ZOOM®

ARQ
Aero Rhythm Trak
AR-96
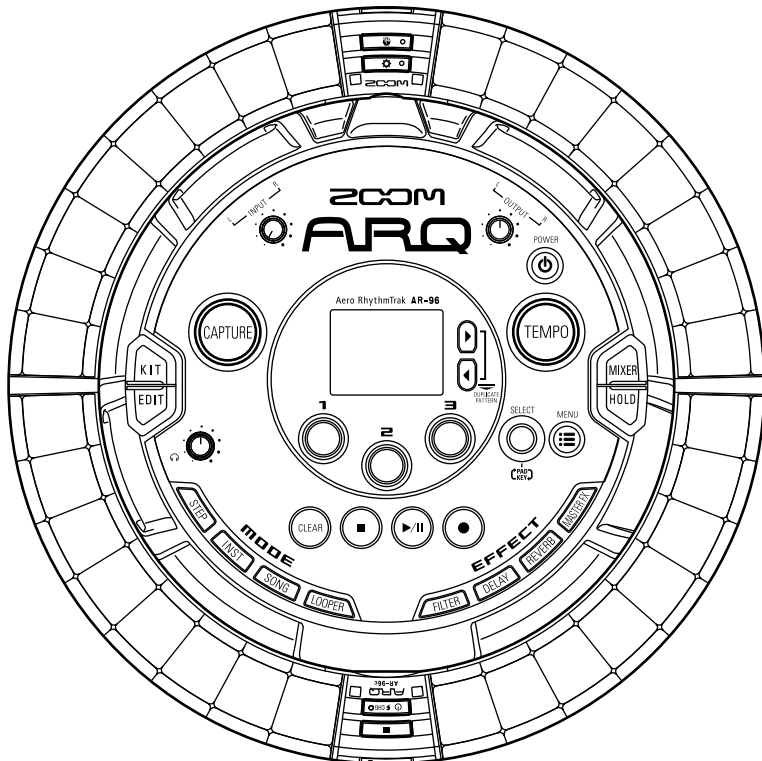
Contents

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

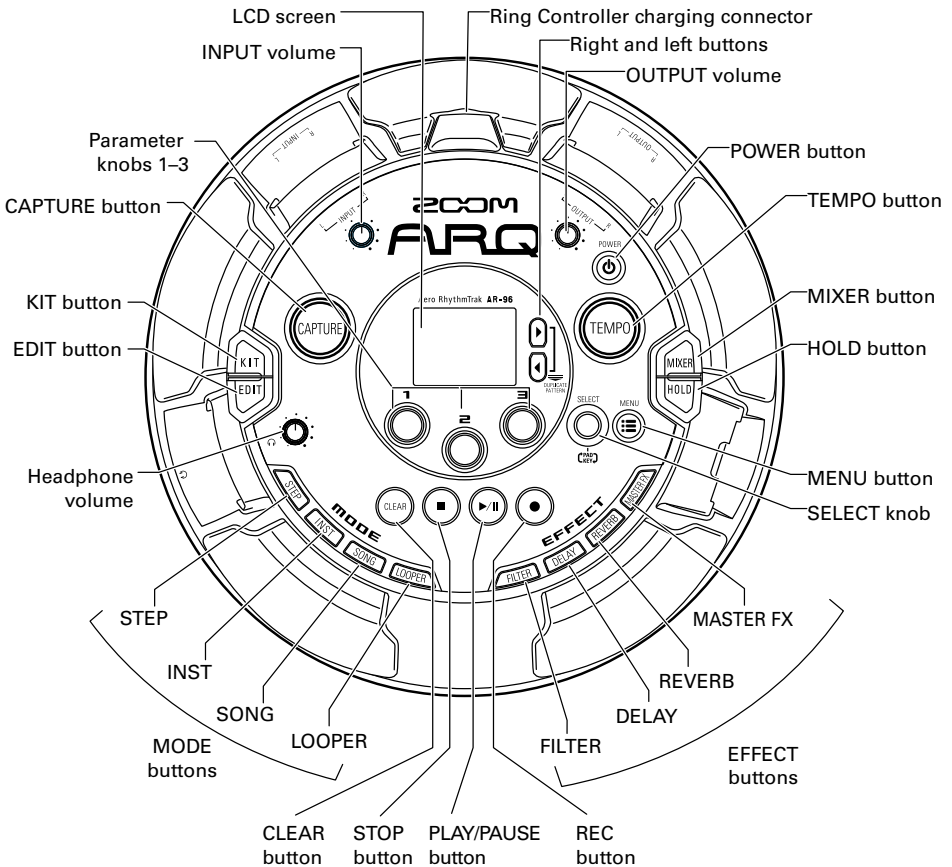One pattern can use up to 33 instruments. This collection of instruments is called a "kit".

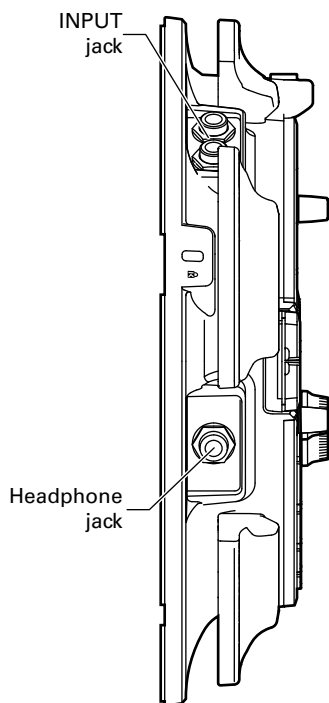A kit created in one pattern can be copied to another pattern.
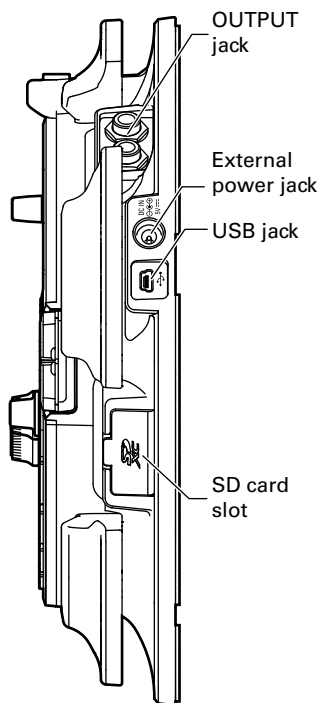
Overview

Names of parts

Base Station

■ Top

LCD screen

INPUT volume

Ring Controller charging connector

Right and left buttons

OUTPUT volume

Parameter knobs 1–3

POWER button

CAPTURE button

TEMPO button

KIT button

MIXER button

EDIT button

HOLD button

Headphone volume

MENU button

SELECT knob

STEP

MASTER FX

INST

REVERB

SONG

DELAY

MODE buttons

LOOPER

FILTER

EFFECT buttons

CLEAR button

STOP button

PLAY/PAUSE button

REC button

Names of parts (continued)

■ Left side

INPUT
jack

Headphone
jack

■ Right side

OUTPUT
jack

External
power jack

USB jack

SD card
slot

5

Names of parts (continued)

Ring Controller

(Side)
△ button
▽ button

SETUP button

GRIP button

Pads

Charging connector

(Bottom)
DELAY button
FILTER button

○ DELAY
○ FILTER

(Bottom)
MASTER FX button
REVERB button

ARG
AR-96C

○ ⚡CHG ⊙

POWER button

STOP button

(Side)
PLAY/PAUSE button
REC button

○ ⏸◀
○ ●
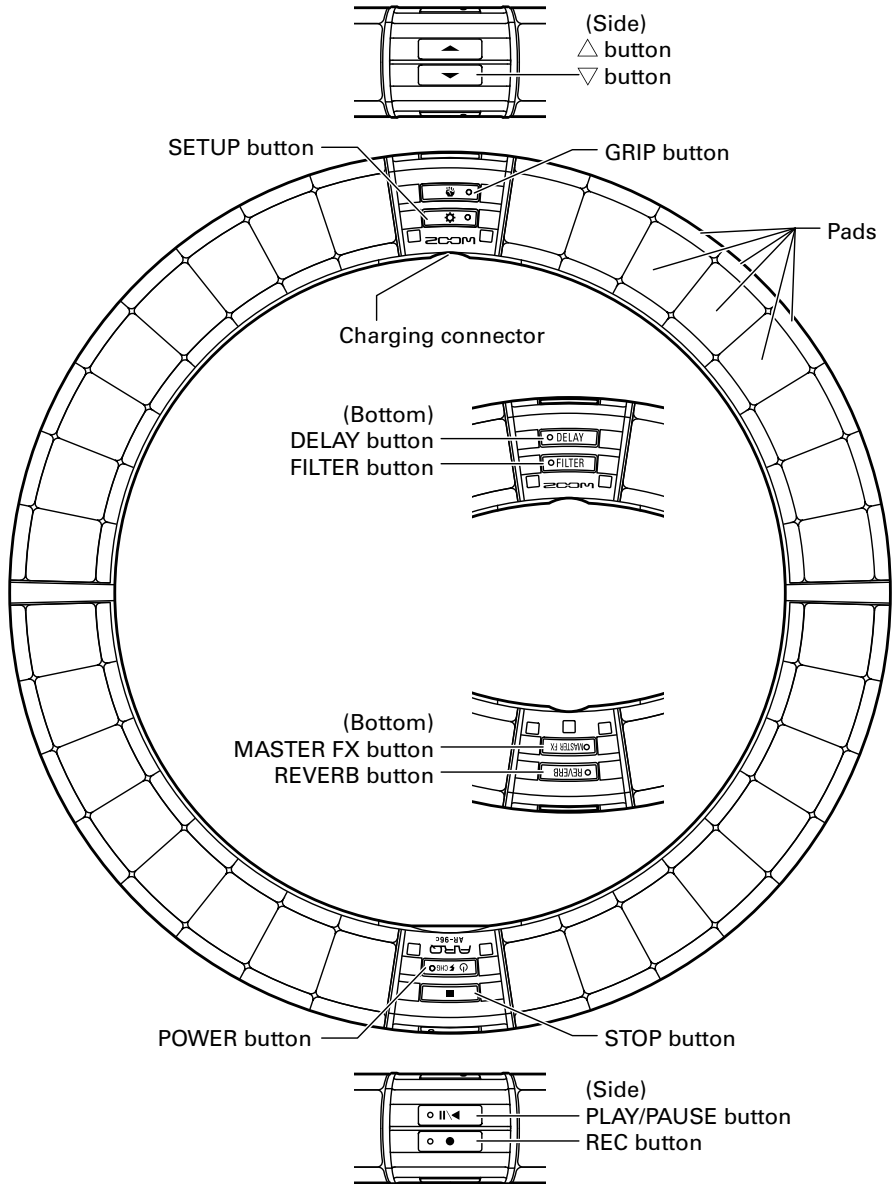
HINT

- 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 ⏻⚡CHG⊙ on the Ring Controller to show the remaining battery charge on the Base Station screen.
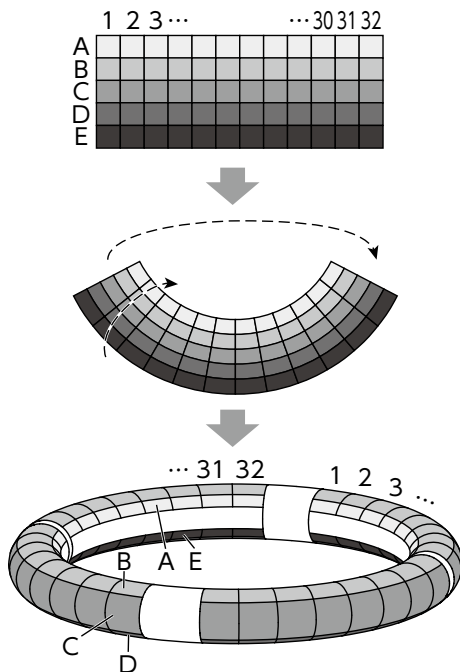
Using the **AR-96**

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

Ring Controller
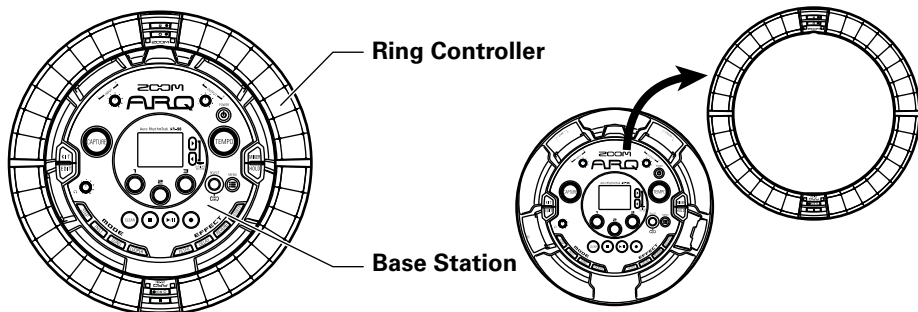
Base Station

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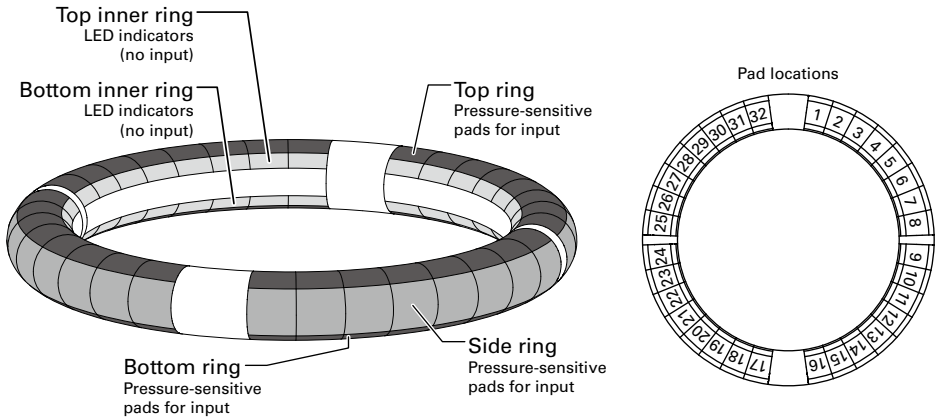
The Ring Controller includes an LED matrix with 5 rows of 32 blocks (3 rows with pads and 2 rows for display only). Placing a two-dimensional matrix on the surface of a three-dimensional hoop enables confirmation and operation of all steps in a compact form.

7

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.

Top inner ring
LED indicators
(no input)

Bottom inner ring
LED indicators
(no input)

Top ring
Pressure-sensitive
pads for input

Pad locations

Bottom ring
Pressure-sensitive
pads for input

Side ring
Pressure-sensitive
pads for input

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.

Step
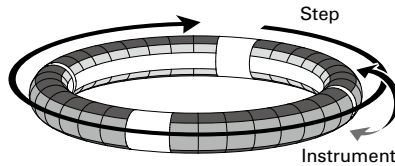
Instrument

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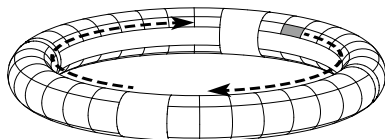
Instrument

Ring parameters
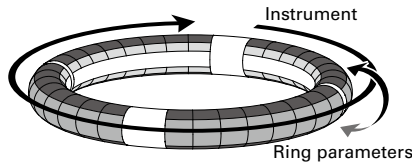
HINT

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


Playback position

During playback of a pattern or song, for example, the LEDs of the top and bottom inner rings light green at the step currently playing.
In addition, in INST mode and during other real-time input, the LEDs light red.

Guideline

In STEP mode, the LEDs of the top and bottom inner rings can be set to light for each beat to assist in step recording.
See the Operation Manual for setting instructions.
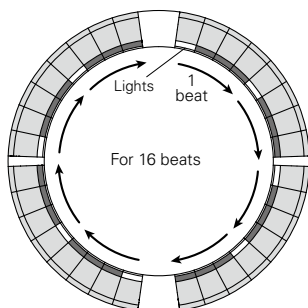
Grip area

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. The grip area can be set automatically by holding the Ring Controller after pressing ⬛.
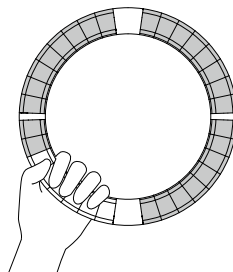
Turning the Ring Controller over

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.
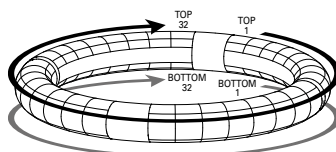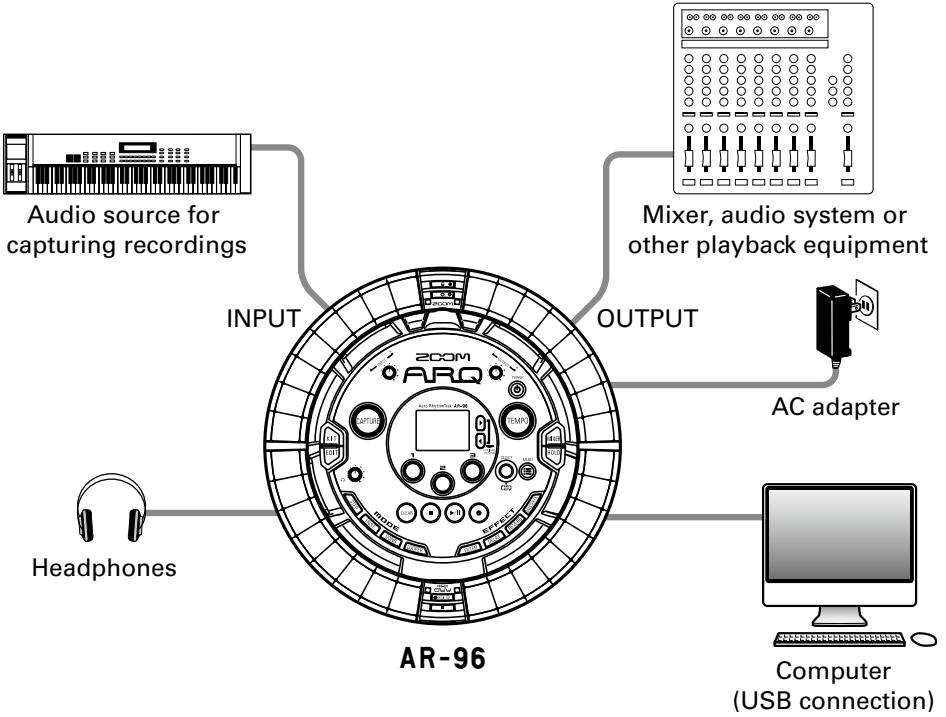

Use the same way even when turned over

NOTE

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

9

Connecting other devices

Audio source for
capturing recordings

Mixer, audio system or
other playback equipment

INPUT

OUTPUT

AC adapter

Headphones

AR-96

Computer
(USB connection)

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.

```
        mODE
STEP  INST  SONG  LOOPER
```
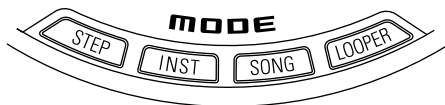
The two modes for creating patterns are STEP and INST.

· 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 loop sequences and create songs.

Pattern creation

Create and save patterns

STEP mode

Create patterns by inputting one step at a time

INST mode

Record patterns by playing in real time

SONG mode

Combine patterns that have already been made to create songs

LOOPER mode

Create songs using loops from other songs, captured external input and PCM audio files
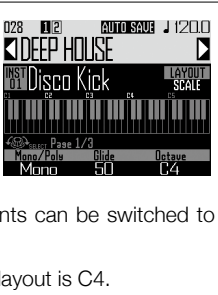
Song creation

Combine patterns and other sources to 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.

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.
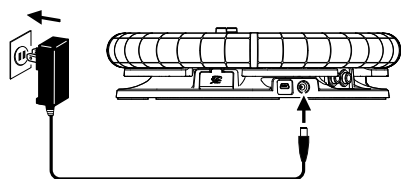
(Using chromatic scale)

(Same notes assigned to side and bottom rings)
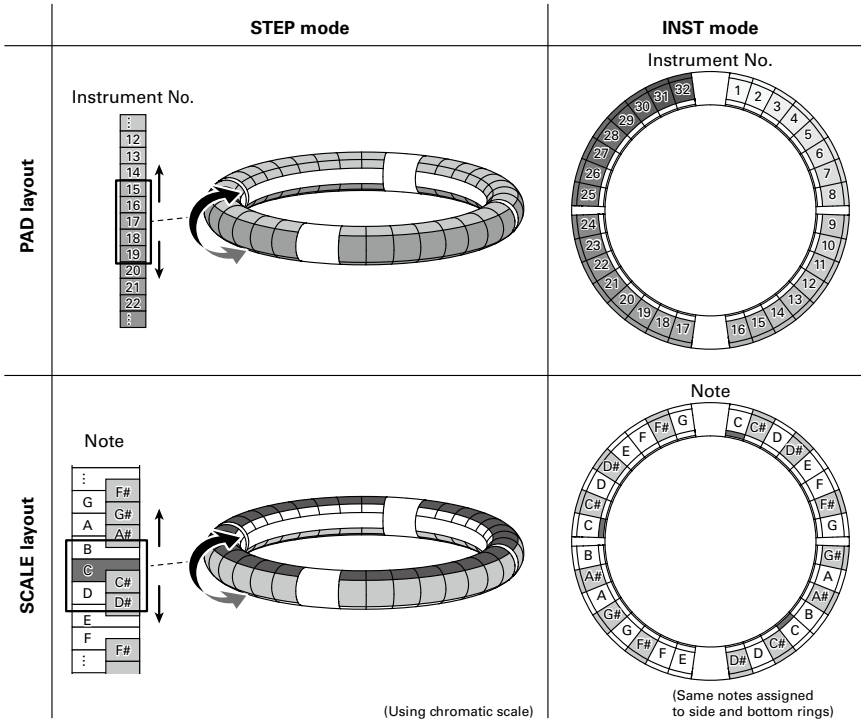
Preparations

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.
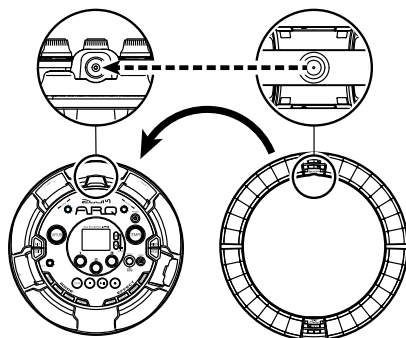
Align their charging connectors before placement.

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.

14

Turning the power on and off (continued)

■ 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).

■ Turn 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.
• Even if the power is OFF, the Ring Controller will automatically enter sleep mode when charging starts.

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.
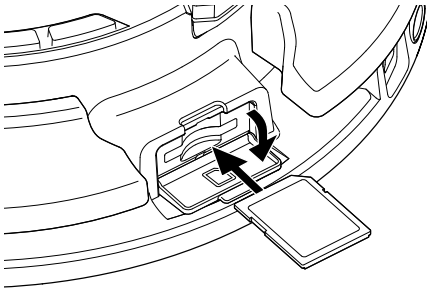
NOTE

• If no SD card is loaded in the **AR-96**, cap-
tured 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. See the Operation Manual for for-
matting procedures.

16

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).

PAD layout

Selected instrument

Instrument Numbers

SCALE layout

Notes

SELECT

Change layout

The same notes are assigned to the side and bottom rings

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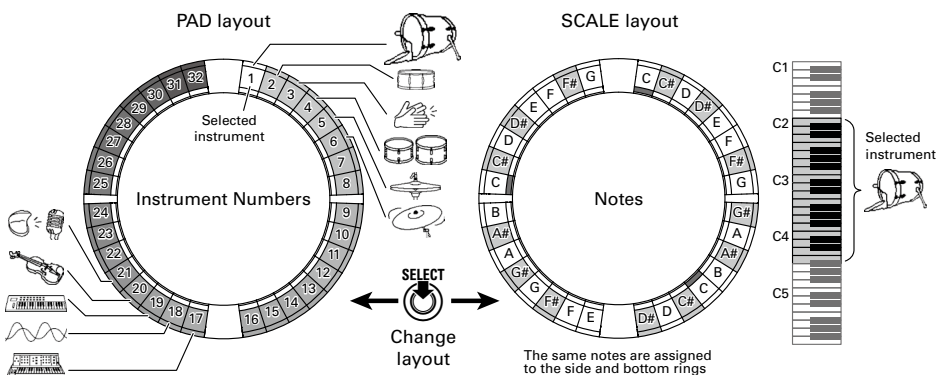
HINT
In PAD layout, the note (pitch) C4 is output when a pad is played.

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

Same instrument — Different parameters

17
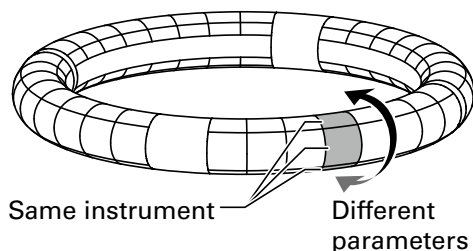
INST mode overview (continued)

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.

Real-time input (loop playback)
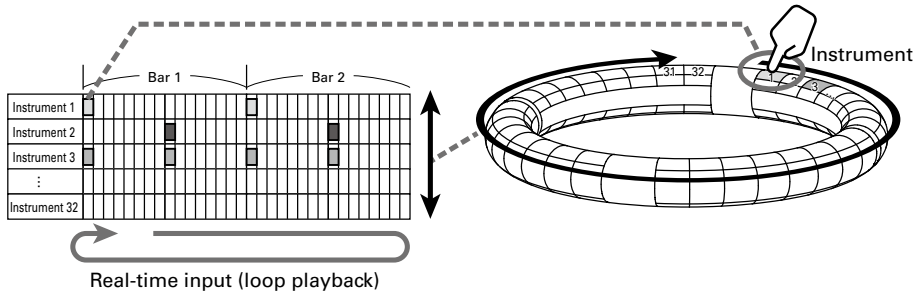
Pattern creation in SCALE layout

After starting real-time input, tap pads for notes to input them.
Scales can be used to input every instrument numbered 1–32.

Real-time input (loop playback)
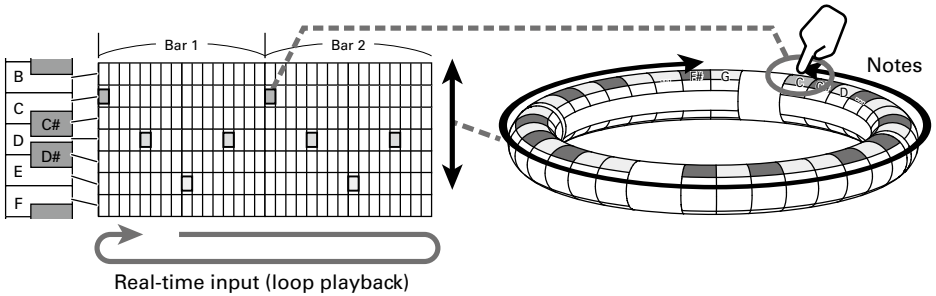
Operation summary

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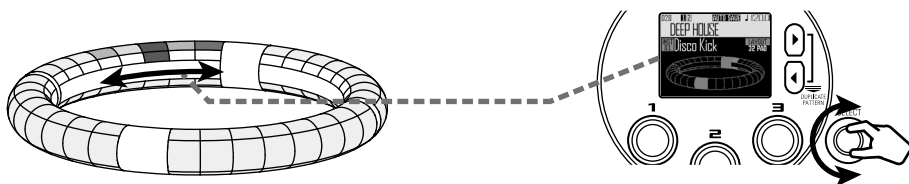
To use SCALE layout to input the selected instrument, press 🔘 to change the layout.

You can also use 🔘 to check the instruments.

Start input

Press ● to enter standby, and press ▶❚❚ to start real-time input.
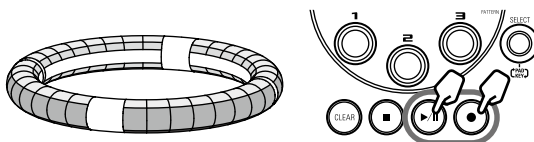
Operation summary (continued)

Start real-time input

In PAD layout

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

Input in real time

Bar 1   Bar 2

Instrument 1
Instrument 2
Instrument 3
⋮
Instrument 32

Instrument
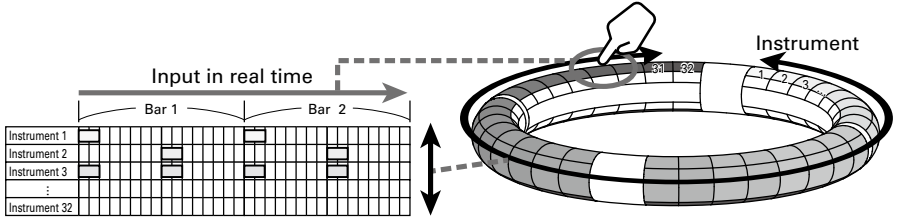
In SCALE layout

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

Bar 1   Bar 2

B
C
C#
D
D#
E
F

Notes

Realtime input (loop playback)
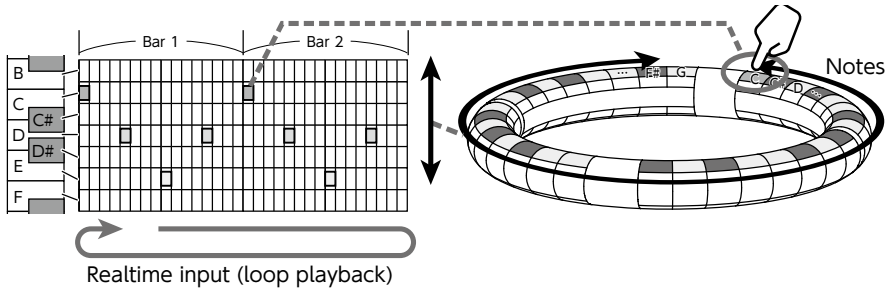
End input

Press ⬛ to end real-time input.
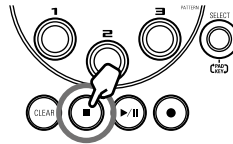
STEP mode

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.
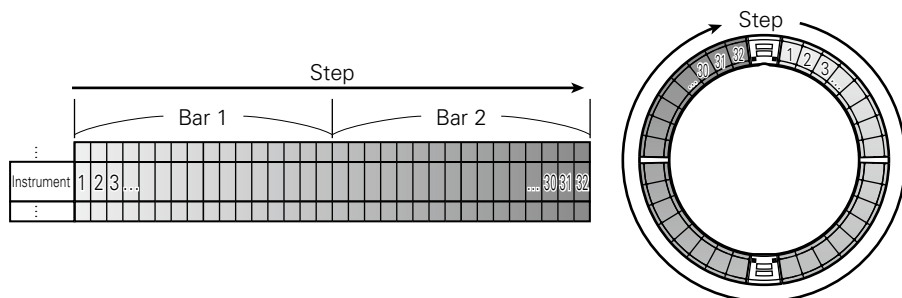
Since the Ring Controller rings are divided into 32 steps, you can input up to two musical bars (①) at a time (when the smallest step is a 16th note).
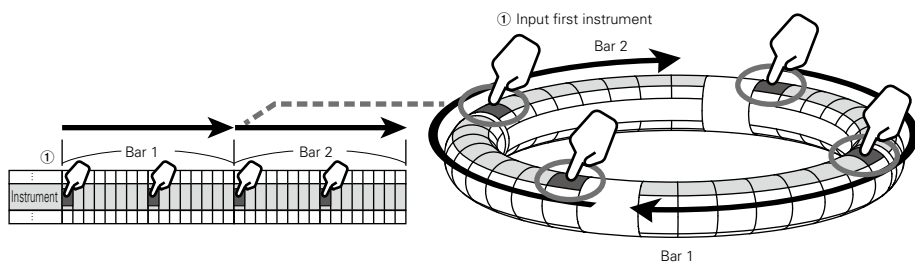
If the pattern is longer than two bars, the Ring Controller display will switch every two bars (in cases when the smallest step is a 16th note).

Ring Controller appearance
while playing bars 1 and 2

Ring Controller appearance
while playing bars 3 and 4
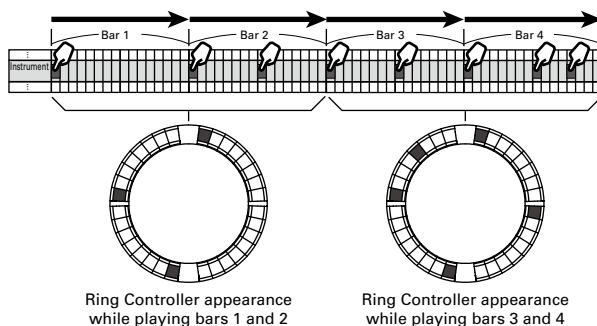
STEP mode overview (continued)

In PAD layout

The 5 rings (3 when set to Guideline display) on the Ring Controller each show a different instrument. You can use ⓞ▌ 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
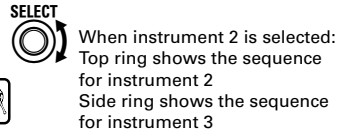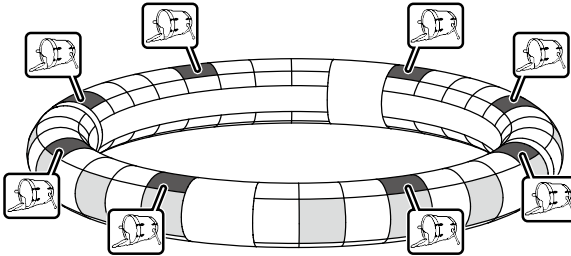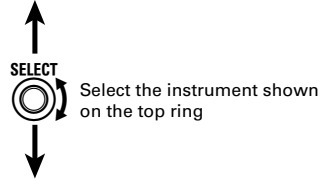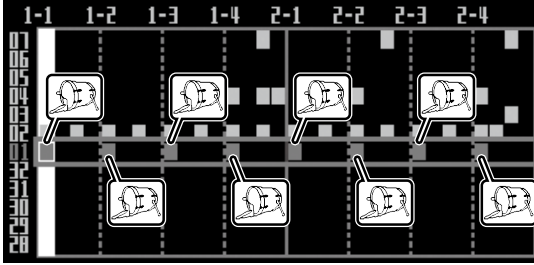
In SCALE layout

You can use ⓞ▌ to select the note input.

SELECT
Select the note shown on the top ring

C1   C2   C3   C4   C5

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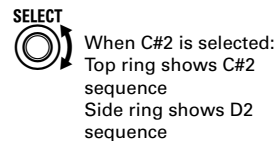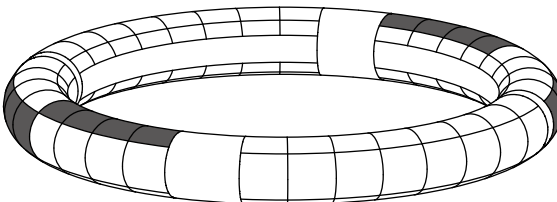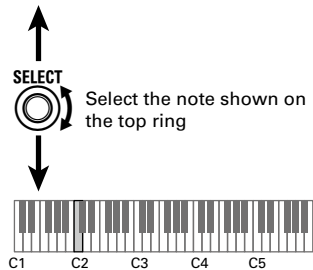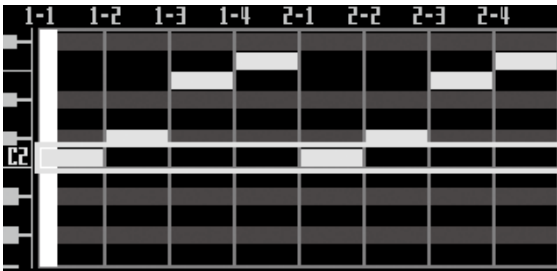
Operation summary

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.
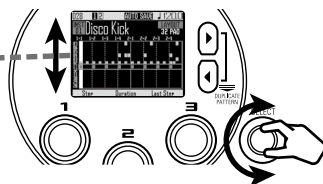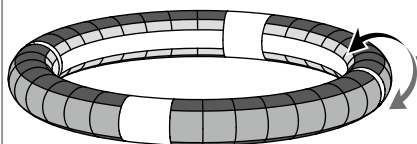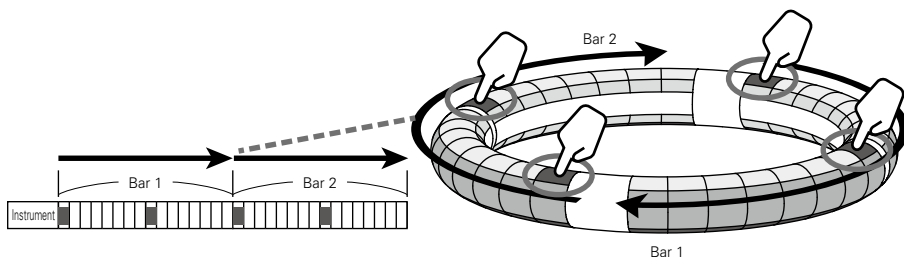
① Use ◯ SELECT to select the input instrument

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.

Bar 2

Bar 1   Bar 2

Instrument

Bar 1

SONG mode

SONG mode overview

In SONG mode, you can combine multiple patterns that you have created into one complete song.
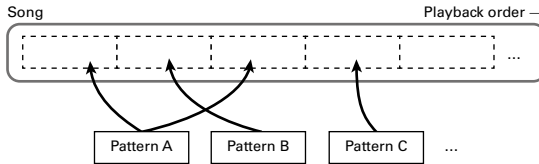
The pads on the Ring Controller are assigned 32 patterns.

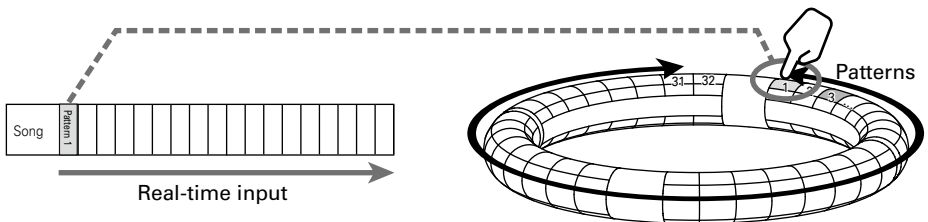The same patterns are assigned to the top, side and bottom rings.

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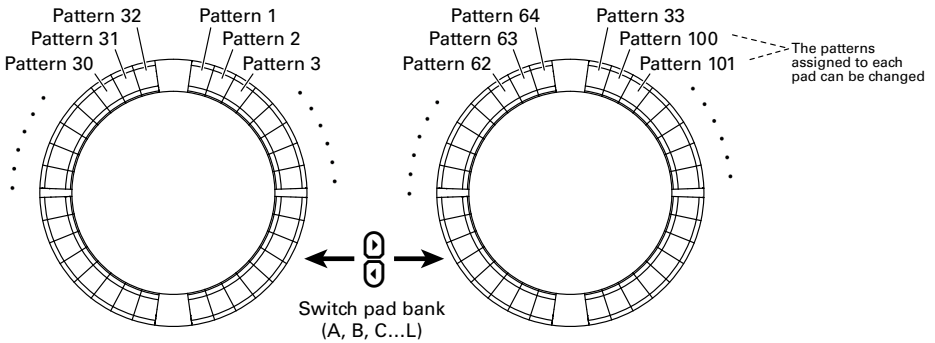
After completing preparation, start real-time input and tap pads to play their patterns.

Operation summary

Enter SONG mode

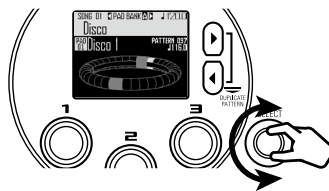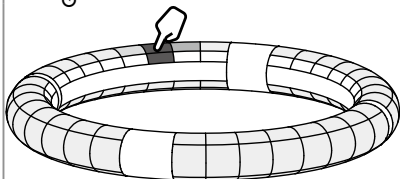Press [SONG] to enter SONG mode.

▼

Select a song

Press (☰) and use (◯) to open the Song Sequence List.

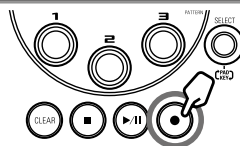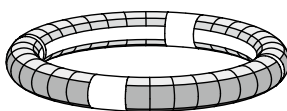Then, use (◯) and (◉) to select a song sequence.

▼
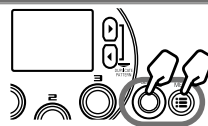
Select a pattern to play
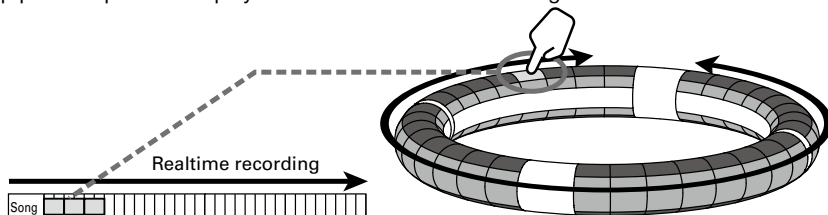
Use ⊕ to change the pad bank as necessary.

▼

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.

Realtime recording

Song

▼

End input

Press (■) to end song input.

25
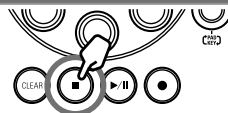
Capturing audio (recording)

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.

Capture external input

Capture output audio

Add audio files

Patterns, songs,
looper sequences
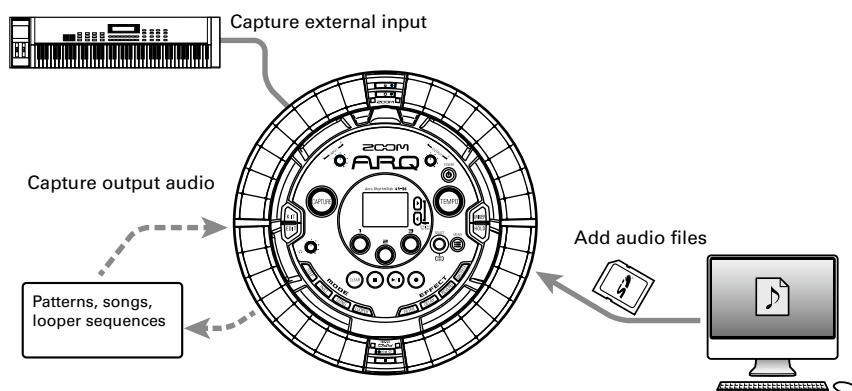
HINT

- 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.
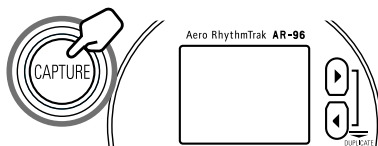
Operation summary

Play the material to capture

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

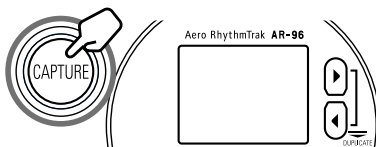• Input from the sound source connected to the INPUT jacks.

Play patterns, songs, etc.

External Input
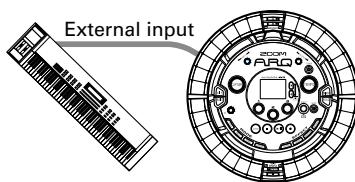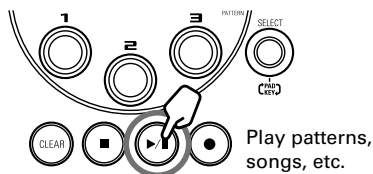
Start capturing

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.

27

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.
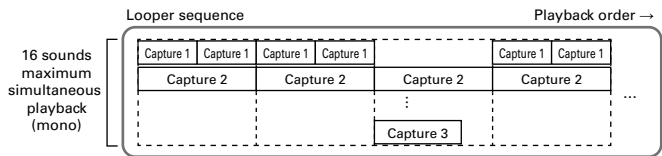
32 captured recordings are assigned to the Ring Controller pads.

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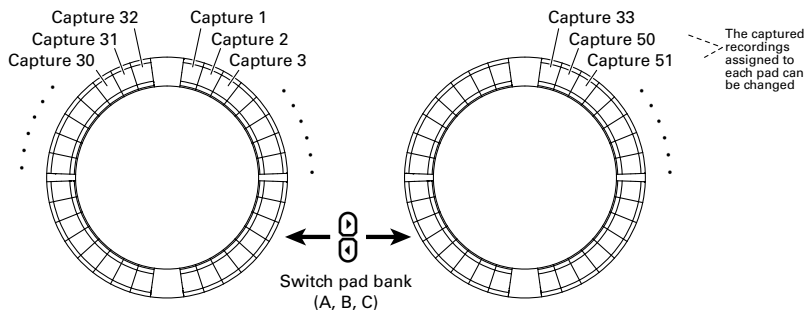
After completing preparation, start real-time input and tap pads to play their captured recordings. Up to 16 captured mono recordings can be played back at the same time.
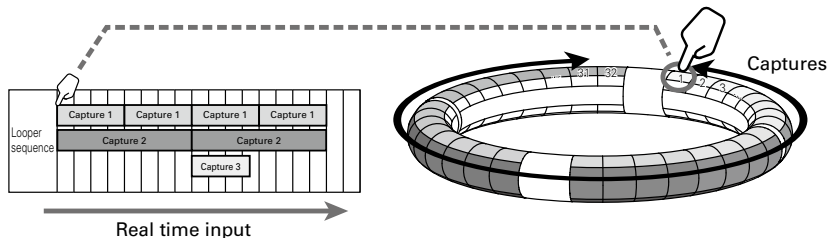
HINT

See "Captured recordings" (→ P. 26) for how to create captured recordings.
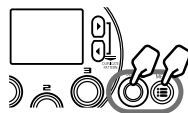
Operation summary

Enter LOOPER mode

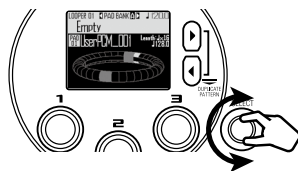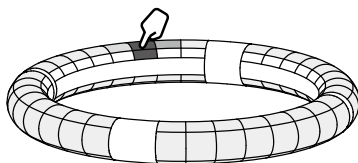Press [LOOPER] to enter LOOPER mode.

Select the looper sequence

Press (☰) and use (◯) to open the Looper Sequence List.

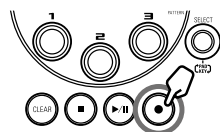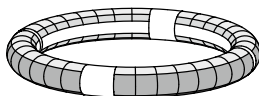Use (◯) and (◉) to select a loop sequence from the list.

Select captured audio for playback

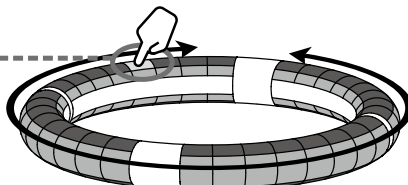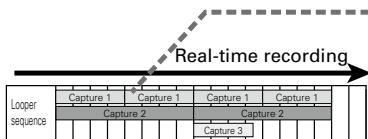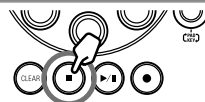Tap a pad or use (◘) to change the pad bank as necessary.

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.

Real-time recording

| Looper sequence | Capture 1 | Capture 1 | Capture 1 | Capture 1 |

Capture 2 — Capture 2

Capture 3

End input

Press (■) to end looper sequence input.

Other functions

Editing sounds

Press [EDIT] to edit sounds by changing settings related to oscillator and noise types, insert effects, level, pan, send effects, LFOs and envelopes, for example.

You can also set Ring Controller display settings in SONG mode and capture settings in LOOPER mode.

Effects
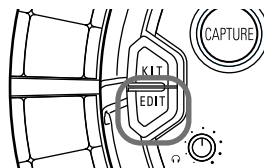
Press (FILTER), (DELAY), (REVERB) or (MASTER FX) to apply the filter, delay, reverb or master effect to a pattern, song or looper sequence.
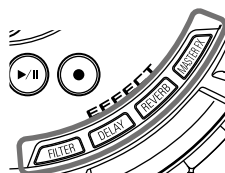
Mixer

Press [MIXER] when creating or playing a pattern, song or loop to adjust the mix of the instruments, as well as to mute, solo and use other settings.
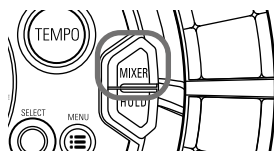
Arpeggiator

This function can be used to make an instru-ment 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.
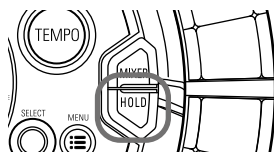
HINT

See the Operation Manual for detailed information about all the functions.

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

ZOOM CORPORATION

4-4-3 Kandasurugadai, Chiyoda-ku, Tokyo 101-0062 Japan

http://www.zoom.co.jp