Roland

R-88

8-CHANNEL RECORDER and MIXER

Owner's Manual

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USING THE UNIT SAFELY

Before using this unit, carefully read the sections entitled: "USING THE UNIT SAFELY" and "IMPORTANT NOTES" (p. 2; p. 4). These sections provide important information concerning the proper operation of the unit. Additionally, in order to feel assured that you have gained a good grasp of every feature provided by your new unit, Owner's manual should be read in its entirety. The manual should be saved and kept on hand as a convenient reference.

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

About ⚠ WARNING and ⚠ CAUTION Notices

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

About the Symbols

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

ALWAYS OBSERVE THE FOLLOWING

⚠ WARNING

Concerning the AUTO OFF function

The power to this unit will be turned off automatically after a predetermined amount of time has passed since its buttons or controls were last operated (AUTO OFF function). If you do not want the power to be turned off automatically, disengage the AUTO OFF function (p. 25).

Do not disassemble or modify by yourself

Do not open (or modify in any way) the unit or its AC adaptor.

Do not repair or replace parts by yourself

Do not attempt to repair the unit, or replace parts within it (except when this manual provides specific instructions directing you to do so). Refer all servicing to your retailer, the nearest Roland Service Center, or an authorized Roland distributor, as listed on the "Information" sheet.

Do not use or store in the following types of locations

- Subject to temperature extremes (e.g., direct sunlight in an enclosed vehicle, near a heating duct, on top of heat-generating equipment); or are
- Damp (e.g., baths, washrooms, on wet floors); or are
- Exposed to steam or smoke; or are
- Subject to salt exposure; or are
- Humid; or are
- Exposed to rain; or are
- Dusty or sandy; or are
- Subject to high levels of vibration and shakiness.

⚠ WARNING

Do not place in an unstable location

Make sure you always have the unit placed so it is level and sure to remain stable. Never place it on stands that could wobble, or on inclined surfaces.

Use only the included AC adaptor and the correct voltage

Be sure to use only the AC adaptor included with the unit. Also, make sure the line voltage at the installation matches the input voltage specified on the AC adaptor's body. Other AC adaptors may use a different polarity, or be designed for a different voltage, so their use could result in damage, malfunction, or electric shock.

Use only the included power cord

Use only the attached power-supply cord. Also, the included power cord must not be used with any other device.

Do not bend the power cord or place heavy objects on it

Do not excessively twist or bend the power cord, nor place heavy objects on it. Doing so can damage the cord, producing severed elements and short circuits. Damaged cords are fire and shock hazards!

Avoid extended use at high volume

This unit, either alone or in combination with an amplifier and headphones or speakers, may be capable of producing sound levels that could cause permanent hearing loss. Do not operate for a long period of time at a high volume level, or at a level that is uncomfortable. If you experience any hearing loss or ringing in the ears, you should immediately stop using the unit, and consult an audiologist.

⚠ WARNING

Don't allow foreign objects or liquids to enter unit; never place containers with liquid on unit

Do not place containers containing liquid (e.g., flower vases) on this product. Never allow foreign objects (e.g., flammable objects, coins, wires) or liquids (e.g., water or juice) to enter this product. Doing so may cause short circuits, faulty operation, or other malfunctions.

Turn off the unit if an abnormality or malfunction occurs

Immediately turn the unit off, remove the AC adaptor from the outlet, and request servicing by your retailer, the nearest Roland Service Center, or an authorized Roland distributor, as listed on the "Information" sheet when:

- The AC adaptor, the power-supply cord, or the plug has been damaged; or
- If smoke or unusual odor occurs; or
- Objects have fallen into, or liquid has been spilled onto the unit; or
- The unit has been exposed to rain (or otherwise has become wet); or
- The unit does not appear to operate normally or exhibits a marked change in performance.

Adults must provide supervision in places where children are present

When using the unit in locations where children are present, be careful so no mishandling of the unit can take place. An adult should always be on hand to provide supervision and guidance.

⚠ WARNING

Do not drop or subject to strong impact

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

Do not share an outlet with an unreasonable number of other devices

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

Do not use overseas

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

Handle batteries carefully

- Batteries must never be recharged, heated, taken apart, or thrown into fire or water.
- Never expose batteries to excessive heat such as sunshine, fire or the like.
- Incorrect handling of batteries, rechargeable batteries, or a battery charger can cause leakage, overheating, fire, or explosion. Before use, you must read and strictly observe all of the precautions that accompany the batteries, rechargeable batteries, or battery charger.
- When using rechargeable batteries and a charger, use only the combination of rechargeable batteries and charger specified by the battery manufacturer.

⚠ CAUTION

Place in a well ventilated location

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

When disconnecting an AC adaptor, grasp it by the plug

To prevent conductor damage, always grasp the AC adaptor by its plug when disconnecting it from this unit or from a power outlet.

Periodically clean the AC adaptor's plug

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

⚠ CAUTION

Manage cables for safety

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

Avoid climbing on top of the unit, or placing heavy objects on it

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

Do not connect or disconnect the AC adaptor with wet hands

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

Disconnect everything before moving the unit

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

Unplug the AC adaptor from the outlet before cleaning

Before cleaning the unit, turn it off and unplug the AC adaptor from the outlet (p. 24).

If there is a possibility of lightning strike, disconnect the AC adaptor from the outlet

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

Handle batteries carefully

If used improperly, batteries may explode or leak and cause damage or injury. In the interest of safety, please read and observe the following precautions (p. 23).

- Carefully follow the installation instructions for batteries, and make sure you observe the correct polarity.
- Avoid using new batteries together with used ones. In addition, avoid mixing different types of batteries.
- Remove the batteries whenever the unit is to remain unused for an extended period of time.
- Never keep batteries together with metallic objects such as ballpoint pens, necklaces, hairpins, etc.
- Used batteries must be disposed of in compliance with whatever regulations for their safe disposal that may be observed in the region in which you live.

Handle the ground terminal carefully

If you remove the screw from the ground terminal, be sure to replace it; don't leave it lying around where it could accidently be swallowed by small children. When refastening the screw, make that it is firmly fastened, so it won't come loose.

⚠ CAUTION

Precautions concerning use of phantom power supply

Always turn the phantom power off when connecting any device other than condenser microphones that require phantom power. You risk causing damage if you mistakenly supply phantom power to dynamic microphones, audio playback devices, or other devices that don't require such power. Be sure to check the specifications of any microphone you intend to use by referring to the manual that came with it.

(This instrument's phantom power: 48 V DC, 10 mA per channel)

Take care not to get burned

Batteries may reach a high temperature; please be careful to avoid burning yourself.

Handle leaking batteries carefully

- If fluid has leaked from a battery, make sure not to touch it with your bare hands.
- If any of the leaking fluid gets into your eyes, the loss of vision may result. Do not rub your eyes; use clean water to flush them thoroughly. Then, promptly see a doctor.
- Burning of the skin or dermatitis may result if fluid has gotten onto your skin or clothing. Use clean water to flush affected areas thoroughly; then, promptly see a doctor.
- Using a soft cloth, carefully wipe any remaining fluid from the inside of the battery compartment. Then, install new batteries.

IMPORTANT NOTES

Power Supply

- Do not connect this unit to same electrical outlet that is being used by an electrical appliance that is controlled by an inverter or a motor (such as a refrigerator, washing machine, microwave oven, or air conditioner). Depending on the way in which the electrical appliance is used, power supply noise may cause this unit to malfunction or may produce audible noise. If it is not practical to use a separate electrical outlet, connect a power supply noise filter between this unit and the electrical outlet.
- The AC adaptor will begin to generate heat after long hours of consecutive use. This is normal, and is not a cause for concern.
- The use of an AC adaptor is recommended as the unit's power consumption is relatively high. Should you prefer to use batteries, please use the alkaline or rechargeable Ni-MH type.
- To prevent malfunction and equipment failure, always make sure to turn off the power on all your equipment before you make any connections.

Power Supply: Use of Batteries

- When installing or replacing batteries, always turn this unit off and disconnect any other devices you may have connected. This way, you can prevent malfunction and damage.
- If operating this unit on batteries, please use alkaline batteries or rechargeable Ni-MH batteries.

Placement

- Using the unit near power amplifiers (or other equipment containing large power transformers) may induce hum. To alleviate the problem, change the orientation of this unit; or move it farther away from the source of interference.
- This device may interfere with radio and television reception. Do not use this device in the vicinity of such receivers.
- Noise may be produced if wireless communications devices, such as cell phones, are operated in the vicinity of this unit. Such noise could occur when receiving or initiating a call, or while conversing. Should you experience such problems, you should relocate such wireless devices so they are at a greater distance from this unit, or switch them off.
- Do not expose the unit to direct sunlight, place it near devices that radiate heat, leave it inside an enclosed vehicle, or otherwise subject it to temperature extremes. Excessive heat can deform or discolor the unit.
- When moved from one location to another where the temperature and/or humidity is very different, water droplets (condensation) may form inside the unit. Damage or malfunction may result if you attempt to use the unit in this condition. Therefore, before using the unit, you must allow it to stand for several hours, until the condensation has completely evaporated.
- Depending on the material and temperature of the surface on which you place the unit, its rubber feet may discolor or mar the surface. You can place a piece of felt or cloth under the rubber feet to prevent this from happening. If you do so, please make sure that the unit will not slip or move accidentally.
- Do not place containers or anything else containing liquid on top of this unit. Also, whenever any liquid has been spilled on the surface of this unit, be sure to promptly wipe it away using a soft, dry cloth.

Maintenance

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

Repairs and Data

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

Additional Precautions

- Please be aware that the contents of memory can be irretrievably lost as a result of a malfunction, or the improper operation of the unit. Data stored on an SD card or USB flash drive has a finite lifespan, and may be lost simply with the passage of time. To protect yourself against the risk of loosing important data, we recommend that you back up important data to another location such as a computer.
- Unfortunately, it may be impossible to restore the contents of data that was stored in the unit's memory, USB flash drives, SD cards, SDHC cards, once it has been lost. Roland Corporation assumes no liability concerning such loss of data.
- Use a reasonable amount of care when using the unit's buttons, sliders, or other controls; and when using its jacks and connectors. Rough handling can lead to malfunctions.
- Never strike or apply strong pressure to the display.
- When disconnecting all cables, grasp the connector itself—never pull on the cable. This way you will avoid causing shorts, or damage to the cable's internal elements.
- To avoid disturbing others nearby, try to keep the unit's volume at reasonable levels.
- When you need to transport the unit, package it in the box (including padding) that it came in, if possible. Otherwise, you will need to use equivalent packaging materials.
- Some connection cables contain resistors. Do not use cables that incorporate resistors for connecting to this unit. The use of such cables can cause the sound level to be extremely low, or impossible to hear. For information on cable specifications, contact the manufacturer of the cable.

Using External Memories

- USB flash drives, SD cards, SDHC cards, are constructed using precision components; handle the memories, cards carefully, paying particular note to the following.
  - To prevent damage to the cards from static electricity, be sure to discharge any static electricity from your own body before handling the cards.
  - Do not touch or allow metal to come into contact with the contact portion of the cards.
  - Do not bend, drop, or subject cards to strong shock or vibration.
  - Do not keep cards in direct sunlight, in closed vehicles, or other such locations.
  - Do not allow cards to become wet.
  - Do not disassemble or modify the cards.

Copyright

- It is forbidden by law to make an audio recording, video recording, copy or revision of a third party's copyrighted work (musical work, video work, broadcast, live performance, or other work), whether in whole or in part, and distribute, sell, lease, perform, or broadcast it without the permission of the copyright owner.
- Do not use this product for purposes that could infringe on a copyright held by a third party. We assume no responsibility whatsoever with regard to any infringements of third-party copyrights arising through your use of this product
- This product can be used to record or duplicate audio or visual material without being limited by certain technological copy-protection measures. This is due to the fact that this product is intended to be used for the purpose of producing original music or video material, and is therefore designed so that material that does not infringe copyrights belonging to others (for example, your own original works) can be recorded or duplicated freely.
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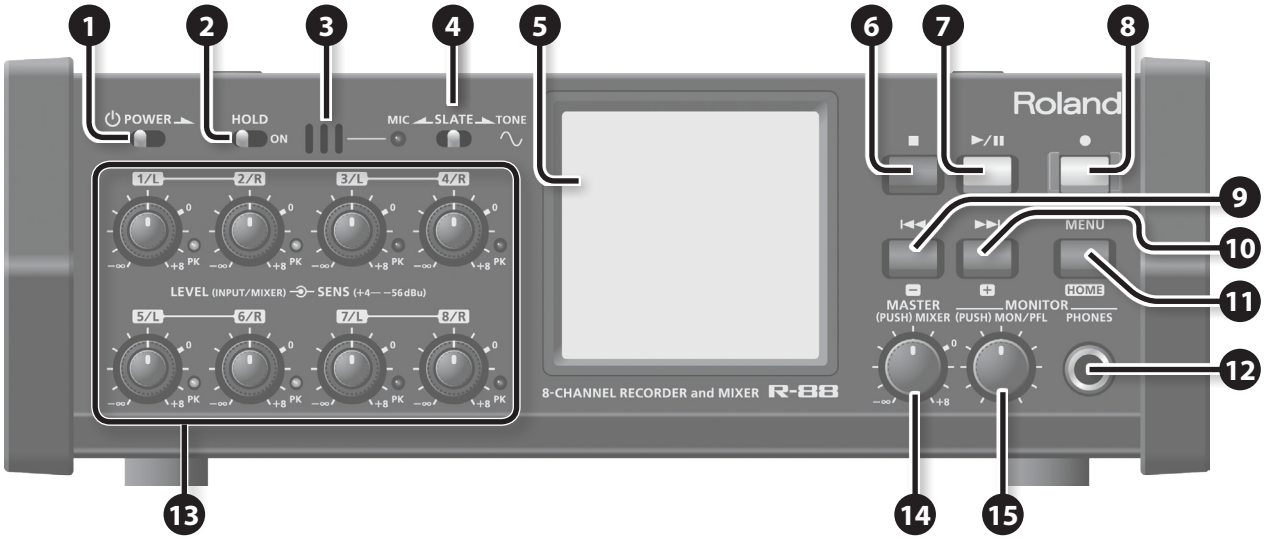
Panel Description

Front Panel



1 [POWER] switch

Slide this switch in the direction of the arrow to turn the power on/off (p. 25).

2 [HOLD] switch

When the power is on, setting the [HOLD] switch in the ON position will disable operation of the knobs, buttons, touch panel, and master level. Disabling these controls will help prevent unintended operation.

You can specify which controls to disable by using <SYSTEM SETUP>→<HOLD> (p. 66).

3 SLATE MIC

This mic allows you to break into the input audio and record comments such as credits or take numbers (p. 50).

4 [SLATE] switch

This switch turns on the slate mic or outputs a slate tone (p. 50). If you slide the switch to the "MIC" position and hold it there for two seconds, the slate mic will turn on. If you slide the switch to the "TONE" position and hold it there for two seconds, a slate tone will be output.

5 Touch panel display

This touch panel shows various information for the R-88, and also allows you to make settings and perform operations (p. 10).

6 [■] (STOP) button

This button stops playback or recording.

7 [►/II] (PLAY/PAUSE) button

Press this button to start playback, or to pause playback or recording.

8 [●] (REC) button

This button starts recording. During recording, the indicator will light. If you pause during recording, the indicator will blink.

9 [⏮] (–) button

Press this button to move to the beginning of the project, or to select the previous project. By holding down this button, you can rewind through the project. You can do this during playback or while stopped. When making various settings on the R-88, this button decreases the value of the selected parameter.

10 [⏭] (+) button

Press this button to select the next project. By holding down this button, you can fast-forward through the project. You can do this during playback or while stopped. When making various settings on the R-88, this button increases the value of the selected parameter.

MEMO

If you press both the [⏮] (–) button and the [⏭] (+) button, the selected value will return to its default setting.

11 [MENU] (HOME) button

This button lets you make various settings for the R-88, such as recording/playback settings and specifying the date and time (p. 12). If the home screen is not displayed, this button takes you back to the home screen.

12 PHONES jack

You can connect headphones here (p. 32).

13 [LEVEL]/[SENS] knob (1/L–8/R), PK (PEAK) indicator

These knobs adjust the input levels from the XLR input jacks 25 (1/L–8/R) located on the right side panel (p. 31). The inner knob adjusts LEVEL, and the outer ring adjusts SENS.

The [LEVEL] knobs can be switched between two functions: input level setting or mixer fader (Level Knob Mode p. 43).

The PK (PEAK) indicator at the right of each knob will light when the input volume is excessive.

You can change the level at which the PK indicator will light (SYSTEM SETUP–PEAK INDICATOR p. 66).

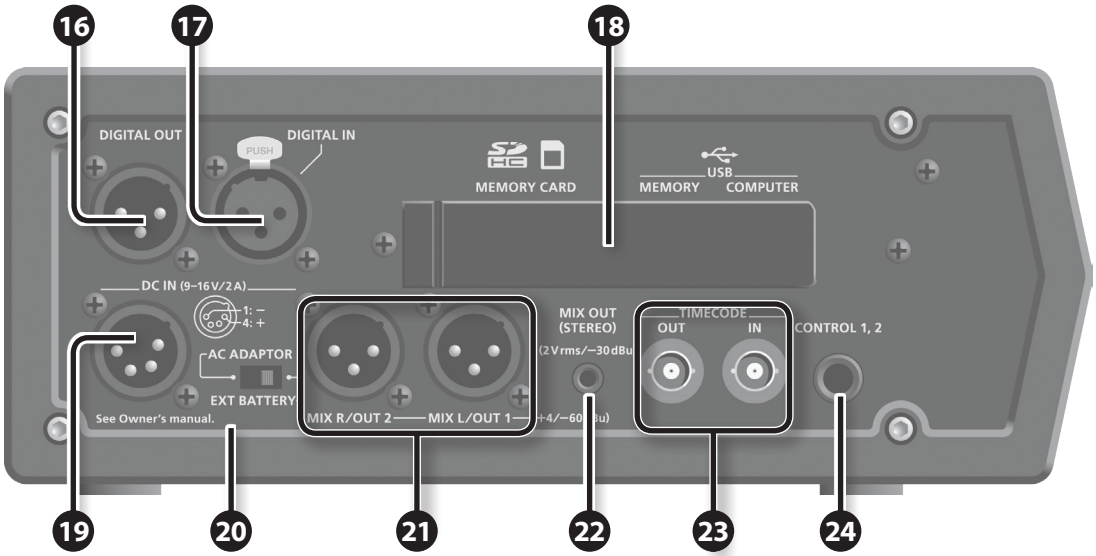
14 [MASTER] knob

This knob adjusts the output volume of the mixer. Press this knob to access the mixer edit screen (p. 43).

15 [MONITOR] knob

This knob adjusts the volume of the headphones and speakers. Press this knob to access the monitor setting screen (Headphone setting/PFL /REALTIME ANALYZER).

Side Panel (Left)



16 DIGITAL OUT jack

This jack outputs a digital signal. You can connect digital devices, such as speakers or mixers, with an XLR type cable (AES/EBU, IEC 60958-4 compliant). The internal mixer's two-channel mix is output here as a digital signal.

17 DIGITAL IN jack

If you want to record a digital signal, connect a XLR type cable to this jack. The digital input signal is recorded in stereo with the L channel on track 1 and the R channel on track 2.

18 Rubber flap

Open this cover to expose the **SD card slot**, **USB MEMORY port**, and **USB COMPUTER port**.

SD card slot

Insert the SD card into this slot (p. 26).

USB MEMORY port

You can connect a commercially available USB flash drive to this port. A project recorded on the R-88 can be copied to your USB flash drive as a backup. A backup from your USB flash drive can also be loaded into the R-88.

USB COMPUTER port

Use a commercially available USB cable to connect this to your computer. This allows projects recorded on the R-88 to be transferred to your computer, or WAV files from your computer to be copied to the R-88 for playback (p. 60).

You can also use the R-88 as a USB audio interface (p. 63).

19 DC IN jack

You can connect either the included AC adaptor or a commercially available cable for an external power device. For details, refer to "Connecting the AC adaptor" (p. 24), or "Using External Power Sources" (p. 24).

20 External power supply select switch

This switch selects the type of external power supply connected to the DC IN jack 19.

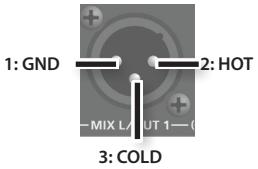
Set this to the AC ADAPTOR position if using an AC adaptor, or to EXT BATTERY if using a commercially available external power supply.

* If this is set to EXT BATTERY, you must specify the final voltage (p. 24).

21 Analog Output (MIX L/OUT 1, MIX R/OUT 2) jacks

These are XLR balanced output jacks. As the audio output, you can select either specific tracks or the output of the internal mixer (two-channel mix). You can switch the output level (+4 dBu/-60 dBu). For details, refer to "Output Settings" (p. 32).

* This instrument is equipped with balanced (XLR) type jacks. Wiring diagrams for these jacks are shown at right. Make connections after first checking the wiring diagrams of other equipment you intend to connect.



NOTE

Do not supply phantom power from an external device to these output jacks.

22 MIX OUT (STEREO) jack

This is a stereo-mini output jack. It outputs the output of the internal mixer (two-channel mix). You can switch the output level (2 Vrms/-30 dBu). For details, refer to "Output Settings" (p. 32).

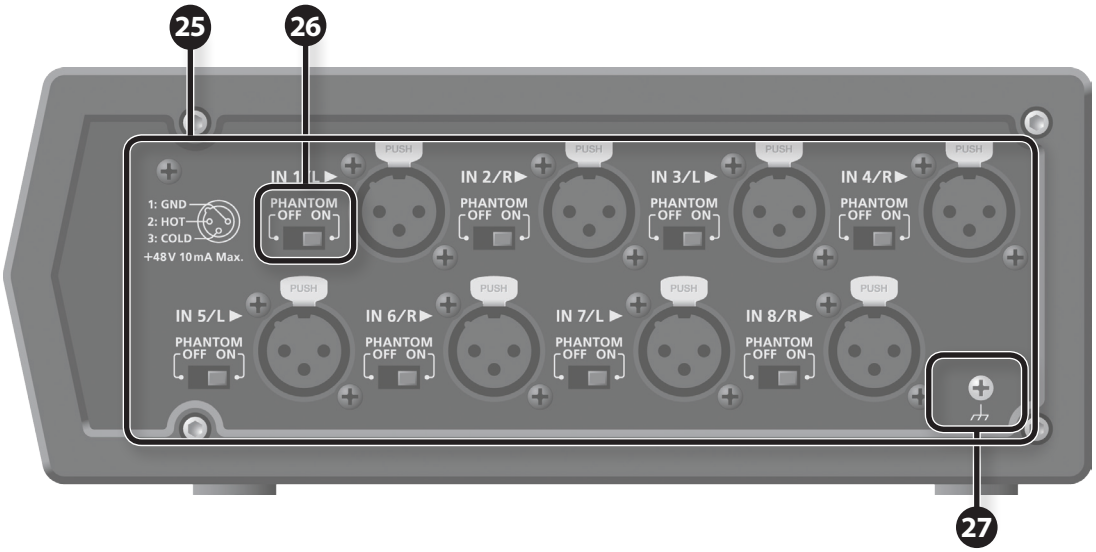
23 TIMECODE IN/OUT jacks

You can connect devices with a timecode port. This allows you to records the timecode in the R-88 when the recording starts (IN) and to output the R-88 internal timecode (OUT). For details on recording the timecode, see "TIMECODE" (p. 47).

24 CONTROL 1, 2 jack

You can connect a footswitch here (BOSS FS-6 or FS-5U; sold separately), then use it to control playback, recording, or rewind (p. 42).

Side Panel (Right)

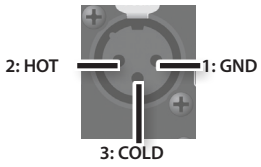


25 Analog input (IN 1/L–IN 8/R) jacks

These are analog audio input jacks equipped with mic preamps.

Each of the XLR input jacks 1-8 can be used as a monaural input, providing a total of 8 input channels. Alternatively, XLR input jacks 1 and 2, 3 and 4, 5 and 6, and 7 and 8 can be used as four stereo-input channels. For details, refer to "Input Settings" (p. 28).

* This instrument is equipped with balanced (XLR) type jacks. Wiring diagrams for these jacks are shown at right. Make connections after first checking the wiring diagrams of other equipment you intend to connect.



26 [PHANTOM] switch

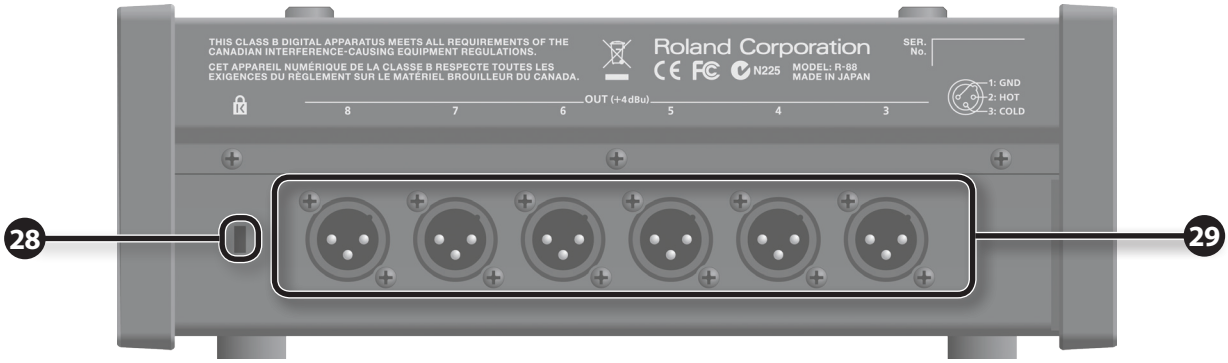
These switches turn on/off the phantom power that is supplied to each XLR input jack.

* Always turn the phantom power off when connecting any device other than condenser microphones that require phantom power. You risk causing damage if you mistakenly supply phantom power to dynamic microphones, audio playback devices, or other devices that don't require such power. Be sure to check the specifications of any microphone you intend to use by referring to the manual that came with it. (This instrument's phantom power: 48 V DC, 10 mA per channel)

27 Ground Terminal

Refer to "About the Ground Terminal" (p. 9).

Rear Panel



28 Security slot ( )

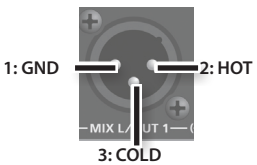
You can attach a commercial available security cable to this slot to prevent theft.

http://www.kensington.com/

29 Analog Output (OUT 3–OUT 8) jack

These are XLR balanced output jacks. As the audio output signal, you can choose either specific tracks or the output of the internal mixer (two-channel mix). The output level is fixed at +4 dBu.

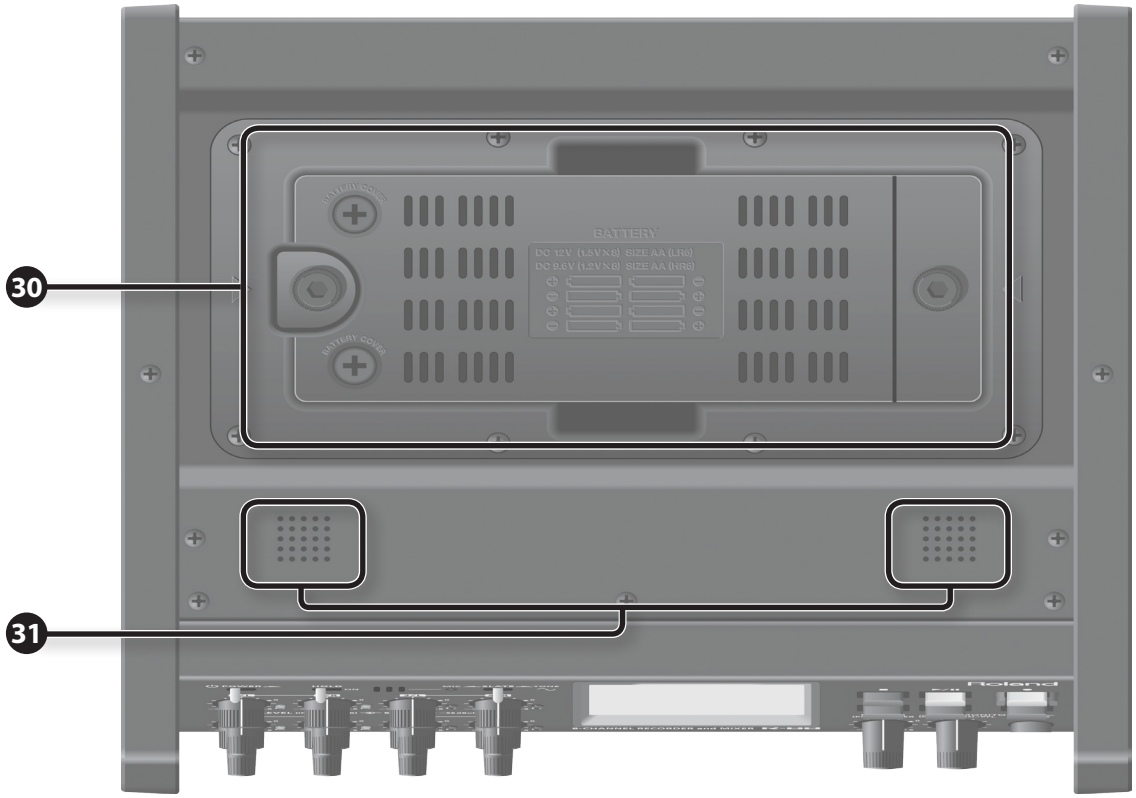
* This instrument is equipped with balanced (XLR) type jacks. Wiring diagrams for these jacks are shown at right. Make connections after first checking the wiring diagrams of other equipment you intend to connect.



NOTE

Do not supply phantom power from an external device to these output jacks.

Top Panel



30 Battery case

Install batteries here. The entire battery case can be removed and installed with the batteries (p. 23).

31 Internal speakers

These are built-in speakers for monitoring. If you want to hear sound from the internal speakers, access the MENU item OUTPUT SETUP, and turn SPEAKER SW "ON." For details, refer to "Switching the Internal Speakers ON/OFF" (p. 33).

* No sound will be output while using headphones or while recording.

About the Ground Terminal (p. 8)

Depending on the circumstances of a particular setup, you may experience a discomforting sensation, or perceive that the surface feels gritty to the touch when you touch this device, microphones connected to it, or the metal portions of other objects. This is due to an infinitesimal electrical charge, which is absolutely harmless. However, if you are concerned about this, connect the ground terminal (p. 8) with an external ground. When the unit is grounded, a slight hum may occur, depending on the particulars of your installation. If you are unsure of the connection method, contact the nearest Roland Service Center, or an authorized Roland distributor, as listed on the "Information" sheet

* Unsuitable places for connection

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

Items in the Screen

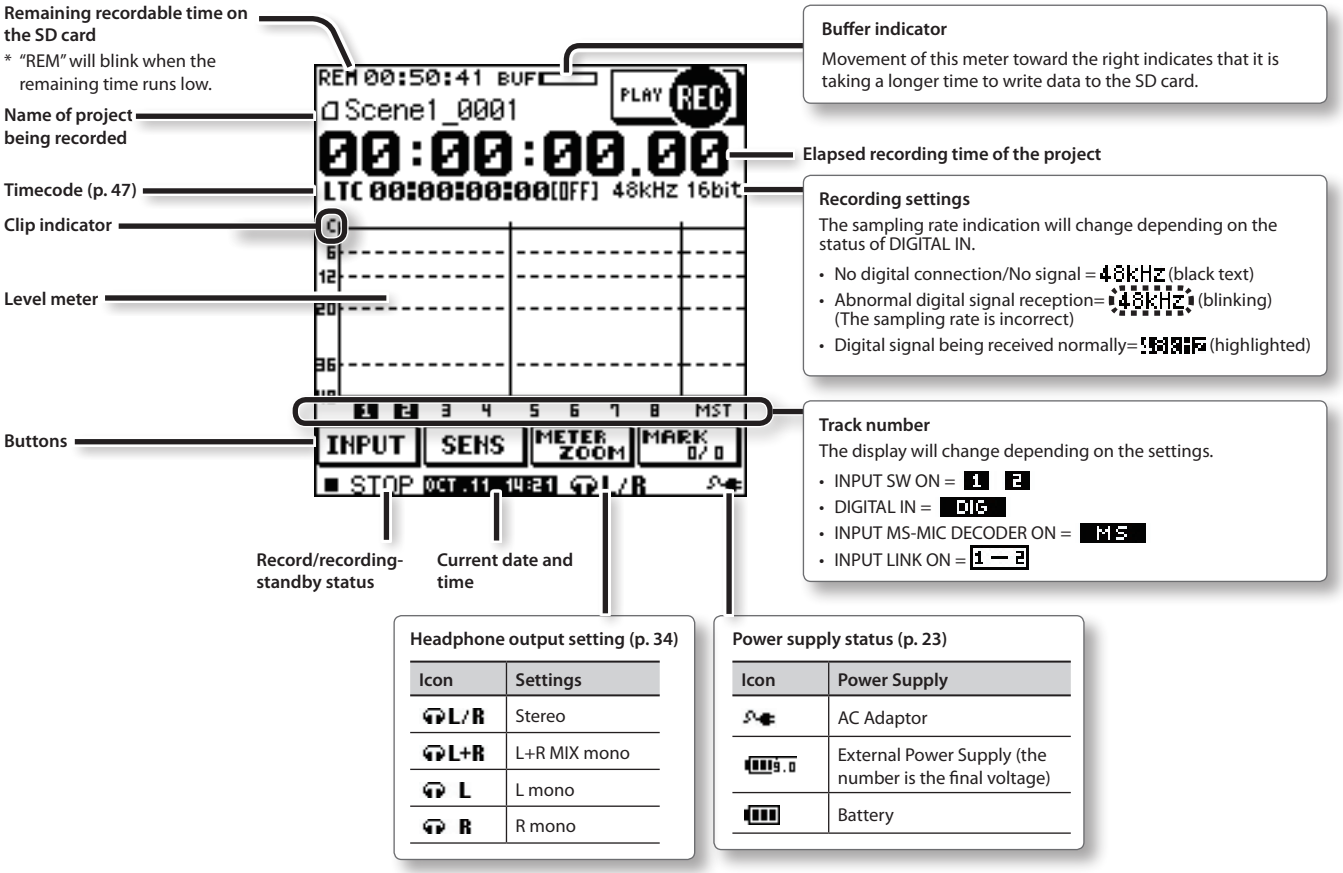
Home Screen

The screen that appears when you turn on the power is called the home screen.

The home screen will switch in tandem with record or playback operations. If you want to switch screens while stopped, touch in the upper right of the screen.

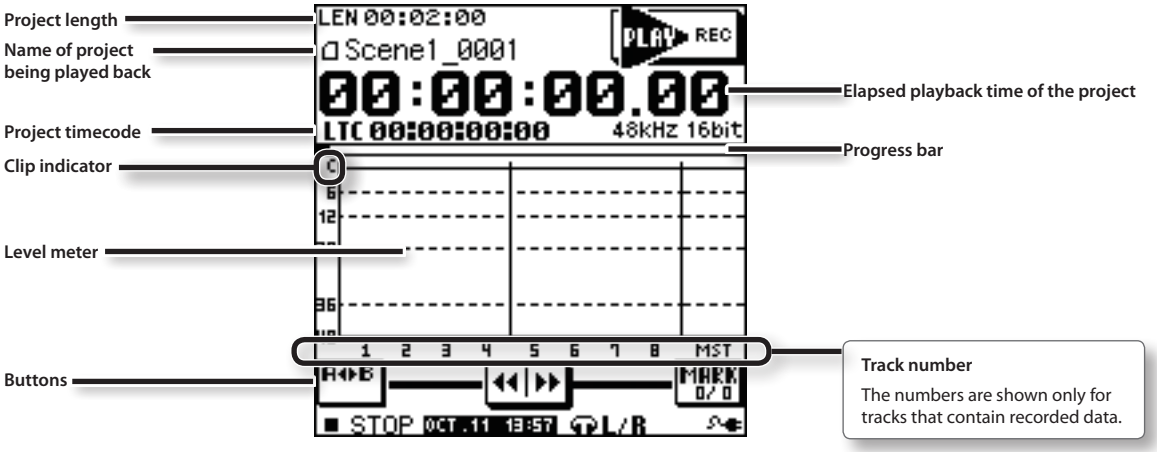
Home screen for recording

This is the recording-standby screen. In this state, the audio input can be monitored at all times, and recording can be started at any moment.



Home screen for playback

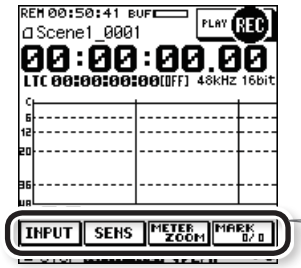
This is the playback-standby screen. Audio input is muted while this screen is displayed.



Buttons in the home screen

By touching the buttons in the bottom of the record/stop or playback home screens, you can edit the various input settings, specify how the level meters will be displayed, and assign markers within the project.

During recording



<INPUT> button

Switch each input on/off, specify low cut, and make limiter settings (p. 28).

<SENS> button

Check the sensitivity setting of each input. The value of the sensitivity setting is adjusted using the [SENS] knobs ⓭ (p. 6) on the front panel.

<METER ZOOM> button

Magnifies the 20 dB region of the level meter display.

<MARK> button (during recording)

Assigns a marker within the project (p. 38). By touching this button during recording, you can assign a marker to the current location.

During playback

Progress Bar

Indicated the playback position.

By touching this you can jump to the desired playback position.

<A-B> button

Repeatedly play back the specified region (AB repeat) within the project(p. 40).

<◀◀|▶▶> button

By touching and sliding this button to the left or right, you can rewind or fast-forward the project. Rewind or fast-forward will become faster as you move the button farther from the center.

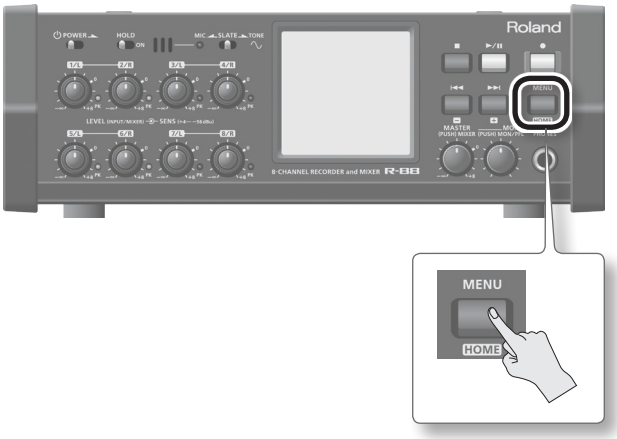
<MARK> button

Touch this button to access the Marker screen (p. 38).

MENU Screen

This screen will appear when you press the [MENU] (HOME) button.

In this manual, operations starting from the MENU screen are expressed as follows.
<Example>
Select <REC/PLAY SETUP>, and then select <REC FILE>.
[MENU]→<REC/PLAY SETUP>→<REC FILE>

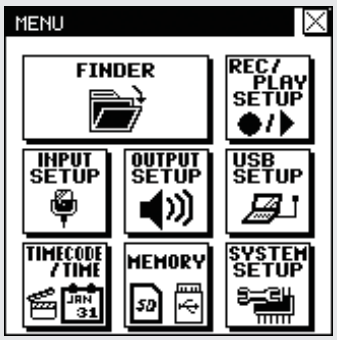


To return to the previous screen, press the [MENU] (HOME) button once again, or touch ☒ in the screen.

* By pressing the [MENU] (HOME) button you can instantly return to the home screen from any level.

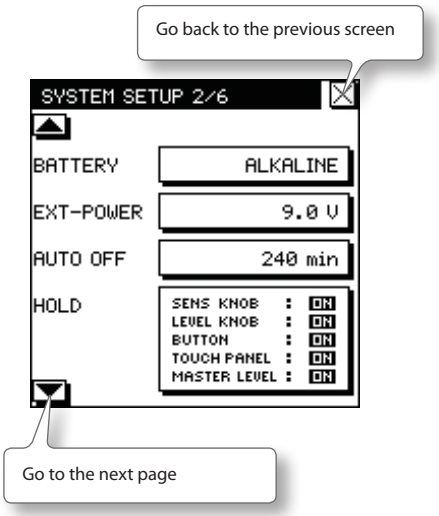
MENU

This is the main menu screen.



Touch one of these icons to access the corresponding setting screen.

Basic Operation of each screen

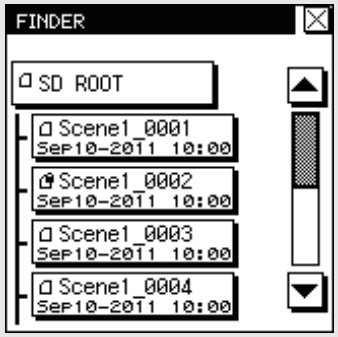


The explanations in this manual include illustrations that depict what should typically be shown by the display. Note, however, that your unit may incorporate a newer, enhanced version of the system, so what you actually see in the display may not always match what appears in the manual.

- For details on each screen, refer to the pages listed on ➔P. XX .
- For details of each parameter, refer to "Parameter List" (p. 65).

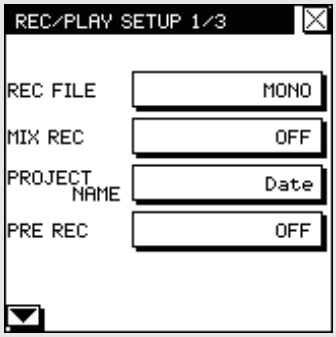
FINDER ➔p. 51

Manage projects and folders.



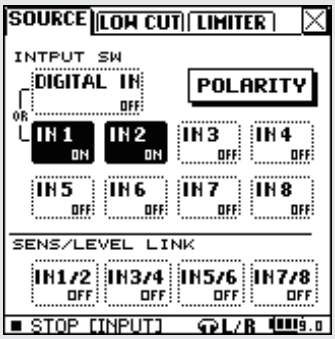
REC/PLAY SETUP ➔p. 35, p. 39

Make recording and playback settings.



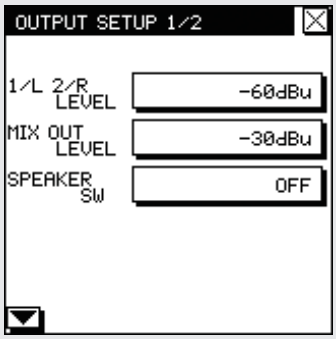
INPUT SETUP ➔p. 28

Make input settings.



OUTPUT SETUP ➔p. 32

Make output settings.

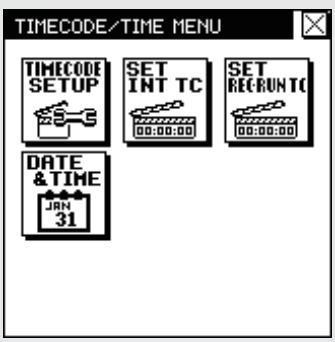


USB SETUP ➔p. 60, p. 63

Make settings for using the R-88 as a USB audio interface.

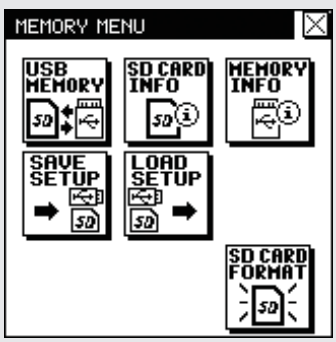
TIMECODE/TIME MENU ➔p. 47, p. 26

Make settings for the timecode, date, and time.



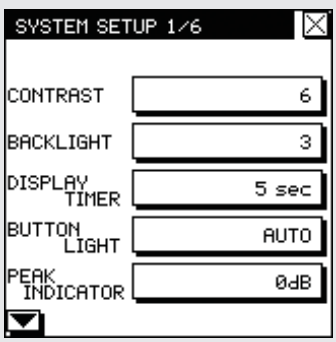
MEMORY MENU ➔p. 58, p. 27

Make settings for SD cards and USB flash drives.



SYSTEM SETUP ➔p. 66

Make settings for the R-88 itself.

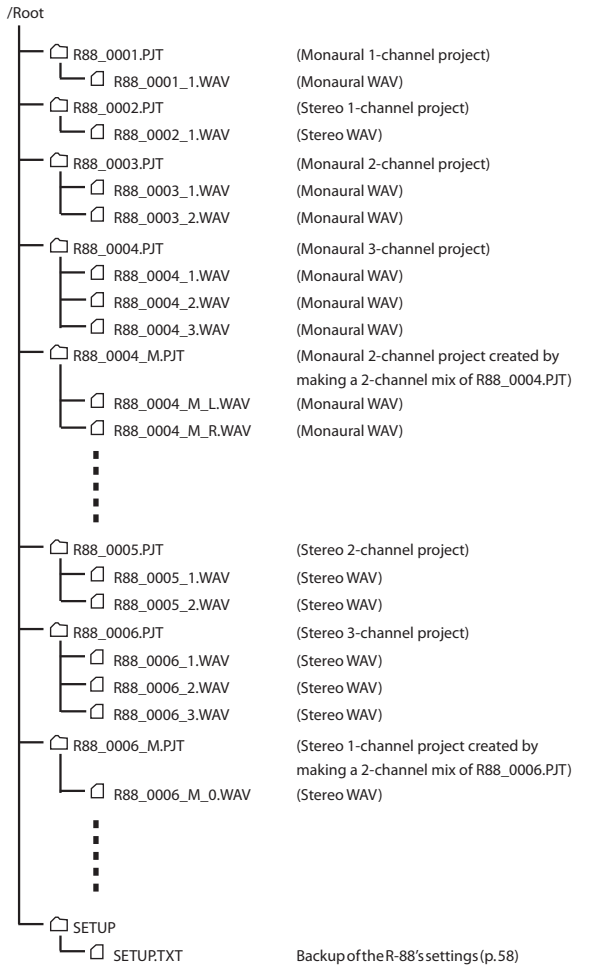


What Is a Project?

On the R-88, the data that you record and play back are handled in units called "projects."

Project File Structure

If you connect the R-88 to your computer, you can see how these folders and files are organized (p. 61).



MEMO

If MIX REC (p. 35) is ON, a stereo two-channel mix project will be recorded simultaneously with the multitrack project.

For example, if you're recording a multitrack project named "R88_0004.PJT," a 2-channel mix project named "R88_0004_M.PJT" will be recorded at the same time.

The 2-channel mix project will be saved with the file names R88_0001_M_L.WAV and R88_0001_M_R.WAV when recording in monaural, or the file name R88_0001_M_0.WAV when recording in stereo.

NOTE

If you use your computer to modify, delete, or rename the files within a project, the R-88 may be unable to play back the project.

BWF and iMXL

The WAV files recorded by the R-88 are in BWF (Broadcast Wave Format). The recording start time and the following iXML metadata will be included in the file.

iXML metadata	Explanation
<SCENE>	This will record the date if the PROJECT NAME setting (p. 35) is "Date", or the specified text string if the setting is "U1–U8." If you edit the project name, this data will also be changed.
<TAKE>	This will record the time if the PROJECT NAME setting (p. 35) is "Date", or a sequential number if the setting is "U1–U8." If you edit the project name, this data will also be changed.
<SPEED><TIMECODE_RATE> <SPEED><TIMECODE_FLAG>	This records the TIMECODE RATE.

* The iXML metadata is not loaded at the time of playback.

1 Getting Ready

This Quick Guide explains basic operation.

For details, refer to the pages shown by the page XX symbol.

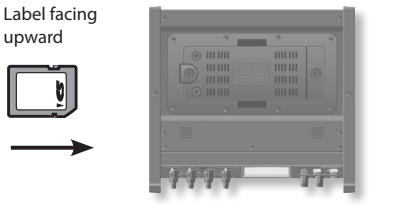
Preparing an SD Card

page 26

Insert a commercially available SD card.

1. Open the rubber flap located on the left side panel.
* The cover may break if you use excessive force.

2. Insert the SD Card.



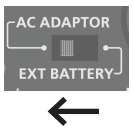
Preparing the Power Supply

page 23

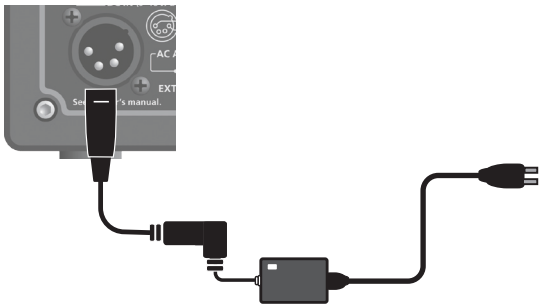
Prepare batteries, an external power supply, or the AC adaptor.

Connecting the AC adaptor.

1. On the side panel (left), set the external power supply select switch to "AC ADAPTOR."

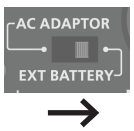


2. Connect the AC adaptor.



Connecting the external power supply

1. On the side panel (left), set the external power supply select switch to "EXT BATTERY."

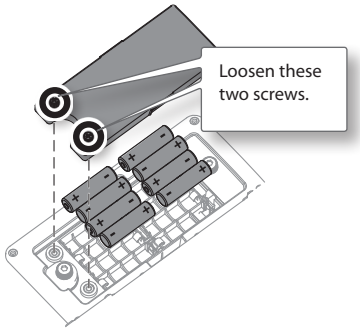


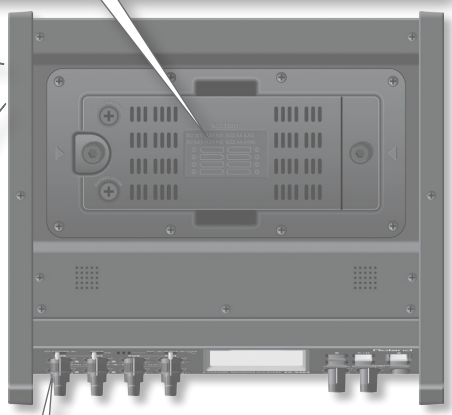
2. Connect the cable of a commercially available external power supply to the DC IN jack.

3. Specify the final voltage.
* For details on making this setting, refer to "Using External Power Sources" (p. 24).

Installing batteries

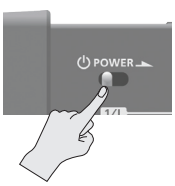
Insert batteries, taking care to observe the correct polarity.





Turn on the power

Slide the [POWER] switch on the front panel in the direction of the arrow, and hold it there for several seconds.

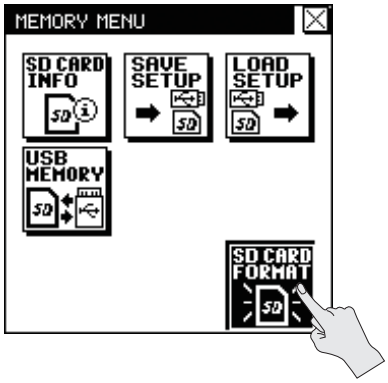


Formatting an SD Card (Initialize)

page 27

Before using an SD card for the first time, you must first format (initialize) the SD card.

1. **Choose [MENU]→<MEMORY>→<SD CARD FORMAT>.**



2. **Touch <YES>.**

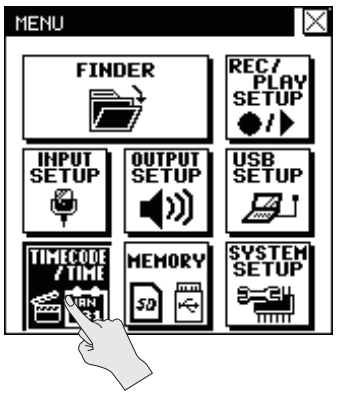
Formatting will begin. When formatting is finished, the display will indicate "COMPLETED!."

Specifying the Date and Time

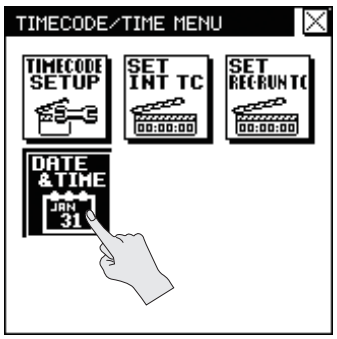
page 26

Here's how to set the date and time of the R-88's internal clock.

1. **Choose [MENU]→<TIMECODE/TIME>.**

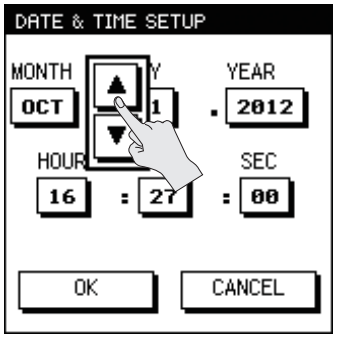


2. **Touch <DATE & TIME>.**

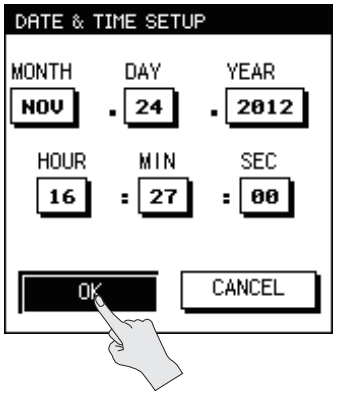


3. **Specify the date and time.**

Touch each item, and use ▲ ▼ to set the date and time.



4. **Touch <OK> to confirm the setting.**



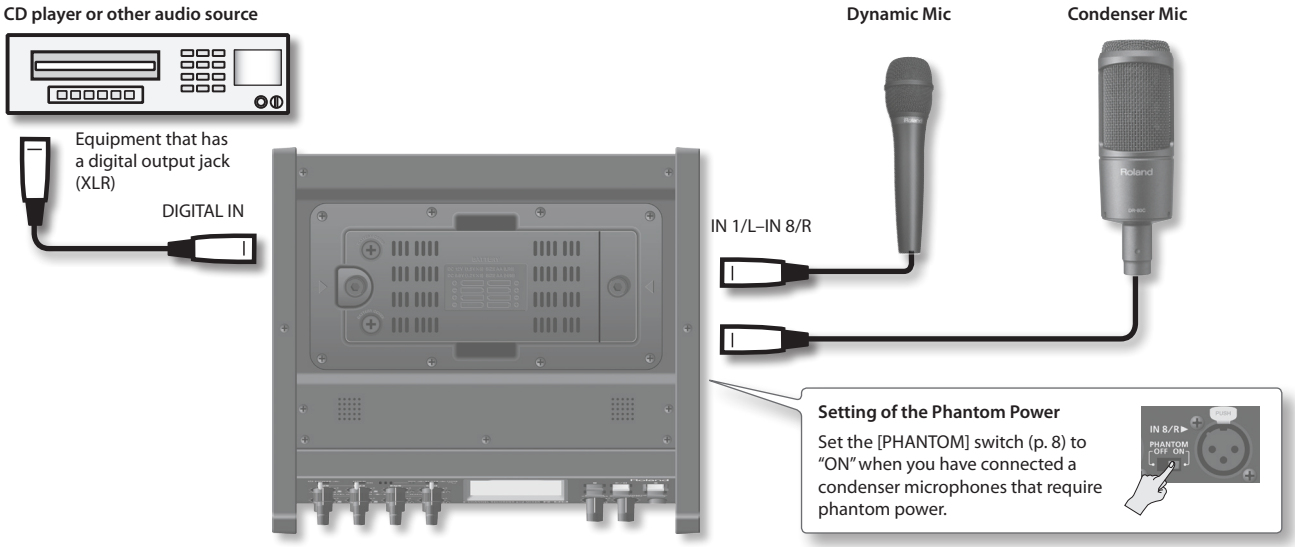
2 Recording

This section explains the basic settings for recording, and the procedures for recording and playback.

Connections

page 28

Connect your recording mics or recording sources to the R-88's input jacks.



Setting of the Phantom Power

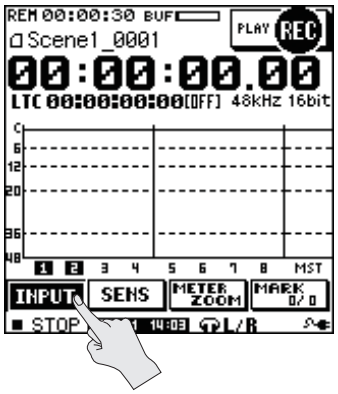
Set the [PHANTOM] switch (p. 8) to "ON" when you have connected a condenser microphones that require phantom power.

Input Settings

page 28

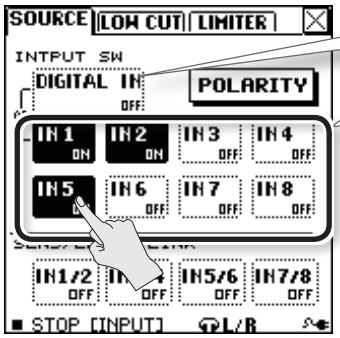
Turn on the inputs that you want to record. Recording is possible only for inputs that are turned on.

1. In the home screen (recording) (p. 10), touch <INPUT>.



* You can also access the input setup screens by pressing [MENU]→<INPUT SETUP>.

2. Touch the icon for each input to turn it on/off.



Input from the DIGITAL IN jack

Input from the IN 1/L–IN 8/R jacks

* DIGITAL IN cannot be used simultaneously with IN 1 and IN 2.

Input Level/Input Sensitivity Settings

page 31

Adjust the sensitivity and input level for each input to be recorded.

Use the [LEVEL]/[SENS] knobs to adjust the level and sensitivity.

When you move a [SENS] knob (outer), the current value is shown in the screen.

For details on adjusting the input level, refer to "Adjusting the input level" (p. 31).

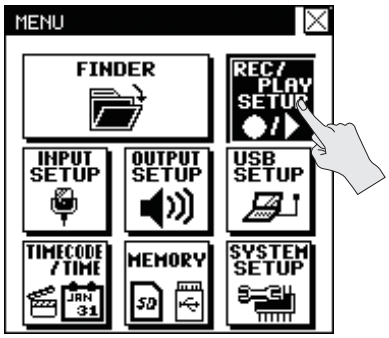
* The level cannot be adjusted for DIGITAL IN.

Settings for the Audio File to be Recorded

page 35

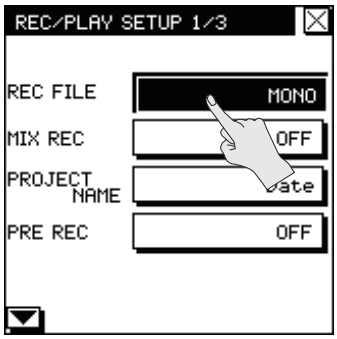
Choose the type of audio file to be recorded (mono/stereo), and choose the sampling rate and bit depth.

1. Choose [MENU]→<REC/PLAY SETUP>.

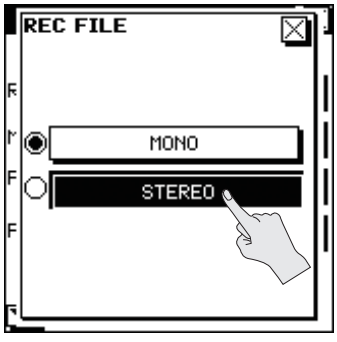


Choose the type of audio file (stereo/mono)

2. Touch the <REC FILE> item.



3. Touch the type that you want to set.

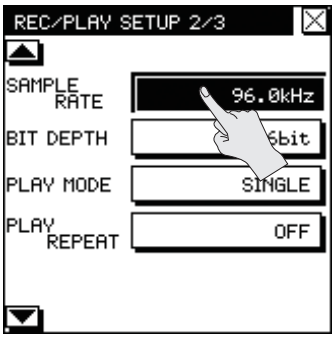


4. Touch ☒ to close the <REC FILE> window.

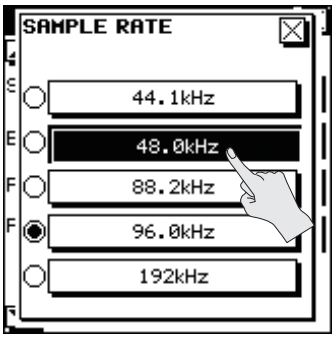
Choose the sampling rate

5. Press ▼ so that 2/3 is displayed.

6. Touch the <SAMPLE RATE> item.



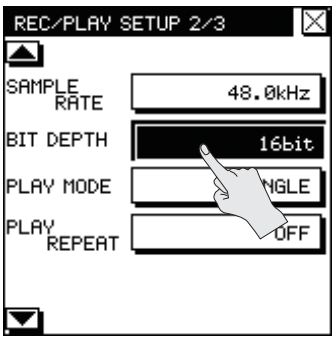
7. Touch the rate that you want to use.



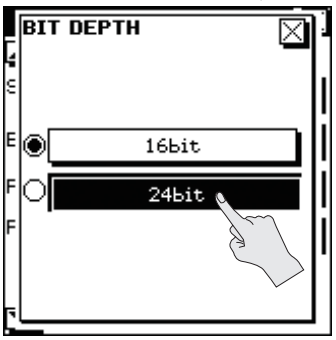
8. Touch ☒ to close the <SAMPLE RATE> window.

Choose the bit depth

9. Touch the <BIT DEPTH> item.



10. Touch the bit depth that you want to use.



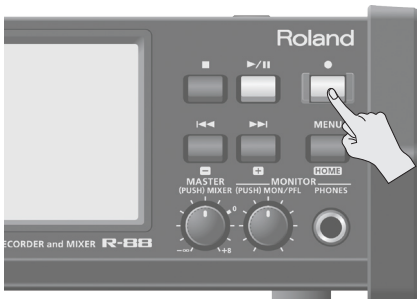
Recording/Playback

Recording will take place using the input settings and audio file settings you made on p. 17 and p. 18. You can then play back the recorded file.

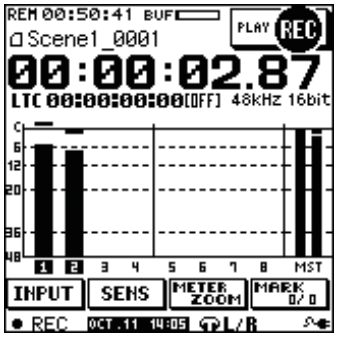
Recording

page 37

1. Press the [●] (REC) button.



The button will light, and recording will begin.

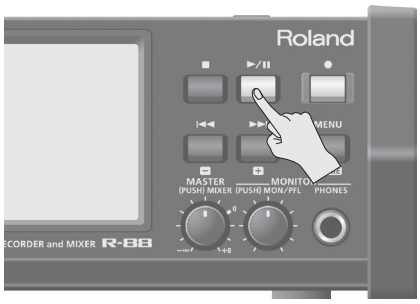


2. Press the [■] (STOP) button to stop recording.

Playback

page 39

1. Press the [▶/II] button.



The recorded project will begin playing back.

During playback, you can hold down the [⏮] button to rewind, or hold down the [⏭] button to fast-forward. When you release the respective button, playback will resume.

When playback reaches the end of the project, it will stop. If you want to stop before the end of the project, press the [■] (STOP) button.

During playback, you can press the [▶/II] button to pause playback. When you press the button once again, playback will resume from the location at which you paused.

Deleting

page 53

Here's how to delete a recorded project.

1. Choose [MENU]→<FINDER>.

2. Touch the name of the project or folder that you want to delete.
The recorded project will blink.

3. Touch <DELETE>.

4. Touch <YES>.

Saving to a Computer

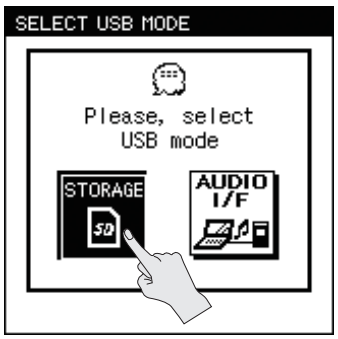
page 61

Here's how to save a recorded project to your computer.

1. Start up your computer.

2. Use a commercially available USB cable to connect the R-88 to your computer.

3. Touch <STORAGE>.



* Only if you've selected "SELECTABLE"

4. On your computer, copy the desired file(s) from the SD card.

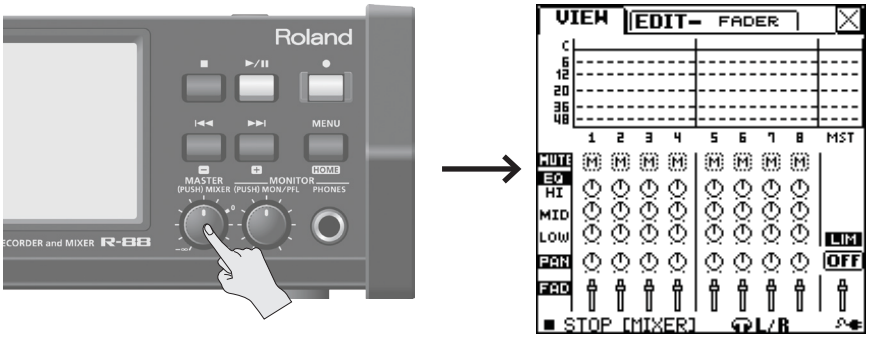
3 Mixer

The R-88 allows you to create a two-channel stereo mix of the audio from the IN 1–IN 8 and DIGITAL IN inputs during recording, or from the audio of the tracks of a previously recorded project. This section explains basic operation of the mixer functionality.

MIXER Screen

page 43

Press the [MASTER] knob on the front panel.



Level Settings

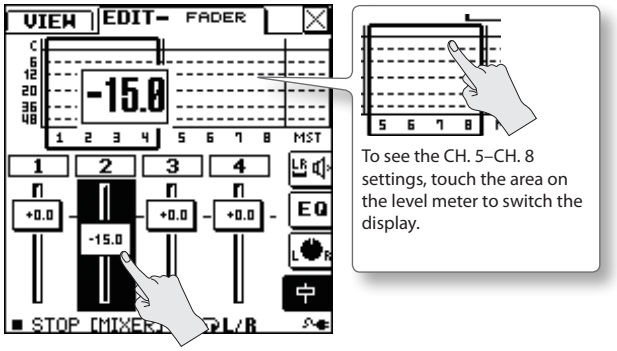
page 43

Here's how to adjust the input levels during recording, or the levels of each track during playback.

Adjustment using the touch panel

1. Touch a slider to display EDIT–FADER screen.

2. Touch a slider and drag it up or down.



To make fine adjustments, use the [⏮] (–) button or [⏭] (+) button (p. 43).

3. Touch the <VIEW> tab to return to the VIEW screen.

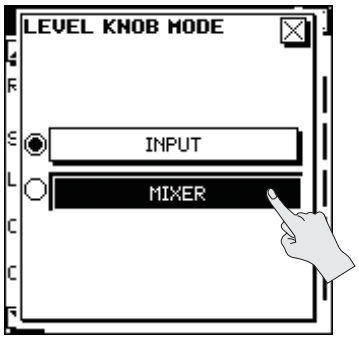
Adjustment using the [LEVEL] knobs

You can also adjust the levels by using the [LEVEL] knobs (1/L–8/R) on the front panel.

1. Choose [MENU]→<SYSTEM SETUP>→<LEVEL KNOB MODE>.

<LEVEL KNOB MODE> is located on page 3/6. Touch ▼ to access 3/6.

2. Touch <MIXER>.



* If the LEVEL KNOB mode is set to MIXER, the INPUT LEVEL is fixed at 0 dB.

3. Use the [LEVEL] knobs to adjust the level.

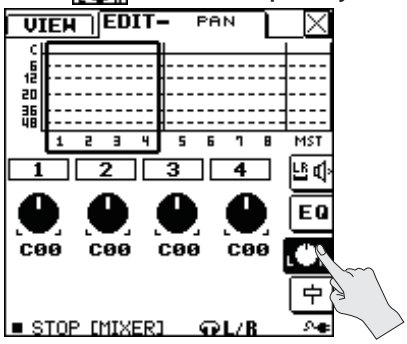
* If the LEVEL KNOB MODE is set to MIXER, you can't use the on-screen sliders to adjust the level.

Pan Settings

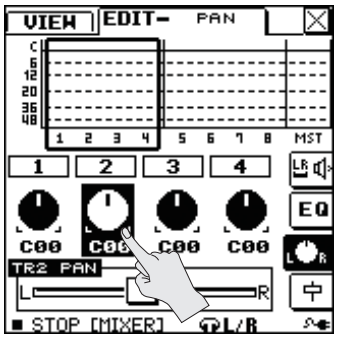
page 44

Here's how to adjust each input's pan during recording, or the pan of each track during playback.

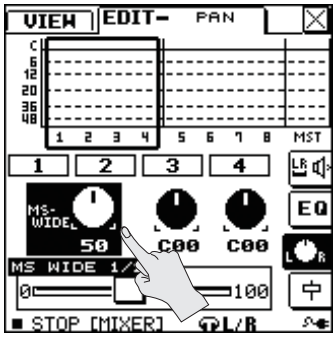
1. **Touch [L/R] to access the pan adjustment screen.**



2. **Touch the knob that you want to adjust.**

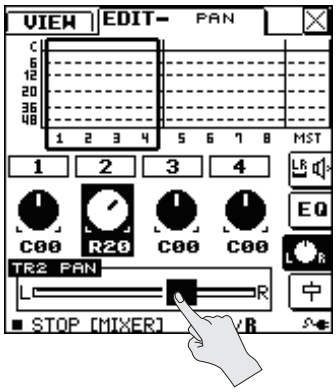


A slider will appear in the bottom of the screen.



This will adjust "MS-MIC WIDE" on channels for which the MS mic decoder (p. 41) is on.

3. **Drag the slider to the left or right to adjust the pan.**



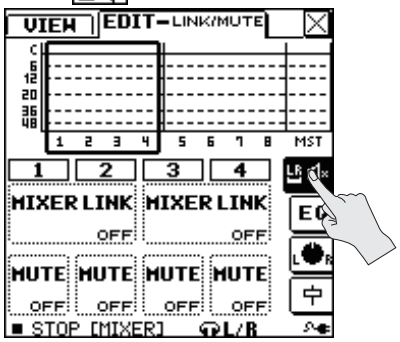
To make fine adjustments, use the [⏮] (–) button or [⏭] (+) button (p. 44).

Stereo Link and Mute On/Off

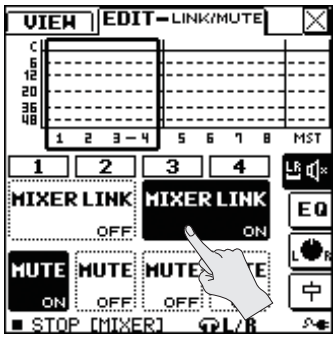
page 44

Here's how to turn stereo link (p. 45) and mute (p. 44) on/off.

1. **Touch [L/R].**



2. **Touch <MIXER LINK> or <MUTE> for the channel whose setting you want to turn on/off.**

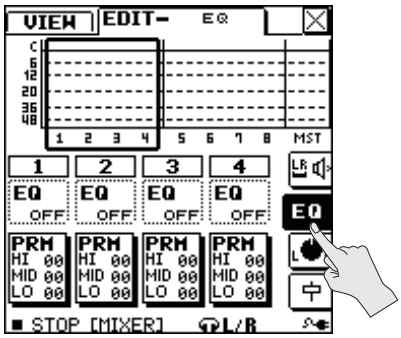


EQ Settings

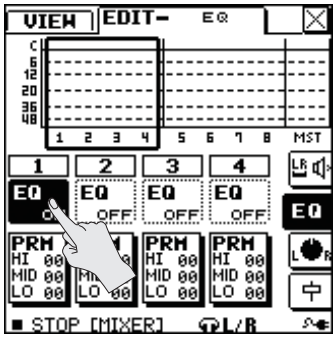
page 45

Here's how to make EQ settings.

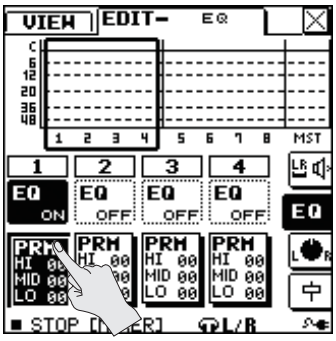
1. **Touch [EQ].**



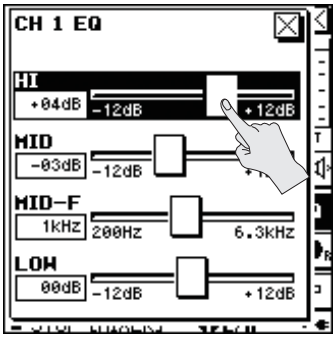
2. **Touch <EQ> of the channel whose setting you want to turn on/off.**



3. **Touch <PRM>.**



4. **Touch the slider for a parameter, and drag it left or right to adjust its value.**



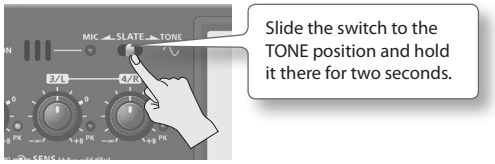
To make fine adjustments, use the [⏮] (–) button or [⏭] (+) button (p. 45).

Output Level Settings

page p. 46

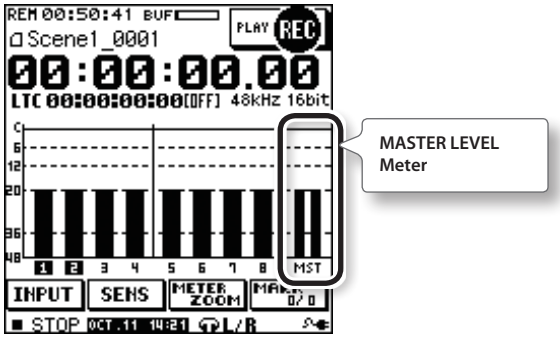
Here's how to adjust the output level to achieve the appropriate level when the R-88 is connected to an external device.

1. **Activate the slate tone (p. 50).**



* The slate tone cannot be output when the home screen is in playback mode.

2. **Adjust the [MASTER LEVEL] knob so that the MASTER LEVEL meter (MST) is at the appropriate level.**



3. **Make the appropriate adjustments to the input level of the connected device.**

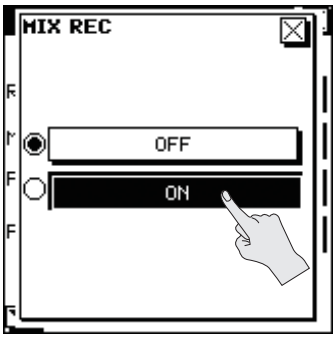
Recording a Two-channel Mix

page 35

You can record a separate two-channel stereo mix project simultaneously while recording a multitrack project.

1. **Choose [MENU]→<REC/PLAY SETUP>→<MIX REC>.**

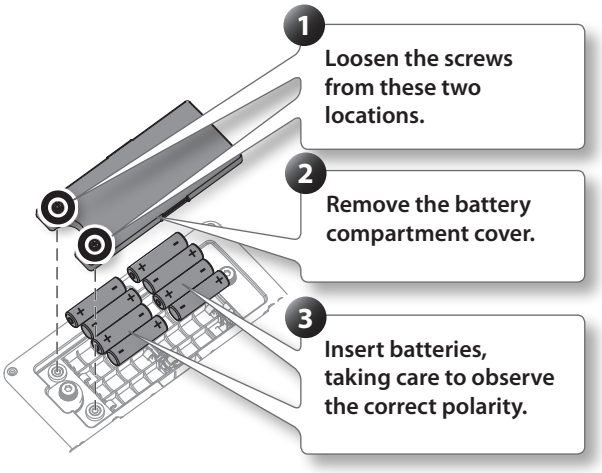
2. **Touch <ON>.**



Preparing the Power Supply

The R-88 can operate using an AC adaptor, batteries, or an external power device.

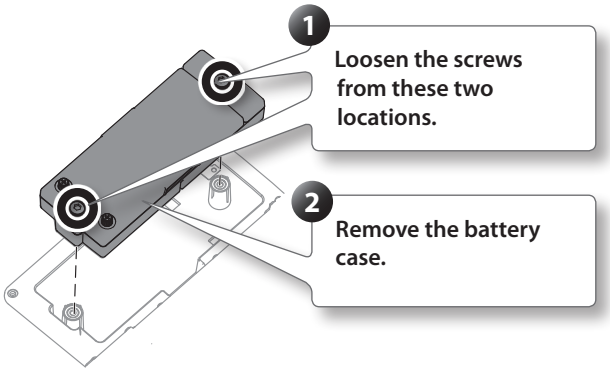
Installing Batteries



* We recommend that you keep batteries installed in the unit even though you'll be powering it with the AC adaptor. That way, you'll be able to continue a performance even if the cord of the AC adaptor gets accidently disconnected from the unit.
* If operating this unit on batteries, please use alkaline batteries, rechargeable Ni-MH batteries.

Removing the battery case

Although it is possible to replace the batteries without removing the battery case, battery replacement will be easier if you remove the battery case.



Note when using the R-88 on batteries

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

- Carefully follow the installation instructions for batteries, and make sure you observe the correct polarity.
- Avoid using new batteries together with used ones. In addition, avoid mixing different types of batteries.
- Remove the batteries whenever the unit is to remain unused for an extended period of time.
- Never keep batteries together with metallic objects such as ballpoint pens, necklaces, hairpins, etc.
- Incorrect handling of batteries, rechargeable batteries, or a battery charger can cause leakage, overheating, fire, or explosion. Before use, you must read and strictly observe all of the precautions that accompany the batteries, rechargeable batteries, or battery charger.
- When using rechargeable batteries and a charger, use only the combination of rechargeable batteries and charger specified by the battery manufacturer.

Types of batteries that can be used

- AA alkaline batteries (LR6)
- AA rechargeable Ni-MH batteries (HR6)

Choose <MENU>→<SYSTEM SETUP>→<BATTERY>(p. 66), and specify the battery that you're using.

* The R-88 cannot recharge rechargeable Ni-MH batteries. You'll need to use a battery charger designed for rechargeable Ni-MH batteries.

Power conservation function

The R-88 has a power conservation function, which prevents unnecessary battery consumption. If you leave the unit for a certain period of time without performing any operation, the display will dim or the unit's power will turn off, depending on the power conservation setting.

REFERENCE

"Parameter List" (p. 65)

* To prevent the power from turning off automatically, Choose [MENU]→<SYSTEM SETUP> and turn the AUTO OFF setting OFF. For details, refer to "Turning the Power On/Off" (p. 25).

Remaining battery indication

When the remaining battery power runs low, a battery low icon appears in the lower right of the display. When this appears, install fresh batteries as soon as possible. If you continue to use the unit in this state, the display will indicate"Battery Low," and finally the R-88 will stop functioning entirely.

Expected battery life under continuous use:

- 96 kHz, 8 channel, phantom power on with total of 40 mA

Type of battery	Battery life
Alkaline battery (AA, LR6)	Approx. 1 hours
Rechargeable Ni-MH battery (AA, HR6)	Approx. 2 hours

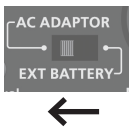
- 96 kHz, 2 channel, phantom power off

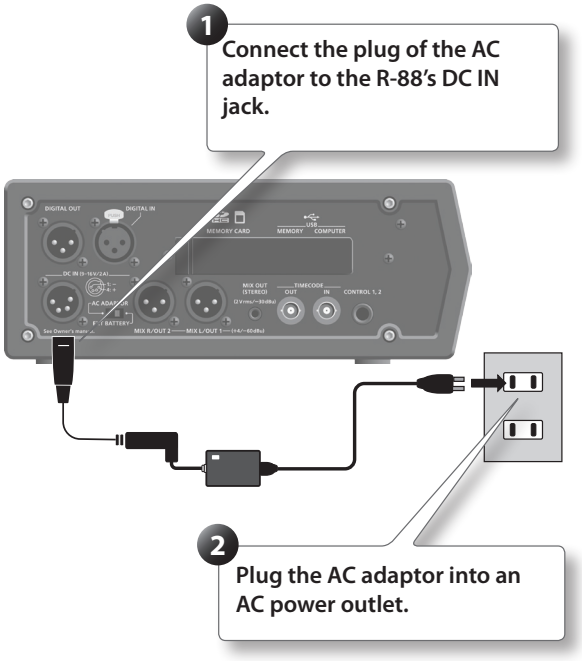
Type of battery	Battery life
Alkaline battery (AA, LR6)	Approx. 3 hours
Rechargeable Ni-MH battery (AA, HR6)	Approx. 4 hours

* These figures will vary depending on the specifications of the batteries and the actual conditions of use.

Connecting the AC adaptor

If you are using an AC adaptor, you must set the external power supply select switch to "AC ADAPTOR."

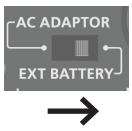




* Place the AC adaptor so the side with the indicator (see illustration) faces upwards and the side with textual information faces downwards.
  The indicator will light when you plug the AC adaptor into an AC outlet.
* Be sure to use the AC adaptor included with this product.

Using External Power Sources

If you are using an external power supply, you must set the external power supply select switch to "EXT BATTERY."



When using an external power supply, be sure to set the final voltage.

The final voltage refers to the voltage when voltage can no longer be supplied because the capacity of the external power source is reduced and voltage decreases as electricity is consumed.

If the final voltage is not properly set for the external power source, the remaining power display cannot be shown. Refer to the user's manual of the external power supply for the final voltage value.

Furthermore, when the "Battery Low" message is displayed, the recording automatically stops, and the power automatically turns off. Change the external power source.

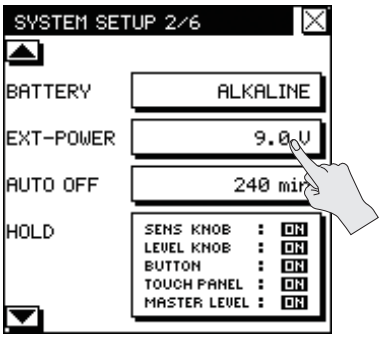
* When using an external power source, even when power is automatically cut off, the R-88 starts within 30 seconds after power is turned back on. During this period, the final voltage settings can be changed.
* Read the following to set the final voltage for the R-88.

Setting the final voltage

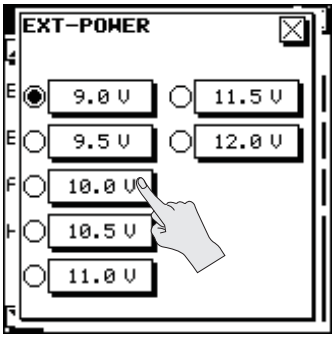
1. Choose [MENU]→<SYSTEM SETUP>.

2. Touch <EXT POWER>.

<EXT POWER> is located on page 2/6. Touch ▼ to access 2/6.



3. Touch the final voltage value that you want to specify.



Setting
9.0 V, 9.5 V, 10.0 V, 10.5 V, 11.0 V, 11.5 V, 12.0 V

4. Press the [MENU] (HOME) button to return to the home screen.

You can also return to the home screen by touching ☒ a number of times.

MEMO

If an external power source is connected, the R-88 will not switch to battery operation even if the voltage of the external power source drops below the final voltage.

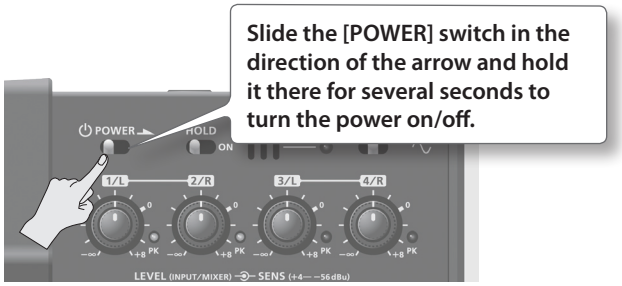
DC IN jack pin configuration

Make sure that the wiring of your external power source matches the R-88's power supply connector. Be aware that malfunctions will occur if you connect an external power source that is wired differently.

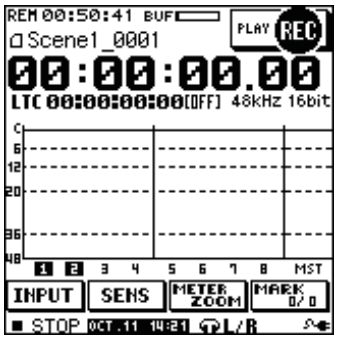
Refer to the user's manual for the external power source when using an external power source.

Turning the Power On/Off

* Once everything is properly connected (p. 28, p. 32), be sure to follow the procedure below to turn on their power. If you turn on equipment in the wrong order, you risk causing malfunction or equipment failure.



When you turn on the power, the start-up screen will appear in the display, and then the home screen will appear.



* This unit is equipped with a protection circuit. A brief interval (a few seconds) after turning the unit on is required before it will operate normally.

* Before turning the unit on/off, always be sure to turn the volume down. Even with the volume turned down, you might hear some sound when switching the unit on/off. However, this is normal and does not indicate a malfunction.

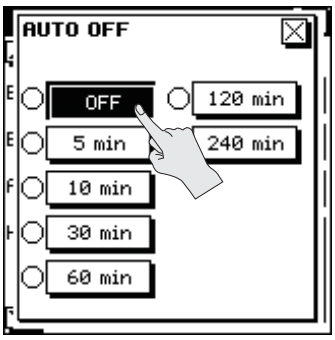
Preventing the Power from Automatically Turning Off (AUTO OFF)

The power to this unit will be turned off automatically after a predetermined amount of time has passed since its buttons or controls were last operated (AUTO OFF function). If you do not want the power to be turned off automatically, disengage the AUTO OFF function as follows.

1. Choose [MENU]→<SYSTEM SETUP>→<AUTO OFF>.

<AUTO OFF> is located on page 2/6. Touch ▼ to access 2/6.

2. Touch <OFF>.



NOTE

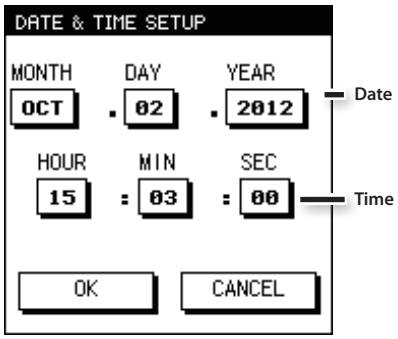
- Any settings that you are in the process of editing will be lost when the power is turned off. If you have any settings that you want to keep, you should save them beforehand.
- To restore power, turn the power on again.

Setting the Date and Time

1. Choose [MENU]→<TIMECODE/TIME>.

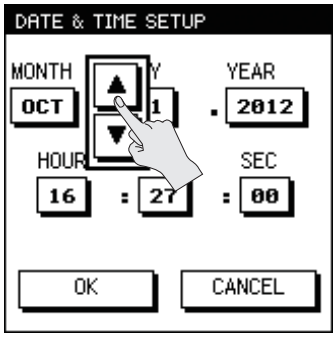
2. Touch <DATE & TIME>.

The calendar and clock setting screen will appear.

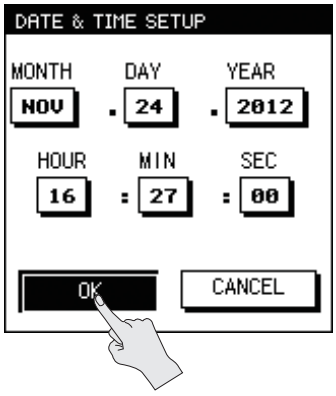


3. Specify the date and time.

Touch each item, and use ▲ ▼ to set the date and time.



4. When you've finished setting all items, touch <OK>.



By touching <CANCEL> you can return to the previous screen without making settings.

5. Press the [MENU] (HOME) button to return to the home screen.

You can also return to the home screen by touching ⊠ a number of times.

SD Card

The R-88 stores recorded data on the SD card.

Inserting an SD Card

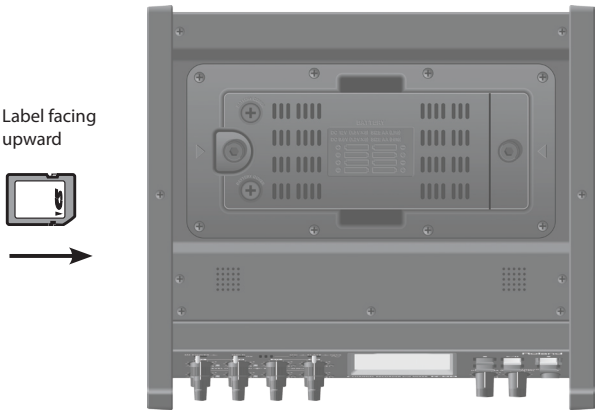
1. Make sure that the power is off.

2. Open the Rubber flap located on the left side panel.

* The cover may break if you use excessive force.

3. Insert the SD card.

With the label surface of the SD card facing upward, insert it gently.



NOTE

- Forcibly inserting the SD card in the wrong orientation may damage the R-88 or the SD card. Please use caution.
- Press the SD card firmly all the way in.

4. Close the Rubber flap.

5. Switch on the power (p. 25).

MEMO

If an unformatted SD card is inserted in the R-88, the screen will indicate "SD Unformatted."

Formatting an SD Card

If the SD card is being used for the first time, you must format the card before it can be used.

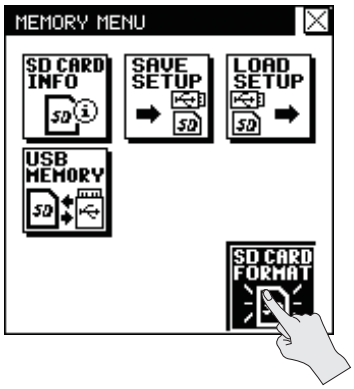
NOTE

- When you format an SD card, all data on the card will be erased. If the card contains important data, back it up to your computer first.
- You must format the SD card on the R-88 itself. An SD card formatted on a device other than the R-88 might not work correctly in the R-88.

1. Make sure that the SD card you want to format is inserted in the SD card slot.

2. Choose [MENU]→<MEMORY>.

3. Touch <SD CARD FORMAT>.



4. To format the card, touch <YES>.

The card will be formatted.

When formatting has been completed, the following screen will appear.

5. Press the [MENU] (HOME) button to return to the home screen.

You can also return to the home screen by touching ☒ a number of times.

Removing an SD Card

1. Switch off the R-88's power (p. 25).

2. Open the Rubber flap.

3. Gently press the SD card inward, and then release your finger.

When the SD card pops out, remove it.

NOTE

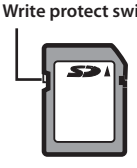
Do not insert or remove an SD card while the power is on. The data on the SD card may be lost if you do so.

About SD cards

- The R-88 supports SDHC cards.
- Never insert or remove an SD card/SDHC card while this unit's power is on. Doing so may corrupt the unit's data or the data on the SD card/SDHC card.
- Some memory card types or memory cards from some manufacturers may not record or play back properly on the R-88.
- Carefully insert the SD card/SDHC card all the way in—until it is firmly in place.

The SD card write protect feature (LOCK)

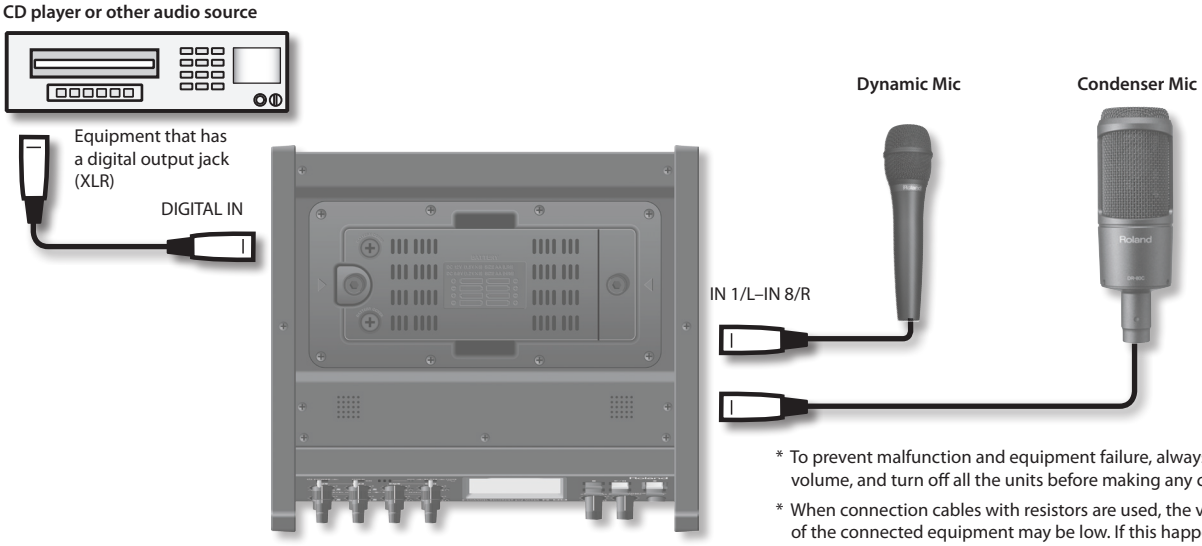
The contents of the SD card/SDHC card can be protected by write protecting it. To write protect a card, slide the write protect switch on the side of the SD card/SDHC card to the "LOCK" position. Unlock write protect to delete data on the card.



Input Settings

The R-88's right side panel provides eight analog XLR input jacks, while its left side panel provides one digital input jack; you can record from up to eight inputs simultaneously.

Connections



* To prevent malfunction and equipment failure, always turn down the volume, and turn off all the units before making any connections.

* When connection cables with resistors are used, the volume level of the connected equipment may be low. If this happens, use connection cables that do not contain resistors.

Input Settings

From the home screen (recording), use the <INPUT> (p. 11) to access the input setting screens.

* You can also access the input setup screens by pressing [MENU] →<INPUT SETUP>.

Input Source Settings

You can turn each input on/off or switch its polarity.

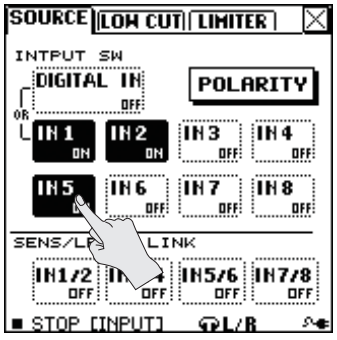
You can also turn linking on/off for the IN 1/2, IN 3/4, IN 5/6, and IN 7/8 input levels and sensitivity.

Input on/off settings

1. From the Home screen, choose <INPUT>.

2. Touch the icon for each input to turn it on/off.

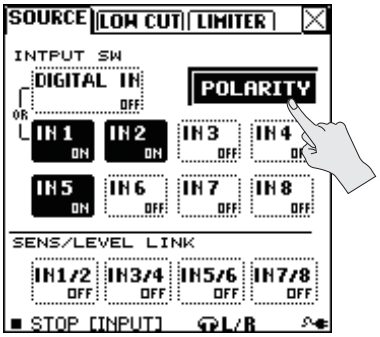
Turn on the inputs that you want to use for recording, and turn off the other inputs.



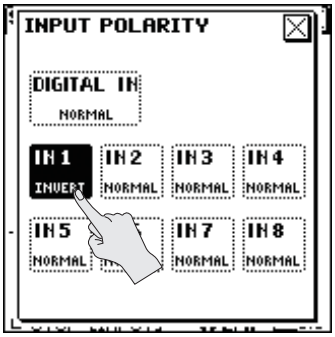
* If the sampling rate (p. 36) is 192 kHz, only IN 1–IN 4 can be used.

Switching the polarity

1. Touch <POLARITY>.



2. Touch the inputs whose polarity you want to invert.

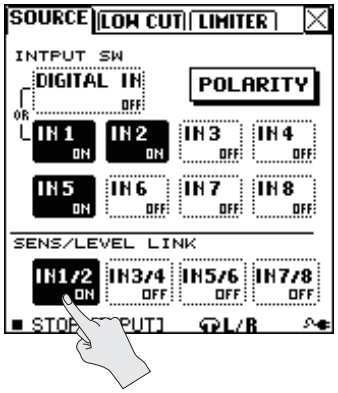


"INVERT" will be shown on the icon for an input when its polarity is inverted.

Input level and sensitivity link on/off

The input level and sensitivity settings can be linked for each pair IN 1 and IN 2, IN 3 and IN 4, IN 5 and IN 6, and IN 7 and IN 8. This is convenient when making stereo recordings.

1. Touch the icon of the desired pair to turn link on/off.

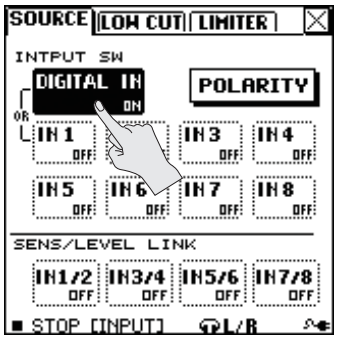


Audio Input from a Digital Device

You can connect a digital device to the DIGITAL IN jack of the left side panel (p. 7), and input audio from it.

1. From the home screen (recording), choose <INPUT>.

2. Touch <DIGITAL IN> to turn on input from the DIGITAL IN jack.



* The IN 1/IN 2 (analog input jacks) cannot be used simultaneously with the DIGITAL IN jack.

* The input status of the digital signal is shown in the home screen (p. 10).

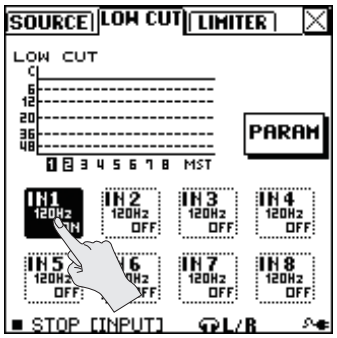
Low Cut Filter Settings

When using a mic, you can use a low cut filter to reduce unwanted low-frequency noise. Touch the <LOW CUT> tab; then turn the low cut filter on/off for each input and specify the cutoff frequency.

On/off settings

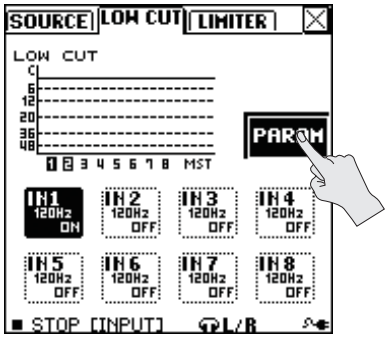
1. From the home screen (recording), choose <INPUT>→<LOW CUT>.

2. Touch the icon for each input to turn it on/off.

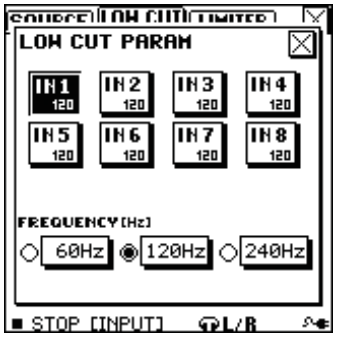


Cutoff frequency settings

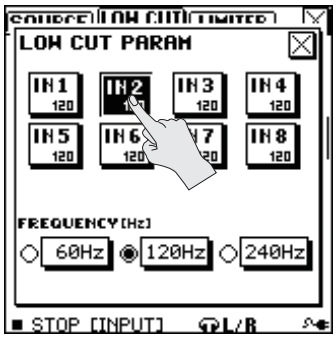
1. Touch <PARAM>.



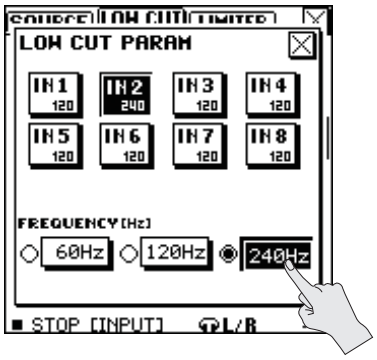
The "LOW CUT PARAM" screen will appear.



2. **Touch the input whose cutoff frequency you want to specify.**



3. **Touch the desired cutoff frequency.**



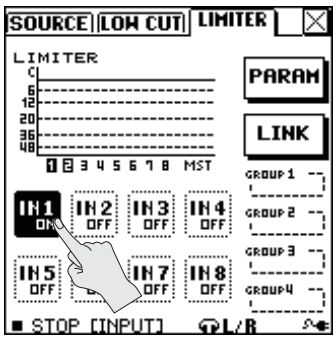
Limiter Settings

A limiter is provided for each input, allowing the input levels to be compressed so that the recording will not be distorted even if loud sounds are input. Touch the <LIMITER> tab, and you can turn each input's limiter on/off and adjust its threshold and release time.

On/off settings

1. **From the home screen (recording), choose <INPUT>→<LIMITER>.**

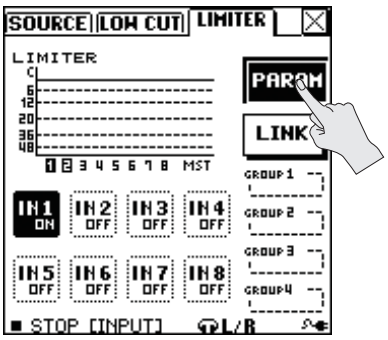
2. **Touch the icon for each input to turn it on/off.**



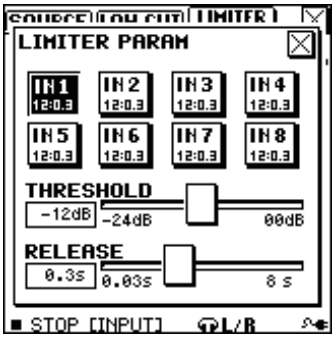
Threshold and release time settings

You can adjust the level at which the limiter will be applied ("threshold"), and the time over which the compression effect disappears after the signal has fallen below the threshold level ("release time").

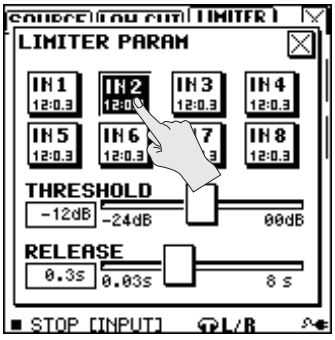
1. **Touch <PARAM>.**



"LIMITER PARAM" screen will appear.

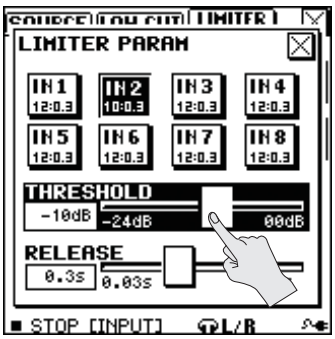


2. **Touch the input whose threshold and release time you want to adjust.**



3. **Drag the <THRESHOLD> slider or <RELEASE> slider to the left or right to specify the value.**

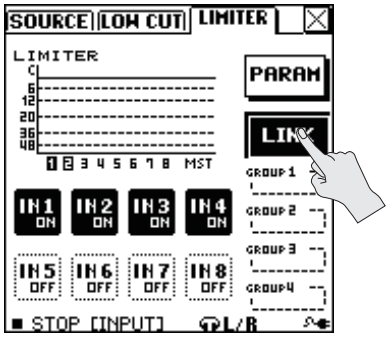
Once you've touched the slider, you can also use the [⏮] (–) button and [⏭] (+) button on the front panel to edit the value.



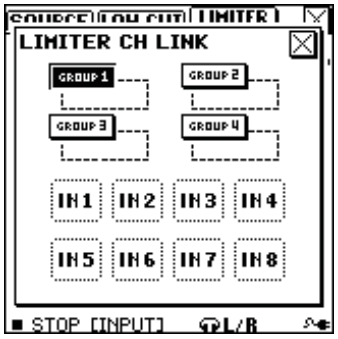
Limiter channel link settings

Limiter channel link is a function that lets you group multiple inputs so that the identical compression effect will be applied to all of those inputs when any input in that group exceeds the threshold level. The R-88 lets you create four such groups.

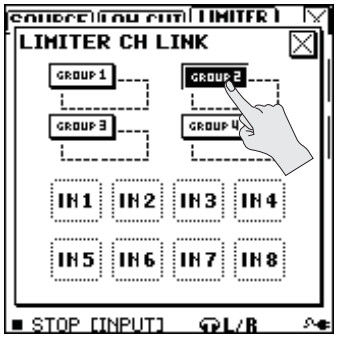
1. Touch <LINK>.



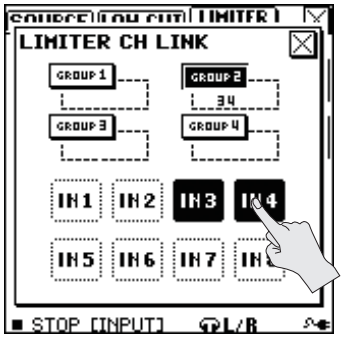
"LIMITER CH LINK" screen will appear.



2. Select the group for which you want to specify link settings.



3. Touch the inputs that you want to add to the group.



Input Level and Input Sensitivity Settings

Here's how to adjust the sensitivity and input level of each input.

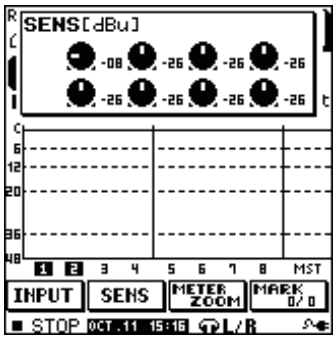
* When recording in stereo, it is convenient to link the knobs of the left and right channels (p. 29).

* The level cannot be adjusted for DIGITAL IN.

1. Turn on the inputs that you want to use for recording (p. 28).

2. Use the [LEVEL]/[SENS] knobs (p. 6) to adjust the level and sensitivity.

When you move a [SENS] knob, the current value will appear in the screen.



Knob	Setting
SENS	-56 dBu, -50 dBu, -44 dBu, -38 dBu, -32 dBu, -26 dBu, -20 dBu, -14 dBu, -8 dBu, -2 dBu, +4 dBu

Adjusting the input level

1. Turn the [SENS] knob (outer) all the way to the left.

2. Set the [LEVEL] knob (inner) to 0.

3. While inputting audio, turn the [SENS] knob toward the right.

While watching the level meter, adjust the level appropriately. If you are unable to obtain the appropriate level using only the [SENS] knob, use the [LEVEL] knob to adjust the input level.

* If the LEVEL KNOB MODE (p. 20) is set to MIXER, the INPUT LEVEL is fixed at 0 dB.

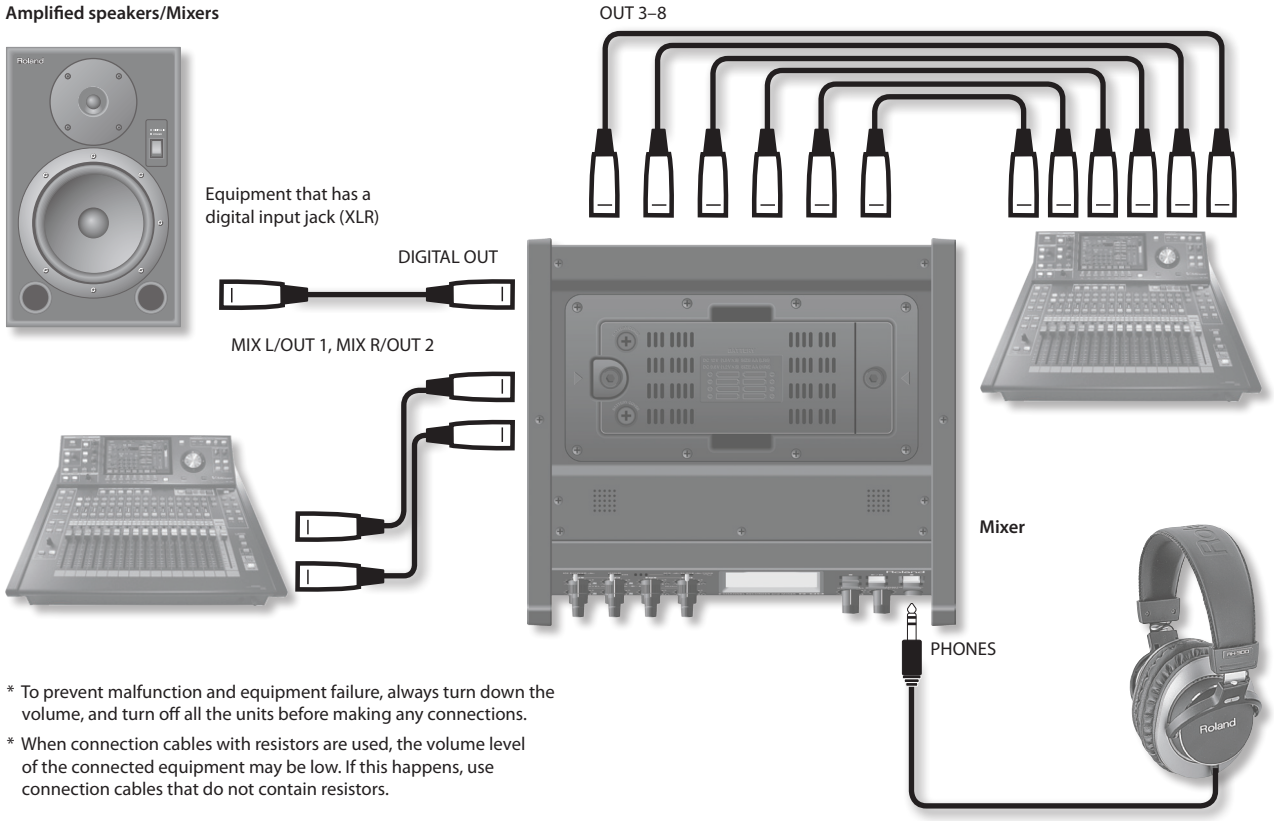
Howling could be produced depending on the location of microphones relative to speakers. This can be remedied by:

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

Output Settings

The R-88 provides a DIGITAL OUT jack and analog output jacks (MIX L/OUT 1, MIX R/OUT 2) on the left side panel, and analog output jacks (OUT 3–OUT 8) on the rear panel. You can adjust the output audio and output level for each jack.

Connections



* To prevent malfunction and equipment failure, always turn down the volume, and turn off all the units before making any connections.

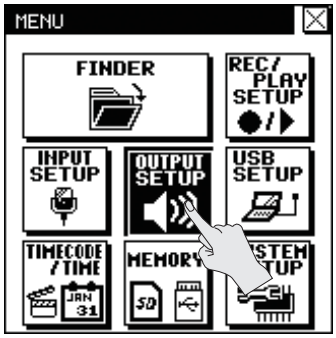
* When connection cables with resistors are used, the volume level of the connected equipment may be low. If this happens, use connection cables that do not contain resistors.

Output Settings

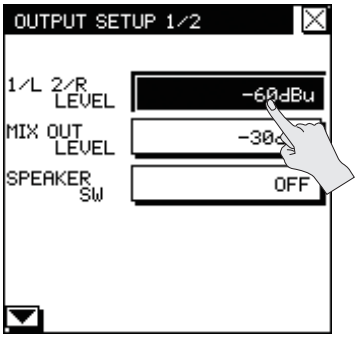
Switching the Output Level of the Analog Output Jacks (MIX L/OUT 1, MIX R/OUT 2)

You can switch the output level (+4 dBu/-60 dBu) of the left side panel's analog output jacks (OUT 1 MIX L/OUT 2 MIX R).

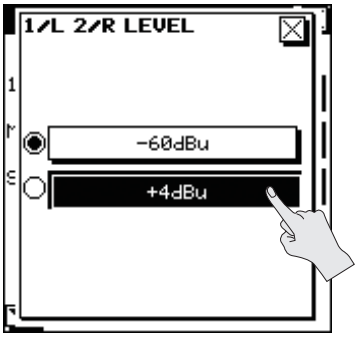
1. **Choose [MENU]→<OUTPUT SETUP>.**



2. **Touch <1/L 2/R LEVEL>.**



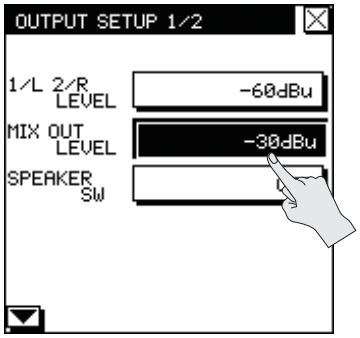
3. **Touch the value that you want to specify.**



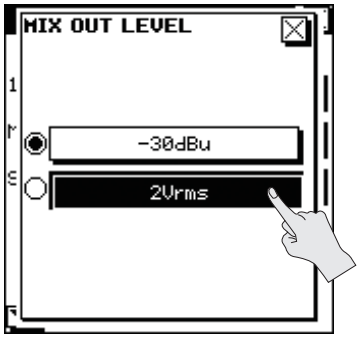
Switching the Maximum Output Level of the MIX OUT (STEREO) jack

You can switch the maximum output level (2 Vrms/-30 dBu) of the left side panel's MIX OUT (STEREO) jack.

1. **Choose [MENU]→<OUTPUT SETUP>.**
2. **Touch <MIX OUT LEVEL>.**



3. **Touch the value that you want to specify.**

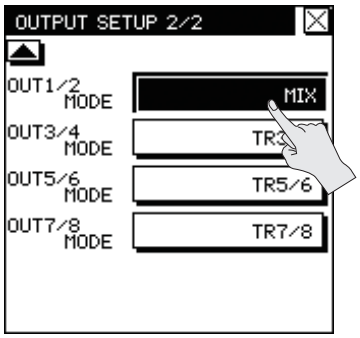


Selecting the Output Audio for OUT 1/2, 3/4, 5/6, and 7/8

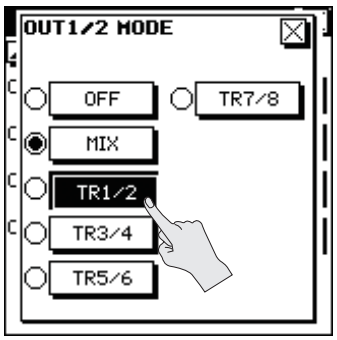
With respect to each of output jacks, you can specify the track whose audio will be output.

1. **Choose [MENU]→<OUTPUT SETUP>.**
2. **Select the output (OUT 1/2–7/8 MODE) you want to change the setting.**

   The mode setting for each output is located on page 2/2. Touch ▼ to access 2/2.



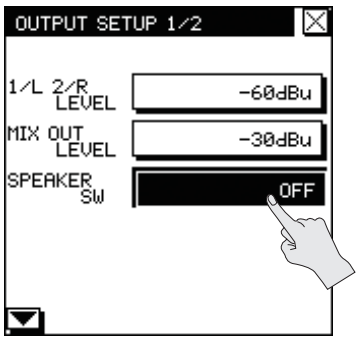
3. **Select the audio (track) that you want to output.**



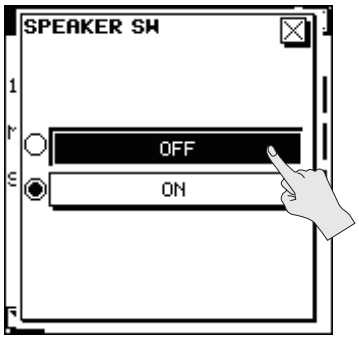
Switching the Internal Speakers ON/OFF

Here's how to switch the top panel internal speakers on/off.

1. **Choose [MENU]→<OUTPUT SETUP>.**
2. **Touch <SPEAKER SW>.**



3. **Touch <ON> or <OFF>.**



* No sound will be produced from the speakers while headphones are connected or while in the recording home screen.

Monitor Settings

Here's how to specify the sound to be monitored via the headphone jack on the front panel.

REFERENCE

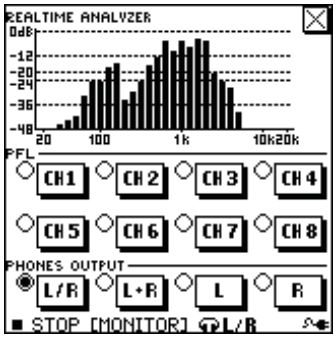
"R-88 Block Diagram" (p. 74)

MEMO

- If headphones are not connected, you can turn on the internal speakers (p. 33) to monitor through the internal speakers.
- An alarm tone can be sounded from the monitor output when recording begins or when an error occurs.
  Make this setting in <MENU>➔<SYSTEM SETUP>➔<PEAK ALARM >–<ALARM TONE LEVEL> (p. 66).

Monitor Screen

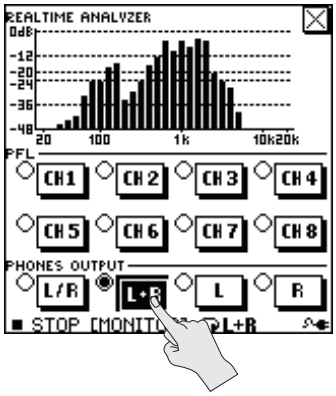
The monitor screen will appear when you press the [MONITOR] knob (p. 6) on the front panel.



Settings for Headphone Monitoring

You can monitor one of the following choices: L/R stereo two-channel mix created by the mixer section, the L+R mix, only L, or only R.

1. Touch one of the buttons below "PHONES OUTPUT" to select the sound that you want to monitor.

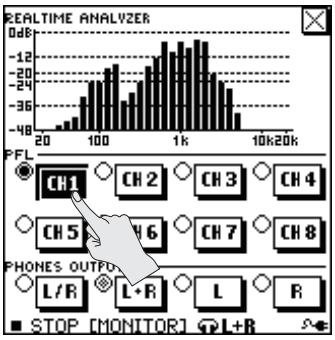


Button	Explanation
L/R	Output L and R of the two-channel mix in stereo
L+R	Combine L and R of the two-channel mix and output the same sound from left and right
L	Output only the L channel of the two-channel mix from left and right
R	Output only the R channel of the two-channel mix from left and right

PFL (Pre Fader Listen)

The audio being input from IN 1–IN 8 can be monitored individually without passing through the mixer section.

1. Touch one of the buttons below "PFL" to select the input that you want to monitor.



To return to monitoring the two-channel mix, touch one of the buttons below "PHONES OUTPUT."

* The PFL setting will be cancelled when you exit the monitor screen.

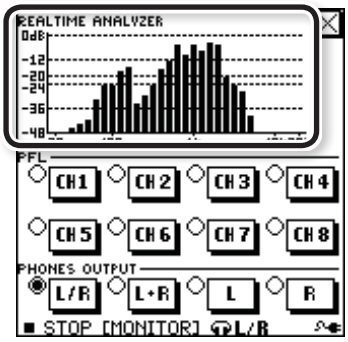
REALTIME ANALYZER

The upper part of the screen is a REALTIME ANALYZER, which shows the spectrum of the currently monitored source in real time.

In the lower part of the screen you can choose the source to be monitored.

The buttons below "PFL" show the frequency distribution of the currently selected sound in real time.

This is a useful way to find a channel that contains noise, or to investigate the frequency response of the room.



MEMO

The frequency response will also be affected by the mic you use.

Recording Settings

You can specify the type of file that will be recorded, the recording source, the sampling rate, and recording format.

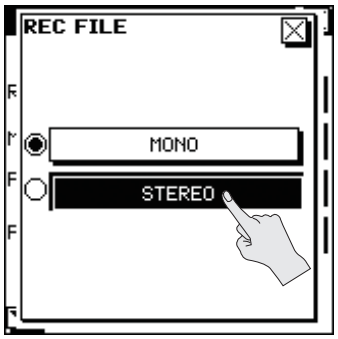
Specifying the Input (Recording) Channels

When recording, turn on the input channels that you want to record and turn off the other input channels. For details on turning inputs on/off, refer to "Input Settings" (p. 28).

Selecting the Audio File Type

Select either stereo or mono.

1. **Choose [MENU]→<REC/PLAY SETUP>→<REC FILE>.**
2. **Touch the desired type.**



MIX REC

Here you can choose whether to create a separate stereo two-track mix project simultaneously while recording the multitrack project.

1. **Choose [MENU]→<REC/PLAY SETUP>→<MIX REC>.**
2. **If you want to create a two-track mix, touch <ON>.**

MEMO

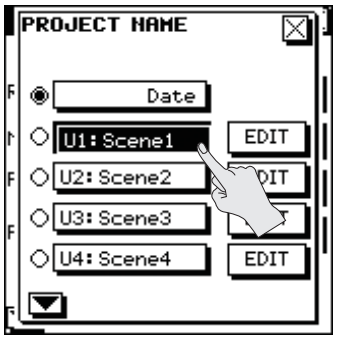
The two-track mix project will be saved with the name "(name of the multitrack project)_M."

* MIX REC cannot be used when the sampling rate (p. 36) is 192 kHz.

Choosing the Project Naming Method

Here you can choose whether to name the project by date or by a specified scene name and sequential number.

1. **Choose [MENU]→<REC/PLAY SETUP>→<PROJECT NAME>.**
2. **Touch the desired name format.**



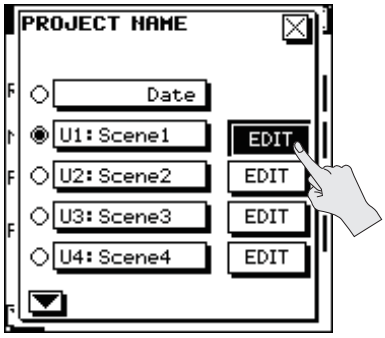
Setting	Explanation
Date	Each file name will be the date and time.
U1:–U8:	The name of each file will be the selected text followed by a sequential number (by default, the text will be "Scene1"–"Scene8").

MEMO

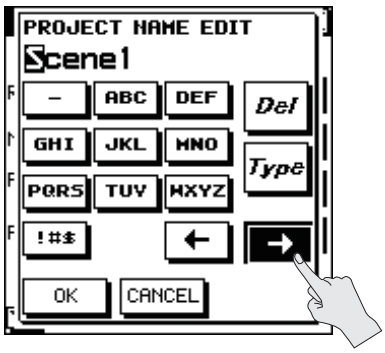
- If you choose Date, and the date is (for example) November 24, 2012 at 16:57:00, the project name will be "121124_165700."
- If you choose "Scene1" as the name, each project file name will be followed by a four-digit number; e.g., "Scene1_0001," "Scene1_0002," ...

Editing the scene name

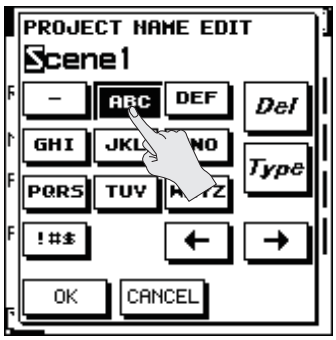
3. **Touch <EDIT> for the scene name that you want to edit.**



4. **Touch [←] [→] to move the cursor to the location at which you want to insert a character.**



5. Touch the letter keys to enter characters.



Each time you touch a letter key, the character will change in the order of A, B, and C. Touch <Type> to switch between uppercase, lowercase, and numerals.

Touch <Del> to delete the character at the cursor location.

To confirm the edited name, touch <OK>.

If you decide to cancel, touch <CANCEL>.

MEMO

- On the R-88, you can only rename file names that consist of ASCII characters (single-byte alphanumeric characters).
- You cannot rename a file name that contains double-byte characters such as Japanese.
- You won't be able to delete all the characters. There will always be one remaining character.

Characters that can be used

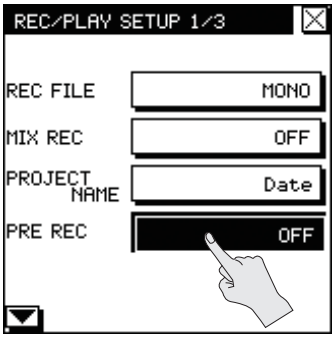
(space) ! # $ % & ' ( ) + , - . 0 1 2 3 4 5 6 7 8 9 ; = @
A B C D E F G H I J K L M N O P Q R S T U V W X Y Z] ^ _ `
a b c d e f g h i j k l m n o p q r s t u v w x y z { }

Pre-Recording

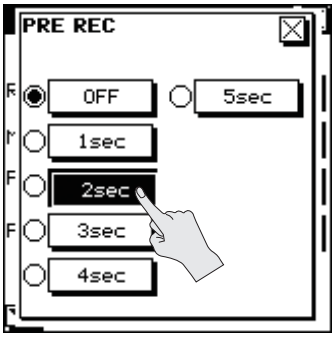
The R-88 provides a pre-recording function that can retroactively make the recording start up to five seconds prior to the moment you press the record button.

Even for situations in which you're not sure when the desired sound will begin, such as when recording outdoors, this function ensures that you can record without missing the first moments of the sound.

1. Choose [MENU]→<REC/PLAY SETUP>→<PRE REC>.



2. Choose the number of seconds that will be captured prior to the moment you press the record button.

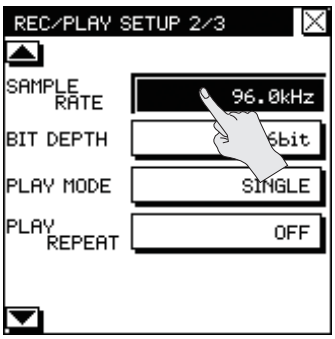


Sampling Rate

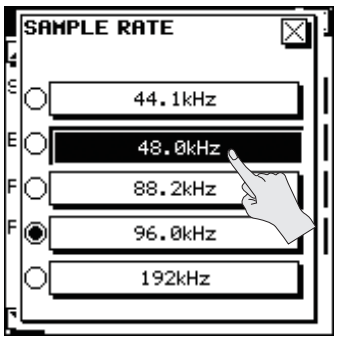
Choose the sampling rate that's appropriate for the intended purpose of the recorded data.

1. Choose [MENU]→<REC/PLAY SETUP>→<SAMPLE RATE>.

<SAMPLE RATE> is located on page 2/3. Touch ▼ to access 2/3.



2. **Touch the desired sampling rate.**

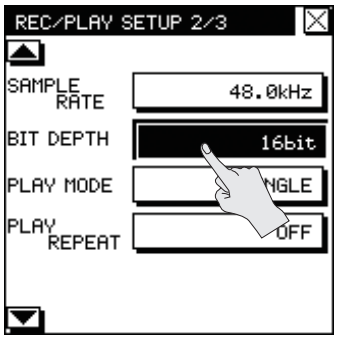


Bit Depth

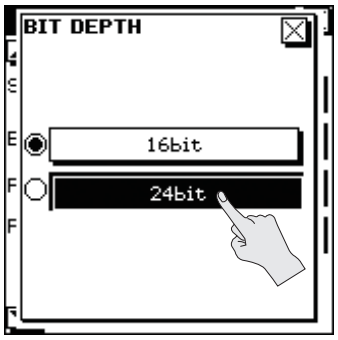
Here you can select the bit depth of the recorded data.

1. **Choose [MENU]→<REC/PLAY SETUP>→<BIT DEPTH>.**

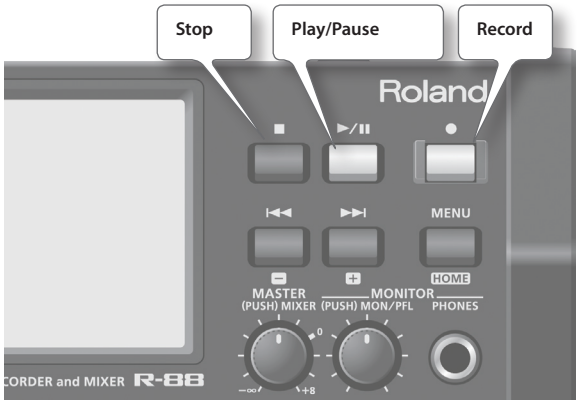
<BIT DEPTH> is located on page 2/3. Touch ▼ to access 2/3.



2. **Touch the desired bit depth.**

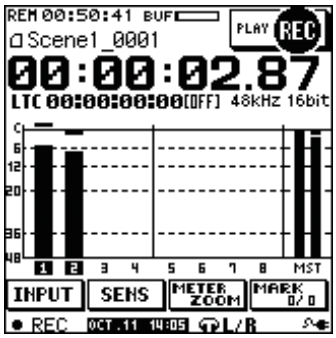


Basic Operation for Recording



1. **Press [●] (REC) button.**

The button will light, and recording will begin.



2. **Press [■] (STOP) button to stop recording.**

MEMO

- To delete the recorded project, please refer to "Deleting a Project or Folder" (p. 53)
- To pause, press [▶/II] button. To resume recording from the paused state, press [▶/II] button once again.
- During recording, you can press [●] (REC) button to assign a marker within the project. For details, refer to "Using the [●] (REC) button to assign a marker" (p. 38).

Marker

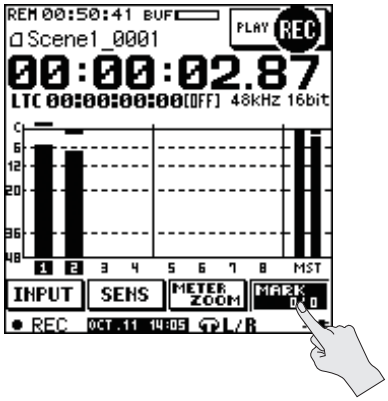
Here's how to assign a marker within the project.

If you've assigned markers, you can quickly move to a previously marked location during playback.

Assigning a marker during recording

1. Start recording.

2. At the moment you want to assign a marker, touch <MARK>.

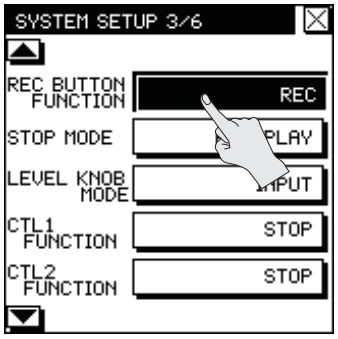


Using the [●] (REC) button to assign a marker

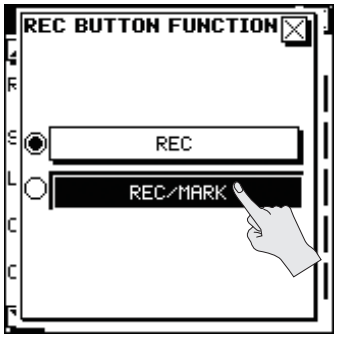
If you've set REC BUTTON FUNCTION to "REC/MARK," you can also assign a marker by pressing the [●] (REC) button. A marker will also be assigned if you turn on the slate mic during recording.

1. Choose [MENU]→<SYSTEM SETUP>→<REC BUTTON FUNCTION>.

<REC BUTTON FUNCTION> is located on page 3/6. Touch ▼ to access 3/6.

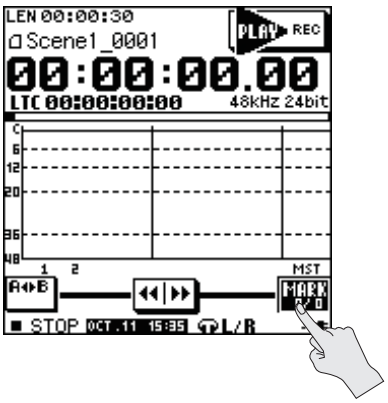


2. Touch <REC/MARK>.



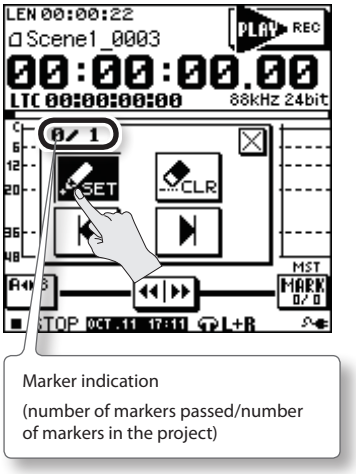
Assigning a marker to a previously recorded project

1. In the playback home screen (p. 10), touch <MARK>.



2. Use the [►/II] button, [■] button, [I◄◄] button, and [►►I] button to play, fast-forward, or fast-rewind to find the location at which you want to assign a marker.

3. When you've found the location at which you want to assign a marker, touch <SET>.



Marker indication

(number of markers passed/number of markers in the project)

The number of markers will be shown. Markers are numbered sequentially starting at the beginning of the project.

A maximum of 99 markers can be assigned. Repeat steps 2 and 3 to assign markers at the desired locations.

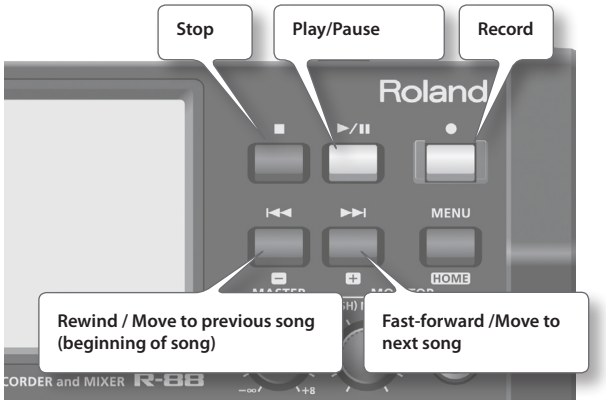
Moving to a marker

Touch <|◄> to move to the marker that precedes the current location. Touch <►|> to move to the marker that follows the current location.

Deleting a marker

Touch <CLR> to delete a marker you've assigned. Markers will be deleted starting with the marker that precedes the current location.

Basic Operation for Playback



1. Access the home screen.

2. Use [⏮]/[⏭] buttons to select the project that you want to play.

You can also choose a project from the finder menu. For detail, please refer to "Opening a Project" (p. 52)

3. Press [▶/II] button to play the project.

During playback, you can hold down [⏮] button to rewind, or [⏭] button to fast-forward. Normal playback will resume when you release the button.

* For some types of SD card, the data reading speed may not keep up when rewinding or fast-forwarding during playback, causing the rewind or fast-forward operation to stop. If this occurs, press [■] button to stop playback. Then play back once again.

4. Use [MASTER] knob (p. 6) to adjust the volume.

5. Press [■] to stop playback.

Playback Settings

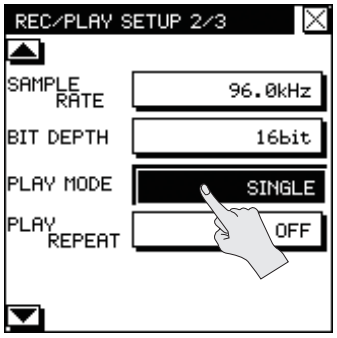
You can specify the order in which projects will play, and how repeat playback will occur.

PLAY MODE

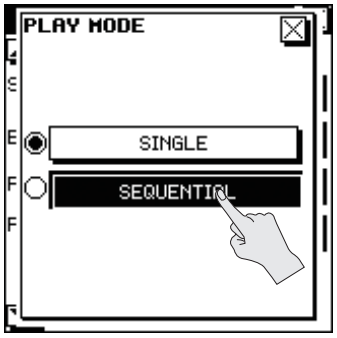
You can specify how the projects will be played. In addition to playing projects consecutively from the first project, you can play just the selected project.

1. Choose [MENU]→<REC/PLAY SETUP>→<PLAY MODE>.

<PLAY MODE> is located on page 2/3. Touch ▼ to access 2/3.



2. Touch the desired PLAY MODE.



Setting	Explanation
SINGLE	Play one project
SEQUENTIAL	Sequentially play the projects in the current folder

MEMO

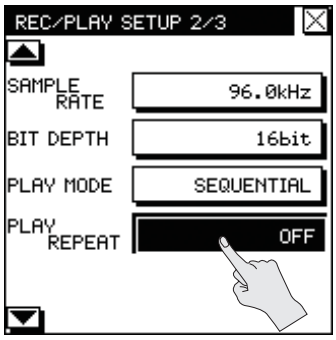
Projects can be sorted by name, descending order of date, or ascending order of date. For details, refer to "Creating a Folder/ Sorting Projects" (p. 55).

PLAY REPEAT

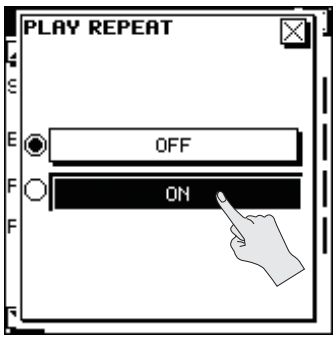
Here's how to make the project play repeatedly for the selected play mode.

1. Choose [MENU]→<REC/PLAY SETUP>→<PLAY REPEAT>.

<PLAY REPEAT> is located on page 2/3. Touch ▼ to access 2/3.



2. Turn the repeat play setting on/off.



Setting	Explanation
OFF	Don't play repeatedly
ON	Play repeatedly

Combination of PLAY MODE and PLAY REPEAT

The following table shows how the PLAY MODE and PLAY REPEAT settings can be combined.

PLAY MODE	PLAY REPEAT	Explanation
SINGLE	OFF	Play only one project and then stop
	ON	Play one project repeatedly
SEQUENTIAL	OFF	Play sequentially and then stop
	ON	Play sequentially repeatedly

AB REPEAT

The AB Repeat function lets you repeatedly play a specified portion of a project.

1. Play the project.

2. Specify the beginning of the repeat (point A).

Touch <A↔B> of the playback home screen (p. 10). That point will be specified as the beginning (point A) of repeat playback.

3. Specify the end of the repeat (point B).

Touch <A↔B> once again. That point will be specified as the end (point B) of repeat playback, and playback of the A–B region will begin repeating.

Cancelling the setting

- Once A and B have been specified, touching <A↔B> once again will cancel the A and B settings.
- To stop playback, press the [■] button. The repeat playback settings (A and B) will be retained, but playback will stop.

MS Mic Settings

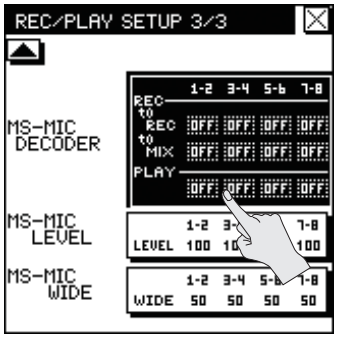
You can use MS mics that can directly output the mid and side signals. An MS mic creates stereo sound by combining sound from a main microphone (unidirectional) that records central sounds (mid-signal: M) and a bidirectional microphone that records lateral sounds (side signal: S).

MS MIC DECODER

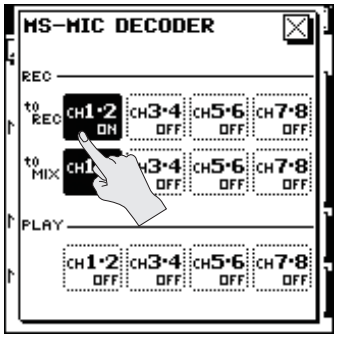
Here you can turn the MS mic decoder on/off. This can be turned on/off for each channel pair of the recorder, mixer, and player.

1. Choose [MENU]→<REC/PLAY SETUP>→<MS-MIC DECODER>.

<MS-MIC DECODER> is located on page 3/3. Touch ▼ to access 3/3.



2. Touch the pair that you want to turn on/off.



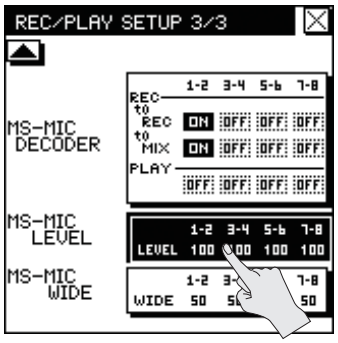
* Of the "to REC" and "to MIX" settings, it is not possible to enable "to REC" by itself.

MS-MIC LEVEL

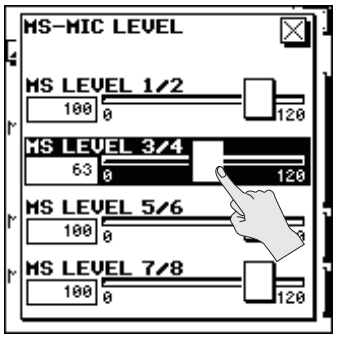
Here you can adjust the level of the MS mic.

1. Choose [MENU]→<REC/PLAY SETUP>→<MS-MIC LEVEL>.

<MS-MIC LEVEL> is located on page 3/3. Touch ▼ to access 3/3.



2. Touch the pair whose level you want to adjust, and move the slider left or right.

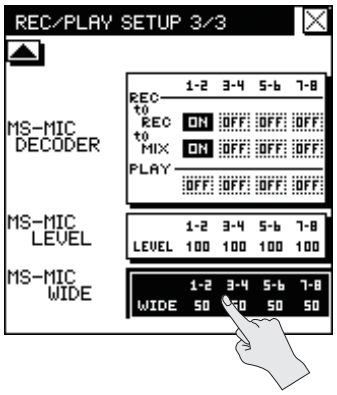


MS-MIC WIDE

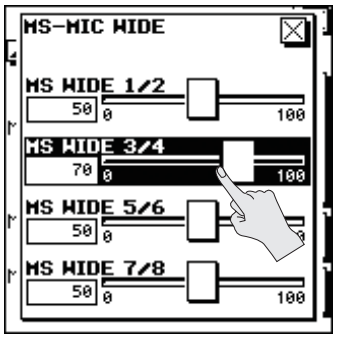
Here you can adjust the stereo width of the MS mic.

1. Choose [MENU]→<REC/PLAY SETUP>→<MS-MIC WIDE>.

<MS-MIC LEVEL> is located on page 3/3. Touch ▼ to access 3/3.



2. Touch the pair whose level you want to adjust, and move the slider left or right.

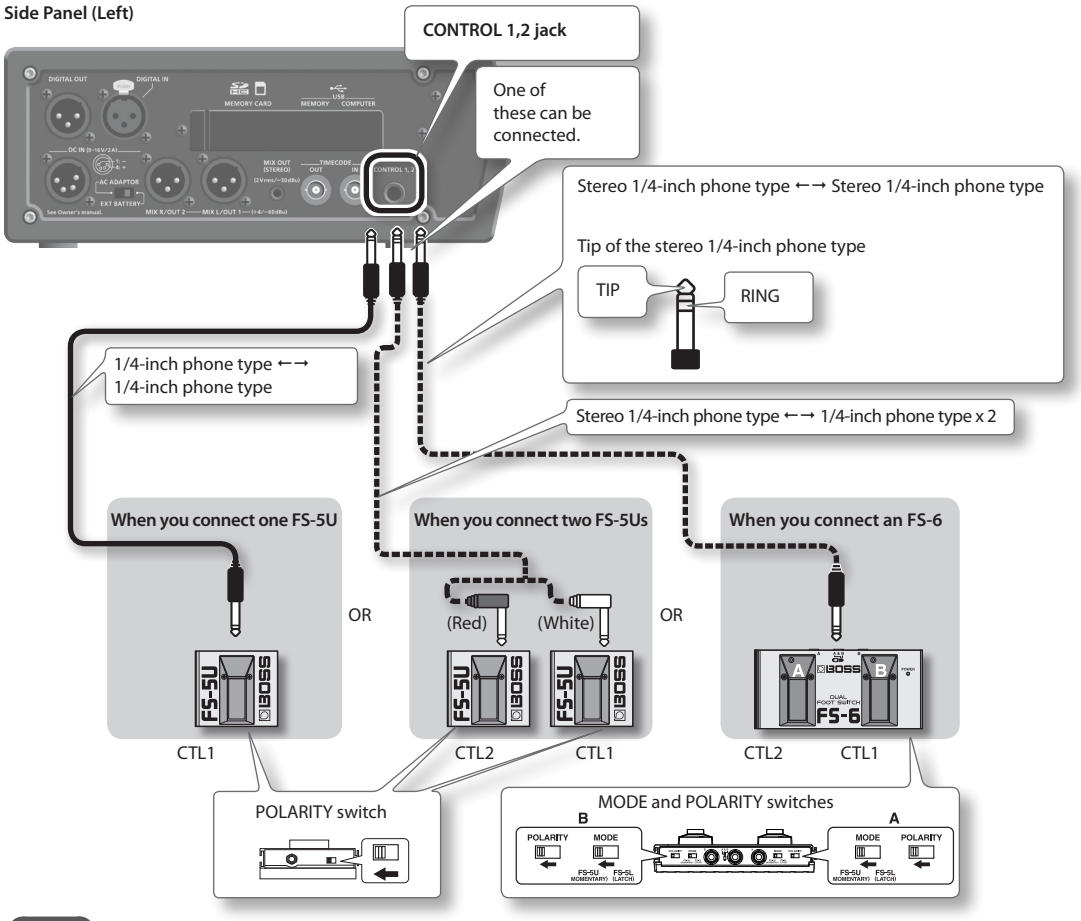


MEMO

In the mixer pan setting screen (p. 44), you can also adjust the MS-MIC WIDE setting of channels whose MS mic decoder is turned on.

Using a Footswitch to Remotely Control Recording or Playback

If a footswitch (BOSS FS-6 or FS-5U; sold separately) is connected, you can use your foot to control operations such as playback, recording, and rewind.



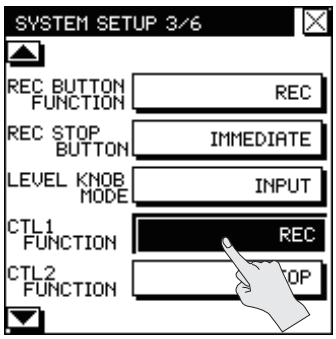
MEMO

Never connect or disconnect a footswitch while this unit's power is on.

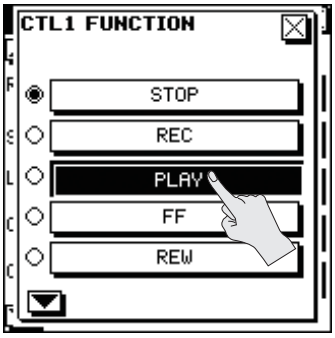
Assigning a Function to the Footswitch

1. Choose [MENU]→<SYSTEM SETUP>→<CTL1 FUNCTION>, or <CTL2 FUNCTION>.

<CTL1 FUNCTION> and <CTL2 FUNCTION> are located on page 3/6. Touch ▼ to access 3/6.



2. Touch the function that you want to choose.

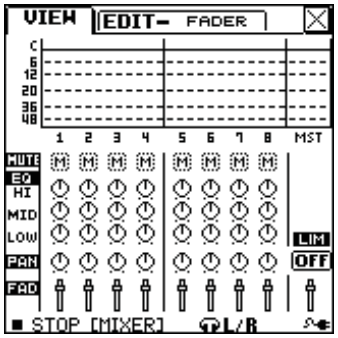


CTL 1/CTL 2	Explanation
STOP	Stop recording/playback.
REC	Start recording.
PLAY	Start playback.
FF	Fast-forward.
REW	Rewind.
REC/STOP	Alternately record or stop each time the footswitch is operated.
PLAY/STOP	Alternately playback or stop each time the footswitch is operated.
PLAY(MOMENT)	Play only while the footswitch is held down.
SET MARKER	Assign a marker.
PREV MARKER	Move to the previous marker.
NEXT MARKER	Move to the next marker.

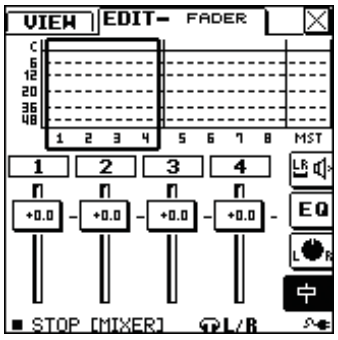
The MIXER screen allows you to create a two-channel stereo mix, during recording from the audio coming into each input, or during playback from the audio recorded on each track.

MIXER Screen

Press the [MASTER] knob (p. 6) on the front panel to access the VIEW screen where you can see the CH. 1–CH. 8 settings.

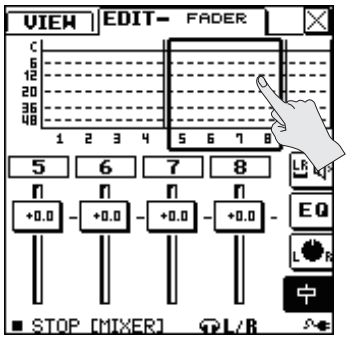


In the upper part of the screen, touch the <EDIT> tab to access the MIXER (EDIT) screen.



MEMO

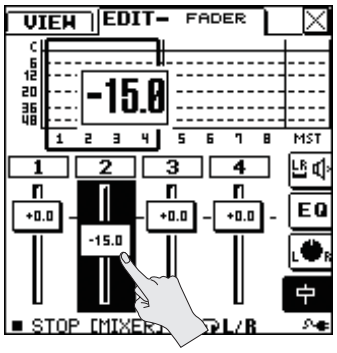
To see the CH. 5–CH. 8 settings, touch the CH. 5–CH. 8 area on the level meter to switch the display.



Adjusting the MIX LEVEL

Here's how to adjust the level of each channel.

1. In the MIXER (EDIT) screen, touch a slider and drag it up or down to adjust the level.



MEMO

To make fine adjustments to the value, use the [⏮] (–) button and [⏭] (+) button (p. 6).

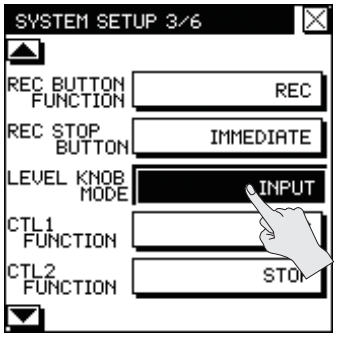
Using the [LEVEL] knobs (1/L–8/R) to make adjustments (LEVEL KNOB MODE)

You can also use the [LEVEL] knobs (1/L–8/R) on the front panel to adjust the mix level.

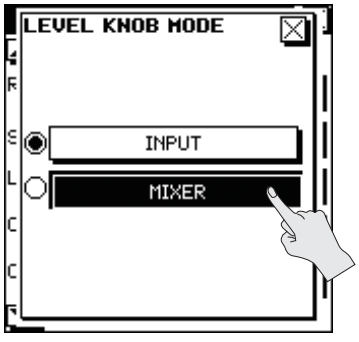
1. Choose [MENU]→<SYSTEM SETUP>.

2. Touch <LEVEL KNOB MODE>.

<LEVEL KNOB MODE> is located on page 3/6. Touch ▼ to access 3/6.



3. Touch <MIXER>.



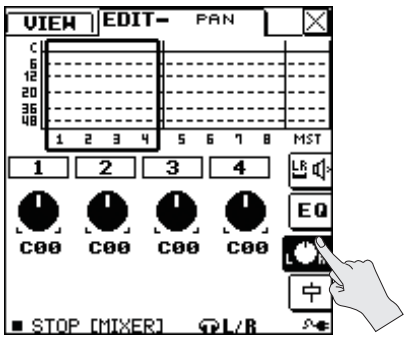
* If the LEVEL KNOB mode is set to MIXER, the INPUT LEVEL is fixed at 0 dB.

* If the LEVEL KNOB MODE is set to MIXER, you can't use the on-screen sliders to adjust the level.

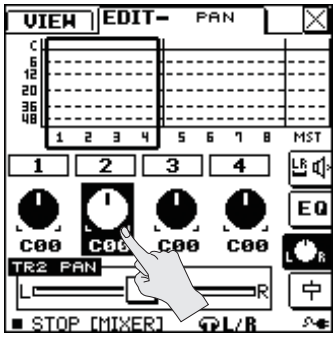
PAN

Here's how to adjust the pan of each channel.

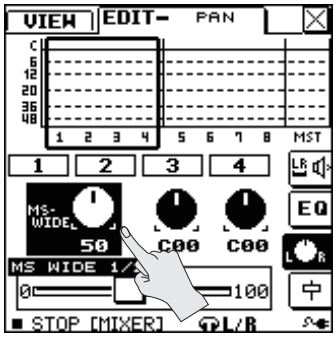
1. Touch [L/R] to switch to the pan adjustment screen.



2. Touch the knob that you want to adjust.

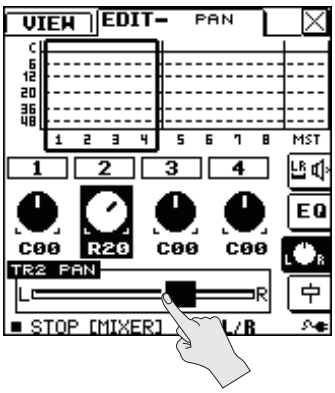


A slider will appear in the bottom of the screen.



On channels whose MS mic decoder is turned on, this adjusts the stereo width (MS WIDE) (p. 41).

3. Touch the slider and drag it left or right to adjust the pan.



Pan settings will have the following effect on the volume that is output to master.

Pan Setting	Left	Right
C00	-3 dB	-3 dB
L00	±0 dB	-∞
R00	-∞	±0 dB

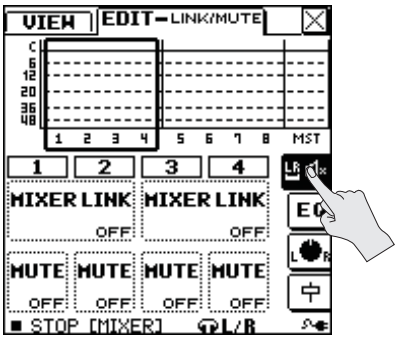
MEMO

To make fine adjustments to the value, use the [⏮] (–) button and [⏭] (+) button (p. 6).

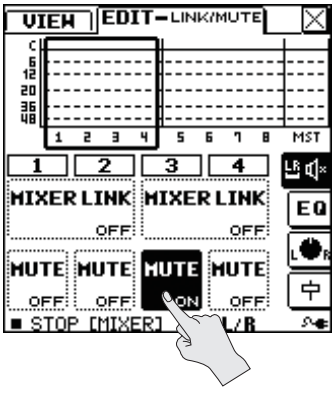
MUTE ON/OFF

Here's how to turn mute on/off for each channel.

1. Touch [LR].



2. Touch <MUTE> for the channel whose setting you want to turn on/off.

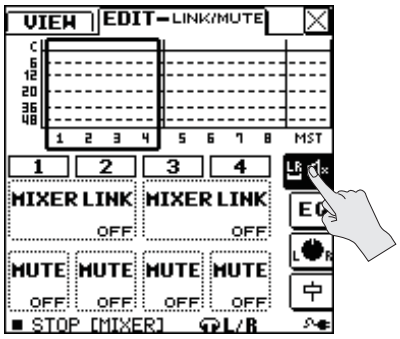


LINK ON/OFF

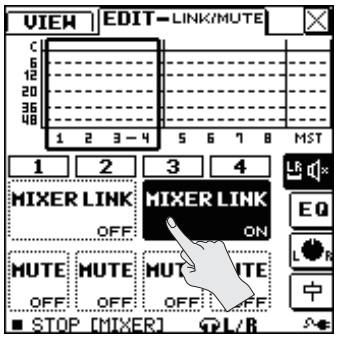
Here's how to turn stereo link on/off.

If link is on, fader values, mute on/off, and EQ settings will be linked.

1. **Touch [LR].**



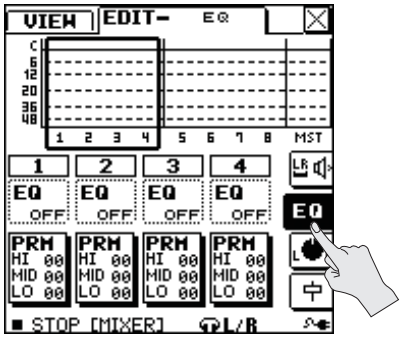
2. **Touch <MIXER LINK> for the channel whose setting you want to turn on/off.**



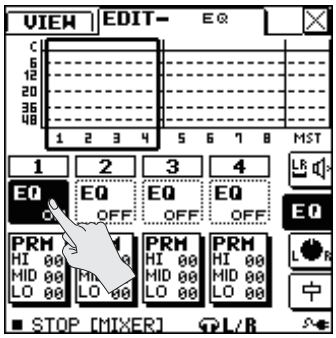
EQ ON/OFF

Here's how to turn EQ on/off.

1. **Touch [EQ].**

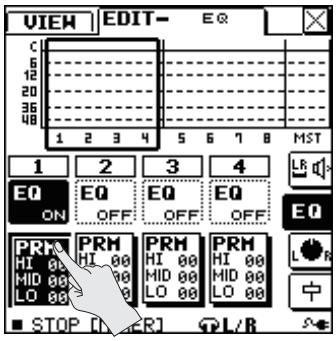


2. **Touch <EQ> for the channel whose setting you want to turn on/off.**

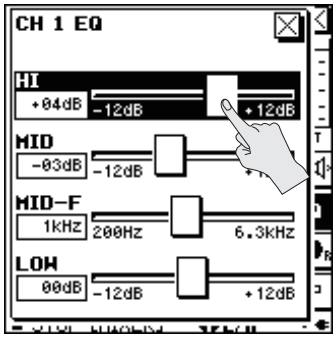


Editing the EQ

1. **Touch <PRM> for the channel whose EQ settings you want to edit.**



2. **Touch the slider for a parameter, and drag it left or right to edit the value.**



MEMO

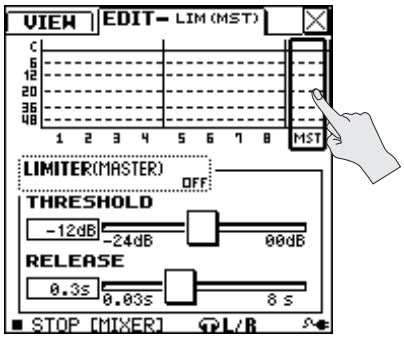
You can also use the [⏮] (–) button and [⏭] (+) button on the front panel to edit the value (p. 6).

MASTER LIMITER

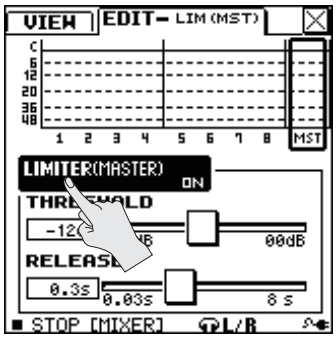
Here's how to make settings for the master limiter.

1. Touch the MST area on the level meter.

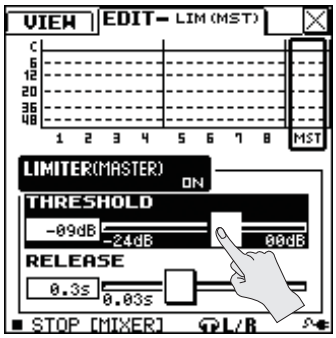
The MASTER limiter setting screen will appear.



2. Touch <LIMITER (MASTER)> to turn the limiter on/off.



3. Touch the slider for the desired parameter, and drag it left or right to edit the value.



MEMO

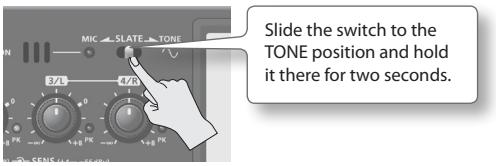
You can also use the [⏮] (–) button and [⏭] (+) button on the front panel to edit the value (p. 6).

Adjusting the Output Level

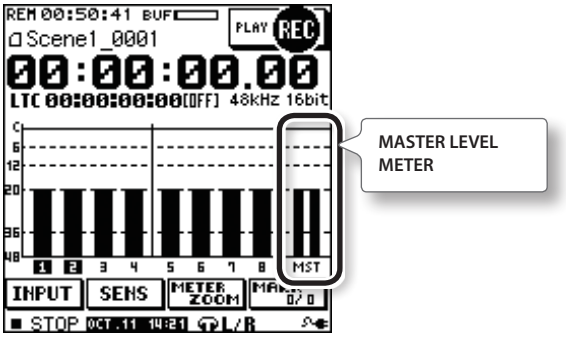
Here's how to adjust the output level so it's appropriate for the external device that's connected.

1. Activate the slate tone (p. 50).

* The slate tone will not be output when the home screen is in playback mode.



2. Adjust the [MASTER LEVEL] knob so that the MASTER LEVEL meter (MST) indicates the appropriate level.



3. On the connected device, adjust the input level appropriately.

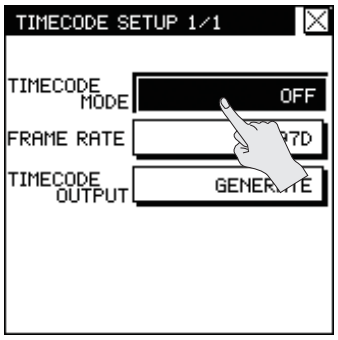
Recording a Two-channel Mix

A stereo two-track mix project can be recorded separately from and simultaneously with the multitrack recording. For details on settings, refer to "MIX REC" (p. 35).

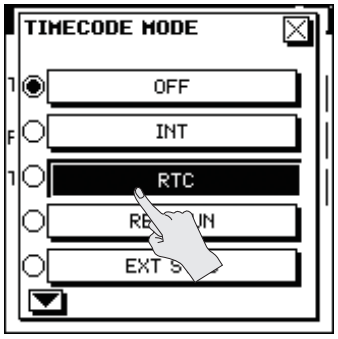
TIMECODE MODE

Here's how to specify the timecode mode.

1. Choose [MENU]→<TIMECODE/TIME>→<TIMECODE SETUP>→<TIMECODE MODE>.



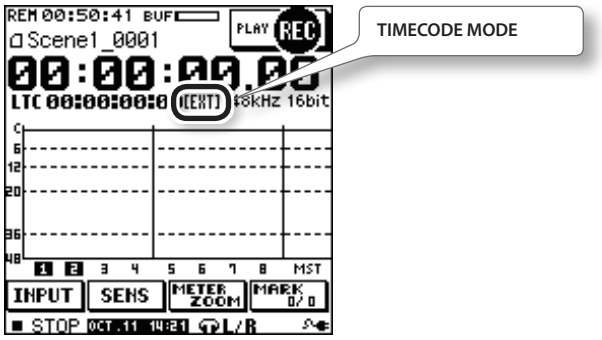
2. Touch the mode that you want to use.



MODE	Explanation
OFF	Timecode will not be recorded.
INT	The R-88's internal timecode will be recorded. Timecode will always be running. The time can be specified in the internal timecode setting menu, either manually or by jamming.
RTC	The internal clock will be recorded instead of timecode. * The internal clock time will be output as timecode from TIMECODE OUT jack.
REC-RUN	The R-88's internal timecode will be recorded. Timecode will run only while recording. * When the power is turned on, or when the REC-RUN START TC setting has been made, timecode will start running from REC-RUN START TC.
EXT SYNC	The external timecode sent from a connected device will be recorded. The R-88's audio clock will synchronize to the external timecode. * The R-88's audio clock will vary. Use EXT (AUTO JAM) if you want to fix the R-88's audio clock. * If external timecode stops being input, automatically jammed internal timecode will be recorded.
EXT (AUTO JAM)	The external timecode sent from a connected device will be recorded. * If external timecode stops being input, automatically jammed internal timecode will be recorded.
EXT SYNC REC	External timecode sent from a connected device will be recorded. The R-88's audio clock will synchronize to the external timecode. Recording will begin automatically when valid timecode is received, and recording will stop when timecode reception stops. * Recording will start immediately when valid timecode is received. * The R-88 will also respond to the [●] (REC) button and the [■] (STOP) button. * If external timecode stops being input, automatically jammed internal timecode will be recorded. * The R-88's audio clock will vary. Use EXT REC if you want to fix the R-88's audio clock.
EXT REC	The external timecode sent from a connected device will be recorded. Recording will begin automatically when valid timecode is received, and recording will stop when timecode reception stops. * Recording will start immediately when valid timecode is received. * The R-88 will also respond to the [●] (REC) button and the [■] (STOP) button. * If external timecode stops being input, automatically jammed internal timecode will be recorded.

In the home screen, the currently specified timecode mode is shown at the right of the timecode indication.

This will indicate [EXT] if EXT SYNC, EXT (AUTO JAM), EXT SYNC AUTO REC, or EXT AUTO REC is specified.



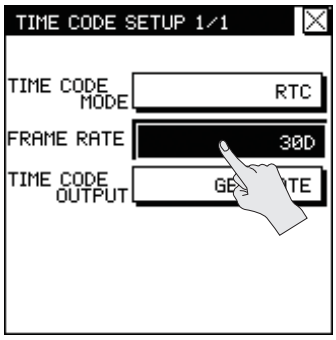
MEMO

If the timecode mode is EXT SYNC, EXT (AUTO JAM), EXT SYNC AUTO REC, or EXT AUTO REC, and timecode cannot be received correctly, the [EXT] indication at the right of the timecode indication in the recorder screen will blink (e.g., when timecode is not being sent from the external device, or if it is being sent but does not match the R-88's frame rate).

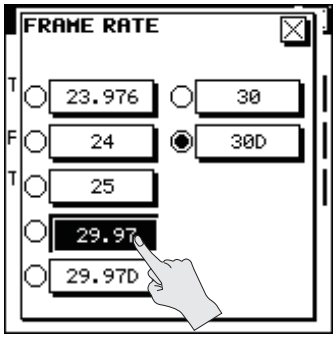
FRAME RATE

Here's how to specify the frame rate.

1. Choose [MENU]→<TIMECODE/TIME>→<TIMECODE SETUP>→<FRAME RATE>.



2. Touch the desired frame rate.

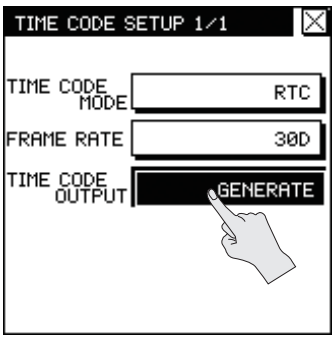


FRAME RATE	Explanation
23.976	This is the most commonly used rate for high definition video recording.
24	This is the standard rate used in film.
25	This is the rate for PAL video.
29.97	This is the rate for NTSC color.
29.97D	This adjusts NTSC to match real time.
30	This is the standard rate for black and white television.
30D	This is a rate for special situations.

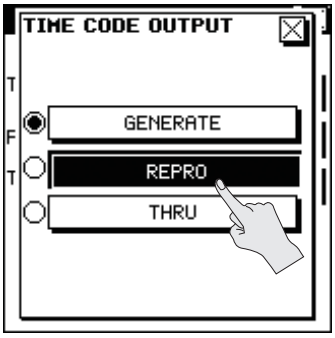
TIMECODE OUTPUT

Here's how to specify the timecode mode to be output from the TIMECODE OUT jack

1. Choose [MENU]→<TIMECODE/TIME>→<TIMECODE SETUP>→<TIMECODE OUTPUT>.



2. Touch the desired mode.



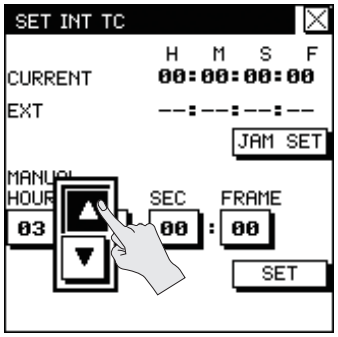
Mode	Explanation
GENERATE	The internal timecode will be output at all times.
REPRO	The timecode recorded during recording will be output.
THRU	The timecode received from the device connected to the TIMECODE IN jack will be output without modification from the TIMECODE OUT jack.

Internal Timecode

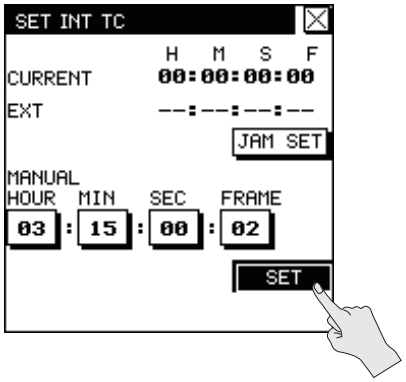
Here's how to set the time of the internal timecode.

1. Choose [MENU]→<TIMECODE/TIME>→<SET INT TC>.

2. Touch the number that you want to edit, and use ▲ ▼ to edit the value.



3. Touch <SET> to apply the edited values to the timecode.



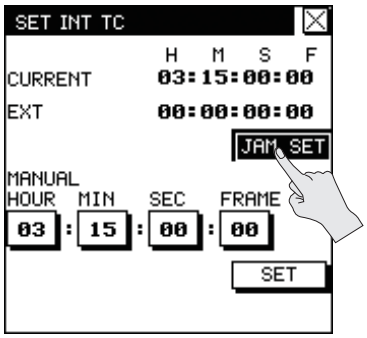
The specified time will be shown in <CURRENT> (current time).

Manually Jamming to External Timecode

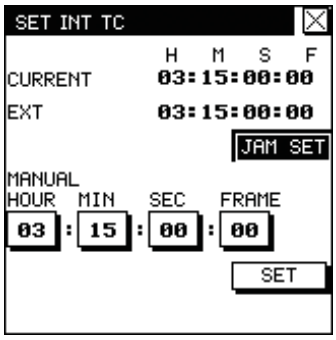
Here's how you can read the timecode being output from a device connected to the TIMECODE IN jack, and apply it to the <CURRENT> (current time) of the internal timecode.

1. Choose [MENU]→<TIMECODE/TIME>→<SET INT TC>.

2. Touch <JAM SET> to apply the timecode sent from the external device.



The timecode sent from the external device will be shown in <CURRENT> (current time).

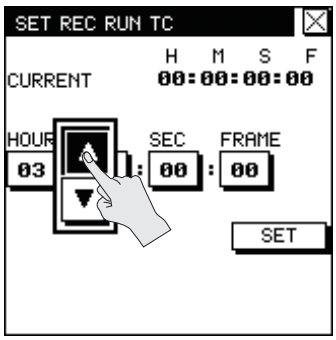


Specifying the REC-RUN Start Time

When REC RUN mode is selected (p. 47), here's how to specify the start time (REC RUN TC).

1. Choose [MENU]→<TIMECODE/TIME>→<SET REC RUN TC>.

2. Touch the number that you want to edit, and use ▲ ▼ to edit the value.



If TIMECODE MODE is set to REC-RUN, this time will advance only during recording.

3. Touch <SET> to apply the edited values to the timecode.

SLATE

You can use the [SLATE] switch (p. 6) on the front panel to activate the slate mic (p. 6) or produce a slate tone.

SLATE TONE

If you slide the [SLATE] switch to the "TONE" position and hold it there for two seconds, a slate tone will be produced.

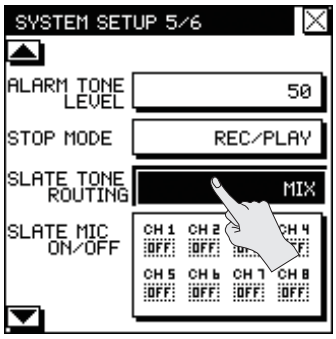
The slate tone can be recorded on all tracks of the recorder.

The slate tone will continue sounding even after you release the [SLATE] switch. It will turn off when you slide the switch once again.

Specifying the Output Destination for the Slate Tone

1. Choose [MENU]→<SYSTEM SETUP>→<SLATE TONE ROUTING>.

<SLATE TONE> is located on page 5/6. Touch ▼ to access 5/6.



2. Select the output destination for the slate tone.

Output destination	Explanation
MIX	Output only to the internal mixer's output.
MIX+REC	Output to the internal mixer's output and to all tracks of the recorder. The slate tone will not be output to OUTPUT or to USB.
MIX+OUT	Output to the internal mixer's output, to OUTPUT, and to USB. The slate tone will not be recorded.
ALL	Output to the internal mixer's output, to all tracks of the recorder, to OUTPUT, and to USB.

SLATE MIC

When you slide the [SLATE] switch to the "MIC" position and hold it there for two seconds, the MIC indicator will light and the slate mic will turn on. You can use the slate mic to record credits or comments for the scene on each track of the recorder.

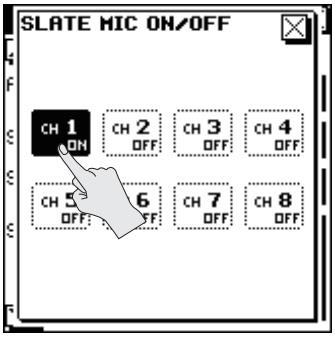
The slate mic will turn off when you release the switch.

Using the Slate Mic to Record on Desired Tracks of the Recorder

1. Choose [MENU]→<SYSTEM SETUP>→<SLATE MIC ON/OFF>.

<SLATE MIC ON/OFF> is located on page 5/6. Touch ▼ to access 5/6.

2. Touch the icon for each channel to turn it on/off.



MEMO

- If the slate mic's track setting is ON, it will be output to all destinations (recorder, OUTPUT jacks, and USB).
- For details about slate mic and slate tone routing, refer to "R-88 Block Diagram" (p. 74).

Project and Folder Operations

The R-88 stores recorded projects on the SD card.

The "Finder" screen provides various functions for listing, deleting, or copying these projects. You can also create folders and move projects between folders to manage your data.

REFERENCE

"Creating a Folder/Sorting Projects" (p. 55)

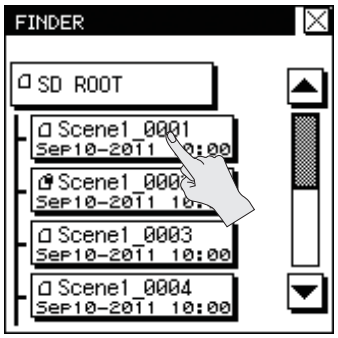
Basic Operation in the Finder

Project operations

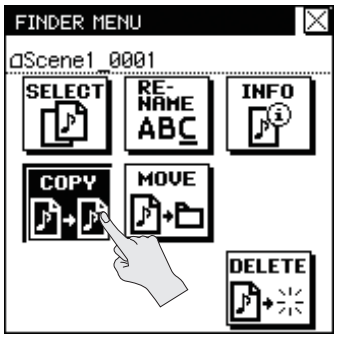
1. Choose [MENU]→<FINDER>.

2. Touch the name of the project that you want to manage.

Use ▲ ▼ to scroll.



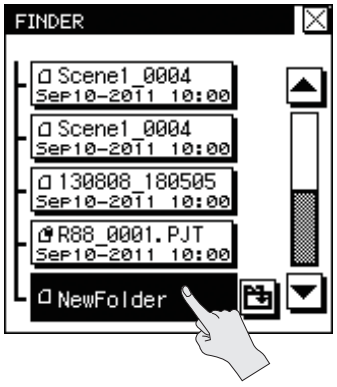
3. Touch an icon to select the desired function.



Folder operations

1. Choose [MENU]→<FINDER>.

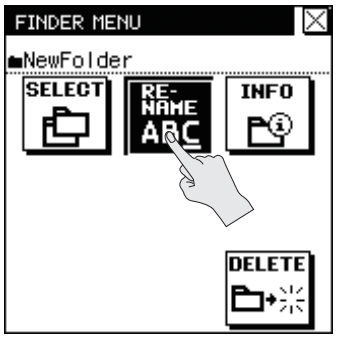
2. Touch the folder that you want to manage.



MEMO

To move into a folder, touch [ ] at the right of the folder name. To exit the folder, touch [ ].

3. Touch an icon to select the desired function.



List of finder operations

Project operations

Icon	Function	Procedure
SELECT	Selects the project and moves to the home screen.	p. 52
COPY	Copies the project.	p. 52
MOVE	Moves the project.	p. 53
DELETE	Deletes the project.	p. 53
RENAME	Renames the project.	p. 54
INFO	Shows information about the project. Alternatively, protects the project name.	p. 54
REPAIR	Repairs the project. * This menu item is shown only if the R-88 has detected a damaged project.	p. 55

Folder operations

Icon	Function	Procedure
SELECT	Selects the first project of the selected folder and moves to the home screen.	p. 52
DELETE	Deletes the folder.	p. 53
RENAME	Renames the folder.	p. 54
INFO	Shows information about the folder.	p. 54

Opening a Project

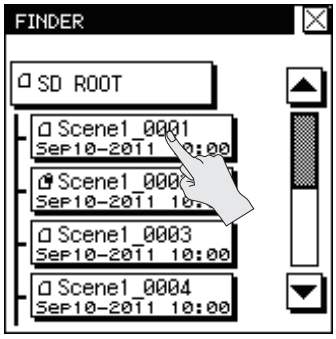
Here's how to select and play a project from the list of recorded projects.

When you select a folder, the current location will change to the selected folder, and the first project in the folder will open and return to the home screen.

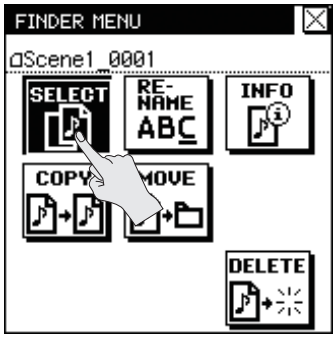
You can also record into the selected folder.

1. Choose [MENU]→<FINDER>.

2. Touch the name of the project or folder that you want to manage.



3. Touch <SELECT>.



The project will be selected, and you will return to the home screen.

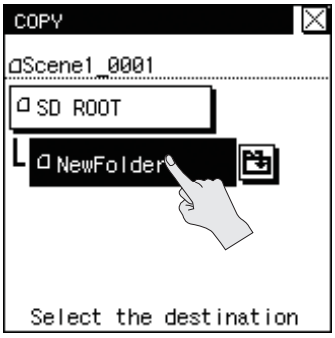
Copying a Project

1. Choose [MENU]→<FINDER>.

2. Touch the name of the project that you want to copy.

3. Touch <COPY>.

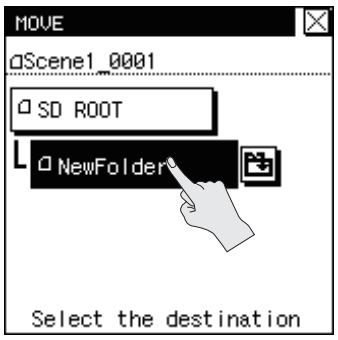
4. Touch the copy-destination folder.



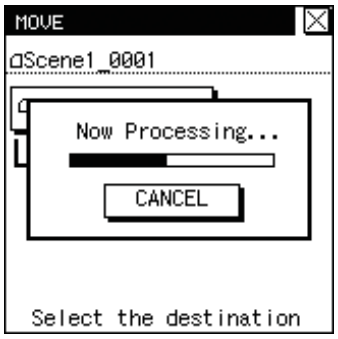
The project will be copied.

Moving a Project

1. **Choose [MENU]→<FINDER>.**
2. **Touch the name of the project that you want to move.**
3. **Touch <MOVE>.**
4. **Touch the move-destination folder.**



The project will be moved.



Deleting a Project or Folder

1. **Choose [MENU]→<FINDER>.**
2. **Touch the name of the project or folder that you want to delete.**
3. **Touch <DELETE>.**
4. **To delete, touch <YES>. If you decide to cancel without deleting, touch <NO>.**

When deleting a folder, the following message will appear if the folder is not empty; deletion of the folder will not be possible. Try the procedure again after the folder has been emptied.

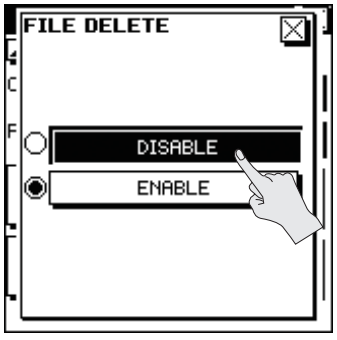
Disabling finder's delete function

If desired, you can make it impossible to choose <DELETE> in the FINDER MENU.

1. **Choose [MENU]→<SYSTEM SETUP>→<DELETE BUTTON>.**

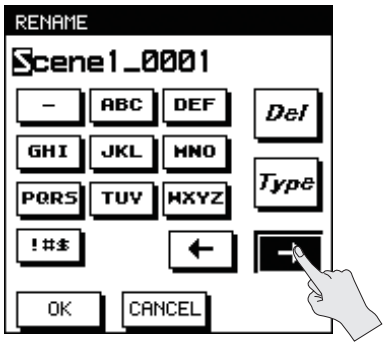
<DELETE BUTTON> is located on page 6/6. Touch ▼ to access 6/6.

2. **Touch <DISABLE>.**

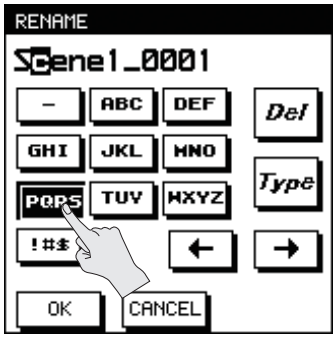


Renaming a Project or Folder

1. **Choose [MENU]→<FINDER>.**
2. **Touch the name of the project or folder that you want to rename.**
3. **Touch <RENAME>.**
4. **Touch the arrow keys to move the cursor to the location at which you want to insert a character.**



5. **Touch the letter keys to enter characters.**



Each time you touch a letter key, the character will change in the order of A, B, and C. Touch <Type> to switch between uppercase, lowercase, and numerals.

Touch <Del> to delete the character at the cursor location.

To confirm the edited name, touch <OK>.

If you decide to cancel, touch <CANCEL>.

MEMO

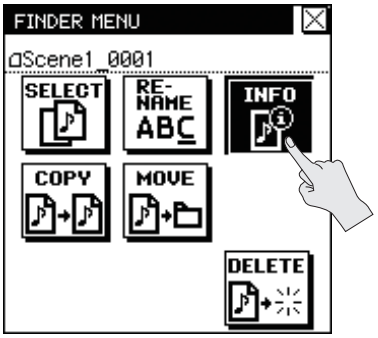
- On the R-88, you can only rename file names that consist of ASCII characters (single-byte alphanumeric characters).
- You cannot rename a file name that contains double-byte characters such as Japanese.
- If an identical name already exists, the screen will indicate "Already Exists." Please specify a different name.
- You won't be able to delete all the characters. There will always be one remaining character.

Characters that can be used

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

Viewing Information About the Project

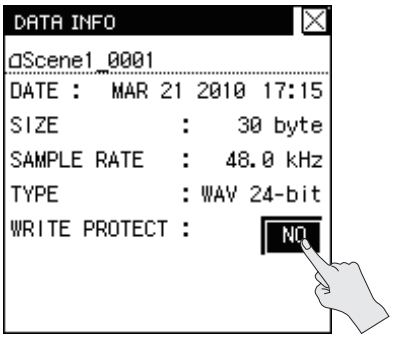
1. **Choose [MENU]→<FINDER>.**
2. **Touch the name of the project whose information you want to view.**
3. **Touch <INFO>.**

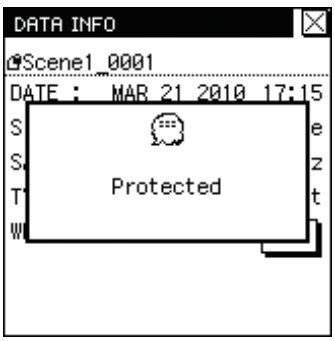


Protecting a Project (Protect)

You can protect a project so that it cannot be erased or renamed accidentally.

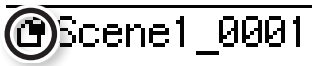
1. **Choose [MENU]→<FINDER>.**
2. **Touch the name of the project that you want to protect.**
3. **Touch <INFO>.**
4. **Touch <NO>.**





MEMO

If you turn Protect on, a lock icon is displayed.



* To disable protection, touch <YES> in step 4.

Repairing a Project

If you inadvertently disconnect the adaptor or remove the SD card during recording, the project will be damaged and unplayable.

In some cases you may be able to use the Repair function to make the project playable.

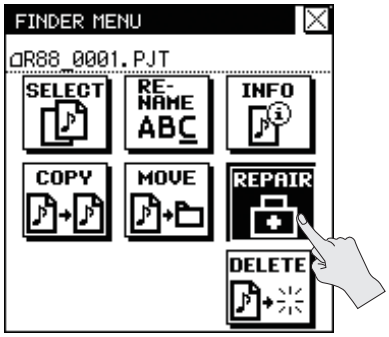
* Depending on how badly the project is damaged, there may be cases in which the project cannot be repaired.

1. Choose [MENU]→<FINDER>.

2. Touch the name of the project.

The <REPAIR> icon is shown only if the project has been damaged.

3. Touch <REPAIR>.



4. Touch <YES>.

The project will be repaired.

Creating a Folder/Sorting Projects

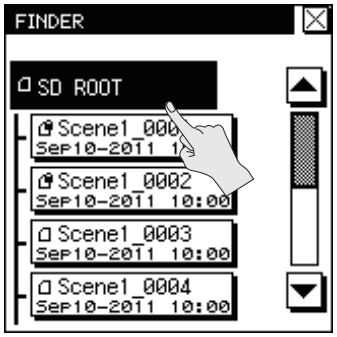
You can create folders on the SD card to manage your projects. You can also sort the projects in the root directory or in a folder.

Creating a Folder at the Root Directory

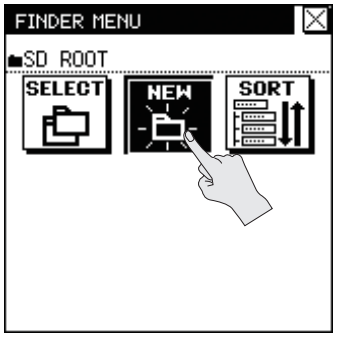
Here's how to create a folder at the root directory of the SD card.

1. Choose [MENU]→<FINDER>.

2. Touch <SD ROOT>.



3. Touch <NEW>.



"New Folder" will be created.

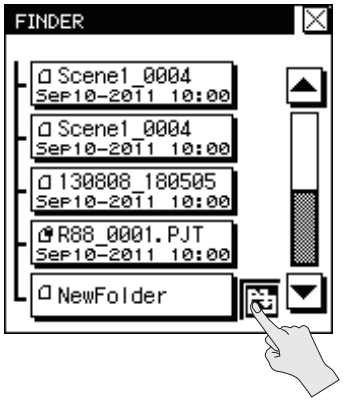
Creating a Folder Within a Folder

Here's how to create a new folder within an existing folder.

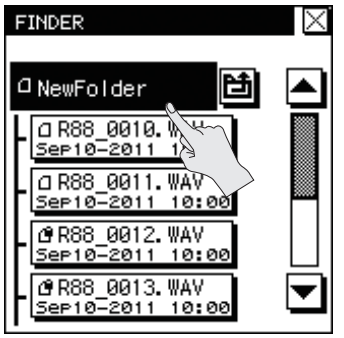
1. Choose [MENU]→<FINDER>.

2. Move into the folder in which you want to create the new folder.

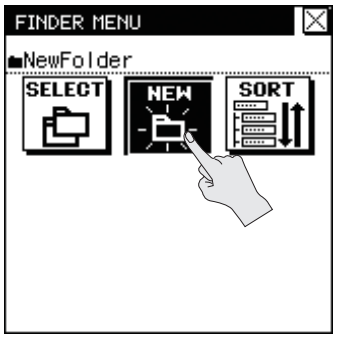
Touch at the right of the move-destination folder name.



3. Touch the folder name shown at the top.



4. Touch <NEW>.



"New Folder" will be created.

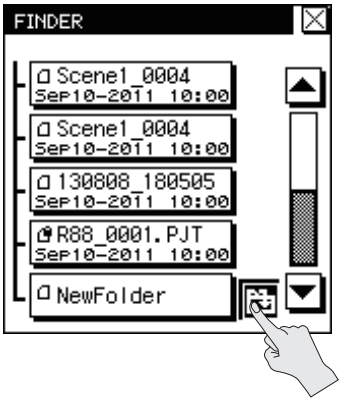
Sorting Projects

Here's how to sort the files alphabetically or in order of their date.

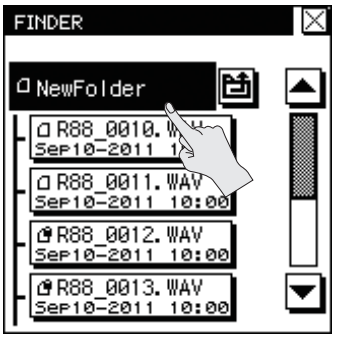
1. Choose [MENU]→<FINDER>.

2. Move into the folder whose projects you want to sort. If you want to sort the root directory, touch <SD ROOT>.

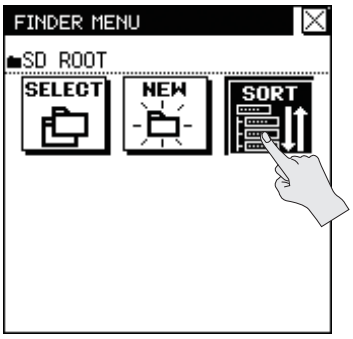
Touch at the right of the move-destination folder name.



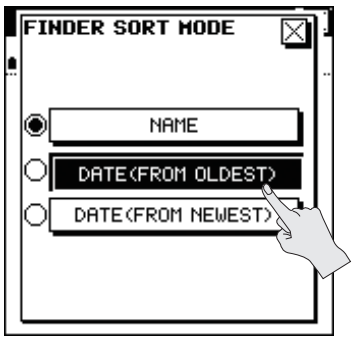
3. Touch the folder name shown at the top.



4. Touch <SORT>.



5. **Choose the desired sort mode.**



Mode	Explanation
NAME	Sort by name.
DATE (FROM OLDEST)	Sort from the oldest project.
DATE (FROM NEWEST)	Sort from the newest project.

MEMO

If you sort by name, the files will be sorted according to the following rules.

(space) ! # $ % & ' ( ) + , - . 0 1 2 3 4 5 6 7 8 9 ; = @

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z] ^ _ `

a b c d e f g h i j k l m n o p q r s t u v w x y z { }

Double-byte characters

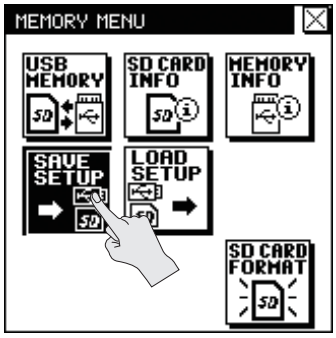
- File names starting with "." are not shown.
- Files having a file name extension of anything other than ".WAV" are not shown.

Backing Up and Loading the R-88's Settings

You can back up the R-88's settings to a USB flash drive or SD card. Backed-up settings also can be restored to the R-88, or loaded into a different R-88 unit.

Creating a Backup

1. **Choose [MENU]→<MEMORY>→<SAVE SETUP>.**

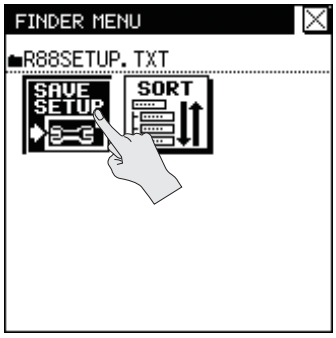


2. **Specify the save-destination media.**

Icon	Media
	USB flash drive
	SD Card

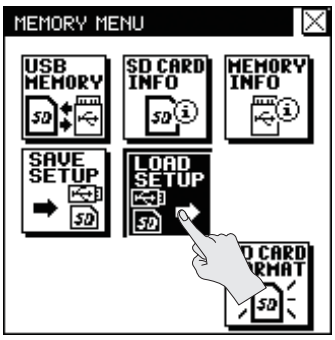
3. **Touch the folder in which you want to save the settings.**

4. **Touch <SAVE SETUP> to create the backup.**

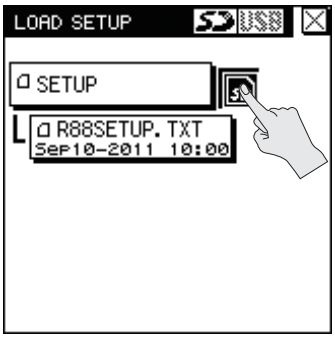


Loading a Backup into the R-88

1. **Choose [MENU]→<MEMORY>→<LOAD SETUP>.**

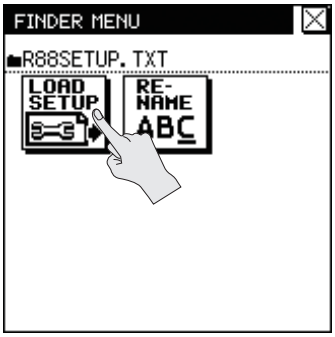


2. **Specify the media containing the backup that you want to load.**



3. **Touch the backup file that you want to load.**

4. **Touch <LOAD SETUP>.**



Viewing Information About the Media

1. **Choose [MENU]→<MEMORY>→<MEMORY INFO>.**

2. **Choose the media whose information you want to view.**

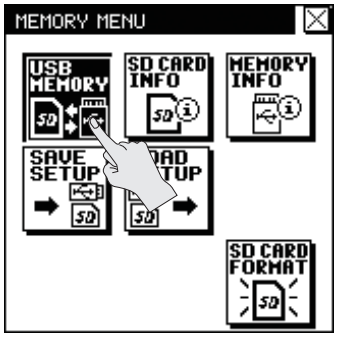
SD INFO	View the SD card's capacity and remaining space.
USB MEMORY INFO	View the USB flash drive's capacity and remaining space.

Copying a Project to USB Flash Drive / Loading from USB Flash Drive

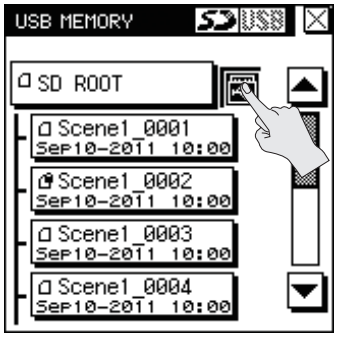
In the [MENU]→<MEMORY>→<USB MEMORY> menu, you can copy a project from the SD card to a USB flash drive, or load a project from a USB flash drive into the SD card. You can also perform various operations on projects on a USB flash drive as in the finder screen (p. 51).

Copying a Project

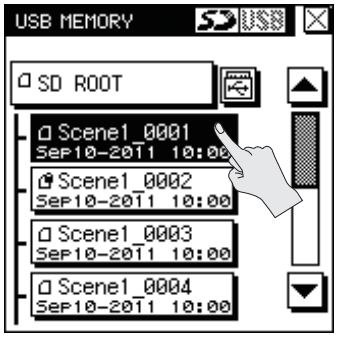
1. Choose [MENU]→<MEMORY>→<USB MEMORY>.



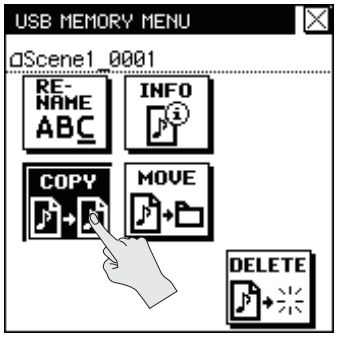
2. Specify the media containing the project that you want to copy.



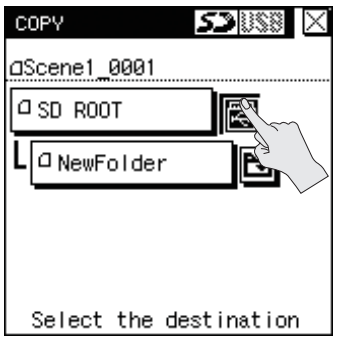
3. Touch the name of the project that you want to copy.



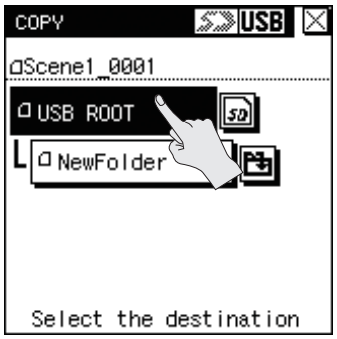
4. Touch <COPY>.



5. Specify the copy-destination media.



6. Touch the copy-destination folder.



The project will be copied.

NOTE

Carefully insert the USB flash drive all the way in—until it is firmly in place.

List of USB MEMORY operations

Project operations/Folder operations

Icon	Function
COPY	Copies the project.
MOVE	Moves the project.
DELETE	Deletes the project.
RENAME	Renames the project.
INFO	Shows information about the project. Alternatively, protects the project.

Connecting to Your Computer via USB

If you use an USB cable to connect the R-88 to your computer, you'll be able to do the following things.

Storage

Projects in the R-88's SD card can be backed up to your computer, and WAV files from your computer can be written to the R-88's SD card.

REFERENCE

"Exchanging Files With Your Computer (Storage)" (p. 61)

Audio Interface

The audio being input to the R-88 can also be recorded via USB into software on your computer.

Sound being played back by software on your computer can also be heard through headphones connected to the R-88's PHONES jack, or recorded on the R-88. In addition, sound being played back by software on your computer can be mixed with the R-88's input and re-input to your computer.

REFERENCE

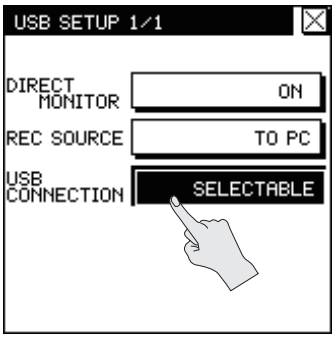
"Using the R-88 as an Audio Interface" (p. 63)

* In order to use the R-88's AUDIO I/F mode, you must first install the USB driver in your computer. For detail, please refer to "Installing the USB Driver" (p. 64).

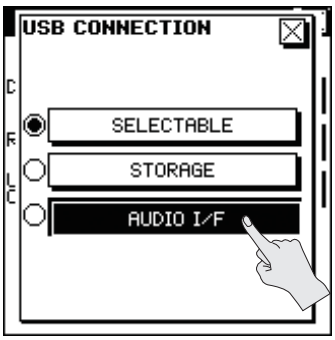
USB Connection Mode Setting

When the R-88 is connected to your computer via a USB cable, you can specify whether it will operate as a storage device or as an audio interface. If you choose "SELECTABLE" (default setting), you'll be able to make this choice when you connect it.

1. Choose [MENU]→<USB SETUP>→<USB CONNECTION>.



2. Touch the desired mode.



Mode	Explanation
SELECTABLE	A selection screen will appear when you connect the R-88 to your computer via USB.
STORAGE	The R-88 will be in storage mode when it is connected via USB to your computer.
AUDIO I/F	The R-88 will operate as an audio interface when it is connected via USB to your computer.

Exchanging Files With Your Computer (Storage)

WAV files can be copied from the R-88 to your computer, or from your computer to the R-88. To copy files, use your computer to drag and drop them.

Connecting the R-88 to Your Computer

1. Start up your computer.

2. Make sure that an SD card is inserted in the R-88's SD card slot.

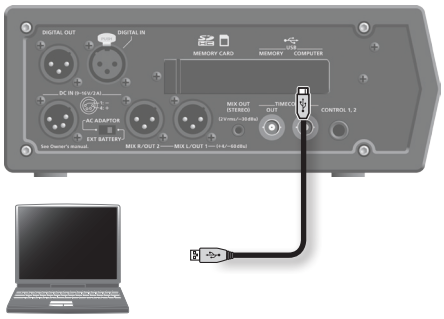
REFERENCE

"Inserting an SD Card" (p. 26)

3. Switch on the R-88's power ("Turning the Power On/Off" (p. 25).

4. Use a commercially available USB cable to connect the R-88 to your computer.

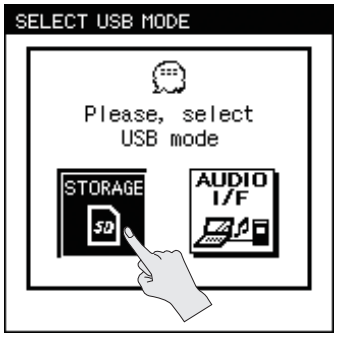
R-88 Side Panel (L) USB COMPUTER port



Computer

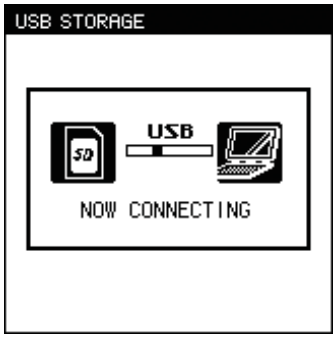
5. Select the mode (only if you've chosen "SELECTABLE"). Touch <STORAGE>.

If the USB CONNECTION (p. 60) is set to "SELECTABLE," a selection screen will appear when you connect the R-88 to your computer, allowing you to select either storage mode or audio interface mode.



When the R-88 is connected to the computer, the "USB STORAGE" screen will appear in the R-88's display.

* If you've chosen "STORAGE" as the USB CONNECTION mode (p. 60), this screen will appear when you use a USB cable to connect the R-88 to your computer.



Your computer will recognize the R-88's SD card in the following way.

OS	Appearance on the Computer
Windows	Appears in My Computer or Explorer under a name such as removable disk.
Mac OS	Appears on the desktop with a name such as NO NAME.

NOTE

- When connecting the USB cable to your computer, grasp the base of the connector, and avoid touching the metallic portion of the plug.
- During playback or recording, the R-88 will not be recognized by the computer even if it is connected. When playback or recording is stopped, it will be recognized.
- The R-88's various functions are unavailable in the "USB STORAGE" screen when connected to a computer. Operations of the buttons or switches will be ignored.
- If your computer displays the message "Insert a disk with this type of file ...," click <Cancel>.
- If the R-88 is connected in storage mode, the input and output audio will not be heard.

Disconnecting from Your Computer

Here's how to disconnect the R-88 from your computer. You must use the following procedure to end the connection before you disconnect the USB cable.

NOTE

Do not switch off the R-88's power, disconnect the USB cable, or remove the SD card while the R-88 is connected to your computer.

Windows 7

1. In the Windows task tray, click icon, and then icon.

2. Click on the message "Eject R-88" appears above the task tray.

When you see the message "Safe to Remove the Hardware," you can disconnect the USB cable that's between the R-88 and your computer.

Windows Vista/Windows XP

1. Double-click the Safely Remove Hardware icon located in the Windows task tray.

The "Safely Remove Hardware" dialog box will appear.

2. In the list of hardware devices shown, choose the item corresponding to the R-88.

OS	Indication
Windows Vista	USB mass storage device
Windows XP	USB mass storage device

3. In the dialog box, click <Stop>.

4. Click <OK>.

When the stop hardware device dialog box appears, choose the item corresponding to the R-88's SD card, and click <OK>.

5. Disconnect the connection.

When you see the message "The device (or USB disk) can now be safely removed from the computer," you can disconnect the USB cable that's between the R-88 and your computer.

When you disconnect the USB cable, the R-88 will change from the "USB STORAGE" screen back to the home screen (playback).

Mac OS

1. Drag "NO NAME" into the trash in the dock.

When you drag to the location of the trash at the right edge of the dock, the trash can will change to , allowing you to stop the connection.

2. Stop the connection.

When the "NO NAME" or "Unnamed" icon disappears from the desktop, you can disconnect the USB cable that's between the R-88 and your computer. Alternatively, you can switch off the R-88's power.

When you disconnect the USB cable, the R-88 will change from the "USB STORAGE" screen back to the home screen (playback).

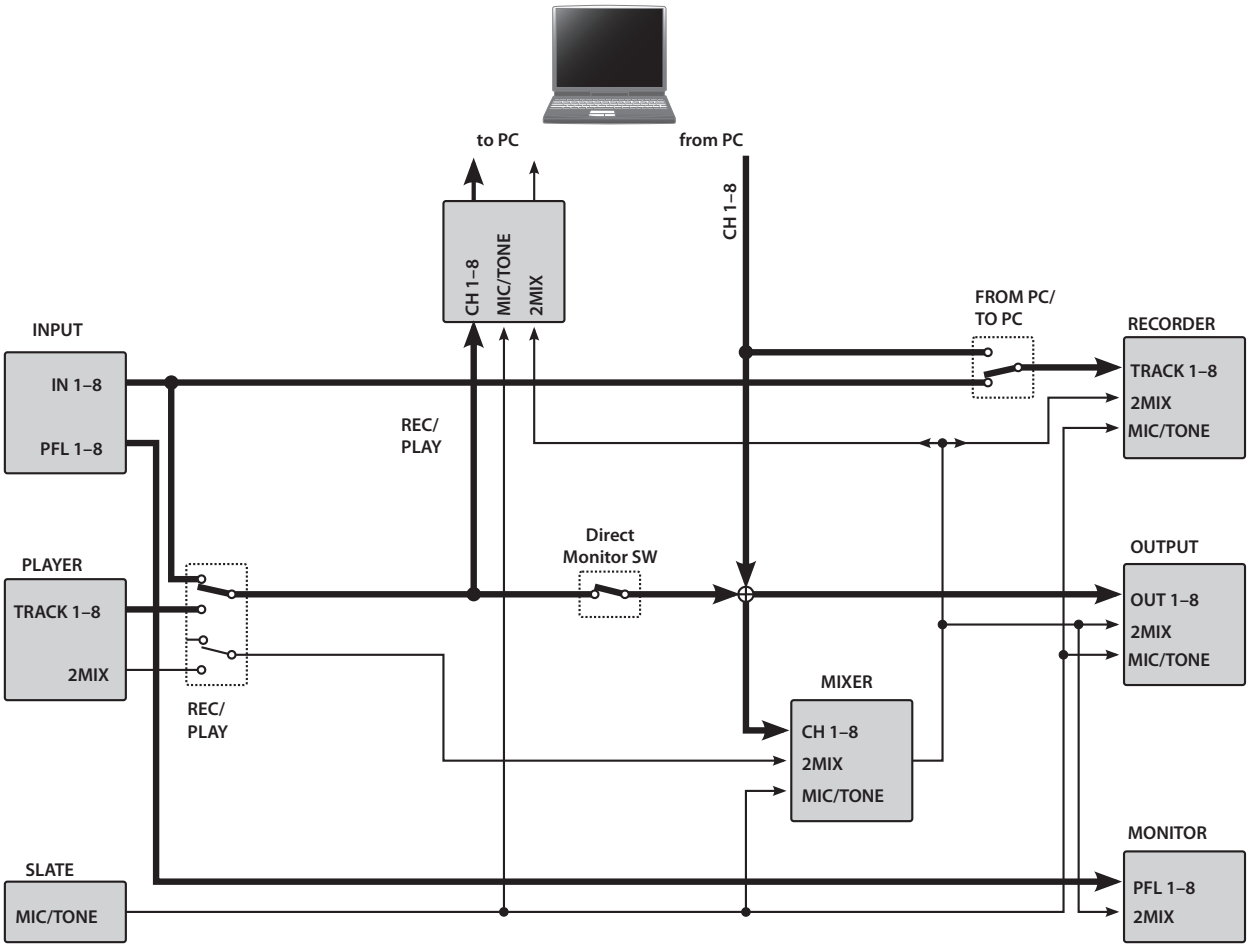
* While under most conditions, a computer similar to the above will permit normal operation of the R-88, Roland cannot guarantee compatibility solely on these factors. This is due to numerous variables that may influence the processing environment, such as differences in motherboard design and the particular combination of other devices involved.

Using the R-88 as an Audio Interface

The audio input from the R-88 can be recorded via USB into software on your computer. At the same time, recording and playback can be carried out on the R-88.

* USB audio interface functionality is not available when the sampling rate is 192 kHz.
* If DIGITAL IN is selected as the input, or if TIMECODE MODE is set to EXT SYNC or EXT SYNC AUTO REC, the audio input may be interrupted for some devices. If the audio input is interrupted, either avoid using DIGITAL IN, or set TIMECODE MODE to something other than EXT SYNC or EXT SYNC AUTO REC.
* The audio interface will operate at the sampling rate that is specified by the SAMPLE RATE setting in REC/PLAY SETUP. You cannot play back a project of a sampling rate different than this setting.

Block Diagram for Audio Interface Connection



Installing the USB Driver

In order to use the R-88's AUDIO I/F mode, you must first install the USB driver in your computer.

1. Install the USB driver in your computer.

The R-88's dedicated driver can be downloaded from the Roland website.

Roland website

http://www.roland.com/

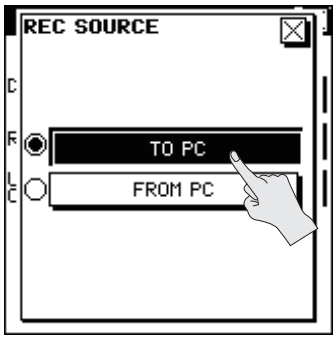
Refer to the Roland website for details on the operating requirements. The program and procedure for installing the driver will differ depending on your system. Carefully read the Readme.htm file included with the downloaded file.

Simultaneous Recording on the R-88 Itself

The audio being input to the R-88 can also be recorded on the R-88 itself while simultaneously recording into software on your computer.

1. Choose [MENU]→<USB SETUP>→<REC SOURCE>(p. 65).

2. Choose <TO PC>.



Setting	Explanation
TO PC	Signal from the R-88 being input to the computer
FROM PC	Signal from the computer being input to the R-88

3. Press the [MENU] (HOME) button to return to the home screen.

You can also return to the home screen by touching ☒ a number of times.

Listening to the Computer's Playback Through the R-88

Audio played back by your computer can be heard via USB through the output system connected to the R-88. This audio can also be recorded by the R-88 itself.

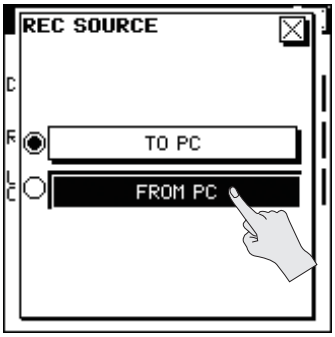
1. In the audio playback software on your computer, switch the audio output destination to the R-88.

For details on switching the audio output destination, refer to the manual for the software you're using.

Recording the computer's playback on the R-88 itself

1. Choose [MENU]→<USB SETUP>→<REC SOURCE>(p. 65).

2. Choose <FROM PC>.



Setting	Explanation
TO PC	Signal from the R-88 being input to the computer
FROM PC	Signal from the computer being input to the R-88

3. Press the [MENU] (HOME) button to return to the home screen.

You can also return to the home screen by touching ☒ a number of times.

Parameter List

MENU Screen (p. 12)

Category	Menu item / Effect		Value (default value: bold)		page
REC/PLAY SETUP	**REC FILE** Selects the type of file to be recorded.		**MONO**, STEREO		p. 35
	MIX REC Specifies whether a separate two-channel mix project will also be recorded when recording a multitrack project.		**OFF**, ON		p. 35
	PROJECT NAME Specifies how the project name is to be assigned.		**Date**, U1: Scene1, U2: Scene2, U3: Scene3, U4: Scene4, U5: Scene5, U6: Scene6, U7: Scene7, U8: Scene8		p. 35
	PRE REC Specifies the pre-recording setting.		**OFF**, 1sec, 2sec, 3sec, 4sec, 5sec		p. 36
	SAMPLE RATE Specifies the sampling rate for recording.		44.1kHz, **48.0kHz**, 88.2kHz, 96.0kHz, 192kHz		p. 36
	BIT DEPTH Specifies the bit depth for recording.		16bit, **24bit**		p. 37
	PLAY MODE Specifies the order in which projects will play.		**SINGLE**, SEQUENTIAL		p. 39
	PLAY REPEAT Specifies whether Repeat will be enabled.		**OFF**, ON		p. 40
	MS-MIC DECODER Turns the MS mic decoder on/off.		to REC to MIX	CH 1-2: **OFF**, ON CH 3-4: **OFF**, ON	p. 41
			PLAY	CH 5-6: **OFF**, ON CH 7-8: **OFF**, ON	
	MS-MIC LEVEL Adjusts the MS-MIC LEVEL.		1-2, 3-4, 5-6, 7-8	0–**100**–120	p. 41
	MS-MIC WIDE Adjust the stereo width of the MS mic. * This is the same setting as in the PAN screen when MS mic decoder (p. 41) is on.		1-2, 3-4, 5-6, 7-8	0–**50**–100	p. 41
OUTPUT SETUP	**1/L 2/R LEVEL** Switches the output level of the analog output jacks (MIX L/OUT 1, MIX R/OUT 2).		**-60dBu**, +4dBu		p. 32
	MIX OUT LEVEL Switches the output level of the MIX OUT (STEREO) jack.		**-30dBu**, 2Vrms		p. 33
	SPEAKER SW Turns the internal speakers on/off.		**OFF**, ON		p. 33
	OUT 1/2 MODE	Specify which audio, from which recording track, will be output from the various output jacks.	OFF, **MIX**, TR1/2, TR3/4, TR5/6, TR7/8		p. 33
	OUT 3/4 MODE		**OFF**, MIX, TR1/2, TR3/4, TR5/6, TR7/8		
	OUT 5/6 MODE		**OFF**, MIX, TR1/2, TR3/4, TR5/6, TR7/8		
	OUT 7/8 MODE		**OFF**, MIX, TR1/2, TR3/4, TR5/6, TR7/8		
USB SETUP	**DIRECT MONITOR** Turns direct monitor on/off.		OFF, **ON**		–
	REC SOURCE Specifies the recording source when connected to a computer.		FROM PC, **TO PC**		p. 64
	USB CONNECTION Specifies the mode when USB-connected to a computer.		**SELECTABLE**, STORAGE, AUDIO I/F		p. 60
TIMECODE/TIME	**TIMECODE SETUP**	**TIMECODE MODE** Specifies the timecode mode.	**OFF**, INT, RTC, REC-RUN, EXT SYNC, EXT (AUTO JAM), EXT SYNC AUTO REC, EXT AUTO REC		p. 47
		FRAME RATE Specifies the frame rate.	23.976, 24, 25, 29.97, 29.97D, **30**, 30D		p. 48
		TIMECODE OUTPUT Specifies the timecode output mode.	**GENERATE**, REPRO, THRU		p. 48
	SET INT TC	**CURRENT/EXT** Displays the internal timecode/external device's timecode. **MANUAL** Manually specifies the current time of the internal timecode.	–		p. 49
	SET REC RUN TC	Specifies the REC RUN starting time.	–		p. 49
	DATE & TIME	Specifies the date and time.	–		p. 26

Category	Menu item / Effect		Value (default value: bold)		page
MEMORY	**SD CARD INFO** Displays information about the SD card.		–		–
	SAVE SETUP Backs up the R-88's settings to an SD card or USB flash drive.		–		p. 58
	LOAD SETUP Loads settings that were saved to an SD card or USB flash drive.		–		p. 58
	USB MEMORY Copies a project between SD card and USB flash drive.		–		p. 59
	SD CARD FORMAT Formats the SD card.		–		p. 27
SYSTEM SETUP	**CONTRAST** Adjusts the contrast of the characters in the display.		1–**5**–10		–
	BACKLIGHT Adjusts the brightness of the display backlight.		1–**3**–4		–
	DISPLAY TIMER Specifies the time after which the display backlight will be darkened if no operation has been performed. (Units: seconds)		OFF, 2 sec, **5 sec**, 10 sec, 20 sec		–
	BUTTON LIGHT Specifies the brightness of the button lights.		**AUTO**, DIM, BRIGHT		–
	PEAK INDICATOR Specifies the level at which the PK indicators will light.		-24dB–**0dB**		–
	BATTERY Specifies the type of battery that is installed.		**ALKALINE**, Ni-MH		p. 23
	EXT POWER Selects the final voltage of an external power supply.		**9.0V**, 9.5V, 10.0V, 10.5V, 11.0V, 11.5V, 12.0V		p. 24
	AUTO OFF Specifies the time after which the power will turn off if no operation has been performed. (Units: minutes)		OFF, 5 min, 10 min, 30 min, 60 min, 120 min, **240 min**		p. 25
	HOLD Specifies the controls that will be disabled by the [HOLD] switch.	LEVEL KNOB	Disables operation of the LEVEL knobs.	**ENABLE**, DISABLE	p. 6
		SENS KNOB	Disables operation of the SENS knobs.		
		BUTTON	Disables operation of the [●] (REC), [▶/❚❚] (PLAY/PAUSE), [■] (STOP), [⏮] (–), [⏭] (+) buttons, and [SLATE] switch.		
		TOUCH PANEL	Disables operation of the touch panel.		
		MASTER LEVEL	Disables knob rotation operations. Knob press operations will not be disabled.		
	REC BUTTON FUNCTION Specifies what will happen when you press the [REC] button.		**REC**, REC/MARK		p. 38
	REC STOP BUTTON Specifies the response speed of the [STOP] button. By setting this to "HOLD 2 Sec," it lets you prevent the R-88 from stopping in the event that your hand accidentally brushes against the [STOP] button.		**IMMEDIATE**, HOLD 2 Sec		–
	STOP MODE Specifies the home screen accessed by pressing the [STOP] button.		REC, **REC/PLAY**		p. 10
	LEVEL KNOB MODE Specifies the function of the [LEVEL] knobs: adjusting the input levels during recording, or acting as the mixer's channel faders.		**INPUT**, MIXER		p. 43
	CTL1 FUNCTION Specifies the function of the footswitch (CTL1).		STOP, **REC**, PLAY, FF, REW, REC/STOP, PLAY/STOP, PLAY(MOMENT), SET MARKER, PREV MARKER, NEXT MARKER		p. 42
	CTL2 FUNCTION Specifies the function of the footswitch (CTL2).		**STOP**, REC, PLAY, FF, REW, REC/STOP, PLAY/STOP, PLAY(MOMENT), SET MARKER, PREV MARKER, NEXT MARKER		p. 42
	PEAK ALARM Turns on/off the alarm tone that is sounded when the input level reaches the peak.		How the alarm will sound: "· · · · "	**OFF**, ON	–
	REMAIN ALARM Turns on/off the alarm tone that is sounded when the SD card's free space runs low.		How the alarm will sound: "· · · · · "		–
	BATTERY ALARM Turns on/off the alarm tone that is sounded when the battery runs low.		How the alarm will sound: "· · · · · "		–
	MEDIA SLOW ALARM Turns on/off the alarm tone that is sounded when data could not be written to the SD card fast enough.		How the alarm will sound: "— — — — — "		–

Category	Menu item / Effect	Value (default value: bold)	page
SYSTEM SETUP	**REC START/STOP TONE** Turns on/off the alarm tone that is sounded when recording starts or ends.	**OFF**, ON	–
	ALARM TONE LEVEL Adjusts the level of the alarm tone.	0–**50**–100	–
	SLATE TONE ROUTING Specifies the routing of the slate tone.	**MIX**, MIX+REC, MIX+OUT, ALL	p. 50
	SLATE MIC ON/OFF Turns the slate mic on/off for each track.	**OFF**, ON	p. 50
	FOLDER ON BOOT Specifies whether the folder last selected before power-off (LAST) or the root folder will be selected (RESET) the next time the R-88 is started up.	**LAST**, RESET	–
	DELETE BUTTON Enables/disables deletion of files from the FINDER menu.	**ENABLE**, DISABLE	p. 53
	PANEL CALIBRATION Calibrates the response position of the touch panel.	–	–
	FACTORY RESET Resets the R-88 to the factory-set condition.	–	–

Home Screen (p. 10)

Category	Menu item / Effect			Value (default value: bold)	page
INPUT	SOURCE	**INPUT SW** Turns each input on/off.		DIGITAL IN: **OFF**, ON IN 1–IN 2: OFF, **ON** IN 3–IN 8: **OFF**, ON	p. 28
		SENS/LEVEL LINK Turns SENS/LEVEL link on/off for IN 1/IN 2–IN 7/IN 8.		IN 1/IN 2–IN 7/IN 8: **OFF**, ON	p. 29
	LOW CUT	**LOW CUT** Turns each input's low cut filter on/off.		IN 1–IN 8: **OFF**, ON	p. 29
		PARAM SETTING Specifies the cutoff frequency of each input's low cut filter.		IN 1–IN 8: 60Hz, **120Hz**, 240Hz	p. 29
	LIMITER	**LIMITER** Turns each input's limiter on/off.		IN 1–IN 8: **OFF**, ON	p. 30
		PARAM SETTING Specifies the threshold and release time of each input's limiter.	**THRESHOLD**	-24dB – **-6dB** – 00dB	p. 30
			RELEASE	0.03s–**0.3s**–8s	
SENS	**SENS** Adjusts the input sensitivity.			-56dBu, -50dBu, -44dBu, -38dBu, -32dBu, -26dBu, -20dBu, -14dBu, -8dBu, -2dBu, +4dBu	p. 31

Parameter List

MIXER Screen (p. 43)

Category	Menu item / Effect	Value (default value: bold)		page
1-8	**LINK 1/2, 3/4, 5/6, 7/8** Turns stereo link on/off.	**OFF**, ON		p. 45
	MUTE Turns mute on/off for each channel.	**OFF**, ON		p. 44
	EQ Turns the EQ on/off for each channel.	**OFF**, ON		p. 45
	EQ PARAM Edits the EQ parameters for each channel.	**HI**	-12 dB–**0 dB**–+12 dB	p. 45
		MID	-12 dB–**0 dB**–+12 dB	
		MID-F	200 Hz–**1 kHz**–6.3 kHz	
		LOW	-12 dB–**0 dB**–+12 dB	
	FADER Sets the level of each channel.	-∞–**0**–+8dB		p. 43
	PAN Sets the pan of each channel.	L50–**C00**–R50		p. 44
MASTER	**LIMITER (MASTER)** Turns the master limiter on/off.	**OFF**, ON		p. 46
	THRESHOLD Specifies the threshold of the master limiter.	-24dB – **-6dB** – 00dB		
	RELEASE Specifies the release time of the master limiter.	0.03s–**0.3s**–8s		

Monitor Screen (p. 34)

Menu item / Effect	Value (default value: bold)	page
PFL Individually monitors each audio input.	CH1, CH2, CH3, CH4, CH5, CH6, CH7, CH8	p. 34
PHONES OUTPUT Selects the sound to be monitored through headphones.	**L/R**, L+R, L, R	p. 34

Error Messages

Message	Problem
Already Exist	An identically named file or folder exists. Please use a different name to create the file or folder.
Battery Low	The batteries or the external power supply have run low. Please replace the batteries or use an AC adaptor.
Cannot Change Name	The file cannot be renamed because the file name contains double-byte characters.
Clock is Initialized	Power for the internal clock was lost, so the internal clock has been initialized. Please specify the date and time.
Disconnect USB Cable	The power cannot be turned off while a USB cable is connected to your computer. Disconnect the USB cable and then turn off the power.
File is Protected	The file is protected. Turn Write Protect OFF before you execute the operation.
File Size Over 2 GB	The file contains too much data.
File System Error	There is a problem with the SD card. Format the SD card on the R-88.
Folder is not empty	The folder already contains file(s). Try the procedure again after the files in the folder have been erased.
HOLD is ON	The operation is not possible because the [HOLD] switch is on. Turn the [HOLD] switch off if you want to perform an operation.
Improper Project	This project is of a format that the R-88 cannot use.
Name is Too Long	The name is too long. Shorten the name of the file.
No Card	No SD card is inserted. Insert an SD card into the R-88 (p. 26).
NO USB Memory Device!	A USB flash drive cannot be detected. Since it can take some time for a USB flash drive to be detected, please wait a while and then try again. Alternatively, connect the USB flash drive correctly.
Now Playing	Currently playing. Stop playback if you want to perform an operation.
Now Recording	Currently recording. Stop recording if you want to perform an operation.
Root Folder Full	The root folder is full. Erase files or move them to a different location.
Sample rate doesn't match	Playback is not possible because the sampling rate of the project you attempted to play while in USB Audio connection mode differs from the USB Audio sampling rate. Signals of a sampling rate different than the R-88's recording setting cannot be input to DIGITAL IN jack.
Scene number Over	When U1-U8 are selected as the PROJECT NAME, a new recording cannot be started because the automatically assigned consecutive number has exceeded the maximum value. The PROJECT NAME will be created in the range ****_0001 – ****_9999.
SD Card Full	The SD card has insufficient free space. Free up space on the card after backing up files to your computer, by erasing files, or by formatting the card.
SD Card is Locked	The SD card is locked. Remove the SD card and turn off the Lock setting.
SD Card Slow	Writing to the SD card could not be performed fast enough. Please use an SD card that is known to work with the R-88. In some cases, repeated writing and deleting of files may cause the files to become fragmented on the SD card, impairing the processing capability. If so, please reformat the SD card.
SETUP File is not found	The setup file was not found.
Too Many Projects	The number of projects in a single folder is approaching 2,000. If more than 2000 projects are recorded in a single folder, projects beyond 2,000 will not be visible in the R-88's finder. Select a folder that contains fewer projects, or create a new folder.
Unformatted SD Card	The SD card has not been formatted. Format the SD card on the R-88.
Unsupported USB MEMORY	This USB flash drive is not supported. USB flash drives with high current draw will not work.
USB Audio is not available	USB Audio cannot be used when the sampling rate is 192 kHz. Set the sampling rate to 96 kHz or lower.
USB Memory Full	The USB flash drive has insufficient free space. Free up space on the card by copying files to your personal computer and making backups, or by erasing files.
Wrong Destination	You can't copy/move within the same folder.

Troubleshooting

Problems with Recording

Problem	Cause	Page
Cannot record	You cannot record correctly if the input setting is not set correctly.	p. 28
	When recording from connected microphones, make sure that the microphones are properly connected to the XLR input jacks. Also check the setting of the Phantom power switch.	p. 8, p. 28
	Recording is not possible if the SD card is not inserted correctly. Turn off the power, and re-insert the SD card.	p. 26
	The SD card will not work properly unless it was formatted on the R-88. If the card was formatted using a computer, it might have the wrong format. In this case, it might stop immediately after recording is started, or recording might not occur correctly.	p. 27
	Recording will not be possible if the SD card has less than 1M bytes of free space.	p. 66, p. 72
	You can't record from IN 5–8 when the sampling rate is 192 kHz.	p. 28
	When recording a two-track mix, the recording will be at a low volume if the [MASTER] knob is turned too low.	p. 46
Recording begins at a different point than when you started	If PRE-REC is on, the sound will be recorded starting at the point before you press the [●] (REC) button.	p. 36
Recorded sound is distorted	The sound will be distorted if the input level or the input sens is too high. Refer to "Input Level and Input Sensitivity Settings" (p. 31), and adjust the level appropriately.	p. 31
	If the output of the internal mixer is distorted, adjust the channel faders of the mixer, or adjust the master fader.	p. 43, p. 46
The volume level of the connected instrument is too low	Could you be using a connection cable that contains a resistor? Use a connection cable that does not contain a resistor.	p. 28, p. 32
Project was divided unexpectedly	The R-88 will automatically divide the project if the file currently being recorded exceeds a size of 2 GB.	–

Problems with Playback

Problem	Cause	Page
No sound	If the [MONITOR] knob is turned too far down, the volume may be too low for you to hear. Gradually increase the [MONITOR] knob.	p. 6
	If the [MASTER] knob is turned too far down, the volume may be too low for you to hear. Gradually increase the [MASTER] knob.	p. 6, p. 46
	If the output assignments are not set appropriately, sound is not output.	p. 33
	Make sure that your headphones or speakers are connected correctly.	p. 32
No sound from the internal speakers	Make sure that <MENU>→<OUTPUT SETUP>→<SPEAKER SW> is ON. No sound is output from the internal speakers if this setting is OFF.	p. 33
	No sound is output from the internal speakers if headphones are connected.	p. 32
	To prevent acoustic feedback, no sound is output from the internal speakers except during playback.	p. 32
Can't play back the recorded project	If you inadvertently disconnect the adaptor or remove the SD card during recording, the project will be damaged and cannot be played. In some cases you may be able to use the project Repair function to recover it.	p. 55
	If you record more than 2,000 projects in a single folder, projects exceeding 2,000 will not be visible in the R-88's finder; however, they have been captured correctly as recorded data, and can be transferred to your computer via USB.	p. 61
Can't play back	Make sure that the file name is assigned correctly. The R-88 cannot use files that have a name that begins with a "." (period).	p. 35, p. 54
	The R-88 can only play files with a file name extension of .WAV.	p. 14
	A damaged file cannot be played. You might be able to recover the file by using the Repair function.	p. 55
The USB flash drive contains a file, but the R-88 will not play it	The R-88 cannot directly play files from the external memory device. In order to play a file located on the external memory device, copy the file onto the R-88 SD card, and then play it.	p. 59
Skips occur in the sound	As you repeatedly write and delete project files, the files on the SD memory card become fragmented, and this slows down the processing speed. If you continue recording in this state, the message "SD Card Slow" is shown, and skips may occur in the recorded project. If making important recordings, you should consistently delete all projects together when finished with them. Repeated deletion of data causes the SD memory card to become fragmented, possibly causing recording to fail.	p. 53

Problems with the Computer

Problem	Cause	Page
R-88 not recognized when connected to your computer via USB	The R-88 will not be recognized by your computer if you connect it when the "MENU" screen is displayed, or during playback or recording. Please disconnect the USB cable, and try again.	p. 60
Cannot close the connection with the R-88	When using Windows and if Explorer or any other software referencing the SD memory card is open when you attempt to close the USB connection between the R-88 and your computer, the error message "An error occurred while removing USB mass storage device — Unable to close device 'unspecified volume.' Please execute Stop Device again later." will appear, and you will be unable to disconnect the R-88. Close all software or windows that are referencing the SD memory card. Then execute "Safely Remove Hardware" once again.	p. 62
USB flash drive connected in the R-88 is not visible from the computer	The USB flash drive connected in the R-88 cannot be viewed from the computer.	–
Problems related to the audio interface	Please refer to the README for the driver, which can be found on the Roland web site.	p. 64

Problems with R-88 Operation

Problem	Cause	Page
Power won't turn on	Make sure that the AC adaptor or an external power supply is correctly connected. If you're using batteries, make sure that the battery case is correctly installed, and that the batteries are oriented correctly, without any batteries out of place. It may be that the batteries have run low; install fresh batteries.	p. 23
	Check whether the [HOLD] switch is off. If it is on, the panel [POWER] switch will be inoperable.	p. 6
	The power will not turn on if the external power supply voltage is too high. The R-88 is compatible with 9–16 V.	p. 24
	If the R-88's power can't be switched on even though there's no problem with the AC adaptor or batteries, it may have malfunctioned. Please contact nearest Roland Service Center as listed on the "Information" sheet.	–
Display becomes dim	The display will be dimmed if no operation is performed during the specified Display Timer interval.	p. 66
Your settings return to their original value	When you reset the R-88 to its factory settings, all settings made using the "MENU" screen or the like will return to their original values. Please make the desired settings again.	p. 12, p. 65
	If the R-88's power is turned off without using its power switch (e.g., by a battery failure or disconnected AC adaptor), the settings you made will return to their original values. Please make the desired settings again.	p. 12, p. 65
Project names and folder names in the Home screen or Finder are garbled	The characters that are not "Available characters" are not displayed properly. In addition, there are cases when RENAME will not be performed correctly.	p. 35, p. 54
Power turns off unexpectedly	Depending on the AUTO OFF setting, power will turn off automatically if no operation is performed for a specified length of time.	p. 25, p. 66
	Check to make sure that the setting for the end voltage (external) is appropriate. Check to make sure that the setting for the type of batteries (alkaline, rechargeable Ni-MH batteries) to be used is correct.	p. 23, p. 66
	If you're using batteries or external source, power will turn off when the batteries run low. Please install fresh batteries.	p. 23
Internal clock is reset	If the AC adaptor or external power source is connected, or if batteries are installed, the internal clock will obtain its power from those sources. If several days pass with the batteries removed and the AC adaptor disconnected, the internal clock will return to its default setting. When you turn on the power in this state, the message "Clock is Initialized" will appear. If this message appears, please reset the date and time.	p. 26
Touch panel does not perform as expected	Carry out adjustment of the panel.	p. 67
The message "batteries low" appears while AC adaptor is being used	Check to make sure that the External power supply select switch (p. 7) is set to "ADAPTOR."	p. 24
Footswitch does not work as expected	Refer to "Using a Footswitch to Remotely Control Recording or Playback," and verify that the connection is correct. Also verify that the mode and polarity switches are set correctly. The FS-5L cannot be used.	p. 42

Specifications

Roland R-88: 8-CHANNEL RECORDER and MIXER

Recorder Part

Channels	**Sampling Frequency**	44.1, 48, 88.2 and 96 kHz	8 channels + 2 channels (stereo mix from built-in mixer)
		192 kHz	4 channels
Data Type	**Format**	BWF (mono, stereo)	
	Sampling Frequency	44.1, 48, 88.2, 96, 192 kHz	
	Bit Depth	16 bits, 24 bits	
Recording Media	**SDHC Memory Card**	4–32 GB	
	SD Memory Card	2 GB	

Recording Time (UNIT: hours, using 32 GB SDHC memory card)

Sampling Frequency/Bit Depth	**Recording channels**				
	1 ch	**2 ch**	**4 ch**	**8 ch**	**10 ch**
44.1 kHz/16 bits	100	50	25	12	10
44.1 kHz/24 bits	67	33	16	8.4	6.7
48 kHz/16 bits	92	46	23	11	9.2
48 kHz/24 bits	61	30	15	7.7	6.1
88.2 kHz/16 bits	50	25	12	6.3	5.0
88.2 kHz/24 bits	33	16	8.4	4.2	3.3
96 kHz/16 bits	46	23	11	5.7	4.6
96 kHz/24 bits	30	15	7.7	3.8	3.0
192 kHz/16 bits	23	11	5.7	–	–
192 kHz/24 bits	15	7.7	3.8	–	–

* These recording times are approximate. Actual results may vary somewhat.

* If more than one recorded file exists, the total recordable time will be less.

Pre-Recording	OFF, 1, 2, 3, 4, 5 second(s)

Mixer Part

Mixing Channels	**Input**	8 channels
	Output	2 channels (stereo)
Channel Strip	3-band equalizer, Fader, Pan, MS microphone decoder	
Master	Fader, Limiter	

Audio Input Part

Signal Processing	AD Conversion: 24 bits			
AD Dynamic Range	120 dB or greater ([SENS] knob = +4 dBu)			
Channel Effects	Limiter, Low Cut, MS microphone decoder			
IN 1–8 jacks (Analog Inputs)	XLR type (Phantom powered) * When sampling frequency is 192 kHz, IN 5–8 jacks are inactive.			
	Nominal Input Level	**Chooses with [SENS] knob**	-56, -50, -44, -38, -32, -26, -20, -14, -8, -2, +4 dBu	
		LEVEL KNOB MODE	**INPUT**	Changes with the [LEVEL] knob positions in the range of -infinity– +8 dB.
			MIXER	The INPUT LEVEL is fixed at 0 dB.
	Maximum Input Level	+26 dBu		
	Input Impedance	**Mic Input ([SENS] knob = -56– -20 dBu)**	3.4 k ohms	
		Line Input ([SENS] knob = -14–+4 dBu)	5.6 k ohms	
DIGITAL IN jack	XLR type (AES/EBU, conforms to IEC 60958-4) * When using Digital Input, IN 1–2 jacks are inactive.			
Phantom Power	48 +/- 4 V 10 mA per 1 channel (8 channels of phantom power available simultaneously)			
Slate Microphone	Built-in			

Audio Output Part

Signal Processing	DA Conversion: 24 bits	
OUT 1–2 jacks (Analog Outputs)	XLR type	
	Output Buses	Channel 1–2, Channel 3–4, Channel 5–6, Channel 7–8, Stereo mix from built-in mixer
	Output Level	+4 dBu, -60 dBu
	Maximum Output Level	+24 dBu
	Output Impedance	600 ohms
OUT 3–8 jacks (Analog Outputs)	XLR type * When sampling frequency is 192 kHz, OUT 5–8 jacks are inactive.	
	Output Buses	Channel 1–2, Channel 3–4, Channel 5–6, Channel 7–8, Stereo mix from built-in mixer
	Output Level	+4 dBu
	Maximum Output Level	+24 dBu
	Output Impedance	600 ohms
MIX OUT jack (Analog Outputs)	Stereo miniature phone type	
	Output Buses	Stereo mix from built-in mixer
	Maximum Output Level	2 Vrms, -30 dBu
	Output Impedance	1 k ohm
DIGITAL OUT jack	XLR type (AES/EBU, conforms to IEC 60958-4)	
	Output Buses	Stereo mix from built-in mixer
PHONES jack	Stereo 1/4-inch phone type	
	Output Level	80 mW (32 ohms)
	Output Impedance	10 ohms
Built-in Speaker	Stereo	
Slate Tone	1 kHz, -20 dBFS	
Monitor	Pre Fader Listening (PFL), REALTIME ANALYZER, Alarm Tone	

Characteristics

Residual Noise Level (IHF-A)	**OUT 1–8**	-80 dBu or less ([LEVEL (INPUT/MIXER)] knobs = -infinity)
	MIX OUT	-90 dBu or less ([LEVEL (INPUT/MIXER)] knobs = -infinity)
Total Harmonic Distortion + Noise	0.02 % or less ([SENS] knob = +4 dBu, [LEVEL] knob = 0)	
Frequency Response	20 Hz–40 kHz (0/-3 dB, Sampling frequency = 96 kHz–192 kHz)	

Other Terminals

USB (MEMORY) port	USB Type A	
	USB Mass Storage Class (USB 2.0/1.1) * USB HDD cannot be used.	
USB (COMPUTER) port	USB Type mini B	
	USB Mass Storage Class (USB 2.0/1.1) USB-AUDIO (Hi-Speed USB, Input: 10 channels, Output: 8 channels) * When sampling frequency is 192 kHz, the USB audio is inactive.	
TIMECODE (OUT, IN) jacks	BNC coaxial type (Conforms SMPTE 12M-1999)	
	Mode	OFF, INT, RTC, REC-RUN, EXT SYNC, EXT (AUTO JAM), EXT SYNC AUTO REC, EXT AUTO REC
	Frame Rate	* 23.976, 24, 25, 29.97, 29.97D, 30, 30D
CONTROL 1, 2 jack	1/4-inch TRS phone type REC, PLAY, STOP, etc.	

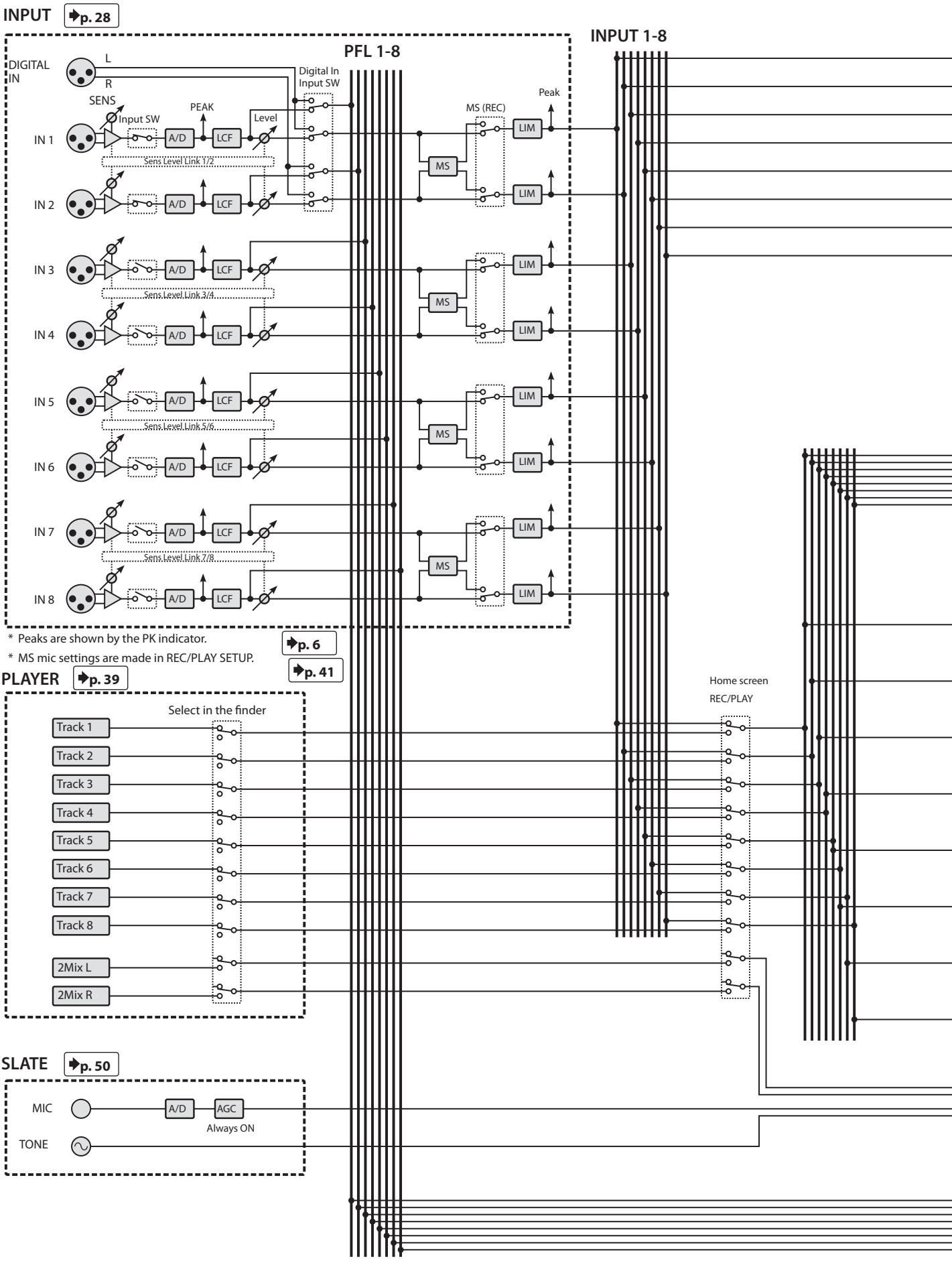
Others

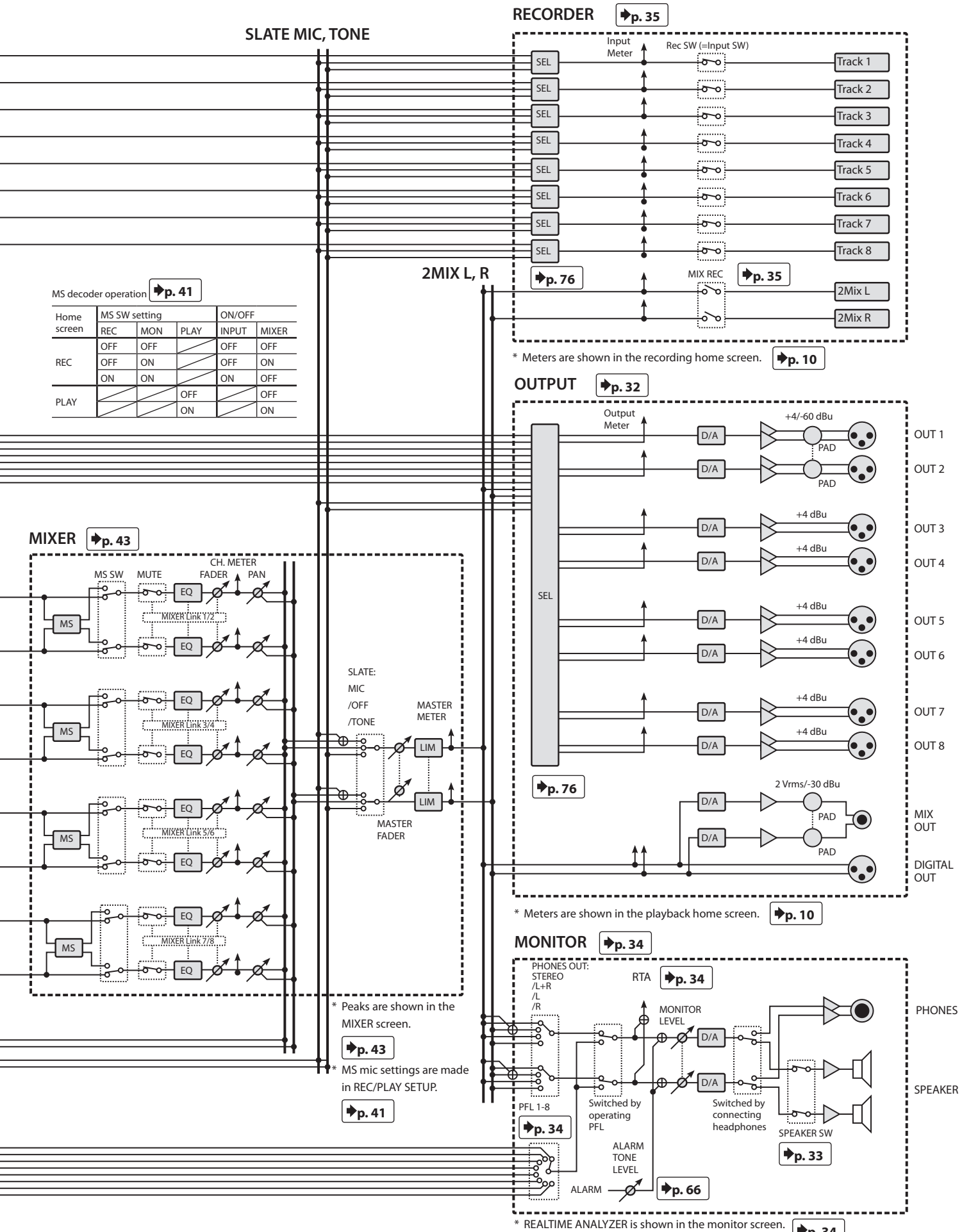
Display	Graphic LCD 160 x 160 dots (touch screen)
Indicators	IN 1–8 PK indicators, SLATE MIC indicator, REC indicator, PLAY indicator
Power Supply	AC adaptor (using 4-pin XLR type connector conversion cable), Alkaline battery (AA, LR6) or Rechargeable Ni-MH battery (AA, HR6) x 8, External power supply (4-pin XLR type, 9–16 V)
Current Draw	1.5 A
Dimensions	260 (W) x 235 (D) x 93 (H) mm 10-1/4 (W) x 9-1/4 (D) x 3-11/16 (H) inches
Weight (including batteries)	2.7 kg 6 lbs
Accessories	Owner's Manual, AC adaptor
Options (sold separately)	R-88 carrying (CB-R88), Footswitch (BOSS FS-5U), Dual Footswitch (BOSS FS-6), Footswitch cable (PCS-31L)

* 0 dBu = 0.775 Vrms
* In the interest of product improvement, the specifications and/or appearance of this unit are subject to change without prior notice.

R-88 Block Diagram

Detailed block diagram




SLATE MIC, TONE
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Track 3
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* Meters are shown in the recording home screen.
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Switched by connecting headphones
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ALARM
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* REALTIME ANALYZER is shown in the monitor screen.
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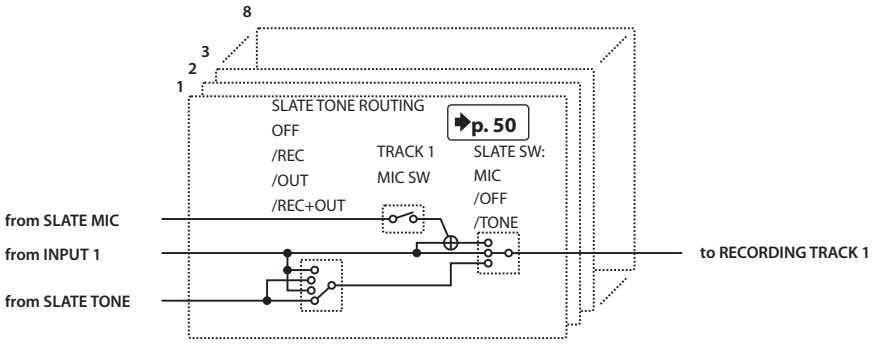
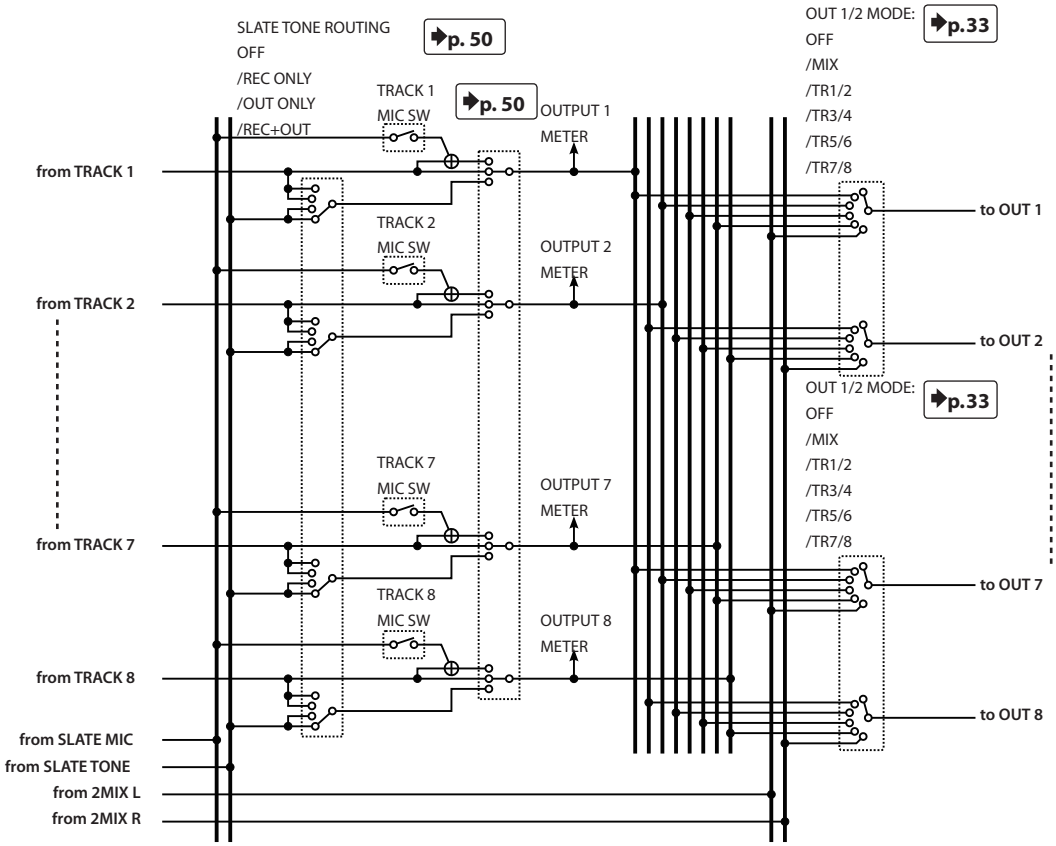
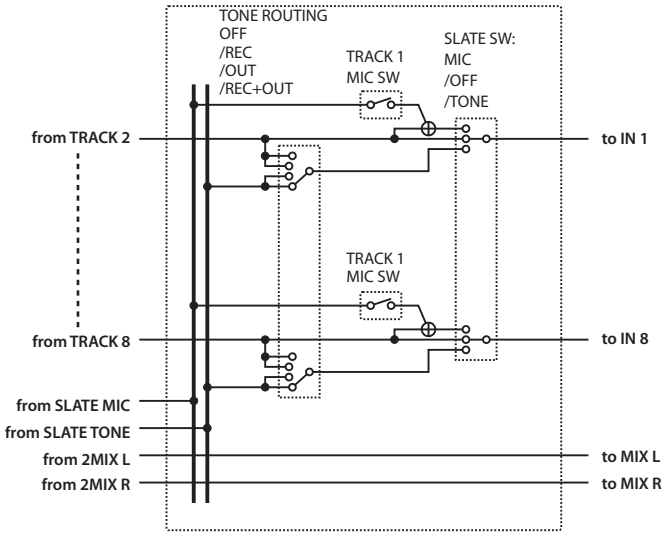
RECORDER SELECTOR block diagram



OUTPUT SELECTOR block diagram



USB SELECTOR block diagram



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For the U.K.

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

BLUE: NEUTRAL
BROWN: LIVE

As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:
The wire which is coloured BLUE must be connected to the terminal which is marked with the letter N or coloured BLACK.
The wire which is coloured BROWN must be connected to the terminal which is marked with the letter L or coloured RED.
Under no circumstances must either of the above wires be connected to the earth terminal of a three pin plug.

For EU Countries

CE This product complies with the requirements of EMC Directive 2004/108/EC.

For the USA

FEDERAL COMMUNICATIONS COMMISSION RADIO FREQUENCY INTERFERENCE STATEMENT

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:
(1) this device may not cause harmful interference, and
(2) this device must accept any interference received, including interference that may cause undesired operation.

This equipment requires shielded interface cables in order to meet FCC class B limit.
Any unauthorized changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

For Canada

NOTICE

This Class B digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

AVIS

Cet appareil numérique de la classe B respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

For C.A. US (Proposition 65)

WARNING

This product contains chemicals known to cause cancer, birth defects and other reproductive harm, including lead.

For the USA

DECLARATION OF CONFORMITY Compliance Information Statement

Model Name : R-88
Type of Equipment : Portable Recorder
Responsible Party : Roland Corporation U.S.
Address : 5100 S. Eastern Avenue, Los Angeles, CA 90040-2938
Telephone : (323) 890-3700

For EU Countries

UK This symbol indicates that in EU countries, this product must be collected separately from household waste, as defined in each region. Products bearing this symbol must not be discarded together with household waste.

DE Dieses Symbol bedeutet, dass dieses Produkt in EU-Ländern getrennt vom Hausmüll gesammelt werden muss gemäß den regionalen Bestimmungen. Mit diesem Symbol gekennzeichnete Produkte dürfen nicht zusammen mit den Hausmüll entsorgt werden.

FR Ce symbole indique que dans les pays de l'Union européenne, ce produit doit être collecté séparément des ordures ménagères selon les directives en vigueur dans chacun de ces pays. Les produits portant ce symbole ne doivent pas être mis au rebut avec les ordures ménagères.

IT Questo simbolo indica che nei paesi della Comunità europea questo prodotto deve essere smaltito separatamente dai normali rifiuti domestici, secondo la legislazione in vigore in ciascun paese. I prodotti che riportano questo simbolo non devono essere smaltiti insieme ai rifiuti domestici. Ai sensi dell'art. 13 del D.Lgs. 25 luglio 2005 n. 151.

ES Este símbolo indica que en los países de la Unión Europea este producto debe recogerse aparte de los residuos domésticos, tal como esté regulado en cada zona. Los productos con este símbolo no se deben depositar con los residuos domésticos.

PT Este símbolo indica que nos países da UE, a recolha deste produto deverá ser feita separadamente do lixo doméstico, de acordo com os regulamentos de cada região. Os produtos que apresentem este símbolo não deverão ser eliminados juntamente com o lixo doméstico.

NL Dit symbool geeft aan dat in landen van de EU dit product gescheiden van huishoudelijk afval moet worden aangeboden, zoals bepaald per gemeente of regio. Producten die van dit symbool zijn voorzien, mogen niet samen met huishoudelijk afval worden verwijderd.

DK Dette symbol angiver, at i EU-lande skal dette produkt opsamles adskilt fra husholdningsaffald, som defineret i hver enkelt region. Produkter med dette symbol må ikke smides ud sammen med husholdningsaffald.

NO Dette symbolet indikerer at produktet må behandles som spesialavfall i EU-land, iht. til retningslinjer for den enkelte regionen, og ikke kastes sammen med vanlig husholdningsavfall. Produkter som er merket med dette symbolet, må ikke kastes sammen med vanlig husholdningsavfall.

SE Symbolen anger att i EU-länder måste den här produkten kasseras separat från hushållsavfall, i enlighet med varje regions bestämmelser. Produkter med den här symbolen får inte kasseras tillsammans med hushållsavfall.

FI Tämä merkintä ilmaisee, että tuote on EU-maissa kerättävä erillään kotitalousjätteistä kunkin alueen voimassa olevien määräysten mukaisesti. Tällä merkinnällä varustettuja tuotteita ei saa hävittää kotitalousjätteiden mukana.

HU Ez a szimbólum azt jelenti, hogy az Európai Unióban ezt a terméket a háztartási hulladéktól elkülönítve, az adott régióban érvényes szabályozás szerint kell gyűjteni. Az ezzel a szimbólummal ellátott termékeket nem szabad a háztartási hulladék közé dobni.

PL Symbol oznacza, że zgodnie z regulacjami w odpowiednim regionie, w krajach UE produktu nie należy wyrzucać z odpadami domowymi. Produktów opatrzonych tym symbolem nie można utylizować razem z odpadami domowymi.

CZ Tento symbol udává, že v zemích EU musí být tento výrobek sbírán odděleně od domácího odpadu, jak je určeno pro každý region. Výrobky nesoucí tento symbol se nesmí vyhazovat spolu s domácím odpadem.

SK Tento symbol vyjadruje, že v krajinách EÚ sa musí zber tohto produktu vykonávať oddelene od domového odpadu, podľa nariadení platných v konkrétnej krajine. Produkty s týmto symbolom sa nesmú vyhadzovať spolu s domovým odpadom.

EE See sümbol näitab, et EL-i maades tuleb see toode olemprügist eraldi koguda, nii nagu on igas piirkonnas määratletud. Selle sümboliga märgitud tooteid ei tohi ära visata koos olmeprügiga.

LT Šis simbolis rodo, kad ES šalyse šis produktas turi būti surenkamas atskirai nuo buitinių atliekų, kaip nustatyta kiekviename regione. Šiuo simboliu paženklinti produktai neturi būti išmetami kartu su buitinėmis atliekomis.

LV Šis simbols norāda, ka ES valstīs šo produktu jāievāc atsevišķi no mājsaimniecības atkritumiem, kā noteikts katrā reģionā. Produktus ar šo simbolu nedrīkst izmest kopā ar mājsaimniecības atkritumiem.

SI Ta simbol označuje, da je treba proizvod v državah EU zbirati ločeno od gospodinjskih odpadkov, tako kot je določeno v vsaki regiji. Proizvoda s tem znakom ni dovoljeno odlagati skupaj z gospodinjskimi odpadki.

GR Το σύμβολο αυτό υποδηλώνει ότι στις χώρες της Ε.Ε. το συγκεκριμένο προϊόν πρέπει να συλλέγεται χωριστά από τα υπόλοιπα οικιακά απορρίμματα, σύμφωνα με όσα προβλέπονται σε κάθε περιοχή. Τα προϊόντα που φέρουν το συγκεκριμένο σύμβολο δεν πρέπει να απορρίπτονται μαζί με τα οικιακά απορρίμματα.

For China

有关产品中所含有害物质的说明

本资料就本公司产品中所含的特定有害物质及其安全性予以说明。

本资料适用于 2007 年 3 月 1 日以后本公司所制造的产品。

环保使用期限

此标志适用于在中国国内销售的电子信息产品，表示环保使用期限的年数。所谓环保使用期限是指在自制造日起的规定期限内，产品中所含的有害物质不致引起环境污染，不会对人身、财产造成严重的不良影响。

环保使用期限仅在遵照产品使用说明书，正确使用产品的条件下才有效。

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产品中有毒有害物质或元素的名称及含量

部件名称	有毒有害物质或元素					
	铅(Pb)	汞(Hg)	镉(Cd)	六价铬(Cr(VI))	多溴联苯(PBB)	多溴二苯醚(PBDE)
外壳（壳体）	×	○	○	○	○	○
电子部件（印刷电路板等）	×	○	×	○	○	○
附件（电源线、交流适配器等）	×	○	○	○	○	○

○：表示该有毒有害物质在该部件所有均质材料中的含量均在 SJ/T11363-2006 标准规定的限量要求以下。

×：表示该有毒有害物质至少在该部件的某一均质材料中的含量超出 SJ/T11363-2006 标准规定的限量要求。
因根据现有的技术水平，还没有什么物质能够代替它。

Roland

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