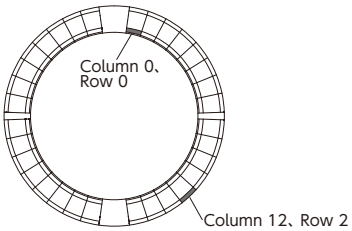
Example: Pad at Column 12, Row 2 (when MIDI channels 1 and 2 are selected)

The note number is 44 (2ch) and the MIDI channel is 1 (00h).

- When this pad is tapped, "90h" (Note on/MIDI ch), "2ch" (Note Number) and the velocity are transmitted.
- This pad's LED will also light in the color corresponding to the velocity if "90h" (Note on/MIDI ch), "2ch" (Note Number) and a velocity are transmitted to the Ring Controller.

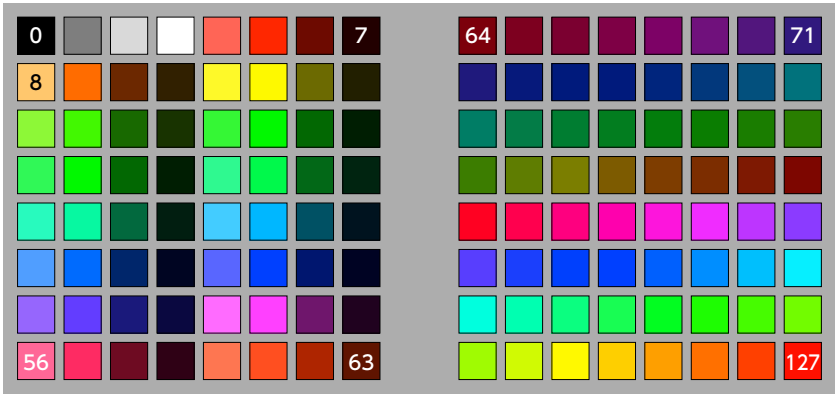
The LEDs of the top and bottom inner rings respond to MIDI channel 2.

- The LED of the pad at Column 0, Row 0 will also light in the color corresponding to the velocity if "91h" (Note on/MIDI ch), "00h" (Note Number) and a velocity are transmitted to the Ring Controller.

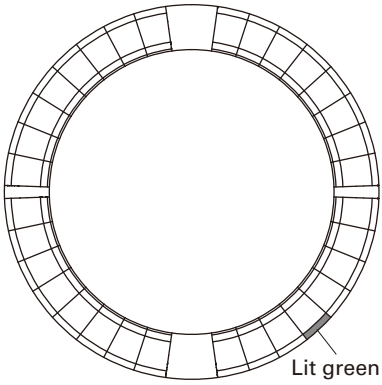


■ LED color designation

The pad LED colors can be changed according to transmitted velocity values.



Example: In PROGRAMMER mode if you send "90h" (note on/MIDI channel), "2ch" (note number) and "88"(velocity) to the Ring Controller, the LED shown in the illustration will light green (color number 88).



■ LED control

MIDI messages can be used to control the Ring Controller LEDs.

· Palette mode: Select colors from the color palette.

· RGB mode: Select colors by specifying R (Red 0–127), G (Green 0–127) and B (Blue 0–127) values.

· To turn an LED off, send a velocity of 0 or a note off message.

Lighting an LED at a specific position (key number designation, pallet mode)

Sys-Ex – F0h 52h <n> 6Fh 62h 0Ah <row> <column> <color> F7h

n:	Sys-Ex MIDI channel
row:	Row number (0-4)
column:	Column number (0-31)
color:	Color palette number (0-127)

Lighting an LED at a specific position (key number designation, RGB mode)

Sys-Ex – F0h 52h <n> 6Fh 62h 0Bh <row> <column> <Red> <Green> <Blue> F7h

n:	Sys-Ex MIDI channel
row:	Row number (0-4)
column:	Column number (0-31)

Red, Green, Blue: 0-127

Lighting pads at the same position on each ring (pallet mode)

Sys-Ex – F0h 52h <n> 6Fh 62h 0Ch <column> <color> F7h

n:	Sys-Ex MIDI channel
column:	Column number (0-31)
color:	Color palette number (0-127)

Lighting all LEDs on one ring (pallet mode)

Sys-Ex – F0h 52h <n> 6Fh 62h 0Dh <row> <color> F7h

n:	Sys-Ex MIDI channel
row:	Row number (0-4)
color:	Color palette number (0-127)

Lighting all LEDs (pallet mode)

Sys-Ex – F0h 52h <n> 6Fh 62h 0Eh <color> F7h

n:	Sys-Ex MIDI channel
color:	Color palette number (0-127)

Ring Controller MIDI messages (continued)

■ Function buttons

Control changes are assigned to the function buttons.

Button	Number
UP	68h
DOWN	69h
DELAY	6ah
FILTER	6bh
STOP	6dh
PLAY	6eh
REC	6fh
REVERB	70h
MASTER FX	71h

- The DELAY, FILTER, STOP, PLAY, REC and REVERB buttons on the Ring Controller do not have special functions assigned to them. You can use these buttons to control DAW software.
- If a control change message is received from DAW software, the LED of the corresponding button will light.

MIDI implementation charts

■ Base Station

[Aero RhythmTrak]
Model: AR-96 Base Station — Date: 28 March 2017
MIDI Implementation Chart — Version: 2.00

Function...		Transmitted	Recognized	Remarks
Basic	Default	1 - 16 *1 *2	1, 16	
Channel	Changed	1 - 16 *1 *2	1, 16	
Mode	Default	x	x	
	Messages	x	x	
	Altered	**********		
Note Number		0 - 127 *1 *2	0, 108	
	True voice	**********	0, 108	
Velocity	Note ON	o *1 *2	o	
	Note OFF	o *1 *2	o	
After Touch	Key's	o *2	o	
	Ch's	o *2	x	
Pitch Bend		x	x	
Control Change	0 - 127	o *2	x	
Prog Change		o *2	x	
	True#	0, 127		
System Exclusive		x	x	
System Common	Song Pos	x	x	
	Song Sel	x	x	
	Tune	x	x	
System Realtime	Clock	o *3	o *4	
	Command	o *3	o *4	
Aux Messages	Local ON/OFF	o *2	x	
	All Notes OFF	o *2	x	
	Active Sense	x	x	
	Reset	x	x	
Notes		*1 Transmitted by Internal Note. *2 Numbers via USB MIDI Output route can be changed in "USB MIDI Output Setting". *3 Enabled when Clock Mode is "Internal". *4 Enabled when Clock Mode is "External".		

Mode 1: OMNI ON, POLY — Mode 2: OMNI ON, MONO — o: Yes
Mode 3: OMNI OFF, POLY — Mode 4: OMNI OFF, MONO — x: No

MIDI implementation charts (continued)

■ Ring Controller

[Aero RhythmTrak] Date: 9 June 2016
Model: AR-96 Ring Controller MIDI Implementation Chart Version:1.00

Function...		Transmitted	Recognized	Remarks
Basic Channel	Default Changed	1, 2 1-16	1, 2 1-16	
Mode	Default Messages Altered	x x **********	x x x	
Note Number	True voice	0-127 **********	0-127 **********	
Velocity	Note ON Note OFF	o 9n, V=1-127 o 8n, V=0	o 9n, V=1-127 o 8n, V=0	
After Touch	Key's Ch's	o an, V=1-127 o dn, V=1-127	x x	
Pitch Bend		x	x	
Control Change		o 85, 86 102, 113	o x 102, 113	 Accelerometer Key LED
Prog Change	True #	x **********	x x	
System Exclusive		o	o	
System Common	Song Pos Song Sel Tune	x x x	x x x	
System Real Time	Clock Commands	x x	x x	
Aux Messages	Local ON/OFF All Notes OFF Active Sense Reset	x x x x	x x x x	
Notes				

Mode 1: OMNI ON, POLY Mode 2: OMNI ON, MONO o: Yes
Mode 3: OMNI OFF, POLY Mode 4: OMNI OFF, MONO x: No

ZOOM CORPORATION
4-4-3 Kandasurugadai, Chiyoda-ku, Tokyo 101-0062 Japan
http://www.zoom.co.jp

Z2I-3027-01