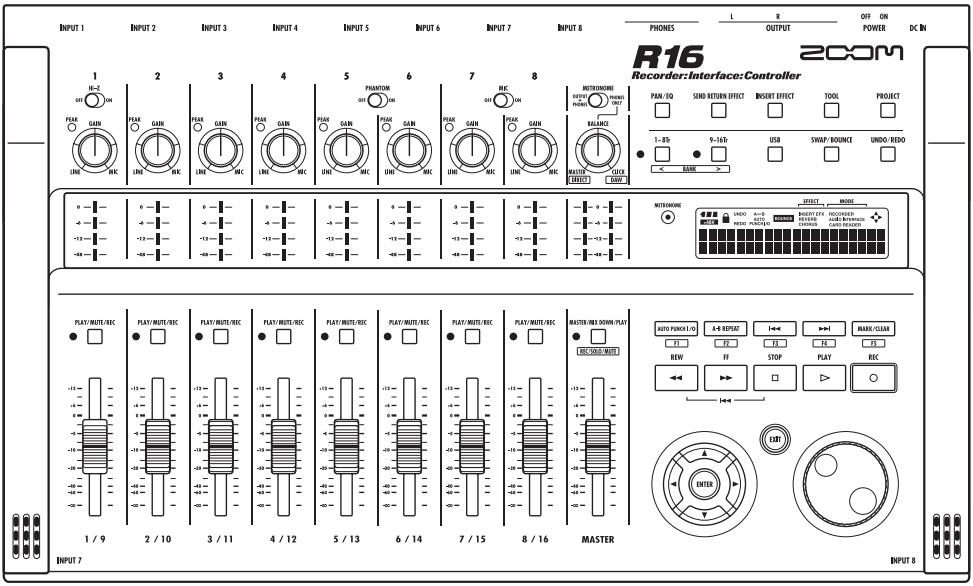
R16

Recorder:Interface:Controller



OPERATION MANUAL

ZOOM

Usage and safety precautions

SAFETY PRECAUTIONS

In this manual, symbols are used to highlight warnings and cautions for you to read so that accidents can be prevented. The meanings of these symbols are as follows:

Warning — This symbol indicates explanations about extremely dangerous matters. If users ignore this symbol and handle the device the wrong way, serious injury or death could result.

Caution — This symbol indicates explanations about dangerous matters. If users ignore this symbol and handle the device the wrong way, bodily injury and damage to the equipment could result.

Please observe the following safety tips and precautions to ensure hazard-free use of the R16.

Power requirements

Warning — Since power consumption of this unit is fairly high, we recommend the use of an AC adapter whenever possible. If you use batteries, use either alkaline or nickel-metal hydride batteries.

AC adapter operation

- Be sure to use only a DC5V/1A/center plus AC adapter (ZOOM AD-14). Use of an adapter other than that specified could damage the unit and pose a safety hazard.
- Connect the AC adapter only to an AC outlet that supplies the rated voltage required by the adapter.
- When disconnecting the AC adapter from the AC outlet, always grasp the adapter itself and do not pull on the cable.
- During lightning or when not using the unit for an extended period, disconnect the AC adapter from the AC outlet.

Battery operation

- Use six conventional size AA-1.5 volt batteries.
- The R16 cannot be used for recharging. Pay close attention to the labeling of the batteries to make sure you choose the correct ones.
- When not using the unit for an extended period, remove the batteries from the unit.
- If battery leakage has occurred, wipe the battery compartment and the battery terminals carefully to remove all remnants of battery fluid.
- While using the unit, the battery compartment cover should be closed.

About grounding

Warning — Depending on installation conditions, a slight electrical charge may be felt when touching a metal part of the R16. If you wish to avoid this, ground the unit by connecting the ground screw on the rear panel to a good external ground.

- To prevent the risk of accidents, never use any of the following for grounding:
  - Water pipes (risk of electric shock)
  - Gas pipe (risk of explosion)
  - Telephone wiring ground or lightning arrestor (risk of lightning strike)

Environment

Caution — Avoid using your R16 where it will be exposed to:

- Extreme temperature
- High humidity, moisture, or splashing water
- Excessive dust or sand
- Excessive vibration or shock

Handling

Never place objects filled with liquids, such as vases, on the R16 since this can cause electric shock.

Caution — The R16 is a precision instrument. Do not exert undue pressure on the keys and other controls. Also take care not to drop the unit, and do not subject it to shock or excessive pressure.

Connecting cables and input and output jacks

You should always turn off the power to the R16 and all other equipment before connecting or disconnecting any cables. Also make sure to disconnect all connection cables and the power cord before moving the R16.

Alterations

Warning — Never open the R16 case or attempt to modify the product in any way since this can result in damage to the unit.

Volume

Warning — Do not use the R16 at a loud volume for a long time since this could cause hearing impairment.

Usage Precautions

Electrical interference

For safety considerations, the R16 has been designed to provide maximum protection against the emission of electromagnetic radiation from inside the device, and protection from external interference. However, equipment that is very susceptible to interference or that emits powerful electromagnetic waves should not be placed near the R16, as the possibility of interference cannot be ruled out entirely.

With any type of digital control device, the R16 included, electromagnetic interference could cause malfunction and could corrupt or destroy data. Care should be taken to minimize the risk of damage.

Cleaning

Use a soft, dry cloth to clean the R16. If necessary, slightly moisten the cloth. Do not use abrasive cleanser, wax, or solvents (such as paint thinner or cleaning alcohol), since these may dull the finish or damage the surface.

Back up

The data on the R16 could be lost because of malfunction or incorrect operation. Back-up your data.

Copyrights

Except for personal use, unauthorized recording from copyrighted sources (CDs, records, tapes, video clips, broadcast material and so on) is prohibited.

ZOOM Corporation does not bear any liability for injunctions regarding copyright law infringement.

Introduction

Thank you very much for purchasing the ZOOM R16 Recorder/Interface/Controller. In this manual, we will call it the R16. The R16 has the following features.

■ Multitrack recorder that can use up to 32 GB SDHC cards

The R16 can record up to 8 tracks simultaneously. For example, recording a full band on individual tracks or multiple microphones placed around a drum kit. After making linear PCM recordings (WAV type) at 16/24-bit and 44.1-kHz sampling rate, you can transfer the recorded files to your computer to make use of them in your DAW software. You can even connect two R16s together with a USB cable, allowing you to record a maximum of 16 tracks.

■ Hi-Speed USB (USB 2.0) audio interface

You can use the R16 as a Hi-speed USB (USB 2.0) audio interface that has abundant input and output jacks. The R16 can handle 8 inputs and 2 outputs at a maximum of 24-bit and 96 kHz, and its effects can even be used at 44.1 kHz sampling rate. The unit can also operate using only USB bus power.

■ Usable as a control surface for DAW software

The R16 is equipped with functions that enable you to control DAW software in a computer via a USB cable. You can operate the transport of the DAW software, such as play, record and stop, and you can physically control fader operations. You can also assign various DAW functions to the R16's F1–F5 function keys. (The assignable functions depend on the DAW software.)

■ Various effects

The R16 has 2 main built-in effects—an insert effect that can be applied to specific channel signals and a send-return effect that can be used like the send-return bus of a mixer. You can use these effect in a wide variety of ways, including during recording, by applying them to already recorded tracks, and in mastering operations like mixing down and bouncing.

■ Handles various input sources including guitars, microphones and line-level equipment

The R16 is equipped with 8 input jacks that accept both XLR and phone connectors, including one that can handle high impedance signals and two that can supply 48V phantom power. The R16 can handle high impedance guitars and basses, dynamic and condenser microphones, and various line level instruments like synthesizers. It also has two built-in high performance microphones that are very convenient for recording acoustic guitar and vocals.

■ Comprehensive built-in mixer features

The R16 is equipped with a digital mixer that allows you to mix the playback of recorded and imported audio tracks. You can adjust the volume, pan, EQ and effects for each track and mix them into a stereo output.

■ Multiple tuner modes and a metronome for guide rhythms

The R16 not only has a standard chromatic tuning function, it also has functions for unusual tunings, including 7-string guitars and 5-string basses. The metronome can be used as a guide rhythm while recording. You can play the metronome sound through the mixer OUTPUT jacks or you can send it only through the headphones if you want. For example, in a live situation you could send the click just to the drummer via the headphone output.

■ Exchange files with computers and USB memory devices

The R16 has a USB 2.0 jack that allows high speed data transfer. You can transfer WAV audio files recorded on the R16 to a computer just by dragging and dropping. You can also exchange files with a connected USB memory device without using a computer.

Please read through this manual carefully in order to understand the R16 functions effectively.
After reading it, please keep the manual along with the warranty in a safe place.
*Specifications are subject to change for improvement without notice.

R16 operation flow

Multitrack Recorder

Preparation

Make various settings for built-in microphones, connected musical instruments, other input sources, signals and tracks. Use the tuner and the metronome to prepare for a new project or a live performance.

Project creation P.17

Prepare a new project to save and mix recordings.

- New project

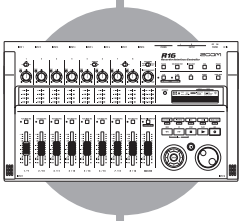
Connecting external equipment P.18, 19

The R16 can handle various types of instruments and equipment.

- Built-in microphones P.19
- Hi-Z P.18
- Phantom power P.18
- Stereo link P.20

Performance settings

- TUNER P.33
- METRONOME P.34



USB connection

Re

Effects P.45

- Patch editing, etc. P.51~

Insert effects P.49

1. After the input jack

Track recording P.21

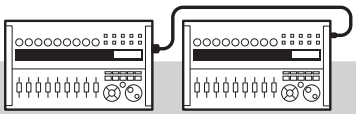
Record the input signals from connected input sources to tracks.

- Undo/Redo P.16

Playback P.29

Play up to 16 tracks of monaural and stereo audio simultaneously.

- A-B repeat P.30
- Setting marks P.43



Linking two units: Sync recording P.33

Audio Interface

Control Surface

Record 8 tracks of mono and stereo audio simultaneously.
Select up to 330 effects.

ecording

Use the various effects to process signals as they are input, during track playback and when outputting a mix.

Mixing & Mixdown

Mixer P.34

Adjust the recorded track using the track mixer.

Effects used on specific track signals

2. On mixer tracks as desired

Overdubbing P.25

Record new tracks while playing back previously recorded tracks.

- Track assignment P.23

Starting over

Pick and re-record just part of a file.

- Punch in/out P.27

3. Before the master fader

Send/return effect

There are two internal send/return effects in the built-in mixer—a chorus/delay effect and a reverb effect. Adjust the send levels of both effects separately for each mixer track.

Mixing P.34

Adjust parameters for each track.

- EQ • Volume • Pan P.37

Mixdown

Combine multiple tracks into one stereo pair.

- Bounce P.39
- Record on the master track P.42

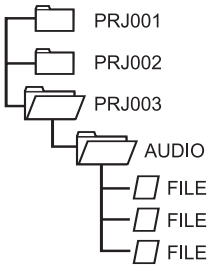
Edit & Output

Project P.56

Recorded music files and settings for a song can be managed and stored as a project and then edited in various ways.

- PROJECT/FILE P.56
- INFORMATION P.59
- IMPORT P.64
- DIVIDE P.63
- COPY P.60
- DELETE P.62
- RENAME P.61
- PROTECT P.56

SD cards P.71



SD card reader P.73

USB memory P.73

Exchange signals between DAW software and audio equipment

P.77 (PDF version)

Operate DAW software with the R16

P.77 (PDF version)

Basic recording guide

Let's make a quick recording with the R16!

Here we explain how to record in stereo with the built-in microphones on the left and right side of the R16 and how to make a monaural recording of an electric guitar using the high impedance function.

STEP 1 Insert an SD card and turn the power on.

STEP 2 Create a new project.

1 (EXIT) Press and hold until you return to the main screen.

2 PROJECT Press [PROJECT].

```
PROJECT
>SELECT
```

Cursor keys

3 Select >NEW.

```
PROJECT
>NEW  [SD]003:22:52]
```

Press the right and left cursor keys to change the selection.

(ENTER) Search the menu with the cursor and press [ENTER].

4 Name the new project.

The new project number

```
PROJECT No.003
PRJ003
```

The new project name

(ENTER) Confirm the name and press [ENTER].

5 Select [CONTINUE].

```
SETTING?
[CONTINUE] RESET
```

Cursor keys

(ENTER) Select the item with the cursor, and press [ENTER].

6 Execute.

```
No.003:PRJ003
Create?
```

(ENTER) Confirm the creation of your new project and press [ENTER].

Return to the main screen.

```
PRJ 003
 ▶00    00:00:00:000
```

This screen shows your new project name and number.

☞ Ref: Project P.56

STEP 3 Turn input source switches on.

Using the built-in microphones (Stereo recording)

1 MIC OFF ON Turn the [MIC] switch on for INPUT 7 & 8.

2 Press the status keys of INPUT 7 & 8 until their indicators light red.

PLAY/MUTE/REC

When lit red, you can start recording.

Press the [PLAY/MUTE/REC] key one or two times.

or

To record an electric guitar (High impedance/monaural input)

1 Connect the guitar to INPUT 1.

2 Hi-Z OFF ON Turn the [Hi-Z] switch on for INPUT 1.

3 Press the status key of INPUT 1 until the indicators lights red.

PLAY/MUTE/REC

When lit red, you can start recording.

Press the [PLAY/MUTE/REC] key one or two times.

NOTE

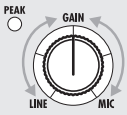
Hi-Z is only on INPUT 1, and the built-in stereo microphones function only on tracks 7 & 8.

Tracks 7 & 8 correspond to INPUT 7 & 8 and are set up as 2 mono tracks by default. When you are using the built-in mics for a stereo recording, make a stereo link to create one stereo track.

☞ Ref: Stereo link P.20
Instrument connection P.19, 20

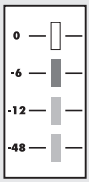
STEP 4 Adjust the input sensitivity, monitoring level and output

1 Adjust the INPUT sensitivity with the [GAIN] knob.



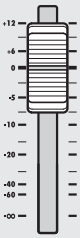
You should adjust the [GAIN] of each INPUT so that the PEAK indicator blinks occasionally.

2 Adjust the recording level.



The red (0 dB) indicator of the level meter should not light when you apply an insert effect to an INPUT. You should adjust the PATCH LEVEL, for example, if necessary.

3 Adjust the monitoring level.



You can adjust the monitoring level of an instrument with the fader of the track it is being recorded on. (INPUT 1, for example, would be TRACK 1 or 9).

NOTE

If the input signals distort during recording, adjust the input sensitivity or recording level, referring to Step 4.

After recording has completed, the "wait" bar will be displayed. Do not turn the power off or take the SD card out until the "wait" bar disappears. If you do not follow this procedure, you may damage the data or cause other problems.

☞ Ref: Recording methods in detail P.17–
: How to use the INSERT EFFECT P.49

STEP 5 Record—Complete—Play

Record

1 Move to the beginning.

STOP + REW

Press [STOP] & [REW] at the same time.

```
PRJ 003 PRJ003
 ▶00     00:00:00:000
```

2 Start recording.

REC + PLAY

Press [REC] & [PLAY] at the same time.

3 Start performing.

```
PRJ 003 PRJ003
 ▶00     00:00:10:152
```

The counter starts to run.

4 Stop recording.

STOP

Press [STOP].

Playback

1 Exit record standby mode.

Press the STATUS KEY to turn the green light on.

PLAY/MUTE/REC

When lit green, you can play the track.

Press the [PLAY/MUTE/REC] key one or two times.

When the light changes from red to green, the track status changes from "record standby" to "playback standby."

2 Return to the top.

STOP + REW

Press [STOP] & [REW] at the same time.

```
PRJ 003 PRJ003
 ▶00     00:00:00:000
```

3 Start playback.

PLAY

Press the [PLAY] key.

```
PRJ 003 PRJ003
 ▶00     00:00:10:152
```

4 Stop playback.

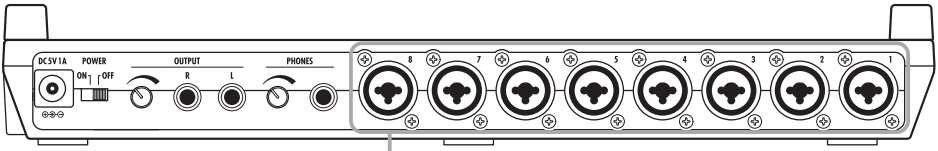
STOP

Press the [STOP] key.

Table of contents

Panel Layout and functions

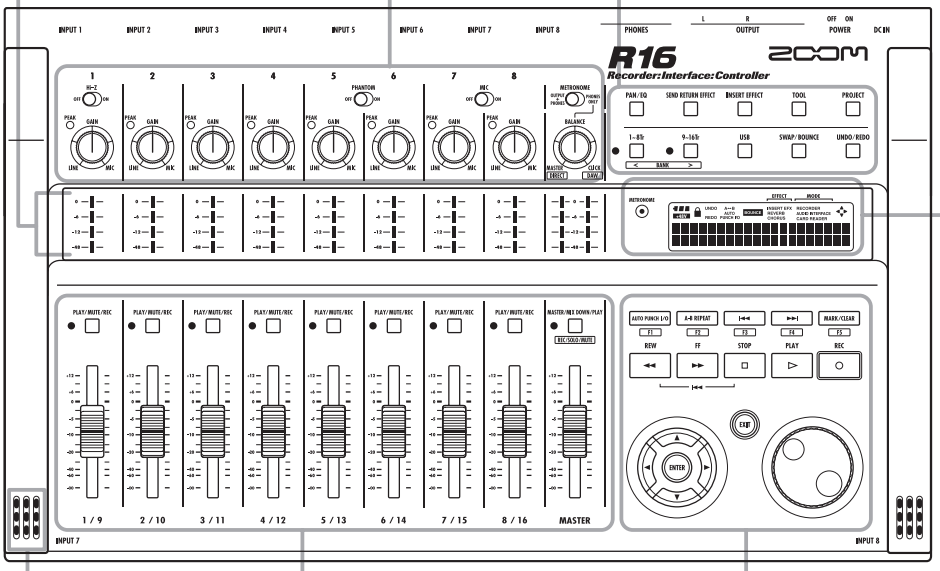
Rear panel



Level meters
(1/9~8/16, MASTER)

Input section

Control section



Built-in mic

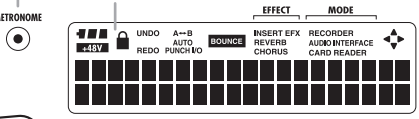
Fader section

Transport section

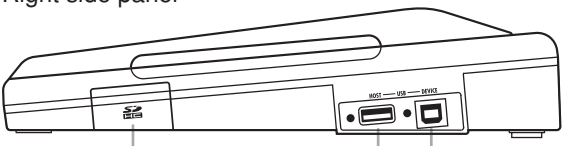
METRONOME indicator

Display

Display section



Right side panel



SD card slot

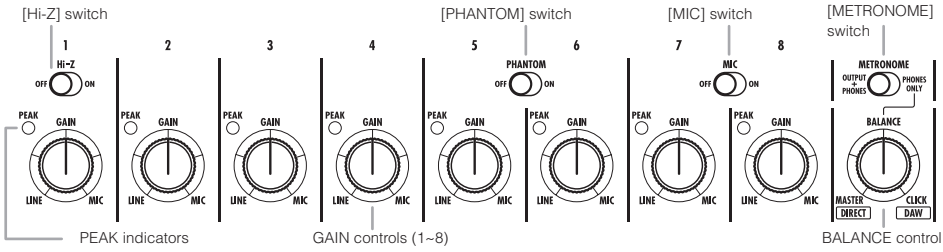
USB HOST jack

USB DEVICE jack

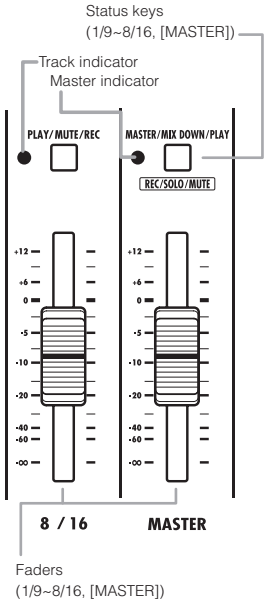
Bottom panel (not shown)

Battery compartment

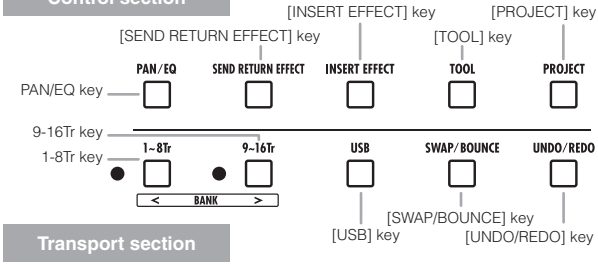
Input section



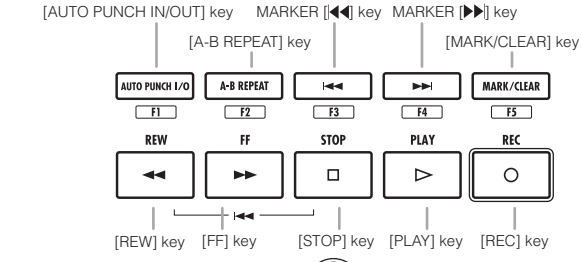
Fader section

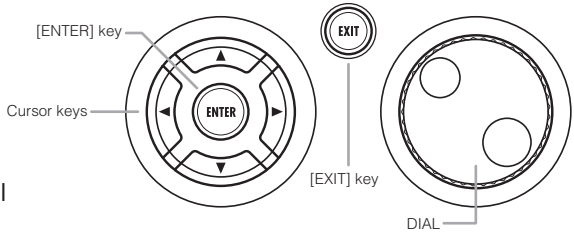


Control section

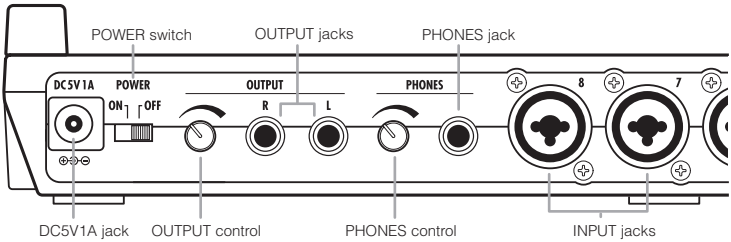


Transport section





Rear panel



Connections

Refer to the instructions on this page when you connect instruments, microphones, audio equipment or a computer to the R16.

OUTPUTS

Use the [METRONOME] switch to set whether the metronome is output to only the [PHONES] jack or also to the [OUTPUT] jacks.

1) Stereo system, speakers with built-in amplifiers, etc.

When connecting speakers, be sure to turn off the system's power beforehand.
Connecting them with the power on could cause damage.

INPUTS

You can connect cables with XLR and monaural phone plugs (balanced or unbalanced) to the INPUT jacks.

2) Microphones

In order to supply phantom power to a condenser microphone, first connect the microphone to [INPUT 5/6] and then turn the [PHANTOM] switch ON.

3) Other equipment with stereo outputs

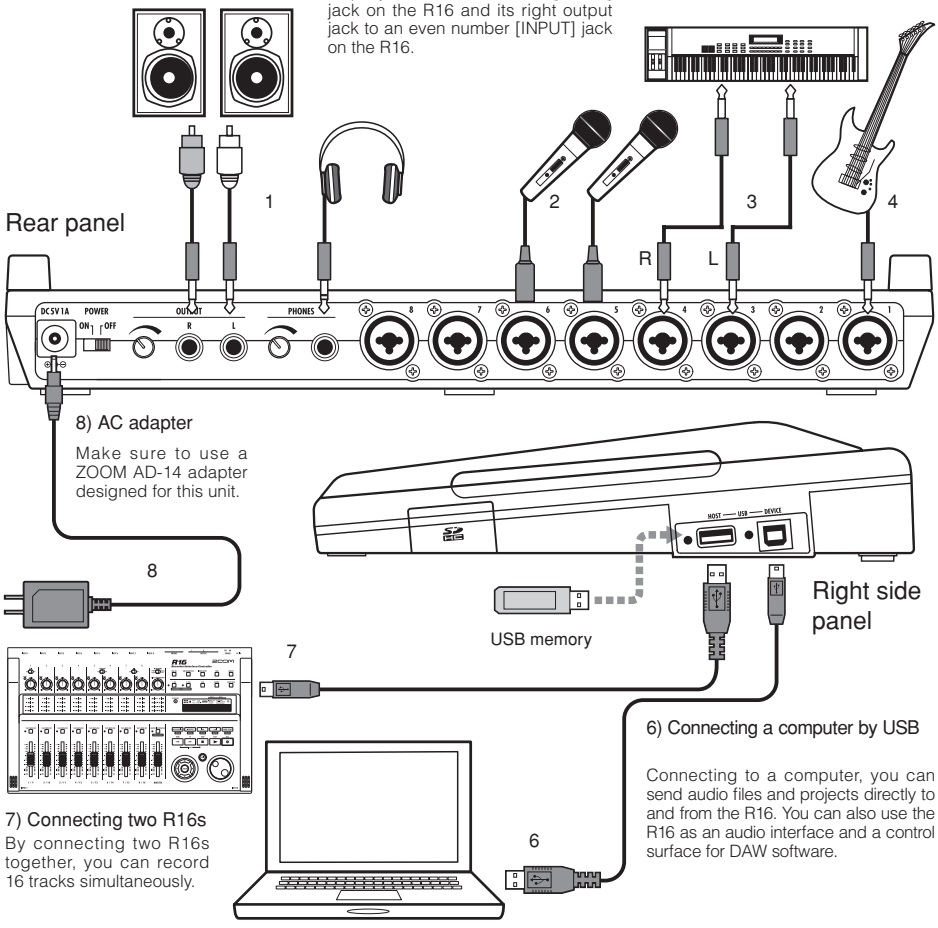
When using a synthesizer or a CD player with stereo outputs, for example, be sure to connect its left output jack to an odd number [INPUT] jack on the R16 and its right output jack to an even number [INPUT] jack on the R16.

4) Guitar/Bass

Use [INPUT 1], which can handle high impedance, when you directly connect a passive-type electric guitar or bass, and turn the [Hi-Z] switch ON.

5) Built-in microphones

These microphones are useful for recording drums indirectly and recording a band. When you turn the [MIC] switch ON, the sounds will be input into INPUT 7 and 8.



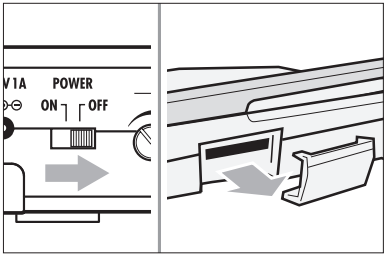
SD card installation

The R16 saves recording data and settings on SD cards.
To protect your data, turn the [POWER] switch OFF when inserting or ejecting a card.

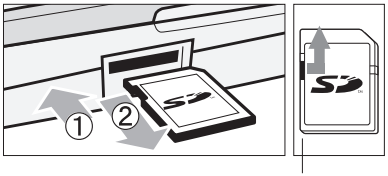
An SD card is necessary for recording.

Always turn the [POWER] switch OFF first (ordinary use)

1 **1) Turn the [POWER] switch OFF and detach the cover of the SD card slot.**



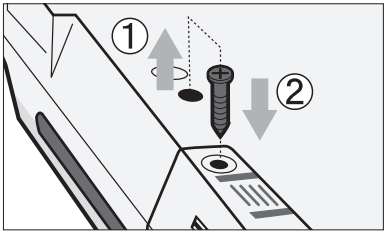
2 **2) Insert an SD card (write-protect unlocked) into the slot.**
To eject: Push the card in first to eject it.



Unlock the SD card write-protection.

Prevent unwanted removal of an SD card

1 **First remove the screw beside the slot, and then screw it into the screw-hole in the SD card cover.**



NOTE

- If you must change an SD card while the power is on, please follow the specific procedures described on page 69.
- When inserting or ejecting an SD card make sure the [POWER] switch is OFF. If you insert with the [POWER] switch ON, your data might be lost.
- If you cannot insert a card into the slot, you may be trying to insert it in the wrong direction or upsidedown. Try again with the correct card orientation. If you force it in, you might break the card.
- If an SD card was previously used with a computer or a digital camera, you must format it in the R16 before using it.
- If no SD card is inserted, [REC] and [UNDO/REDO] keys will not function in RECORDER MODE.

If these messages about SD cards are shown

- "No Card": No SD card is detected. Make sure an SD card is inserted properly.
- "Card Protected": The SD card write-protection lock is closed, preventing rewriting. To release it, slide the switch away from the lock position.
- "SD Card Format?": The inserted card is not formatted for the R16. Press the [ENTER] key to format it. (Ref. P.70)

HINT

- The R16 can use 16 MB – 2 GB SD cards and 4–32 GB SDHC cards.
- You can get up-to-date information about compatible SD cards on the Zoom site.
  Zoom site: http://www.zoom.co.jp

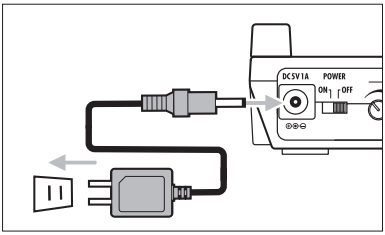
☞ Ref: SD CARD >EXCHANGE P.69
SD CARD >FORMAT P.70

Powering the R16

Please use the included AC ADAPTER that is designed for the R16 or six AA batteries (sold separately).

Using the included AC ADAPTER with an ordinary electricity supply

1 Make sure that [POWER] is OFF, and then plug the included AC ADAPTER into the back of the unit.

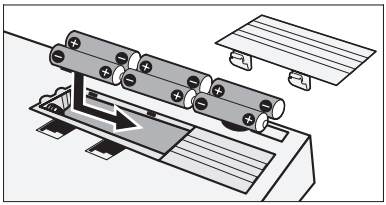


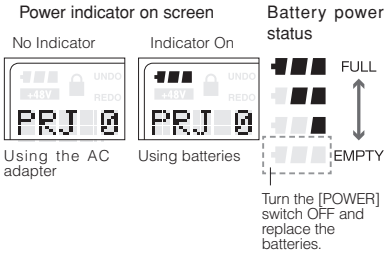
Caution You must use the included ZOOM AD-14 AC ADAPTER, which is designed for the R16. Using any adapter other than the AS-14 may damage the unit and void the warranty.

Using batteries

1 Turn the [POWER] switch OFF and open the battery case cover on the bottom of the unit.

2 Install six AA batteries and close the cover.





HINT

Power supply from USB

With the [POWER] switch OFF, connecting a computer to a USB cable makes the R16 start-up automatically with power supplied by USB.

In this status, functions are different from when the [POWER] switch is ON. The R16 can be used only as an SD Card Reader or as an audio interface.

☞ Ref.: R16 Battery type settings BATTERY TYPE P.69

NOTE

- Make sure that the [POWER] switch is OFF when you open/close the battery cover or plug/unplug the AC adapter. Removing batteries or unplugging the AC adapter when the [POWER] switch is ON, might cause lost recording data.
- The R16 can only use Alkali and NiMH batteries. The approximate lifetime for Alkali batteries is about 4.5 hours.
- Replace the batteries when you notice “Low Battery” or the empty battery icon on the display,. Turn the [POWER] switch OFF immediately and install new batteries, or connect the included AC adapter.
- Be sure to set the correct BATTERY TYPE setting for accurate battery metering.

Powering the R16 · Date & time setting

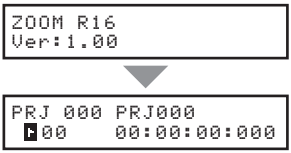
Precautions for starting-up and shutting down and how to set the date and time for files and data

Turning the power on and off

1) Make sure the power is off on all equipment.
2) Insert an SD card into the R16. Confirm that the connections for the power, instruments, and monitoring system (or stereo headphones) are correct.

Turn [POWER] switch ON: Start-up

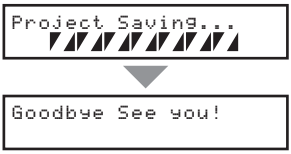
1 POWER (ON / OFF) Turn the [POWER] switch ON.



2 Turn power on for connected instruments and then for the monitoring system.

Turn [POWER] switch OFF: Shut-down

1 POWER (ON / OFF) Turn the [POWER] switch OFF.



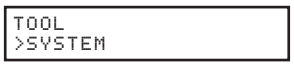
Setting the date and time

TOOL>SYSTEM>DATE/TIME

1 TOOL — Press [TOOL].

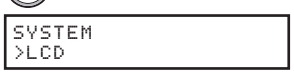
Use the cursor keys to move in the Menu

2 Select >SYSTEM.



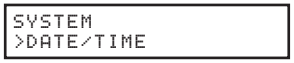
Move with the cursor keys

ENTER Press [ENTER].



Move with the cursor keys

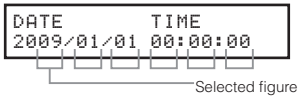
3 Select >DATE/TIME.



ENTER Press [ENTER].

4 Select items under >DATE/TIME.

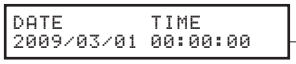
Make setting for the year, month, day and time (hour: minute: second).

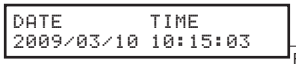


Move with the cursor keys

Selected figure blinks

5 Change the time





Rotate the DIAL to change the numbers.

ENTER Press [ENTER].

NOTE

- Before turning the [POWER] switch ON, turn the volume down on all instruments and the monitoring system connected to the R16.
- If no power is supplied to the R16 for more than 1 minute, the DATE/TIME setting will be reset to its initial value.

If this is displayed:

- The DATE/TIME setting has been set to its initial value. Reset the DATE/TIME settings.

Switch and key operation overview

Here we explain how to use the keys of the R16 and their functions. Please look at the display for keys that have icons shown on the screen.

Transport section

REC

[REC] key

Functions only when tracks are in recording standby.

This key puts the R16 in recording standby mode.
When in recording standby this key stops recording standby.

PLAY

[PLAY] key

This key starts playback.
When in recording standby this key starts the recording.

STOP

[STOP] key

When recording this key will stop the recording.
This key stops playback.

REW

[REW] key

Rewind.	
STOP + REW	Press [REC] and [REW] keys at the same time to return to the top of the song.

FF

[FF] key

Fast forward.

[ENTER] key	Confirms selections
[EXIT] key	A quick press returns to the previous step, and a long press returns to the top screen.
[DIAL]	Use to change and move among menus and numbers.
⏮ ⏭ MARK/CLEAR	Ref.: Mark-related keys see P.27.

Cursor: Appearance and indication

Display Appearance

The display shows cursor directions

Movable in all directions

Display	Manual notation
▲ ◀ ▶ ▼	▲ ◀ ▶ ▼ –Movement in the menu Black: direction explained Gray: movable directions No color: not effective

Use the cursor to move up, down, left and right to choose different function items. The appearance of the display and its notation in the manual is shown above.

Control section

PAN/EQ [PAN/EQ] key	Press to access track mixer settings → P.41
TOOL [TOOL] key	Opens TOOL menu (TUNER, METRONOME, SYSTEM and SD CARD)
PROJECT [PROJECT] key	Opens PROJECT menu
1~8Tr 9~16Tr [1-8Tr] & [9-16Tr] keys	Select tracks 1-8 or 9-16 with light showing selected tracks
USB [USB] key	Opens USB menu
SWAP/BOUNCE [SWAP/BOUNCE] key	Opens SWAP/BOUNCE menu

Fader section

PLAY/MUTE/REC TRACK 1~8 (9~16) status keys	Change track ready status Green: PLAY (playback) No light: MUTE (mute) Red: REC (record)
MASTER/MIX DOWN/PLAY REC/SOLO/MUTE MASTER status key	Change MASTER track status Green: PLAY (playback) No light: MASTER (not playback/recording ready) Red: MIX DOWN (recording)

Various switches & controls

[POWER] switch	Turns power ON & OFF
[Hi-Z] switch	Turns Hi-Z connection on/off (only for INPUT 1).
[MIC] switch	Turn built-in microphones on/off (signals to INPUT 7 & 8).
[METRONOME] switch	Set metronome output.

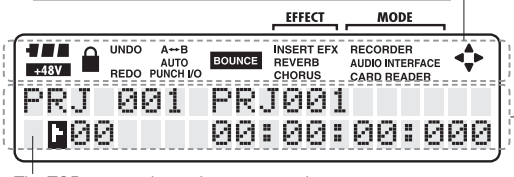
[GAIN] controls	Adjust input sensitivity
[PEAK] indicators	Light at the moment of maximum input
[BALANCE]	When [METRONOME] is set to "PHONES ONLY" during recording, this adjusts the balance of the pre-MASTER fader and metronome signals
Level meters	Show recording/playback levels
[METRONOME] indicator	Flashes in time with the count

During audio interface use, control surface functions (shown in boxes below keys) are provided by the row of keys starting with AUTO PUNCH I/O (F-1 to F-5), as well as the [1-8Tr] and [9-16Tr] keys (<BANK>) and the [MASTER/MIX DOWN/PLAY] (REC/SOLO/MUTE) key.

Display information

On the R16's display you can see project data, recorder connection and operation status, computer audio-interface connection and status, available functions and the R16 menus.

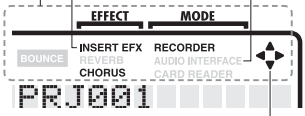
Display and indications



Icon display area: active settings shown

Shown means active

Not shown means inactive



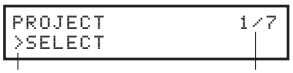
Information display area

Usable directions

The TOP screen shows the current projects.

Top line: project number and project name
Bottom line: icon mark/number and counter (time)

MENU screens show operation menus



Top line: current menu
Bottom line: menu & items available

Page in menu/total number of pages

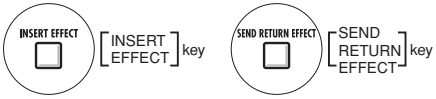
Effect & Mode

Send return effects → P.48
REVERB/CHORUS icons

Shown when on, set by key operation

INSERT EFX icon P.48

Shown when insert effects on, set by key operation



Key operation: Open effect menus

MODE

Displays current R16 operation mode
Recorder → P.17-
Audio Interface → P.75-
Card reader → P.73

Icon display and setting keys

PHANTOM icon

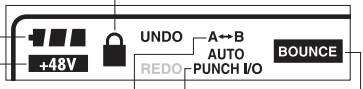
Display on: 48V phantom power is supplied to mics connected to INPUT 5 & 6
Setting: [PHANTOM] switch ON

BATTERY icon → P.13

Display on: Batteries in use and their remaining charge
No display: AC adapter or USB power in use (no display while powering with batteries means the batteries need to be replaced)

PROTECT icon → P.56

Display on: project cannot be overwritten
No display: project not protected
Set using menu



A-B REPEAT icon → P.30

AUTO PUNCH IN/OUT icon → P.27

[A-B REPEAT] key

Display on: A-B points are set
Set by key operation

[AUTO PUNCH IN/OUT] key

Display on: active
Set by key operation

BOUNCE icon → P.37

Display on: active

[UNDO/REDO]

UNDO icon

REDO icon

[UNDO / REDO] key

UNDO: You can return to the previous recording operation
Valid UNDO operations: PUNCH IN/OUT, BOUNCE, MIX DOWN (to MASTER TRACK)
REDO: Reverse the UNDO operation

Icon shown/not shown
After certain operations, "UNDO" is displayed, meaning an UNDO operation is possible
After pressing the [UNDO/REDO] key, "REDO" is displayed, meaning a REDO operation is possible.
Set by key operation.

NOTE

- UNDO is only valid for audio data recorded on tracks.
- You can only UNDO and REDO one operation.

R16 recording flow • Creating a new project

With multitrack recording you can create a complete work of music using the R16.
To begin, create a new project for each piece.

Recording preparation

Connect instruments to the appropriate INPUT jacks

Make project and track settings

Create a new project

Select the INPUTS and the recording tracks

Set stereo links

Change track status (recording, play, mute)

Adjust input sensitivity using the [GAIN] controls

Performance preparation

Set PRE-COUNT/METRONOME

Set and use TUNER

Record the first tracks

Record standby—Record—Stop

Record more tracks

Overdubbing

Playback of already recorded tracks

Overdubbing

Record standby—Record—Stop

Create a new project
PROJECT>NEW

1 PROJECT

Press [PROJECT].

```
PROJECT
>SELECT
```

Change menu ◀ ▶

2 Select >NEW .

```
PROJECT
>NEW  [SD]003:22:52]
```

ENTER Press [ENTER].

3 Confirm the PROJECT name.

New project number

```
Project No.003
PRJ003
```

New project name

Change letters

ENTER Press [ENTER].

4 Select whether to use the settings of the last project.

```
SETTING?
[CONTINUE] RESET
```

Change menu ◀ ▶

Select this to restore the default values

ENTER Press [ENTER].

5 Execute.

```
No.003:PRJ003
Create?
```

ENTER Press [ENTER].

HINT

You can change the new project name at Step 3.

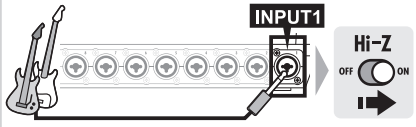
Ref: Name change P.43
Using the previous settings P.57

Connecting instruments and making monaural settings

You will need to adjust settings for musical instruments such as high impedance guitars, line input synthesizers, the built-in microphones and microphones that use phantom power, as well as stereo and monaural inputs, for example.

Connecting passive-type guitars

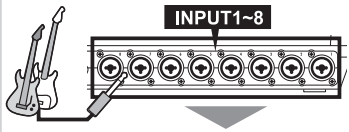
Connect high impedance (Hi-Z) instruments to INPUT 1, and the turn the [Hi-Z] switch ON.



Signal to INPUT 1

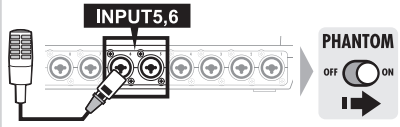
Connecting low-impedance instruments (monaural connection)

Connect low impedance instruments to any of the INPUTS.



Signals to any INPUT between 1~8

Using phantom power



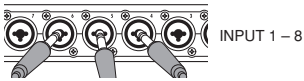
Supply phantom power to INPUT 5 and 6 jacks

NOTE

*Turn the [PHANTOM] switch on to provide +48V power to INPUT 5 and 6. You can use either INPUT 5 or 6 or both when the switch is ON.
*Use the fader that corresponds to the INPUT jack. The signal from INPUT 1 goes to track 1/9.
*To use Track 9~16, switch the fader assignment by pushing the [9 –16Tr] key.
*Depending on the INSERT EFFECT selection, the output flow will change.
*Creating one stereo file from two faders requires the use of the STEREO LINK setting.

Assign INPUT 1–8 connections to tracks 1–16

1 Connect instruments and microphones to jacks



2 Make settings for specific instruments, built-in microphones and stereo tracks.

Hi-Z | PHANTOM | MIC | STEREO | MONAURAL×2 | MONAURAL

3 Select the Track switches

TRACKS 1~8 TRACKS 9~16

Enable the faders either for tracks 1–8 or 9–16

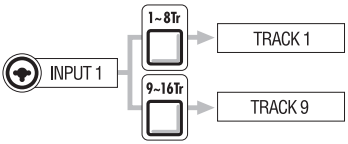
4 Change the status of the connected INPUTS

Press the status key of a track one or two times to turn the red light on.

Red light on: recording enabled (REC)

Set tracks to receive INPUTS

Press the [1-8Tr] or [9-16Tr] key to set which tracks will record the INPUTS.



INPUT	TRACK	
	[1~8Tr] active	[9~16Tr] active
1	1	9
2	2	10
3	3	11
4	4	12
5	5	13
6	6	14
7	7	15
8	8	16

☞ Ref: STEREO setting P.19

Instrument connections: stereo settings and status keys

To make a stereo recording, you can create one stereo file by recording on the neighboring odd/even-numbered tracks and by setting a stereo link.
The status key must be pushed to transfer the signal from an INPUT to a recording track.

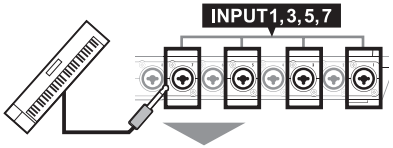
Using the built-in microphones

Turn the [MIC] switch ON.

Signals to INPUT 7/8

Connecting line input instruments (stereo connection)

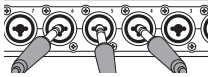
Choose INPUT 1, 3, 5 or 7 and connect the musical instrument.



Use INPUT 1/2, 3/4, 5/6 and 7/8 as pairs. Input left signals to odd-numbered tracks and right signals to even numbered tracks.

Assign INPUTS 1–8 to tracks 1–8 or tracks 9–16.

1 Connect instruments and microphones to the jacks.



2 Make stereo settings for the specific instruments and built-in microphones.

STEREO | MONAURAL×2 | MONAURAL

3 Select the tracks.

Assign faders to either tracks 1–8 or 9–16

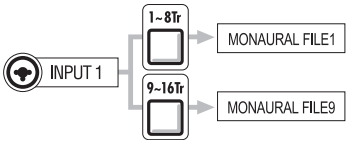
4 Set the status of the connected INPUTS.

Press the STATUS KEY of the paired tracks one or two times each to turn both lights on.

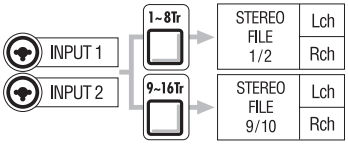
Red lights on: record ready (REC)

Files corresponding to INPUTS

Recording INPUTS 1–8 results in file names that correspond with the track numbers.



When STEREO LINK has been used



Stereo-linked tracks result in stereo files.
Lch = odd-numbered input signal recorded
Rch = even-numbered input signal recorded

NOTE

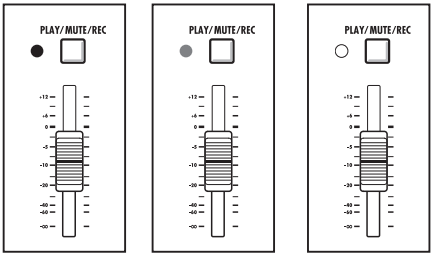
* Use the fader that corresponds to the INPUT jack. Signals from INPUT 1 go into Track 1/9.
* To use tracks 9-16, press the [9-16tr] key to switch the fader assignments.
* The input and output flow change depending on the INSERT EFFECT setting.

Stereo link

Set STEREO LINK for tracks for recording in advance to create a stereo file of the recording.
You can also assign stereo files.

STATUS KEYS and TRACK INDICATORS

Press a STATUS KEY to change the color of the TRACK INDICATOR light and set the role of the track fader.
The three TRACK INDICATOR colors show the track status.



[REC] Record ready | [PLAY] Playing back | [MUTE] Sound disabled

PLAY/MUTE/REC

Track indicators (1~16)

Press	→	Press	→	Press
REC	→	PLAY	→	MUTE
Red light on	→	Green light on	→	No light on

MASTER/MIX DOWN/PLAY

Track indicator (MASTER)

REC/SOLO/MUTE

Press	→	Press	→	Press
MASTER	→	PLAY	→	MIX DOWN
Red light on	→	Green light on	→	No light on

HINT

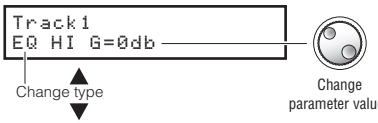
* In order to send the signals from an INPUT to a recording track, press its STATUS KEY 1–2 times until the track indicator lights red.
* For use of two INPUTS press both STATUS KEYS to connect both INPUTS to tracks.
* Creating one stereo file from 2 tracks requires STEREO LINK to be set.
* If the MASTER track is set to PLAY, all other tracks will be set to MUTE (no sound).

Stereo link
PAN/EQ>STEREO LINK

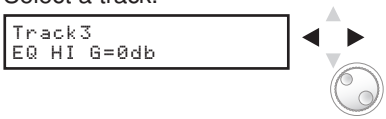
1 PAN/EQ

Press [PAN/EQ].

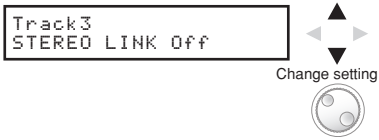
Switch tracks.



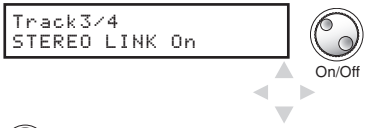
2 Select a track.



3 Select STEREO LINK.



4 Turn STEREO LINK On.



5 EXIT Press [EXIT] to complete the setting.

HINT

* The STEREO LINK track pairs are
  Track 1/2, Track 3/4, Track 5/6, Track 7/8,
  Track 9/10, Track 11/12, Track 13/14 and Track 15/16.
* STEREO LINK changes the setting from two monaural tracks to one stereo track.
* At Step 4, whatever track number you choose, the neighboring number track will be linked. You cannot change these combinations.
* To adjust the volume of a pair of tracks set to STEREO LINK you must operate the odd number fader. The even number fader has no effect.
* The PAN parameter of a pair of tracks set to STEREO LINK can be used to adjust their relative volume balance.
* Even when STEREO LINK is active you can select files and make phase settings for each track.

Recording the first track

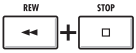
After connecting instruments and completing all recording preparation, we can prepare the recorder and start recording the first track.

Starting from the top screen of the new project

1 Return to the top screen.

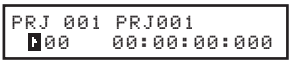
Press and hold [EXIT] for more than 2 seconds.

2 Return the counter to its head.



Press [REW] & [Stop] at the same time to return the counter to its head.

The top screen should look like this.



The counter is at the head position (mark 00).

HINT

The top screen display of the new project

Counter at the head position (mark 00)
Batteries and phantom power active

After setting the input (Step 5 and after), you can process input signals with the INSERT EFFECT.

☞ Ref. : New project creation P.17
Insert effect P.48

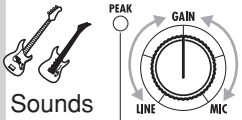
Adjusting the input level

3 Arm the track for recording.

Press 1-2 times until the track light turns red.

Red light on: recording enabled (REC).

4 Adjust the input sensitivity (GAIN).



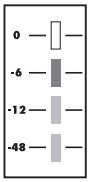
Sounds start.

Adjust the recording level and monitor.

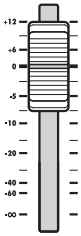
Should light occasionally when the volume reaches maximum

5 Adjust the recording level.

If an INSERT EFFECT is applied to an INPUT, make adjustments to the patch level, for example, to prevent the LEVEL METER red light (0dB) from turning on.



6 Adjust the monitoring system



Using the recording track fader, adjust the monitoring level of the instrument being recorded. (INPUT 1 is track 1 or 9).

NOTE

Red lights on PEAK indicators and Level meters

- A PEAK indicator turns red when the input signal exceeds the maximum detectable level of 0 dB, resulting in input clipping. The red light on a Level meter means that the signal being recorded (signal after passing through the insert effect) is clipping. If clipping happens, the recorded sound will be distorted. You should reduce the recording level.

Recording the first track

7 Start record standby.

REC

Press [REC]. REC Red light on

8 Start recording.

PLAY

Press [PLAY].

REC Red light on PLAY Green light on

```
PRJ 001 PRJ001
 ▸00    00:00:00:123
```

The counter starts to move.

9 Stop recording.

STOP

Press [STOP].

STOP Green light on PLAY REC Lights off

```
PRJ 001 PRJ001
 ▸00    00:02:04:247
```

The counter stops moving, but does not return to 0.

Playing back the first track

10 Stop.

STOP

Press [STOP].

STOP Green light on PLAY REC Lights off

```
PRJ 001 PRJ001
 ▸00    00:04:31:153
```

The counter stops moving.

11 Play the track.

PLAY/MUTE/REC

Green light on: playback enabled [PLAY]

Press the [PLAY/MUTE/REC] key of the TRACK to playback 1–2 times until the green light is on.

12 Return the counter to its head.

REW + STOP

Press [REW] & [Stop] at the same time to return the counter to its head.

```
PRJ 001 PRJ001
 ▸00    00:00:00:000
```

13 Play.

PLAY

Press [PLAY]. PLAY Green light on

14 Stop.

STOP

Press [STOP]. STOP Green light on

HINT

• Press [UNDO/REDO] to cancel the recording.

Recording again

- If you record on the same track again, the previous recording will be overwritten.
- The three ways to record a new file or re-record are:
  - Press the [UNDO/REDO] key to execute the undo-action (cancel the recording).
  - Through PROJECT>FILE, set the recorded track assignment to “NOT ASSIGN.” (Ref.: P.23)
  - Through PROJECT>FILE>EDIT>DELETE, delete the FILE (AUDIO DATA). (Ref. : P.62)

NOTE

- Recorded audio files in a track will be recorded over. If you rewind the counter back to the head, a new recording will overwrite the previous one. During playback the files stored on the tracks will be played.

If you want to record a new file, do not assign a file to the track.

☞ Ref. : Assigning files to tracks P.23
Mark P.31

Track assignment

Here, after completing the first track recording, we record the next track while playing back the already recorded audio file. The preparation is almost identical to the first one, but we will conduct playback on a different track.

Playback track preparation

1 Assign the playback file to a different tracks.

PROJECT

Press [PROJECT].

```
PROJECT
>SELECT
```

2 Select >FILE.

```
PROJECT
>FILE
```

Menu change

ENTER Press [ENTER].

3 Select the track for playback.

```
TRACK1
 NOT ASSIGN
```

Track change

Select a different track from the one for the next recording.

4 Select the file for the track.

```
TRACK5
 MONO-000      [TR 5
```

File change

5 Assign it.

ENTER Press [ENTER].

```
TRACK5
 MONO-000      [TR 5]
```

6

EXIT Press and hold [EXIT] to return to the top screen.

7 Prepare the already recorded track for playback.

PLAY/MUTE/REC

Press the [PLAY/MUTE/REC] of the track to be played back 1–2 times until the green light turns on.

Green light on: playback enabled [PLAY].

NOTE

- Recorded audio files on tracks will be overwritten by new recording. If you rewind the counter to the top and begin recording again, be aware that the overwritten previous recording will be lost.
- During playback the file assigned to the track is played.
- If you want to record to a new file, do not assign any file to a track.
- When you move a file on a track, confirm that no files are assigned to the track to be recorded ("NOT ASSIGN"). If there is any assigned file, that recording will be overwritten by new recording.
- Files exclusively for reading (read only) are shown with <R.0> on the display, and you cannot record over them if they are assigned to tracks.
- Files marked with an asterisk (*) cannot be assigned to the selected track.

HINT

- File track assignment status

```
TRACK   5
 NOT ASSIGN
```

Display of a track with no file

```
TRACK   5
 MONO-000
```

Display of track with no assigned files

```
TRACK   5
 MONO-000      [TR 3]
```

Display of a track with assigned file

- If the first and second recordings are on different tracks, you can skip to Step 7, because you only need to change the track status and start recording.
- You can select tracks using the status key. The indicators of selectable tracks will light orange.
- You can assign files imported from a computer or USB memory.
- Stereo files can only be assigned to the tracks set to stereo link or the master track.

Switch two tracks (SWAP)

1 SWAP/BOUNCE

Press [SWAP/BOUNCE].

```
SWAP/BOUNCE
>SWAP
```

2 Select >SWAP .

```
SWAP/BOUNCE
>SWAP
```

Menu change ◀ ▶

ENTER Press [ENTER].

3 Select the first track to swap.

```
SELECT TRACK
```

Indicators blink orange on tracks that can be selected.
Press the track status key to select a track.

PLAY/MUTE/REC

Selectable: blinking orange
Selected: lit orange

4 Select the second track to swap.

```
SELECT TRACK
TRACK1*
```

Already selected track

Indicators blink orange on tracks that can be selected.
Press the track status key to select a track.

PLAY/MUTE/REC

Selectable: blinking orange
Selected: lit orange

5 Swap the tracks.

Tracks to be swapped

```
TRACK1*TRACK2
Swap?
```

ENTER Press [ENTER] to confirm.

NOTE

- The swap function switches two tracks, including the assigned files and all track parameter information.
- Stereo tracks cannot be swapped.

Recording the second and later tracks

After completing the first track recording, you can record the next track in turn while playing back recorded audio files. The preparation for recording is the same as for the first track, and you can playback on a different track.

Playing back the already recorded track

1 PLAY/MUTE/REC]

Press the [PLAY/MUTE/REC] of the TRACK for playback 1-2 times until the green light turns on.

Green light on: playback enabled [PLAY]

Recording preparation for the second track

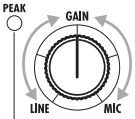
2 PLAY/MUTE/REC

Press the [PLAY/MUTE/REC] of the recording track 1-2 times until the red light turns on.

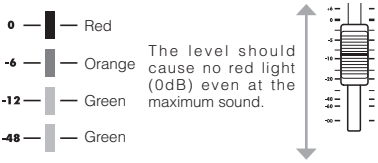
Red light on: recording enabled [REC]

3 Adjust the [GAIN].

Instrument starts sounding



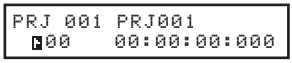
Briefly lights when the sound volume reaches maximum.



Recording~Stop

4 REW + STOP

Press [REW] & [Stop] at the same time to return the counter to the head.



5 REC + PLAY

Press [REC] and then [PLAY] to start recording.

REC Red light on PLAY Green light on

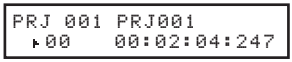
The counter starts moving.

Perform.

6 STOP

Press [STOP] to stop recording.

STOP Green light on REC PLAY The lights off



The counter stops moving, but does not return to 0.

HINT

Other Uses

- If you want to use the same track as you recorded before for the second track recording, you should transfer the file to another track, and make the target track empty. Refer to “Preparation of playback tracks” on P.24.
- You can also swap recorded tracks with unrecorded tracks.
- This method is useful for creating a second guitar track using Hi-Z.

NOTE

- If the first and second recordings are on different tracks, you can skip to Step 7, because you only need to change the track status and start recording.
- When you move file tracks, make sure there is no file assigned to the track where you plan to record (display says “NOT ASSIGN”). If there are assigned files, old files will be overwritten and cannot be retrieved.
- Select tracks using the STATUS KEYS. Orange lights indicate selectable tracks.
- Read-only files are displayed as <R.0> and cannot be recorded over if assigned.

Playback all the tracks

1 PLAY/MUTE/REC

Press the [PLAY/MUTE/REC] keys 1-2 times on all TRACKS to be played until the green lights are on.

Green light on: playback enabled [PLAY]

2 REW + STOP

Press [REW] & [Stop] at the same time to return the counter to the head.

3 PLAY

Press [PLAY] to start playback.

PLAY Green light on

4 STOP

Press [STOP] to stop playback.

STOP Green light on

NOTE

- When you move a file on a track, confirm that no files are assigned to the track to be recorded (“NOT ASSIGN”). If there is an assigned file, that recording will be overwritten by new recording.
- Recorded audio files on tracks will be overwritten by new recording. If you rewind the counter to the top and begin recording again, be aware that the overwritten previous recording will be lost.
- During playback the file assigned to the track is played.

HINT

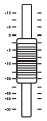
- If you want to record a new file, do not assign any file to a track.

Automatic punch-in/punch-out

The punch-in and punch-out functions enable you to pick already recorded portions of a recorded file and re-record them. You can set the beginning and ending points of the portion in advance and record automatically with punch-in at the beginning and punch-out at the ending.

Prepare the track you want to re-record with punch-in/punch-out

1 Re-recording a track



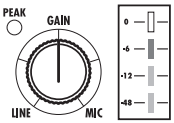
Raise the fader.

2 PLAY/MUTE/REC

Press [PLAY/MUTE/REC] 1-2 times until the red light is on.

Red light on: recording enabled

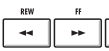
3 PEAK GAIN LINE MIC



Adjust the recording level and the GAIN to be the same as the already recorded part.

Make punch-in and punch-out settings

4 REW FF PLAY



Using [REW], [FF] and [PLAY] locate the point just before the re-recording (PUNCH IN).

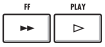
5 AUTO PUNCH I/O

Press [AUTO PUNCH I/O]

Set the punch-in point.

Icon blinks

6 FF PLAY



Pressing [FF] & [PLAY], locate the punch-out point.

7 AUTO PUNCH I/O

Press [AUTO PUNCH I/O]

Set the punch-out point.

Icon lights

Rehearse

1 PLAY

Press [PLAY] to start playing.

PLAY Light on

When the punch-in point is passed, the [MUTE] function of the track automatically starts.

Perform (not recording)

When the punch-out point is passed, the [MUTE] function is released.

2 STOP

Press [STOP] to stop.

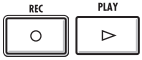
PLAY Light off.

Re-recording: punch-in/punch-out

8 REW

Move to before the PUNCH IN point.

9 REC PLAY



Press [REC] and then [PLAY] to start playback.

PLAY Light on REC Light off — Not recording.

Pass the punch-in point

Performance — PLAY REC Lights on — Recording.

Pass the punch-out point

PLAY Light on REC Light off — Not recording.

10 STOP

Press [STOP] to stop.

The recorder stops.

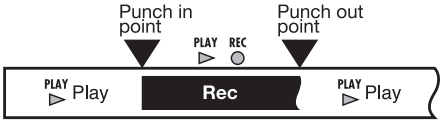
PLAY REC Light off

Release PUNCH IN/OUT

11 AUTO PUNCH I/O

Press [AUTO PUNCH I/O].

Icon off



Re-recorded portion.

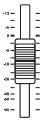
NOTE

- Once you make auto punch-in/out settings, you cannot change the points. To change the points you must cancel and reset them.
- Press the [AUTO PUNCH IN/OUT] key again to cancel the points set.

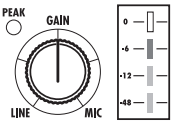
Manual punch-in/punch-out

You can punch in and out manually. Press the [REC] key during playback to start re-recording from that point.

Prepare the track for punch-in/ punch-out

1 
Re-recording track
Raise the fader

2 PLAY/MUTE/REC
Press [PLAY/MUTE/REC] 1-2 times until the red light turns on.
Red light on: recording enabled

3 

Adjust the recording level and the GAIN to be the same as the already recorded part.

Re-recording: punch-in/punch-out

4 REW
Using [REW], locate the point just before where you want to re-record.

5 PLAY
Press [PLAY] to start playback.
PLAY Light on

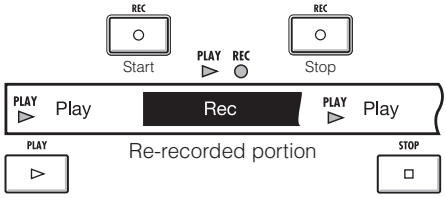

Start performance, not yet recording

6 REC
Press [REC] to start recording, (punch-in)
PLAY REC Lights on


Perform and record.

7 REC
PLAY Light on REC Light off
Press [REC] to stop recording/start playback (punch out).

8 STOP
Press [STOP] to stop.
The recorder stops.
PLAY REC Lights off



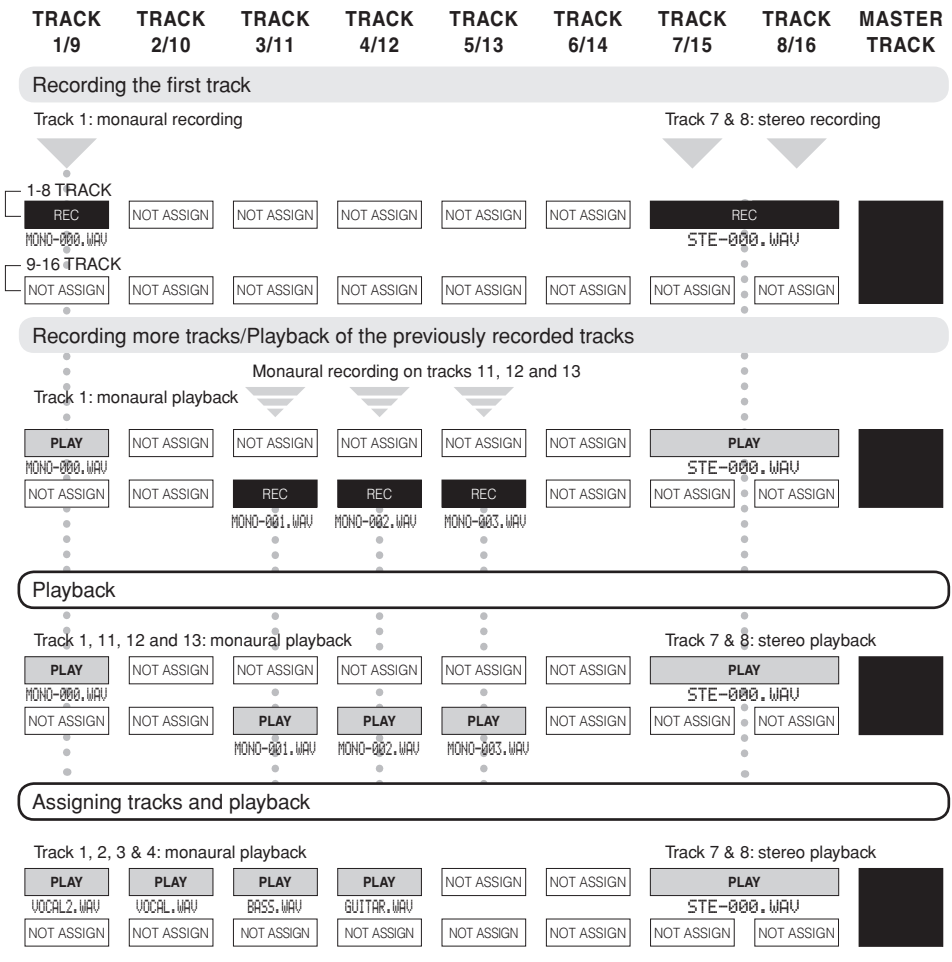
NOTE

- Punch-in/punch-out recording overwrites the existing recording. A previously recorded file should be assigned to the track.
- You can use the [UNDO/REDO] function.

Playback of a project

Recorded audio files are assigned to tracks for storage. During playback, all the tracks that you have enabled for playback with their status keys (green lights on) will be played.

Overview of recording and playback process in a project



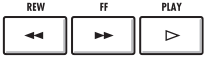
☞ Ref. : Assigning files to tracks. P.23

Repeat playback of a specific section (A-B repeat)

You can set and repeat playback between a beginning point (A) and an ending point (B) in a project.

Setting A-B points

1 REW FF PLAY



Locate the beginning point.

2 A-B REPEAT

Press [A-B REPEAT] .

A↔ blinks.

3 FF PLAY

Locate the end point.

4 A-B REPEAT

Press [A-B REPEAT] .

A↔B icon

A-B repeat: playback repeatedly

5 PLAY

Press [PLAY] to start repeat playback.

6 STOP

Press [STOP] to stop playback.

Cancel A-B repeat and the points

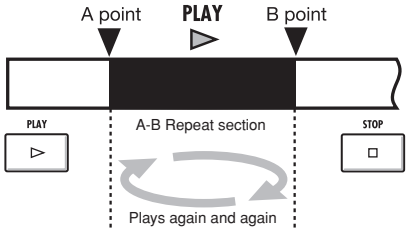
7 A-B REPEAT

Press [A-B REPEAT] again to cancel.

A↔B icon off

HINT

- When playback reaches point B, it automatically goes back to point A and continues playback.
- While the A↔B icon is on, playback repeats continuously.
- You can make these settings both during playback and when stopped.
- If you set point B at a time before point A, repeat playback will start from point B.
- If you want to make new settings, cancel the previous ones by pressing the [A-B REPEAT] key again and then make the new ones.



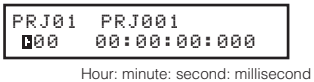
Using the counter and markers to move (locate)

The counter indicates recording time and elapsed time in minute/second/millisecond and bar/beat/tick (1/48beat). Use it to set marks that you can then quickly move (locate) to in your project.

Locate a time or position using the counter

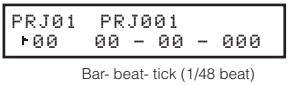
Preparation: Stop the recorder.
Select the project.
Start from the top screen.

1 Select hour: minute: second or bar-beat-tick.



Switch

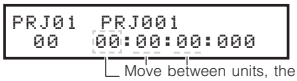
Hour: minute: second: millisecond



Switch

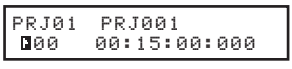
Bar- beat- tick (1/48 beat)

2 Choose the desired unit.
(Hour: minute: second: millisecond or bar-beat-tick.)



Move between units, the selected item blinks

3 Change the values.

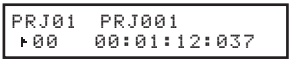


Move between items

Place a mark

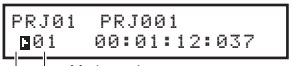
Place a mark using the counter

Start from the top screen.
Set the counter to the desired mark position.



Move between items

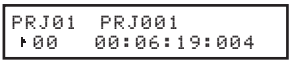
1 MARK/CLEAR Press [MARK/CLEAR].



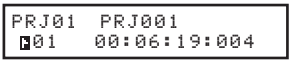
Mark number
Marker icon

Place a mark during recording/playback

In the middle of recording/playback

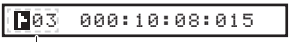


1 MARK/CLEAR Press [MARK/CLEAR].



HINT

Mark icon display



Mark number 3 is located at 10 minutes, 8 seconds, 15 milliseconds.

- Counter is at the indicated mark
- No mark registered at this counter position

Mark Numbers

- Mark 0 = Counter 0. This is the head of the project. You cannot change this particular mark.
- If you place a new mark ahead of a registered mark, all the following marks will be automatically renumbered in order.
- You can place a maximum of 100 marks in one project.

NOTE

- You cannot use these procedures during recording/playback.

HINT

- After Step 3 you can start playback from the set counter value.

Locate to the position of a mark

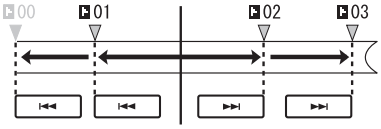
With key operations you can move between marks

1 ⏭ ⏮

Press the forward or backward mark key until you reached the desired mark.

```
PRJ01  PRJ001
▸03    00:12:00:037
```

Project



Move to mark numbers in counter sequence

1 Choose a mark.

```
PRJ01  PRJ001
 00    00:00:00:000
```

Blinks

Move between items ◀ ▶

2 Choose the mark number.

```
PRJ01  PRJ001
 03    00:12:00:037
```

Delete a mark

1 ⏭ ⏮

Press the forward and backward mark keys until you reach the desired mark.

```
PRJ01  PRJ001
 03    00:12:00:037
```

2 MARK/CLEAR Press [MARK/CLEAR].

```
PRJ01  PRJ001
▸02    00:12:00:037
```

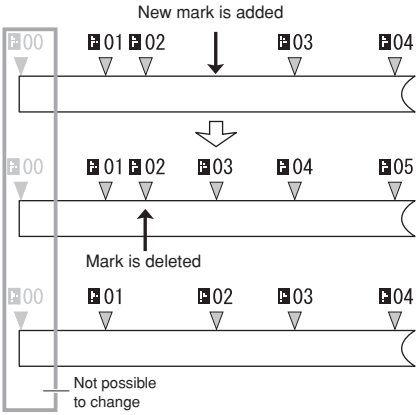
The selected (highlighted) mark is erased and the preceding mark is shown (the counter does not move).

NOTE

- Once you delete a mark, you cannot retrieve it.
- You cannot delete the top mark 00.

HINT

- If you press the [MARK/CLEAR] key at a place where a mark exists (mark icon highlighted), that mark is deleted. If there is no mark at a location (icon not highlighted), a new mark is placed there. To delete a mark, you must move to it first (mark icon highlighted).
- When placing and deleting marks, numbers are automatically given in order from the beginning.



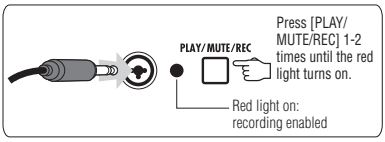
Tuner

The R16 has a multifunctional tuner that includes, for example, chromatic tuning that detects note names by semitones, standard guitar/bass tuning and half-step-down tuning.

1 TOOL

Press [TOOL].

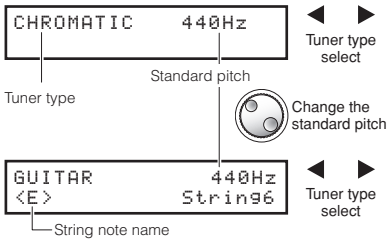
2



3 Select >TUNER.

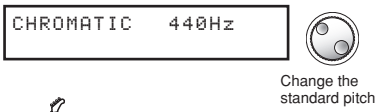
ENTER Press [ENTER].

4 Select the type of tuner.

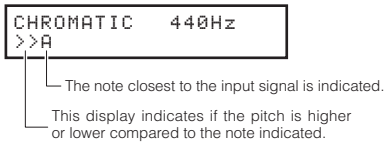


Chromatic tuner
TOOL>TUNER>CHROMATIC

5

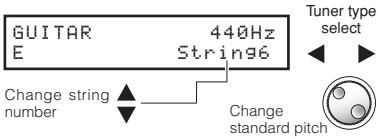


Change the standard pitch (if necessary) and begin tuning.



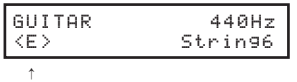
Other tuner types
TOOL>TUNER>GUITER/BASS, etc.

5 Select the tuner type.



6

Set the standard pitch and string number.
Start tuning.



HINT

Pitch indicator

- The pitch indicator responds to sources input on tracks with red status lights.
- The standard pitch setting is between 435 Hz and 445 Hz in 1 Hz units. The initial setting is 440 Hz.
- Using the other tuners you can use common half-step and whole-step down tunings, for example.
- The standard pitch value setting will be stored separately for each project.

Tuner type		GUITAR	BASS	OPEN A	OPEN D	OPEN E	OPEN G	DADGAD
String/ note	String1	E	G	E	D	E	D	D
	String2	B	D	C#	A	B	B	A
	String3	G	A	A	F#	G#	G	G
	String4	D	E	E	D	E	D	D
	String5	A	B	A	A	B	G	A
	String6	E		E	D	E	D	D
	String7	B						

Metronome

This metronome, which includes a pre-count function, allows you to change its volume, tone and pattern. You can also choose to output the metronome sound only through the headphones.

1 TOOL

Press [TOOL].

```
TOOL
>TUNER
```

Change menu ◀ ▶

2 Select >METRONOME.

```
TOOL
>METRONOME
```

ENTER Press [ENTER].

These are the standard metronome settings (common).

3 Select each setting MENU.

```
METRONOME
>ON/OFF
```

Change menu ◀ ▶

```
METRONOME
>TEMPO
```

4 Select the settings and setting values.

```
METRONOME  ON/OFF
Play&REC
```

Change item

ENTER Press [ENTER].

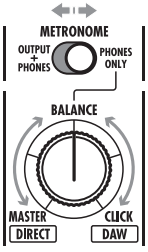
HINT

Tapping the tempo

- On the TEMPO screen, press the (TOOL) key several times at the tempo you desire, and the tempo will be set to the detected median value.

Changing and adjusting the metronome output

[METRONOME] switch: Sets the output

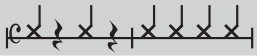


OUTPUT + PHONES
The METRONOME sound is output through both the OUTPUT and PHONES jack.
PHONES ONLY
The metronome sound is output through only the PHONES jack.
Use the BALANCE knob to adjust the relative volumes of the [MASTER] fader signal and the metronome sound. **MASTER** **CLICK** (metronome)

- These settings are stored for each project.
- You can use the metronome even during MASTER TRACK playback.

MENU settings and setting values

ON/OFF: Set when active	
Settings	
Play Only	During playback only
REC Only	During recording only
Play&REC	During both playback & recording
Off (default)	No metronome sound
TEMPO: Set manually or by number	
Manual input	Input the tempo by tapping the [TOOL] key repeatedly
Setting range	
40.0~250.0	Initial value: 120.0
LEVEL: Change metronome volume	
Setting range	
0–100	Initial value: 50
PAN: Stereo position	
Setting range	
L100–R100	Initial value: C (center)
SOUND: Change tone	
Settings	
BELL (default)	Metronome sound with a bell on the accent
CLICK	Click sound only
STICK	Drum stick sound
COWBELL	Cowbell tone
HIGH-Q	Synthesized click sound
PATTERN: Change rhythm	
Settings	
0/4 (no accent) 1/4~8/4, 6/8	Initial value: 4/4
PRE-COUNT: Pre-count setting	
Settings	
Off	No sound
1~8	Enable sound during pre-count for 1 to 8 beats. Initial: 4 beats
SPECIAL	Special (rhythm shown below)



NOTE

Be aware that the metronome starts sounding from the instant that recording/playback begins. Therefore, if you begin in the middle of a song, the metronome sound and the pulse of the music might be out of sync. Moreover, if you turn the metronome volume up high, the accented beat of some sounds might become difficult to distinguish.

METRONOME Metronome indicator

During metronome use the metronome indicator lights in time with the tempo.

16-track synchronized recording by connecting two R16s

If you want to record more then 8 tracks at the same time for a band performance, for example, you can increase the number of tracks by connecting two R16s with a USB cable.

Make sender settings.

Set the R16 that will be used for key control as the Master.

1 TOOL — Press [TOOL].

2 Select >SYSTEM.

```
PROJECT
>SYSTEM
```

Change menus ◀ ▶

ENTER — Press [ENTER].

3 Select >SYNC REC.

```
SYSTEM
>SYNC REC
```

Change menus ◀ ▶

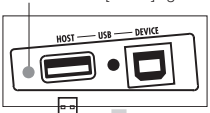
ENTER — Press [ENTER].

4 Select >Master.

```
SYNC REC
>Master
```

ENTER — Press [ENTER]. Master/Slave

USB Indicator: [HOST] light on



Make receiver settings.

Set the R16 that receives commands as the Slave.

1 TOOL — Press [TOOL].

2 Select >SYSTEM.

```
PROJECT
>SYSTEM
```

Change menus ◀ ▶

ENTER — Press [ENTER].

3 Select >SYNC REC.

```
SYSTEM
>SYNC REC
```

Change menus ◀ ▶

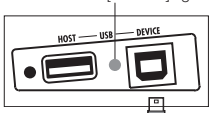
ENTER — Press [ENTER].

4 Select.>Slave.

```
SYNC REC
>Slave
```

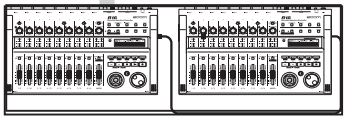
ENTER — Press [ENTER]. Master/Slave

USB Indicator: [DEVICE] light on.



5 Connect two R16 with a USB cable.

Plug a USB 2.0 (AB-type) cable into the socket that has a lit indicator.



NOTE

- Perfect synchronization of the start timing in recording by two R16s is not guaranteed.
- There will be a gap of approximately 1-2 ms.

HINT

Command keys that effect both sender and receiver.

REC ○	[REC] key	FF ▶▶	[FF] key
PLAY ▷	[PLAY] key	REW ◀◀	[REW] key
STOP □	[STOP] key		

R16 mixing procedure flow

Use the track mixer to make stereo link settings, to adjust sound volume, EQ and PAN (balance), and to adjust the send signal strength, which affects the depth of send return effects.

Adjust volume, EQ and PAN of sounds

Select the SEND-RETURN EFFECT patch

Adjust the SEND-RETURN EFFECT

Apply the insert effect to tracks

Mix down

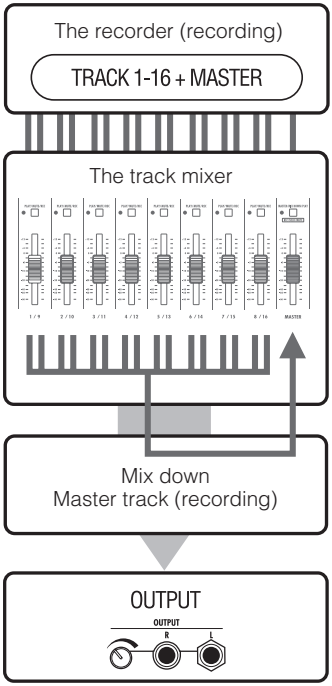
NOTE

- When you are using a stereo track, except for the phase setting, parameter values are shared by both L and R channels.

HINT

What is the track mixer?

- This mixer can mix audio tracks from the recorder into stereo.
- You can adjust the sound volume and PAN and EQ parameters of each track using its fader.

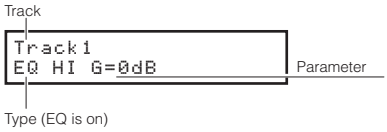


Track settings for EQ, pan and send-return level

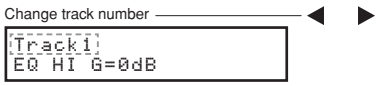
This track mixer uses track parameters to adjust PAN (stereo position), EQ (equalizer) and SEND-RETURN EFFECT of the recorder's audio tracks.

1 PAN/EQ

Press [PAN/EQ].

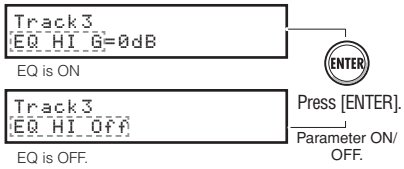


2 Select a track.

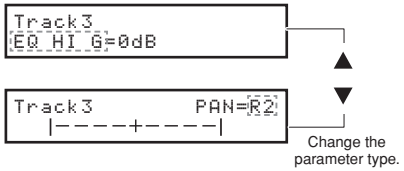


3 Turn ON/OFF and select types and values.

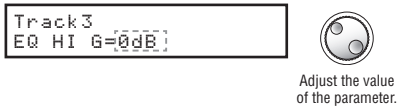
Turn setting off.



Change the parameter type.



Adjust the value of the parameter.



4 ENTER Press [ENTER] to confirm settings.

HINT

- Using the track mixer, you can adjust each track element (track parameter), including PAN and the SEND-RETURN EFFECT settings to change the signal processing track by track.
- At step 2, tracks can be selected using track status keys. Track indicators light orange when the track is selected.

NOTE

- The parameters of the L/R channels in stereo tracks are the same except the phase setting (INVERT).
- The settings are stored with the project.
- The MASTER TRACK does not have any settings except for volume control with its fader.

Track parameters

Parameters available to each track

Monaural tracks: 1 ~16
Stereo tracks: 1/2 ~ 15/16

Display	Parameter	Setting range: Initial value	Explanation	Monaural tracks	Stereo tracks	Master track
PAN	PAN	L100~ R100	Adjusts a track's PAN. In case of a stereo track adjusts the volume balance between the left and right tracks.	○	○	
EQ HI EQ boost for high pitch/frequency range						
EQ HI G	EQ HI GAIN*	–12~ +12dB :0dB	Adjust amount of boost/cut of high frequencies by -12 ~ +12 dB. This parameter is shown only when EQ HI is on.	○	○	
EQ HI F	EQ HI FREQUENCY*	500(Hz)~ 18(kHz) :8.0(kHz)	Adjust EQ boost/cut frequency of high frequencies. This parameter is shown only when EQ HI is on.	○	○	
EQ MID EQ boost for middle pitch/frequency range						
EQ MID G	EQ MID GAIN*	–12~ +12dB :0dB	Adjust amount of boost/cut of medium frequencies by -12 ~ +12 dB. This parameter is shown only when EQ MID is on.	○	○	○
EQ MID F	EQ MID FREQUENCY*	40(Hz)~ 18(kHz) :1..0(kHz)	Adjust EQ boost/cut frequency of medium frequencies. This parameter is shown only when EQ MID is on.	○	○	
EQ MID Q	EQ MID Q-FACTOR*	0.1~1.0 :0.5	Adjust the Q value (width of the frequency band affected) of medium frequencies. This parameter is shown only when EQ MID is on.	○	○	
EQ LOW EQ boost for low pitch/frequency range						
EQ LO G	EQ LOW GAIN*	–12~ +12dB :0dB	Adjust amount of boost/cut of low frequencies by -12 ~+12dB. This parameter is shown only when EQ LO is on.	○	○	
EQ LO F	EQ LOW FREQUENCY*	40(Hz)~ 1.6(kHz) :125(Hz)	Adjust EQ boost/cut frequency of low frequencies . This parameter is shown only when EQ LO is on.	○	○	
SEND-RETURN EFFECT levels						
REVERB SEND	REVERB SEND LEVEL*	0~100 :0	Adjust the signal level sent from tracks to the Reverb effect.	○	○	
CHORUS SEND	CHORUS/ DELAY SEND LEVEL*	0~100 :0	Adjust the signal level sent from tracks to the Chorus/Delay effect.	○	○	
FADER	FADER	0~127 :0	Adjust the sound volume.	○	○	○
ST LINK	STEREO LINK	On/Off :Off	Switch on/off to set the stereo link function that connects 2 monaural tracks together. (→P.20)	○		
INVERT	INVERT	On/Off :Off	Set whether the phase of a track is inverted or not. Off: normal phase, ON: inverted phase.	○	○	

*Switch parameters with asterisks (*) On/Off using the ENTER key.

Combine multiple tracks into 1~2 tracks

Combine multiple tracks into one monaural or stereo file.
Using BOUNCE, this creates a new file in the same project.

Settings for the bounced tracks
PROJECT>REC SETTING>BOUNCE

Start from the top screen.

1 PROJECT
Press [PROJECT].

2 Select >REC SETTING.

```
PROJECT
>REC SETTING
```

Change menus

ENTER Press [ENTER].

3 Select >BOUNCE.

```
REC SETTING
>BOUNCE
```

Change menus

ENTER Press [ENTER].

Set whether the track that is overwritten by the bounce recording is muted or not.

4 Select >REC TRACK: Play.

```
BOUNCE
REC TRACK: Play
```

5 ENTER Press [ENTER].

Mute: Set the bounce destination track to be silent (initial setting).
Play: Set the bounce destination track to play and be included in the bounce.

NOTE

- You can cancel a bounce using the [UNDO/REDO] key.
- If you bounce 2 monaural tracks to stereo, set the PAN of the odd number track to L 100 and the even number track to R 100.

☞ Ref: Mix down P.41, 44

Bounce (preparation)

1 Set tracks that you want to bounce to playback.

PLAY/MUTE/REC Press the [PLAY/MUTE/REC] 1-2 times until the green light turns on.

Green light on: playback enabled (PLAY)

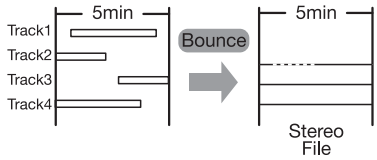
2 Select destination track(s) for the bounce.

PLAY/MUTE/REC Press [PLAY/MUTE/REC] 1-2 times until the red light turns on.

Red light on: record enabled [REC]

HINT

- "Bounce" means combining audio data from several tracks and files together into one stereo or monaural file. This is also called "ping-pong recording."



- To also record the signal of the track(s) that the bounce is being recorded to, set "REC TRACK" to "Play" in the BOUNCE Menu as described at Step 4.
- Once the bounce is executed, a new file will be created in the same project.
- If you set the bounce destination to a monaural track, the recorded signals are mixed to monaural. If set to a stereo link track pair, the recorded signals are mixed to stereo.

Bounce (recording)

3 SWAP/BOUNCE

Press [SWAP/BOUNCE].

4 Select >BOUNCE.

```
SWAP/BOUNCE
> BOUNCE
```

Change menus

Press [ENTER].

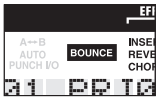
5 Select On.

```
BOUNCE
On
```

Set On/Off

Press [ENTER].

BOUNCE icon appears on display



Proceed to the next step or cancel

Select OFF to exit bounce mode.

6 Press and hold [EXIT] to return to the top.

7 Press [REW] & [Stop] at the same time to return the counter to the head.

8 Press [REC] and then [PLAY] to start recording.

REC Red light on

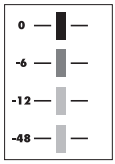
PLAY Green light on

9 Press [STOP] to end the bounce.

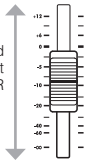
Adjust the mix balance (audition)

1 Press [PLAY] to start playback.

2 Adjust the mix balance including REC LEVEL, volume, PAN and EQ for each track.



Make sure that the red (0 dB) signal does not light on the MASTER level meter.



3 Press [STOP] to stop playback.

Playback the track after bouncing

1 Press [PLAY/MUTE/REC] of the bounce destination track.

PLAY/MUTE/REC Press it 1-2 times until the green light turns on.

Green light on: playback enabled (PLAY)

2 Press [PLAY/MUTE/REC] on the tracks bounced.

PLAY/MUTE/REC Press 1-2 times each until the light turns off.

Light off: MUTE (no sound)

3 Press [REW] & [Stop] at the same time to return the counter to the head.

4 Press [PLAY] to start playback.

Using a mastering effect

Use a mastering algorithm as an insert effect on the master track that affects just the mix down.

Insert an INSERT EFFECT before the [MASTER] fader.

1 INSERT EFFECT

Press [INSERT EFFECT].

Effect ON/OFF switch

If "INSERT EFFECT Off" is displayed, press [ENTER].

Change algorithms

```
CLEAN            <IN1>
No.00:Standard
```

2 Select MASTERING.

```
MASTERING     <IN1/2>
No.00:PlusAlfa
```

Change menus

3 Press[▼].

```
No.00:Plus Alfa
>EDIT
```

Change menus

4 Select >INPUT SOURCE.

```
No.00:Plus Alfa
>INPUT SOURCE
```

Press [ENTER].

```
Input Source
INPUT1
```

Change input

5 Select MASTER.

```
Input Source
MASTER
```

Press [ENTER].

```
No.00:Plus Alfa
>EDIT
```

Change menus

6 Press[▲].

```
MASTERING    <MASTER>
No.00:PlusAlfa
```

7 Select the patch.

```
MASTERING  <MASTER>
No.03:DiscoMst
```

Audition the patches while listening to the tracks playback, and then select one.

Change patch

PLAY ▷ ▶ STOP □

8 Press [EXIT].

```
PRJ001          <MASTER>
 00          000:00:000
```

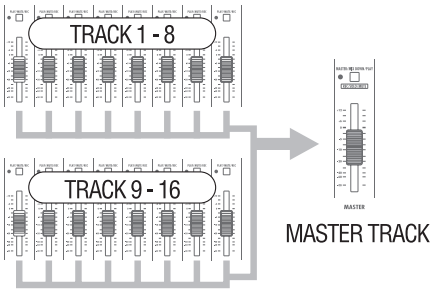
NOTE

- If the INSERT EFFECT is applied to the [MASTER] fader, you cannot also use the INSERT EFFECT on track inputs.
- At step 7, if you notice any distortion of the signals because of the MASTERING EFFECT, check the sound of playback on the track and adjust it by lowering all the faders. (If a track sound is distorted, adjust that track.)
- You can select STEREO, DUAL, MIC or MASTER algorithms. If you set another algorithm, the insert position changes to the inputs.

HINT

- When you choose a MASTERING algorithm, you can use the MASTERING EFFECT processing on the stereo mix.

Recording signal flow to the master track



Recording to the master track

Record a "final" stereo mix as a mix down on the [MASTER] track. Signals are recorded to the [MASTER] track after passing through the [MASTER] fader.

Recording to the [MASTER] track.

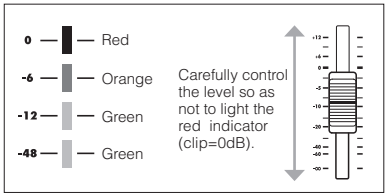
Preparation: Adjust the signal levels.

1 REW + STOP, PLAY

Press [REW] + [STOP] at the same time and then [PLAY] to start playback from the top.

Play the tracks, and adjust the mix balance of the tracks.

2 Adjust the level of the signal that passes through the master fader.



Carefully control the level so as not to light the red indicator (clip=0dB).

3 STOP

Press [STOP].

Recording to the master track

4 MASTER/MIX DOWN/PLAY, REC/SOLO/MUTE

Press [MASTER/MIX DOWN/PLAY] 1-2 times until the red light turns on.

Red light on: recording enabled

5 REW + STOP

Press [REW] & [Stop] at the same time to return the counter to the head.

6 REC + PLAY

Press [REC] and [PLAY] in turn to start recording.

7 STOP

Press [STOP] to stop recording.

Play the master track

1 MASTER/MIX DOWN/PLAY, REC/SOLO/MUTE

Press [MASTER/MIX DOWN/PLAY] 1-2 times until the green light turns on.

Green light on: playback enabled

Doing this mutes the other tracks and disables all effects.

2 REW + STOP, PLAY

Press [REW] & [Stop] at the same time to return the counter to the head.

Press [PLAY] to start playback.

3 STOP

Press [STOP] to stop playback.

Disable master track playback.

4 MASTER/MIX DOWN/PLAY, REC/SOLO/MUTE

Press [MASTER/MIX DOWN/PLAY] 1-2 times until the light turns off.

Light off: muted

Muting of the other tracks is canceled and their status lights become as they were before enabling master track playback.

NOTE

The settings of the pan/balance, insert and send/return effects of each track affect the signals sent to the master track and are reflected in its sound.

HINT

- Each project can have one master track.
- The master track will have a file assigned.
- You can even mix down from the middle of a song, overwriting the data of the recorded section.
- During recording you can confirm the playback levels of each track and the recording levels of the master track.
- The signals sent from the OUTPUT jacks are the same signals that have passed through the [MASTER] fader.
- You can use the [UNDO/REDO] key.
- You can use the metronome during playback.

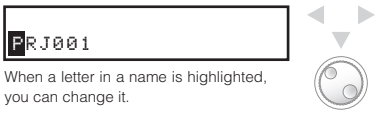
☞ Consecutive playback of multiple master tracks. No.65

Entering names

You can change names when you create new data, use RENAME menu functions or edit patches. Whatever name change method you use, the handling of letter positions and letters is the same.

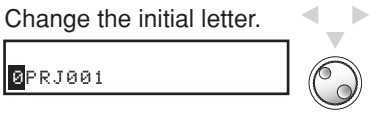
Keys used for name changes

1 Select a letter.



When a letter in a name is highlighted, you can change it.

2 Change the initial letter.

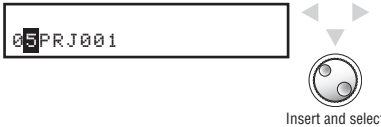


Insert and select letter

3 Choose the second letter to be changed.

Move letter position

4 Change the second letter.

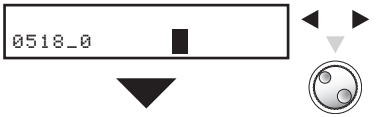


Insert and select letter

5 Delete the third letter.

Letter deletion

6 Choose the last letter and change.



7 ENTER Proceed to the next action
or
EXIT exit without saving the change.

Names and rules

Project	Usable characters
Project number PRJ xxx: PRJ (space, 3 numerals) The project number is given automatically starting with the lowest and is not changeable.	None
Project name PRJxxx: PRJ, 3 numerals, Maximum of 8 characters	Numerals: 0-9 Alphabet: A-Z, a-z Symbols: (space) ! " # $ % & ' ( ) *+ , - . /: ; <> = ?@ [ ] ^ _ ` { }|

File (recorded)	Usable characters
Monaural files MONO-xxx.WAV MONO-, 3 numerals (x), extension (.WAV) **Stereo files** STE-xxx.WAV STE-, 3 numerals, extension (.WAV)	Maximum of 8 characters + .WAV (extension) Numerals: 0-9, Alphabet: A –Z, Symbol: _ (under score)
Mix Down (Master) "MASTRxxx.WAV" MASTR, 3 numerals, extension (.WAV)	

Insert effect/Send-Return effect	Usable characters
Patch number: 2 numerals. The patch number is given automatically starting with the lowest and is not changeable.	None
Patch name: 8 characters.	Numerals: 0-9 Alphabet: A-Z Symbols: (space) ! " # $ % & ' ( ) *+ , - . /: ; < > = ?@ [ ] ^ _ ` { }|

NOTE

- When a name is displayed and the initial letter is highlighted during operation, you can change the name.
- If the same name exists, a ∗ symbol will be attached to the top of the name. You have to change the name to save it.
- Deleted letters cannot be retrieved. You can restart the procedure with the EXIT key.
- If you have mistakenly changed a patch name, move to the next patch without saving.
- The numbers "xxx" of a name are automatically assigned at naming time.

Error list: what to do when these messages appear on the screen

Push the [EXIT] key when you see a message like “---Error” or “Please push the EXIT key.”
When other errors and messages occur, the displayed screen will automatically close within three seconds.

Message	Meaning	Response
Message when something is missing.		
No Card	There is no card inserted.	Make sure that an SD card is inserted correctly.
No Project	There is no project at all.	Check that the project has not been deleted or changed to a different place.
No File	There is no file in the project.	Check that the file has not been deleted or stored in a different place.
No USB Device	There is no USB connection.	The connection may have been canceled or there may be problems with the cable.
Messages shown frequently		
Reset DATE/TIME	Setting lost because of low battery.	Set the [DATE/TIME] again. →P.14
Low Battery!	Time to change the batteries.	Change batteries or connect the adapter.
Stop Recorder	Cannot be accessed during playback/ recording.	Stop the recorder first, and then try again.
Messages that objects (projects, files, etc) are protected		
Card Protected	SD card is protected.	Eject the SD card and unlock the write protection. Insert the card again. →P.12
Project Protected	The project is protected.	Disable project protection using the [PROTECT] menu. →P.56
File Protected	This is a read-only file, you cannot write to it.	Disable the read-only status of the file using a computer.
USB Device Protected	USB device connection is protected.	Disable the protection of the equipment.
Over capacity or over limit messages		
Card Full	The card is full.	Change to a new card or delete unneeded data.
Project Full	No more projects can be saved on the card.	Delete unneeded projects.
File Full	File is full.	Delete unneeded files.
USB Device Full	The connected USB device is full.	Change the connected USB device or delete data.
No access messages		
Card Access Error	Unable to read or write the card.	Press EXIT and try the operation again.
Project Access Error	Unable to read or write the project.	Press EXIT and try the operation again.
File Access Error	Unable to read and write the file.	Press EXIT and try the operation again.
USB Device Access Error	Unable to read or write to the connected USB device.	Press EXIT and try the operation again.
Card Format Error	This is a card format the R16 cannot use.	Change the card format to one that the R16 can use.
File Format Error	This is the file format the R16 cannot use.	Change the file format to one that the R16 can use.
USB Device Format Error	This is a USB format the R16 cannot use	Change the USB format to one that the R16 can use.
Other errors		
Card Error	There is an error occurring.	Press EXIT and try the operation again.
Project Error		
File Error		
USB Device Error		

Effect patch overview

You can select patches in the R16, use effects easily, make fine adjustments to suit the music, and then edit and save patches.

Effect patch use process

Use effects
→INSERT EFFECT P.49
→SEND RETURN P.49

Adjust the effect send level →REV/DLY SEND P.41

Adjust the effect send level →REV SEND P.41

Patch selection
→PATCH SELECT P.50

You can select and use algorithms, pre-set patches and their combinations.

Edit a patch
→EDIT P.53

You can make subtle adjustments to effect module parameters to achieve sounds you like.

- Edit the modules
- Select the types
- Adjust the parameters
- Edit the patch level

Save patches
→SAVE P.55

Import patches
→IMPORT P.55

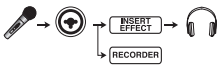
You can use patches imported from other projects.

- All patches
- One patch

Set insertion position
→INPUT SOURCE P.51

- INPUT 1-8
- Track 1-16
- MASTERING

Use only for monitoring
→REC SIGNAL P.57

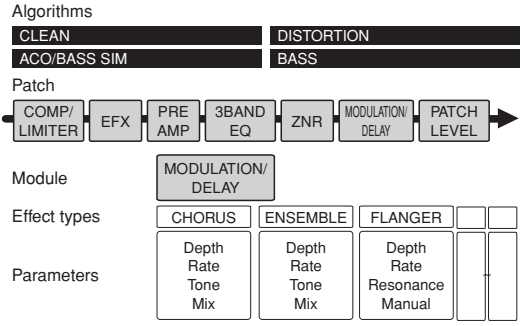


◇○Patch initialization
→PATCH INITIAL (PDF)

Guide
○ : Only "AI" uses "SEND E"
● : "R" and "AI" both use "SEND E"
◇ : Only "AI" uses "INSERT E"
◆ : "R" and "AI" share INSERT
◎ : All shared
R/AI shared:
INSERT E/SEND E shared
R = Recorder
AI = Audio Interface
SEND E. = SEND RETURN EFFECT
INSERT E. = INSERT EFFECT

Algorithms and patches

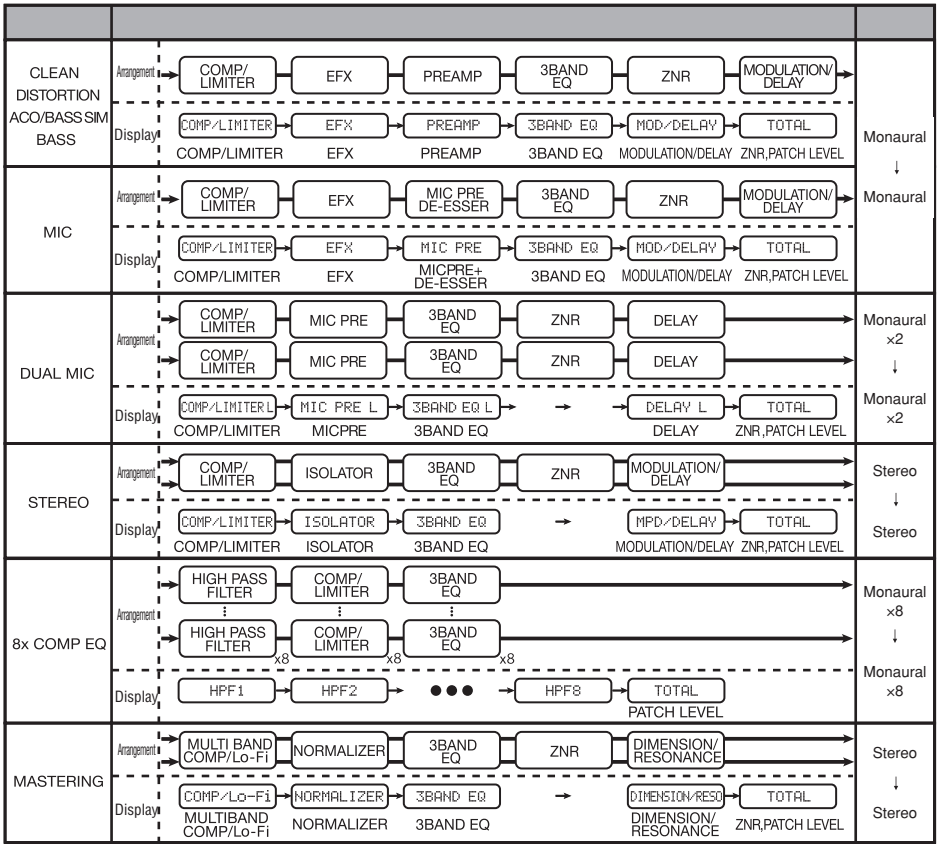
One effect is called an "effect module" and it consists of 2 elements.
Effect types, which are different types, and effect parameters, which control the depth of the effect.
A patch is the result of adjusting the effect type and parameters of each module.
An algorithm is the orderly arrangement of the initial patches arranged for recording targets or methods.



Insert effects and send return effects

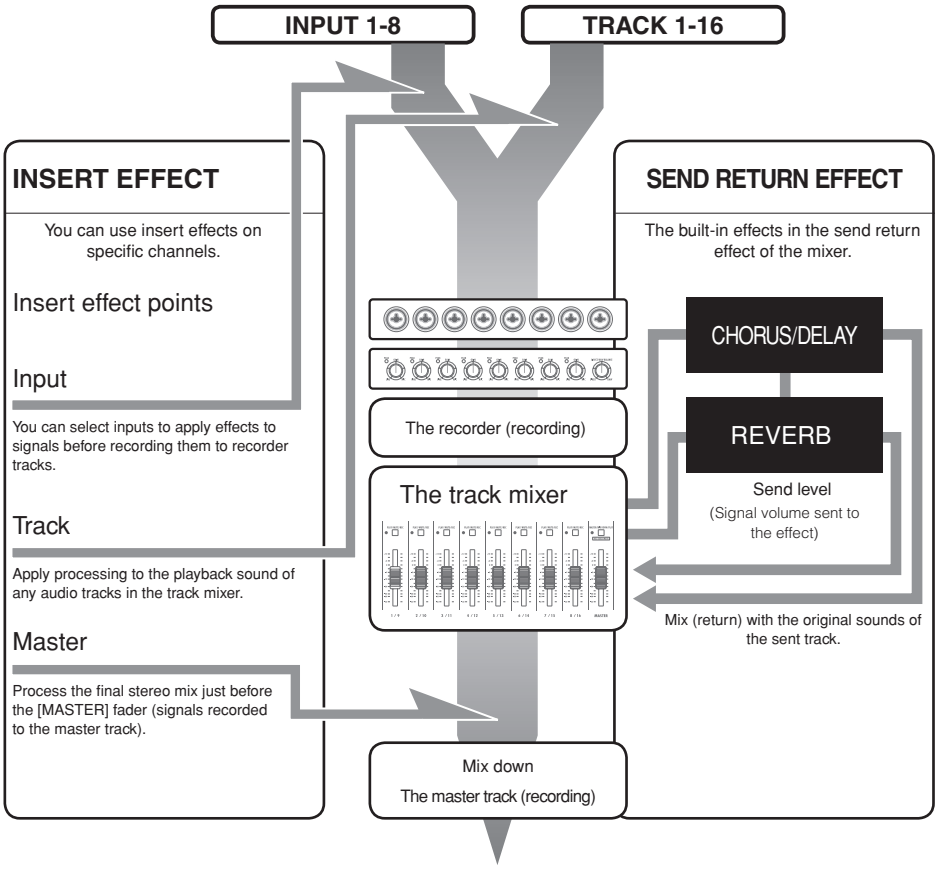
The insert effects in one project include 330 patches classified into 9 algorithms. You can select the algorithms and patches according to your application and choose where to insert those patches.

The send/return effect is internally connected in the SEND/RETURN at the MIXER section. There are 2 types of effects adjustable by their mixer SEND LEVELS (signal volumes sent to the effect) and they can be used together.



Input/output of the insert and send return effects

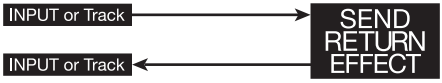
There are 2 types of effects processors built in to the R16—insert effects and send return effects. You can use them at the same time.



Insert effect signal flow

Put the insert effect on a monaural input and output in monaural.

Send return effect signal flow



☞ Ref.: Insert effect position P.52

Uses of effects and patches

Insert effects and send return effects are selected and adjusted the same way.

You can select the most appropriate modules from the algorithms, edit types and parameters and use saved patches.

There are a few major differences between the two types of effects when making settings. For an INSERT EFFECT, you select a patch and set the insertion point. For a SEND RETURN EFFECT, you adjust the send level of the signals using the mixer.

Other functions are “IMPORT” to get patches from another project and “REC SIGNAL” to apply the effect only to monitoring.

The use procedures of effects are the same when using the R16 as an audio interface and control surface, but the patches are initialized when the unit is not used as a recorder.

INSERT EFFECT

Algorithm name on display	Number of patches (programmed patches)
▼Algorithm suitable for guitar/bass recording	
CLEAN	30(22)
DISTORTION	50(40)
ACO/BASS SIM	20(10)
BASS	30(20)
▼For microphone recording, such as vocals	
MIC	50(30)
▼For 2 independent channels (2 mono inputs/outputs)	
DUAL MIC	50(30)
▼ For recording synthesizers, electric pianos and other line-output instruments	
STEREO	50(40)
▼ Algorithm with 8 independent channels of input/output	
8×COMP EQ	20(10)
▼ Processing for final stereo mixes	
MASTERING	30(21)

SEND RETURN EFFECT

Algorithm name on display	Number of patches (programmed patches)
▼ Process final stereo mix signals	
CHORUS/DELAY	30(18)
▼ Process final stereo mix signals	
REVERB	30(22)

Select effect & patch

Effect <INSERT EFFECT>
<SEND EFFECT>

1 Press until the red light turns on.

2 INSERT EFFECT or SEND RETURN EFFECT

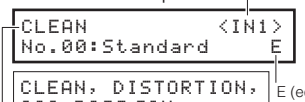
Press [INSERT EFFECT] or [SEND RETURN EFFECT].

Press [ENTER] to turn on/off.

3 Select the algorithm.

Algorithm name
Patch number: Patch name

Insert effect example



Insert effect insertion point

Change algorithm

E (edit mark): items are already edited

CLEAN, DISTORTION,
ACO/BASS SIM,
BASS, MIC,
DUAL MIC, STEREO,
8× COMP EQ,
MASTERING

CHORUS/DELAY
REVERB

Send return effect example

4 Select the patch.

Change patch

Press [▼].

▶ EDIT P.53
▶ IMPORT P.55
▶ INPUT SOURCE P.51
▶ REC SIGNAL P.57

Insert effect insertion position

You can change the insert position of the Insert Effect.
This menu is only for Insert Effect.

1

INSERT EFFECT

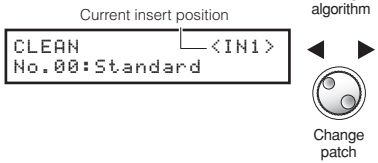
Press [INSERT EFFECT].

Effect on/off switch.

If "INSERT EFFECT Off" is displayed, press [ENTER].

2

Select the algorithm/patch.



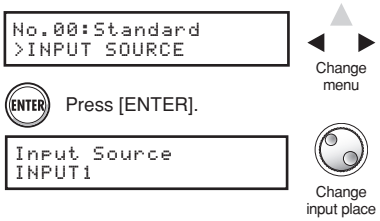
IN**	Inserted in INPUT **
IN/****	Inserted in INPUTS ** and **
TR**	Inserted in TRACK **
TR/****	Inserted in TRACKS ** and **
IN*~**	Inserted in INPUTS * to **
TR*~**	Inserted in TRACKS * to **
MASTER	Inserted in the master track

3

Press[▼].

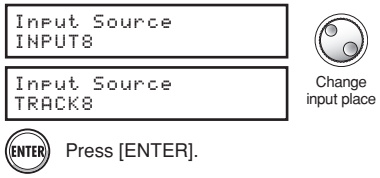
4

Select >INPUT SOURCE.



5

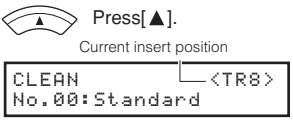
Set source of input into effect.



On display	Insert place
Input	Mixer input
Input1~Input8	Single mixer input
Track1,Track2	Output from either monaural track 1 or 2
Track1/2, Track3/4	Output from either stereo track or 2 monaural tracks
Master	Just before the [MASTER] fader
With 8 x Comp EQ setting case	
Track1-8	All track 1–8 outputs
Track9-16	All track 9–16 outputs

6

Press[▲].



NOTE

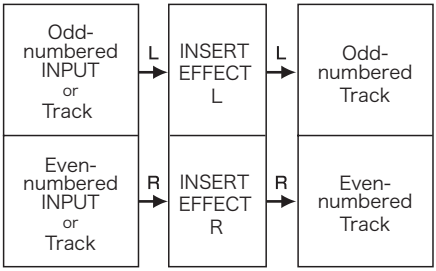
- You can select a single INPUT (1~8) only when you have chosen the CLEAN, DISTORTION, ACO/BASS SIM, BASS or MIC algorithm.
- You can select Track 1-8 or Track 9-16 only when the 8 x COMP EQ is chosen as the algorithm.
- INPUT 1-8 can be selected only when the 8 x COMP EQ algorithm has been chosen.
- After you select an insertion place, if you change the algorithm to 8 x COMP EQ, the insertion place will be changed to Input 1-8, Track 1-8 or Track 9-16 (depending on the previous setting).
- To insert into a single monaural track output, you must select TRACK 1 ~ TRACK 8. To insert into a two monaural tracks or a stereo track, you must select TRACK 1/2 ~ TRACK 15/16. If you want to insert before the MASTER FADER, you must select MASTER.

HINT

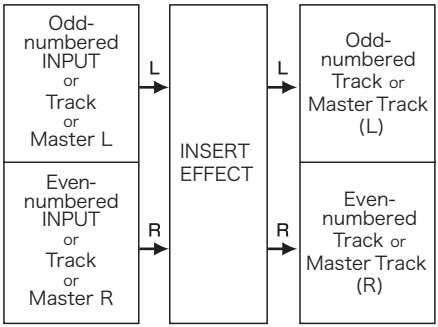
Change the insertion place of the insert effect.
When a project is at the default status, the insert effect is inserted on INPUT 1.
To change this place, select an INPUT SOURCE at Step 4:

Insert position of insert effect

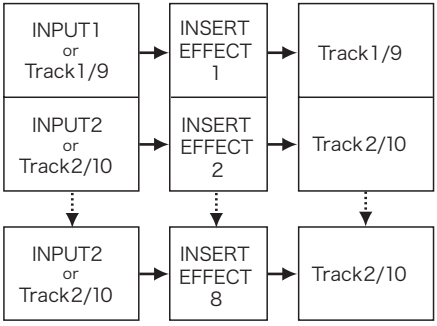
Inserting the INSERT EFFECT into 2 monaural inputs
(DUAL algorithm)



Inserting an INSERT EFFECT into a stereo input
(Stereo Master algorithm)



Inserting an INSERT EFFECT on 8 inputs
(8 x COMP EQ algorithm)



Insert effect / Send return effect: Patch editing

You can create patches that combine effects together, change effect types in patches, or change processing however you like by adjusting the depth of effects using their parameters.

INSERT EFFECT or SEND RETURN EFFECT

Press [INSERT EFFECT] or [SEND RETURN EFFECT].

1 Effect on/off switch.

INSERT EFFECT

If "INSERT EFFECT Off" is displayed, press [ENTER].

2 Select the algorithm/patch.

```
CLEAN              <IN1>
No.15:Standard      E
```

Change algorithm

Change patch

3 Press [▼].

4 Select >EDIT.

```
No.15:Standard
>EDIT               E
```

Change item

ENTER Press [ENTER].

Edit effect modules

5 Turn the effect types on/off.

Effect module off

```
Compressor
Off
```

ENTER Press [ENTER] to switch.

Type (effect module) ON

```
COMP/LIMITER        E
Compressor
```

Effect type

E: Edit mark
Shown after you edit or change

Set the effect module

6 Select the effect module.

```
COMP/LIMITER        E
Compressor
```

Change module

```
MOD/DELAY           E
Chorus
```

Effect type

Edit the patch level (final patch sound volume)

7 Set the patch level.

```
TOTAL
Patch Level=25
```

Change module

Change value

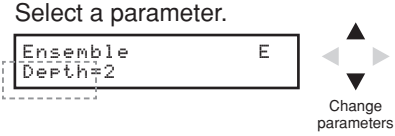
8 EXIT Press [EXIT] to return.

HINT

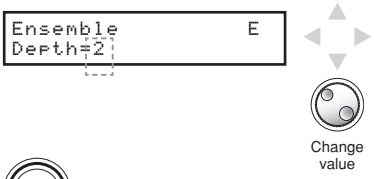
- Some patches say "Empty," because no modules in the patch have been set yet.
- When you want to edit the ZNR module, go to the page with "TOTAL" in the first row.
- You can individually edit the modules arranged in the L/R Channels of the DUAL MIC ALGORITHM. Your selection is the left channel when the first row displays "L" and the right channel when the first row displays "R."
- In the 8 x COMP EQ ALGORITHM, each channel has its own HPF, COMPRESSOR and EQ modules and you can turn each effect module on/off on each channel independently. You can check the current channel by looking at the number in the first row of the display.

Adjust the effect parameters

1 Select a parameter.



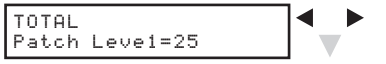
2 Set the value.



3 EXIT Press [EXIT] to return.

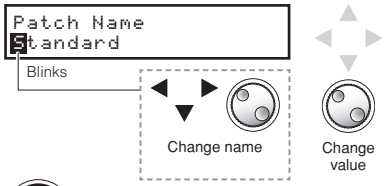
Change INSERT EFFECT name

1 Select TOTAL.



2 Press [▼] until you see PATCH NAME.

Press[▼].



3 EXIT Press [EXIT] to finish.

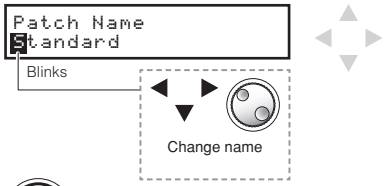
NOTE

- You cannot edit an algorithm itself, including the combination and arrangement of the effect modules.
- If you turn “off” an effect module, all the settings after the effect module, such as the type and parameters will also be turned off.
- When you are using 8 x COMP EQ, you cannot turn an effect on or off for all channels at once. But if you press [ENTER] when an effect setting value is displayed for the desired channel, you can switch it off for that channel.
- You cannot turn off the “TOTAL” modules.
- There is no ZNR module in the 8 x COMP EQ algorithm.
- If you change to another patch without saving a patch that shows the ‘E’ mark, your edits will be lost completely. Please refer to the next page for patch saving.

Change SEND RETURN EFFECT name

1 Press [▼] until you see PATCH NAME.

Press[▼].



2 EXIT Press [EXIT] to finish.

Insert effect / Send return effect: Patch save

Once you have edited a patch, use “SAVE” to save it. You can save a patch at any place within the same algorithm.

1 INSERT EFFECT or SEND RETURN EFFECT

Press [INSERT EFFECT] or [SEND RETURN EFFECT].

Effect ON/OFF switch

ENTER

When “INSERT EFFECT Off” is displayed, press [ENTER].

2 Select the algorithm/patch.

```
CLEAN            <IN1>
No.15:Standard     E
```

Patch has been edited

Change algorithm ◀ ▶

Change patch

3 Press [▼].

4 Select >SAVE.

```
No.00:Standard
>SAVE
```

Change menu ◀ ▶

ENTER Press [ENTER].

5 Select the place to save.

```
Save to
NO.29:Empty
```

Save location number: patch name

Change place to save

ENTER Press [ENTER].

6 Execute [SAVE] action.

```
NO.29:Empty
Save?
```

ENTER Press [ENTER].

NOTE

- These procedures are the same for both insert and send return effects.
- If you switch to another patch without saving an edited patch, you will lose all the edits. Remember to always save your edited patches.
- The import source and the import destination are different projects when using PATCH IMPORT.

HINT

- You can save your edited patch at any place within the same algorithm.
- You can make a patch copy by saving an existing patch to a different area.

Insert effect / Send return effect: Patch import

Import one or all patches that have been created in another project to use in the current project.

See steps 1~3 on the previous page.

4 Select >IMPORT.

```
No.00:Standard
>IMPORT
```

Change menu

ENTER Press [ENTER].

5 Change menu. Select import method.

```
PATCH IMPORT
>ALL
```

Change menu/item

Change menu>ALL: import all patches from the target project
Change menu>PATCH: select one patch and import it from the target project

Import all patches.
IMPORT>ALL

1 Select >ALL.

```
PATCH IMPORT
>ALL
```

Change item

ENTER Press [ENTER].

2 Select the project to import from.

```
ALL PATCH  IMPORT
No.001:PRJ001
```

Source project number and name

Change project

ENTER Press [ENTER].

3 Confirm the project to import from and press [IMPORT].

```
No.001 : PRJ001
All Patch Import?
```

ENTER Press [ENTER].

Import one patch.
IMPORT>PATCH

1 Select >PATCH.

```
PATCH IMPORT
>PATCH
```

Change item

ENTER Press [ENTER].

2 Select the project to import from.

```
PATCH IMPORT
No.001:PRJ001
```

Source project number and name

Change project

ENTER Press [ENTER].

3 Select the patch to import.

```
Import
No.00:Standard
```

Source patch number

Change patch

ENTER Press [ENTER].

4 Select the patch to import.

```
Import to
No.00:Standard
```

Destination patch number (save location)

Change place to save

ENTER Press [ENTER].

5 Import the patch.

```
NO.01:Ensemble
Import?
```

ENTER Press [ENTER].

Using the insert effect only for monitoring

By applying an insert effect only to monitoring, unaffected input signals can be recorded to tracks.

1 INSERT EFFECT

Press [INSERT EFFECT].

Effect ON/OFF switch

When "INSERT EFFECT Off" is displayed, press [ENTER].

2 Select the Algorithm/Patch.

```
CLEAN
No.15:Standard     E
```

Change algorithm

Change patch

3 Press [▼].

4 Select >REC SIGNAL.

```
No.00:Standard
>REC SIGNAL
```

Press [ENTER].

5 Select >DRY.

```
REC SIGNAL
>Dry
```

Change setting

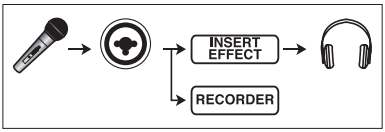
Press [ENTER].

WET (Default value)	The input signal will be recorded to the track after it passes through the insert effect.
DRY	The input signal will be recorded to the track before passing through the insert effect. However, the input signal monitored from the OUTPUT and PHONES jacks will pass through the insert effect first.

Using the insert effect only for monitoring

By default, when an insert effect is applied to an input signal, the signal with the effect is recorded to the track. However, when desired, you can apply the insert effect only to the monitoring outputs and record the non-processed input signal on the track.

For example, you can apply an insert effect to a microphone, to make a vocalist feel more comfortable singing, but still record the vocal without the effect.



HINT

- The settings made here will be stored project by project.
- If necessary, restore the initial "Wet" setting before recording other parts.

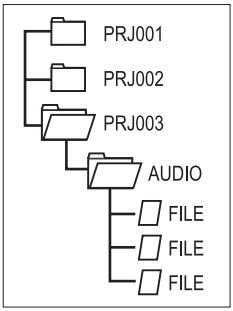
Project overview & project protection

A project stores data and elements necessary for music playback. The “PROTECT” function allows you to prevent the alteration of a completed project.

All elements of a piece of music are stored in a project as one unit, including audio files, information about track assignments, and mixer, effect, metronome and tuner settings. The unit can handle a maximum of 1000 projects on a single card. Create a new project for each new piece of music.

Data saved in a project:

* Audio data for every track including the MASTER track
* Folder settings selected by tracks
* Mixer settings
* Patch numbers and patch contents set for insert and send return effects
* Contents of play lists
* All other necessary files



Protecting a project

PROJECT>EDIT>PROTECT

1 PROJECT

Press [PROJECT].

2 Select >EDIT.

```
PROJECT
>EDIT
```

Change menu

ENTER Press [ENTER].

3 Select >PROTECT.

```
PROJECT EDIT
>PROTECT
```

Change menu

ENTER Press [ENTER].

4 Select >ON.

```
PROJECT  PROTECT
On
```

Turn ON/OFF

ENTER Press [ENTER].

NOTE

- You can play back a project when it is protected, but you cannot change it. If you want to record in it or edit it again, set “PROTECT” to “Off.”
- Projects that are not protected will be automatically saved to the SD card when you turn the POWER switch OFF or when you open another project.
- We strongly recommend setting “PROTECT” to “On” once you complete a piece of music to avoid saving a mistaken operation later.

HINT

- The lock icon appears on the screen when a project is protected.

Create a new project

With the R16 you can create up to 1000 projects on a single card. You can also transfer the settings of the previous project to a new project.

1 PROJECT

Press [PROJECT].

```
PROJECT
>SELECT
```

Change menu ◀ ▶

2 Select >NEW.

```
PROJECT
>NEW  [SD]003:22:52]
```

Change menu ◀ ▶

ENTER Press [ENTER].

3 Confirm the project name.

New project number

```
Project No.003
PRJ003
```

Blinks — New project name

Change the name to be saved

ENTER Press [ENTER].

4 Select whether to use the settings from the last project.

```
SETTING?
[CONTINUE] RESET
```

Change menu ◀ ▶

Select to use default settings

ENTER Press [ENTER].

5 Create the project.

```
No.003:PRJ003
Create?
```

ENTER Press [ENTER].

NOTE

You can use the settings and values of the last project in the new one or use the R16 default settings.

Settings carried over with CONTINUE
• BIT LENGTH setting • INSERT EFFECT settings • SEND RETURN EFFECT settings • Track status (PLAY/MUTE/REC) settings • BOUNCE settings • REC TRACK settings • Track parameter settings • METRONOME settings
[RESET]
Use default setting values for every item

HINT

At Step 3, you can change the name of the new project.

☞ Ref.: Changing names P.43

Selecting projects and files

You can select a project for recording, playback and editing from the top screen.
You can also select files for playback and assign them to tracks.

Select a project
PROJECT>SELECT

1 PROJECT

Press [PROJECT].

2 Select >SELECT.

```
PROJECT
>SELECT
```

Change menu ◀ ▶

(ENTER) Press [ENTER].

3 Select the project.

```
PROJECT  SELECT
No.002:PRJ002
```

(ENTER) Press [ENTER].

Change project

4 Load the project.

```
No.002:PRJ002
Load?
```

(ENTER) Press [ENTER].

NOTE

You can only playback and record to the project that is currently loaded. You cannot load and use multiple projects at the same time.

HINT

When the R16 [POWER] switch is turned ON, the project loaded the last time the unit was used will be loaded automatically. (If you have changed SD cards, then the last project used on the inserted card will be loaded.)

Select a file
PROJECT>FILE

1 PROJECT

Press [PROJECT].

2 Select >FILE.

```
PROJECT
>FILE
```

Change menu ◀ ▶

(ENTER) Press [ENTER].

3 Select the file.

```
TRACK15
M15TR000        [TR1]
```

Change track ◀ ▶ or use [1 - 8] and [MASTER] status keys

Select file.

*If you want to listen to a file for confirmation, you can use the following keys.

PLAY ▷	Playback: [PLAY] key
STOP □	Stop: [STOP] key
FF ►►	Fast forward: [FF] key
REW ◄◄	Rewind: [REW] key
STOP □ + REW ◄◄	Zero return: [STOP] and [REW] keys
►►I / I◄◄	Moving to a marker: [>>I] and [I<<] MARKER keys

☞ Ref.: Track assignment P.23

Project and file information

You can display information about the currently loaded project and files including creation dates and times, capacities, recording lengths and file formats.

Project information
PROJECT>INFORMATION

1 PROJECT

Press [PROJECT].

2 Select >INFORMATION.

```
PROJECT
>INFORMATION
```

Change menu ◀ ▶

(ENTER) Press [ENTER].

3 Select the type of information.

NAME
```
PROJECT  INFORMATION
NAME:PRJ001
```
Project name

DATE
```
PROJECT  INFORMATION
DATE:09/10/10 15:00
```
Year/month/day/time of creation

SIZE
```
PROJECT  INFORMATION
SIZE378.5MB
```
Size

TIME
```
PROJECT  INFORMATION
TIME:00:09:13
```
Length of project recording

Change item ▲ ▼

HINT

- Project and file INFORMATION pages can only be viewed. Their contents cannot be edited directly.

File information
PROJECT>FILE>INFORMATION

1 PROJECT

Press [PROJECT].

2 Select >FILE.

```
PROJECT
>FILE
```

Change menu ◀ ▶

(ENTER) Press [ENTER].

3 Select track number (1–16, MASTER) and file name.

```
TRACK 15
MONO-000        [TR1]
```

Change track ◀ ▶

▼ Press[▼].

Track number
File name

Change file ▽ (dial)

4 Select >INFORMATION.

```
MONO-000.WAV
>INFORMATION
```

Change menu △ ◀ ▶

(ENTER) Press [ENTER].

5 Select the types of information.

NAME
```
FILE INFORMATION
NAME:MONO-000.WAV
```
File name

DATE
```
FILE INFORMATION
DATE:2009/03/03
```
Year/month/day of the creation

TIME
```
FILE INFORMATION
TIME:12:47:47
```
Time of creation

FORMAT
```
FILE INFORMATION
FORMAT:WAV44.1/16 MN
```
Format, sampling frequency/bit rate, ST (stereo), MN (monaural)

SIZE
```
FILE INFORMATION
SIZE:24384.0KB
```
Size

LENGTH
```
FILE INFORMATION
LENGTH:00:04:42
```
File recording length

Change item ▲ ▼

Copying projects and files

You can copy a saved project and use it as a new project.
You can make copies of files in the same project by changing the file names.

Project copy
PROJECT>EDIT>COPY

1 PROJECT
Press [PROJECT].

2 Select >EDIT.

```
PROJECT
>EDIT
```

Change menu ◀ ▶

ENTER Press [ENTER].

3 Select >COPY.

```
PROJECT
>COPY
```

Change menu ◀ ▶

ENTER Press [ENTER].

4 Select the project to copy.

```
PROJECT COPY
No.002:PRJ002
```

Change project

ENTER Press [ENTER].

5 The new project number of the copy is shown.

```
Copy to
No.011
```

ENTER Press [ENTER].

6 Copy the project.

```
No.002->No.011
Copy?
```

ENTER Press [ENTER]. Old->new project numbers

NOTE

- When there is a project with the same name, a * will be added to the top. Change the name and save.

File copy
PROJECT>FILE>EDIT>COPY

1 PROJECT
Press [PROJECT].

2 Select >FILE.

```
PROJECT
>FILE
```

Change menu ◀ ▶

ENTER Press [ENTER].

3 Select the file to copy.

Change track ◀ ▶ ▽

```
TRACK 1
VOCAL.WAV
```

Change file

▼ Press[▼].

4 Select >EDIT.

```
VOCAL.WAV
>EDIT
```

Change menu ◀ ▶

ENTER Press [ENTER].

5 Select >COPY.

```
VOCAL.WAV
>COPY
```

Change menu ◀ ▶

ENTER Press [ENTER].

6 Change the name of the copied file.

```
FILE COPY
VOCAL.WAV
```

Blinks

Change saved file name of the copy ◀ ▶ ▼

ENTER Press [ENTER].

7 Copy the file.

```
XOCAL.WAV
Copy?
```

ENTER Press [ENTER].

Renaming files and projects

Change the name of the currently loaded project and files.

Project name change
PROJECT>EDIT>RENAME

1 PROJECT
Press [PROJECT].

2 Select >EDIT.

```
PROJECT
>EDIT
```

Change menu ◀ ▶

ENTER Press [ENTER].

3 Select >RENAME.

```
PROJECT
>RENAME
```

Delete character ◀ ▶

ENTER Press [PROJECT].

4 Change characters.

```
PROJECT  RENAME
■RJ002
```

Delete character ▼
Change position ◀ ▶

Selected character highlighted and blinking

```
PROJECT  RENAME
SONG2009
```

Change character

ENTER Press [ENTER].

File name change
PROJECT>FILE>EDIT>RENAME

1 PROJECT
Press [PROJECT].

2 Select >FILE.

```
PROJECT
>FILE
```

Change menu ◀ ▶

ENTER Press [ENTER].

3 Select the file name.

```
TRACK 1
S07TR000
```

Change track ◀ ▶
▽
Change file

Press[▼]

4 Select >EDIT.

```
PROJECT
>EDIT
```

Change menu ◀ ▶

ENTER Press [ENTER].

5 Select >RENAME.

```
PROJECT
>RENAME
```

Change menu ◀ ▶

ENTER Press [ENTER].

6 Select >RENAME.

```
PROJECT  RENAME
■RJ002.WAV
```

Delete character ▼
Change position ◀ ▶

Selected character highlighted and blinking

```
PROJECT  RENAME
QRJ002.WAV
```

Change character

ENTER Press [ENTER].

NOTE

- If there is a project with the same name, a * mark will be added to the top. Change the name and save.

HINT

Project names

Characters that can be used: 8 maximum
Numerals: 0-9
Alphabet: A-Z, a-z
Symbols: (space) ! ” # $ % & ‘ ……..etc.

File names

Characters that can be used: 12 including extension
Numerals: 0-9
Alphabet: A-Z (capital letters)
Symbol: _ (underscore)

☞ Ref.: Name changing P.43

Deleting files and projects

Delete selected files and projects.

Delete a project

PROJECT>EDIT>DELETE

1 PROJECT

Press [PROJECT].

2 Select >EDIT.

```
PROJECT
>EDIT
```

Change menu ◀ ▶

ENTER Press [ENTER].

3 Select >DELETE.

```
PROJECT
>DELETE
```

Change menu ◀ ▶

ENTER Press [ENTER].

4 Select the project to delete.

```
PROJECT DELETE
No.001:PRJ001
```

ENTER Press [ENTER].

Change project

5 Delete the project.

```
No.001:PRJ001
Delete?
```

ENTER Press [ENTER].

Delete a file

PROJECT>FILE>EDIT>DELETE

1 PROJECT

Press [PROJECT].

2 Select >FILE.

```
PROJECT
>FILE
```

Change menu ◀ ▶

ENTER Press [ENTER].

3 Select the file name.

```
TRACK1
MONO-000        [TR7]
```

Change track ◀ ▶

▽ Press[▼]

Change file

4 Select >EDIT.

```
MONO-000.WAV
>EDIT
```

Change menu ◀ ▶

ENTER Press [ENTER].

5 Select >DELETE.

```
MONO-000.WAV
>DELETE
```

Change menu ◀ ▶

ENTER Press [ENTER].

6 Delete.

```
MONO-000.WAV
Delete?
```

ENTER Press [ENTER].

NOTE

- Once deleted, projects and files cannot be retrieved. Please be careful when deleting.
- You cannot delete projects or files that have PROTECT set to ON.
- If you delete the currently loaded project, the project with the lowest number will be loaded.

NOTE

- When you delete files, the tracks they are assigned to become empty.

Dividing files

You can divide a file at any point to make two files. Do this to delete unnecessary portions of recordings or to divide long recordings.

1 PROJECT

Press [PROJECT].

2 Select >FILE.

```
PROJECT
>FILE
```

Change menu ◀ ▶

ENTER Press [ENTER].

3 Select a file.

```
TRACK15
MONO-000.WAV
```

Change track ◀ ▶

or use [1-8] and [MASTER] status keys

Select file

4 Press [▼].

5 Select >EDIT.

```
MONO-000.WAV
>EDIT
```

Change track ◀ ▶

ENTER Press [ENTER].

6 Select >DIVIDE.

```
MONO-000.WAV
>DIVIDE
```

Change track ◀ ▶

ENTER Press [ENTER].

7 Set the divide point.

```
DIVIDE POINT
 ▸00    00:00:00:000
```

Change numbers

Use markers or change time ◀ ▶

```
DIVIDE POINT
 ▸00 00:01:25:086
```

ENTER Press [ENTER].

8 Divide.

```
MONO-000.WAV
Divide?
```

ENTER Press [ENTER].

When you set the dividing point, you can use the following keys to listen to the file.

PLAY ▷	Playback: [PLAY] key
STOP □	Stop: [STOP] key
FF ▸▸	Fast forward: [FF] key
REW ◂◂	Rewind: [REW] key
STOP □ + REW ◂◂	Zero return: [STOP] and [REW] keys
▸▸I / I◂◂	Move to markers: [>>I] and [I<<] MARKER keys

HINT

- When a file is divided, files with new names will be created automatically in the same folder.
  "A" is added to the end of the name of the file created from the part before the dividing point.
  "B" is added to the end of the name of the file created from the part after the dividing point.
  If the original file name already had 8 characters, the last character will be replaced with "A" and "B" in the new file names.
- The original divided file is deleted.

☞ Ref.: LOCATE/MARKER P.27

Import files from other projects

Import files from projects other than the current project.

1 PROJECT

Press [PROJECT].

2 Select >FILE.

```
PROJECT
>FILE
```

Change menu ◀ ▶

ENTER Press [ENTER].

3 Select a file.

```
TRACK15
MONO-000.WAV
```

Change track ◀ ▶ or use [1-8] and [MASTER] status keys

Select file

4 Press [▼].

5 Select. >IMPORT.

```
MONO-000.wav
>IMPORT
```

Change menu ◀ ▶

ENTER Press [ENTER].

6 Select the project that has the file to be imported.

```
FILE IMPORT
No.000:PRJ001
```

Change project

ENTER Press [ENTER].

7 Select the file to import.

```
FILE IMPORT
LEADGTR.WAV
```

ENTER Press [ENTER].

6 Confirm the file.

```
FILE IMPORT
LEADGTR.WAV
```

Change the name to be saved.

Cursor blinks

◀ ▶ ▼

ENTER Press [ENTER].

7 Import the file.

```
ACOGTR.WAV
Import?
```

ENTER Press [ENTER].

NOTE

- If there is a file with the same name in the project, a * mark will be added to the top. Change the name and save.

HINT

Characters that can be used: 12 maximum
Numerals: 0-9
Alphabet: A-Z (Capital letters)
Signs: _ (underscore)

☞ Ref.: Name changing P.30

Sequential playback of projects

The playback order of multiple projects can be registered and managed in playlists. This is useful for playing back several songs consecutively, live play accompaniment and output to an external recorder.

Play a playlist

1 PROJECT

Press [PROJECT].

```
PROJECT
>SELECT
```

Change menu ◀ ▶

2 Select >SEQUENCE PLAY.

```
PROJECT
>SEQUENCE PLAY
```

ENTER Press [ENTER].

3 Select the playlist.

"Empty": no songs in list

```
List1:Empty
Total 00:00:00:000
```

Number of registered projects shown

```
List1:2Songs
Total 00:03:16:186
```

Select list

Playlist number — Number of projects — Total playback time of list

4 PLAY

Press [PLAY].

Display during playback — Project name

```
NO.003:PRJ003
00 02:18:017
```

Playlist number — Elapsed playback time

Playback stops at the end of the final project.

HINT

Audio tracks assigned to the current list play back.

Button operation during playback

PLAY	Playback from the top of the current project
STOP	Stop playback and return to the top of the present project
PLAY + STOP	Start playback from the top of the first project in the list
FF	Stop playback and start playback from the top of the next project in the list
REW	Stop playback and start playback from the top of the previous project in the list

Edit a playlist

PROJECT>SEQUENCE PLAY>EDIT

4 Press [▼].

5 Select >EDIT.

```
List1:2Songs
>EDIT
```

Change menu ◀ ▶

ENTER Press [ENTER].

Register, edit and change projects

6 Select the first project (or the project to change).

The end of the project list or no projects registered

```
Track1
End of List
```

End of list display

Change project

7 Register project to be played.

Project number you want to register — Project name you want to register.

```
No.001:PRJ001
003:00:047        1/1
```

Project: playback length — Total number of tracks — Selected track number

8 Select and register more projects.

```
Track2
End of List
```

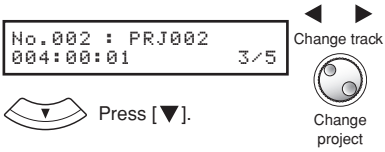
◀ ▶ Change track

```
No.002:PRJ002
004:00:01         2/2
```

9 EXIT Press [EXIT].

Remove a project from a list

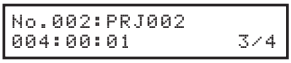
6 Select a project to remove.



7

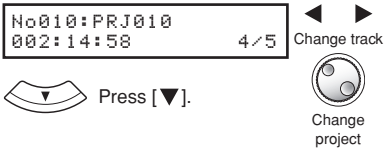
Select DELETE.

Press [ENTER].



Insert a project into a list

6 Select the track to insert to.



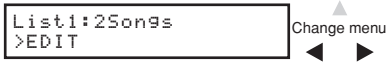
7 Select INSERT.

Press [ENTER].

Selected project is inserted

Delete a Playlist
PROJECT>SEQUENCE PLAY>DELETE

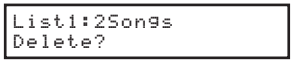
4 Press [▼].



5 Select >DELETE.

Press [ENTER].

6 Delete.



Press [ENTER].

NOTE

- If a master track or the file assigned to the master track is deleted, the playlist will become empty.
- Set the master track to the recording that you want to hear when you register a project in a playlist.
- To change the files of registered projects, change the master tracks and edit the playlist.
- The maximum number of playlists is 10, and each playlist can have a maximum of 99 registered projects.
- To register a project, the master track must have a recorded file with a length of at least 4 seconds.

☞ Ref. : Master Track setting P.46

Recording format bit rate setting

Usually CDs are recorded in 16-bit, 44.1 kHz format, but with the R16 you can also use higher quality 24-bit recording.

Setting and changing the bit rate

PROJECT>REC SETTING>BIT RATE

1 PROJECT

Press [PROJECT].

2 Select >REC SETTING.

```
PROJECT
>REC SETTING
```

Change menu ◀ ▶

ENTER Press [ENTER].

3 Select >BIT LENGTH.

```
REC SETTING
>BIT LENGTH
```

Change menu ◀ ▶

ENTER Press [ENTER].

4 Select bit number.

```
BIT LENGTH
16bit
```

16bit – 24bit

ENTER Press [ENTER].

HINT

- If you are overwriting a recording, you cannot change this.
- This setting is stored for each project.
- The initial setting is 16bit.
- If you use 44.1 kHz/24-bit, you will have to convert to 16-bit to create an audio CD.

Adjusting the display

You can adjust the backlight and contrast.

Turning the backlight On/Off
TOOL>SYSTEM>LCD>LIGHT

1 TOOL
Press [TOOL].

```
TOOL
>TUNER
```
Change menu ◀ ▶

2 Select >SYSTEM.

```
TOOL
>SYSTEM
```

ENTER Press [ENTER].

3 Select >LCD.

```
SYSTEM
>LCD
```
Change menu ◀ ▶

ENTER Press [ENTER].

4 Select >LIGHT.

```
LCD
>LIGHT
```
Change menu ◀ ▶

ENTER Press [ENTER].

5 Select ON/OFF.

```
LIGHT
On
```
Turn On/Off

ENTER Press [ENTER].

On	Backlight on (default setting)
Off	Backlight off

Adjusting the contrast
TOOL>SYSTEM>LCD>CONTRAST

1 TOOL
Press [TOOL].

```
TOOL
>TUNER
```
Change menu ◀ ▶

2 Select >SYSTEM.

```
TOOL
>SYSTEM
```

ENTER Press [ENTER].

3 Select >LCD.

```
SYSTEM
>LCD
```
Change menu ◀ ▶

ENTER Press [ENTER].

4 Select >CONTRAST.

```
LCD
>CONTRAST
```
Change menu ◀ ▶

ENTER Press [ENTER].

5 Select a number.

```
CONTRAST:3
```
Change number

ENTER Press [ENTER].

HINT

Turn the back light off to conserve the batteries.

Changing the SD card while the power is on

You can change the SD card with the power on. You might need to change an SD card when using the R16 if the remaining capacity of the inserted card becomes low, or when you need to import data from a previously recorded SD card.

1 TOOL

Press [TOOL].

2 Select >SD CARD.

```
TOOL
>SD CARD
```

ENTER Press [ENTER].

3 Select >EXCHANGE.

```
SD CARD
>EXCHANGE
```

Change menu ◀ ▶

ENTER Press [ENTER].

```
Remove SD CARD
```

Card removal possible

4 Eject SD card.

```
Insert SD CARD
```

5 Insert another SD card.

```
SD CARD
Format?
```

SD card is new and not formatted for the R16.

```
SD CARD DATA
[LOAD]    SAVE
```

SD card formatted for R16.

6 Format the SD card for use.

```
SD CARD
Format?
```

ENTER Press [ENTER].

Load the SD card to use in the R16

SD CARD DATA>LOAD

SD card formatted for the R16

6 Select [LOAD].

```
SD CARD DATA
[LOAD]    SAVE
```

Change menu ◀ ▶

ENTER Press [ENTER].

7 Load a project on the card.

```
SD CARD
Load?
```

ENTER Press [ENTER].

The lowest-numbered project on the inserted SD card is loaded.

Save current R16 project to the SD card

SD CARD DATA>SAVE

SD card formatted for the R16

6 Select [SAVE].

```
SD CARD DATA
LOAD    [SAVE]
```

Change menu ◀ ▶

ENTER Press [ENTER].

7 Select the project to save to.

```
Save to
No.011:PRJ011
```

Save destination project number: name

ENTER Press [ENTER].

8 Save the current project.

```
Save to No.011
Save?
```

ENTER Press [ENTER].

Formatting SD cards and verifying card capacities

You can format SD cards for use with the R16, deleting all the data on it, and check SD card capacity (remaining space).

Format SD card and delete all data
TOOL>SD CARD>FORMAT

1 TOOL
Press [TOOL].

2 Select >SD CARD.
```
TOOL
>SD CARD
```
Change menu ◀ ▶
ENTER Press [ENTER].

3 Select >FORMAT.
```
SD CARD
>FORMAT
```
Change menu ◀ ▶
ENTER Press [ENTER].

4 Execute.
```
SD CARD
Format?
```
ENTER Press [ENTER].

Verify SD card remaining capacity
TOOL>SD CARD>REMAIN

1 TOOL
Press [TOOL].

2 Select >SD CARD.
```
TOOL
>SD CARD
```
Change menu ◀ ▶
ENTER Press [ENTER].

3 Select >REMAIN.
```
SD CARD
>REMAIN
```
Change menu ◀ ▶
ENTER Press [ENTER].

```
SD CARD REMAIN
054:06:00 15317.7MB
```
Remaining recording time for the current recording format

Remaining capacity of the card

NOTE

- If you insert an SD card that has not been formatted for use with the R16, the “FORMAT” menu opens automatically.
- If you format an SD card, all its data will be permanently erased.
- When you format an SD card, all data on the card will be deleted, and folders and files exclusively for R16 use will be created.

Data structure of R16 SD cards

```
├ PROJ000
│  ├ PRJDATA.ZID
│  ├ EFXDATA.ZID
│  └ AUDIO
└ SYS
   └ ZOOM.ZDT
```

NOTE

- If the remaining capacity of an SD card is less than the amount of recording data, recording will fail. Change the card before you run out of space.

☞ Ref. : Importing data from USB memory to an SD card
: Saving data from an SD card to USB memory P.76
: Operation without an SD card P.12

NOTE

- Release the write-protection lock of the SD card before inserting it.
- [SAVE] includes various data for the project in use, but no audio data is saved.

HINT

- Insert an unformatted SD card and execute when “Format?” appears. Then options to [SAVE] and [LOAD] the present project will follow.

Confirming the version & setting the battery type

You can confirm the current version of the system software. If you set the battery type, the remaining battery charge will be displayed more accurately.

Confirming the system version
TOOL>SYSTEM>SYSTEM VERSION

1 TOOL
Press [TOOL].

```
TOOL
>TUNER
```
Change menu ◀ ▶

2 Select >SYSTEM.

```
TOOL
>SYSTEM
```
ENTER Press [ENTER].

```
SYSTEM
>LCD
```
Change menu ◀ ▶

3 Select >VERSION.

```
SYSTEM
>VERSION
```
Change menu ◀ ▶

ENTER Press [ENTER].

4 Select the type of information.

SYSTEM Ver
```
ZOOM R16
SYSTEM Ver:1.00
```
Current system version

◀ ▶

SUB SYSTEM Ver
```
ZOOM R16
SUB SYSTEM Ver:1.00
```
Current sub-system version

◀ ▶

BOOT SYSTEM Ver
```
ZOOM R16
BOOT SYSTEM Ver:1.00
```
Current boot system version

◀ ▶

Set the type of batteries
TOOL>SYSTEM>BATTERY TYPE

1 TOOL
Press [TOOL].

```
TOOL
>TUNER
```
Change menu ◀ ▶

2 Select >SYSTEM.

```
TOOL
>SYSTEM
```
ENTER Press [ENTER].

```
SYSTEM
>LCD
```
Change menu ◀ ▶

3 Select >BATTERY TYPE.

```
SYSTEM
>BATTERY TYPE
```
Change menu ◀ ▶

ENTER Press [ENTER].

4
```
BATTERY TYPE
ALKALINE
```
Change type

Type of battery set

ENTER Press [ENTER].

ALKALINE	Alkaline batteries
Ni-MH	Nickel-metal hydride batteries

Default value: ALKALINE

HINT

You can check for up-to-date system software information at the ZOOM WEB site:
www.zoom.co.jp.

NOTE

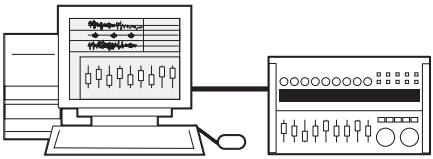
Please use only either alkaline or nickel-metal hydride batteries.

USB

Computer connection

Use USB to connect an R16 to a computer (Windows or Macintosh OS) .

By connecting this unit to a computer, you can use it as an SD card reader, an audio interface for sound input and output and a control surface to control DAW software.



NOTE

- To import an audio file into the R16, its format must be WAV with a sampling frequency of 44.1 kHz and a bit rate of 16 or 24.
- File names should use only capital letters, numbers and the "_" (underscore). They should be 8 or fewer characters plus the ".WAV" extension.
- You can connect the R16 and a computer by USB when the power is on. If you connect the R16 by USB when its [POWER] switch is OFF, you can start it up with power supplied over USB.
- When you are using the R16 as a card reader or as an audio interface, you cannot use it as a recorder.

HINT

- Card reader OS compatibility
  Windows: Windows XP and later
  Macintosh: Mac OS x 10.2 and later
- Project data is saved to the ROOT DIRECTORY of the SD card as PROJxxx (xxx is the project number) and audio data is saved as "WAV" files inside "AUDIO" in the project directory.
- The MASTER track and stereo tracks are stereo WAV files.

For details about use with a computer, refer to the detailed manual (PDF) on the CD-ROM included with the R16.

Card reader

You can access the R16 SD card through a computer to backup, read and import various data, projects and files.

Using as an SD card reader
USB>CARD READER

1 Connect the R16 with a computer by USB (DEVICE JACK).

2 USB Press [USB].

3 Select >CARD READER.

```
USB
>CARD READER
```

Change menu ◀ ▶

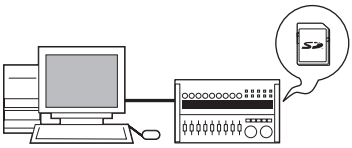
ENTER Press [ENTER].

4 Execute.

```
CARD READER
Enter?
```

ENTER Press [ENTER].

Operating the R16 from a computer.



To computer
Back up project data on an SD card to a computer.

From computer
Import to an SD card from a backup of audio and computer data.

☞ Ref. : Assign to tracks P.23

Disconnecting

1 To properly disconnect the R16 from your computer, follow your operating system's procedure for removing hardware.

2 EXIT or USB Press to disconnect the R16 as a card reader.

NOTE

- To import an audio file into the R16, its format must be WAV with a sampling frequency of 44.1 kHz and a bit rate of 16 or 24.
- File names should use only capital letters, numbers and the "_" (underscore). They should be 8 or fewer characters plus the ".WAV" extension.

HINT

- Card reader OS compatibility
  Windows: Windows XP and later
  Macintosh: Mac OS x 10.2 and later
- Project data is saved to the ROOT DIRECTORY of the SD card as PROJxxx (xxx is the project number) and audio data is saved as "WAV" files inside "AUDIO" in the project directory.
- The MASTER track and stereo tracks are stereo WAV files.
- To import WAV files from a computer, copy them to the "AUDIO" folder in the "PROxxx" project folder (xxx=project number) where you want to use them. Use the R16 to assign the files to tracks.
- You can connect the R16 to a computer by USB when the power is on.
- If you connect the R16 by USB when its [POWER] switch is OFF, you can start it up with power supplied over USB.

For details about use with a computer, refer to the detailed manual (PDF) on the CD-ROM included with the R16.

Using USB memory to save and import data

By connecting USB memory directly to the R16, you can save and import files.
This is convenient for exchanging files with band members.

Saving to USB memory
USB>USB STRAGE>SAVE

1 Connect the USB memory to the USB Host Jack of the R16.

2 USB Press [USB].

3 Select >USB STRAGE.

```
USB
>USB STRAGE
```

Change menu

ENTER Press [ENTER].

4 Select >SAVE.

```
USB STRAGE
>SAVE
```

Change menu

ENTER Press [ENTER].

5 Select project with data to save.

```
DATA SAVE
No.001:PRJ001
```

Change project

ENTER Press [ENTER].

6 Select a file.

```
Select File
LEADGTR.WAV
```

Change project

ENTER Press [ENTER].

7 Select the data to save.

```
DATA SAVE
LEADGTR.WAV
```

Change file

ENTER Press [ENTER].

Change the name of the file to be saved.

8 Save the file.

```
ACOGTR.WAV
Save?
```

ENTER Press [ENTER].

Importing from USB MEMORY
USB>USB STRAGE>LOAD

1 Connect USB MEMORY to the USB Host Jack of the R16.

2 USB Press [USB].

3 Select >USB STRAGE.

```
USB
>USB STRAGE
```

Change menu

ENTER Press [ENTER].

4 Select >LOAD.

```
USB STRAGE
>LOAD
```

Change menu

ENTER Press [ENTER].

5 Select the folder.

```
Select File
Folder:WAVFILES
```

Appears if there is a folder.

Change folders and files

ENTER Press [ENTER].

6 Select a file.

```
Select File
DR_LOOP.WAV
```

Change folders and files

ENTER Press [ENTER].

7 Select a file.

```
Save to
No.001:PRJ001
```

Change file

ENTER Press [ENTER].

8 Load the file.

```
DR_LOOP.WAV
Load?
```

ENTER Press [ENTER].

NOTE

- Never remove the USB memory when sending and receiving data. Disconnect after the “Saving” or “Loading” display is gone.
- During USB storage use, no recording is possible.
- When saving on USB memory, the saved data is stored at the top level of the file structure.

Audio interface/control surface

Connect the R16 by USB to a computer to use it as a controller and as an audio interface with DAW software.

Connecting the R16 as an audio interface/control surface

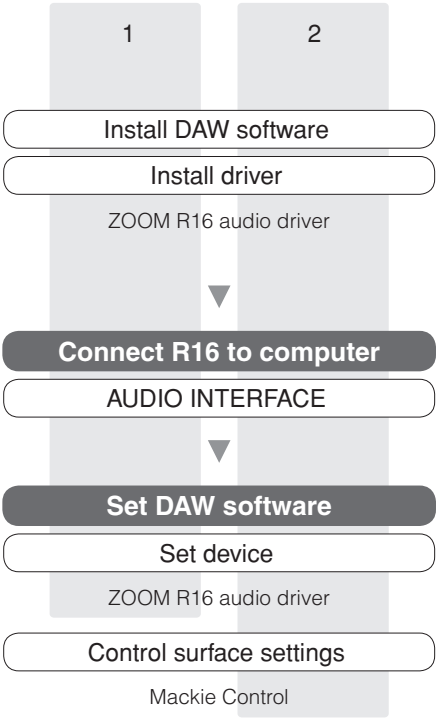
1. Audio interface mode

By using the R16 as an interface between a computer and other audio equipment and instruments, you can record and edit audio signals with DAW software.

You can also connect instruments that require Hi-Z or phantom power.

2. Control surface mode

Using the faders and keys on the R16, you can control transport and mixer operations in your DAW software.



Connecting the R16 with a computer for the first time

1 Install ZOOM R16 USB Audio drivers on the computer.

2 Connect the R16 to the computer.

Set and connect the R16

3 Set DAW software.

Device settings

Control surface settings

NOTE

- To use the R16 as an audio interface for DAW software (for example, Cubase LE 4) it is necessary to install the ZOOM R16 USB audio driver. Install it correctly according the included installation guide.
- Please download the latest version of the ZOOM R16 USB audio driver from our home page, http://www.zoom.co.jp.

Connecting and setting the R16

Follow these procedures from the second time connecting

1 USB

Press [USB].

2 Select >AUDIO INTERFACE.

```
USB
>AUDIO INTERFACE
```

Change menu ◀ ▶

ENTER Press [ENTER].

3 Confirm.

```
AUDIO INTERFACE
Enter?
```

Change menu ◀ ▶

ENTER Press [ENTER].

4 Select whether to use previous settings.

```
SETTING?
[CONTINUE] RESET
```

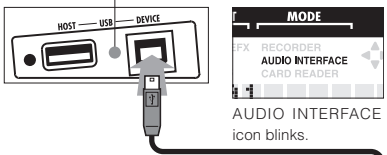
Change menu ◀ ▶

ENTER Press [ENTER].

5 Connect USB cable to R16.

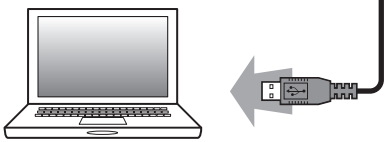
```
Sample Rate=48.0kHz
S:Solo
```

[DEVICE] USB indicator lights

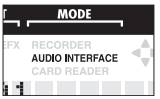


AUDIO INTERFACE icon blinks.

6 Connect USB cable to the computer.



AUDIO INTERFACE icon lights after connection



Connection complete

Disconnecting

1 USB

Press [USB].

2 Disconnect.

```
AUDIO INTERFACE
Terminate?
```

ENTER Press [ENTER].

3 Unplug the USB cable.

NOTE

You can use the settings and values of the last project in a new one or reset them to the defaults

Data transferred with CONTINUE
• INSERT EFFECT settings • SEND RETURN EFFECT settings • Track parameter settings • TUNER settings
RESET
Default settings for each item

NOTE

- Before you unplug the USB cable when disconnecting from a computer, follow the proper procedures for the computer OS to disconnect the device first.
- After step 2 of "Disconnecting" above, unplug the USB cable only after “AUDIO INTERFACE” disappears from the R16 display.
- Even without power from the R16 (adapter or batteries), you can start-up with just USB bus power when using the audio interface/control surface functions.
- We strongly recommend that you always keep the R16 system software up-to-date. If you use an R16 running an old system, a computer might not recognize it.

R16 effect types and parameters 1

Effect parameters

Insert effect

CLEAN, DISTORTION, ACO/BASS SIM algorithms

● **COMP/LIMITER module**

Type	Parameters/Descriptions			
Compressor	**Sense**	**Attack**	**Tone**	**Level**
	MXR Dynacomp type compressor.			
Rack Comp	**Threshold**	**Ratio**	**Attack**	**Level**
	Compressor with more detailed adjustments.			
Limiter	**Threshold**	**Ratio**	**Release**	**Level**
	Limiter for suppressing signal peaks above a certain level.			

Parameter descriptions

Parameter name	Setting range	Description
Sense	**0~10**	Adjusts compressor sensitivity.
Attack	**Compressor: Fast, Slow**	Selects compressor response speed.
	Rack Comp: 1~10	Adjusts compressor response speed.
Tone	**0~10**	Adjusts tonal quality.
Level	**2~100**	Adjusts signal level after passing module.
Threshold	**0~50**	Adjusts threshold for compressor/limiter action.
Ratio	**1~10**	Adjusts compressor/limiter compression ratio.
Release	**1~10**	Adjusts delay until compressor/limiter release from point where signal level falls below threshold level.

● **EFX module**

Type	Parameters/Descriptions						
Auto Wah	**Position**	**Sense**	**Resonance**	**Level**			
	Auto wah dependent on dynamics of input signal.						
Tremolo	**Depth**	**Rate**	**Wave**	**Level**			
	Periodically varies the volume level.						
Phaser	**Position**	**Rate**	**Color**	**Level**			
	Produces a swooshing sound.						
Ring Modulator	**Position**	**Frequency**	**Balance**	**Level**			
	Produces a metallic ringing sound. Adjusting the Frequency parameter results in a drastic change of sound character.						
Slow Attack	**Position**	**Time**	**Curve**	**Level**			
	Slows down the attack rate of the sound.						
Fix-Wah	**Position**	**Frequency**	**Dry Mix**	**Level**	**RTM Mode**	**RTM Wave**	**RTM Sync**
	Changes the wah frequency according to rhythm tempo.						

Parameter descriptions

Parameter name	Setting range	Description
Position	Before, After	Sets connection position of EFX module to “before” or “after” preamp.
Sense	–10~–1, 1~10	Adjusts auto wah sensitivity.
Resonance	0~10	Adjusts resonance intensity.
Level	2~100	Adjusts signal level after passing module.
Depth	0~100	Adjusts modulation depth.
Rate	0~50 ♪ (P86 Table1)	Adjusts modulation rate. Can be set in rhythm tempo note units.
Wave	Up 0~9, Down 0~9, Tri 0~9	Sets modulation waveform to “Up” (rising sawtooth), “Down” (falling sawtooth), or “Tri” (triangular). Higher values result in stronger clipping, emphasizing the effect.
Color	4Stage, 8State, Invert4, Invert8	Selects sound type.
Frequency	Ring Modulator: 1~50	Adjusts frequency used for modulation.
	Fix-Wah: 1~50	Adjusts wah center frequency.
Balance	0~100	Adjusts balance between original sound and effect sound.
Time	1~50	Adjusts rise time for sound.
Curve	0~10	Adjusts volume rise curve.
Dry Mix	0~10	Adjusts original sound mix ratio.
RTM Mode	P86 Table 2	Adjusts change range and direction.
RTM Wave	P86 Table 3	Selects control waveform.
RTM Sync	♪(P86 Table 4)	Adjusts control frequency.

R16 effect types and parameters 2

● **PREAMP module**

Type	Parameters/Descriptions			
FD Clean	Clean sound of Fender Twin Reverb ('65 model) favored by guitarists of many music styles.			
VX Clean	Clean sound of combo amp VOX AC-30 operating in class A.			
JC Clean	Clean sound of Roland JC series with built-in chorus which gives a broad, clear tone.			
HW Clean	Clean sound of legendary all-tube Hiwatt Custom 100 from Britain.			
UK Blues	Crunch sound of 30-watt combo amp Marshall 1962 Bluesbreaker.			
US Blues	Crunch sound of Fender Tweed Deluxe '53.			
TweedBass	Crunch sound of Fender Bassman, a bass amp with a strong presence.			
BG Crunch	Crunch sound of Mesa Boogie MkIII combo amp.			
MS #1959	Crunch sound of legendary Marshall 1959.			
MS Drive	High gain sound of Marshall JCM2000 stack amp.			
Rect Vnt	High gain sound of Mesa Boogie Dual Rectifier red channel (vintage mode).			
HK Drive	High gain sound of Hughes & Kettner flagship model Triamp MKII.			
DZ Drive	High gain sound of the Diezel Herbert hand-made German guitar amp with three separately controllable channels.			
ENGL Drive	Drive sound of ENGL Ritchie Blackmore Signature 100.			
PV Drive	High gain sound of Peavey 5150 developed in cooperation with a world-famous hard rock guitarist.			
TS+FD CMB	Combination of Fender combo amp and Ibanez TS-9 sound.			
SD+MS STK	Combination of Marshall stack amp and Boss SD-1 sound.			
FZ+MS STK	Combination of Fuzz Face and Marshall stack amp sound.			
	Gain	**Tone**	**Cabinet**	**Level**
	FD Clean - FZ+MS STK have the same parameters.			
Acoustic Sim	**Top**	**Body**	**Level**	
	This effect makes an electric guitar sound like an acoustic guitar.			
Aco_Ere Pre	**Color**	**Tone**	**Level**	
	This is a dedicated preamp for electroacoustic guitar.			
Bass Sim	**Tone**	**Level**		
	This effect makes an electric guitar sound like a bass guitar.			

Parameter description

Parameter name	Setting range	Description
Gain	0~100	Adjusts preamp gain (distortion intensity).
Tone	0~30	Adjusts tonal quality.
Cabinet	0~2	Adjusts speaker cabinet sound intensity.
Level	1~100	Adjusts signal level after passing module.
Top	0~10	Adjusts characteristic acoustic guitar string resonance.
Body	0~10	Adjusts characteristic acoustic guitar body resonance.
Color	1~4	Adjusts characteristics of dedicated electroacoustic guitar preamp.

● **3Band EQ module**

Type	Parameter/Description			
3Band EQ	**Bass**	**Middle**	**Treble**	**Level**
	This is a 3-band equalizer.			

Parameter description

Parameter name	Setting range	Description
Bass	–12dB~12dB	Adjusts low frequency boost/cut.
Middle	–12dB~12dB	Adjusts mid frequency boost/cut.
Treble	–12dB~12dB	Adjusts high frequency boost/cut.
Level	2~100	Adjusts signal level after passing module.

● **MOD/DELAY module**

Type	Parameters/Descriptions			
Chorus	**Depth**	**Rate**	**Tone**	**Mix**
	Mixes a variable pitch-shifted component with the original signal, resulting in a full-bodied resonating sound.			
Ensemble	**Depth**	**Rate**	**Tone**	**Mix**
	Chorus ensemble with three-dimensional movement.			
Flanger	**Depth**	**Rate**	**Resonance**	**Manual**
	Produces a resonating and strongly undulating sound.			
Pitch	**Shift**	**Tone**	**Fine**	**Balance**
	Shifts the pitch up or down.			

R16 effect types and parameters 3

Vibe	**Depth**	**Rate**	**Tone**	**Balance**
	Effect with automatic vibrato.			
Step	**Depth**	**Rate**	**Resonance**	**Shape**
	Special effect that changes the sound in a staircase pattern.			
Cry	**Range**	**Resonance**	**Sense**	**Balance**
	Varies the sound like a talking modulator.			
Exciter	**Frequency**	**Depth**	**Low Boost**	
	Enhances the sound outline, making it more prominent.			
Air	**Size**	**Reflex**	**Tone**	**Mix**
	Recreates the airy ambience of a room, with a feeling of depth.			
Delay	**Time**	**Feedback**	**Hi Damp**	**Mix**
	Delay effect with a maximum setting of 2000 ms.			
Analog Delay	**Time**	**Feedback**	**Hi Damp**	**Mix**
	Delay effect with a maximum setting of 2000 ms. Simulates the warm sound of an analog delay.			
Reverse Delay	**Time**	**Feedback**	**Hi Damp**	**Balance**
	Reverse delay effect with a maximum setting of 1000 ms.			
ARRM Pitch	**Type**	**Tone**	**RTM Wave**	**RTM Sync**
	Changes the pitch of the original sound in time with the tempo of a rhythm.			

Parameter descriptions

Parameter name	Setting range	Description
Depth	Exciter: 0~30	Adjusts effect depth.
	All others: 0~100	Adjusts modulation depth.
Rate	Chorus, Ensemble: 1~50	Adjusts modulation rate.
	Flanger, Vibe, Step: 0~50 ♪(P.86 Table1)	Adjusts modulation rate. Using a rhythm tempo as reference, setting in note units is also possible.
Tone	0~10	Adjusts tonal quality.
Mix	0~100	Adjusts mix ratio of effect sound to original sound.
Resonance	Flanger: –10~10	Adjusts resonance intensity. Negative values result in reversed phase of effect sound.
	Step, Cry: 0~10	Adjusts effect intensity.
Manual	0~100	Adjusts frequency range of effect.
Shift	–12~12, 24	Adjusts pitch shift amount in semitone units.
Fine	–25~25	Adjusts pitch shift amount in cent (1/100 semitone) units.
Balance	0~100	Adjusts balance between original sound and effect sound.
Shape	0~10	Adjusts effect sound envelope.
Range	1~10	Adjusts frequency range of effect.
Sense	–10~–1, 1~10	Adjusts effect sensitivity.
Frequency	1~5	Adjusts frequency of effect.
Low Boost	0~10	Adjusts low frequency boost.
Size	1~100	Adjusts size of simulated space.
Reflex	0~10	Adjusts amount of wall reflections.
Time	Wide: 1~64	Adjusts delay time.
	Delay, Analog Delay:1~2000ms ♪(P.86 Table1)	
	Reverse Delay: 10~1000ms ♪(P.86 Table1)	
Wet Level	0~30	Adjusts effect sound level.
Dry Level	0~30	Adjusts original sound level.
Feedback	0~100	Adjusts feedback amount.
Hi Damp	0~10	Adjusts intensity of delay sound high range damping.
Type	P.86 Table 5	Selects pitch change type.
RTM Wave	P.86 Table 3	Selects control waveform.
RTM Sync	P.86 Table 4	Selects control waveform cycle.

● ZNR module

Type	Parameter/Description	
ZNR	**Threshold**	
	ZOOM original noise reduction for reducing noise during playing pauses without affecting the overall tone.	

Parameter description

Parameter name	Setting range	Description
Threshold	Off, 1~30	Adjusts ZNR sensitivity. For maximum noise reduction, set value as high as possible without causing the sound to decay unnaturally.

R16 effect types and parameters 4

BASS algorithm

● **COMP/LIMITER module**

Type	Parameters/Descriptions
Rack Comp	For an explanation of types and parameters, see CLEAN, DISTORTION, ACO/BASS SIM algorithms.
Limiter	

● **EFX module**

Type	Parameters/Descriptions				
Auto Wah	Position	Sense	Resonance	Dry Mix	Level
	This effect varies the wah action according to the intensity of the input signal.				
Tremolo	For an explanation of types and parameters, see CLEAN, DISTORTION, ACO/BASS SIM algorithms.				
Phaser					
Ring Modulator					
Slow Attack					
Fix-Wah					

Parameter descriptions

Parameter name	Setting range	Description
Position	Before, After	Sets insert position of EFX module to “Before” (before PREAMP) or “After” (after PREAMP).
Sense	–10~–1.1~10	Adjusts auto wah sensitivity.
Resonance	0~10	Adjusts resonance intensity.
Dry Mix	0~10	Adjusts original sound mix ratio.
Level	2~100	Adjusts signal level after passing module.

● **PREAMP module**

Type	Parameters/Descriptions				
SVT	Simulation of Ampeg SVT sound.				
Bassman	Simulation of Fender Bassman sound.				
Hartke	Simulation of Hartke HA3500 sound.				
Super Bass	Simulation of Marshall Super Bass sound.				
SANSAMP	Simulation of Sansamp Bass Driver DI sound.				
Tube Preamp	ZOOM original tube preamplifier sound.				
	Gain	Tone	Cabinet	Balance	Level
	All PREAMP modules have the same parameters.				

Parameter descriptions

Parameter name	Setting range	Description
Gain	0~100	Adjusts preamp gain (distortion depth).
Tone	0~30	Adjusts tonal quality.
Cabinet	0~2	Adjusts intensity of speaker cabinet sound.
Balance	0~100	Adjusts mix balance of signal before and after module.
Level	1~100	Adjusts signal level after passing module.

● **3Band EQ module**

Type	Parameters/Descriptions
3Band EQ	For an explanation of types and parameters, see CLEAN, DISTORTION, ACO/BASS SIM algorithms.

● **MOD/DELAY module**

Type	Parameters/Descriptions
Chorus	For an explanation of types and parameters, see CLEAN, DISTORTION, ACO/BASS SIM algorithms.
Ensemble	
Flanger	
Pitch	
Vibe	
Step	
Cry	
Exciter	
Air	
Delay	
Analog Delay	
Reverse Delay	
ARRM Pitch	

● **ZNR module**

Type	Parameters/Descriptions
ZNR	For an explanation of types and parameters, see CLEAN, DISTORTION, ACO/BASS SIM algorithms.

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MIC algorithm

● **COMP/LIMITER module**

Type	Parameters/Descriptions
Rack Comp	For an explanation of types and parameters, see CLEAN, DISTORTION, ACO/BASS SIM algorithms.
Limiter	

● **EFX module**

Type	Parameters/Descriptions
Tremolo	For an explanation of types and parameters, see CLEAN, DISTORTION, ACO/BASS SIM algorithms.
Phaser	
Ring Modulator	
Slow Attack	
Fix-Wah	

● **MIC PRE module**

Type	Parameters/Description				
Mic Pre	Type	Tone	Level	De-Esser	Low Cut
	This is a preamplifier for using an external microphone.				

Parameter descriptions

Parameter name	Setting range	Description
Type	Vocal, AcousticGt, Flat	Selects preamp characteristics.
Tone	0~10	Adjusts tonal quality.
Level	1~100	Adjusts signal level after passing module.
De-Esser	Off, 1~10	Controls the de-esser setting.
Low Cut	Off, 80~240Hz	Controls a filter for reducing low frequency noise often picked up during mic recording.

● **3BAND EQ module**

Type	Parameters/Description
3Band EQ	For an explanation of types and parameters, see CLEAN, DISTORTION, ACO/BASS SIM algorithm

● **MOD/DELAY module**

Type	Parameters/Descriptions
Chorus	For an explanation of types and parameters, see CLEAN, DISTORTION, ACO/BASS SIM algorithms.
Ensemble	
Flanger	
Pitch	
Vibe	
Step	
Cry	
Exciter	
Air	
Delay	
Analog Delay	
Reverse Delay	
ARRM Pitch	

● **ZNR module**

Type	Parameters/Description
ZNR	For an explanation of types and parameters, see CLEAN, DISTORTION, ACO/BASS SIM algorithms.

DUAL MIC algorithm

● **COMP/LIMITER L module**

Type	Parameters/Descriptions			
Compressor L	Threshold	Ratio	Attack	Level
	Compressor for attenuating high-level signals and boosting low-level signals.			
Limiter L	Threshold	Ratio	Release	Level
	Limiter for attenuating high-level signals that exceed a certain threshold.			

Parameter descriptions

Parameter name	Setting range	Description
Threshold	–24~0	Adjusts threshold level of compressor/limiter.
Ratio	Compressor: 1~26	Adjusts compression ratio of compressor/limiter.
	Limiter: 1~54, ∞	

Attack	0~10	Adjusts attack rate of compressor.
Level	2~100	Adjusts module output level.
Release	0~10	Adjusts speed of limiter release after signal falls below threshold level.

● **MIC PREAMP L module**

Type	Parameters/Description
Mic Pre L	For an explanation of types and parameters, see MIC algorithm.

● **3BAND EQ L module**

Type	Parameters/Description
3Band EQ L	For an explanation of types and parameters, see CLEAN, DISTORTION, ACO/BASS SIM algorithms.

● **DELAY L module**

Type	Parameters/Description		
Delay L	**Time**	**Feedback**	**Mix**
	Delay effect with a maximum setting of 2000 ms.		
Echo L	**Time**	**Feedback**	**Mix**
	Warm delay effect with a maximum setting of 2000 ms.		
Doubling L	**Time**	**Tone**	**Mix**
	Doubling effect which creates body by adding a short delay.		

Parameter descriptions

Parameter name	Setting range	Description
Time	Delay L, Echo L: 1~2000ms ♪(P.89 Table 1)	Adjusts delay time.
	Doubling L: 1~100ms	
Feedback	0~100	Adjusts feedback amount.
Tone	0~10	Adjusts tonal quality.
Mix	0~100	Adjusts mix ratio of effect sound to original sound.

● **COMP/LIMITER R module**

Type	Parameters/Description
Compressor R	For an explanation of types and parameters, see COMP LIMITER L module.
Limiter R	

● **MIC PREAMP R module**

Type	Parameters/Description
Mic Pre R	For an explanation of types and parameters, see MIC algorithm.

● **3BAND EQ R module**

Type	Parameters/Description
3Band EQ R	For an explanation of types and parameters, see CLEAN, DISTORTION, ACO/BASS SIM algorithms.

● **DELAY R module**

Type	Parameters/Descriptions
Delay R	For an explanation of types and parameters, see DELAY L module.
Echo R	
Doubling R	

● **ZNR module**

Type	Parameters/Description
ZNR	For an explanation of types and parameters, see CLEAN, DISTORTION, ACO/BASS SIM algorithms.

STEREO algorithm

● **COMP/LIMITER module**

Type	Parameters/Descriptions					
Compressor	For an explanation of types and parameters, see DUAL MIC algorithm.					
Limiter						
Lo-Fi	**Character**	**Color**	**Distortion**	**Tone**	**EFX Level**	**Dry Level**
	Lo-fi effect purposely degrades sound quality.					

● Parameter description

Parameter name	Setting range	Description
Character	0~10	Adjusts filter characteristics.
Color	1~10	Adjusts sound color.
Distortion	0~10	Adjusts distortion.

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Tone	0~10	Adjusts tonal quality.
EFX Level	0~100	Adjusts effect sound level.
Dry Level	0~100	Adjusts original sound level.

● **ISO/MIC MODEL module**

Type	Parameters/Descriptions				
Isolator	**Xover Lo**	**Xover Hi**	**Mix High**	**Mix Mid**	**Mix Low**
	Divides the signal into three frequency bands and allows individual adjustment of the mixing ratio for each band.				
Mic Modeling	**Mic Type**				
	Changes the character of the built-in microphones.				

Parameter descriptions

Parameter name	Setting range	Description
Xover Lo	50Hz~16kHz	Adjusts low-to-mid crossover frequency.
Xover Hi	50Hz~16kHz	Adjusts mid-to-high crossover frequency.
Mix High	Off, –24~6	Adjusts high range mix level.
Mix Mid	Off, –24~6	Adjusts mid range mix level.
Mix Low	Off, –24~6	Adjusts low range mix level.
Mic Type	SM57	Simulation of SM57 mic suitable for recording of various analog instruments as well as guitars.
	MD421	Simulation of MD421 professional standard mic indispensable for broadcasting, recording and live applications
	U87	Simulation of U87, a standard condenser type microphone used in studios worldwide.
	C414	Simulation of C414, a famous microphone highly trusted in recording situations.

● **3BAND EQ module**

Type	Parameters/Description
3Band EQ	For an explanation of types and parameters, see CLEAN, DISTORTION, ACO/BASS SIM algorithms.

● **MOD/DELAY module**

Type	Parameters/Descriptions							
Chorus	**Depth**	**Rate**	**Mix**					
	Mixes a variable pitch-shifted component with the original sound, resulting in full-bodied resonating tone.							
Flanger	**Depth**	**Rate**	**Resonance**					
	Produces a resonating and strongly undulating sound.							
Phaser	**Rate**	**Color**	**LFO Shift**					
	Produces a swooshing sound.							
Tremolo	**Depth**	**Rate**	**Clip**					
	Periodically varies the volume level.							
Auto Pan	**Width**	**Rate**	**Clip**					
	Shifts the panning position of the sound between left and right.							
Pitch	**Shift**	**Tone**	**Fine**	**Balance**				
	This effect shifts the pitch up or down.							
Ring Modulator	For an explanation of types and parameters, see CLEAN, DISTORTION, ACO/BASS SIM algorithms.							
Delay	**Time**	**Feedback**	**Mix**					
	Delay effect with a maximum setting of 2000 ms.							
Echo	**Time**	**Feedback**	**Mix**					
	Warm delay effect with a maximum setting of 2000 ms.							
Doubling	**Time**	**Tone**	**Mix**					
	Doubling effect which creates body by adding a short delay.							
Dimension	**Rise1**	**Rise2**						
	Effect producing spatial expansion.							
Resonance	**Depth**	**Freq Offset**	**Rate**	**Filter Type**	**Resonance**	**EFX Level**	**Dry Level**	
	Resonance filter with LFO.							

Parameter descriptions

Parameter name	Setting range	Description
Depth	0~100	Adjusts modulation depth.
Resonance	–10~10	Adjusts resonance intensity. Negative values result in reversed phase for the effect sound.
Color	4Stage ,8Stage, Invert4, Invert8	Selects sound type.
LFO Shift	0~180	Adjusts left/right phase shift.
Width	0~10	Adjusts auto pan width.

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Rate	0~50 ♪ (P.86 Table 1)	Adjusts modulation rate. Using the rhythm tempo as reference, setting in note units is also possible.
Clip	0~10	Adds emphasis by clipping the modulation waveform.
Shift	–12~12,24	For an explanation of types and parameters, see CLEAN, DISTORTION, ACO/BASS SIM algorithms.
Time	Delay, Echo: 1~2000ms ♪ (P.86 Table 1) Doubling: 1~100ms	Adjusts delay time.
Feedback	0~100	Adjusts feedback amount.
Mix	0~100	Adjusts mix ratio of effect sound to original sound.
Tone	0~10	Adjusts tonal quality.
Fine	–25~25	Adjust pitch shift amount in cent (1/100 semitone) units.
Balance	0~100	Adjust balance between original sound and effect sound.
Rise1	0~30	Adjusts stereo component intensity.
Rise2	0~30	Adjusts mono component intensity.
Freq Offset	1~30	Adjusts LFO offset.
Filter Type	HPF, LPF, BPF	Selects filter type.
Resonance	1~30	Adjusts resonance intensity.
EFX Level	0~100	Adjusts effect sound level.
Dry Level	0~100	Adjusts original sound level.

● **ZNR module**

Type	Parameters/Description
ZNR	For an explanation of types and parameters, see CLEAN, DISTORTION, ACO/BASS SIM algorithms.

Table 1 Parameters marked with ♪ allow selection of a setting value in note units, using the song/pattern tempo as reference. The note durations for the setting values are shown below.

𝅘𝅥𝅯	Thirty-second note	𝅘𝅥𝅯.	Dotted sixteenth note	♪.	Dotted eighth note	♩×2	Quarter note x 2
♪	Sixteenth note	♪	Eighth note	♩	Quarter note	:	:
♩3	Quarter triplet note	♩3	Half triplet note	♩.	Dotted quarter note	♩×20	Quarter note x 20

NOTE
• The note range actually available depends on the parameter.
• Depending on the combination of tempo setting and selected note symbol, the parameter setting range could be exceeded. In such a case, the value is automatically halved (or set to 1/4 if the range is still exceeded).

Table 2

Setting value	Description
Off	Frequency does not change.
Up	Frequency changes from minimum to maximum according to the controlling waveform.
Down	Frequency changes from maximum to minimum according to the controlling waveform.
Hi	Frequency changes from patch setting to maximum according to the controlling waveform.
Lo	Frequency changes from minimum to patch setting according to the controlling waveform.

Table 3

Setting value	Description	Setting value	Description
Up Saw	Rising sawtooth wave	**Tri**	Triangular wave
Up Fin	Rising fin wave	**TrixTri**	Squared triangular wave
DownSaw	Falling sawtooth wave	**Sine**	Sine wave
DownFin	Falling fin wave	**Square**	Square wave

Table 4

Setting value	Description	Setting value	Description
♪	Eighth note	**1 bar**	1 measure
♩	Quarter note	**2 bars**	2 measures
𝅗𝅥	Half note	**3 bars**	3 measures
𝅗𝅥.	Dotted half note	**4 bars**	4 measures

Table 5

Setting value	Description
1	1 semitone lower — original sound
2	Original sound — 1 semitone lower
3	Doubling — detune + original sound
4	Detune + original sound — doubling
5	Original sound — 1 octave higher
6	1 octave higher — original sound
7	Original sound — 2 octaves lower
8	2 octaves lower — original sound
9	1 octave lower + original sound — 1 octave higher + original sound
10	1 octave higher + original sound — 1 octave lower + original sound
11	Complete fifth down + original sound — complete fourth up + original sound
12	Complete fourth up + original sound — complete fifth down + original sound
13	0 Hz + original sound — 1 octave up
14	1 octave up — 0 Hz + original sound
15	0 Hz + original sound — 1 octave up + original sound
16	1 octave up + original sound — 0 Hz + original sound

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8x Comp EQ algorithm

Modules 1~8

Unit	Type	Parameter
HPF 1-8	HPF	Frequency
		High-pass filter blocks the low range and passes high frequencies.
COMP/LIMITER 1-8	Rack Comp	For an explanation of types and parameters, see CLEAN, DISTORTION, ACO/BASS SIM algorithms.
	Limiter	
3BAND EQ 1-8	3Band EQ	

Parameter description

Parameter name	Setting range	Description
Frequency	80~240Hz	Adjusts cutoff frequency.

MASTERING algorithm

● **COMP/Lo-Fi module**

Type	Parameter							
	Xover Lo	Xover Hi	Sense Hi	Sense Mid	Sense Low	Mix High	Mix Mid	Mix Low
3Band Comp	Compressor that divides the signal into three frequency bands and allows individual adjustment of compressor sensitivity and mixing ratio for each band.							
Lo-Fi	For an explanation of types and parameters, see STEREO algorithms.							

Parameter descriptions

Parameter name	Setting range	Description
Xover Lo	50Hz~16kHz	Adjusts low-to-mid crossover frequency.
Xover Hi	50Hz~16kHz	Adjusts mid-to-high crossover frequency.
Sense Hi	0~24	Adjusts high range compressor sensitivity.
Sense Mid	0~24	Adjusts mid range compressor sensitivity.
Sense Low	0~24	Adjusts low range compressor sensitivity.
Mix High	Off, –24~6	Adjusts high range mixing ratio.
Mix Mid	Off, –24~6	Adjusts mid range mixing ratio.
Mix Low	Off, –24~6	Adjusts low range mixing ratio.

● **NORMALIZER module**

Type	Parameter
Normalizer	Gain
	Adjusts COMP/Lo-Fi module input level.

Parameter description

Parameter name	Setting range	Description
Gain	–12~12	Adjusts level.

● **3BAND EQ module**

Type	Parameters/Description
3Band EQ	For an explanation of types and parameters, see CLEAN, DISTORTION, ACO/BASS SIM algorithms.

● **DIMENSION/RESO module**

Type	Parameters/Descriptions
Dimension	For an explanation of types and parameters, see STEREO algorithms.
Resonance	

● **ZNR module**

Type	Parameters/Description
ZNR	For an explanation of types and parameters, see CLEAN, DISTORTION, ACO/BASS SIM algorithms.

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Send/return effect

● **CHORUS/DELAY module**

Type	Parameters/Descriptions					
Chorus	**LFO Type**	**Depth**	**Rate**	**Pre Delay**	**EFX Level**	
	Mixes a variable pitch-shifted component with the original sound, resulting in full-bodied resonating tone.					
Delay	**Time**	**Feedback**	**Hi Damp**	**Pan**	**EFX Level**	**Rev Send**
	Delay effect with a maximum setting of 2000 ms.					

Parameter descriptions

Parameter name	Setting range	Description
LFO Type	Mono, Stereo	Sets LFO phase to mono or stereo.
Depth	0~100	Adjusts effect depth.
Rate	1~50	Adjusts modulation rate.
Pre Delay	1~30	Adjusts pre-delay time.
EFX Level	0~100	Adjusts effect sound level.
Rev Send	0~30	Adjusts delay sound reverb send level.
Time	1~2000ms ♪(P.86 Table 1)	Adjusts delay time.
Feedback	0~100	Adjusts feedback amount.
Hi Damp	0~10	Adjusts intensity of delay sound high range damping.
Pan	Left10~Left1, Center, Right1~Right10	Adjusts delay sound panning.

● **REVERB module**

	Parameters/Descriptions					
Hall	Simulates the acoustics of a concert hall.					
Room	Simulates the acoustics of a room.					
	Pre Delay	**Decay**	**EQ High**	**EQ Low**	**E.R.Mix**	**EFX Level**
	Hall and Room have the same parameters.					
Spring	Simulates a spring reverb.					
Plate	Simulates a plate reverb.					
	Pre Delay	**Decay**	**EQ High**	**EQ Low**	**EFX Level**	
	Spring and Plate have the same parameters.					

Parameter description

Parameter name	Setting range	Description
Pre Delay	1~100	Adjusts pre-delay time.
Decay	1~30	Adjusts reverb time.
EQ High	–12~6	Adjusts high range effect sound.
EQ Low	–12~6	Adjusts low range effect sound.
E.R.Mix	0~30	Adjusts mix ratio of initial reflections.
EFX Level	0~100	Adjusts effect sound level.

Effect patch list 1

Effect Patch List

Insert effect

CLEAN algorithm

No.	Patch name	Description
0	Standard	Standard clean sound optimized for line-level equipment.
1	Ensemble	Transparent sound with ensemble effect.
2	CompPlus	Universal compressor with a wide range of uses.
3	R&Roll	Sound tailored for vintage genres such as rock'n'roll.
4	CutPhase	Phase effect for that great cutting style.
5	Hi-WT	Hiwatt amp tone gets natural distortion from the picking dynamics.
6	DlyLead	Clean lead patch, characterized by long delays with solid presence.
7	Blues	Choose this for an orthodox blues feel.
8	MultiFLG	Flanger suitable for many uses including arpeggio, cutting, and lead guitar.
9	DaDaFunk	Auto wah brings out picking nuances.
10	Tremolo	Twin reverb with added tremolo for color.
11	BeatRock	Get into the Merseybeat for rock bands.
12	Rockably	Rockabilly sound with effective use of short delay.
13	WarmCho	Combination of warm tone with deep chorus.
14	Unison	Unison sound with added bass (-12 shift), good for low range phrasing.
15	Crunch	Light crunch for rock and pop backing.
16	CleanArp	Wide ensemble sound that works well with arpeggios and obligato.
17	CompLead	Streamlined lead sound with effective compressor action.
18	FastRate	Fast phaser turns full chords into a unique lead sound.
19	ClubJazz	Simulates the ambience in a jazz club or a similar live venue.
20	SlowVibe	Slow attack sound for imaginative chord work.
21	Ethnic	ARRM effect effectively emphasizes open-string phrasing.
22	Insect	Special effect sound of a small insect buzzing.
23-29	Empty	

DISTORTION algorithm

No.	Patch name	Description
0	5-1-5-0	5150 simulation, great for hard riffs.
1	MS#1959	British rock sound with airy distortion that comes alive at high volumes.
2	AnyOD	Overdrive suitable for both lead and backing.
3	RectiDRV	Sound modeled on the Boogie Rectifier.
4	MultiLD	Versatile lead tone for many applications.
5	Detune	Solid sound with detune effect.
6	UK Blues	Bluesbreaker with added delay gives fat and smooth sound.
7	Fusion	Fusion type sound with a surging deep chorus.
8	AutoWah	Versatile auto wah for lead or backing.
9	JB Style	Octaver sound made famous by Jeff Beck.
10	Hvy Riff	Choose this for heavy riffs.
11	BlueLine	Bluesy sound with a dry character.
12	Melody	Sustain sound for melodious solos.
13	TalkTime	Talk sound featuring a cry effect. A sense of persistence makes it easy to play.
14	ArpenCho	Chorus effect great for arpeggios.
15	HK Drive	The full-bodied sound of AMP3 high-gain distortion with added delay.
16	MS Drive	JCM2000 lead channel simulation. Air effect adds the cabinet touch.
17	Crunch	Crunch sound optimized for cutting.
18	NuanceOD	Overdrive sound brings out those fine amp details.
19	Tremolo	Tremolo sound for arpeggio.
20	ShortDLY	Rock lead sound with short delay.
21	Half Wah	Midrange-oriented sound with half open wah.
22	Jet Riff	Flanger jet sound.
23	SmoothLD	Smooth and glossy distortion sound.
24	HR Core	Punchy hard rock sound.
25	ENGL 650	Simulation of the ENGL E650 favored by Ritchie Blackmore.

Effect patch list 2

26	**5thPitch**	Synthesizer-like pitch sound with fifth-down for ad-libbing.
27	**375 DLY**	Dotted eighth delay at 120 bpm creates a gimmicky sound for solo play.
28	**PsycheVB**	Psychedelic vibe sound of the sixties as personified by Jimi Hendrix.
29	**D'live**	Crunch sound with intense live feeling.
30	**NicePick**	Crunch sound controlled by picking.
31	**X'over**	Slick semi-acoustic sound with overdrive.
32	**Combo**	Crunch sound in the boogie combo style.
33	**MildTone**	Mild tone emphasizes the low range.
34	**Bright**	Bright and airy sound.
35	**OLD DLY**	Lead tone flavored with analog delay.
36	**Tweed**	Tweed amp sound with a clear edge.
37	**BoxBody**	Old-style semi-acoustic fusion sound.
38	**Big Wave**	Special effect sound using ARRM creates a wave that rolls back to you.
39	**Bottom**	Twang those lower strings with this sound.
40-49	**Empty**	

ACO/BASS SIM algorithm

No.	Patch name	Description
0	**Ensemble**	Gorgeous sound with deep ensemble effect.
1	**Delay LD**	Lively acoustic guitar sound for lead playing.
2	**Chorus**	Chorus sound suitable for everything from rhythm guitar to lead guitar.
3	**FineTune**	Delicate detune creates sonic depth.
4	**Air Aco**	Air sound creates a micing effect.
5	**Standard**	Standard bass sound with many uses.
6	**CompBass**	Bass sound comes alive with compressor and exciter.
7	**WarmBass**	Bass sound with warm and round feeling.
8	**Flanging**	Flanging sound covers a lot of ground from 16-beat phrases to melody playing.
9	**Auto Wah**	Funky bass sound that makes good use of auto wah.
10-19	**Empty**	

BASS algorithm

No.	Patch name	Description
0	**SVT**	Walk the high road of rock. Great for finger picking or flatpicking.
1	**BASSMAN**	Vintage rock sound for any occasion.
2	**HARTKE**	Hartke simulation with all the glitz and glitter.
3	**SUPER-B**	Choose this for guitar unison play and solo play.
4	**SANS-A**	Edgy sound with a strong core is a good match for flatpicking.
5	**TUBE PRE**	All-rounder tube sound always comes in handy.
6	**Attack**	Compression sound effective for slap and flatpick playing.
7	**Wah-Solo**	Solo sound with distortion and a touch of wah. Pitch shift is the secret ingredient.
8	**Talk&Cry**	Typical special effect that makes a cry sound like a talking modulator.
9	**Melody**	Chorus sound for melody, solo, chord playing and harmonics.
10	**SlapJazz**	Basic slap sound in the jazz bass style.
11	**Destroy**	Smashing sound mixing distortion, pitch shifting and ring modulator.
12	**Tremolo**	A great match for a moody bass line and chord playing.
13	**SoftSlow**	Melody or solo play tone that is ideal for a fretless bass.
14	**Limiter**	Limiter evens out the sound when using a pick.
15	**X'over**	Flanger sound for picking, typical of the crossover genre.
16	**CleanWah**	Auto wah sound that has a million uses.
17	**Exciter**	Universal sound with a fresh and transparent character.
18	**ClubBass**	Play those walking phrases with this sound that simulates the ambience of a small club.
19	**DriveWah**	Auto wah sound with variable drive that follows picking dynamics.
20-29	**Empty**	

MIC algorithm

No.	Patch name	Description
0	**Rec Comp**	Conventional preamp + compression sound for recording.
1	**RoomAmbi**	Simulates the acoustics of a radio station broadcast studio.
2	**VocalDly**	Delay effect that works best with wet vocals.
3	**Rock**	Massive compression sound for rock vocals.

Effect patch list 3

4	**Long DLY**	Long delay sound for vocals (2-beat at 120 bpm)
5	**InTheBOX**	This effect seems to put the entire sound into a small box
6	**Limiter**	Limiter effect that is very useful for recording
7	**AG MIC**	Preamp tone that is great for recording acoustic guitar
8	**AG Dub**	Doubling sound that gives a stroke more of a pick feeling
9	**12st Cho**	Chorus sound for 12-string guitar
10	**AG-Jumbo**	Increases the apparent body size of an acoustic guitar
11	**AG-Small**	Reduces the apparent body size of an acoustic guitar
12	**AG Lead**	Delay sound for acoustic guitar leads
13	**Live AMB**	Bright reverb sound for acoustic guitar increases the live feeling
14	**Tunnel**	Simulation of tunnel reverb
15	**Filter**	Filter effect lets you change the sound character during a song
16	**BrethCmp**	Fairly strong compressor sound emphasizes breathiness
17	**Vib MOD**	Crafty vocal sound combines phaser and vibrato
18	**Duet Cho**	Detune sound creates an instant duet
19	**Ensemble**	Fresh ensemble sound great for chorus
20	**VocalDub**	Conventional doubling sound
21	**Sweep**	Voice sound with slow phase sweep
22	**VoiceFlg**	Flanging chorus sound with strong modulation
23	**PH Voice**	Gimmicky phase sound seasoned with delay
24	**VibVoice**	Clearcut vibrato sound
25	**FutureVo**	A message from the aliens
26	**M to F**	Transforms male vocals into a female sound
27	**F to M**	Transforms female vocals into a male sound
28	**WaReWaRe**	Special effect sound speaks to you from the cosmos
29	**Hangul**	Special effect sound that turns Japanese into Korean
30-49	**Empty**	

DUAL MIC algorithm

No.	Name	Comment	Recommended L/R input
0	**Vo/Vo 1**	For duets	Vocals
1	**Vo/Vo 2**	Chorus for main vocal	Vocals
2	**Vo/Vo 3**	For harmony	Vocals
3	**AG/Vo 1**	Creates a story-like character	Acoustic guitar/Vocal
4	**AG/Vo 2**	Similar to AG/Vo 1 but vocal character different	Acoustic guitar/Vocal
5	**AG/Vo 3**	Aggressively modifies vocal character	Acoustic guitar/Vocal
6	**ShortDLY**	Short delay sound with effective doubling	Microphones
7	**FatDrum**	For drum recording with single point stereo mic	Microphones
8	**BothTone**	Tuned for male on L channel and female on R channel	Vocals
9	**Condnser**	Simulates condenser mic sound with dynamic mic input	Vocals
10	**DuoAtack**	Chorus for lead vocals with emphasized attack	Vocals
11	**Warmth**	Warm sound with prominent midrange	Vocals
12	**AM Radio**	Simulates AM monaural radio	Vocals
13	**Pavilion**	Narration sound at expo booths	Vocals
14	**TV News**	TV newscaster sound	Vocals
15	**F-Vo/Pf1**	For female vocal piano ballads	Vocal/Piano
16	**JazzDuo1**	Simulates jazz session LP with lo-fi sound	Vocal/Piano
17	**Cntmprry**	All-round clear sound	Vocal/Piano
18	**JazzDuo2**	JazzDuo 1 for male vocal	Vocal/Piano
19	**Ensemble**	For guitar with strong attack and mellow piano	Acoustic guitar/Piano
20	**Enhanced**	Enhances clear, strong outline for ballads	Acoustic guitar/Vocal
21	**Warmy**	Moderates overbright ambience	Acoustic guitar/Vocal
22	**Strum+Vo**	Smooth fat sound with midrange compensation	Acoustic guitar/Vocal
23	**FatPlus**	Spruces up a thin midrange	Acoustic guitar/Vocal
24	**Arp+Vo**	Overall solid sound	Acoustic guitar/Vocal
25	**ClubDuo**	Simulates live sound in small club	Acoustic guitars
26	**BigShape**	Enhances overall clarity	Acoustic guitars
27	**FolkDuo**	Fresh and clean sound	Acoustic guitars
28	**GtrDuo**	Suitable for guitar duos	Acoustic guitars
29	**Bright**	Bright and sharp global feeling	Acoustic guitars
30-49	**Empty**		

Effect patch list 4

STEREO algorithm

No.	Name	Comment
0	Syn-Lead	For synthesizer single note lead
1	OrganPha	Phaser for synthesizer/organ
2	OrgaRock	Boomy distortion for rock organ
3	EP-Chor	Beautiful chorus for electric piano
4	ClavFlg	Wah for clavinet
5	Concert	Concert hall effect for piano
6	Honkey	Honky-tonk piano simulation
7	PowerBD	Gives a bass drum more power
8	DrumFlng	Conventional flanger for drum
9	LiveDrum	Simulates outdoor live doubling
10	JetDrum	Phaser for 16-beat hi-hat
11	AsianKit	Changes a standard kit to an Asian kit
12	BassBost	Emphasizes low range
13	Mono->St	Gives spaciousness to a monaural source
14	AM Radio	AM radio simulation
15	WideDrum	Wide stereo effect for drum machine track
16	DanceDrm	Reinforces bass for dance rhythms
17	Octaver	Adds one-octave lower sound
18	Percushn	Gives air, presence, and stereo spread to percussion
19	MoreTone	Distortion with emphasized midrange body
20	SnrSmack	Emphasizes snappy snare sound
21	Shudder!	Sliced sound for techno tracks
22	SwpPhase	Phaser with powerful resonance
23	DirtyBiz	Lo-fi distortion using ring modulator
24	Doubler	Doubling for vocal track
25	SFXlab	Forces special effect sound on synthesizer
26	SynLead2	Old-style jet sound for synthesizer lead
27	Tekepiko	For sequenced phrases or single note muted guitar
28	Soliner	Simulates analog strings ensemble
29	HevyDrum	For hard rock drums
30	SM57Sim	Simulation of SM57 mic suitable for recording of various analog instruments as well as guitars
31	MD421Sim	Simulation of MD421 professional standard mic indispensable for broadcasting, recording and live applications
32	U87Sim	Simulation of U87, a standard condenser type microphone used in studios worldwide
33	C414Sim	Simulation of C414, a famous microphone highly trusted in recording situations
34	Doubling	Creates doubled sounds as if the entire sound body became thicker
35	ShortDLY	Delay sound suitable for vocals and field recordings, and also for creating a gimmicky effect
36	Lo-Fi	Create Lo-Fi sounds with a nostalgic atmosphere as if the sound is coming from a radio
37	Limiter	A limiter very effective on band rehearsals and live recording
38	BoostPls	Boosts sound by adding sound pressure during recording
39	All Comp	Compressor adjusts volume differences of instruments in a band performance, for example, and evens them out
40-59	Empty	

8x COMP EQ algorithm

No.	Name	Comment	Recommended input 1 - 8	
0	VoclBand	For vocal band	1	Guitar amp
			2	Bass amp
			3	Vocal
			4	Chorus
			5-6	Drums
			7-8	Keyboard
1	Inst	For jazz or fusion band	1-2	Guitar amp
			3	Bass amp
			4	Piano
			5-6	Drums
			7-8	Keyboard
2	AcoBand	For acoustic band	1	Acoustic bass
			2	Piano
			3	Vocal
			4	Chorus
			5-6	Acoustic guitar
			7-8	Percussion

Effect patch list 5

3	1ManBand	For private recording studio	1-2	Guitar
			3	Bass
			4	Keyboard
			5	Vocal
			6	Chorus
			7-8	Sequencer
4	StdDrum	Standard sound for recording each sound of a drum kit	1	Bass drum
			2	Snare drum
5	VtgDrum	1970s drum sound with enhanced hi-hat	3	Hi-hat
			4	High tom
6	EhcdDrum	Punchy compressed drum sound	5	Mid tom
			6	Low tom
			7-8	Overhead mics
7	Percus	Suitable for recording individual percussion sounds	1-2	Various percussion
			3-4	Cymbal/bell
			5-6	Drums
			7-8	All percussion together
8	CompLtr	Versatile, mellow sound	1-8	
9	A Capla	For a cappella group	1-2	Female vocals
			3-4	Male vocals
			5-6	Vocal duo
			7-8	All vocals together
10-19	Empty			

MASTERING algorithm

No.	Name	Comment
0	PlusAlfa	Enhances the overall power
1	All-Pops	Conventional mastering
2	StWide	Wide-range mastering
3	DiscoMst	For club sound
4	Boost	For hi-fi finish
5	Power	Powerful low range
6	Live	Adds a live feel
7	WarmMst	Adds a warm feeling
8	TightUp	Adds a hard feeling
9	1930Mst	Mastering with 1930's sound
10	LoFi Mst	Lo-fi mastering
11	BGM	Mastering for background music
12	RockShow	Gives a rock style mix a live feel
13	Exciter	Lo-fi mastering with slight distortion in mid and upper range
14	Clarify	Emphasizes high-end range
15	VocalMax	Brings vocals to the foreground
16	RaveRez	Special sweep effect using sharp filter
17	FullComp	Strong compression over full frequency range
18	ClearPWR	Power tuning with emphasized midrange
19	ClearDMS	Enhances clarity and spaciousness
20	Maximizr	Boosts overall sound pressure level
21-29	Empty	

Effect patch list 6

Send/return effect

CHORUS/DELAY

No.	Name	Comment
0	**Vocal**	Chorus for adding color to vocals
1	**GtChorus**	Chorus to enhance weak guitar sound
2	**Doubling**	Versatile doubling
3	**Echo**	Showy analog-style delay
4	**Delay3/4**	Dotted-8th-note delay in sync with rhythm tempo
5	**Delay3/2**	Dotted-quarter-note delay in sync with rhythm tempo
6	**FastCho**	Fast-rate chorus
7	**DeepCho**	Versatile deep chorus
8	**ShortDLY**	Versatile short delay
9	**DeepDBL**	Deep doubling
10	**SoloLead**	Keeps fast phrases tight
11	**WarmyDly**	Simulates warm analog delay
12	**EnhanCho**	Enhancer using phase shift doubling
13	**Detune**	For instruments with strong harmonics such as an electronic piano or synthesizer
14	**Natural**	Chorus with low modulation for backing
15	**Whole**	Whole-note delay in sync with rhythm tempo
16	**Delay2/3**	Half-triplet-note delay in sync with rhythm tempo
17	**Delay1/4**	16th-note delay in sync with rhythm tempo
18-29	**Empty**	

REVERB

No.	Name	Comment
0	**TightHal**	Hall reverb with a hard tonal quality
1	**BrgtRoom**	Room reverb with a hard tonal quality
2	**SoftHall**	Hall reverb with a mild tonal quality
3	**LargeHal**	Simulates the reverberation of a large hall
4	**SmallHal**	Simulates the reverberation of a small hall
5	**LiveHous**	Simulates the reverberation of a club
6	**TrStudio**	Simulates the reverberation of a rehearsal studio
7	**DarkRoom**	Room reverb with a mild tonal quality
8	**VcxRev**	Tuned to enhance vocals
9	**Tunnel**	Simulates the reverberation of a tunnel
10	**BigRoom**	Simulates the reverberation of a gym
11	**PowerSt.**	Gate reverb
12	**BritHall**	Simulates the bright reverb of a concert hall
13	**BudoKan**	Simulates the reverberation at the Budokan in Tokyo
14	**Ballade**	For slow ballads
15	**SecBrass**	Reverb for brass section
16	**ShortPla**	Short reverb
17	**RealPlat**	Spring reverb simulation
18	**Dome**	Reverb of a domed-stadium
19	**VinSprin**	Simulates analog spring reverb
20	**ClearSpr**	Clear reverb with short reverb time
21	**Dokan**	Simulates the reverberation of a clay pipe
22-29	**Empty**	

Specifications

Section			R16
Recorder	Track count		16 (monaural)
	Maximum number of simultaneous recording tracks		8
	Maximum number of simultaneous playback tracks		16 audio + metronome
	Recording data format		44.1kHz, 16/24bit
	Maximum recording time		200 minutes/1GB (of mono tracks)
	Projects		1000 maximum per SD Card
	Markers		100/project
	Locator		Minute/second/millisecond or bar/beat/tick
	File editing		Divide
	Other functions		Punch-in/out (manual, automatic), Bounce, A-B repeat, UNDO/REDO
Audio interface	Number of input channels		8
	Number of output channels		2
	Quantization		24-bit
	Sampling frequency		44.1, 48, 88.2, 96 kHz
Mixer	Faders		9 (monaural x 8, master x 1)
	Level meters		4-segment display
	Track parameters		3-band equalizer, pan (balance), effect send x 2, invert
	Stereo linking		Track pairs 1/2 – 15/16 selectable
Effects	Algorithms		9 (CLEAN, DISTORTION, ACO/BASS SIM, BASS, MIC, DUAL MIC, STEREO, 8× COMP EQ, MASTERING)
	Patches		330 insert, 60 send return
	Effect modules		7 insert, 2 send return
	Tuner		Chromatic, guitar, bass, open A/D/E/G, D modal
Metronome	Tones		5
	Beat		No accent, 1/4 - 8/4, 6/8
	Tempo		40.0~250.0 BPM
Others	Other functions		Sequential playback, synchronized recording
Hardware	Recording media		SD card (16MB-2GB), SDHC card (4-32GB)
	Analog-digital conversion		96kHz 24bit delta-sigma ADC
	Digital-analog conversion		96kHz 24bit delta-sigma DAC
	Display		20-digit 2-line custom LCD (with backlight)
	Inputs	INPUT 1-8	XLR/standard phone combo jack x8 Input impedance: (Balanced input) 1KΩ balanced, 2 hot (Unbalanced input) 50KΩ unbalanced 1 equipped with Hi-Z switch, input impedance 470kΩ (Hi-Z on) 2 equipped with phantom power switches Input level: –50dBm < continuous < +4dBm
		Built-in microphones	Omnidirectional condenser microphones Gain: -50dBm < continuous < +4dBm
	Phantom power supply		48V
	Output	OUTPUT	TRS phone type (balanced)
		PHONES	Standard stereo phone jack 20mW x 2 (32Ω load)
	USB		USB 2.0 High Speed (operation as audio interface/control surface or card reader)
	Power supply		DC 5V 1A AC adaptor (ZOOM AD-14) Six AA batteries (4.5-hour continuous operation time with backlight on and phantom power off)
	Dimension		376mm (W) x 237.1mm (D) x 52.2mm (H)
	Weight		1.3kg

Troubleshooting

If you have any problems during operation of the R16, check the following points first.

Problems during playback

No sound, or sound is very weak.

- Check the connections to your monitoring system and the volume settings of the system.
- Make sure that status keys in the mixer section are lit green (except the [MASTER] status key) and that faders are raised. If a key is not green, press it repeatedly until it lights green.
- Make sure that the [MASTER] status key is not lit and that the [MASTER] fader is raised.

Moving the fader does not affect the volume.

- On channels for which stereo link is turned on, the fader of the even-numbered channel will have no effect. Either turn stereo link off (→P.20), or use the fader of the odd-numbered channel in the pair.

No sound from input signal, or sound is very weak.

- Make sure that the [GAIN] control for the respective input is increased.
- Check that the status light is green (playback enabled) and that the fader of the track is raised.

An operation does not work and the message "Stop Recorder" is shown on the display.

- Some operations are not possible while the recorder is operating. Press the [STOP] key to stop the recorder and then conduct the operation.

Problems during recording

Cannot record on a track.

- Make sure that you have selected and enabled a recordable track.
- Check whether you have run out of free space on the SD card (→P.70).
- Recording is not possible if the project is protected. Either set "PROTECT" to "OFF" (→P.54), or use a different project.

The recorded sound is distorted.

- Make sure that the [GAIN] (input sensitivity) and recording level are not set too high.
- Lower the fader so that the 0 (dB) indicator of the level meter does not light.
- If the EQ gain of the track mixer is set extremely high, the sound may be audibly distorted even if the fader is lowered. Set the EQ gain to a lower value.
- When an insert effect is applied to an input, check whether the effect output level (patch level) setting is appropriate.

Problems with effects

Insert effect cannot be inserted.

- When using the 8x COMP EQ algorithm, the selection of insert points is limited (→P.49).

Insert effect does not work.

- Check that the "INSERT EFFECT" icon is shown on the display. If it is not shown, press the [INSERT EFFECT] key and then press [ENTER] to enable it.
- Make sure that the insert effect is inserted in the desired location (→P.49).

Send/return effect does not work.

- Check that the "CHORUS/DELAY" icon is shown on the display. If it is not shown, press the SEND RETURN EFFECT key and then press [ENTER] to enable it.
- Make sure that the send level for the track is raised (→P.37, 48).

Other problems

Cannot save a project.

- The project cannot be saved if the project is protected. Set "PROTECT" to "OFF" (→P.56).

Cannot create a new project or copy a project.

- If "Project Full" appears on the display, all the memory available on the card has been used. Delete unneeded projects to free up memory.

An error message is shown when attempting to execute a command.

- Please check the error message list (→P.44).

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FCC regulation warning (for U.S.A.)

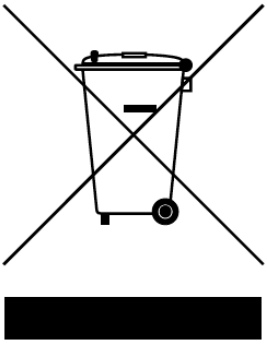
This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate 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 to 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:
This product complies with the requirements of
EMC Directive 2004/108/EG and
Low Voltage Directive 2006/95/EC



Disposal of Old Electrical & Electronic Equipment

(Applicable in European countries with separate collection systems)

This symbol on the product or on its packaging indicates that this product shall not be treated as household waste. Instead it shall be handed over to the applicable collection point for the recycling of electrical and electronic equipment. By ensuring this product is disposed of correctly, you will help prevent potential negative consequences for the environment and human health, which could otherwise be caused by inappropriate waste handling of this product. The recycling of materials will help to conserve natural resources. For more detailed information about recycling of this product, please contact your local city office, your household waste disposal service or the shop where you purchased the product.

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R16-5000-1