Roland

REAC

R-1000

48-TRACK RECORDER / PLAYER

Owner's Manual

Before using this unit, carefully read the sections entitled: "IMPORTANT SAFETY INSTRUCTIONS" (p. 2), "USING THE UNIT SAFELY" (p. 3), and "IMPORTANT NOTES" (p. 5). 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.

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* Roland and REAC are either registered trademarks or trademarks of Roland Corporation in the United States and/or other countries.
* All product names mentioned in this document are trademarks or registered trademarks of their respective owners.

WARNING: To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture.

CAUTION

RISK OF ELECTRIC SHOCK
DO NOT OPEN

ATTENTION: RISQUE DE CHOC ELECTRIQUE NE PAS OUVRIR

CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK,
DO NOT REMOVE COVER (OR BACK).
NO USER-SERVICEABLE PARTS INSIDE.
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated dangerous voltage within the product s enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.

INSTRUCTIONS PERTAINING TO A RISK OF FIRE, ELECTRIC SHOCK, OR INJURY TO PERSONS.

IMPORTANT SAFETY INSTRUCTIONS
SAVE THESE INSTRUCTIONS

WARNING - When using electric products, basic precautions should always be followed, including the following:

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with a dry cloth.
7. Do not block any of the ventilation openings. Install in accordance with the manufacturers instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11. Only use attachments/accessories specified by the manufacturer.
12. Unplug this apparatus during lightning storms or when unused for long periods of time.
13. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

For the U.K.

WARNING: THIS APPARATUS MUST BE EARTHED
IMPORTANT: THE WIRES IN THIS MAINS LEAD ARE COLOURED IN ACCORDANCE WITH THE FOLLOWING CODE.
GREEN-AND-YELLOW: EARTH, 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 GREEN-AND-YELLOW must be connected to the terminal in the plug which is marked by the letter E or by the safety earth symbol ⏚ or coloured GREEN or GREEN-AND-YELLOW.

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.

CAUTION: Danger of explosion if battery is incorrectly replaced.
Replace only with same or equivalent type.

USING THE UNIT SAFELY

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

About ⚠WARNING and ⚠CAUTION Notices

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

About the Symbols

⚠	The △ symbol alerts the user to important instructions or warnings.The specific meaning of the symbol is determined by the design contained within the triangle. In the case of the symbol at left, it is used for
	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

- Connect mains plug of this model to a mains socket outlet with a protective earthing connection.

- 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.

- Never install the unit in any of the following 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.

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

- The unit should be connected to a power supply only of the type described in the operating instructions, or as marked on the rear side of the unit.

- 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!

⚠WARNING

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

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

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

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

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

⚠ WARNING

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

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

- Keep lithium batteries out of reach of small children. If a child has accidentally swallowed a battery, see a doctor immediately.

- Lithium batteries must never be recharged, heated, taken apart, or thrown into a fire or water.

- Never expose Lithium Battery to excessive heat such as sunshine, fire or the like.

⚠ CAUTION

- The unit should be located so that its location or position does not interfere with its proper ventilation.

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

- At regular intervals, you should unplug the power plug 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.

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

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

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

⚠ CAUTION

- Before moving the unit, disconnect the power plug from the outlet, and pull out all cords from external devices.

- Before cleaning the unit, turn off the power and unplug the power cord from the outlet (p. 14).

- Whenever you suspect the possibility of lightning in your area, pull the plug on the power cord out of the outlet.

- Use only the specified type (model no. CR2032) of lithium battery (p. 15). Be sure to insert it as directed (to ensure correct polarity).

- Used lithium 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.

- Install only the specified removable storage (p. 17). Remove only the specified screws (p. 18).

- To prevent accidental ingestion of the parts listed below, always keep them out of the reach of small children.
  - Included Parts
    REAC Connector Cover (p. 13)
    Ferrite Core (p. 13)
    Rubber Foot (p. 11)
  - Removable Parts
    Fastening Screws of Rack Mount Angles (p. 12)

- If you remove the following parts, 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.
  - Removable Parts
    Ground Terminal Screw (p. 23)
    Battery Cover (p. 15)
    Fastening Screws of Battery Cover (p. 15)
    Fastening Screws of Rack Mount Angles (p. 12)

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 (such as a refrigerator, washing machine, microwave oven, or air conditioner), or that contains a motor. Depending on the way in which the electrical appliance is used, power supply noise may cause this unit to malfunction or may produce audible noise. If it is not practical to use a separate electrical outlet, connect a power supply noise filter between this unit and the electrical outlet.
- Before connecting this unit to other devices, turn off the power to all units. This will help prevent malfunctions and/or damage to speakers or other devices.
- Although the LCD and LEDs are switched off when the POWER switch is switched off, this does not mean that the unit has been completely disconnected from the source of power. If you need to turn off the power completely, first turn off the POWER switch, then unplug the power cord from the power outlet. For this reason, the outlet into which you choose to connect the power cord's plug should be one that is within easy reach and readily accessible.

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 put anything that contains water (e.g., flower vases) on this unit. Also, avoid the use of insecticides, perfumes, alcohol, nail polish, spray cans, etc., near the unit. Swiftly wipe away any liquid that spills on the unit using a dry, soft 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 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.

Memory Backup

- This unit contains a battery which powers the unit's memory circuits while the main power is off. When this battery becomes weak, the message shown below will appear in the display.
  [Internal battery is low]
  Once you see this message, have the battery replaced with a fresh one as soon as possible to avoid the loss of all data in memory. To have the battery replaced, consult with your retailer, the nearest Roland Service Center, or an authorized Roland distributor, as listed on the "Information" sheet.

Additional Precautions

- Please be aware that the contents of memory can be irretrievably lost as a result of a malfunction, or the improper operation of the unit. To protect yourself against the risk of loosing important data, we recommend that you periodically write your settings on paper.
- Unfortunately, it may be impossible to restore the contents of data that was stored on unit's memory, USB storage or removable storage once it has been lost. Roland Corporation assumes no liability concerning such loss of data.
- Use a reasonable amount of care when using the unit's buttons, sliders, or other controls; and when using its jacks and connectors. Rough handling can lead to malfunctions.
- Never strike or apply strong pressure to the display.
- When connecting / disconnecting all cables, grasp the connector itself—never pull on the cable. This way you will avoid causing shorts, or damage to the cable's internal elements.
- A small amount of heat will radiate from the unit during normal operation.
- To avoid disturbing your neighbors, try to keep the unit's volume at reasonable levels (especially when it is late at night).
- When you need to transport the unit, package it in the box (including padding) that it came in, if possible. Otherwise, you will need to use equivalent packaging materials.

Before Using Removable Storages

- Carefully insert the removable storage all the way in removable storage bay until it is firmly in place.
- Carefully connect an external storage like USB device to the external storage port. When inserting the USB cable for external storage, be careful to orient the front and back correctly and insert it in the correct direction, and insert the cable firmly all the way into the connector. Never insert using undue force.
- Never touch the terminals of the removable storage or external storage. Also, avoid getting the terminals dirty.
- Removable storages or external storages like USB devices are constructed using precision components; handle the storages carefully, paying particular note to the following.
  - To prevent damage to the storages from static electricity, be sure to discharge any static electricity from your own body before handling the storages.
  - Do not touch or allow metal to come into contact with the contact portion of the storages.
  - Do not bend, drop, or subject storages to strong shock or vibration.
  - Do not keep storages in direct sunlight, in closed vehicles, or other such locations.
  - Do not allow storages to become wet.
  - Do not disassemble or modify the storages.

Handling Removable Storage

- Once a removable storage fails to function normally, all data that has been stored on it could be destroyed. {All removable storages eventually wear out.} We recommend that you consider the removable storage not as a permanent storage site, but as a place to store data temporarily. We also recommend that you back up important performance and image data that cannot be recorded again onto the external media that is supported by your device. For instructions on how to make such backups, refer to the owner's manual for your device. Note that Roland assumes no liability whatsoever, including monetary compensation, for the loss of any recorded content in the event of the malfunction of, or physical damage to the removable storage, or for any direct or incidental damages resulting from the loss of such data.
- Certain removable storage setup procedures and usage conditions may result in the corruption of recorded data, malfunctioning, or physical damage to the disk, so be sure to observe the following precautions.
  - Do not subject the hard disk to vibration or shock, especially while the unit is in operation.
  - Do not set up the unit in any location where it may be affected by vibration from external sources, or on any surface that is not stable and level.
  - If the device includes a cooling fan, ensure that the fan and the side panel air vents remain unobstructed.
  - Do not leave the unit in any environment subject to temperature extremes; for example, in a closed automobile in summer or outdoors during winter.
  - Do not use the unit in conditions of high temperature and humidity or in any location subject to rapid temperature changes.
  - Do not unplug the power cord or switch off any circuit breakers in the circuit to which the unit is connected while the power is turned on.
  - Do not move the unit while the power is turned on or immediately after turning off the power. When transporting the unit, first turn off the power and confirm that the display screen has gone off, disconnect the power plug, then wait at least two minutes before moving the device.
- The following procedures are to be used as emergency measures only, and are not recommended for normal operation.
  - If the device fails to respond to operational commands or does not complete operations, turn off the power. If the power does not shut off following normal shutdown procedures, disconnect the power plug.
  - If the unit does not operate normally when the power is turned on again, it may mean that the removable storage has been damaged. In such instances, consult your dealer or the nearest Roland Service Center. Note, however, that it may not be possible to recover any data from the hard disk once it has been lost.
  - If your device features drive check capabilities, use the drive check function to regularly confirm that there are no problems, even when the device is operating normally.
  - For more detailed information on the shutdown and drive check procedures, refer to the Owner's Manual.

Copyright

- Recording, duplication, distribution, sale, lease, performance, or broadcast of copyrighted material (musical works, visual works, broadcasts, live performances, etc.) belonging to a third party in part or in whole without the permission of the copyright owner is forbidden by law.
- Do not use this unit for purposes that could infringe on a copyright held by a third party. We assume no responsibility whatsoever with regard to any infringements of third-party copyrights arising through your use of this unit.

About Intellectual Property Rights

- Recording, duplication, distribution, sale, lease, performance, or broadcast of copyrighted material (musical works, visual works, broadcasts, liver performances, etc.) belonging to a third party in part or in whole without the permissions of copyright owner is forbidden by law.
- 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.

Others

- This product is a Class A digital device for use in other than residential environment. Use of this equipment in a residential environment may cause radio interference requiring the user to take appropriate preventative measures. In such instances, take steps such as using cables with ferrite cores near their connectors.
  For information on specific preventive methods, contact your dealer, the nearest Roland Service Center, or an authorized Roland distributor, as listed on the "Information" sheet.
- When this device is connected to a video cameras or other such Class B equipment, the system as a whole is then classified as a Class A device.

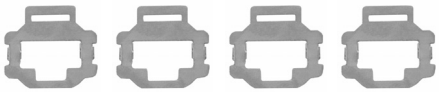
Check the Included Items

The following items are included. Please make sure that all items are present. If anything is missing, please contact your dealer.

R-1000 itself

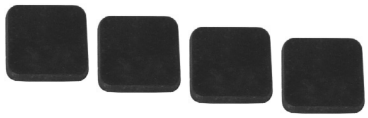
Power cord

REAC connector cover (four)



Ferrite core (four)

Rubber foot (four)



Owner's manual

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.

What's REAC ?

REAC (Roland Ethernet Audio Communication) is a proprietary audio-signal transmission protocol from Roland that is based on Ethernet technology. It provides transmission of uncompressed 24-bit audio signals up to 40 channels bi-directionally. REAC devices are connected using at least Cat 5e (Enhanced Category 5) Ethernet cable.

MMP (Moore Microprocessor Portfolio) refers to a patent portfolio concerned with microprocessor architecture that was developed by Technology Properties Limited (TPL). Roland has licensed this technology from the TPL Group.

Contents

Important Notes on Installation and Connections 11

Important Notes on Installation 11

About the Exhaust Port of the Cooling Fan 11

About Rubber Feet 11

About Rack Mounting 12

Important Notes on Connections 13

About REAC Connector Covers 13

About Ferrite Cores 13

About Cables for REAC Connections 13

Power Supply 14

About Cord Hook 14

About the Internal Lithium Battery 15

Turning the Power On and Off 15

About Removable Storage for Recording 17

About Optional Removable Storage 17

Inserting Removable Storage 18

Formatting Removable Storage 19

Part Names and Functions 21

Front Panel 21

Rear Panel 23

Connecting External Equipment 24

Connecting REAC Devices 24

Before Making REAC Connections 24

Example 1: Recording V-Mixer's Split Output 27

Example 2: Recording Output from Digital Snake Devices 28

Example 3: Performing Multi-track Playback on the R-1000 29

Example 4: Mixing Live Audio with Playback on the R-1000 30

Example 5: Recording Analog Signals Split from the Sources 31

Example 6: Connecting a MADI Device via the S-MADI 32

Connecting Other Peripheral Devices 34

Connecting Monitor Equipment 34

Connecting External Storage 35

Connecting a Computer 35

About REAC Settings 36

About Projects 37

Folder Configuration on Removable Storage 37

Creating a New Project 38

Selecting a Project 39

Saving a Project (SAVE) 39

Deleting a Project 39

Selecting a Song 40

Deleting a Song 41

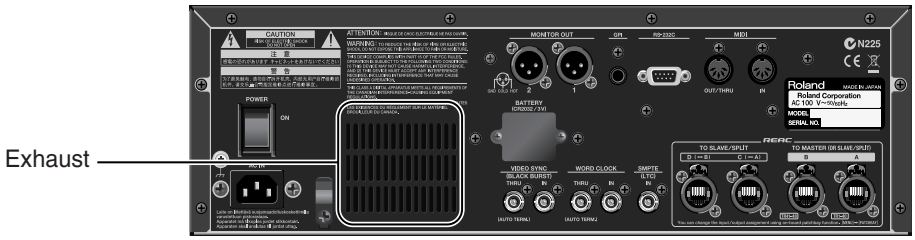
Performing Multi-track Recording 42
Selecting a Recording Track 42
Selecting a Recording Track Automatically 42
Selecting a Recording Track Manually 44
Initiating Recording 49
Operations Possible During Recording 50
Performing Multi-track Playback 51
Playing Back Recorded Data to an Output Channel 51
Starting Playback 53
Useful Features During Playback 54
Indexing Using the SHUTTLE and JOG/VALUE Dials 54
Returning to the Start Location of Playback (CALL) 54
Using the Marker Feature 55
Using the A/B Repeat Play Feature 56
Outputting Audio to Monitor Equipment Only (PREVIEW) 56
About Other Features 57
Locking and Unlocking Panel Operation 57
Changing a Project Name/Song Name/Track Name 58
Copying Recorded Data to External Storage 61
Importing Audio Data 63
Synchronizing the Operation with Video Equipment 64
Returning to the Factory-default State 64
About the Home Screen 65
Menu Operations and Menu List 69
Menu Operations 69
Menu List 71
Appendices 72
Main Specifications 72
About Remote Control 73
Troubleshooting 73
Error Messages 74
Dimensions 75
Index 76

Important Notes on Installation and Connections

Important Notes on Installation

About the Exhaust Port of the Cooling Fan

The R-1000 performs forced cooling by means of a cooling fan, and is provided with an exhaust port at the location shown below.



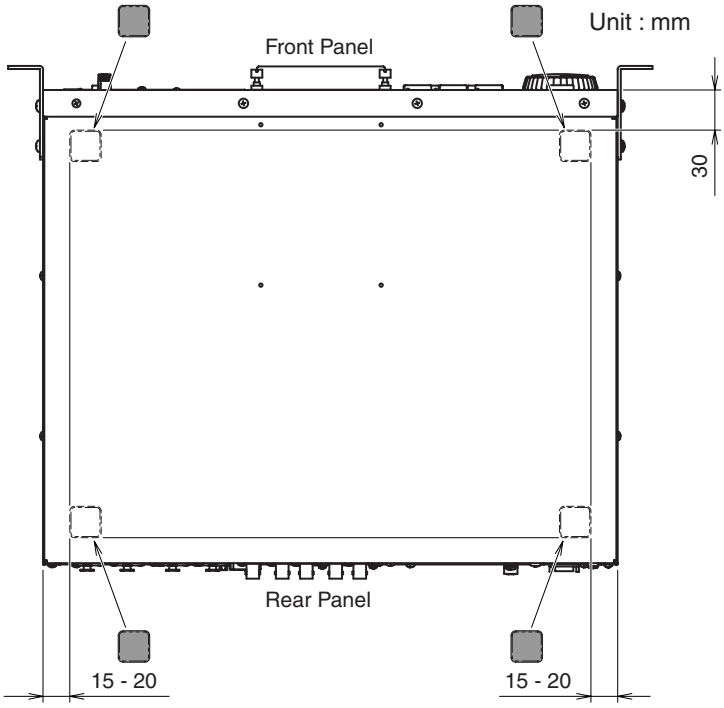
Never obstruct the exhaust port. Doing so may cause the interior temperature of the unit to rise, resulting in malfunction caused by heat. Install the unit so that at least 2 centimeters of space must be left in front of the exhaust port.

* Use a vacuum cleaner to clear away any buildup of dust or the like at the exhaust port.

About Rubber Feet

Attach the included rubber feet if necessary at the locations shown in the figure below.

* When mounting the unit to a rack, be sure to detach the rubber feet.



Other Notes on Installation

* When turning the unit upside-down, get a bunch of newspapers or magazines, and place them under the four corners or at both ends to prevent damage to the buttons and controls. Also, you should try to orient the unit so no buttons or controls get damaged.
* When turning the unit upside-down, handle with care to avoid dropping it, or allowing it to fall or tip over.

About Rack Mounting

You can mount the R-1000 in a 19-inch rack.

NOTE

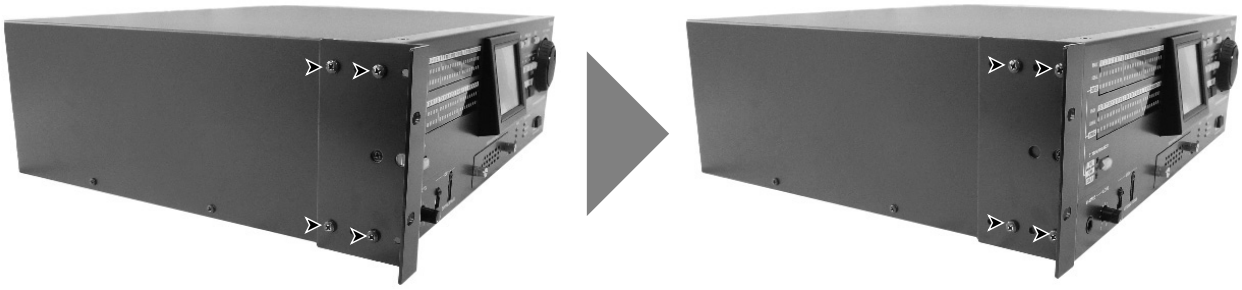
When mounting the unit in a rack, observe the following precautions.

- Install in a well-ventilated location.
- Never obstruct the exhaust port on the R-1000.
- Use an open-type or ventilated rack to ensure that hot air from the exhaust port does not remain inside the rack.
- Never mount the unit in a sealed-type rack. Heated air inside the rack cannot escape, making efficient cooling impossible. If the unit must be mounted in a sealed-type rack, use a rack equipped with a ventilation fan.
- When using the unit while mounted in a portable rack, remove the front and rear rack covers before use to ensure air flow.
- When mounting the unit in a rack, never attach rubber feet to the bottom panel. If they are already attached, remove them prior to mounting.
- Use due caution when mounting the unit in a rack to ensure that your fingers don't get pinched.

Adjusting the Location of the Rack-mount Brackets

You can move the location where the rack-mount brackets are installed on the unit by 16 millimeters. Remove all screws securing the rack-mount brackets (4 on each side, for a total of 8), then mount using screw holes at different locations.

* Before removing any screws, turn off the power to the R-1000 and detach the power cord and all connection cables.



NOTE

When using the unit with the rack-mount brackets detached, pay attention to the following precautions.

- Be sure to occupy the screw holes with the removed screws.
- Never use any screws except the removed ones to occupy the screw holes. Using other screws may cause malfunction.
- When re-installing the rack-mount brackets, turn off the power to the R-1000 and detach the power cord and all connection cables. Also, be sure to install using the original screws.

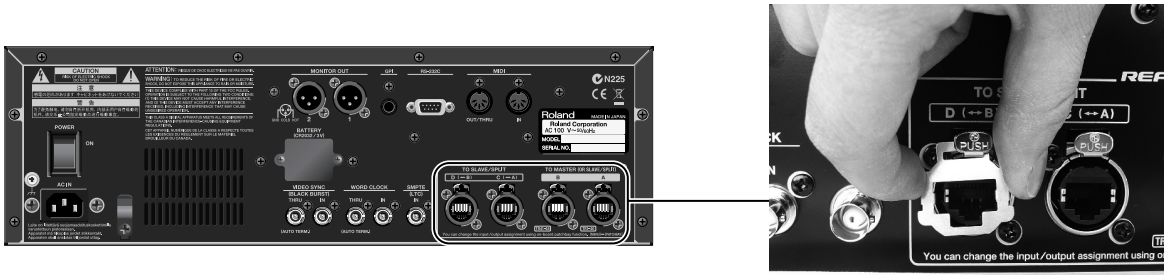
Important Notes on Connections

About REAC Connector Covers

When using commercially available Ethernet cables to connect REAC devices, fit the included REAC connector covers onto the REAC ports. Electromagnetic noise may be a problem if these are left unattached.

* Attaching a REAC connector cover is not necessary when you are using optional REAC cables (described below).

* When using commercially available Ethernet cables, be sure to use cables that conform to the Cat 5e (Enhanced Category 5) standard or higher.

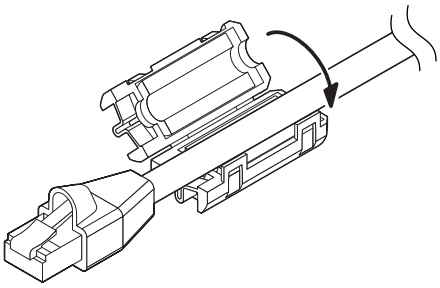


About Ferrite Cores

Four ferrite cores are included with the R-1000. Attach ferrite cores to all REAC cables being connected to the R-1000. Clamp each ferrite core onto the cable at a location near the plug at the end of the cable, pressing down on the ferrite core until it clicks closed.

* When attaching a ferrite core, be careful to avoid pinching your fingers.

* When connecting a REAC device, use a cable that has ferrite cores attached to it.



About Cables for REAC Connections

Observe the following points with respect to the cables used for REAC connections.

- Never use cables with damaged or torn coverings.
- Never step on cables or subject them to undue stress.
- Never wind cables too tightly or bend them over.
- Be sure to use cables that conform to the Cat 5e (Enhanced Category 5) standard or higher.
- No single cable should be longer than 100 meters.

NOTE

Compared to analog transmission, digital transmission of audio signals by means of REAC (Roland Ethernet Audio Communication) is extremely resistant to external noise, but depending on the usage environment, in very rare instances, noise can occur. Selection of the wrong cable and incorrect cable handling are especially likely to cause noise.

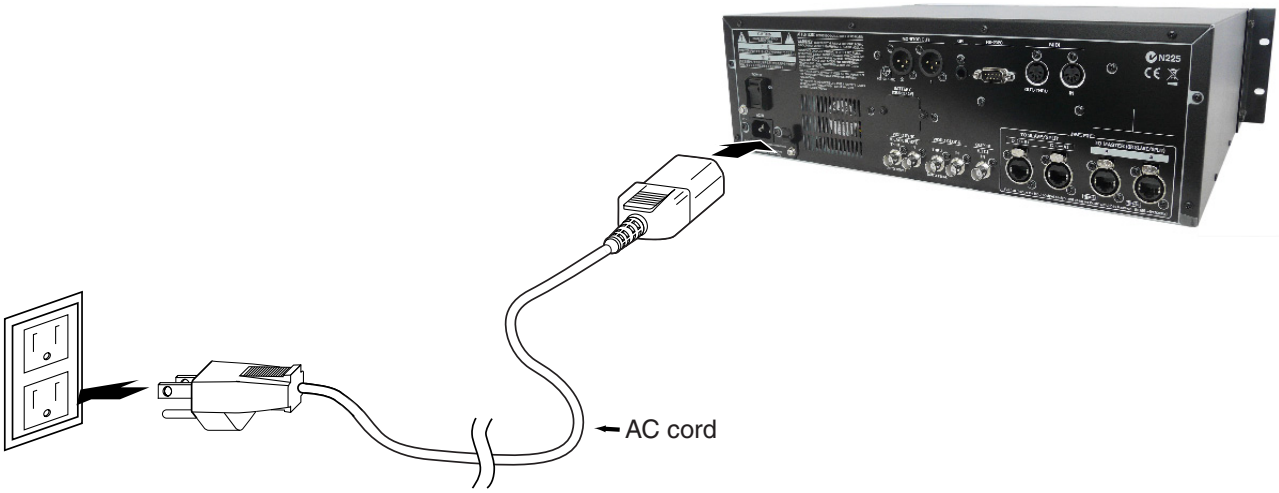
MEMO

To maintain transmission quality, use of the following optional REAC cables is recommended.

- 100-meter cables : SC-W100S (cable only) or W100S-R (with reel)
- 20-meter cables : SC-W20F

Power Supply

Connect the included power cord to the AC INPUT connector on rear panel. Be sure to use the included power cord for connecting the power supply.

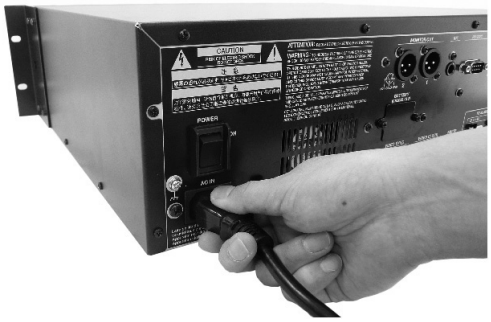


Be sure to connect the power plug only to a power outlet that meets the specifications given on the rating plate. The rating plate is located on the rear panel.

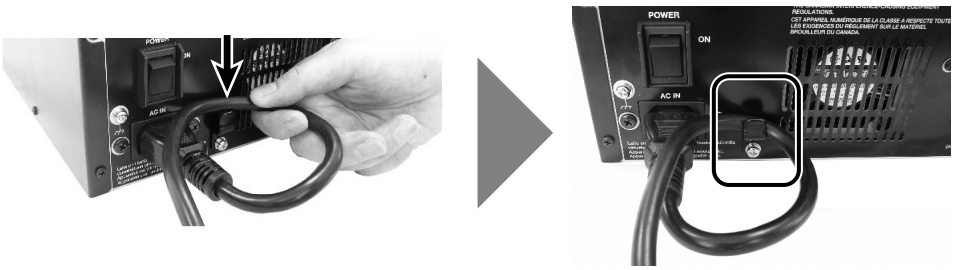
About Cord Hook

Secure the power cord in place using the cord hook as shown below. This can help prevent power loss due to the plug being pulled out if the power cord is accidentally yanked.

1. **Connect the power cord to the AC INPUT connector.**



2. **Secure the power cord in place with the cord hook.**



About the Internal Lithium Battery

The R-1000 has an built-in lithium battery for saving the settings for the unit's calendar/clock. When the battery runs down, the calendar/clock ceases to functioning correctly. If the message "Internal battery is low" appears on the screen, indicating that the battery is nearly dead, replace the battery.

* The replacement battery type is CR2032. Be sure to use a battery of the same type.

1. Disconnect power cord.

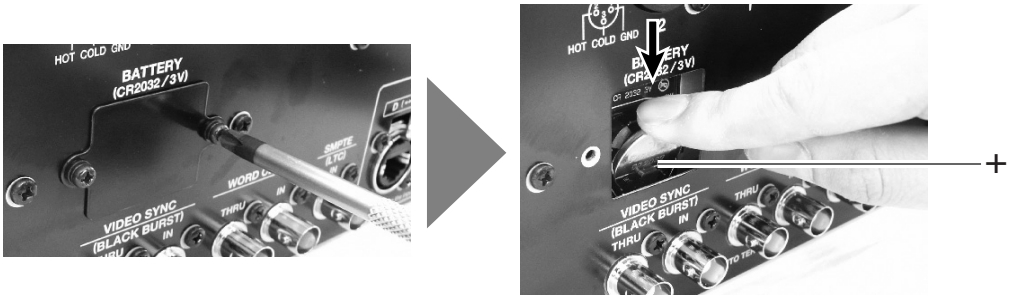
Disconnect the power cord from the R-1000 unit.

2. Remove the BATTERY panel.

Remove the BATTERY panel from the rear panel.

3. Replace the battery.

Take out the old battery and replace it with a fresh one. You can remove or install a battery by pressing down on it. When replacing, be careful not to cut your hand or finger on the opening. Also, be sure that the "+" and "-" sides of the battery are oriented correctly. When inserting, orient so that the positive side is the one facing back toward you (toward the rear panel).



4. Attach the BATTERY panel.

Attach the BATTERY panel removed in step 1 at its original location.

* Be sure to occupy the screw holes with the removed screws. Never use any screws except the removed ones to block the screw holes. Using other screws may cause malfunction.

Turning the Power On and Off

Turning the Power On

Once the connections have been completed (p. 14), turn on power to your various devices in the order specified. By turning on devices in the wrong order, you risk causing malfunction and/or damage to speakers and other devices.

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

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

1. Connect the peripheral devices.

Connect the peripheral devices. Before making the connections, switch off the power to all REAC devices, including the R-1000.

2. Turn the power on.

Set the POWER switch on the rear panel to ON. When the R-1000 starts, the STANDBY button on the front panel lights up green.

*When you start the unit for the first time, the calendar/clock setting screen is displayed on the R-1000's touch-panel display. Follow the steps in the separate "Adjusting the Internal Calendar/Clock" document to set the date and time. On the second and subsequent startups, the home screen (p. 65) is displayed.

3. Turn on the power to the peripheral devices.

Turn on the power to the devices connected to the R-1000.

Turning the Power Off

* When making connections to other devices, to prevent malfunction or damage to speakers or other devices, be sure lower the volume all the way before you switch on the power.
* After powering down all devices, detach the power sources.
* If you need to turn off the power completely, first turn off the POWER switch, then unplug the power cord from the power outlet. Refer to Power Supply (p. 5).

1. Turn off the power to the peripheral devices.

Turn off the power to the devices connected to the R-1000.

2. Put the R-1000 in standby mode.

Press and hold the STANDBY button on the front panel for 2 seconds. The message shown below appears on the display. While this message is displayed, touching [Standby] on the screen makes the color of the STANDBY button change to red and puts the R-1000 in standby mode.

* This message disappears after 5 seconds. When you want to put the unit in standby mode, touch [Standby] within 5 seconds after the message appears.

3. Turn the power off.

Make sure the color of the STANDBY button has changed to red, then switch the POWER switch on the rear panel to OFF.

NOTE

When turning off the power, pay attention to the following points.

- Before turning off the power, be sure to operate the STANDBY button on the front panel to put the R-1000 in standby mode. When the unit is put into standby mode, the color of the STANDBY button changes to red. Turning off the power before going into standby mode can cause corruption of recorded data or malfunction.
- Never disconnect the power cord before turning off the power. Unplugging it before turning off the power can cause malfunction.
- When the unit is put into standby mode without turning off the power, it draws approximately 13 W of power. Turn off the power when not in use.

About Removable Storage for Recording

About Optional Removable Storage

The R-1000 can use the following optional removable storage devices as media for recording.

- Roland HDD-500G (500 GB hard-disk drive)
- Edirol F1-HD120 (120 GB hard-disk drive)
- Edirol F1-SSD64 (64 GB solid-state drive)

* Neither recording nor playback is possible unless an optional removable storage device is inserted in the REMOVABLE STORAGE bay on the front panel.

* Information about added and discontinued options is available at the following Roland website.

http://www.rolandsystemsgroup.net/

NOTE

To avoid the risk of damage to internal components that can be caused by static electricity, please carefully observe the following whenever you handle the removable storage.

- Before you touch the removable storage, always first grasp a metal object (such as a water pipe), so you are sure that any static electricity you might have been carrying has been discharged.
- When handling the removable storage, grasp it only by its case. Avoid touching any of the electronic components or connectors.
- Before you connect any cables, make sure they do not carry a static electricity charge. Such charges can be transmitted, for example, if the other end of the cable has been in contact with a carpet (or other object) where there is a static electricity buildup.

NOTE French language for Canadian Safety Standard

Veuillez suivre attentivement les instructions suivantes quand vous manipulez la stockage afin d'éviter tout risque d'endommagement des pièces internes par l'électricité statique.

- Toujours toucher un objet métallique relié à la terre (comme un tuyau par exemple) avant de manipuler la stockage pour vous décharger de l'électricité statique que vous auriez pu accumuler.
- Lorsque vous manipulez la stockage, la tenir par les cas. Évitez de toucher aux composants ou aux connecteurs.
- Avant de connecter tout câble, assurez-vous qu'il ne contient aucune charge d'électricité statique. De telles charges peuvent être transmises, par exemple, si l'autre extrémité du câble touche à un tapis (ou autre objet) où il y a accumulation d'électricité statique.

About Recording Times

On the respective removable storage devices, you can record for the times shown below on the maximum number of tracks (48 or 24).

* The bit rate of the R-1000 is fixed at 24 bits.

* At 44.1 kHz or 48 kHz, you can record up to 48 tracks. At 96 kHz, recording on up to 24 tracks is possible.

	44.1kHz (48Tr)	48kHz (48Tr)	96kHz (24Tr)
HDD-500G	Approx 1300 min.	Approx 1200 min.	Approx 1200 min.
F1-HD120	Approx 310 min.	Approx 280 min.	Approx 280 min.
F1-SSD64	Approx 160 min.	Approx 150 min.	Approx 150 min.

* Recording times are approximate. Slight variations may occur.

* When multiple projects and songs are recorded, total recording time is less than the figures shown here.

MEMO

The R-1000 saves recorded data in Broadcast Wave Format (BWF). To embed user information in a file, go to the [SYSTEM] menu and select [USER NAME], then type in the user information. For information on menu operations, refer to "Menu Operations and Menu List" (p. 69). Also, for information on operations at the screen for adding a user name, refer to "About the Name Edit Screen" (p. 60).

Inserting Removable Storage

Insert the removable storage device into the REMOVABLE STORAGE bay on the front panel.

NOTE
Do not touch any connection terminals.

NOTE French language for Canadian Safety Standard
Ne pas toucher aux connecteurs.

1. Detach the cover.

Remove the screws for the REMOVABLE STORAGE bay and detach the cover.

2. Insert the removable storage device.

Carefully Insert the removable storage device all the way in until it is firmly in place. When the R-1000 detects the new removable storage device, the message on following page appears on the screen. For information on how to perform formatting, refer to the following page.

NOTE
Install only the specified removable storage (p. 17). Remove only the specified screws.

NOTE French language for Canadian Safety Standard
N'installez que les cartes de amovible stockage spécifiées (p. 17). Enlevez seulement les vis indiquées.

3. Attach the cover.

Attach the cover you detached in step 1. Be sure to fasten it securely using the screws.

NOTE
Give attention to the following points when handling the removable storage device.

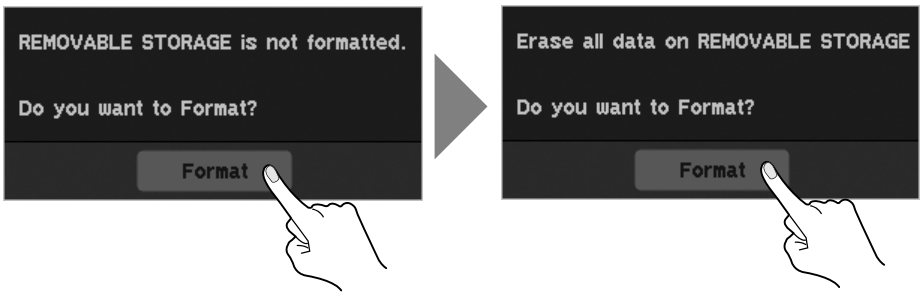
- Be careful to ensure the removable storage device is correctly oriented front to back and with the top facing up, and insert the device securely, as far as it will go. Never insert using undue force.
- Never touch the connector section of the removable storage device with your hand.
- When removing a removable storage device, first make sure the [ACCESS] lamp next to the REMOVABLE STORAGE bay is dark. Removing the device while the [ACCESS] lamp is flashing can cause corruption of recording data.
- When transporting the R-1000, first be sure to remove the removable storage device. Transporting the unit while a removable storage device is inserted can result in corruption of recording data or malfunction of the device.

Formatting Removable Storage

Formatting New Removable Storage

When a new removable storage device is inserted into the REMOVABLE STORAGE bay, the confirmation screens shown below will appear. Touch [Format] at the confirmation screen to start formatting.

* An unformatted removable storage device cannot be used for recording or playback.



MEMO

If a removable storage device that you do not want to format has been inserted, then remove the storage without touching [Format]. Removing the storage makes the confirmation screen disappear.

cf.

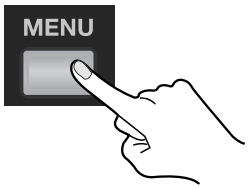
For information on formatting a USB hard disk or other external storage device, refer to "Formatting External Storage" (p. 61).

Re-formatting a Formatted Removable Storage Device

To re-format a previously formatted removable storage, go to the menu on the R-1000 and access the formatting screen.

1. Access the menu.

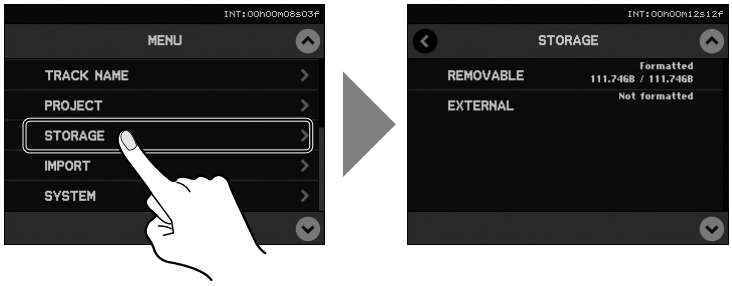
Press the [MENU] button to access the menu.



2. Select [STORAGE].

Select the [STORAGE] menu. The storage devices detected by the R-1000 are displayed.

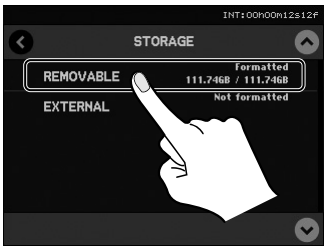
* You can also check the remaining capacity of the storage device at this screen.



3. Select the removable storage device.

Touch [REMOVABLE] to select the removable storage device.

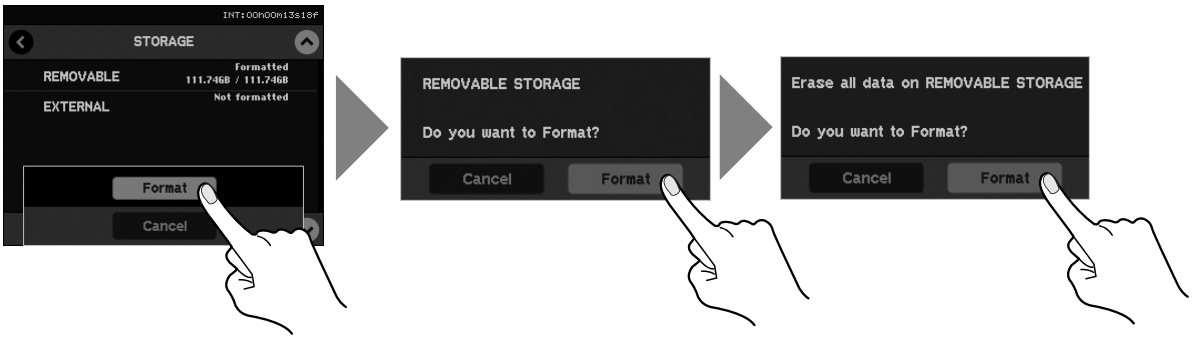
* To format an external storage device connected to the USB port on the front panel, touch [EXTERNAL].



4. Perform formatting.

Touch [Format]. The confirmation screens shown below appear, Touch [Format] to start formatting.

* Touching [Cancel] returns operation to the previous screen.

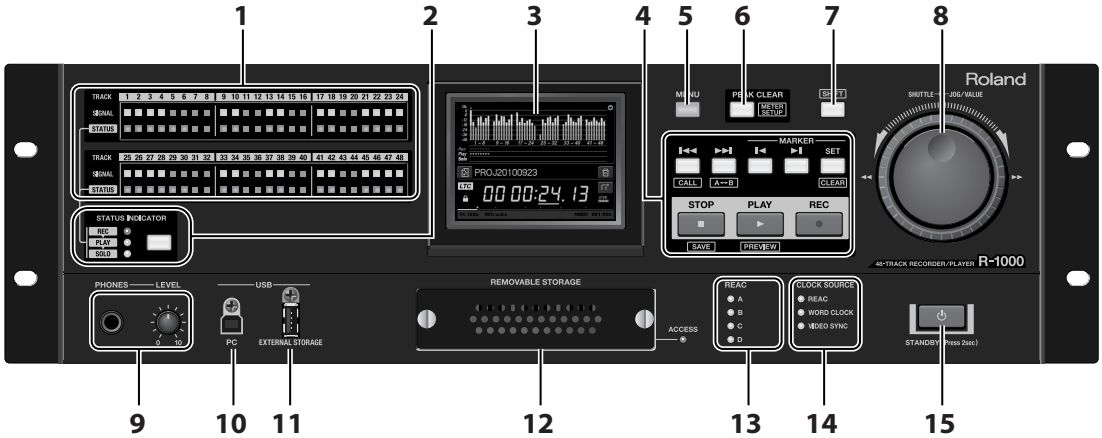


NOTE

Performing this operation causes all data saved on the removable storage to be deleted. Before formatting, first make sure no necessary data is remaining on the storage.

Part Names and Functions

Front Panel



1. SIGNAL/STATUS Indicators

The SIGNAL indicators show whether signals are present on the respective tracks.

The STATUS indicators show whether the tracks are for recording, playback or solo use.

2. STATUS INDICATOR Button

Operating the STATUS INDICATOR button lets you select from the below for the display of the STATUS indicators.

- REC
  This indicates tracks selected for recording. The indicator for the selected track lights up red (p. 42).
- PLAY
  This indicates a track selected for playback. The indicator for the selected track lights up green (p. 51).
- SOLO
  This indicates a track selected for solo playback. The indicator for the selected track lights up yellow (p. 52).

3. Touch-panel Display

This displays recording or playback levels and recording times for the respective tracks. You can also use the touch panel to make various settings on the R-1000.

* When you start the unit for the first time, the calendar/clock setting screen is displayed. Follow the steps in the separate "Adjusting the Internal Calendar/Clock" document to set the date and time. On the second and subsequent startups, the home screen (p. 65) is displayed.

4. Recording/Playback Control Buttons (p. 49, p. 53)

In addition to recording and playback, you can use these to set markers and the location for repeat playback.

5. MENU Button (p. 69)

Pressing this makes the button light up and displays the menu for the R-1000 on the touch-panel display. For information on menu items, refer to "Menu Operations and Menu List" (p. 71).

6. PEAK CLEAR Button

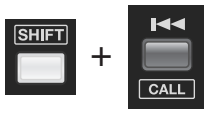
Pressing this lets you clear the peak indication on the level meter.

7. SHIFT Button

Holding down the SHIFT button and pressing one of the following buttons to changes the function of the pressed button.

- METER SETUP (p. 48)
  Hold down the [SHIFT] button and press this call up setting screen for the level meter. Pressing this button without holding down the [SHIFT] button clears the peak indication on the level meter.

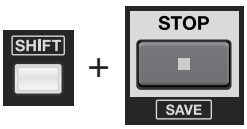
- CALL (p. 54)
  Hold down the [SHIFT] button and press this makes the current position to return to the location where playback was started. Pressing this button without holding down the [SHIFT] button returns the current position to the beginning of the song.



- A<->B (p. 56)
  Hold down the [SHIFT] button and press this to perform repeat playback of a passage between two points in the song (A-B).

- CLEAR (p. 55)
  Hold down the [SHIFT] button and press this to erase the marker immediately before the current location. Pressing this button without holding down the [SHIFT] button lets you add a marker in the current song.

- SAVE (p. 39)
  Hold down the [SHIFT] button and press this to save the current project. Pressing this button without holding down the [SHIFT] button stops recording or playback.



- PREVIEW (p. 56)
  Hold down the [SHIFT] button and press this to output audio to the monitors only, without performing REAC output. Pressing this button without holding down the [SHIFT] button starts playback to equipment connected to the REAC ports.

8. SHUTTLE and JOG/VALUE Dials (p. 54)

This indexes the playback-start position. Turning the outer [SHUTTLE] dial rapidly moves the current position forward and backward. Turning the inner [JOG/VALUE] dial lets you perform precise indexing. You can also use the [JOG/VALUE] dial to change the value when making various settings.

9. PHONES Jack and LEVEL Control (p. 34)

This is the jack for connecting headphones and the control for level adjustment. The audio output to the headphones is the same as the audio that is output to the two MONITOR OUT connectors on the rear panel.

10. PC Port (p. 35)

Connect a computer where dedicated software is installed. You can remote control R-1000 unit from your computer.

cf.
For information on remote control from a computer, refer to “About Remote Control” (p. 73).

11. EXTERNAL STORAGE Port (p. 35)

This port is for connecting a USB memory stick, USB hard disk, or other external storage device. You can use this to copy recording data saved on removable storage to an external storage device.

12. REMOVABLE STORAGE Bay (p. 18)

Insert a removable storage device describe in “About Removable Storage for Recording.” The [ACCESS] lamp flashes during access for recording or playback.

NOTE
When removing a removable storage device, first make sure the [ACCESS] lamp next to the REMOVABLE STORAGE bay is dark. Removing the device while the [ACCESS] lamp is flashing can cause corruption of recording data.

13. REAC Indicators (p. 24)

These indicate the status of connected REAC devices. They light up when communication has been established with devices connected to the respective ports. They flash during standby until communication is established. The indicators for ports where no REAC device is connected remain dark.

14. CLOCK SOURCE Indicators

These indicate the sampling-clock source.

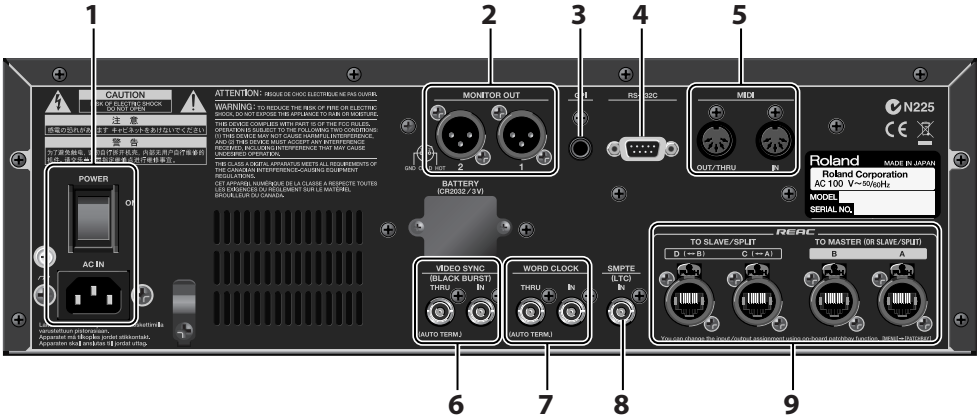
- REAC
  The R-1000’s internal clock or the clock from a connected REAC master device is used as the source.
- WORD CLOCK
  The clock from a word-clock generator or other device connected to the WORD CLOCK IN connector is used as the source.
- VIDEO SYNC
  The clock from a black-burst generator or other device connected to the VIDEO SYNC IN connector is used as the source.

15. STANDBY Button (p. 16)

This puts the R-1000 in standby mode. To put the unit in standby mode, press and hold the button for 2 seconds or longer.

NOTE
Never turn off the power without first putting the unit in standby mode. Turning off the power when the unit is not in standby mode might cause data corruption or malfunction.

Rear Panel



1. AC IN Connector and POWER Button

Connect the included power cord here. Use the POWER switch to turn the R-1000 on and off.

2. MONITOR OUT Connectors

Connect monitor speakers here. A mono mix of all channels and tracks is output.

* The same mono audio is output from the [1] and [2] connectors.

3. GPI Connector

Connect foot switches and devices capable of GPI output here.

4. RS-232C Connector

Connect a computer or other equipment capable of RS-232C serial output here.

5. MIDI Connectors

You can remote control recording, playback, and other operations from an external MIDI device.

cf.

For information on operating the unit remotely from a GPI, RS-232C, or MIDI device, refer to “About Remote Control” (p. 73).

6. VIDEO SYNC Connectors

When you are synchronizing the R-1000 with a video source, connect a black-burst generator or other source here.

* For thru-out, use the [THRU] connector.

7. WORD CLOCK Connectors

For synchronization to an external sampling clock, connect the word-clock generator or other sampling-clock source here.

* For thru-out, you use the [THRU] connector.

8. SMPTE Connector

For synchronization to an SMPTE timecode, connect a timecode generator here.

9. REAC Connectors

Connect a digital snake device, V-Mixer, and other REAC devices here. For information on how to make the connections, refer to “Connecting REAC Devices” (p. 24).

About Functional Ground Terminal

You can use the ground terminal shown below to connect the unit to an external ground in order to eliminate ground-related noise problem.

However, never connect the unit to any of the following locations.

- 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)

Connecting External Equipment

Connecting REAC Devices

Before Making REAC Connections

About the Sampling Rate

The R-1000 cannot convert the sampling rate. Make the sampling rates of all connected REAC devices identical with the sampling rate of the REAC master device. Mis-matched sampling rates will result in a failure of audio transmission.

About REAC Connector Covers and Ferrite Cores

Refer to “About REAC Connector Covers” (p. 13) and “About Ferrite Cores” (p. 13). Attach REAC connector covers and ferrite cores to the REAC ports and cables before making your REAC connections.

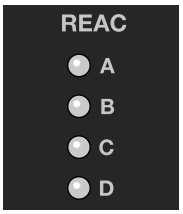
* Attaching the REAC connector cover is not necessary when you are using an optional REAC cable (SC-W100S, W100S-R, or SC-W20F).

About Cables

Refer to “About Cables for REAC Connections” (p. 13) and make the connections using suitable cables. Using unsuitable cables can cause noise or other problems.

About the REAC Indicators

When you connect REAC devices to the R-1000, communication with the connected REAC devices starts and the REAC indicators corresponding to REAC ports (A-D) flash. When communication with the REAC devices is established, the REAC indicator stop flashing and remain steadily illuminated. No audio input or output is possible until the indicators stop flashing and remain steadily illuminated.

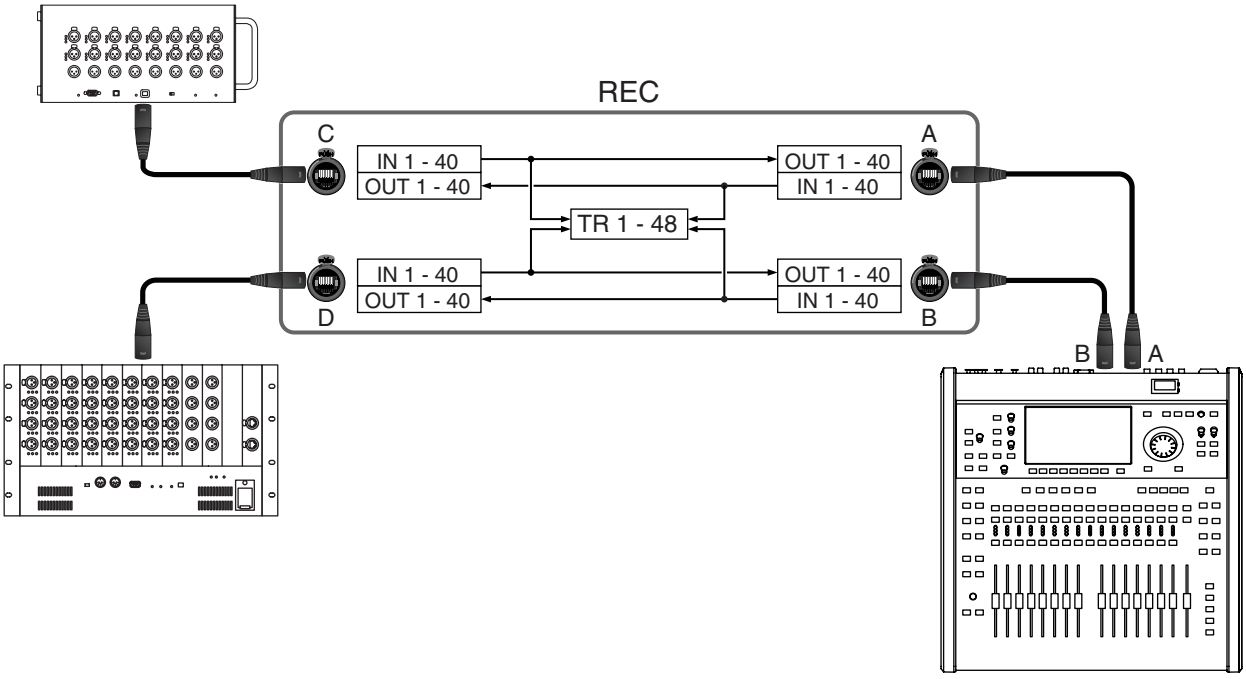


About Internal REAC Connections

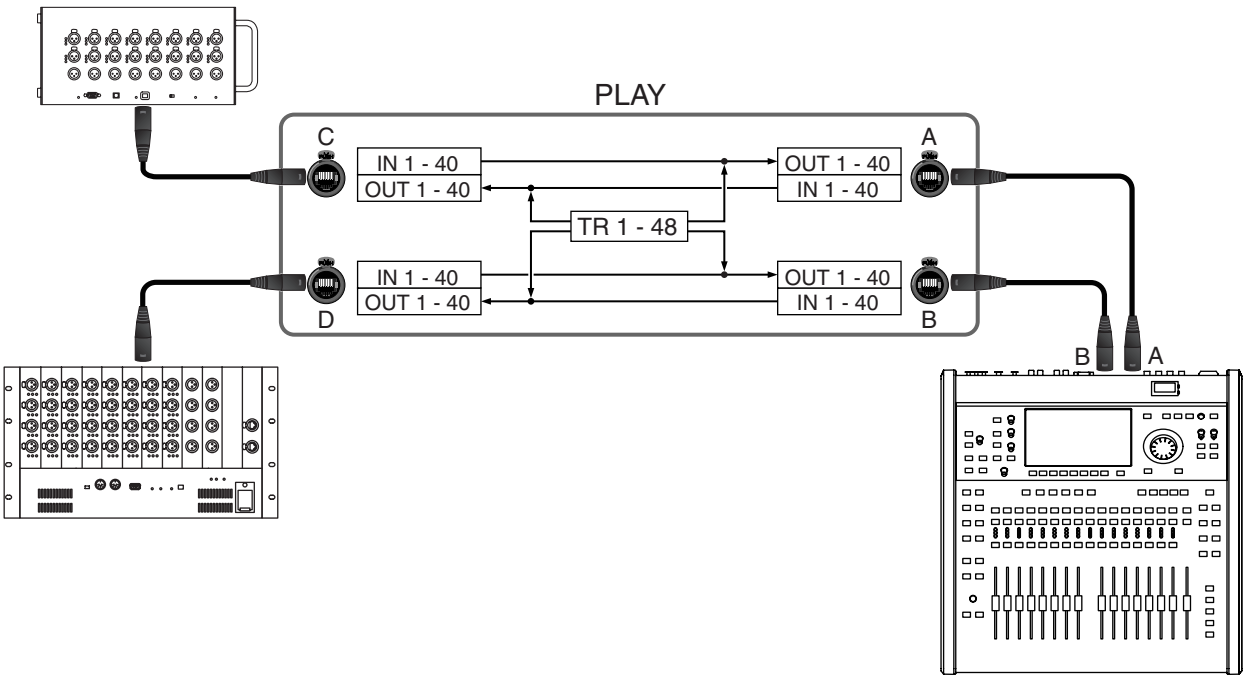
Inside of the R-1000, REAC C/A and REAC D/B are connected as figures below. This enables the input/output between :

- devices connected to C and A
- devices connected to D and B

While recording, the internal REAC signal flow of the R-1000 is as below.



During playback, the internal REAC signal flow is changed as below.



NOTE

However, if track playback is assigned to output channel according to the [Assign the recorded data to an output channel] (p. 51), input from external REAC device is cancelled and R-1000's track playback is assigned to REAC output.

About the Clock Source

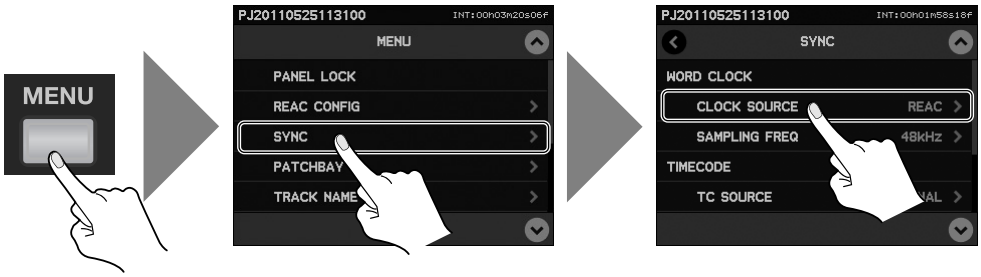
The connection examples (1 through 6) in this chapter all use [REAC] as the clock source. When the default settings are in effect, [REAC] is set to be the clock source. If this has been changed to a different source, follow the procedure described below to return it to [REAC].

* You can check the current clock source with [CLOCK SOURCE] indicators on the front panel.

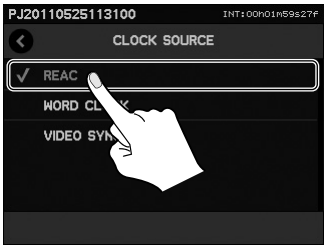
* For information on using the menus, also refer to “Menu Operations and Menu List” (p. 69).

1. Display the menu for the synchronization settings.

Press the [MENU] button to display the menu screen, then select [SYNC]. Then select [CLOCK SOURCE].



2. Select [REAC].



3. Go back to the home screen.

Press the [MENU] button to return to the home screen.

MEMO

When you are making settings on the menu screen, you can go back one screen by touching the icon below on the touch panel. When you want to redo an item selection, touch this icon to go back to the previous screen.

Example 1: Recording V-Mixer's Split Output

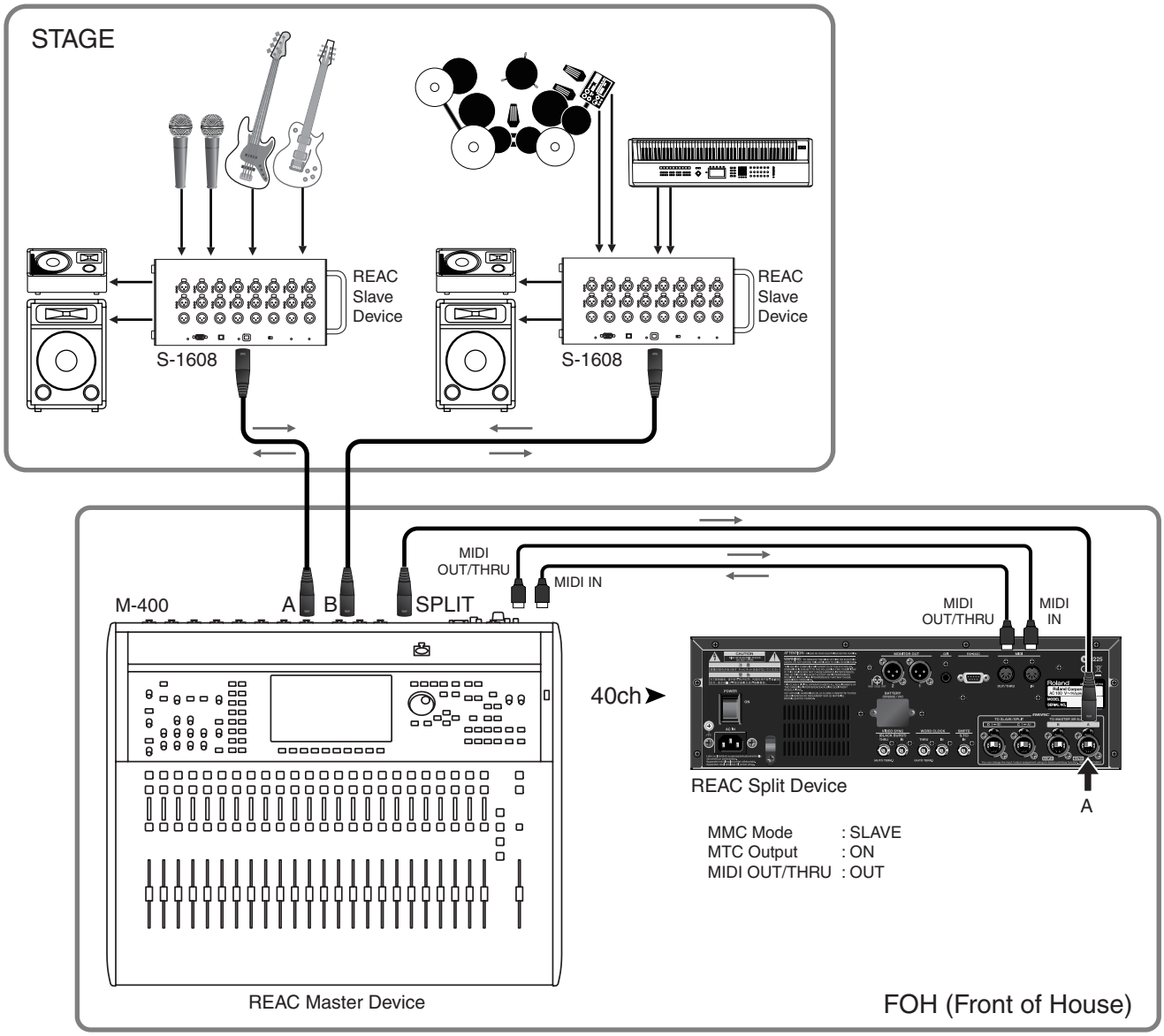
To make the R-1000 record 40 channels of split output from the REAC SPLIT OUT connectors on a V-Mixer, make the connections as shown below. For this connection, set the REAC setting on the R-1000 to "REAC ONLY." Refer to "About REAC Settings" (p. 36).

* Connect REAC A/B on the V-Mixer to the digital snake device at the stage.

* Connect REAC SPLIT on the V-Mixer to the [TO MASTER] REAC port on the R-1000. If you are using the unit with the factory-default settings unchanged, make the connection to the [A] port.

MEMO

MIDI connecting between the R-1000 and the V-Mixer enables you to remote control start and stop of recording on the R-1000 from the V-Mixer. Refer to "About Remote Control" (p. 73).



Set the REAC modes on the devices as shown below. For information on setting the REAC modes on the V-Mixer and the digital snake device, refer to the owner's manual for each products.

- V-Mixer Master
- Digital snake device Slave

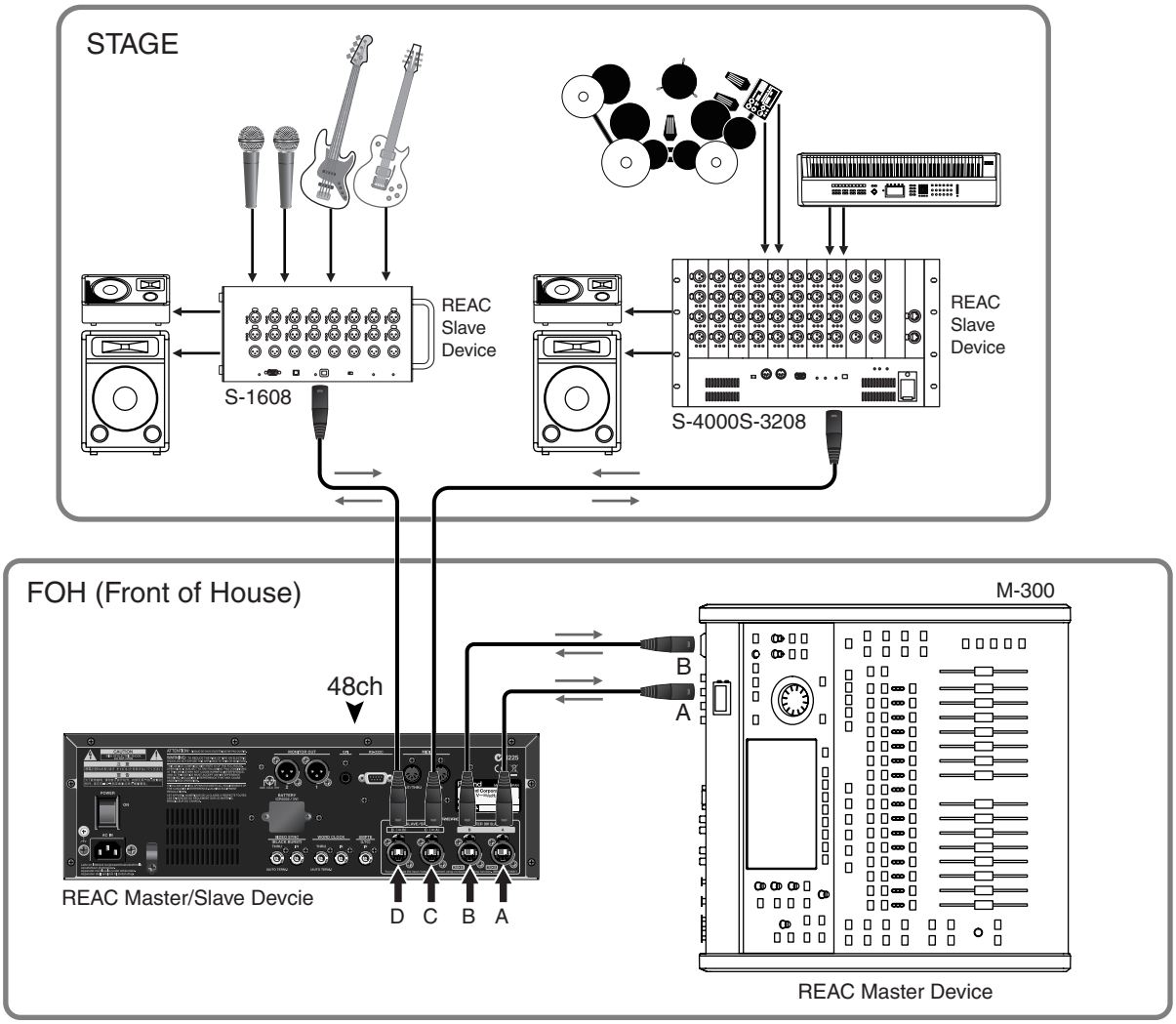
Example 2: Recording Output from Digital Snake Devices

Connecting digital snake devices and a V-Mixer via the R-1000 enables you to record the output of the digital snake device. In this case, you can record up to 48 channels.

For this connection, set the REAC setting on the R-1000 to “SOUND CHECK.” Refer to “About REAC Settings” (p. 36).

* Connect the R-1000’s [TO SLAVE/SPLIT] REAC port (C/D) to the digital snake devices at the stage.

* Connect REAC A/B on the V-Mixer to the [TO MASTER] REAC port on the R-1000. Be careful not to mix up the A and B connections.



Set the REAC modes on the devices as shown below. For information on setting the REAC modes on the V-Mixer and the digital snake device, refer to the owner’s manual for each products.

- V-Mixer Master
- Digital snake device Slave

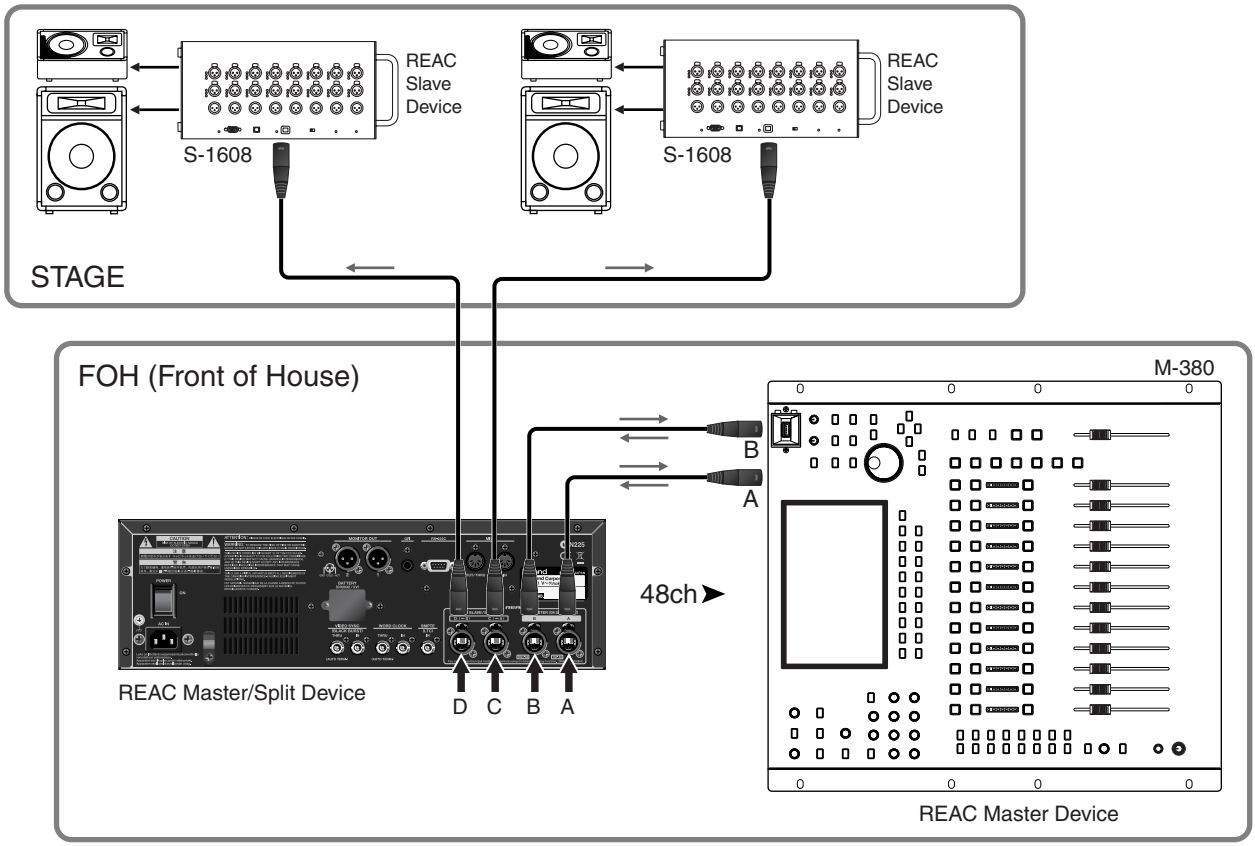
Example 3: Performing Multi-track Playback on the R-1000

This carries out multi-track playback (up to 48 tracks) on the R-1000, with output to a V-Mixer. Signal from the V-Mixer is output to a digital snake device. This connection setup enables you to carry out a sound check even when there are no source instruments or the performers are unavailable.

For this connection, set the REAC setting on the R-1000 to “SOUND CHECK.” Refer to “About REAC Settings” (p. 36).

* Connect the R-1000’s [TO SLAVE/SPLIT] REAC port (C/D) to the digital snake devices at the stage.

* Connect REAC A/B on the V-Mixer to the [TO MASTER] REAC port on the R-1000. Be careful not to mix up the A and B connections.



Set the REAC modes on the devices as shown below. For information on setting the REAC modes on the V-Mixer and the digital snake device, refer to the owner’s manual for each products.

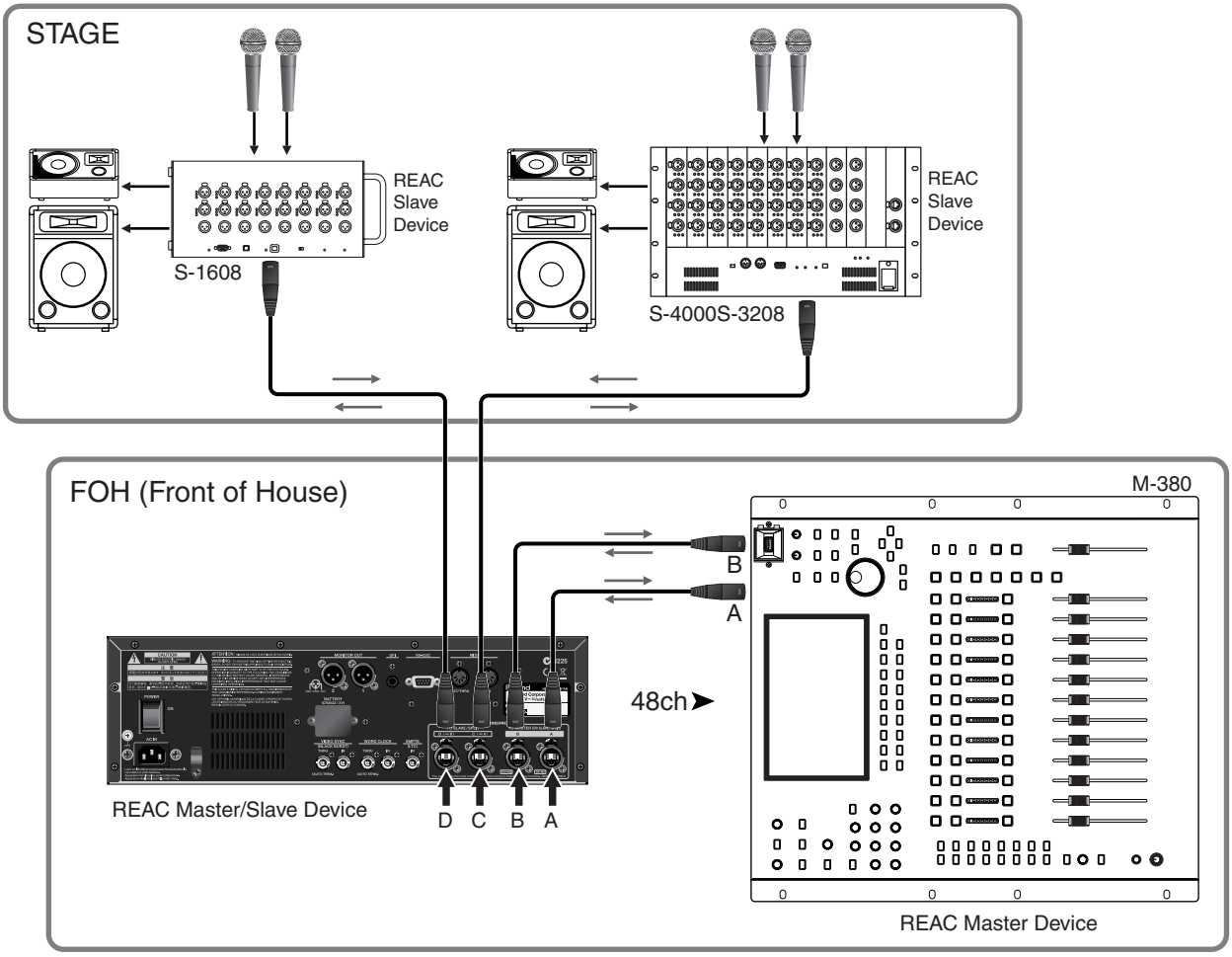
- V-Mixer Master
- Digital snake device Slave

Example 4: Mixing Live Audio with Playback on the R-1000

In connection example 3, only the playback audio from the R-1000 was output to the V-Mixer, but you can also mix live audio with the playback audio and output those to a V-Mixer. This allows you to play back a recorded session and, by muting one or more recorded tracks, allows one or more performers to perform live with the recorded tracks.

For this connection, set the REAC setting on the R-1000 to "SOUND CHECK." Refer to "About REAC Settings" (p. 36).

* Connect the R-1000's [TO SLAVE/SPLIT] REAC port (C/D) to the digital snake devices at the stage.
* Connect REAC A/B on the V-Mixer to the [TO MASTER] REAC port on the R-1000. Be careful not to mix up the A and B connections.
* For the channel on which the live audio is output, use the settings at the track status screen to turn off output from the R-1000. Refer to "Select the playback track" (p. 52) and "Track Status Screen."



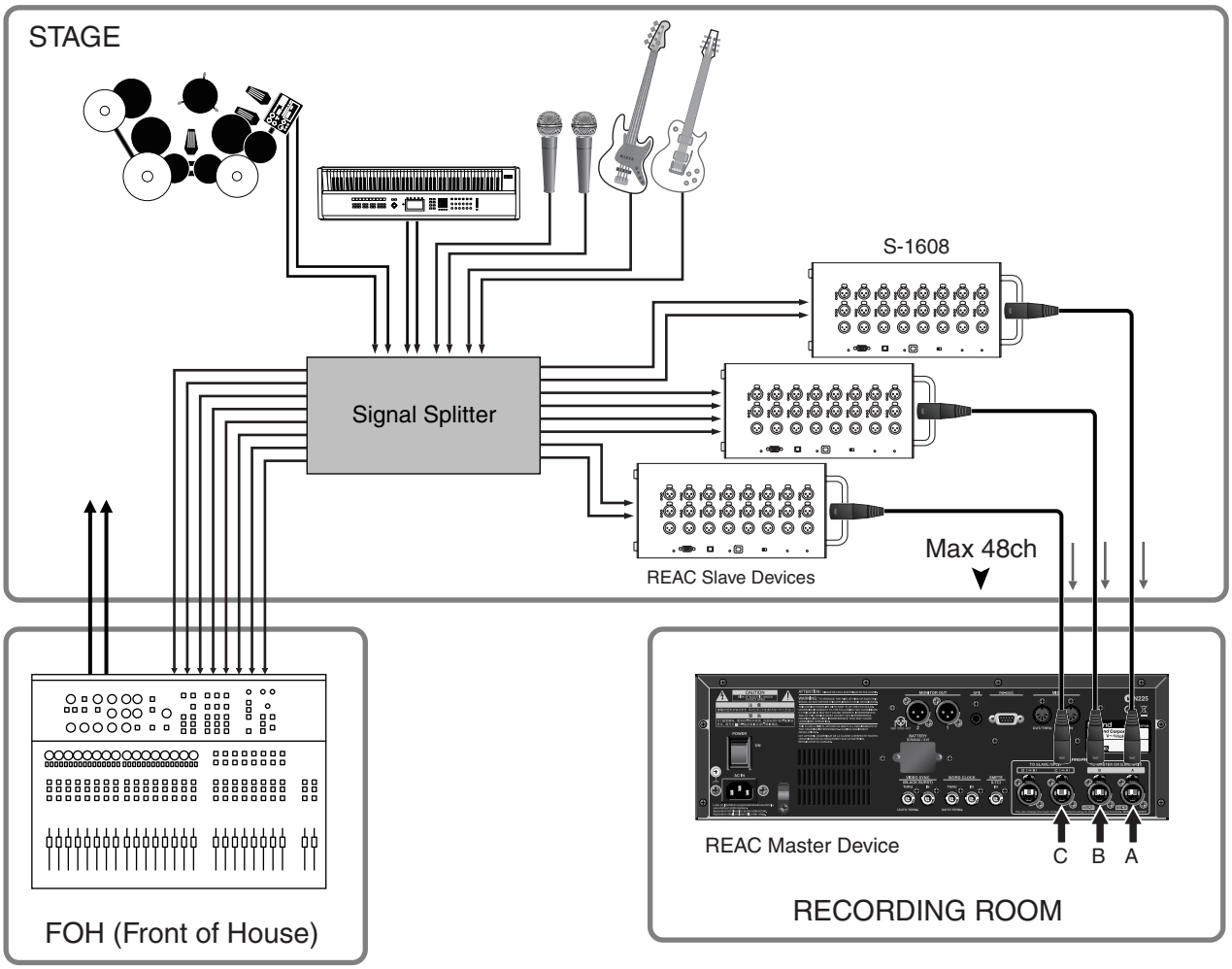
Set the REAC modes on the devices as shown below. For information on setting the REAC modes on the V-Mixer and the digital snake device, refer to the owner's manual for each products.

- V-Mixer Master
- Digital snake device Slave

Example 5: Recording Analog Signals Split from the Sources

To record signals sent from source devices on the stage via a splitting device, make the connections as shown below.

For this connection setup, set the REAC setting on the R-1000 to [EXT. CLOCK with D.SNAKE]. Refer to “About REAC Settings” (p. 36).



Set the REAC mode on the digital snake device to “slave.” For information on the REAC mode setting on the digital snake devices, refer to the owner’s manual for the device.

MEMO

If synchronization with the external sampling clock is necessary, connect a clock source device to [VIDEO SYNC] or [WORD CLOCK] connector.

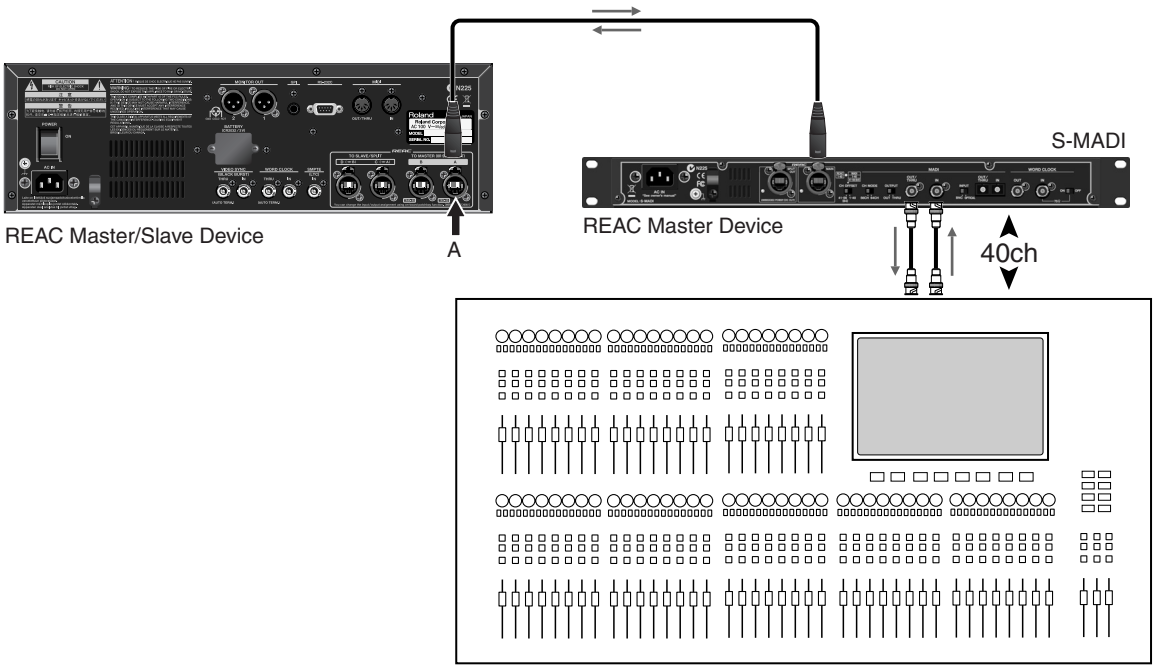
Example 6: Connecting a MADI Device via the S-MADI

Input/Output up to 40 Channels

This enables you to record/playback up to 40 channels input and output from/to a MADI device.

For this connection, set the REAC setting on the R-1000 to “SOUND CHECK.” Refer to “About REAC Settings” (p. 36).

* Connect REAC MAIN on the S-MADI to the [TO MASTER] REAC port on the R-1000. If you are using the unit with the factory-default settings unchanged, make the connection to the [A] port.



What’s MADI?

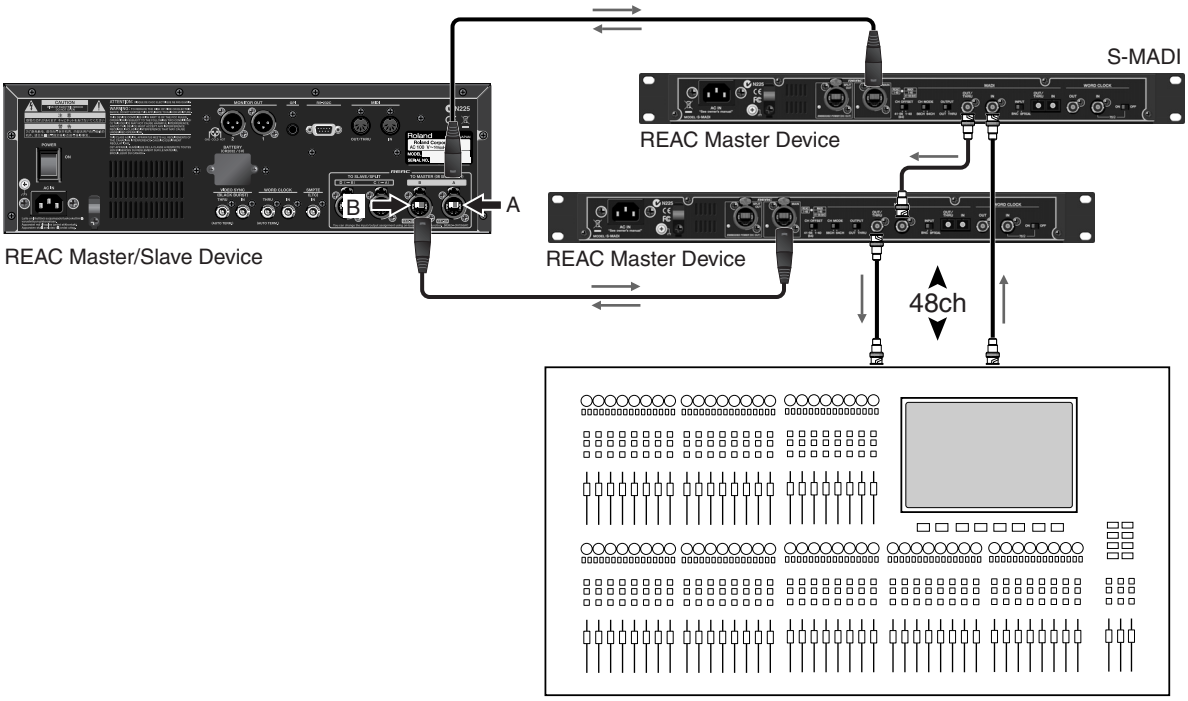
MADI (Multichannel Audio Digital Interface) is a transmission standard for digital audio standardized by AES. An extension of the AES/EBU standard for stereo (two-channel) transmission, it permits transmission of up to 64 channels over a single cable.

Input/Output up to 48 Channels

This enables you to record/playback up to 48 channels input and output from/to a MADI device. Use two S-MADI units in this case.

For this connection, set the REAC setting on the R-1000 to “SOUND CHECK.” Refer to “About REAC Settings” (p. 36).

* Connect REAC MAIN on the first S-MADI (the upper unit in the figure) to the R-1000’s [TO MASTER] REAC port [A]. Connect REAC MAIN on the second S-MADI (the lower unit in the figure) to the R-1000’s [TO MASTER] REAC port [B]. If you are using the unit with the factory-default settings unchanged, make the connections in this way.



Set the REAC mode on the S-MADI to “master.” For information on setting the REAC mode of the S-MADI, refer to the owner’s manual for the S-MADI.

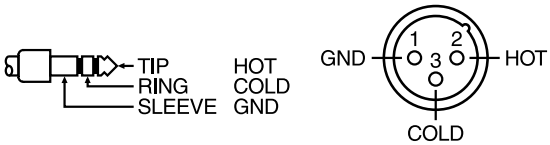
* Regardless if you are recording 40 channels or 48 channels, the REAC mode setting on the S-MADI is the same.

Connecting Other Peripheral Devices

Connecting Monitor Equipment

MEMO

This unit is equipped with balanced-type (XLR/TRS) connectors, which are wired as shown below. Check the wiring of the device you want to connect and make the connection.



Connecting Monitor Speakers

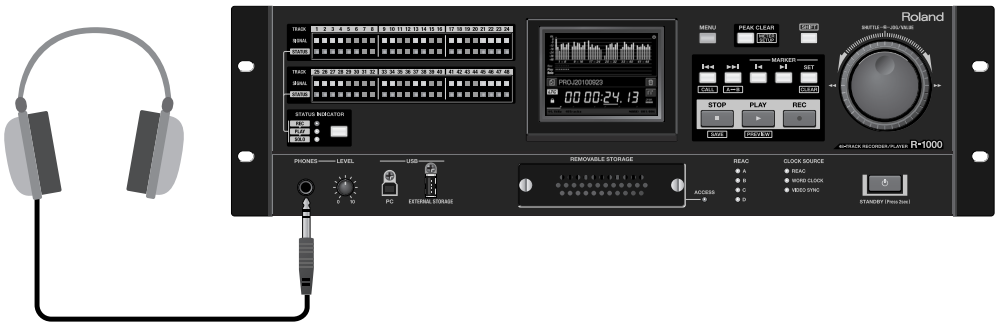
Connect monitor speakers to the MONITOR OUT connectors.

* The same mono audio is output from the [1] and [2] connectors.
* The nominal output level at the MONITOR OUT connectors is fixed at +4 dBu. It is recommended to connect monitors with accessible volume control. So the volume can be easily adjusted.

Connecting Headphones

Connect headphones to the PHONES connector. You can use the [LEVEL] to adjust the volume level of the headphones.

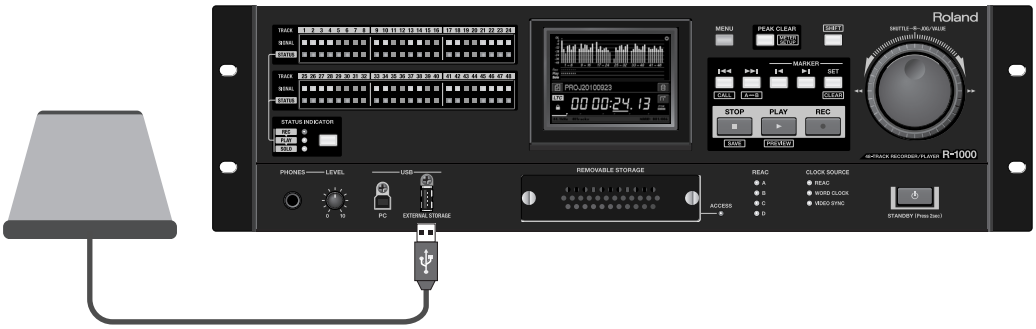
* Output to the headphone (L/R) is mono audio x 2.



Connecting External Storage

Connect a USB memory stick, USB hard disk, or other external storage device to the EXTERNAL STORAGE connector. You can copy recorded data from the removable storage to the external storage. Make it a habit to back up important data by copying it to external storage.

* When inserting the USB cable for external storage, be careful to orient the front and back correctly and insert it in the correct direction, and insert the cable firmly all the way into the connector. Never insert using undue force.

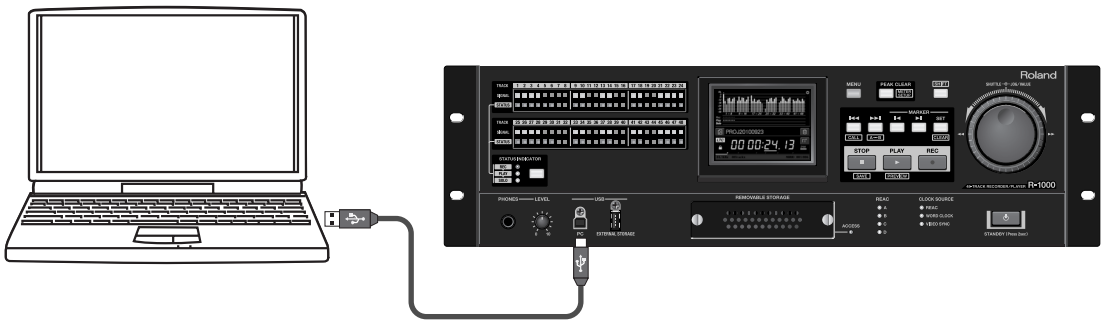


cf.
For information on how to copy recorded data, refer to “Copying Recorded Data to External Storage” (p. 61).

Connecting a Computer

Connecting a computer with dedicated software (R-1000 RCS) enables you to remotely control the R-1000 unit from your computer.

* When inserting the USB cable for connecting the computer, be careful to orient the front and back correctly and insert it in the correct direction, and insert the cable firmly all the way into the connector. Never insert using undue force.



cf.
For information on remote control from a computer or via RS-232C, GPI, or MIDI, refer to “About Remote Control” (p. 73).

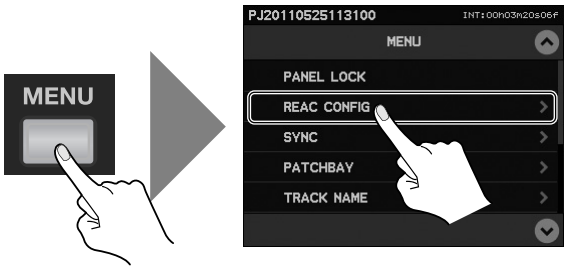
About REAC Settings

Choose a REAC setting on the R-1000 from below to match the connected devices and usage.

REC ONLY	Select this when recording split output from the V-Mixer.
SOUND CHECK	Select this when connecting the V-Mixer or digital snake device and carrying out recording, playback, or sound checks.
EXT. CLOCK with V-MIXER	Select this when synchronizing to an external word clock in a system where the V-Mixer is connected.
EXT. CLOCK with D.SNAKE	Select this when synchronizing to an external word clock in a system where a digital snake device is connected.

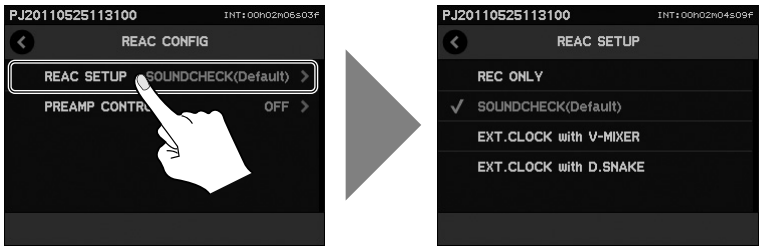
1. Display the setting menu.

Press the [MENU] button to display the menu screen, then select [REAC CONFIG].



2. Select the setting.

Select [REAC SETUP], then select a setting from the four selections described above.



3. Go back to the home screen.

Press the [MENU] button to return to the home screen.

MEMO

The REAC mode of the R-1000's REAC connectors A and B and the clock-source setting range are determined by the settings as shown below.

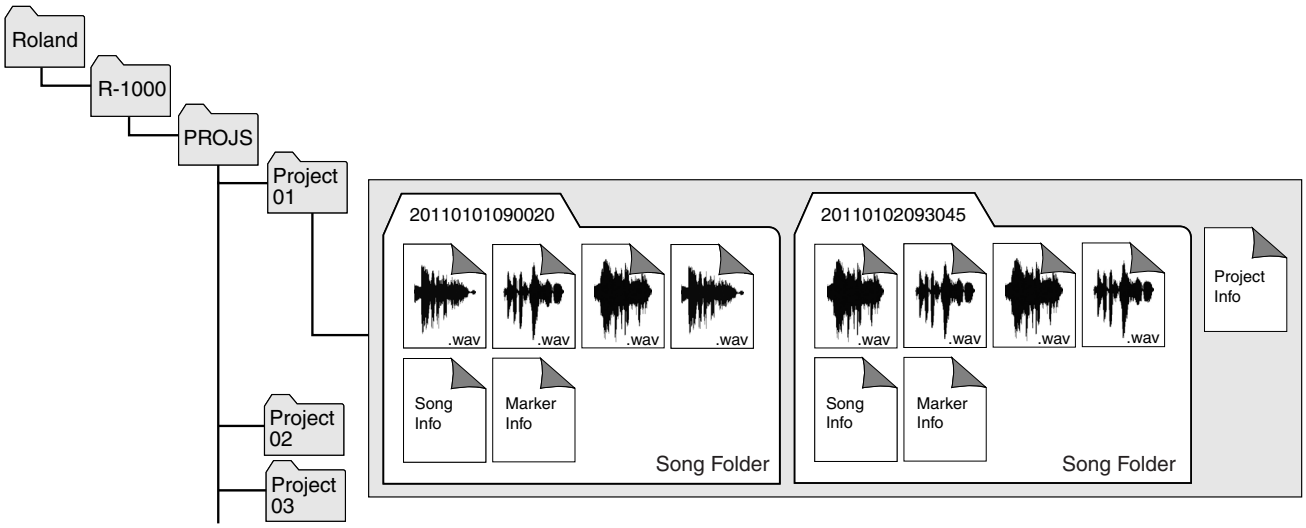
	REAC Mode	Clock Source
REC ONLY	Split	Fixed to REAC
SOUND CHECK	Slave	Fixed to REAC
EXT. CLOCK with V-MIXER	Slave	All selectable
EXT. CLOCK with D.SNAKE	Master	All selectable

About Projects

Folder Configuration on Removable Storage

Removable storage formatted on the R-1000 has the folder configuration shown below. To open a recorded-data file on a removable storage device connected to a computer, open “Roland” -> “R-1000” -> “PROJS” -> the project folder and then the song folder. Recorded data is saved in Broadcast Wave Format (BWF).

NOTE
Never alter the folder configuration on the removable storage. Alteration can cause the R-1000 to improperly recognize project data.



When you create a new project, the R-1000 creates a new project folder inside the "PROJS" folder. A project contains multiple songs and the setting parameters. These are common among songs within a project.

- REAC CONFIG
- SYNC
- TRACK NAME
- PATCHBAY

When you start recording, R-1000 creates a new song folder inside the project folder. The song folder name is created from the start date/time of recording. As an example, if recording was started at 09:00:20 on January 1, 2011, the song folder name will be “20110101090020”. This timestamp is supplied from R-1000’s internal calendar/clock. Follow the procedure in the separate “Adjusting the Internal Calendar/Clock” document if you want to set the date and time.

MEMO
You can change the song name from the date and time to a text string you prefer. Refer to “Changing a Song Name” (p. 58).

MEMO
When the data recorded on the R-1000 reaches a file size of 2 GB per track, it is automatically split into a new file. At the various different sampling rates, this splitting occurs automatically at the approximate times shown below.

- 44.1 kHz Approximately 250 minutes
- 48 kHz Approximately 230 minutes
- 96 kHz Approximately 96 minutes

You can also use the method described in “Manually Splitting Recorded Data” (p. 50) to split data manually at the desired time points during recording.

MEMO
When you are using a computer to import and edit data recorded on the R-1000, the computer takes a file name in the format shown below.

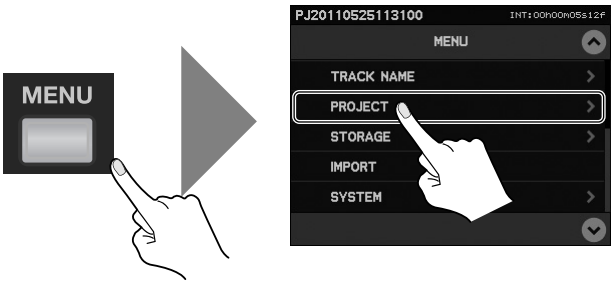
- TRKxx_yy.wav The “xx” is a take number from 01 to 99, and the “yy” is the track number (01 to 48).

* The take number refers to the number of automatic or manual splits. The take number at the start of recording is “01.” When the data is split, the subsequent numbers continue in the sequence of “02,” “03,” and so on.

Creating a New Project

1. Display the project list.

Press [MENU] button to open the menu screen and select [PROJECT]. The list of projects contained in the removable storage is displayed.



2. Open new project creation screen.

Touch [New] to switch to project setup screen.

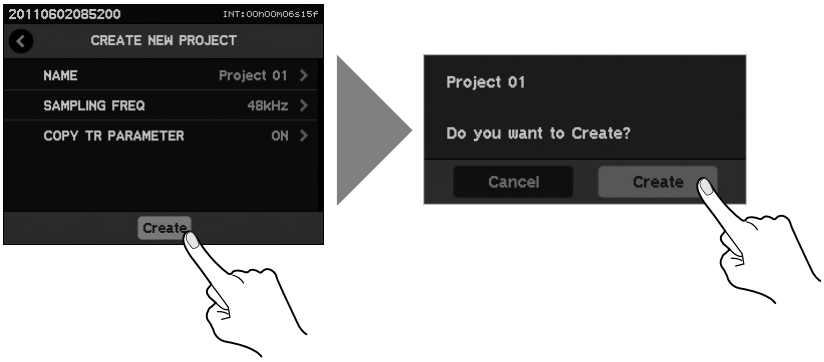
3. Set the project parameters.

Set parameters below for the new project.

- NAME　Touch this to switch to name edit screen.
- SAMPLING FREQ　Touch this to switch to the screen to set project's sampling frequency.
- COPY TR PARAMETER　Touch this to switch to the screen to select whether to copy track parameters (patchbay, track status, track name)

4. Create a new project.

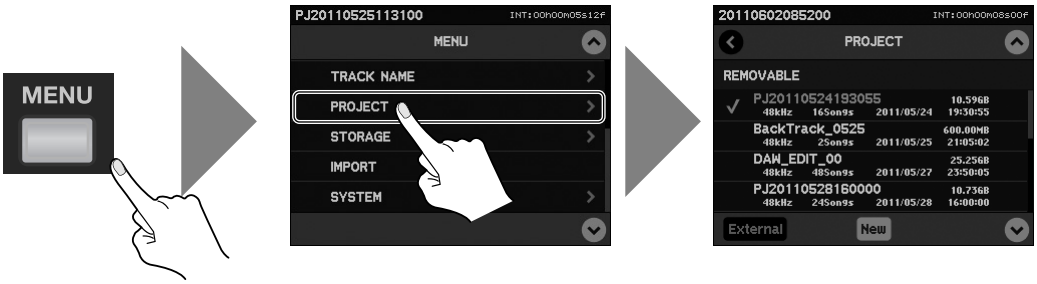
Touch [Create] to create a new project.



Selecting a Project

1. Display the project list.

Press [MENU] button to open the menu screen and select [PROJECT]. The list of projects contained in the removable storage is displayed.

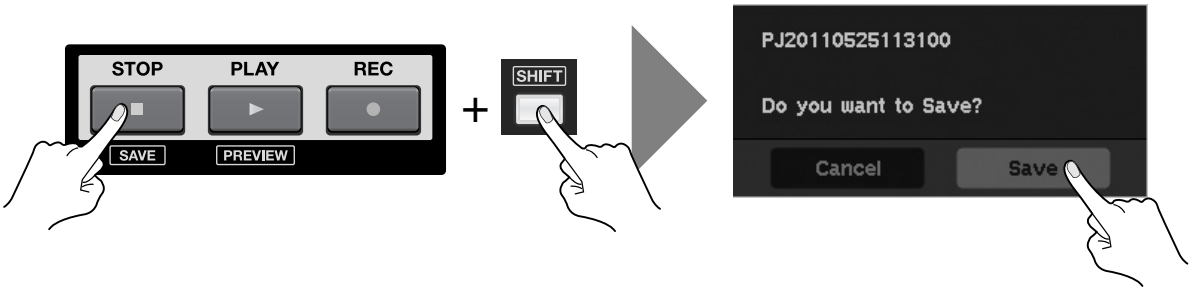


2. Select the project to load.

Select a project and touch [Load] to switch to confirmation screen. Touch [Load] on confirmation to load the selected project.

Saving a Project (SAVE)

Holding down the [SHIFT] button and press the [STOP] button to switch to the confirmation screen. Touch [Save] to save the current project.

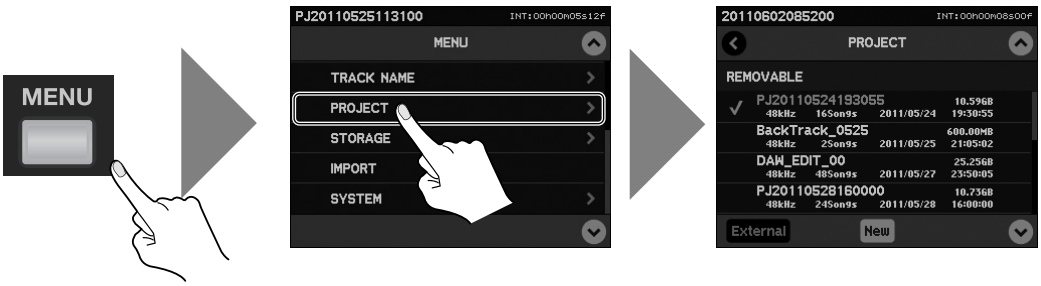


Deleting a Project

You can display a list of projects saved on removable storage, then select the project to delete.

1. Display the list of projects.

Press the [MENU] button to display the menu screen, then select [PROJECT]. A list of the projects saved on removable storage is displayed.



2. Select and delete a project.

Select the project you want to delete. Touching [Delete] makes the display change to a confirmation screen. Touch [Delete] at the confirmation screen to delete the selected project.

Selecting a Song

Select a song for playback on the procedure described below.

1. Display the song selection screen.

At the home screen, touch the icon shown below to access the song selection screen.

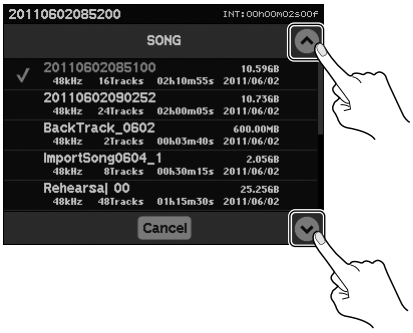
2. Select the song.

From the list, select the song you want to play. Touching [Load] switches to the confirmation screen. Touch [Load] on the confirmation screen to load the selected song.

* In addition to the song name, the sampling rate, number of tracks, recording-start date/time, and data size are also displayed.

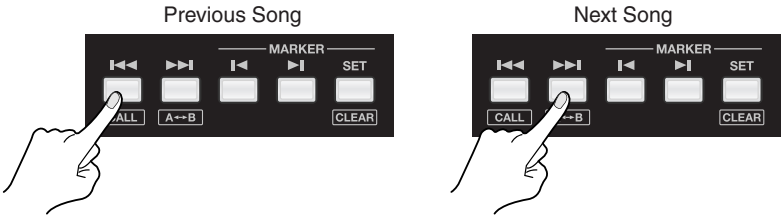
MEMO

When a large number of songs have been saved, their names do not fit on a single page. In such cases, touch the cursors shown below to scroll through the pages, and make your selection.



MEMO

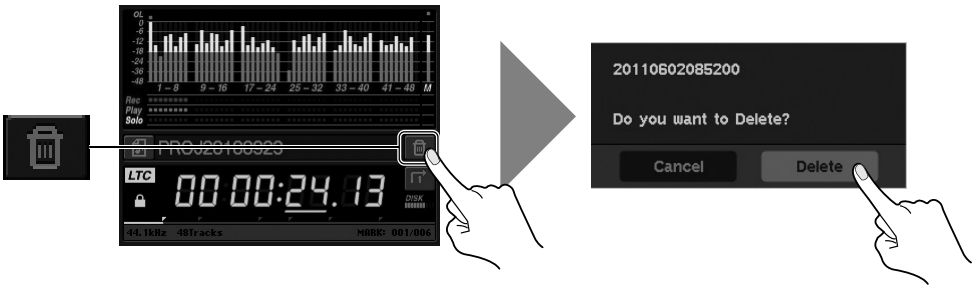
Pressing the front panel buttons shown below will also allow you to switch to the previous or next song.



Deleting a Song

Deleting the Current Song

At the home screen, touch the icon shown below to change to the confirmation screen for deleting the song. Touch [Delete] at the confirmation screen to delete the current song. Touching [Cancel] closes the confirmation screen and does not delete the song.



Performing Multi-track Recording

On the R-1000, you can record up to 48 tracks at 44.1/48 kHz, or up to 24 tracks at 96 kHz.

NOTE
The R-1000 cannot perform sample rate conversion. Make the sampling rates of all connected REAC devices identical with the sampling rate of the REAC master device. Mis-matched sampling rates will result in a failure of audio transmission.

Selecting a Recording Track

Select the target track where you want to record the channel. For information on operations at the menu screen, refer to “Menu Operations” (p. 69).

Selecting a Recording Track Automatically

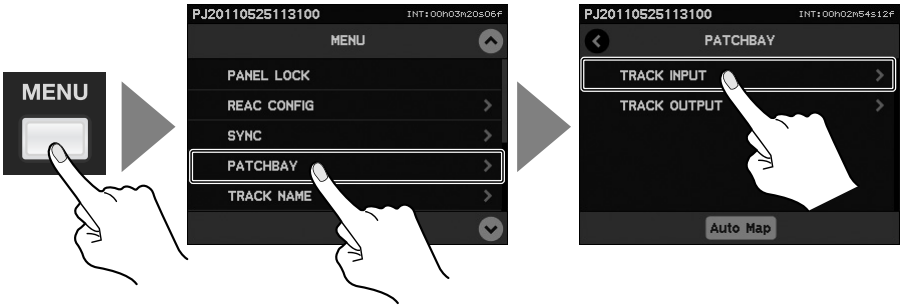
You can patch sources to tracks automatically by using the Auto Map function. The recording track for the input channel is set automatically, according to the REAC device connected to the R-1000.

MEMO
Channels are assigned to the recording tracks even when the source devices have unused channels. The recorded data on the tracks to where the empty channels are assigned will be silent. If you do not want to create a silent track (because silent tracks consume drive space), refer to “Selecting a Recording Track by Manually” (p. 44) and make the settings.

NOTE
Using the Auto Map function for recording simultaneously switches the settings for playback. You cannot make the recording and playback channel > track settings independent of each other.

1. Display the Patchbay.

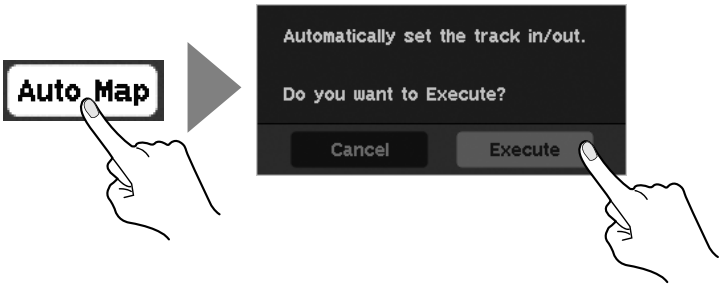
Press the [MENU] button to display the menu screen, then select [PATCHBAY]. To open the patchbay for recording, select [TRACK INPUT].



2. Make the automatic settings.

Touching [AUTO MAP] makes the display change to a confirmation screen. Touching [EXECUTE] at the confirmation screen executes the automatic mapping.

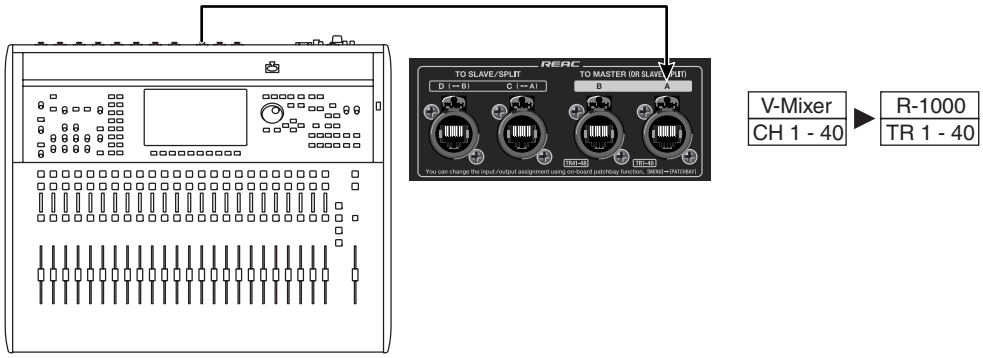
* For information on examples of assignment by Auto Map, refer to the following page.



Assignment by Auto Map

When Recording Split Output from a V-Mixer

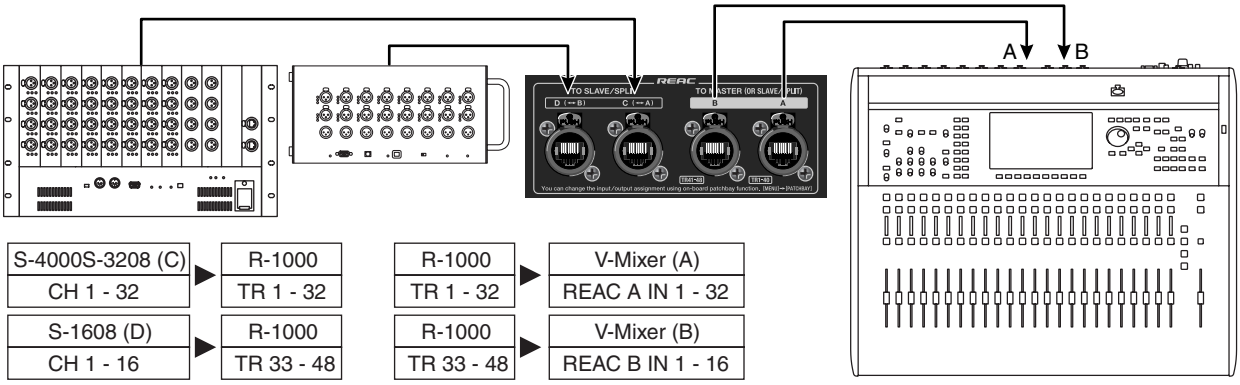
When split output from the V-Mixer is connected to a [TO MASTER] REAC port, split-output channels 1 through 40 are assigned to tracks 1 through 40.



When Recording Input from Digital Snake Devices

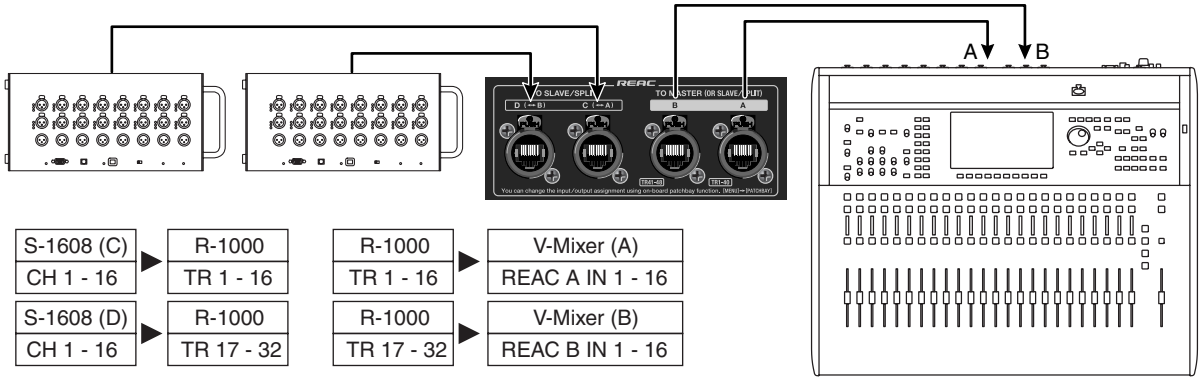
When the S-1608 and the S-4000S-3208 are connected to [TO SLAVE/SPLIT] REAC ports on the R-1000, the assignments are as shown below.

Outputs from the R-1000 are also assigned to REAC A and B on the V-Mixer as shown below.



When two S-1608 units are connected to [TO SLAVE/SPLIT] REAC ports on the R-1000, the assignments are as shown below.

Outputs from the R-1000 are also assigned to REAC A and B on the V-Mixer as shown below.

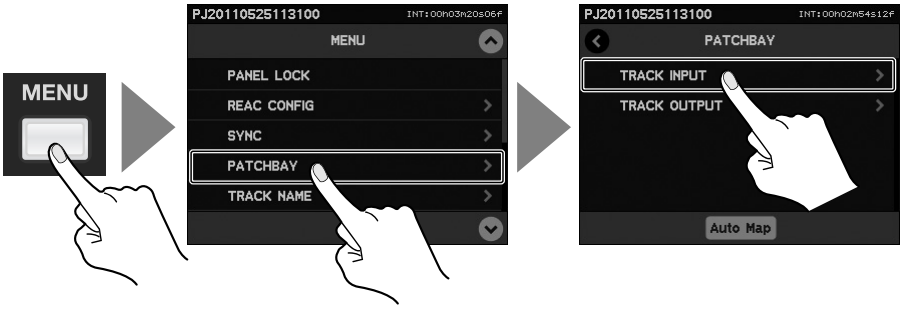


Selecting a Recording Track Manually

You can manually set which channel is assigned to which track.

1. Display the Patchbay.

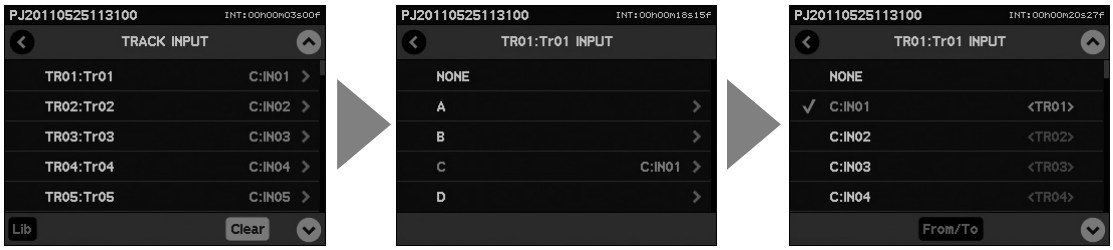
Press the [MENU] button to display the menu screen, then select [PATCHBAY]. To open the patchbay for recording, select [TRACK INPUT].



2. Assign the input channels to the recording tracks.

To assign input channels to recording tracks, follow the steps below.

- Select the track (TR01 through TR48).
- Select the REAC port (A through D) where the source device is connected.
- Select the channel for the source device connected to the selected REAC port.



* Touching [Clear] sends you to the assignment clearing screen. (p. 45)

* Touching [Lib] sends you to the save to Library screen. (p. 47)

* Touching [From/To] makes the display change to the screen for sequentially assigning multiple channels to multiple tracks. (p. 46)

3. Go back to the home screen.

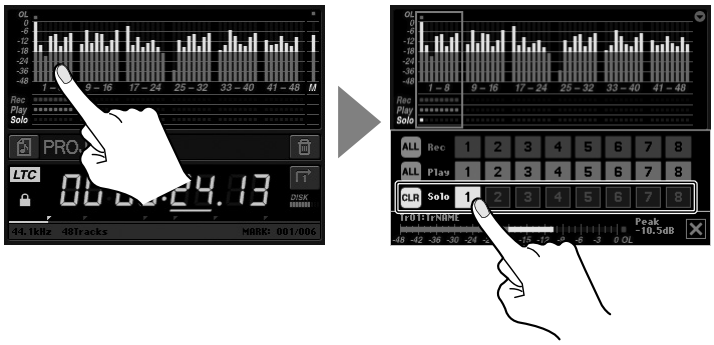
Press the [MENU] button to return to the home screen.

4. Confirm the input-channel audio on a monitor.

The level meter on the R-1000 is divided into groups of eight tracks. Touch the area of the level meter containing the track you want to confirm. Selecting a track at the [Solo] area outputs the audio on the channel to the monitor outputs and headphones.

* The selection made at [Solo] does not affect the output to the REAC device.

* You can choose whether to output only a single track with [Solo] or to add more tracks and output them together. Refer to “Menu List” (p. 71).

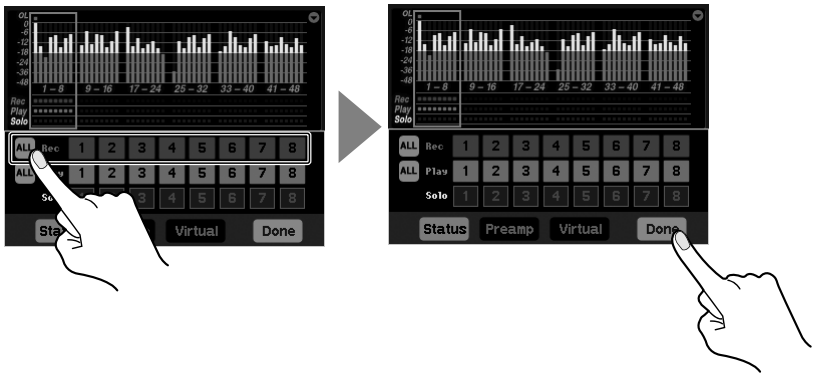


5. Choose the track to record.

Use the [Rec] area of the track status screen to select the track to record. Touching [All] lets you select all tracks as a group.

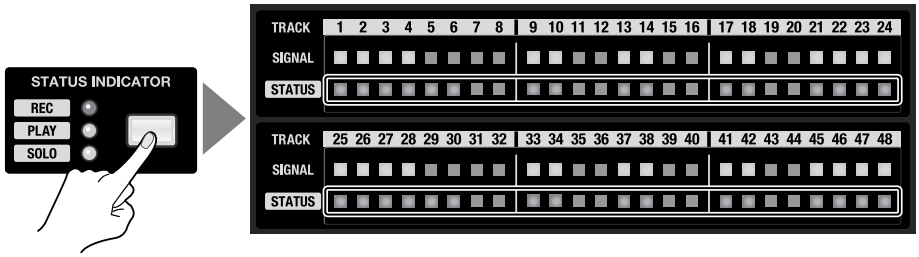
NOTE

When you finish making the settings, be sure to touch the [Done] icon to apply the settings.



6. Check the status.

You can use the [STATUS INDICATOR] button on the front panel to check the settings for tracks 1 through 48. To check recording tracks, press the [STATUS INDICATOR] button to make the [REC] indicator light up red. The tracks that light up red at the [STATUS] area for 1 through 48 have been armed for recording.



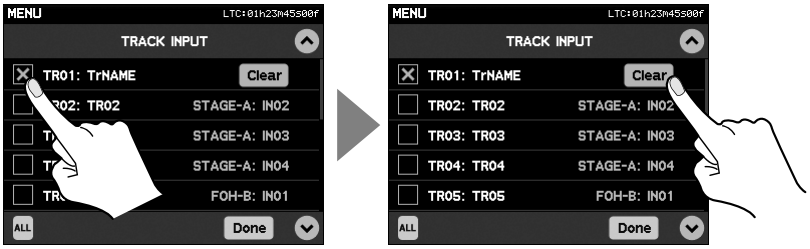
Clearing the Assignment of a Channel to a Track

Touching [Clear] at the [TRACK INPUT] screen makes the display change to the screen shown below. Touching the box displayed to the left of the track number makes [X] appear, and [Clear] is displayed to the right of the track name. Touching [Clear] makes the display change to a screen for confirming the clear command.

* Touching [Clear] at the [TRACK OUTPUT] screen displays the screen for clearing assignments of the recorded data to the output channels.

NOTE

When you finish making the settings, be sure to touch the [Done] icon to apply the settings.



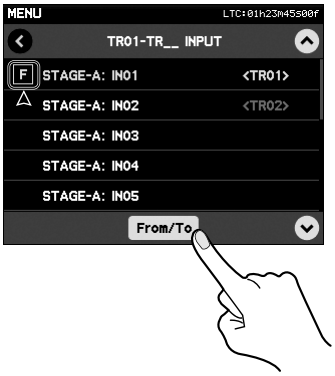
Sequentially Assigning Multiple Channels to Multiple Tracks

You can sequentially assign multiple consecutive input channels to consecutive recording tracks. For example, use this when you want to assign only channels 1 through 4 on the source device to tracks 1 through 4 on the R-1000.

* Performing a similar operation at the [TRACK OUTPUT] screen sequentially assigns recorded data on multiple tracks to consecutive output channels.

1. Enter the assignment mode.

Touch [From/To] to enter the assignment mode. [F] appears to the left of the channel.



2. Select the first channel.

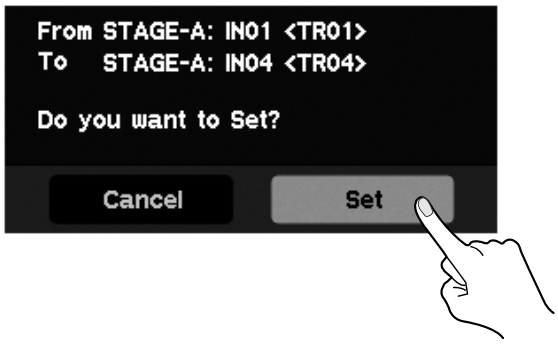
Touch [F] (: From) and select the first channel.

3. Select the last channel.

Selecting the final channel makes [T] appear to the left of the selected channel. This [T] (: To) signifies the last channel to be assigned sequentially.

4. Confirm the settings.

Selecting the final channel makes the display change to a confirmation screen. Touching [Set] returns to the [TRACK INPUT] screen with the updated settings.



Saving/Recalling Settings

You can save and call up assignments during recording or playback in the library of the R-1000. You can save up to 99 settings.

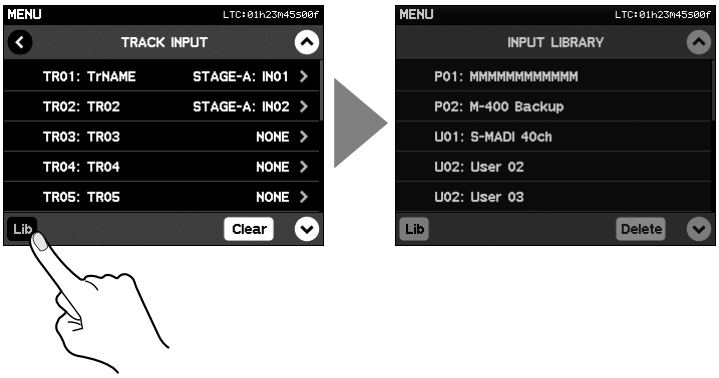
NOTE
The R-1000 has five preset libraries (P01 through P05) and 99 user libraries (U01 through U99). Settings can be saved only in user libraries. Preset libraries cannot be edited.

1. Make the settings to the state you want to save.

Assign input channels to recording tracks and make all other settings you want to save.

2. Change to the library screen.

Touching [Lib] at the [TRACK INPUT] or [TRACK OUTPUT] screen makes the display change to the library screen.



3. Select the number to save to.

Select one of the user libraries from U01 to U99 as the number of the destination for saving. Selecting [Store] makes the display change to a confirmation screen.

* P01 through P05 cannot be selected as destinations for saving.

4. Save the settings.

Touching [Store] at the confirmation screen saves the current settings.

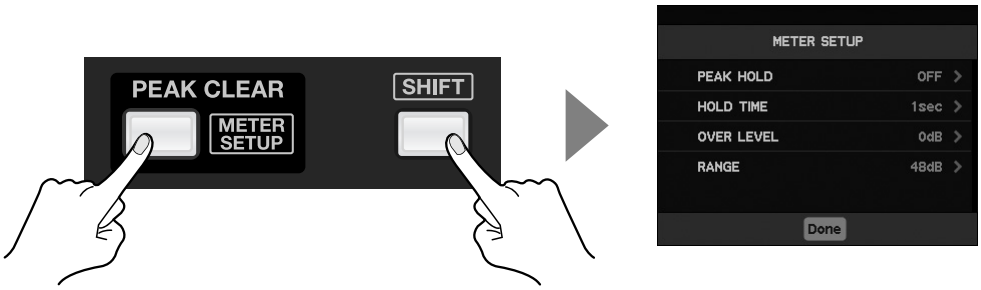
5. Call up saved settings.

Going to the library screen and touching the number you want to call up and then touching [Recall] makes the display change to a confirmation screen for recalling. Touching [Recall] at the confirmation screen lets you call up the settings you have saved in that user library.

* The procedure for calling up preset libraries P01 through P05 is the same.

Switching Level Meter Settings

At the front panel, holding down the [SHIFT] button and pressing the [PEAK CLEAR] button makes the display change to the meter setup screen. Before you start recording, customize the behavior of the audio levels display.



At this screen, you can change the following parameters.

PEAK HOLD

This turns on/off the peak hold.

HOLD

This sets the peak hold time. It is effective only when [PEAK HOLD] is set to [ON].

OVER LEVEL

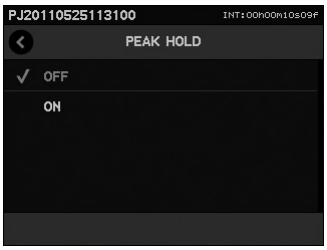
This sets the decibels at which the [OVER] lamp lights up.

RANGE

This determines the lower limit of the level meter.

The images below show the available changes you can make to the Meter Setup parameters.

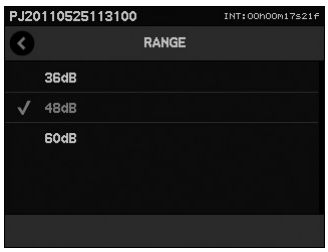
PEAK HOLD



HOLD TIME

OVER LEVEL

RANGE



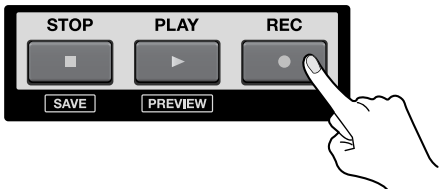
NOTE

When you have selected a setting value, be sure to touch the [Done] icon to apply it.

Initiating Recording

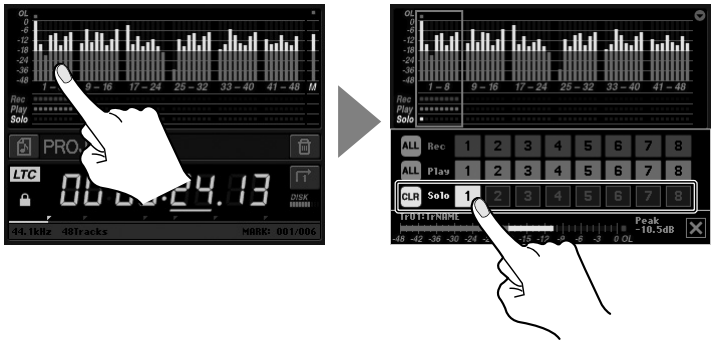
1. Standby recording.

Press the [REC] button once to set the R-1000 in to the record standby mode. Recording will not begin, but you can now check and confirm your various settings.



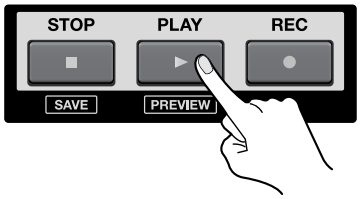
2. Check the input on the respective channels.

Touch the area of the level meter containing the track you want to confirm. Selecting a track at the [Solo] area outputs the audio on that channel to the monitor equipment.



3. Start recording.

While the [REC] button is flashing, press the [PLAY] button. The [REC] button stops flashing and remains steadily illuminated, and recording starts.



4. Stop recording.

Pressing the [STOP] button stops recording.

NOTE

After stopping recording, never switch off the power or detach the removable storage device while the [ACCESS] lamp is steadily illuminated or flashing. Doing so might corrupt the recorded data.

MEMO

You can make a confirmation screen to be displayed when you stop recording. When the setting to display a confirmation screen has been made, just pressing the [STOP] button does not stop recording. You must also touch [OK] at the confirmation screen. If you want to prevent recording from being stopped by inadvertently touching the [STOP] button, set up the confirmation screen. For information on setting the confirmation screen, refer to “Menu List” (p. 71).

About Automatic Splitting of Recording Data

When the data recorded on the R-1000 reaches a file size of 2 GB per track, it is automatically split into a new file. This splitting occurs automatically at the approximate times shown below.

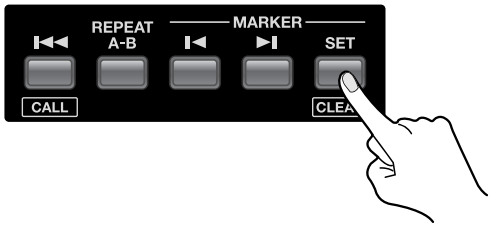
- 44.1 kHz Approximately 250 minutes
- 48 kHz Approximately 230 minutes
- 96 kHz Approximately 96 minutes

Operations Possible During Recording

Adding Markers to Recording Data

Pressing the Marker [SET] button during recording adds a marker to the data. Adding a marker lets you perform indexing during playback.

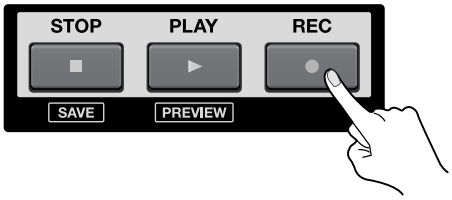
* You can add up to 99 markers to one song.

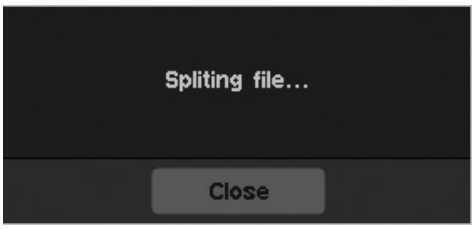


cf.
For information of using markers during playback, refer to “Using the Marker Feature” (p. 55).

Manually Splitting Recorded Data

If you perform no operations during recording, the recording data is automatically split when the file size per track reaches 2 GB. But you can also split the data manually. Pressing the [REC] button during recording will split the file at the moment you press the [REC] button. This functionality is useful when you want to divide songs into separate files, such as when you are recording a concert. The message shown below appears when you split a file manually.





The recording data in one song can be split up into 99 pieces. When recording data is split, a take number is assigned to the data, and the file name is formatted as follows.

TRKxx_yy.wav Here, xx is a take number from 01 to 99, and yy is the track number (01 to 48).

* The take number at the start of recording is “01.” When the data is split, the subsequent numbers continue in the sequence of “02,” “03,” and so on.

Performing Multi-track Playback

On the R-1000, you can perform playback of up to 48 tracks at 44.1/48 kHz, or up to 24 tracks at 96 kHz.

NOTE
The R-1000 cannot perform sample rate conversion. Make the sampling rates of all connected REAC devices identical with the sampling rate of the REAC master device. Mis-matched sampling rates will result in failure of audio transmission.

Playing Back Recorded Data to an Output Channel

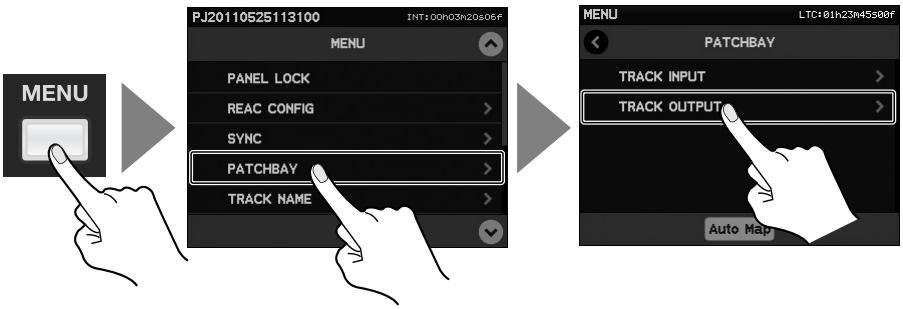
You can manually assign the recorded tracks to the output channels of a connected REAC device.

NOTE
If you have made settings using "Selecting a Recording Track Automatically" (p. 42) before recording, assignment for playback will be as described in "Assignment by Auto Map" (p. 43). Input assignments to tracks and output assignments from tracks will be the same.

1. Display the Patchbay.

Press the [MENU] button to display the menu screen, then select [PATCHBAY]. To display the patchbay for playback, select [TRACK OUTPUT].

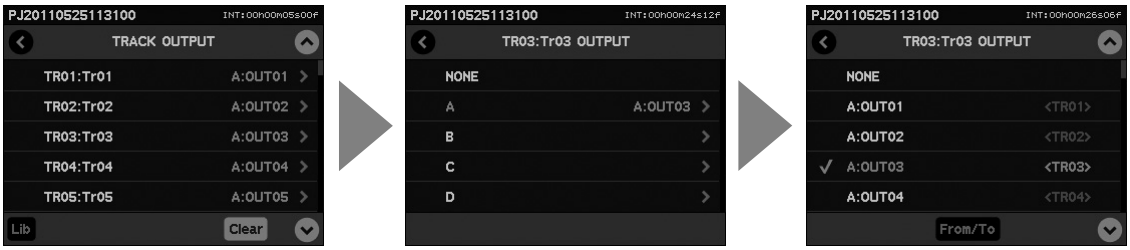
* Using the Auto Map function at the [PATCHBAY] screen also changes the assignments for recording.



2. Assign the recorded data to an output channel.

To assign the data recorded on the respective tracks to output channels, follow the steps below.

- Select the track (TR01 through TR48).
- Select the output-destination REAC port.
- Select the output channel of the REAC device.



* Touching [Clear] sends you to the assignment clearing screen. (p. 45)

* Touching [Lib] sends you to the save to Library screen. (p. 47)

* Touching [From/To] makes the display change to the screen for sequentially assigning multiple channels to multiple tracks. (p. 46)

MEMO
The procedures for above features are the same as when recording.

3. Go back to the home screen.

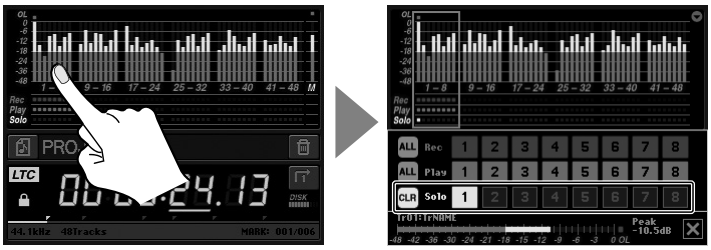
Press the [MENU] button to return to the home screen.

4. Checking Track Playback on Monitor Equipment

The level meter on the R-1000 is divided into groups of eight tracks. Touch the area of the level meter you want to confirm. Selecting a track in the [Solo] area outputs the audio recorded on the track to the monitor equipment and headphones.

* The selection made at [Solo] does not affect the output to the REAC device.

* You can choose whether to output only a single track with [Solo] or to add more tracks and output them together. Refer to “Menu List” (p. 71).

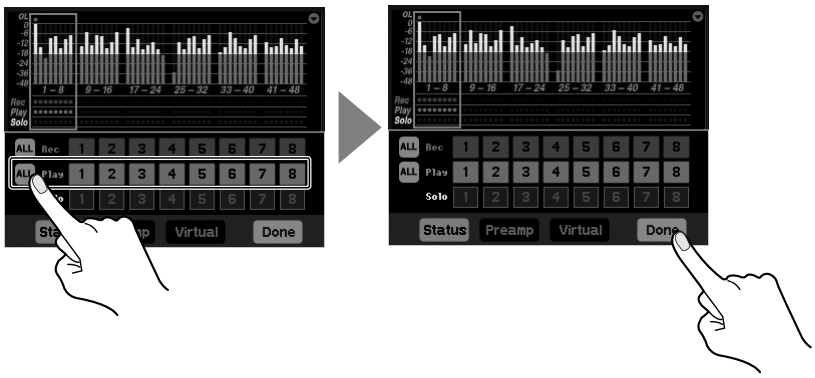


5. Select the playback track.

Select the track to output in [Play] area. Touching [All] lets you select all playable tracks as a group.

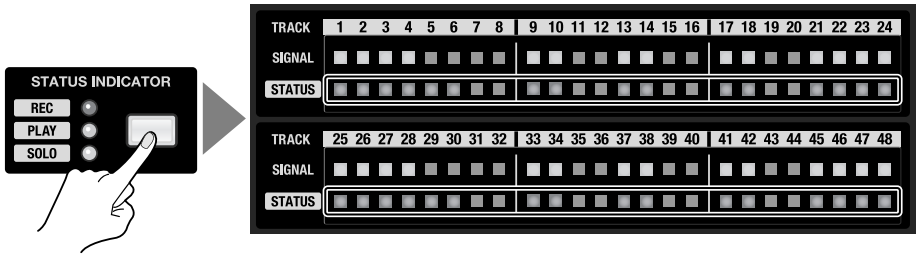
NOTE

When you finish making the settings, be sure to touch the [Done] icon to apply the settings.



6. Check the status.

You can use the [STATUS INDICATOR] button on the front panel to check the settings for tracks 1 through 48. To check tracks, press the [STATUS INDICATOR] button to make the [PLAY] indicator light up green. The tracks that light up green in the [STATUS] area for 1 through 48 have been selected for playback.

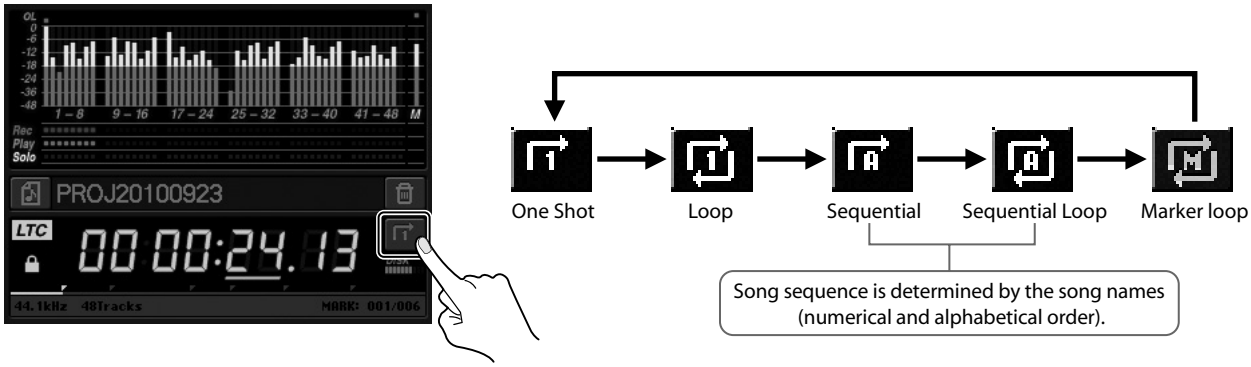


Starting Playback

1. Select the playback mode.

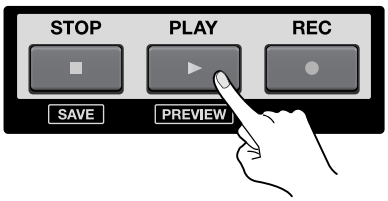
Choose one playback mode from below. The playback mode changes each time you touch the icon, in the sequence shown.

- One Shot — This plays the current song once (one shot), then stops.
- Loop — This performs repeated (loop) playback of the current song.
- Sequential — This plays the songs in current project sequentially, starting with the current song. Playback stops when the playback of the song right before the current song is finished.
- Sequential Loop — This performs sequential loop playback of the songs in current project, starting with the current song.
- Marker Loop — This performs loop playback between markers before and after the current location.



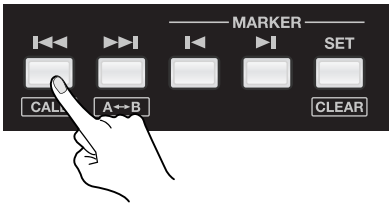
2. Start/stop playback.

Pressing the [PLAY] button starts playback. Pressing the [STOP] button stops playback.



TIP

When you want to jump to the beginning of the song, press the button shown below to make the jump to the beginning. Press the same button twice to switch to the previous song.



MEMO

You can control the output levels of the tracks remotely from the following devices.

- V-Mixer
- S-4000R connected to a digital snake device
- S-4000 RCS (dedicated remote-control software) connected to a digital snake device

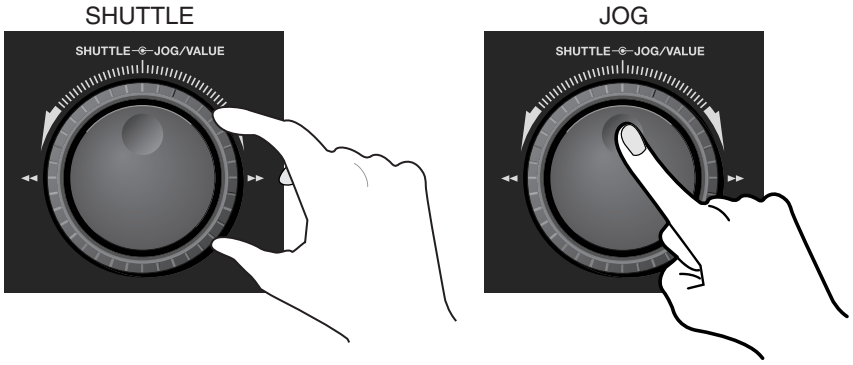
* To adjust output levels by remote control, you must set the R-1000 to receive remote control commands. Refer to "Virtual Preamp Setting Screen" (p. 68).

Useful Features During Playback

Indexing Using the SHUTTLE and JOG/VALUE Dials

When playback is stopped, you can index using [JOG/VALUE] dial or the [SHUTTLE] dial. Turning the inner [JOG/VALUE] dial lets you move the current position forward and backward frame by frame. Turning the outer [SHUTTLE] dial lets you rapidly move the current position forward and backward.

* No audio is output while a dial is being turned. Only the current position moves forward or backward.



NOTE
When a menu is displayed, the dials do not move the current position. The [JOG/VALUE] dial is used to change setting values. The [SHUTTLE] dial does not work while making value settings.

Returning to the Start Location of Playback (CALL)

During playback of an indexed section of a song, you can use these buttons to go back to the location where playback was started.

1. **Carry out indexing.**
   Carry out indexing using the [SHUTTLE] or [JOG/VALUE] dial or a marker.

2. **Start playback.**
   Press the [PLAY] button to start playback.

3. **Go back to the location where playback was started.**
   Hold down the [SHIFT] button and press the button below. The current position returns to the location where the playback was started.

Using the Marker Feature

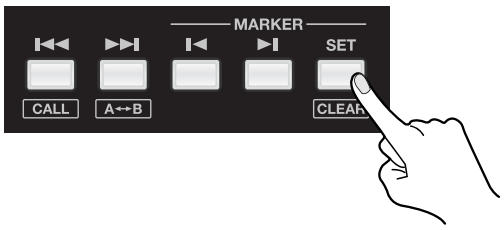
Adding a marker to a song lets you carry out indexing in a single step. When adding markers during recording, refer to “Adding Markers to Recording Data” (p. 50).

To add markers during playback or when playback is stopped, follow the steps below.

* You can add up to 99 markers to one song.

Adding Markers During Playback

During playback, press the [SET] button. A marker is added at the time the button is pressed.

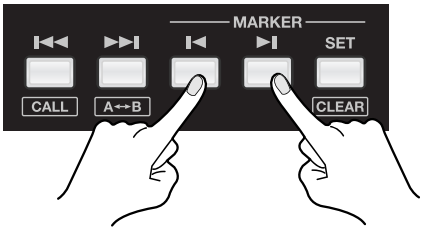


Adding Markers While Playback is Stopped

Operate the [SHUTTLE] or [JOG/VALUE] dial to move to the location. Pressing the [SET] button adds a marker at the current location.

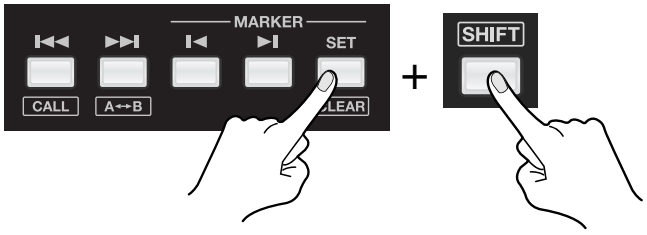
Jumping to a Marker Location

Press the jump buttons to move to marker position right before or right after the current position. The jump buttons are functional regardless of whether playback is in progress or stopped.



Deleting Added Markers (CLEAR)

Holding down the [SHIFT] button and pressing the [SET] button lets you delete the marker immediately before the current location. You can delete markers regardless of whether playback is in progress or stopped.

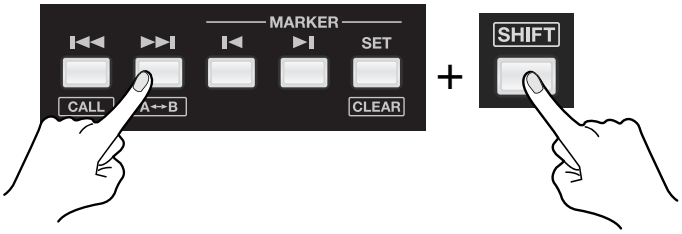


Using the A/B Repeat Play Feature

You can carry out repeat play of a passage between two points (A-B) in a song.

1. Set the A mark.

Holding down the [SHIFT] button and pressing [A<->B] button sets the start position (A mark) for repeat play.



2. Set the B mark.

Pressing the same buttons in step 1 a second time sets the B mark. The second pressing of [SHIFT] and [A<->B] becomes the end position (B mark) of the passage. Setting an A mark and B mark enables repeat play between A and B.

3. Canceling A/B repeat.

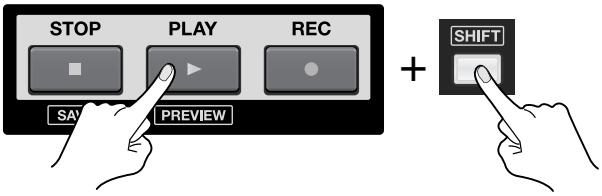
Press the same buttons in step 1 once again to cancel A/B repeat playback.

Outputting Audio to Monitor Equipment Only (PREVIEW)

To output audio to monitor equipment only, without outputting it from a V-Mixer or digital snake device, use the PREVIEW feature. Hold down the [SHIFT] button and press the [PLAY] button to cancel REAC output from the R-1000. You will output from the MONITOR OUT and PHONES connectors only.

NOTE

Preview playback occurs only while you are holding down the [SHIFT] button and pressing the [PLAY] button. Releasing the buttons stops preview playback.



About Other Features

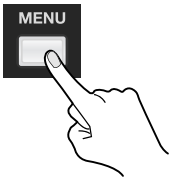
You can use the following features to make various settings or others on the R-1000. For information on using the menus, refer to “Menu Operations and Menu List” (p. 71).

Locking and Unlocking Panel Operation

You can lock the panel to prevent inadvertent operation.

1. Display the menu screen.

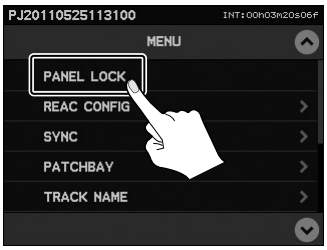
Press the [MENU] button to display the menu screen.



2. Lock the panel operation.

At the touch panel, go to [PANEL LOCK] to lock the panel operation. At this time, the display automatically returns to the home screen.

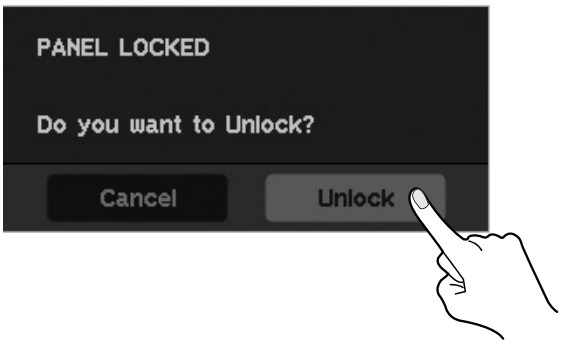
* When panel is locked, only unlocking can be performed. No other operations will work.



3. Unlock operation.

Touching the screen while operation is locked displays a confirmation screen for unlocking. Touch [Unlock] to unlock the panel operation.

* The confirmation screen automatically disappears five seconds after appearing. Operation is not unlocked unless you touch [Unlock] while the screen is displayed.



Changing a Project Name/Song Name/Track Name

Changing a Project Name

You can change the project name with the steps below. Project sequence is determined by the project names (numerical and alphabetical order).

1. Display the menu.

Press the [MENU] button to display the menu screen.

2. Access the project setting screen.

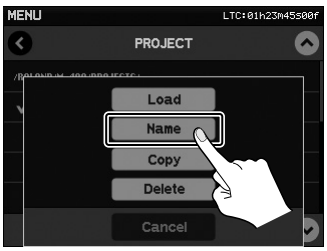
At the touch panel, touch [PROJECT] to access the project setting screen.

3. Select the project.

Touch the project name. Editing options for the project are displayed.

4. Select "Name."

From the editing options, select [Name]. The display changes to a screen for renaming the project name (Name Edit screen).



5. Rename the project.

Use the screen shown below to change the project name. For information on the functions of the icons, refer to the following section, "About the Name Edit Screen."

6. Finalize the new project name.

Touch [Done] to finalize the project name.

* If you press the [MENU] button without touching [Done], you can return to the home screen without saving the new project name.

7. Return to the home screen.

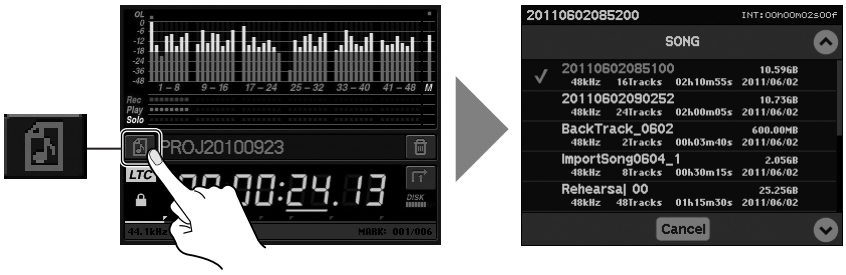
Press the [MENU] button to return to the home screen.

Changing a Song Name

You can also rename song in the same way as renaming projects.

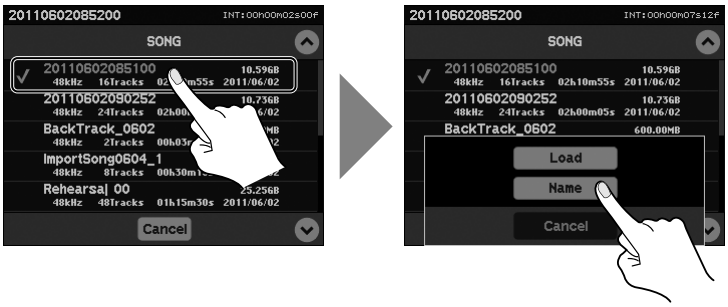
1. Display the song selection screen

At the home screen, touch the icon below to access to the song selection screen.



2. Select the song

Touch the song name. Editing options for the songs will be displayed.



3. Select “Name“

Selecting “Name“ changes the screen to the name edit screen.

4. Rename the song

Use the Name Edit screen to rename the song.

5. Finalize the song name.

Touch [Done] to finalize the changed song name.

Changing a Track Name

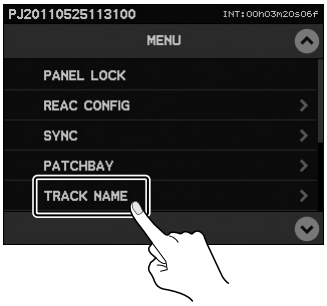
You can also rename tracks in the same way as renaming projects/songs.

1. Display the menu.

Press the [MENU] button to display the menu screen.

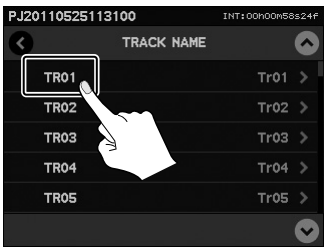
2. Access the track name setting screen.

At the touch panel, touch [TRACK NAME] to access the track name setting screen.



3. Select the track.

Touch the track whose name you want to change. The display changes to a screen for renaming the track (Name Edit screen).



4. Rename the track.

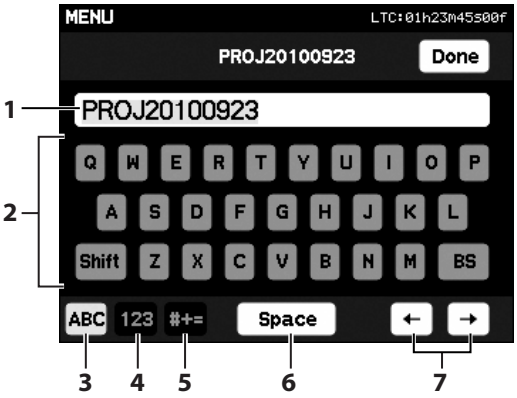
Use the Name Edit screen to rename the track.

5. Finalize the track name.

Touch [Done] to finalize the changed track name.

About the Name Edit Screen

The name edit screen has the following functions.



1. Name

This displays the name of selected project/song/track. The character at the cursor location is highlighted in blue.

2. Character Keys

You can use these to type in the name field. When alphabet is selected, use [Shift] to switch between upper and lower case.

3. Alphabet

This switches the character keys to alphabet.

4. Numerals

This switches the character keys to numerals and symbols.

5. Symbols

This switches the character keys to symbols.

6. Space

This inserts a space at the location of the cursor.

7. Cursor Keys

These move the cursor to the left and right.

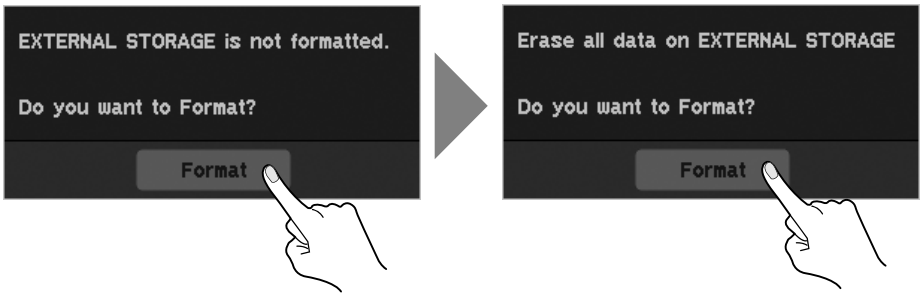
Copying Recorded Data to External Storage

You can copy recorded data saved on removable storage to a USB hard disk or other external storage device. Make it a habit to back up important data by copying it to external storage.

Formatting External Storage

When an external storage device that requires formatting is connected to the R-1000, a confirmation screen appears. Touch [Format] at the confirmation screen to start formatting. Before attempting copy operations, be sure to carry out formatting.

* The screen does not appear when an external storage device that does not need formatting is connected. Simply go ahead and carry out the copy operation directly.



NOTE

Carrying out this operation deletes all data saved on the external storage device. Before formatting, first make sure no necessary data is remaining on the device.

MEMO

If an external storage device that you do not want to format is connected, detach the device without touching [Format]. Detaching the device makes the confirmation screen disappear.

cf.

To reformat a previously formatted external storage device, refer to the procedure in “Reformatting a Formatted Removable Storage Device” (p. 19).

Copying Recorded Data

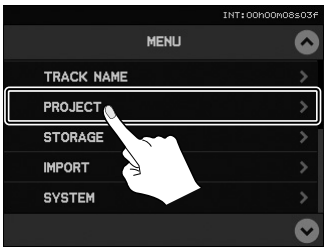
With the steps below, you can copy recorded data on removable storage to external storage.

1. Display the menu screen.

Press the [MENU] button to display the menu screen.

2. Access the project setting screen.

At the touch panel, touch [PROJECT] to access the project setting screen.

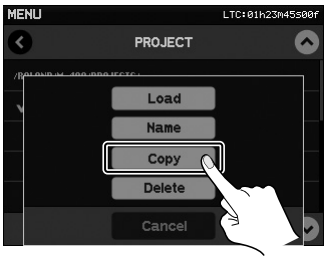


3. Select the project.

Select the copy source project. Editing options for the project are displayed.

4. Select "Copy."

Select [Copy]. The display changes to a screen for selecting the copy destination.



5. Select the copy destination.

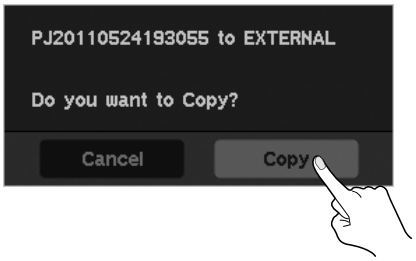
Select the copy destination storage device. To copy to external storage, select [EXTERNAL].

* You can also copy to removable storage by selecting [REMOVABLE].

6. Perform the copy operation.

Selecting the destination storage makes a confirmation screen appear. Touching [Copy] starts copying to the destination.

* If an identically named project is already on the destination volume, the Name Edit screen (p. 60) will appear . Change project name and touch [Done].



7. Return to the home screen.

Press the [MENU] button to return to the home screen.

TIP

If you want to copy a project from the external storage device to the removable storage drive, touch the [External] icon located in the lower left of the screen shown in step 3.

Importing Audio Data

You can import your own WAV files for playback on the R-1000. This is done by formatting your WAV files properly, then copying them to an external storage device, then copying from the external storage device to the removable storage drive.

* Only 24-bit .wav files at 44.1 kHz, 48 kHz, or 96 kHz can be imported. Files in other formats or at other sampling rates cannot be imported.

Prepare Data to Import

Prepare data to import first according to the rules below.

- Prepare .wav files of 24 bits/44.1 kHz, 48 kHz, 96 kHz. Files must be mono.
- Do not mix multiple sampling frequencies. Choose one frequency from the above.
- Prepare BWF files if you want to designate the start position of playback.
- The file name must be [TRK$$_##.wav]. ## is the track number (01 - 48) and $$ is the sequential order of playback on track (01-99). If you want to locate three WAV files on the track 1, those should be named [TRK01_01.wav], [TRK01_02.wav] and [TRK01_03.wav].
- Create a new folder on your external storage device and name it [IMPORT]. Copy all your properly named WAV files to this new folder.

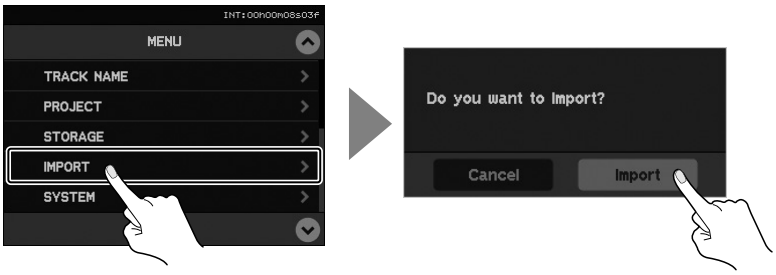
Execute Importing

1. Display the menu screen.

Press the [MENU] button to display the menu screen.

2. Select [IMPORT].

* If [IMPORT] is not displayed on the first page, touch the cursor icons (p. 69) to scroll the pages.



3. Start importing.

Touch [Import] on confirmation screen to start importing.

4. Return to the home screen.

Press the [MENU] button to return to the home screen.

MEMO

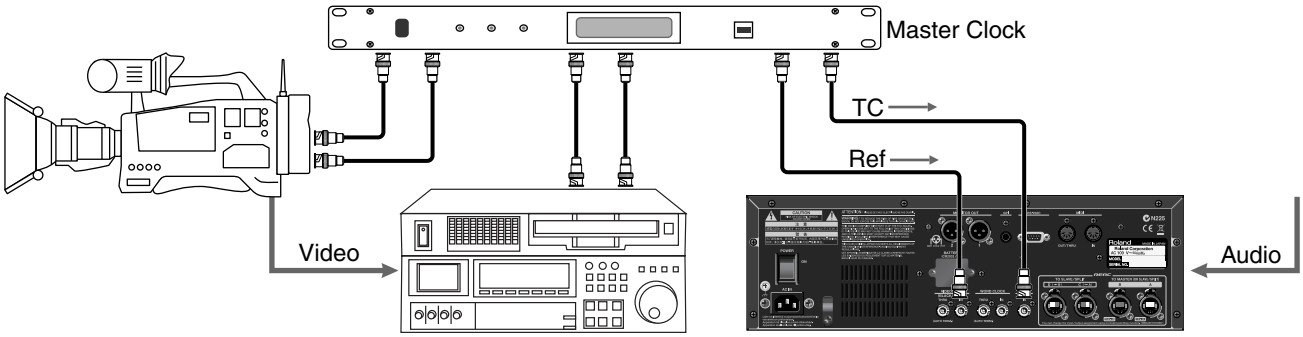
The name of the project created from imported data will be created from date/time of the importing process. Date/time parameters are supplied from the internal calendar/clock of the R-1000.

Synchronizing the Operation with Video Equipment

You can connect a source device as shown below and synchronize the operation with a video camera, video deck, or other video equipment.

MEMO
For information on the connections and settings, download the separately available reference document (R-1000 Application Guide) from the following Roland website.

http://www.rolandsystemsgroup.net/



Returning to the Factory-default State

With steps below, you can return the R-1000 to its factory-default state.

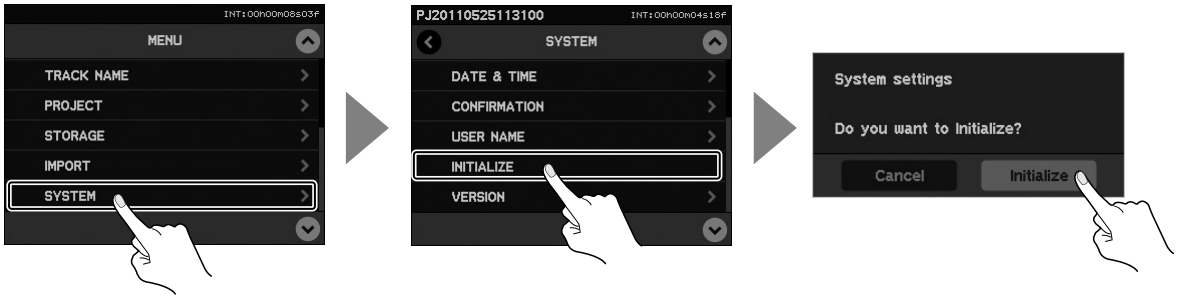
1. Display the menu screen.

Press the [MENU] button to display the menu screen.

2. Access the initialization screen.

At the touch panel, select [SYSTEM], then [INITIALIZE]. A confirmation screen for initializing is displayed.

* If [SYSTEM] or [INITIALIZE] is not displayed on the first page, touch the cursor icons (p. 69) to scroll the pages.



3. Perform initialization.

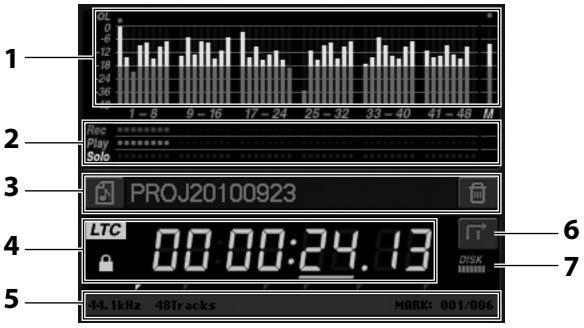
Touching [Initialize] at the confirmation screen initializes the various settings on the R-1000.

4. Return to the home screen.

Press the [MENU] button to return to the home screen.

About the Home Screen

Normal Home Screen



1. Level Meter

This displays the input and output levels of each track. The tracks are divided into groups of eight. Touching any group displays the status of the eight tracks in it.

The [M] meter displays the monitor output level. Touching the [M] meter does not make the display change.

2. Status Display

Like the STATUS indicators on the front panel, this displays the tracks designated for recording and playback.

3. Song Name

This displays the current song name. Touch icons located left/right sides of the song name to load a song or delete a song.

4. Timecode Display

This displays the current recording or playback position as a timecode.

5. Song Status

The status indications described below are displayed during recording or playback. This is grayed out when playback or recording is stopped.

- Sampling rate — This displays the sampling rate.
- Number of tracks — This displays the number of tracks used for recording or playback.
- Recording/playback status — This displays “Recording” during recording or “Playing” during playback.
- Marker information — This is displayed only during playback. It displays the marker number right before the current location and the total number of markers that have been added to the current song. The approximate marker locations are also displayed at the top of the song status.
- Remaining time — This is displayed only during recording. It displays the recordable time on removable storage in hours, minutes, and seconds (h:m:s).

6. Playback Mode Selector

You can choose one of the playback mode from below. The playback mode changes each time you touch the icon, in the sequence.

- One Shot — This plays the current song once (one shot), then stops.
- Loop — This performs repeated (loop) playback of the current song.
- Sequential — This plays back the songs in current project sequentially, starting with the current song. Playback stops when the playback of the song right before the current song is finished.
- Sequential Loop — This performs sequential loop playback of the songs in current project, starting with the current song.
- Marker Loop — This performs loop playback between markers before and after the current location.

7. Disk Performance Meter

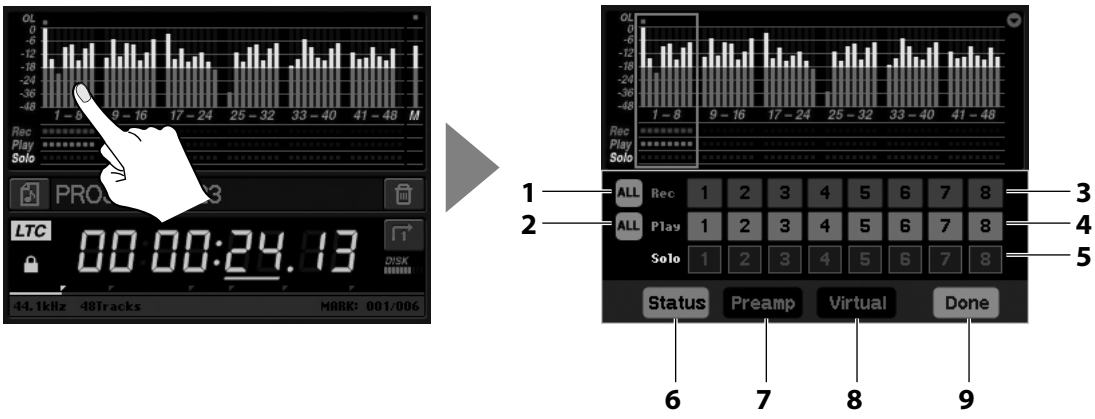
This indicates the load level of reading and writing from/to the removable storage.

NOTE

If the performance of the removable storage drops because of vibration, wearing or other reasons, this bar graph moves toward the right. If a red part on the right end appears, recording or playback may stop.

Track Status Screen

Touching the level meter for a group of eight tracks makes the display change to the screen shown below.



1. Rec ALL

This arms all tracks for recording. Touching it once highlights all tracks in red. Touching it a second time grays out and unselects all tracks.

2. Play ALL

This selects all tracks for playback. Touching it once highlights all tracks in green. Touching it a second time grays out and unselects all tracks.

3. Rec Selector

This selects an individual track for recording from the eight displayed tracks. The selected track is highlighted in red.

4. Play Selector

This selects an individual track for playback from the eight tracks. The selected track is highlighted in green.

5. Solo Selector

This selects an individual track for solo output from the eight tracks. The selected track is highlighted in yellow, and only the audio for the track selected here is output to the monitor equipment (devices connected to the MONITOR OUT and PHONES connectors). Touching the same number a second time cancels solo output.

* Solo output is sent only to the monitor equipment, no REAC output is performed.

* During solo output, the level meter for the output track is displayed at the bottom of the screen. A [CLR] icon is also displayed, and functions to clear the peak at the level meter. Touching the [X] icon makes the level meter disappear.

6. Status Icon

Touching this returns the display to the track status screen.

7. Preamp Icon

This changes the display to the preamp setting screen (next page) for a connected digital snake device.

8. Virtual Icon

This changes the display to a screen for independently adjusting the output of individual tracks on the R-1000 during playback (p. 68).

9. Done Icon

This applies the various settings and returns the display to the home screen.

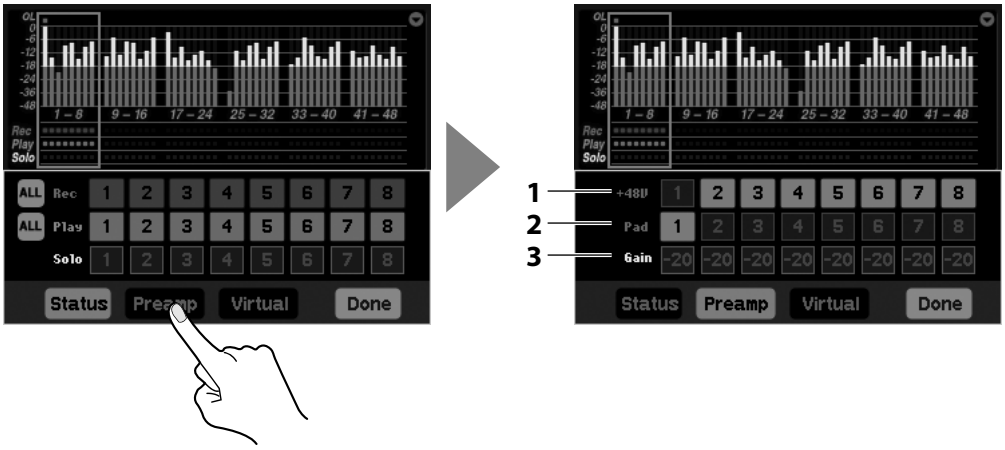
Preamp Setting Screen

Touching the [Preamp] icon at the track status screen makes the display change to the following screen. When this screen is displayed, you can check the preamp settings for the connected digital snake devices. You can check the channels designated for recording on the R-1000.

* Target channels are the source channels assigned to the R-1000's tracks on its patchbay.

MEMO

In the [REAC] menu, setting [PREAMP CONTROL] to ON lets you change the settings for the digital snake device's preamp by remote control. When this is set to OFF, you can view the settings, but they cannot be changed by remote control. For information on [PREAMP CONTROL], refer to "Menu List" (p. 71).



1. +48V Display

This displays the status of phantom power supply. Phantom power is supplied from the channel whose number is highlighted in orange.

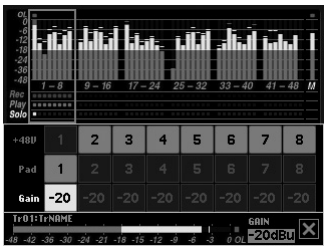
2. Pad Display

This displays whether pad is on or off. Pad is applied to the channel whose number is highlighted in orange, and the input level of the digital snake device is attenuated by 20 dB.

3. Gain Display

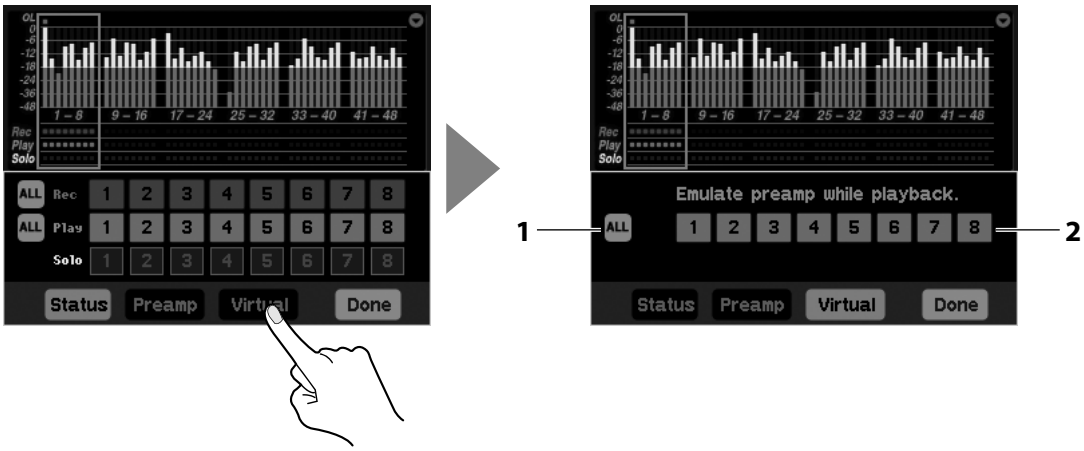
This displays the preamp gain. Touching the gain value displays a screen for adjusting gain. You can adjust the preamp gain by turning the [JOG/VALUE] dial while this screen is displayed.

When you have finished adjusting the value, touch the [X] icon on the screen to go back to the original screen.



Virtual Preamp Setting Screen

Touching the [Virtual] icon at the track status screen makes the display change to the following screen.



You can virtually adjust the playback volume of a selected track in this screen remotely from the devices listed below.

- V-Mixer
- S-4000R connected to a digital snake device
- S-4000 RCS (dedicated remote-control software) connected to a digital snake device

1. ALL Selector

This enables you to adjust the playback volume for all tracks from the external equipment.

2. Track Selectors

These select the tracks for virtual adjustment of volume. You can virtually adjust the volume level only for numbers highlighted in green by touching them.

NOTE

If you have assigned input channels according to [Assign the input channels to the recording tracks] (p. 44), the physical preamp of the assigned channel on the source device will also change. You can check which channel is assigned to which track in [INPUT PATCHBAY].

Menu Operations and Menu List

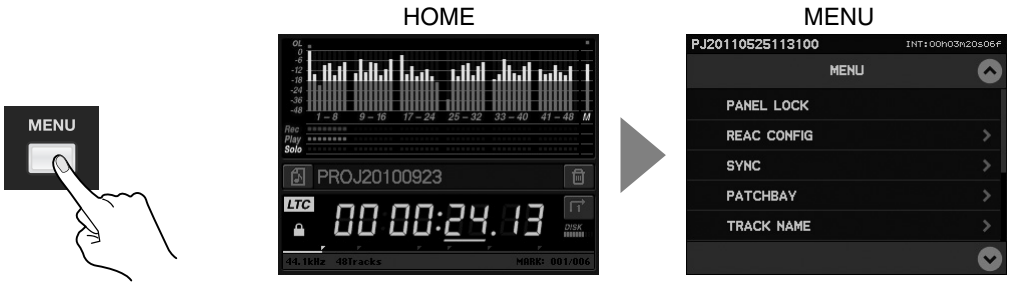
Menu Operations

To display the menu screen, press the [MENU] button. You can use the touch panel and the [JOG/VALUE] dial to make various settings.

NOTE
Current position does not move even if you turn the [JOG/VALUE] dial while the menu screen is displayed. In Menu mode, the dial will only change menu parameter value. Also, the [SHUTTLE] dial does not work while the menu screen is displayed.

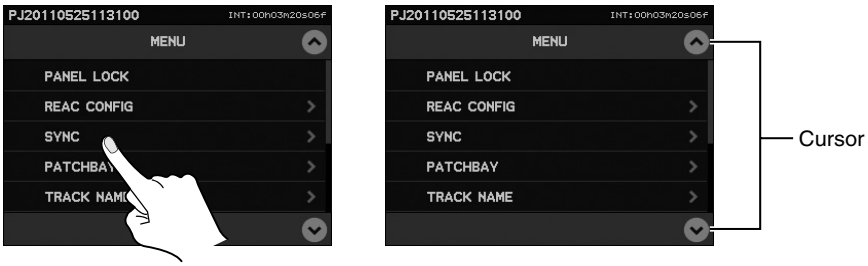
1. Display the menu.

Press the [MENU] button to switch to the menu screen. The [MENU] button lights up during menu display. It goes dark when the display returns to the home screen.



2. Choose the item whose setting you want to change.

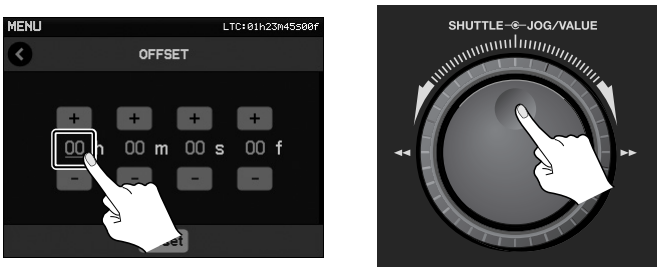
Use the touch panel to select the item you want to change. The text of the selected item changes color. If you want to scroll the menu screen up or down, touch the cursor icons on the right side of the screen.



3. Change the setting value.

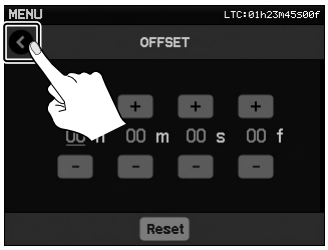
When the setting value is displayed with an underline, you can change the setting value by turning the [JOG/VALUE] dial. You can also change the setting value by touching [+] or [-] above and below the value.

* The [JOG/VALUE] dial does not work when no item is selected and no underline is displayed.



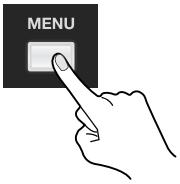
4. Go back one screen.

Touch the left-pointing cursor icon at the top of the screen to return to the previous screen.

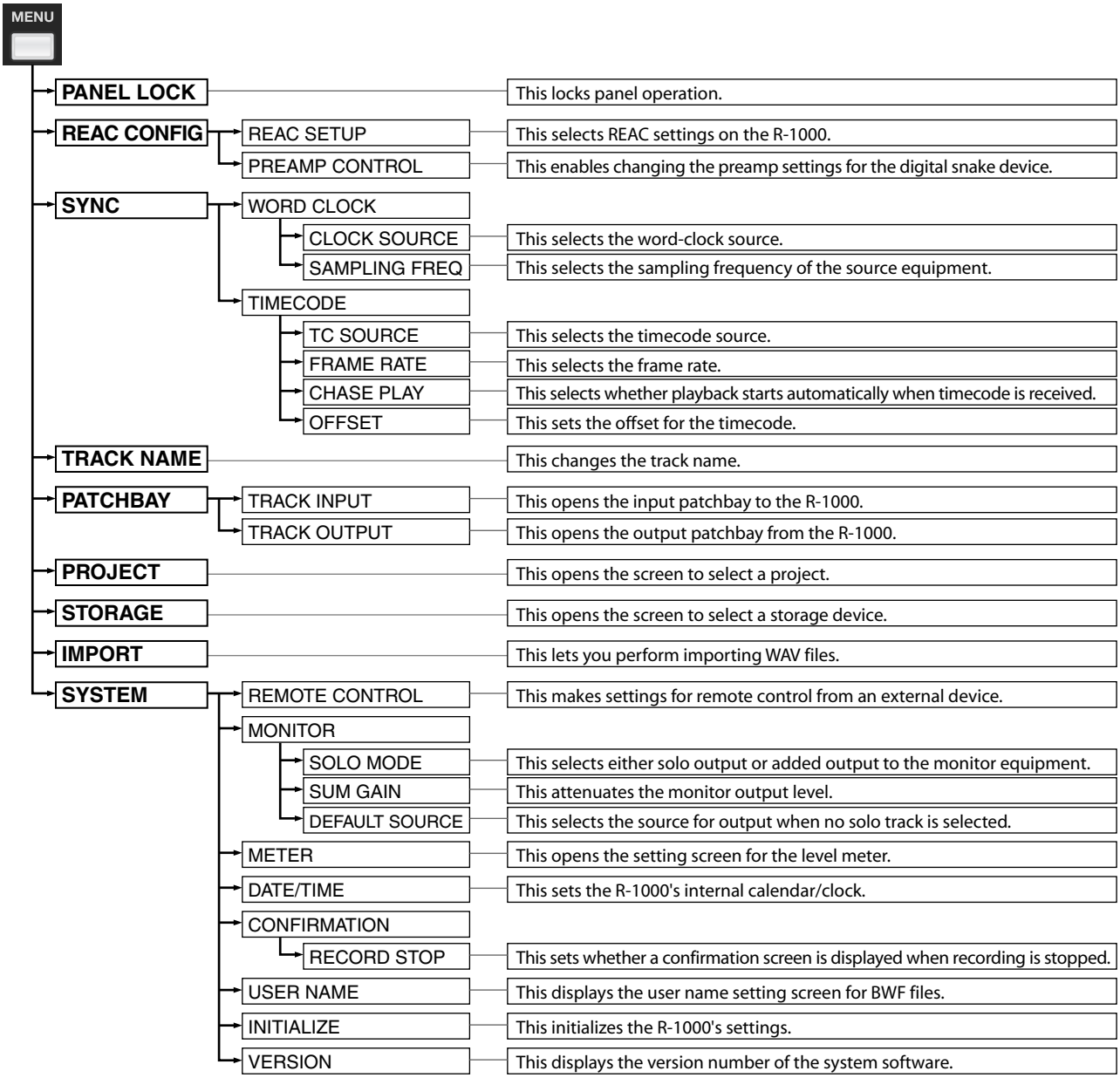


5. Go back to the home screen.

Press the [MENU] button to return to the home screen.



Menu List


MENU
PANEL LOCK
This locks panel operation.
REAC CONFIG
REAC SETUP
This selects REAC settings on the R-1000.
PREAMP CONTROL
This enables changing the preamp settings for the digital snake device.
SYNC
WORD CLOCK
CLOCK SOURCE
This selects the word-clock source.
SAMPLING FREQ
This selects the sampling frequency of the source equipment.
TIMECODE
TC SOURCE
This selects the timecode source.
FRAME RATE
This selects the frame rate.
CHASE PLAY
This selects whether playback starts automatically when timecode is received.
OFFSET
This sets the offset for the timecode.
TRACK NAME
This changes the track name.
PATCHBAY
TRACK INPUT
This opens the input patchbay to the R-1000.
TRACK OUTPUT
This opens the output patchbay from the R-1000.
PROJECT
This opens the screen to select a project.
STORAGE
This opens the screen to select a storage device.
IMPORT
This lets you perform importing WAV files.
SYSTEM
REMOTE CONTROL
This makes settings for remote control from an external device.
MONITOR
SOLO MODE
This selects either solo output or added output to the monitor equipment.
SUM GAIN
This attenuates the monitor output level.
DEFAULT SOURCE
This selects the source for output when no solo track is selected.
METER
This opens the setting screen for the level meter.
DATE/TIME
This sets the R-1000's internal calendar/clock.
CONFIRMATION
RECORD STOP
This sets whether a confirmation screen is displayed when recording is stopped.
USER NAME
This displays the user name setting screen for BWF files.
INITIALIZE
This initializes the R-1000's settings.
VERSION
This displays the version number of the system software.

Appendices

Main Specifications

Recording		
Number of Tracks	44.1/48 kHz	Max 48
	96 kHz	Max 24
D/A Conversion	Sampling Frequency	44.1/48/96 kHz
	Signal Processing	24 bits
File Format		BWF (Broadcast Wave Format)
Recording Media		Removable HDD or Removable SSD
Recording Time	44.1 kHz/48 tracks	64GB : Approx 160 minutes 120GB : Approx 310 minutes 500GB : Approx 1300 minutes
	48 kHz/48 tracks	64GB : Approx 150 minutes 120GB : Approx 280 minutes 500GB : Approx 1200 minutes
	96 kHz/24 tracks	64GB : Approx 150 minutes 120GB : Approx 280 minutes 500GB : Approx 1200 minutes
	* These recording times are approximate. Your actual results may vary somewhat. * If multiple projects and songs exists, the total recordable time will be less than these.	

Output		
Frequency Response	MONITOR OUT(1/2)	-2 dB/+0 dB (20 k ohms load, + 4 dBu, typ.)
	PHONES	-3 dB/+0 dB (40 ohms load, 150 mW, typ.)
	* Sample Rate : 48.0 kHz or 44.1 kHz	
Nominal Output Level	MONITOR OUT(1/2)	+4 dBu (Load impedance : 10 k ohms, typ.)
Output Impedance	MONITOR OUT(1/2)	600 ohms (typ.)
	PHONES	46 ohms (typ.)
Recommended Load Impedance	MONITOR OUT(1/2)	10 k ohms or greater
	PHONES	16 ohms or greater
Non Clip Max Output Level	MONITOR OUT(1/2)	+22 dBu (1 kHz, 20 k ohms load, typ.)
	PHONES	500 mW + 500 mW (1 kHz, 40 ohms load, typ.)

Network Latency	
REAC A(B) -> REAC C(D)	0.2 mS (typ.)
REAC C(D) -> REAC A(B)	0.2 mS (typ.)

Connectors	
USB	Type A x 1 (for external storage) Type B x 1 (for computer)
MONITOR OUT (1/2)	XLR type (balanced) x 2
PHONES	Stereo 1/4 inch Phone type x 1
REAC (A - D)	RJ-45 EtherCon type x 4
RS-232C	9 pin D-Sub type x 1
MIDI	5 pin DIN type x 2 (IN, OUT/THRU)
VIDEO SYNC (Black Burst)	BNC type x 2 (IN/THRU)
WORD CLOCK	BNC type x 2 (IN/THRU)
SMPTE	BNC type x 1 (LTC)
GPI	1/4 inch Phone type x 1

Others	
Display	320 x 240 dots TFT color touch screen
Power Supply	AC 115 V, AC 117 V, AC 220 V, AC 230 V, AC 240 V (50/60 Hz)
Power Consumption	45W
Dimensions	482.0 (W) x 383.6 (D) x 132.5 (H) mm 19 (W) x 15-1/8 (D) x 5-1/4 (H) inches
Weight	7.3 kg / 16 lbs 2 oz
Operation Temperature	+5 to +40 degrees Celsius +41 to +104 degrees Fahrenheit
Accessories	Power Cord, REAC Connector Cover x 4, Ferrite Core x 4, Rubber Foot x 4, Owner's Manual
Options (sold separately)	Roland HDD-500G (500 GB HDD) Edirol F1-HD120 (120 GB HDD) Edirol F1-SSD64 (64 GB HDD)

* 0 dBu = 0.775 Vrms
* When a REAC Splitter & Distributor S-4000D or a switching hub is used in-line with REAC cables, the network latency will increase by the amount of processing delay introduced by the splitting device itself. The actual delay is dependant upon the specifications of the splitting device, though the maximum delay amount for a single splitting device should be about 200 microseconds.
* In the interest of product improvement, the specifications and/or appearance of this unit are subject to change without prior notice.

About Remote Control

You can use the connectors described below to operate the R-1000 remotely from an external device.

- PC Connect a computer on which the dedicated remote control software (R-1000 RCS) is installed.
- GPI Connect a foot switch or other device capable of GPI output.
- RS-232C Connect a computer or other equipment capable of sending RS-232C serial signals.
- MIDI Connect a MIDI device.

For more information about remote control, download the separately available reference document from the following Roland website.

http://www.roland.co.jp/solution/

* Download the separate PDF files for R-1000 RCS and for remote control via GPI/RS-232C/MIDI.

Troubleshooting

The calendar/clock does not function correctly.

Is the internal lithium battery almost dead? Follow the procedure in "About the Internal Lithium Battery" (p. 15) to replace the battery.

Projects are not recognized.

Has the folder configuration on removable storage been altered? Altering the folder configuration can make it impossible for the R-1000 to recognize project data. Restore it to the state described in "Folder Configuration on Removable Storage" (p. 37).

Operations are not accepted.

Has panel operation been locked? Follow the procedure in "Locking and Unlocking Panel Operation" (p. 57) to unlock it.

Input and output are not possible.

Have the REAC settings for the connected REAC device and the R-1000 been made correctly? Refer to "Connecting REAC Devices" (p. 24) and "About REAC Settings" (p. 36) and make the correct settings for each device.

Also, refer to "Before Making REAC Connections" (p. 24) and check the sampling rate and the connection cables as well.

A silent track is produced during recording.

Were automatic settings used to select the recording tracks? The automatic settings assign a recording track even when an unused channel is present on the source device. When this happens, the tracks with the unused channels are silent. If you do not want to create a silent track, follow the procedure in "Selecting a Recording Track Manually" (p. 44) and make the setting manually.

Recording data cannot be copied to external storage.

Is the external storage device locked? Be sure to unlock it before connecting it to the R-1000.

Audio data cannot be imported.

Are you trying to import a file in a format that the R-1000 does not support? The R-1000 supports only 24-bit .wav files at 44.1 kHz, 48 kHz, or 96 kHz.

Synchronization with other equipment is not possible.

Have the clock source and timecode source been set correctly? For information on synchronization-related connections and settings, refer to "Synchronizing Operation with Video Equipment" (p. 64), and also download the reference document (R-1000 Application Guide) from the following Roland website.

http://www.rolandsystemsgroup.net/

Error Messages

Cannot record/Cannot play.
Sampling frequency mismatch.

The sampling frequency of the selected project does not match with the REAC system where the R-1000 is currently connected. It is not possible to carry out recording/playback.

Cannot change.
REAC SETUP is not EXT.CLOCK.

The REAC SETUP is not [EXT.CLOCK with V-MIXER] nor [EXT.CLOCK with D.SNAKE]. It is not possible to change the setting.

Cannot operate the EXTERNAL STORAGE.
It exceeds the power capability.

The power consumption of the device connected to the EXTERNAL STORAGE connector is exceeds the maximum (2.5 W).

Now recording../Now playing...

Your operation cannot be performed during recording or playback.

Insert REMOVABLE STORAGE.

Insert optional removable storage to the removable storage bay.

EXTERNAL STORAGE is not formatted.

The connected external storage is not formatted yet. Carry out formatting.

Media is full.

Since the capacity of the removable storage or external storage is fully consumed, you cannot continue recording or copying.

Splitting file..

Now splitting the file. (This appears when the file size of recorded data reaches 2 GB or a manual split is being performed by pressing [REC] button while recording.)

Cannot split.

You cannot perform further splitting (take number reached 99).

REAC x error.
Fan stop.

The cooling fan of the unit connected to REAC port x has stopped.

REAC x error.
Temp high.

The interior temperature of the unit connected to REAC port x is abnormally high.

REAC x error.
Link down.

The link with the unit connected to REAC port x has been disconnected while recording or playback.

Internal fan has stopped.

The cooling fan on rear panel has stopped.

Internal battery is low.

Internal lithium battery is dying. Replace battery as described earlier.

PREAMP CONTROL is disabled.

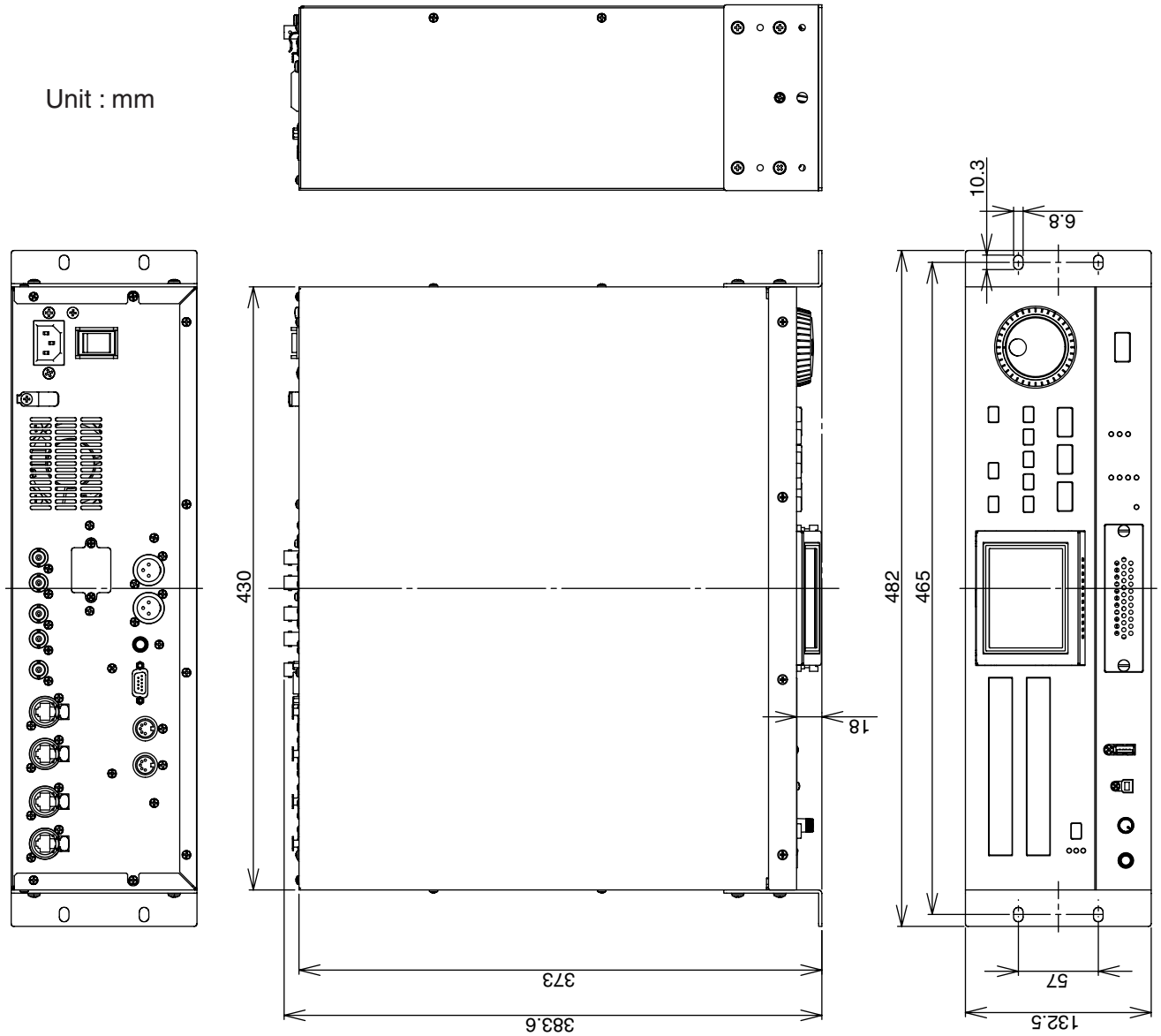
It is not possible to change the preamp setting of input/output units.

Cannot lock external clock. (No signal/Unlock)

It is not possible to synchronize with clock from external source. (R-1000 is not detecting signal or improper signal is input.)

Dimensions

Unit : mm



Index

A
A/B Repeat 56
Auto Map 42

C
Clock Source 26
Computer 35
Copy 61
cord hook 14

D
Delete 41

E
exhaust port 11
External Storage 35

F
F1-HD120 17
F1-SSD64 17
Factory-default 64
ferrite core 13
folder configuration 37
Format 19

H
HDD-500G 17
Headphones 34
Home 65

I
import 63

J
JOG 54

L
library 47
lithium battery 15
Live Audio 30

M
MADI Device 32
Marker 50
MENU 69
Meter Setting 48
Monitor Speakers 34
Multi-track Playback 29

N
Name Edit 60

P
PANEL LOCK 57
playback mode 53
Preamp Setting 67
Project Name 58

R
R-1000 RCS 35
Rack Mount 12
REAC connector cover 13
REAC Indicators 24
Recording Time 17
removable storage 18
rubber feet 11

S
Save 39
SHUTTLE 54
S-MADI 32
song 37, 40
split 50
Split Output 27
standby mode 16

T
Track Name 59
Track Status 66

V
Video Equipment 64

Apparatus containing Lithium batteries

CAUTION

Danger of explosion if battery is incorrectly replaced.
Replace only with the same or equivalent type recommended by the manufacturer.
Discard used batteries according to the manufacturer s instructions.

ADVARSEL!

Lithiumbatteri - Eksplosionsfare ved fejlagtig h ndtering.
Udskiftning m kun ske med batteri af samme fabrikat og type.
Lev r det brugte batteri tilbage til leverand¿ren.

VARNING

Explosionsfara vid felaktigt batteribyte.
Anv nd samma batterityp eller en ekvivalent typ som rekommenderas av apparattillverkaren.
Kassera anv nt batteri enligt fabrikantens instruktion.

ADVARSEL

Eksplosjonsfare ved feilaktig skifte av batteri.
Benytt samme batteritype eller en tilsvarende type anbefalt av apparatfabrikanten.
Brukte batterier kasseres i henhold til fabrikantens instruks joner.

VAROITUS

Paristo voi r j ht , jos se on virheellisesti asennettu.
Vaihda paristo ainoastaan laitevalmistajan suosittelemaan tyyppiin. H vit k ytetty paristo valmistajan ohjeiden mukaisesti.

For EU Countries

CE

This product complies with the requirements of EMCD 2004/108/EC and LVD 2006/95/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 A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

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.

To assure continued FCC emission limit compliance, use only shielded interface cables when connecting to other device.
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 A digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

AVIS

Cet appareil num rique de la classe A respecte toutes les exigences du R glement sur le mat riel 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 EU Countries

CE

This product is intended for use in the following Electromagnetic environments:
E1: residential, E2: commercial and light industrial, E3: urban outdoors, E4: controlled EMC environment, ex. recording studio (broadcasting studio) which are specified in EN55103-1 and EN55103-2.

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。

不当的使用，将会导致有害物质泄漏的危险。

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。

5100023098-01