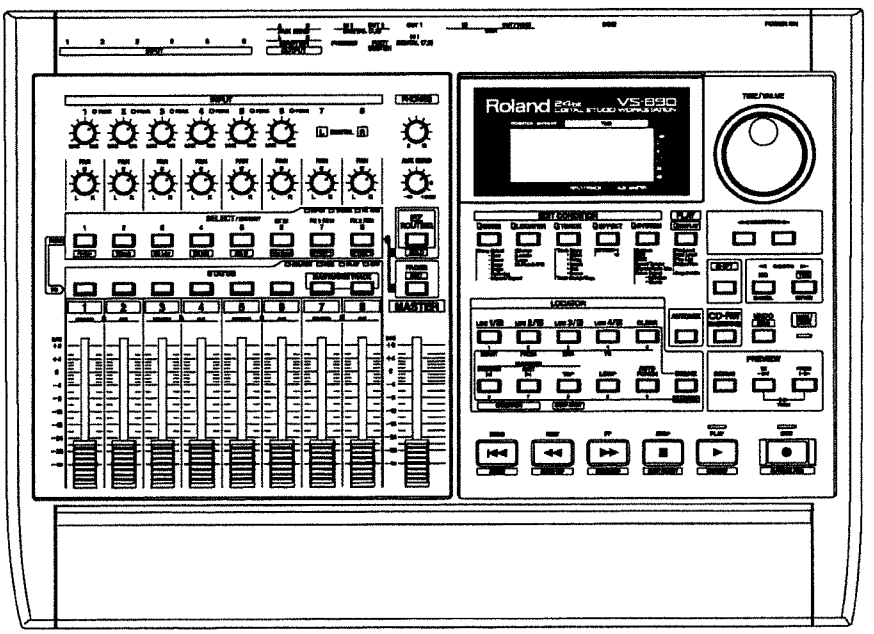
Roland®

24-bit
DIGITAL STUDIO WORKSTATION

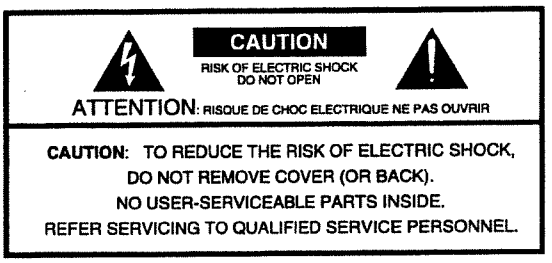
VS-890

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. 11). 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, User Guide, Owner's Manual, and Appendices should be read in its entirety. These manuals should be saved and kept on hand as a convenient reference.

Roland Web Site: http://www.roland.co.jp/
Roland US Web Site: http://www.roland.com/



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 all the instructions before using the product.
2. Do not use this product near water — for example, near a bathtub, washbowl, kitchen sink, in a wet basement, or near a swimming pool, or the like.
3. This product should be used only with a cart or stand that is recommended by the manufacturer.
4. This product, 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 consult an audiologist.
5. The product should be located so that its location or position does not interfere with its proper ventilation.
6. The product should be located away from heat sources such as radiators, heat registers, or other products that produce heat.
7. The product should be connected to a power supply only of the type described in the operating instructions or as marked on the product.
8. The power-supply cord of the product should be unplugged from the outlet when left unused for a long period of time.
9. Care should be taken so that objects do not fall and liquids are not spilled into the enclosure through openings.
10. The product should be serviced by qualified service personnel when:
    A. The power-supply cord or the plug has been damaged; or
    B. Objects have fallen, or liquid has been spilled into the product; or
    C. The product has been exposed to rain; or
    D. The product does not appear to operate normally or exhibits a marked change in performance; or
    E. The product has been dropped, or the enclosure damaged.
11. Do not attempt to service the product beyond that described in the user-maintenance instructions. All other servicing should be referred to qualified service personnel.

For the USA

GROUNDING INSTRUCTIONS

This product must be grounded. If it should malfunction or breakdown, grounding provides a path of least resistance for electric current to reduce the risk of electric shock.

This product is equipped with a cord having an equipment-grounding conductor and a grounding plug. The plug must be plugged into an appropriate outlet that is properly installed and grounded in accordance with all local codes and ordinances.

DANGER: Improper connection of the equipment-grounding conductor can result in a risk of electric shock. Check with a qualified electrician or serviceman if you are in doubt as to whether the product is properly grounded.

Do not modify the plug provided with the product — if it will not fit the outlet, have a proper outlet installed by a qualified electrician.

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.

The product which is equipped with a THREE WIRE GROUNDING TYPE LINE PLUG must be grounded.

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

ALWAYS OBSERVE THE FOLLOWING

⚠WARNING

- Before using this unit, make sure to read the instructions below, and the Owner's Manual.
- Do not open or perform any internal modifications on the unit. (The only exception would be where this manual provides specific instructions which should be followed in order to put in place user-installable options; see User Guide p. 5.)
- 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.
- 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!
- 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!)
- 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.

⚠WARNING

- 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" page.
- Always turn the unit off and unplug the power cord before attempting installation of the hard disk drive unit (model no. HDP88 series; User Guide p. 5).
- DO NOT play a CD-R/RW disc (disc on which song data has been backed up) on a conventional audio CD player. The resulting sound may be of a level that could cause permanent hearing loss. Damage to speakers or other system components may result.

⚠ CAUTION

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

- 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.

- 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. 36).

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

- Install only the specified hard disk drive unit (model no. HDP88 series). Remove only the specified screws (User Guide p. 5).

- Should you remove the optical connector caps, make sure to put them in a safe place out of children's reach, so there is no chance of them being swallowed accidentally.

Contents

IMPORTANT NOTES

In addition to the items listed under "IMPORTANT SAFETY INSTRUCTIONS" and "USING THE UNIT SAFELY" on pages 2 and 3, please read and observe the following:

Power Supply

- Do not use this unit on the same power circuit with any device that will generate line noise (such as an electric motor or variable lighting system).
- 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.

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.
- 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.
- To avoid possible breakdown, do not use the unit in a wet area, such as an area exposed to rain or other moisture.

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.

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 save a backup copy of important data you have stored in the unit's memory on a storage device (e.g., Hard disks, Zip disks or CD-R/RW discs).
- Unfortunately, it may be impossible to restore the contents of data that was stored on a storage device (e.g., Hard disks, Zip disks or CD-R/RW discs) 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. You may prefer to use headphones, so you do not need to be concerned about those around you (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.
- Use a cable from Roland to make the connection. If using some other make of connection cable, please note the following precautions.
  - Some connection cables contain resistors. Do not use cables that incorporate resistors for connecting to this unit. The use of such cables can cause the sound level to be extremely low, or impossible to hear. For information on cable specifications, contact the manufacturer of the cable.

Handling the Internal Hard Disk Drive

- For details on hard disk handling, refer also to the instructions that accompanied your hard disk.

Before performing any of the following actions, be sure to perform the shutdown procedure. Failure to do so may result in the loss of song data or damage to the hard disk.

- Turning off the power of the VS-1880
- Turning off the power of the disk drive connected with SCSI connector
- Removing a disk from a removable disk drive connected with SCSI connector

Shutdown (See Appendices p. 13)
Removable Disk Drive (See Appendices p. 13)

- While using the VS-1880, be careful not to subject the unit to vibration or shock, and avoid moving the unit while the power is turned on.
- Install the unit on a solid, level surface in an area free from vibration. If the unit must be installed at an angle, be sure the installation does not exceed the permissible range.
- Avoid using the unit immediately after it has been moved to a location with a level of humidity that is greatly different than its former location. Rapid changes in the environment can cause condensation to form inside the drive, which will adversely affect the operation of the drive. When the unit has been moved, allow it to become accustomed to the new environment (allow a few hours) before operating it.

Copyright

- Unauthorized recording, distribution, sale, lending, public performance, broadcasting, or the like, in whole or in part, of a work (musical composition, video, broadcast, public performance, or the like) whose copyright is held by a third party is prohibited by law.
- When exchanging audio signals through a digital connection with an external instrument, this unit can perform recording without being subject to the restrictions of the Serial Copy Management System (SCMS). This is because the unit is intended solely for musical production, and is designed not to be subject to restrictions as long as it is used to record works (such as your own compositions) that do not infringe on the copyrights of others. (SCMS is a feature that prohibits second-generation and later copying through a digital connection. It is built into MD recorders and other consumer digital-audio equipment as a copyright-protection feature.)
- Do not use this unit for purposes that could infringe on a copyright held by a third party. Roland assumes no responsibility whatsoever with regard to any infringements of third-party copyrights arising through your use of this unit.

About the License Agreement

- The VS-890 and its CD-R capability are designed to allow you to reproduce material to which you have copyright, or material which the copyright owner has granted you permission to copy. Accordingly, reproduction of music CDs or other copyrighted material without the permission of the copyright owner, other than for your own personal use and enjoyment (private use) constitutes copyright infringement, which may incur penalties. Consult a copyright specialist or special publications for more detailed information on obtaining such permission from copyright holders.

Preparations

About the Package Contents

The following items are included with the VS-890. Please check to make sure you have all the items.

- VS-890
- AC cord
- User Guide
- Owner's Manual (this manual)
- Appendices

Main Features

The Latest in Compact Home Studio Environments

The **VS-890** retains all of the features of the **Roland's VS-880EX Digital Studio Workstation**; a revolution in the world of the home studio, with the **disk recorder, digital mixer**, and **multi effects** systematically and more organically integrated. From when you start picking mics to when you actually record to mixdown, adding effects, and on to creating the master data for playing through a PA or mastering on a CD, you can get a handle on every aspect of the recording process with the **VS-890** in your home studio.

Disk Recorder Section

The digital disk recorder section provides **8 playback tracks**, and allows **8 tracks to be recorded** simultaneously. Each track has **8 supplementary tracks (V-tracks**; p. 32), and each song can have 2 sets (**V-track banks**) of these 64 tracks (8 tracks x 8 V-tracks). This means that a song can have a total of 128 tracks (64 V-tracks x 2 banks), giving you flexibility when you need to record multiple takes, or need a location for temporary storage for editing.

NOTE

- The maximum number of simultaneous recording or playback tracks may be limited to eight tracks or less, depending on song-data makeup and disk-drive performance.
- When the Recording mode (p. 48) is **MAS**, the maximum number of simultaneous recording tracks is **six tracks**.
- When the **Vari-Pitch** (p. 178) **is on, the maximum number of simultaneous recording tracks is four tracks**.

You can perform mixdown to the **Mastering Tracks** (tracks 7 and 8) while simultaneously playing back tracks 1 through 6 (**Mastering Room**; p. 137). This can be handy when you're preparing performance data that's already been mixed down, such as when you're producing your own original audio CD.

There is a recording mode that supports professional-use digital equipment, such as DAT recorders, digital mixers, and digital effects processors. You can faithfully record and edit high-quality sound material, and play it back or output it without any drop in quality.

You can instantly find the location of sections in a song you want to hear repeatedly or places that you wish to record over (**Locator**; p. 40) by placing marks at such points (**Marker**; p. 41). These Markers are recalled by simple procedure, and you will never wait for any rewinding or fast-forwarding time.

The VS-890 uses "non-destructive editing." This allows you to cancel and recover up to 999 previous recording and editing operations (**Undo/Redo**; p. 75).

Digital Mixer Section

You can store all mixer settings, including **fader levels, pan**, and **effects**. Stored settings can be recalled very simply, making it convenient in adjusting balances during mixdown and comparing mixes with effects (**Scene**; p. 46).

Changes in settings over time, such as fader levels and pan, can also be stored (**Auto Mix**; p. 107), so you can realize easy fade-ins and fade-outs in your mixes.

You can easily make the most appropriate mixer condition settings, including those for recording, track bouncing, and mixdown (**EZ Routing**; p. 90).

Effects Section

Effects are built in. This allows you to use up to 2 stereo effects when the VS-890 is used by itself.

The effect provides not only basic effects such as **reverb** and **delay**, but also effects ideal for vocals and guitar (such as **Guitar Amp Simulator**), ideal for mastering (such as **Mastering Tool Kit** or **Speaker Modeling**), and even special effects such as **RSS**. The way in which each of these effects are organized by the 36 "algorithms" so that you can create new sounds easily.

RSS (Appendices; p. 14)

The effect provides 240 read only effects setting (**Preset Patches**) which designed for various uses. In addition, the effect provides 100 read and write effects setting (**User Patches**) for changing and saving that contents. You can instantly switch between a variety of effects simply by selecting a patch (p. 117).

Simple Operation

The VS-890 can be operated as easily as conventional multi-track recorders. You will be able to enjoy the advantages of home studio from the day that you purchase it.

The **custom LCD screen** provides visual confirmation of many settings at once. In particular, the **bar display** provides a graphical indication of the **level meter, pan** and **fader** settings, and the **track record status** (**playlist**; p. 186). The LCD screen is backlit and inclined, so it is easy to read when used on stage or wherever high visibility is required.

Connectivity

There are 6 sets of **balanced input jacks**, handling a wide input sensitivity range, from line level (+4 dBu) to mic level (-50 dBu).

Besides the **RCA phono type** (stereo) **MASTER jacks**, the (mono) **AUX A** and **AUX B** jacks are provided.

The VS-890 provides both **coaxial** and **optical digital I/O connectors**. With these, you can make digital connections with popular consumer electronic devices such as CD players, DAT recorders, MD recorders, and so on.

A **SCSI connector** (DB-25 type) is also provided, allowing you to connect to external SCSI devices such as the CD-RW drive and the Zip drive. You can connect a CD-RW drive (Roland CD Recorder) or a Zip drive, and create your own original audio CDs, or back up your songs on CD-R/RW or Zip media.

MIDI IN and **MIDI OUT/THRU connectors** are also provided. You can synchronize the VS-890 with an external MIDI sequencer, use the MIDI sequencer to control the VS-890's mixer, sound an external MIDI sound generator with the metronome, and more.

Besides tracks for recording audio signals, the VS-890 has **sync track** for storing MIDI clock message. You can even synchronize MIDI sequencers that are not compatible with **MTC** (**MIDI Time Code**) or **MMC** (**MIDI Machine Control**).

MTC (Appendices; p. 12), MMC (Appendices; p. 13)

Substantial Options

Internal Hard Disk (designated by Roland)

An internal 2.5-inch IDE hard disk. Having this internal hard disk installed makes the VS-890 system compact and easy to transport. Furthermore, there is no need to make complex settings and no problems with faulty connections (unlike those which could occur when an external disk is used). When you're using the VS-890, an internal hard drive must be installed.

For simultaneous recording or playback of a number of tracks, for getting more out of the available hard disk space, and in order to get the fullest performance in general from the VS-890, we recommend using the 2.1 GB or larger Hard Disk.

Roland CD Recorder

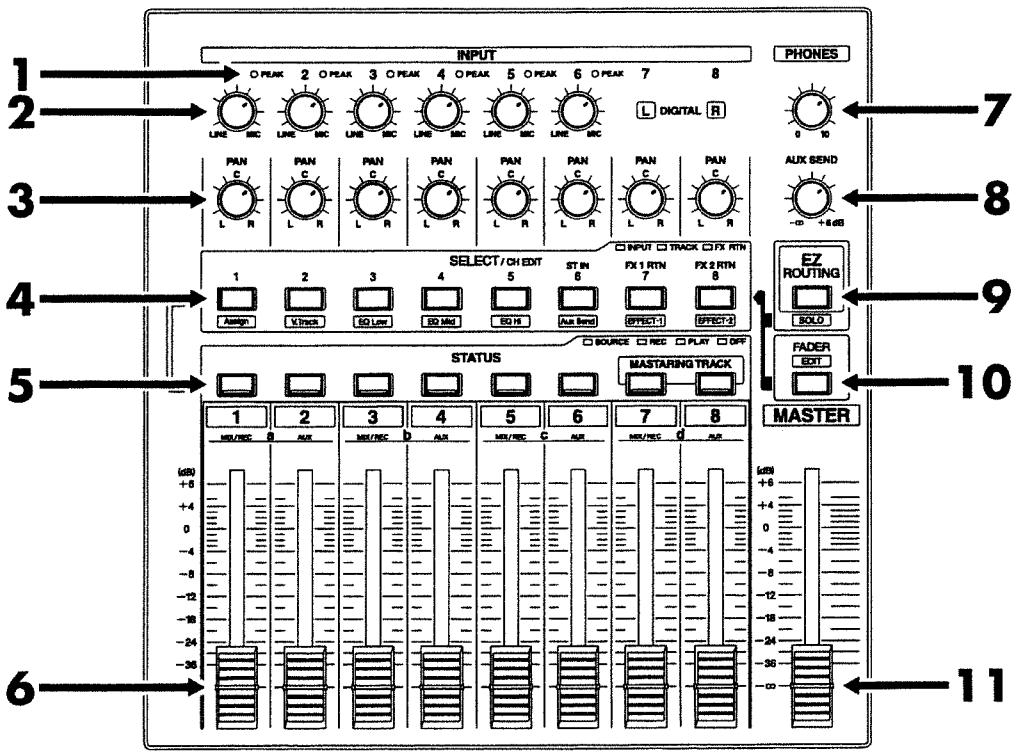
The Roland CD Recorder (CD-RW drive) connected with a SCSI connector. With this drive, you can write songs created on the VS-890 as well as create your own original audio CDs. Additionally, you can use it for backing up songs to CD-R discs.

SI-80SP

This is a video/MIDI sync interface for connection to the MIDI connector. VS-890 operations such as play/stop/forward can be synchronized from a video device with LANC connectors or SYSTEM Ⓔ connectors.

Front and Rear Panels

Mixer Section



1 PEAK Indicators

These indicators allow you to confirm the sound level input at the input jacks (1–6). They help you to determine the correct input level when adjusting the **INPUT knobs**. You will need to specify the level at which the indicators light beforehand (p. 192). The indicators are set at the factory to -6 dB.

2 INPUT Knobs

These knobs adjust the sensitivity of the **input jacks (1–6)**. Turn a knob fully to the right for mic level (-50 dBu), and fully to the left for line level (+4 dBu).

3 PAN Knobs

These knobs adjust the **pan (location in the stereo output)** of each channel.

4 SELECT/CH EDIT (Select/Channel Edit) buttons

This is used to change the settings for the **input mixer, track mixer,** or **effects return mixer,** and to select the input channel where the change is to be made. The indicator for the current target channel lights up.

When FADER indicator lights orange.

[1]–[8]: each of input channel

When FADER indicator lights green.

[1]–[8]: each of track channel

When FADER indicator lights red.

[6]: Stereo In (p. 174)

[7]: effect 1 return

[8]: effect 2 return

You can determine which input channel or track channel is recorded on which track by pressing these buttons while holding down the **STATUS buttons** (p. 51).

You can immediately display the parameter setting screen for a particular channel by pressing the respective button while holding down **[SHIFT]**.

5 STATUS Buttons

These buttons switch the status of each track (p. 51). The current status is shown by the button indicator.

SOURCE (orange)

The input source or track assigned to the channel is being output.

REC (blinking red)

Recording is selected for the track assigned to the channel. During playback, you will be able to listen to the track.

REC (blinking red and orange)

Recording is selected for the track assigned to the channel. During playback, you will be able to listen to the source.

PLAY (green)

The track assigned to the channel will playback.

REC (blinking red and green)

This specifies recording on the respective tracks (recording standby). The tracks themselves are assigned for recording.

OFF (darkness)

The channel is muted (silent).

When pressed in combination with the **SELECT/CH EDIT buttons**, this selects the source or track to be assigned to a track for recording.

6 Channel Faders

Use these faders to adjust the volume level of each channel or track.

7 PHONES Knob

Adjusts the volume of the headphones.

8 AUX SEND knob

Adjusts the output level of the AUX SEND jacks (p. 184).

9 EZ ROUTING/SOLO Button

Displays the EZ Routing menu (p. 107).

In conjunction with **[SHIFT]**, this switches the Solo function on/off (p. 174).

10 FADER/EDIT Button

Pressing this button alternately assigns each channel's **input mixer**, **track mixer** and **effect return mixer** to the fader for that channel (p. 29). The button indicator shows the current status.

INPUT (orange): Input Mixer

TRACK (green): Track Mixer

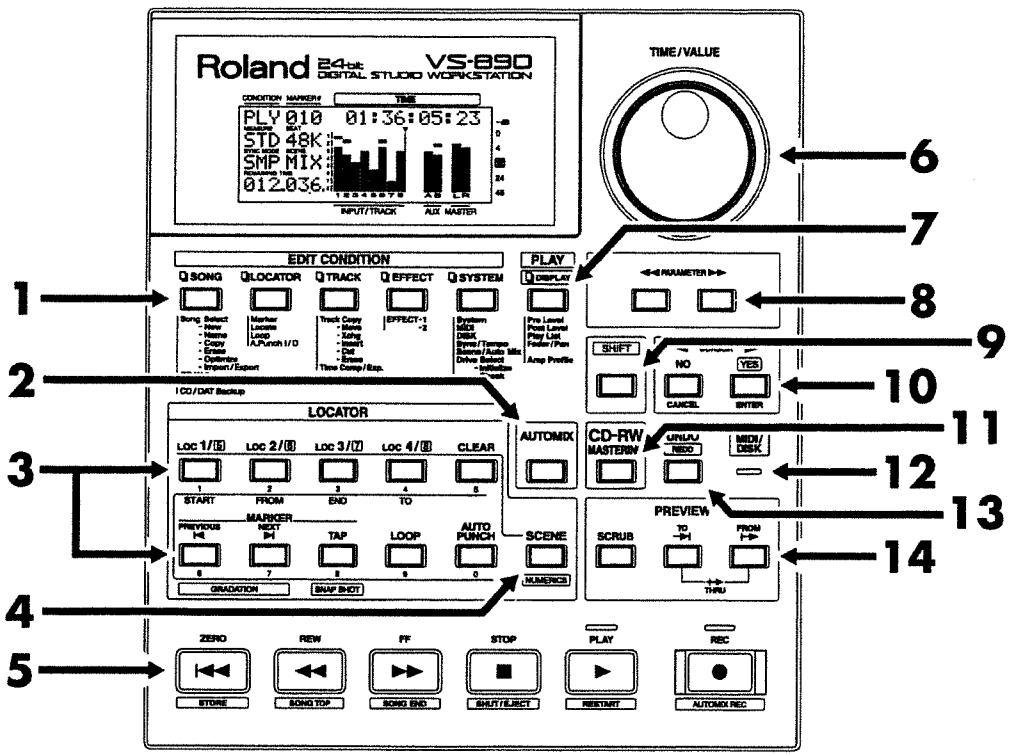
RETURN (red): Effect Return Mixer

In conjunction with **[SHIFT]**, this accesses the Master Block setting page.

11 Master Fader

Use this fader to adjust the overall output level.

Recorder Section



1 EDIT CONDITION Buttons

The functions and parameters of the VS-890 are organized within these buttons. To use a desired operation, press the appropriate button.

[SONG]:
Operations such as creating a new song (p. 48) or choosing the present song (p. 50).

[LOCATOR]:
Operations such as changing the Locator bank (p. 40) or fine-tuning Marker time (p. 41).

[TRACK]:
Operations such as copying (p. 79) or deleting (p. 85) tracks.

[EFFECT]:
Operations such as choosing (p. 117) or adjusting (p. 118) effects.

[SYSTEM]:
Operations such as making global settings for the VS-890 (p. 186) or initializing the hard disk (p. 134).

2 AUTOMIX Button

Switches the **Auto Mix function** on and off. The button indicator lights when Auto Mix is on (p. 107).

In conjunction with **[SHIFT]**, this switches the Vari-pitch function on/off (p. 178).

3 LOCATOR Buttons

Pressing this buttons allows you to store or recall **Locators** (p. 40) and **Markers** (p. 41), or to store or recall Scenes (p. 46).

[LOC1/5]–[LOC4/8]:
Selects Locators and Scenes . When combined with **[LOCATOR]**, these switch the Locator bank.

[CLEAR]:
Deletes Locators, Markers, and Scenes . When you press **[CLEAR]** while holding down the **STATUS button**, all settings (routings) that specify which channels are recorded on which tracks are cleared (**Input Assign**: p. 51).

[PREVIOUS ◀|]:
Recalls the previous Marker.

[NEXT |▶]:
Recalls the next Marker.

[TAP]:
This is pressed to set Markers.

[LOOP]:
Turns Loop Recording on and off (p. 56). This is pressed with **[LOC1/5]–[LOC4/8]**, it specifies the range to be recorded in Loop Recording.

[AUTO PUNCH]:
Turns **Auto Punch-In Recording** on and off (p. 55). This is pressed with **[LOC1/5]–[LOC4/8]**, it specifies the range to be recorded in Auto Punch-In Recording.

4 SCENE/NUMERICS button

This is pressed when storing, recalling, and deleting Scenes (p. 46).

When used in combination with **[SHIFT]**, you can use the **LOCATOR buttons** as a numeric keypad for entering numerals (p. 179).

5 Transport Control Buttons

These buttons are used to operate the recorder (p.**).

- **[ZERO]:** Returns the current time to "00h00m00s00" (zero return).
- **[REW]:** While this button is held down, the current time is moved back.
- **[FF]:** While this button is held down, the current time is moved forward.
- **[STOP]:** Stops recording or playback of the song.
- **[PLAY]:** Starts recording or playback from the current time.
- **[REC]:** Press this button to record a song.

6 TIME/VALUE Dial

In normal (playback) status, this dial adjusts the time of playback.

This is used to change the settings values for each parameter when settings are changed.

7 PLAY (DISPLAY) Button

Press this button to return to the screen that appears when the VS-890 is turned on (normal playback status; p. 36).

In conjunction with **[SHIFT]**, this switches the item shown in the **bar display** (p. 186).

8 PARAMETER Buttons

Use these buttons to switch the parameter display.

9 SHIFT Button

This button is pressed in conjunction with other buttons to access additional functions of those buttons.

10 CURSOR Buttons

Normally (i.e. in Play Condition), these buttons are used to move the current time display. When making settings (i.e. in Edit Condition), these buttons are used to select parameters.

When a YES/NO response is required during an operation, use these buttons to reply.

[NO (CANCEL)]:
This is pressed to cancel the current operation or exit the current screen.

[YES (ENTER)]:
This is pressed to execute the current operation or select the current screen.

11 CD-RW/MASTERING button

Displays the Mastering Room screen (p. 137) or the menu screen for use in combination with a CD-RW drive (Roland CD Recorder).

12 MIDI/DISK Indicator

This indicator lights green when MIDI messages are being received, and red when data is being written or read on the disk drive. If both of these are occurring, the indicator lights orange.

13 UNDO/REDO Button

Press this button to cancel a recording or editing step that you have made (**Undo**; p. 75).

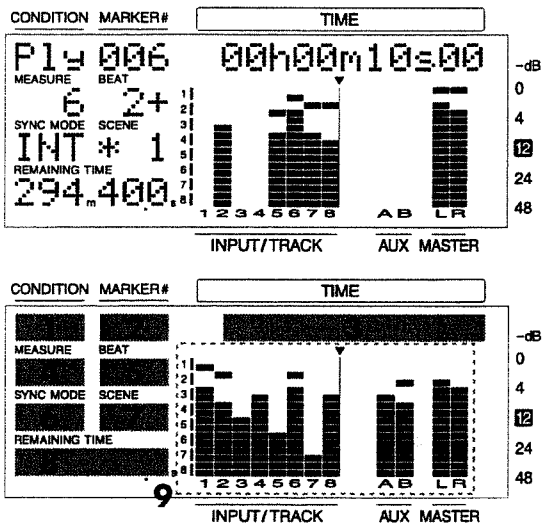
Pressed with **[SHIFT]**, this button cancels the last performed Undo function (**Redo**; p. 76).

14 PREVIEW Buttons

Press these buttons to use the **Preview function** (p. 44) that plays back a specific length before and after the current location.

Display section

(Display Sample)



1 CONDITION

This indicates the current condition.

PLY:	Normal status (Play condition).
INn:	Change the input mixer settings (n=1–8, a–d).
TRn:	Change the track mixer settings (n=1–8, a–d).
RTN:	Change the return mixer settings.
MST:	Change the master block settings.
SNG:	Song edit
LOC:	Locator edit
TRK:	Track edit
FX:	Effect edit
SYS:	System edit
CDR:	CD-RW / Mastering

MEMO

- If Song Protect (p. 77) is turned on, the Play Condition display will be "Ply."
- The input/track mixer display will indicate 1–8 for channels whose Channel Link (p. 174) is OFF, and a–d for channels which are turned ON.

2 MARKER # (marker number)

This shows the marker number for the current time. If a mark point has not been assigned to the current time, the closest marker number located before the current time will be shown.

3 TIME

The current time of the song is displayed as SMPTE time code.

?

SMPTE Time Code (Appendices p. 12)

4 MEASURE

This shows the current measure of the song (p. 39).

5 BEAT

This shows the current beat of the song (p. 39).

6 SYNC MODE

This indicates the current sync mode (method of synchronization).

7 SCENE

This shows the currently used scene number (mixer setting). An asterisk "*" shown at the beginning of the scene number indicates that the current mixer settings have been modified since the scene was recalled.

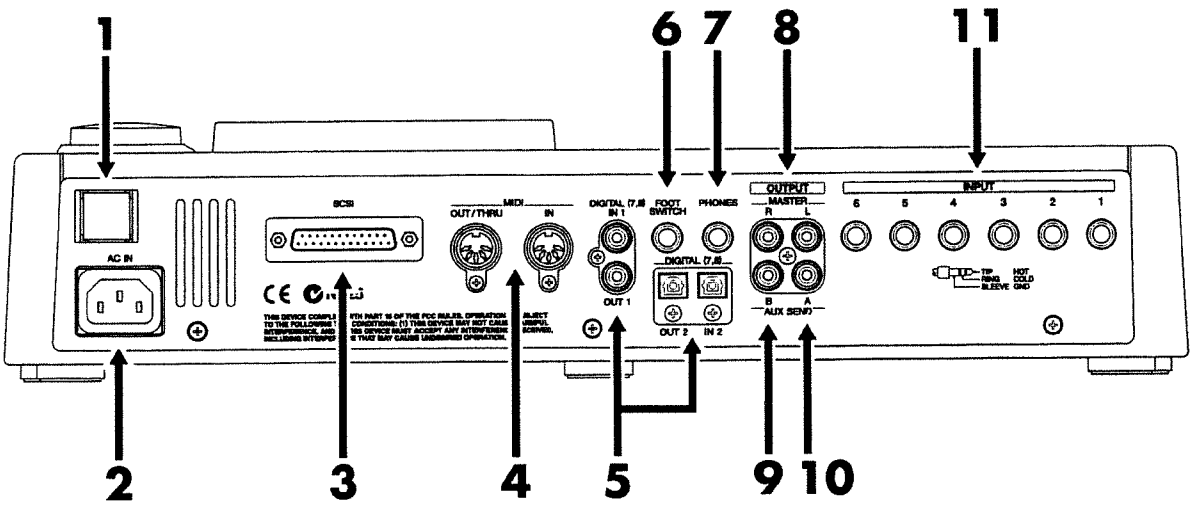
8 REMAINING TIME

This shows the remaining length of time available for recording.

9 Bar display

In normal condition, the item selected by **[DISPLAY (PLAY)]** are shown graphically (p. 186). While you are making a setting, data for the setting being made is displayed graphically.

Rear Panel



1 POWER Switch

This switch turns power of the VS-890 on and off.

2 AC IN (AC Inlet)

Connect the included power cable here.

NOTE

Do NOT connect using any power cord other than the one provided. Using any other power cord may result in damage to the device.

3 SCSI Connector

This is a DB-25 type SCSI connector for connecting disk drives such as a CD-RW drive (the Roland CD Recorder) or a Zip drive.

CD-RW (Appendices; p. 12), Zip drive (Appendices; p. 13)

4 MIDI Connectors (IN, OUT/THRU)

External MIDI devices (**SI-80SP**, MIDI sequencers, etc.) can be connected here.

IN:
This connector receives MIDI messages. Connect it to the MIDI OUT connector of the external MIDI device.

OUT/THRU:
This connector can be used either as a MIDI OUT or as a MIDI THRU connector. With the factory settings, it will function as a MIDI OUT connector, which means it is set to transmit MIDI messages.

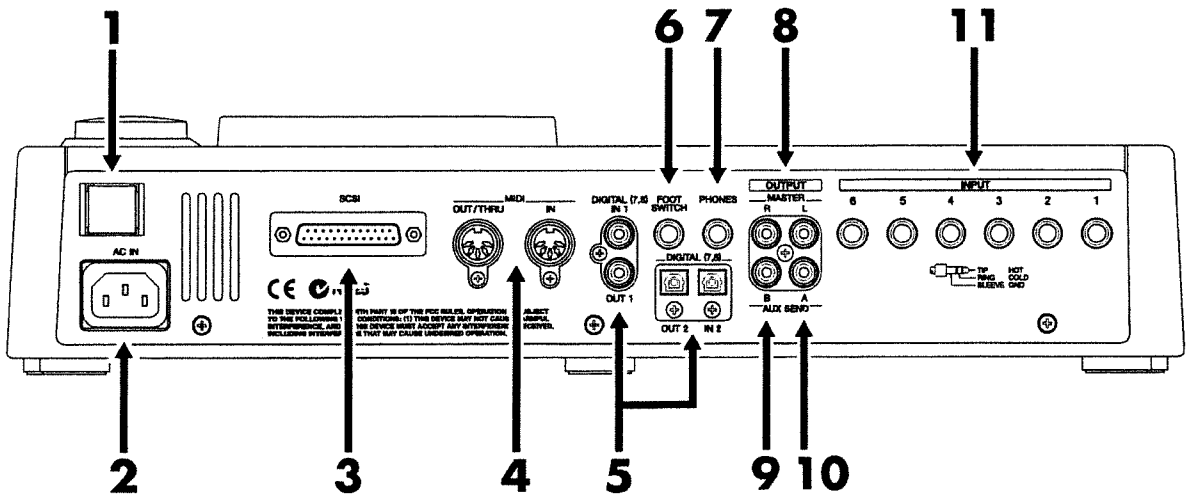
5 DIGITAL Connectors

The VS-890 features both **coaxial** and **optical** digital I/O connectors (conforming to S/P DIF).

IN: This inputs a digital audio signal (stereo). You can select either the coaxial input connection or the optical connection.

OUT: This outputs a digital audio signal (stereo). Here you can use both the coaxial connector and the optical connector simultaneously, and each can carry a different signal.

S/P DIF (Appendices p. 13)



NOTE

- To record a digital audio signal, it is not sufficient to simply connect a digital audio device to the DIGITAL IN connector. When inputting a digital audio signal, refer to "Recording Digital Signals" (p. 66).
- It is not able to input or output analog audio signals.

6 FOOT SWITCH Jack

An optional foot switch (such as the **DP-2** or the **BOSS FS-5U**) can be connected here when you want to control recorder operations, mark point settings, and punch in/out operations, and so on with a foot switch. With the factory settings, a foot switch is set to start and stop the recorder.

7 PHONES Jack

An optional set of headphones can be connected here. The PHONES jack outputs the same sound as the **MONITOR jack**.

8 MASTER Jacks (L, R)

9 AUX SEND Jack A

10 AUX SEND Jack B

These are output jacks for analog audio signals (RCA phone type).

With the factory settings, all signals are output from the **MASTER OUT jacks**, and there is no output from the AUX (A and B) SEND jacks. The output is determined by the block settings of the mixer's master section and the settings of each channel.

11 INPUT Jacks (1–6)

These are input jacks for analog audio signals. These are balanced phone jacks, the input sensitivity of each jack is adjusted by the **INPUT knobs** on the top panel.

Before You Start (VS-890 Terminology)

This section explains basic concepts, internal structure, and basic operation that you will need to know in order to operate the VS-890. Please read this section thoroughly to gain a better understanding of the VS-890.

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The meanings of **word indicated by this mark** can be found in the "Glossary" (Appendices; p. 12, 13).

Saving and Managing Data

Managing Disk Contents (Partitioning)

The VS-890 saves all of the data such as — performance data, mixing data, system data, etc. — on the disk drive. Thus, it cannot operate without either having an internal disk or being connected to a Zip drive with a SCSI connector. Furthermore, the hard disk or Zip drive used by the VS-890 cannot be used by another device.

?

SCSI (Appendices; p.13), Zip drive (Appendices; p. 13)

MEMO

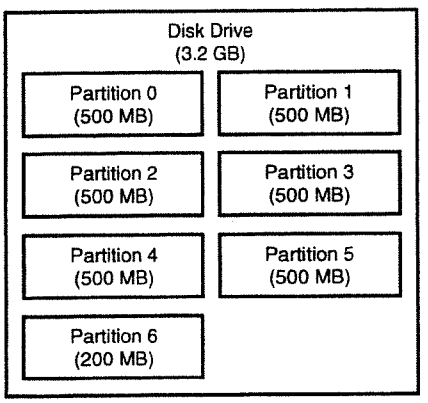
- The VS-890 accepts installation of Internal hard disks (designated by Roland). For simultaneous recording or playback of a number of tracks, for getting more out of the available hard disk space, and in order to get the fullest performance in general from the VS-890, we recommend using the 2.1 GB or larger Internal Hard Disk.
- The VS-890 is able to manage which 500 MB or 1,000 MB of disk space at once. If you use a disk drive with a capacity that is larger than this, you will need to divide it into two or more.

Each of these area is referred as the "**partition**." Up to 10 partitions can be created in one disk drive. For creating songs in a enough space, we recommend you to set the partitions to 1,000 MB (**Drive Initialize**; p. 134).

- Each partition on the VS-890's disk drive is treated as an independent drive, with each partition automatically given a partition number (0–9). When a single hard disk has multiple partitions, you can specify **which partition** of **which drive** will be used (**Drive Select**; p. 133). This disk drive partition currently used is referred to as the **current drive**.

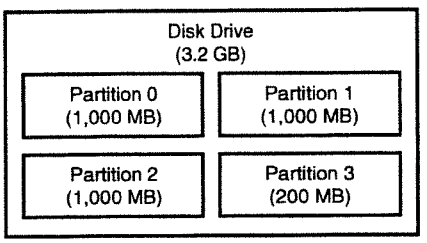
Example 1

When the disk drive is 3.2 GB, and the partition size is 500 MB.



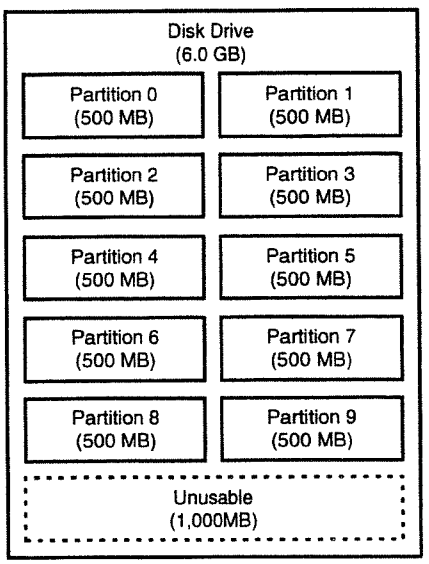
Example 2

When the disk drive is 3.2 GB, and the partition size is 1,000 MB.



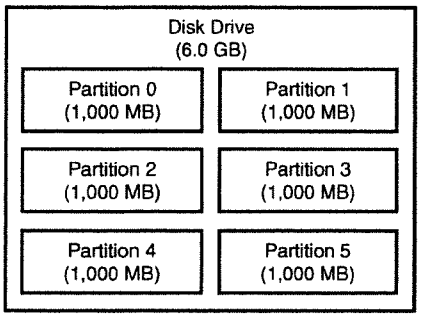
Example 3

When the disk drive is 6.0 GB, and the partition size is 500 MB.



Example 4

When the disk drive is 6.0 GB, and the partition size is 1,000 MB.



NOTE

If you wish to use hard disks or song data on both the VS-890 and the other VS series (VS-880, VS-880EX, VS-840, VS-840EX, VS-1680, VS-1880 or VSR-880), because of factors such as differing partition sizes and numbers of tracks, there will be limitations as to what you can do. For more detailed information, please see "Compatibility" (p. 151).

Regarding Hard Disk Partition Size

When purchased, the hard disk is divided (**partitioned**) into 1,000 MB units.

Demo Songs

The internal hard disk contains a demo song pre-recorded on it.

- **V-Studio** for the VS-880, appropriate 72 MB

NOTE

The actual used capacity of the song is displayed as 1 MB = 1,000,000 bytes. The displayed value is the approximate standard value.

If you are using a hard disk that is 2,100 MB or larger, the VS-1680 demo song "SEEMS SO RIGHT" will also be stored, but this cannot be played back by the VS-890. The total size of these demo songs is approximately 490 MB, so the space that can actually be used is approximately 510 MB.

If you wish to record for a longer time, you can switch the **partition** (e.g., IDE:0 → IDE:1). If you are using a 2,100 MB or larger hard disk, switch partitions before you continue with the operations of multitrack recording so that you will have a longer recording time available (**Drive Select**; p. 133).

If you wish to completely delete "SEEMS SO RIGHT" from the hard disk to increase the available space, you can initialize the hard disk (**Drive Initialize**; p. 134). At this time, all songs that are saved on the hard disk (including the VS-880 demo song) will be erased, and cannot be recovered. As necessary, back up the songs to a CD-RW disc, etc. (**CD-R Backup**; p. 147).

The Location Where a Performance is Recorded (Song)

The location where a performance data is recorded is referred to as the **song**. For example on a cassette MTR, this would correspond to cassette tape. Up to 200 songs for each model (VS-880, 880EX and VS-890) can be created in each partition. **But the total song is limited to 500.**

Normally, you should set the partition size at 1,000 MB. When dealing with large numbers of songs (200 songs or more) at the same time, setting the partition size to 500 MB is recommended. The song currently being recorded, played back, or edited is referred to as the **current song**. Following data are included in a song.

- All data recorded on V-tracks
- MIDI clocks of the sync track (p. 164)
- Points specified within songs (locator; p. 40, marker; p. 41, punch-in/out points; p. 55, loop-in/out points; p. 56)
- Scenes (mixer settings; p. 46)
- Vari Pitch settings (p. 178)
- System settings (system, MIDI, disk, sync, Scene) (p. 186)
- Effect settings (p. 112)
- Auto Mix Data (p. 107)

Sources, Tracks, and Channels

On the VS-890, the recorder section and mixer section use term **sources**, **tracks**, and **channels**. These terms may appear similar to each other, and will be confusing unless their differences are clarified.

Source

A signal which is input to the mixer section or recorded in the recorder section. On the VS-890, this term refers in particular to the signals of the analog input jacks (1–6) and the digital in connector.

Track

A signal that is being input to or output from the recorder section. It also refers to the location of a signal that is being recorded onto or played back from the hard disk.

Channel

A signal that is being input to or output from the mixer section. This term refers in particular to the faders and buttons of the mixer section on the top panel.

About Events

The smallest unit of memory used by the VS-890 to store recorded results on disk is called **events**. A newly created song is provided approximately 10,000 events.

For each track, one recording pass uses 2 events. Operations such as punch-in/out (p. 53) or track copy (p. 79) also use up events. The number of events that are used up will fluctuate in a complex way. For example, auto mix (p. 107) uses up 5 events for each Marker.

Even when your disk has ample free space, one song can use up all the available events, in which case no more data could be recorded to the song.

Remaining number of Events can be saved with the following procedures. Please try the most appropriate one with your situation.

Execute Song Store

Please Execute Song Store (p. 53) if in UNDO condition (UNDO indicator is lit.). Events served for REDO will be released. But please note that you cannot cancel (REDO) the last UNDO if you once execute STORE.

Execute Song Optimize

Please execute Song Optimize if you have done a lot of Punch In recording (p. 122). Events served for unnecessary audio data will be released. But please note that you can only do single level UNDO.

Erase AutoMix data

If you have recorded AutoMix data, erase unnecessary data (p. 111). Events served for unnecessary AutoMix data will be released.

Mixer Section

The digital mixer specifies input or output status of the recorder section. The VS-890 contains an **Input Mixer** located before the recorder section, a **Track Mixer** located after the recorder section, an **Effect Return Mixer** which controls the effect return and Stereo In (p. 174), and a **Master Block** which determines the output jacks from which the signal of each mixer will be output.

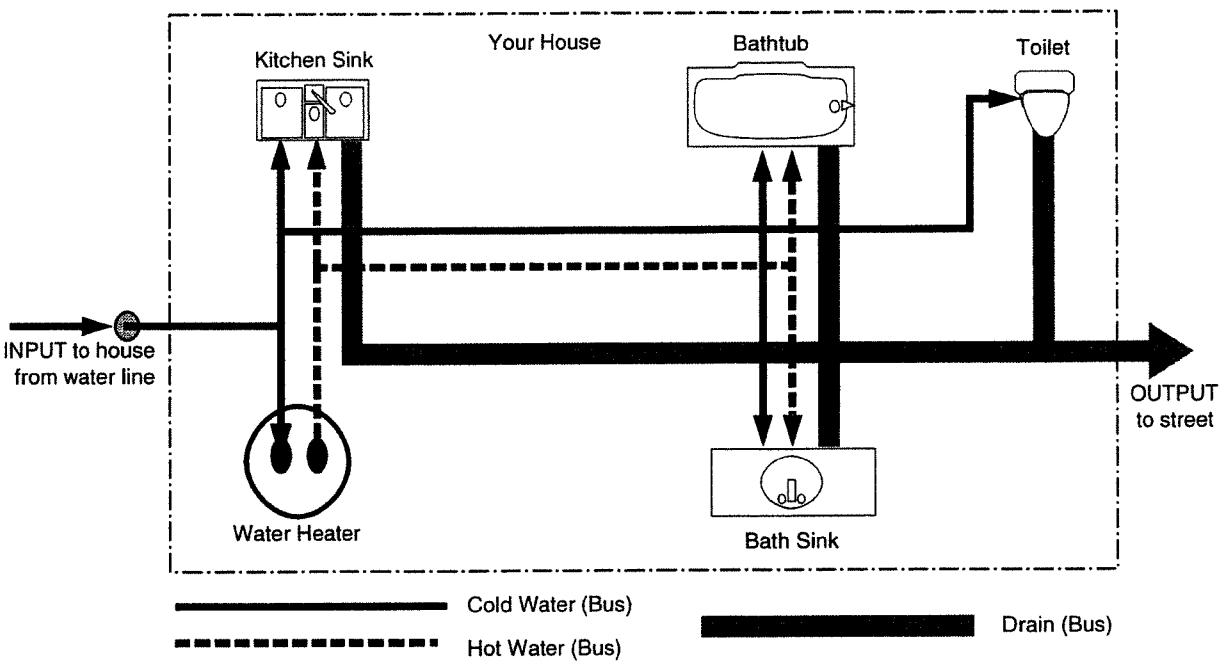
NOTE

For more detailed information about the mixer section, please refer to the "Mixer Section Block Diagram" (Appendices p. 127).

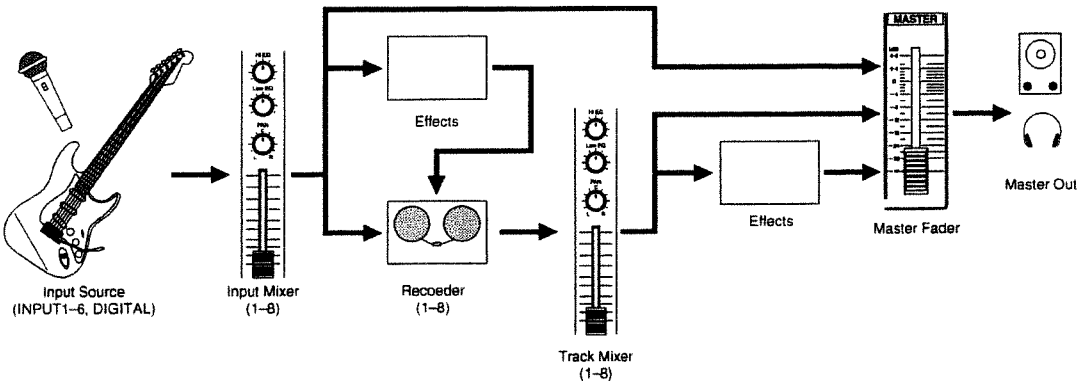
Signal Flow (Buses)

On the VS-890, signals flow through buses. buses are shared lines through which multiple signals can be routed efficiently to multiple tracks or channels. It may be easier to understand this if we use the analogy of water pipes.

For example, the water that is supplied by the water company to your house is branched to a variety of locations within the house (kitchen, bathroom, toilet, etc.). The water that is used at each of these locations is then collected into the sewer, and carried away.



If we think of the VS-890 as the house, the water being supplied from the water company corresponds to inputs such as mic or guitar. Some of these inputs are sent to recording tracks and are recorded. Other portions are sent to the effects, and reverb or chorus are applied before they are output.



The basic principle of the VS-890 is that by specifying in this way from where and to where the common lines run, you can determine which input signals will be recorded on which track or sent to which effects, and where they will be output.

The VS-890 has the following buses.

REC Bus

Signals assigned to the REC bus are routed to the recorder section to be recorded. There are 8 channels which can be assigned to the output of the input mixer, track mixer, and effects (Return). Signals assigned to the REC bus cannot be routed to the MIX bus.

MIX Bus

Signals assigned to the MIX bus are sent to the **MASTER jacks** for monitoring. It has 2 channels (L and R), and can take output signals from the input mixer, track mixer, and effects (Return). Signals assigned to the MIX bus cannot be routed to the REC bus.

FX Bus

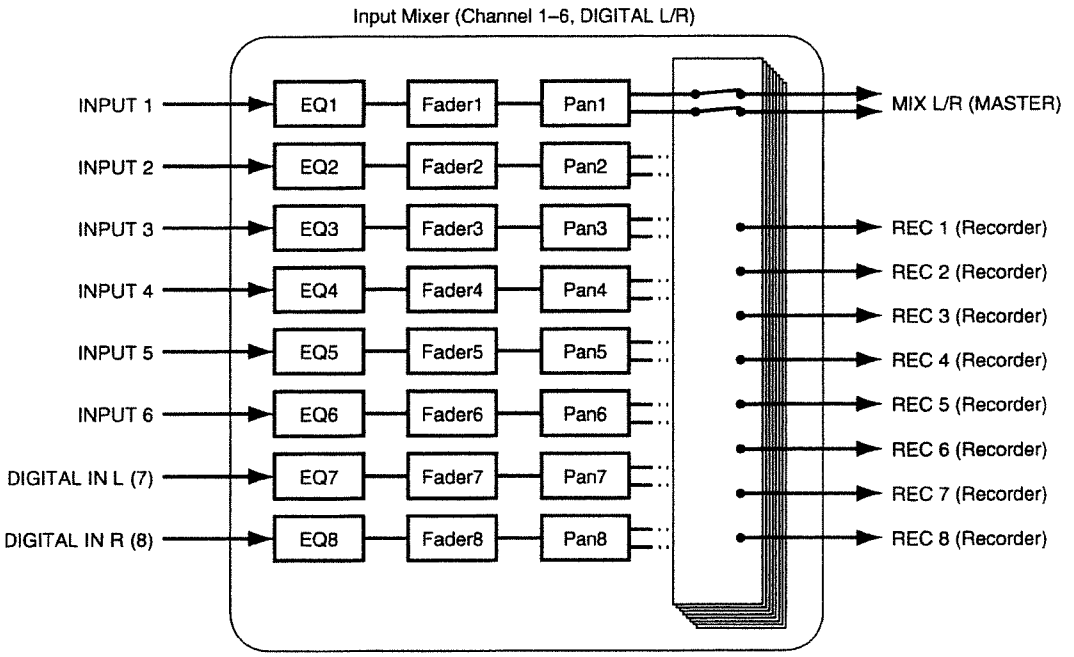
Signals assigned to the EX bus are sent to the effect to apply effects added to them. It has 2 channels (FX1, FX2), and can process signals from the input mixer and the track mixer. Signals assigned to the REC bus as well as the MIX bus can also be routed to the EFFECT bus.

AUX Bus

Signals assigned to the AUX bus are routed to the **AUX SEND jacks** to allow addition mixes for monitoring. This bus features 2 channels (AUX A, AUX B), and can take signals from the input mixer and the track mixer. Signals assigned to the REC bus as well as the MIX bus can also be routed to the AUX bus. This is convenient if, for example, you want to connect an external effects device, or when you want an addition output separate from that of the MASTER Out jacks (individual out).

Input Mixer

This mixes the input levels (record levels) and panning of up to 8 types of external input (INPUT 1 – 6 and DIGITAL IN L and R).

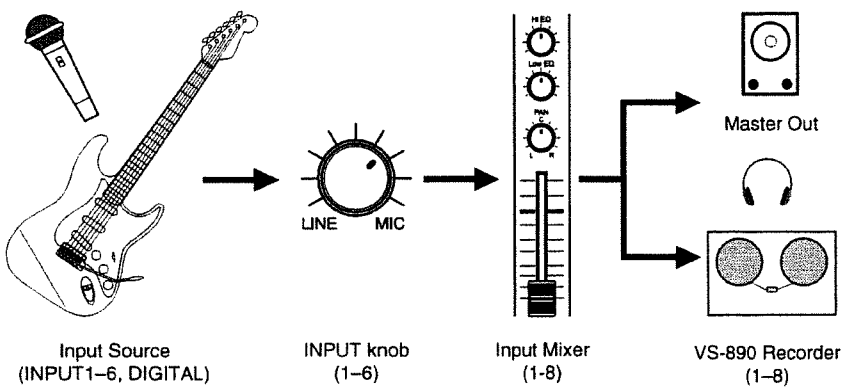


The signals that pass through the equalizer, channel fader, or pan are sent to the recording buses for recording (REC 1 through 8), or to the mixing buses for monitoring (MASTER L/R; output from external monitor speakers, headphones, or the like). The status of the tracks to which the recording buses are assigned is sent to the mixing buses even when not during recording standby (when the STATUS indicator flashes in red).

The following signals are valid for the input mixer's channel fader. **These have no effect on tracks that have already been recorded.**

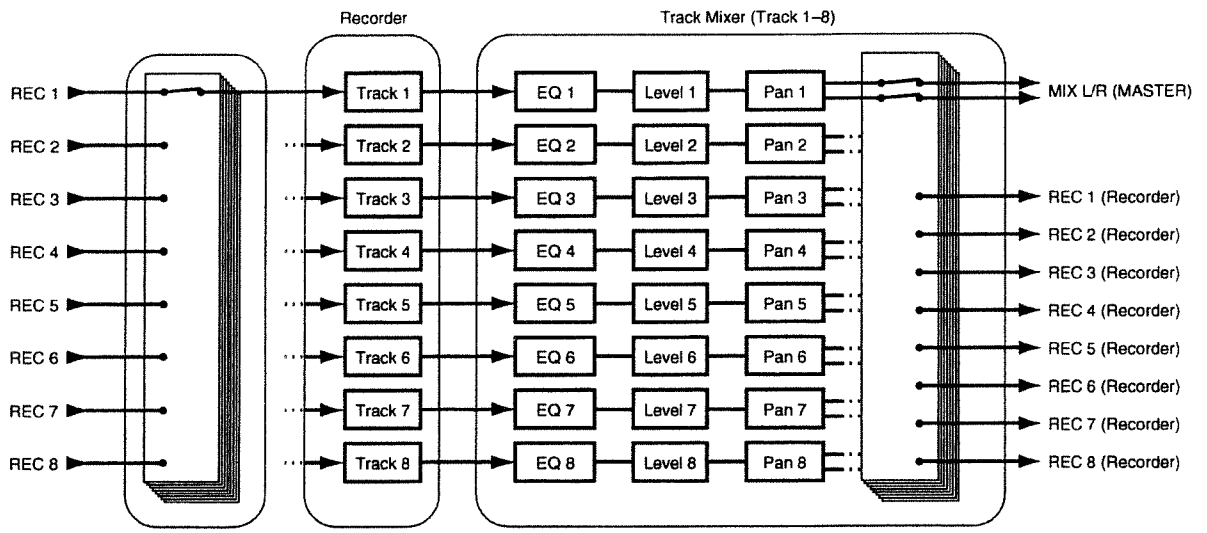
Channels 1–6: INPUT jacks 1–6 mix level

Channels 7–8: DIGITAL IN connector L/R mix level



Track Mixer

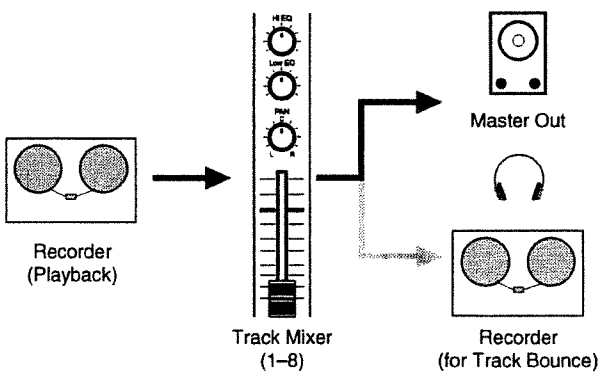
This mixes the playback level and panning for tracks that have already been recorded (1 – 8).



The signals that pass through the equalizer, channel fader, or pan are sent to the mixing buses (MASTER L/R; output from external monitor speakers, headphones, or the like). You can assign track output to the recording buses (REC 1 – 8) again in order to re-record a number of tracks as a group (mastering, track bouncing, and so on).

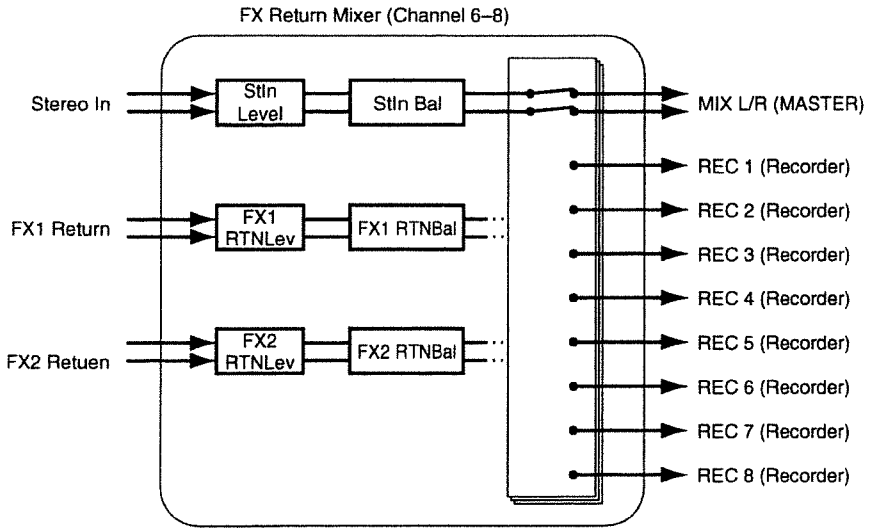
The following signals are valid for the track mixer's channel fader. **These have no effect on the input source or effect return.**

Channels 1–8: Track 1–8 mix level



Effect Return Mixer

This mixer adjusts the return level/balance from effects connected in send/return fashion, and the level/balance of the stereo input.



The signals that pass through the channel fader or balance are sent to the recording buses for recording (REC 1 through 8) or to the mixing buses for monitoring (MASTER L/R; output from external monitor speakers, headphones, or the like).

The following signals are valid for the effect return mixer's channel fader. **They have no effect on the input source or tracks.** Each channel is output from the MASTER jacks. It is also possible to assign them to the recording bus for recording. In this case, the channel faders correspond to the following signals.

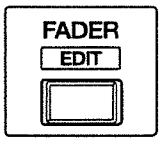
Channel 6: The INPUT jack assigned to Stereo In (p. 174)

Channel 7: FX1 return level

Channel 8: FX2 return level

Switching the Fader Functions

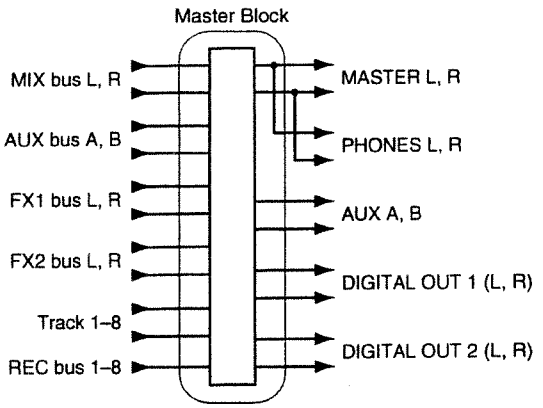
On the VS-890, it is able to adjust **Input mixer** or **Track mixer** by switching the function of the channel faders on the top panel. Pressing **[FADER (EDIT)]** on the top panel toggles between the input mixer and the track mixer. The FADER indicator indicates which mixer is currently selected.



lighting orange: Input Mixer
lighting green: Track Mixer
lighting red: Effect Return Mixer

Master Block

This selects the jacks or connectors connected to external equipment to which the output of each mixer is sent.



Buses for each output jacks or connectors are as shown below (p. 183). MST is the sound from MIX bus after passing through the **master fader**.

Output Jacks or Connectors

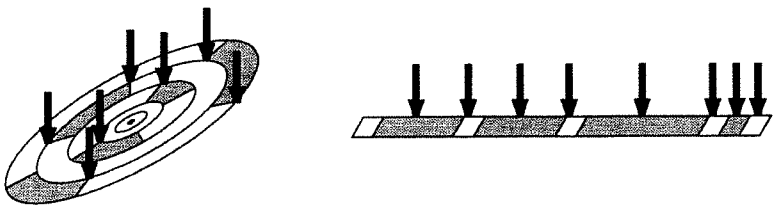
Buses	MASTER (L, R)	AUX (A, B)	DIGITAL OUT 1 (L, R)	DIGITAL OUT 2 (L, R)
MIX (MST)	✓	--	✓	✓
AUX	✓	✓	✓	✓
FX1	✓	✓	✓	✓
FX2	✓	✓	✓	✓
REC	✓	--	--	--
1-2	--	--	✓	✓
3-4	--	--	✓	✓
5-6	--	--	✓	✓
7-8	--	--	✓	✓

Recorder Section

Differences with a Tape-Type MTR

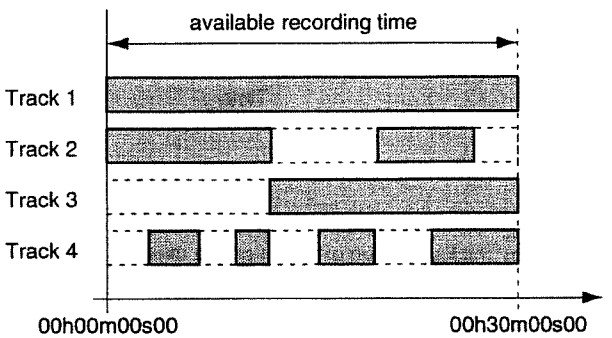
Unlike DAT recorders, which use tape, digital disk recorders record performances (sounds) on a disk, as do MD recorders. Music that is recorded on disk can be recalled and played back immediately, no matter where it is located on the disk. This is also obvious from the difference in speed at which you can move to the beginning of a song on a DAT recorder and on an MD recorder.

The ability to freely move to data regardless of the time or sequence at which it was recorded is known as **random access**. In contrast, having to move to data in the order of the time or sequence at which it was recorded is known as **sequential access**.



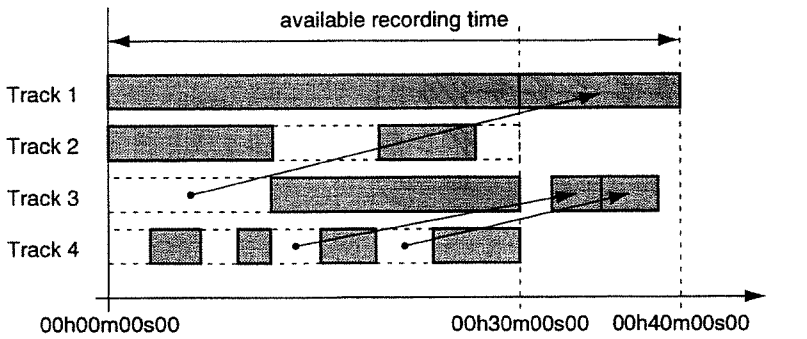
Track Minutes and Recording Time

With cassette tape recorders, the amount of time you can record on a tape is predetermined by the length of that tape. Moreover, any unused portion of the tape is wasted.



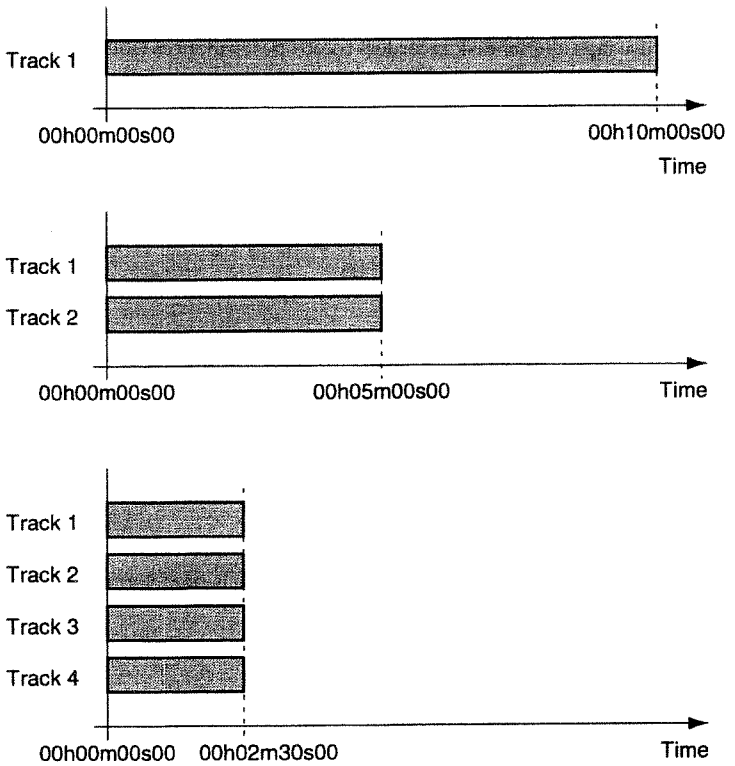
In Case of Tape Recording (using 30-minute tape)

In contrast, with disk recording, although available recording time is determined by the amount of disk space, only the disk space used in recording is taken, and beyond that, has no affect on the disk's remaining free space. Thus, depending on how you use tracks and phrases, the amount of available recording time will vary. Thus, this calls for a standard unit corresponding to the time of one continuous monaural signal recorded to one track. This unit is referred to as **track minutes**.



In Case of Disk Recording

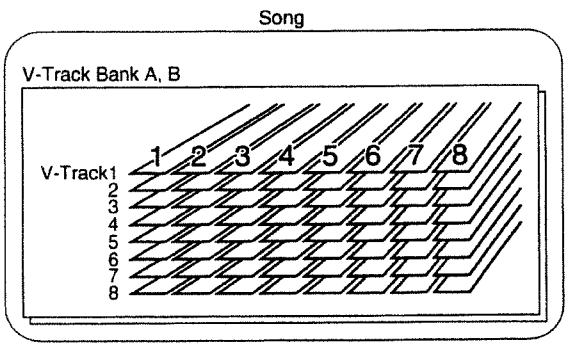
For example, 10 track minutes be used for 10 minutes of monaural recording, 5 minutes of stereo recording, 2 minutes and 30 seconds of recording on four tracks, and so on.



Auxiliary Tracks for Each Track

The VS-890 provides 8 playback tracks, and allows 8 tracks to be recorded simultaneously. Each track is composed from the features 8 supplementary tracks, each on of which can be used for recording or playback. These auxiliary tracks are called **V-tracks**.

One song can contain 2 sets (**V-track banks**) of 64 V-tracks (these 8 tracks x 8 V-tracks). In other words, a maximum of 8 tracks x 8 V-tracks x 2 banks = 128 performance tracks can be recorded. For actual recording/playback, you will specify the bank that you wish to use, and then select one of the V-tracks.



NOTE

The Appendices provides a blank virtual track sheet to help you keep track of your virtual track recordings (Appendices; p. 129). Feel free to copy the sheet to use when you record.

Effects Section

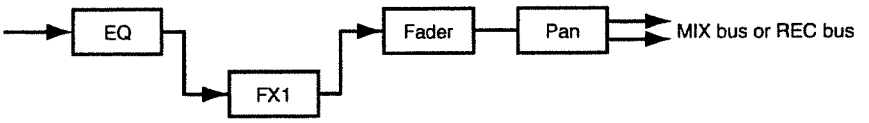
The VS-890 contains effect. This allows you to use up to two stereo effects (FX1 and FX2) simultaneously.

On the VS-890, there are two ways to connect the effects devices. Please read and understand these differences described below.

Insert

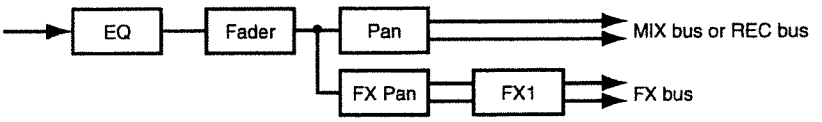
The effect is directly added either between each channel's equalizer and fader or before the master fader. Connect the effect in this manner if you want to use effects applied to change the output of the sound itself, such as when using distortion or overdrive effects.

When inserting an effect into one of the channels or into the Master Block, that effect cannot be used in another channel. For example, you insert FX1 into Channel 1, then no other channel can access FX1.



Send/Return

Besides the RECORDING bus and the MIX bus, the output of each channel can also be sent to the EFFECT bus. Use this routing with effects such as reverb and delay, when you want to mix the sound without effects and the sound after effects have been applied.



Basic Operation

This section explains the basic operation of the VS-890. This covers all of the fundamental processes, including recording and editing, so please read and understand this section.

NOTE

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 (e.g., includes newer sounds), so what you actually see in the display may not always match what appears in the manual.

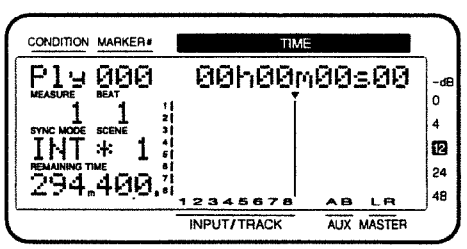
Before You Begin

Turning On the Power

NOTE

- 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.
- Once the connections have been completed (User Guide p. 11), 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.
- Always make sure to have the volume level turned down before switching on power. Even with the volume all the way down, you may still hear some sound when the power is switched on, but this is normal, and does not indicate a malfunction.

1. Turn on the power with the **POWER switch** on the rear panel of the VS-890. When the VS-890 starts up properly, the following display will appear.



MEMO

When you turn on the power of the VS-890, the disk drive must be recognized and certain required data must be loaded. Thus, it takes a short while for the unit to start up.

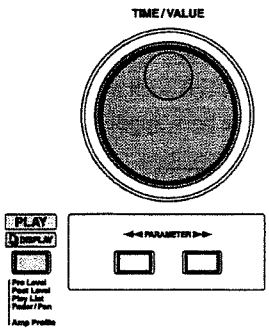
MEMO

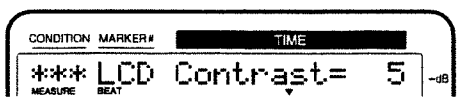
If Song Protect (p. 77) is turned on, the Play Condition display will be "Ply."

2. Turn on the power of connected audio equipment.
3. Raise the volume of the audio devices to appropriate levels.

Adjusting the Display Contrast

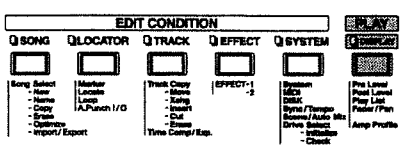
The text or bar display in the VS-890's display may be difficult to read immediately after the unit is turned on or after it has been used for long periods, or depending on the environment in which the unit is used. If this occurs, holding down **[PLAY (DISPLAY)]** and rotating the **TIME/VALUE dial** to adjust the display contrast.





If You Have Trouble Understanding Displays or Operations

If you are unfamiliar with what is displayed on a screen or find you are having difficulty understanding a certain procedure, press **[PLAY (DISPLAY)]**. This allows you to return immediately to the screen that appears when the power is turned on. Try whatever procedure you were working on from the beginning once more.



MEMO

For more detailed information of bar display, please refer to "Switching the Display Content" (p. 186).

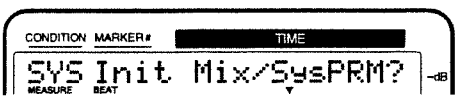
Resetting Mixer and System Settings to Their Original State

If the unit does not operate as described in the User Guide or Owner's Manual even if you have followed the procedures exactly, try resetting the state of the mixer and the system settings to an initialized condition. This function is called **Initialize System/Mixer Parameter**.

NOTE

Even if you restore the settings to their initial state, the song, scene (p. 46), tempo map (p. 166) and sync track (p. 164) data will not be lost. Furthermore, the IDE drive (p. 194), SCSI self ID (p. 194), Scene Mode (p. 47), Shift Lock (p. 190), and Numerics Type (p. 179) settings will not return to their default state.

1. Press **[SYSTEM]** several times until "SYS System PRM ?" appears in the display.
2. Press **[YES]**.
3. Press **PARAMETER [▶▶]** several times until "SYS Init Mix/SysPRM ?" appears in the display.



4. Press **[YES]**. A message will ask you to confirm that you really want to restore the mixer to the initial settings.
5. Press **[YES]** again. To cancel the operation press **[CANCEL (NO)]**. When the mixer settings return to the initial state, you will be in Play condition.

If an operation has been performed incorrectly or cannot be executed correctly, an error message appears in the display. When this occurs, please refer to "Error Messages" (Appendices p. 9) or Troubleshooting" (Appendices p. 5), and perform the specified measure.

MEMO

If the above steps do not resolve your problem, contact t a nearby Roland Service Center, or authorized Roland distributor.

Before You Finish Operations

Saving the Performance to Disk (Song Store)

Song data that you recorded or edited will be lost if you simply turn the power off. Thus, you must execute the **Shutdown** procedure before turning the power off.

When you switch songs or change disks, a message will ask you to confirm whether the song should be saved ("STORE Current?") (p. 36).

Additionally, the contents of a recorded performance can be lost because of unforeseen accidents, or even if there is an accidental power failure or power outage. Once lost, the contents of a recorded performance cannot be restored to the previous conditions. To avoid this from happening, use the following procedure to save your songs to the disk drive. This function is called **Song Store**.

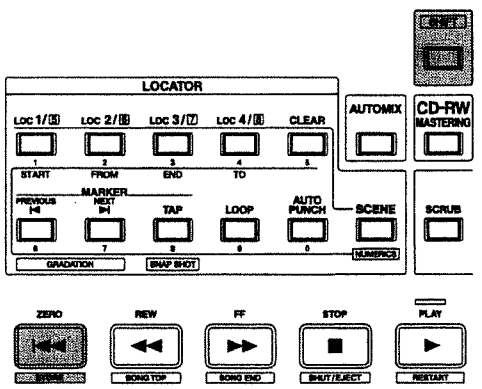
?

Shutdown (Appendices p. 13),
Current Song (Appendices p. 12)

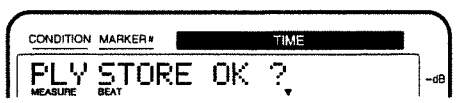
NOTE

When handling important song data, or when using the VS-890 for extended periods, we strongly recommended you to execute the Song Store procedure frequently.

1. Hold down **[SHIFT]** and press **[STORE (ZERO)]**.

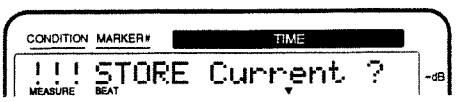


2. "STORE OK?" appears in the display. Press **[YES]**. If the song is saved properly, the initial display reappears. If you wish to cancel the saving, press **[NO]**.



If "STORE Current?" is Displayed

When you begin to execute the various operations such as shutdown, the message "STORE Current?" (Save the current song?) is displayed. This message asks you whether you wish to save the currently selected song to the disk drive.



If you wish to save the song before continuing with the shutdown, press **[YES]**. If you want to proceed with the shutdown without saving the song, press **[NO]**.

NOTE

If you press **[YES]** in response to the "STORE Current?" message when Song Protect is on, or when if you have selected a demo song, the message "Song Protected" is displayed, and you will be unable to save the song. Before editing a song, set Song Protect to "Off" (p. 77). Otherwise, press **[NO]**.

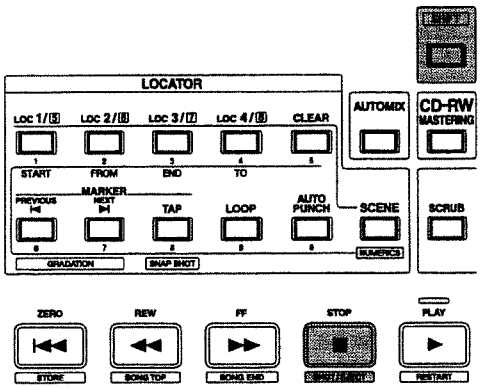
Turning Off the Power

The contents of any recorded performance will be lost if you simply turn the power off. This may also result in damage to the hard disk. To safely turn off the power and be sure that your recorded performances are saved, always be sure to follow the **shutdown procedure** when you finish working with the VS-890.

?

Shutdown (Appendices p. 13)

1. Hold down **[SHIFT]**, and press **[SHUT/EJECT (STOP)]**.



2. "SHUT/EJECT?" appears in the display. Press **[YES]**.

3. "STORE Current?" then appears in the display. If you wish to save the current song, press **[YES]**. If you do not wish to save it (if you want to undo the contents of recording editing), press **[NO]**. **If you have selected a demo song, press [NO].**

4. When shut down has been completed properly, "PowerOFF/RESTART" appears in the display.

5. Turn down the volume of your audio equipment.

6. Turn off the power of the audio equipment.

7. Turn off the power of the VS-890 with the **POWER switch** on the rear panel.

NOTE

After the power is turned off, the momentum of the hard disk causes it to continue spinning for a short while. Any physical shock to the unit during this time may damage the hard disk. Avoid moving the VS-890 with a hard disk installed for at least 30 seconds after turning off the power.

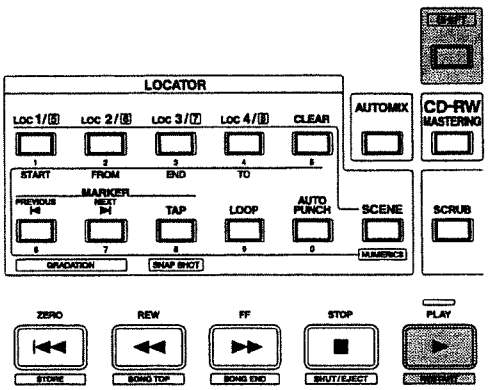
Restarting

You can restart the VS-890 without turning off the rear panel POWER switch. This is convenient when switching disks in drives (such as the Zip drive) connected to the VS-890's SCSI connector.

1. Perform the shutdown procedure as described in "Turning Off the Power" (p. 36).

2. Confirm that "PowerOFF/RESTART" appears in the display.

3. Hold down **[SHIFT]** and press **[RESTART (PLAY)]**. This restarts the VS-890.



Basic Operations on the VS-890

The VS-890 features a wide variety of abilities (**functions**) and **settings** (**parameters**). These are organized by type, function, operation, and so on. The major organizational grouping within the song is referred to as a **condition**. A list of the different conditions described below.

Play Condition

Here you can perform normal playback/recording. The VS-890 is put in Play condition whenever the power is turned on.

Channel Condition

This is the condition in which input mixer, track mixer, or effect return mixer-related settings are made.

Master Block Condition

This is where you make settings for the mixer's Master Block.

Song Condition

Executes the operations related to each of the songs.

Locator Condition

This is where you make settings for the locator or marker.

Track Condition

Executes the operations related to each of the tracks.

Effect Condition

In this status, you can make effects settings.

System Condition

Here you can make settings that affect the entire environment of the VS-890.

CD-RW/Mastering Condition

Displays the Mastering Room screen (p. 136) or the menu screen for use in combination with a CD-RW drive (Roland CD Recorder).

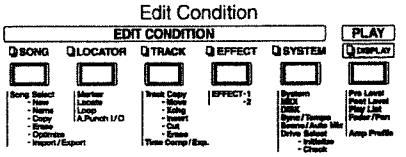
Here is the general process used when executing the functions and changing the settings included in each condition. Please take a look.

1. Display the menu for each condition.
2. Select the page containing the desired function or setting.
3. Select the setting to be changed.
4. Change the settings values.
5. Execute the operation.

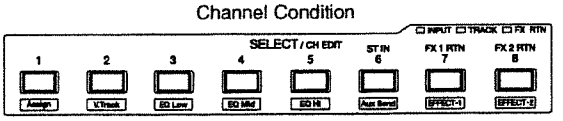
Display Each of the Condition Menus

To select the desired condition, press either the **EDIT CONDITION button, CH EDIT button**, or **[SHIFT] + [EDIT(FADER)]**.

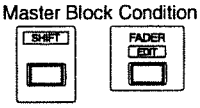
Edit Condition



Channel Condition



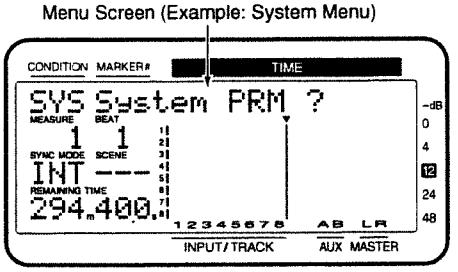
Master Block Condition



Selecting Pages Contained in Functions and Settings

The menu for the corresponding page is displayed. Use **PARAMETER [◀◀], [▶▶]** to select the desired page, and press **[YES]**. It is also possible to switch the menu display by repeatedly pressing the **EDIT CONDITION button**.

Menu Screen (Example: System Menu)

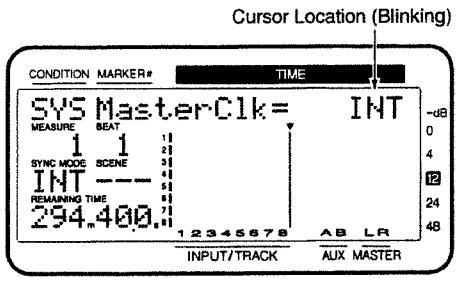


When System Condition is Selected

In some cases when System condition is selected, the parameters themselves will be displayed directly (rather than the System menu). This allows you to immediately select the parameter which was last modified. If you wish to view the System menu, press **[SYSTEM]** once again.

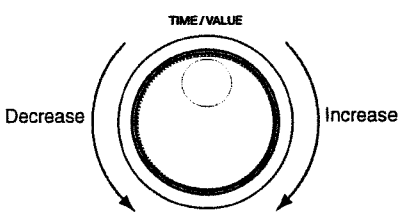
Select the Setting You Want to Change

Use **PARAMETER [◀◀], [▶▶]** to access the setting (parameter) that you wish to modify. If two or more settings are displayed simultaneously, use **CURSOR [◀], [▶]** to move the cursor.



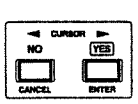
Change the Settings Values

Use the **TIME/VALUE dial** for this operation. Rotating the dial counterclockwise decreases the values, rotating clockwise increases them. Although usually, increases and decreases in values are in single unit steps, by holding down **[SHIFT]** while rotating the **TIME/VALUE dial**, depending on the parameter, you can make values increase or decrease ten times (or one tenth) the normal rate.



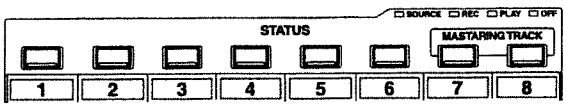
Execute the Operation

After changing the value, to create the new song, select the different song, or otherwise set or execute the specified task or operation, press **[YES]**. A confirmation message will appear in the display. When the message appears, press **[YES]** again. If you want to cancel the operation, then press **[CANCEL (NO)]**.



Switching Track Conditions

The condition for each track switches each time the **STATUS button** is pressed. You can check the condition by looking at the button indicators.



NOTE

- The VS-890 can record up to eight tracks simultaneously.
- When set the **Sample Rate** (p. 48) to **48 kHz**, up to **6 tracks** can be recorded simultaneously.
- When also set the **Vari Pitch** (p. 178) to **On**, up to **4 tracks** can be recorded simultaneously.

SOURCE (orange)

Allows you to monitor the input source or track assigned to each channel.

REC (blinking red)

Specifies what is recorded to each track. In playback, tracks are monitored. You can directly specify what is to be recorded by pressing the **STATUS button** while holding down **[REC]**.

REC (blinking red and orange)

Specifies what is recorded to each track. In playback, sources are monitored. During playback, once again press the **STATUS button** whose STATUS indicator is blinking red.

PLAY (green)

Plays back each track. You can directly specify what is to be played back by pressing the **STATUS button** while holding down **[STOP]**.

REC (blinking red and green)

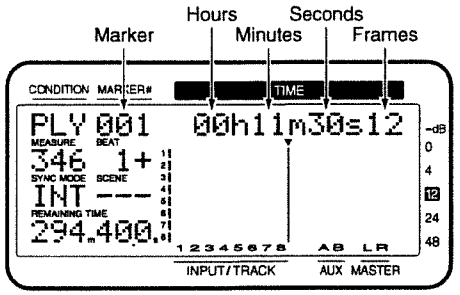
This specifies recording on the respective tracks (recording standby). The tracks themselves are assigned for recording .

OFF (darkness)

The track is muted (silent).

Changing the Current Time

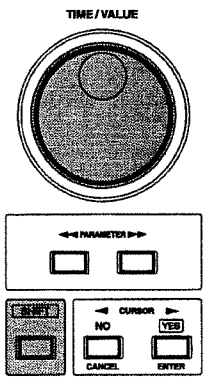
The current playback time in the display is shown in **SMPTE time code**. The current measure, beat, and Marker number are also displayed. Use the following procedure to change the current playback time.



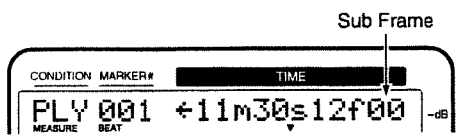
SMPTE Time Code (Appendices p. 13)

Moving in Frame Units

- To move in one-frame units, rotate the **TIME/VALUE dial.**
- To move in 10-frame units, hold down **[SHIFT]** and rotate the **TIME/VALUE dial.**



- To move in units of approximately 1/10 frame, first press **CURSOR [►]** until "<-" appears. The frame numerical display will switch to sub-frame units (approximately 1/100 frame). Then rotate the **TIME/VALUE dial.** To return to the frame units, press **CURSOR [◄].**

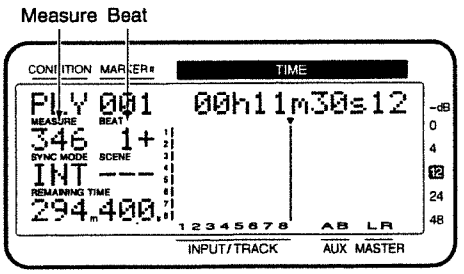


- To move in units of approximately 1/100 frame, hold down **[SHIFT]** and rotate the **TIME/VALUE dial.**

Moving in Measure/Beat Units

The MEASURE field in the display will indicate the measure number of the current location, and the BEAT field will indicate the beat number of the current location. For details on setting the measure and beat, and how they correspond to the song, refer to "Sounding the Metronome" (p. 180).

- To move in measure units, use **CURSOR [◄], [►]** to move the cursor to the **MEASURE field**, and rotate the **TIME/VALUE dial.**
- To move in beat units, use **CURSOR [◄], [►]** to move the cursor to the **BEAT field**, and rotate the **TIME/VALUE dial.**



MEMO

A "+" shown following the beat display indicates that this time location is not at the beginning of the measure/beat. When the time location is at the beginning of the measure/beat, the "+" indication will disappear.

Moving to the Beginning or End of the Performance

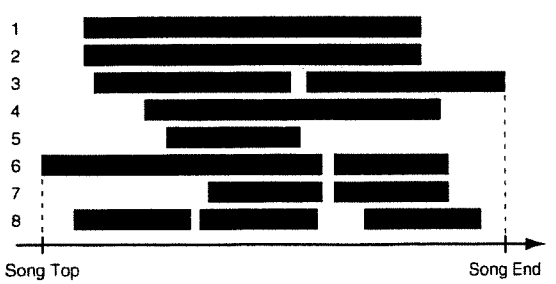
You can move directly from within any of the V-tracks in the currently selected track to the first or last location in the song that contains recorded sound. Use the following procedure.

To go to the first location in the song containing recorded sound

Hold down **[SHIFT]** and press **[SONG TOP (REW)].**

To go to the last location in the song containing recorded sound

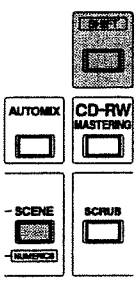
Hold down **[SHIFT]** and press **[SONG END (FF)].**



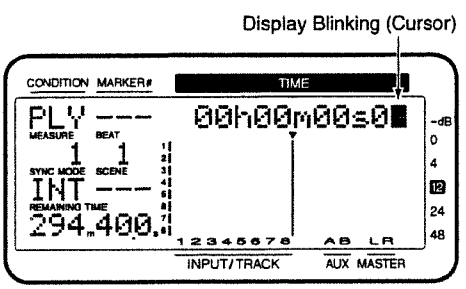
Recalling a Specific Location (Jump)

Besides using the **TIME/VALUE dial**, **Markers** and **Locators** to move the current time of the song, you can also directly specify a location or measure and beat to be recalled. This is convenient when designating locations during Track Edit.

1. Press **[PLAY (DISPLAY)]**.
2. If you wish to directly recall a marker time location, use **CURSOR [◀] [▶]** to make the **MARKER field** blink. If you wish to directly recall the time location of a specific measure, make the **MEASURE field** blink.
3. Hold down **[SHIFT]**, and press **[NUMERICS (SCENE)]**.



4. The **LOCATOR buttons** will function as numeric keys to directly input a numerical value. Input the desired value.



5. Press **[ENTER (YES)]**. The designated time location is recalled, and you are returned to Play condition.

Storing a Time Location

With the VS-890, there are two ways you can mark and easily recall sections of a song that you want to record over or listen to repeatedly. One is called the **Locator function**, and the other one is referred to as the **Marker function**. Use each method according to its intended function.

Locator

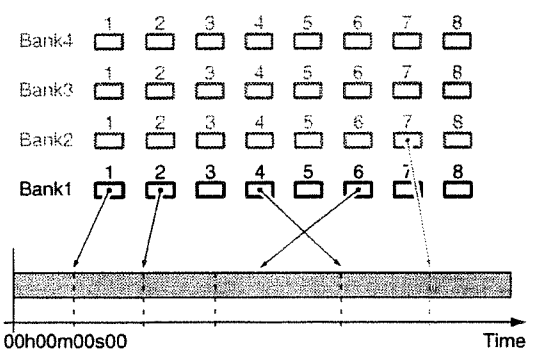
Store time locations to the **LOCATOR buttons ([1/5]–[4/8])** on the top panel of the VS-890.

Marker

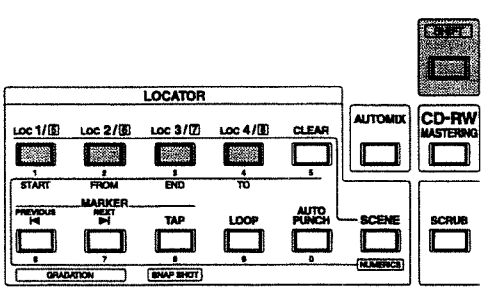
Up to 1,000 locate points (000–999) can be set in rapid succession in each song.

Using the Locator

Time locations are stored with the **LOC buttons ([1/5]–[4/8])** on the top panel of the VS-890. In conjunction with **[SHIFT]**, you can register up to eight time locations, and move immediately to a registered location simply by pressing a button. There are four banks for each button, providing you with up to 32 (8 x 4) locators. The locators are also a useful and convenient way to define sections of a song to be repeated in Loop Recording (p. 56) or for marking points in Punch-In Recording (p. 55).



Storing Locators



1. Move to the location in a song where you want to set a locator by using the **Transport Control buttons**, etc.
2. Press a **LOC button ([1/5]–[4/8])**. For example, if you wish to set Locator 1, press **[1/5]**. If you wish to store the location in Locator 5, hold down **[SHIFT]** and press **[1/5]**.

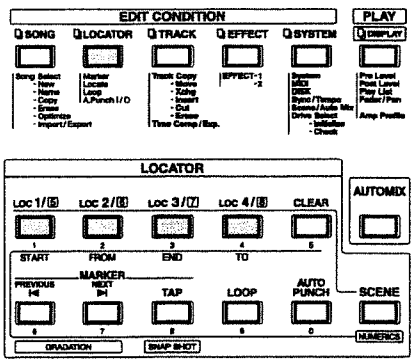
These can be used in recording/playback or while the song is stopped. When a locate point is set, the corresponding indicator lights.

Moving to a Stored Time Location

1. Press the **LOC button ([1/5]–[4/8])** for the locate point to which you want to move. For example, if you wish to move to the Locator 1, then press **[1/5]**. If you wish to move to the location registered in Locator 5, hold down **[SHIFT]** and press **[1/5]**.

Changing the Locator Bank

1. Hold down **[LOCATOR]**. The current locator bank number will be displayed as "Locate Bank = 1" etc. Simultaneously, the LOC indicator corresponding to the current bank number will blink.
2. Continue holding **[LOCATOR]**, and press the **LOC button ([1/5]–[4/8])** for the bank number that you wish to change.



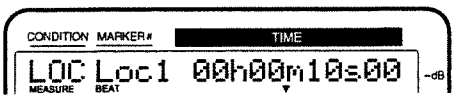
MEMO

[LOCATOR] is used both to recall the Locator condition and to switch the Locator Bank. If you take your finger off **[LOCATOR]** without changing the Locator Bank, the display screen may change.

3. Release your finger from **[LOCATOR]**.
4. As described in the procedure for "Storing a Time Location," register the locator point.

Making Fine Adjustments to Stored Locators

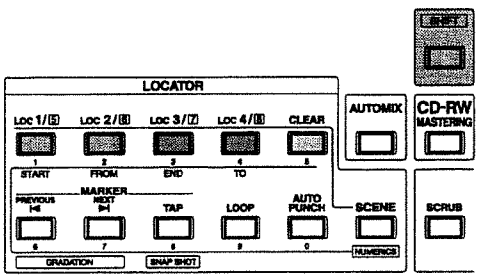
1. Move to the locator whose time you wish to change. Use the **LOC buttons ([1/5]–[4/8])**.
2. Press **[LOCATOR]** several times until "LOC Loc*" (* is the locator number that you wish to change) is displayed.
3. Use the **TIME/VALUE dial** to input the desired time.



4. When you finish making adjustments, press **[PLAY(DISPLAY)]**. Return to Play condition.

Deleting a Stored Time Location

1. While holding down **[CLEAR]**, press the **LOC button ([1/5]–[4/8])** for locate point that you wish to delete. For example, if you wish to delete the LOCATOR 1's located point, then press **[CLEAR]** and **[1/5]** simultaneously. If you wish to delete the time that was registered in Locator 5, hold down **[CLEAR]** and press **[SHIFT]** and **[1/5]**.



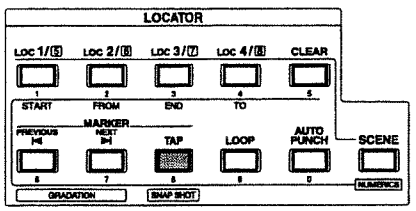
Using Markers

Along with the playback locate points, you can set up to 1,000 Markers in sequence. The Markers are also a useful and convenient way to define sections of a song to be repeated in Loop Recording (p. 56) or for marking points in Punch-In Recording (p. 55).

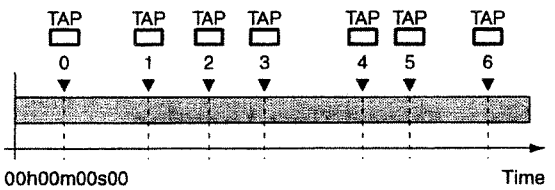
NOTE

An interval of at least 0.1 seconds must left between markers. It will not be possible to add a new markers if a markers already exists at a location less than 0.1 seconds away.

Marking a Time Location

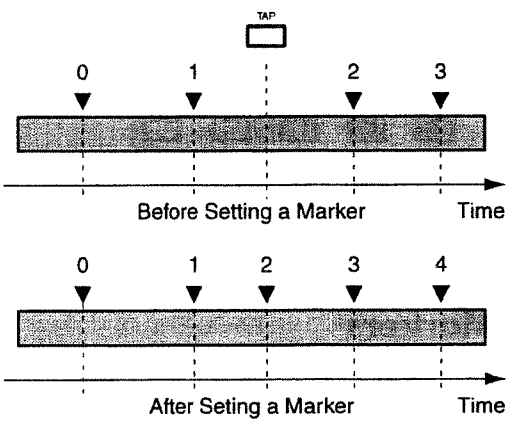


1. Press **[TAP]**, and a marker will be added to the current location. This can be done during recording or playback of the song as well as when the song is stopped.

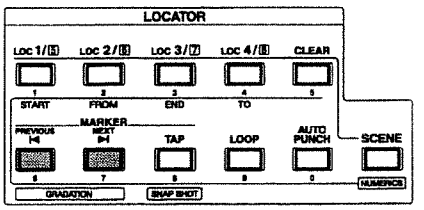


MEMO

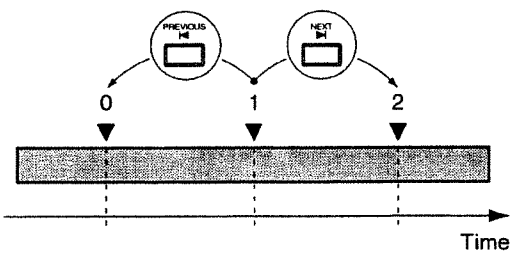
Each marker is assigned a number 000-999, in the order of its time location. This means that if you add a new marker at a location earlier than an existing marker, the numbers of the subsequent markers will be incremented.



Moving the Location of Markers 1



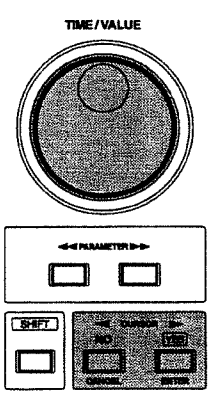
To move to the Marker immediately preceding the current playback time, press **[PREVIOUS ⏮]**. You move ahead one marker at a time in the order they are placed each time the button is pressed. To move to the Marker immediately following the current playback time, press **[NEXT ⏭]**.



MEMO

The Marker number at any playback location is indicated in the display. If there is no Marker number in the current location, then the closest preceding Marker number is displayed. If there are no markers in the song, "—" is indicated. If "***" is shown in the display, it indicates that although there are markers placed in the song, the current location is before the first marker.

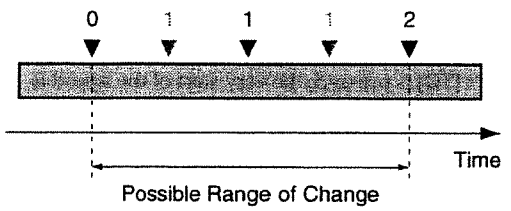
Moving the Location of Markers 2



1. Press **[PLAY (DISPLAY)]**.
2. In the display, the **MARKER field** will indicate the marker number of the current location. Use **CURSOR [◀], [▶]** to move the cursor to the **MARKER field**, and rotate the **TIME/VALUE dial**.

Making Fine Adjustments to Marked Locations

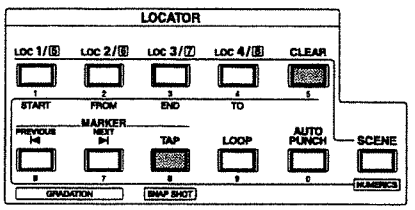
1. Move to the marker where you want to change. Press **[PREVIOUS ⏮]** or **[NEXT ⏭]** to move the marker.
2. Press **[LOCATOR]** several times until "LOC ***" appears in the display (*** is the marker number that you wish to modify).
3. Set the marker where you wish to change. Use the **TIME/ VALUE dial.** The time of a marker can be modified only within the range between the preceding and following markers.



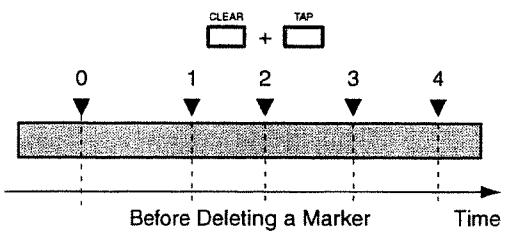
4. Press **[PLAY (DISPLAY)]**. Return to Play condition.

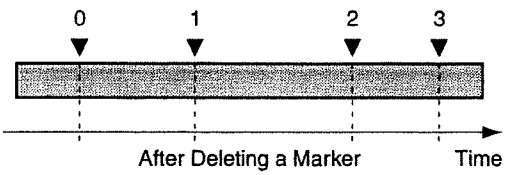
Deleting a Marked Location

Setting markers makes it much easier to search for places within a song, but having too many of them actually cam make it more difficult to find the location you're looking for. It is a good idea to delete unneeded markers whenever you can.

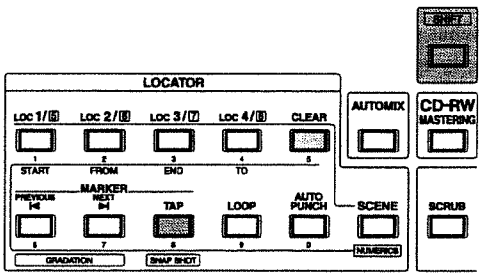


1. Move to the marker you wish to delete. Press **[PREVIOUS ⏮]** or **[NEXT ⏭]** to move the marker.
2. While holding down **[CLEAR]**, press **[TAP]**. Delete the marker. Marker numbers for any markers after the deleted mark point shift one number ahead.

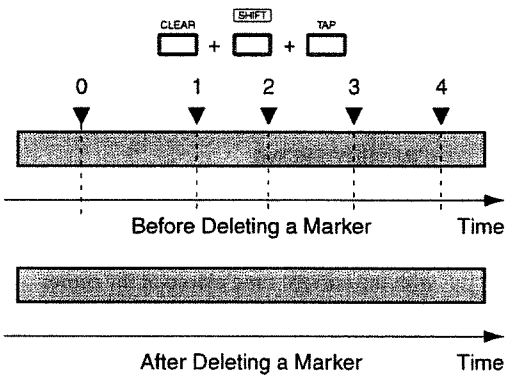




To Delete All Markers Simultaneously



1. Hold down **[CLEAR]** and **[SHIFT]** and **[TAP]** at the same time.
2. "Clear ALLMarker ?" appears in the display. If you want to delete the markers, press **[YES]**. If you want to cancel the procedure, the press **[NO]**.



Previewing Techniques (Preview)

When editing a song, you will likely want to find precise points in the song, for example the point where sound begins or where the climax begins, when using Auto Punch-In Recording, and in other editing situations. In such instances, you can specify the amount of time for playback leading up to or following a designated point as well as monitor the data on the tracks while gradually shifting the current time in the song. This is referred to as the **Preview function**.

There are 3 Preview buttons, and each one works differently. Select the one whose function is most appropriate for what you are trying to accomplish.

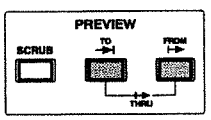
Using [TO] or [FROM]

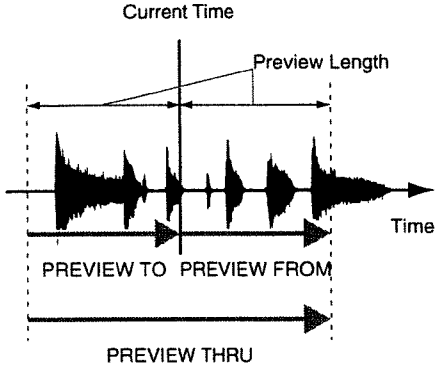
You can set the length of playback time for the tracks you want to monitor for 1.0–10.0 seconds leading up to or starting from the current point in the song. Press each buttons while the song is stopped.

[TO]: A preview of the song is played back one time for the specified period of time up to the current time in the song (PREVIEW TO).

[FROM]: A preview of the song is played back one time for the specified period of time starting from the current time in the song (PREVIEW FROM).

[TO] + [FROM]: A preview of the song is played back for the specified period of time both up to and from the designated point in the song, i.e., with the current time placed at the center of the playback (PREVIEW TO + PREVIEW FROM).



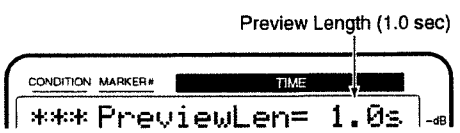


Finding the Location Where the Sound Begins (example)

1. While pressing **[STOP]**, press the **STATUS button ([1]–[8])** for the track you want to monitor. The STATUS indicator lights green.
2. Press **[PLAY]** to begin playback of the song.
3. Play back the song until you reach the point you are looking for. Press **[STOP]** to stop playback.
4. Alternately press **[TO]** and **[FROM]**. The song before and after the current time is played back. Determine whether the beginning of the sound is earlier or later than the current time.
5. Using the **TIME/VALUE dial**, shift the current time so that when **[TO]** is pressed, the very start of the sound is no longer heard.
6. Finally, rotate the **TIME/VALUE dial** to move the current time until the sound begins precisely when you press **[FROM]**.
7. Now you can easily find the precise location where the sound begins. Place a marker at the current time (p. 41) or store the current time in a locator (p. 40) so that you will be able to easily find it later.

Adjusting the Preview Length

1. Hold down **[SHIFT]** and press **[TO]** or **[FROM]**.
2. The "PreviewLen" is displayed. Rotate the **TIME/VALUE dial** to adjust the time. Press **[TO]** or **[FROM]** to check the actual playback time.



PreviewLen (Preview Length)

It sets a length of playback time in the preview function (1.0–10.0 sec.).

3. After you have finished making the settings, press **[PLAY (DISPLAY)]**. The initial display reappears.

Using [SCRUB]

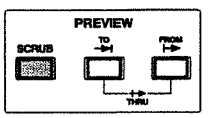
This function is used to repeat playback of the song before and after a designated point on a selected track for a more precisely specified length of time (25–100 msec.).

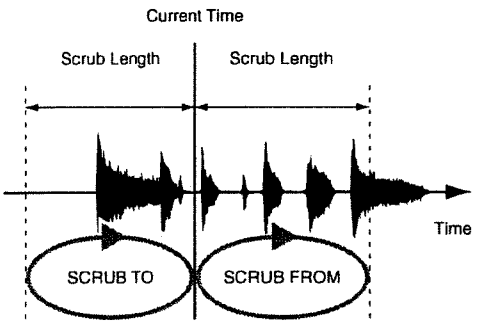
1. Press **[STOP]** (the song is stopped).
2. Press **[SCRUB]**. The button indicator lights, and the specified section is played back repeatedly. The playback time (25–100 msec) is shorter than when Preview as used. Press the following buttons while their button indicators are lit.

   SELECT button ([1]–[8]):
   Selects the track to be played back.

   [TO]:
   Execute PREVIEW TO once, then set the SCRUB length to up to the current time.

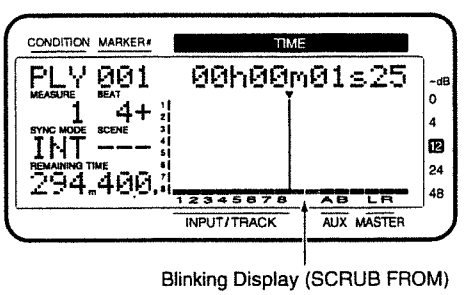
   [FROM]:
   Execute PREVIEW FROM once, then set the SCRUB length to starting from the current time.



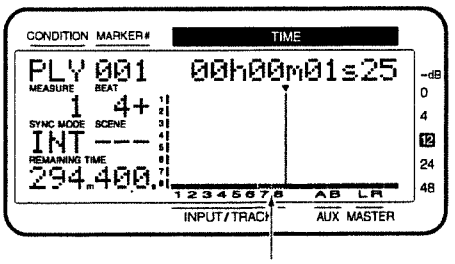


MEMO

The SCRUB length will be shown with the lower part of the bar display.

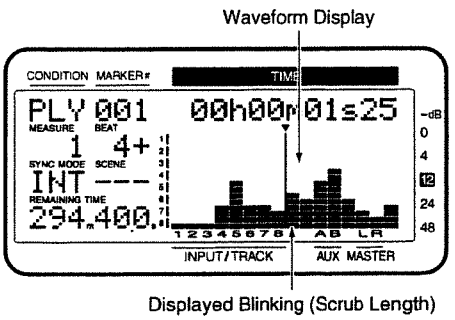


Blinking Display (SCRUB FROM)



Blinking Display (SCRUB TO)

3. Rotate the **TIME/VALUE dial** to move the current time. The sound (waveform) being played back will be displayed for your reference.



Displayed Blinking (Scrub Length)

4. Press **[SCRUB]** once more. The SCRUB indicator light goes off.

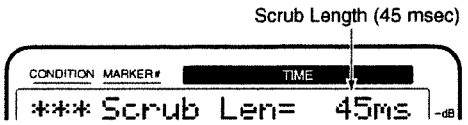
Finding the Location Where the Sound Begins (example)

1. While pressing **[STOP]**, press the **STATUS button ([1]–[8])**s for all tracks that you want to monitor. The STATUS indicator lights green.
2. Press **[PLAY]** to begin playback of the song.
3. Play back the song until you reach the point you are looking for. Press **[STOP]** to stop playback.
4. Press **[SCRUB]**. The SCRUB indicator lights, and the specified section is played back repeatedly. Press **[TO]** or **[FROM]** to select the range before or after the current time that you want to play back.
5. Press **SELECT button ([1]–[8])** for the track on which you want to use Scrub playback.
6. If you pressed **[TO]** in Step 4, rotate the **TIME/VALUE dial** to move the current time until you can just hear the very beginning of the sound. If you pressed **[FROM]** is Step 4, rotate the **TIME/VALUE dial** to move the current time until the sound begins precisely.

7. Now you can easily find the precise location where the sound begins. Press **[SCRUB]** once more. The SCRUB indicator light goes off.
8. Place a marker at the current time (p. 41) or store the current time in a locator (p. 40) so that you will be able to easily find it later.

Adjusting the Scrub Length

1. Hold down **[SHIFT]** and press **[SCRUB]**.
2. The "Scrub Length" is displayed. Rotate the **TIME/ VALUE dial** to adjust the time. Press **[SCRUB]** to check the actual playback time.



Scrub Length

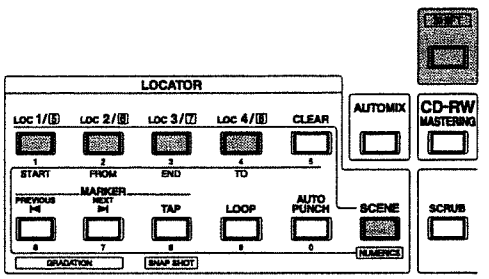
This sets a length (25–100 msec) of playback time when the Preview function **[SCRUB]** button is pressed.

3. After you have finished making the settings, press **[PLAY (DISPLAY)]**. The initial display reappears.

Recording the Current Condition of the Mixer (Scene)

Up to 8 sets of settings, values included, that define the total condition of the mixer can be stored for each song, and can be recalled instantly at the touch of a button. A stored set of mixer settings is called a **Scene**. A Scene includes not only the volume and pan settings, but also connections (e.g., the track to which the source from the INPUT 1 jack is recorded), V-track settings (the track to which each is recorded), and effects (such as the selection of the effect to be applied). This feature is convenient when you want to compare different balances of volume, pan, equalizer, and other settings during mixdown.

Storing a Scene



1. Press **[SCENE]**. The SCENE indicator lights.
2. At this point, the **LOC button ([1/5]–[4/8])** act to store or recall scene. Indicators light for any **LOC buttons ([1/5]–[4/8])** storing scene.
3. Press a **LOC button ([1/5]–[4/8])** whose button indicator does not light. For example, if you want to record to Scene 1, then press **[1/5]**. If you wish to store the settings in Scene 5, hold down **[SHIFT]** and press **[1/5]**.
4. Press **[SCENE]** once more. The SCENE indicator will go dark. If you wish to halt the registration procedure, press **[SCENE]** before step 3.

Recalling a Scene

1. Press **[STOP]** (the Song is stopped).

NOTE

You cannot select a Scene during recording or playback.

2. Press **[SCENE]**. The SCENE indicator lights.

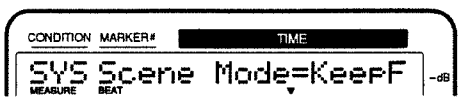
3. At this point, the **LOC button ([1/5]–[4/8])** act to store or recall scene. Indicators light for any **LOC buttons ([1/5]–[4/8])** storing scene.
4. Press a **LOC button ([1/5]–[4/8])** whose button indicator lights. For example, if you want to recall the Scene 1, then press **[1/5]**. If you wish to recall Scene 5, hold down **[SHIFT]** and press **[1/5]**.
5. Press **[SCENE]** once more. The SCENE indicator will go dark. If you wish to halt the recall procedure, press **[SCENE]** before step 4.

Recalling a Scene Without Affecting the Current Fader Values

When a Scene is recalled, the fader values will change to the recalled settings. However, the positions of the top panel's faders themselves do not change. This means that the locations of the faders will not match their actual values.

If you want just the fader values to remain unchanged when you recall a Scene, make the following settings.

1. Press **[SYSTEM]** several times until "SYS Scene/Auto Mix ?" appears in the display.
2. Press **[YES]**. "SYS Scene Mode=" appears in the display.
3. Use the **TIME/VALUE dial** to select "KeepF."



SYS Scene Mode

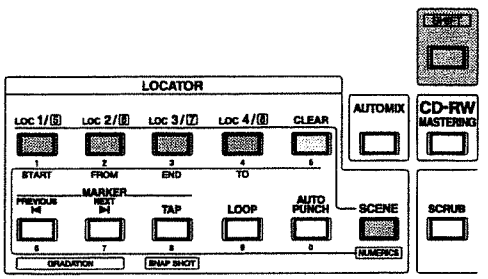
This setting determines the fader settings when a Scene is recalled.

All:
This changes the mixer settings to those of the Scene being recalled. In this case, when a Scene is recalled, the location of the faders on the top panel may no longer match the actual fader settings.

KeepF:
This changes the mixer settings to those of the Scene being recalled, with the exception of the fader settings. This means that even when a Scene is recalled, fader settings will still match the fader positions on the top panel.

4. Press **[PLAY (DISPLAY)]**. Return to Play condition.

Deleting a Scene



1. Press **[SCENE]**. The SCENE indicator lights.
2. The indicators for the **LOC buttons ([1/5]–[4/8])** to which scene are stored then light.
3. Hold down **[CLEAR]**, and press the **LOC button ([1/5]–[4/8])** for the scene that you wish to clear. For example if you wish to clear the mixer settings that were stored in scene 1, hold down **[CLEAR]** and press **[1/5]**. If you wish to clear the mixer settings that were stored in scene 5, hold down both **[CLEAR]** and **[SHIFT]**, and press **[1/5]**.
4. Press **[SCENE]** once more. The SCENE indicator will go dark. If you wish to halt the Clear procedure, press **[SCENE]** before step 3.

Multi-Track Recording

This section explains the operations necessary for recording with the VS-890. Try out each operation as you read these instructions.

Recording

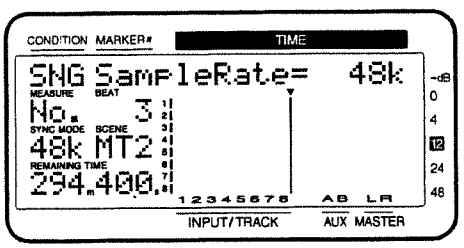
Items Necessary for Multi-Track Recording

- VS-890 (1)
- Internal IDE hard disk
- Audio equipment for the Master Out signal, or stereo headphones
- Recording source (electric guitar, synthesizer, CD player, etc.) or microphone

Creating a New Song (Song New)

Recording cannot take place while a demo song is selected. This is because the contents of the **demo songs are protected** from being changed or overwritten. Use the following procedure to prepare a new song. This process is analogous to exchanging cassettes on a multi-track tape recorder.

1. Press **[SONG]** several times until "SNG Song New ?" appears in the display.
2. Press **[YES]**.
3. "SNG SampleRate=" appears in the display. Use the **TIME/VALUE dial** to select a sample rate.

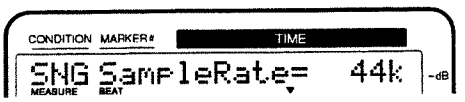


Sample Rate

Select a sample rate (32.0 kHz, 44.1 kHz, or 48.0 kHz). When you want to use a digital connection to a digital audio device, much the sample rate to that of the connected device. Furthermore, **when making an original audio CD, select 44.1 kHz.** You cannot change the sample rate after the song is recorded. In addition, you cannot mix different sample rates in the same song.

MEMO

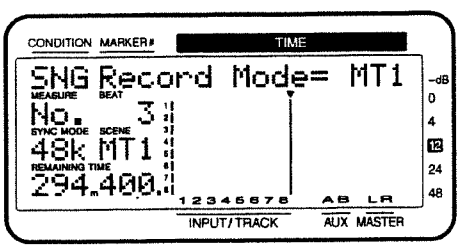
When you choose **44.1 kHz**, the display shows "44k."



NOTE

When you select **48 kHz**, maximum simultaneous recording is limited to **6 tracks** (and maximum simultaneous playback is limited to 8 tracks).

4. Press **PARAMETER [▶▶]**.
5. "Record Mode=" appears in the display. Use the **TIME/VALUE dial** to select a recording mode.



Record Mode (Recording Mode)

Select the sound's quality and time based on the recorded contents. Once a song is recorded, these settings cannot be changed.

VSR

Compatible with professional-quality equipment (digital mixers, digital effects, processors, etc.). The high-quality sound can be worked with - recorded and edited - as is, with no loss of sonic quality when played back or output.

CDR (CD Writing)

This format allows you to omit the step of conversion to an image file when creating an audio CD (p. 143). When this mode is selected, the unit will function as a four-pair stereo recorder (Channel Link on: tracks a-d).

MAS (Mastering)

With this setting, you can get the high-quality sounds compatible to that's quality of CD player or DAT recorder. This mode is appropriate when recording edited two-channel stereo songs.

MT1 (Multitrack 1)

While maintaining high-quality sound, recording time is approximately twice that available in "Mastering" mode. This mode is good when doing a lot of track bouncing.

MT2 (Multitrack 2)

While maintaining high-quality sound, recording time is longer than that available in "Multi-Track 1" mode.

LIV (Live)
Recording time is longer than with "Multi-Track 2" mode. This mode is appropriate when your hard disk lacks much free space or when recording live performances.

6. Press **[YES]**. "Create New - Sure?" appears in the display.
7. Press **[YES]** again. "STORE Current?" appears in the display.
8. If you wish to save the current song, press **[YES]**; if not, press **[NO]**. **If you have selected a demo song, then press [NO].**
9. When a new song has been created, you will return to Play condition. The newly created song will be selected as the song for recording/playback.

About Recording Time

The recording time (**track minutes**) of both **sampling rate** and **recording mode** are as shown below (for one track, with 1 GB partition, unit:minutes).

Track Minutes (Appendices p. 13)

Record Mode	Sample Rate		
	48.0 kHz	44.1 kHz	32.0 kHz
VSR	371	404	557
CDR	185	202	278
MAS	185	202	278
MT1	371	404	557
MT2	495	539	742
LIV	594	646	891

The above-listed recording times are approximate.

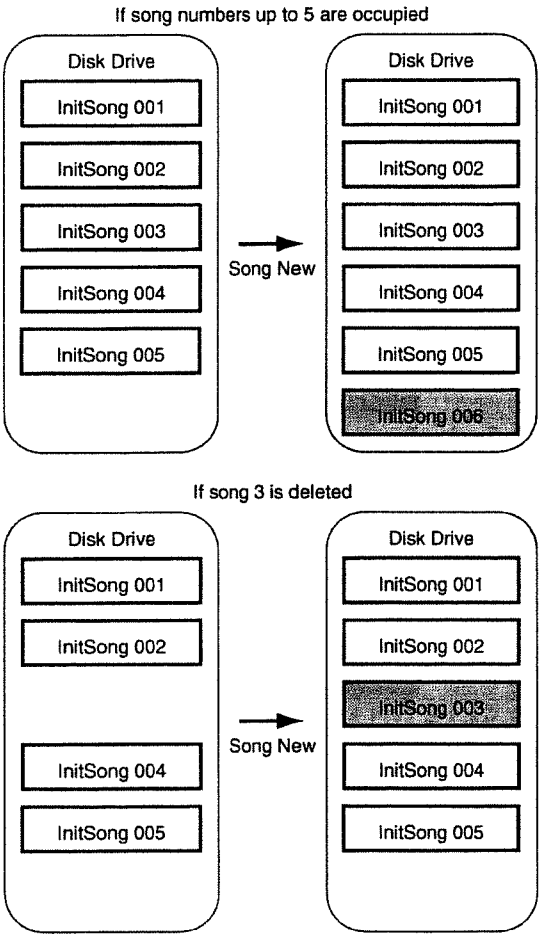
- Times may be slightly depending on the specifications of the disk drive. For example, if you are using a hard disk that is 6,000 MB, above-listed recording times will be sixfold.
- Times may be slightly depending on the number of songs that were created.
- When the recording mode (p. 48) is **CDR**, two tracks are always handled as a single pair (channel linking is on; p. 174), and so recording times are half those shown above.

If "Drive Busy!" is Displayed

If this message appears during recording or playback, it means that the disk drive cannot catch up with the data read or write speed. In such instances, create a new song which lower the **sample rate** or **recording mode** from their current settings, and record over.

Song Numbers

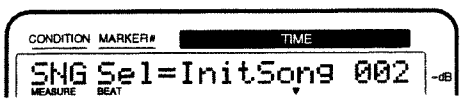
On the VS-890, management of song data is accomplished by assigning a song number to every song that is saved. Newly created songs are given the lowest currently available number. For example, if all numbers up to song number 5 are already assigned, then the number 6 is taken by the new song. Furthermore, even if song numbers up to 5 are occupied, if Song 3 is deleted, then the new song is given that now lowest vacant number.

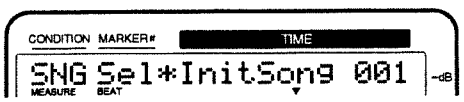


Selecting a Song (Song Select)

If the VS-890 contains multiple songs, use the following procedure to select a song.

1. Press **[SONG]** several times until "SNG Song Select ?" appears in the display.
2. Press **[YES]**.
3. Use the **TIME/VALUE dial** to appear the song name that you wish to select. An asterisk "*" will be displayed at the beginning of the current song.

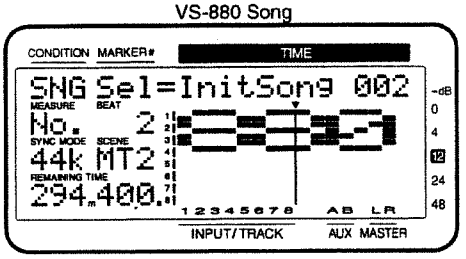




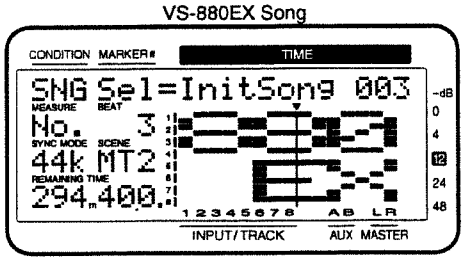
MEMO

- Different types of songs (for the VS-880, VS-880EX or VS-890) are distinguished.
- Songs recorded with the VSR-880 are recognized as VS-890 songs. This means that in addition to playing back songs recorded with the VSR-880 and creating new songs, you can use the VS-890 to do things like editing songs recorded with the VSR-880 and saving new songs.

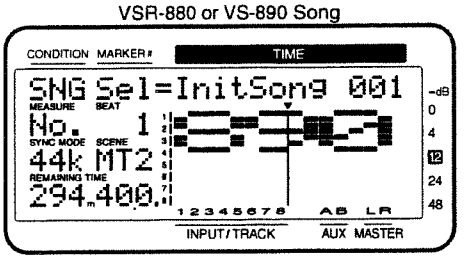
VS-880 Song



VS-880EX Song



VSR-880 or VS-890 Song



4. Press **[YES]**. "Select Song, Sure?" (Are you sure that you want to select this song?) will be displayed.
5. Press **[YES]** again. "STORE Current?" (Store the current song?) will be displayed.
6. If you wish to save the current song, press **[YES]**. If not, press **[NO]**. **If you have selected a demo song, then press [NO].**
7. The song will be selected, and you will return to the Play Condition.

General Course of the Recording Process

The procedure for recording with the VS-890 is roughly as same as record process by multi-track recorders as mentioned before. This general process of recording a song is outlined below. Please take a moment to read through the steps.

1. Connect instruments and microphones to the VS-890 (p. 51).
2. Record the basic part of the song; drums and bass, etc. (p. 51).
3. Record other parts (electric guitars, synthesizers, vocals, etc.) while playing back the basic part (**overdubbing**; p. 58).
4. If there are any mistakes during the process, record over the places where they occurred (**punch-in/punch-out**; p. 53).
5. Adjust the volume level, pan, equalization, and other settings for each part (p. 69).
6. If you run out of empty tracks, you can merge the contents of two or more tracks onto a different track (**track bouncing**; p. 72).
7. Edit the recorded performance as required (Track Edit, p. 78).

8. Mix down the tracks to your recorder and make a master tape (p. 137). Alternatively, use your CD-RW drive (Roland CD Recorder) to make an original audio CD (p. 143).
9. Back up the songs on a Zip disk, CD-R media, or the like as required (p. 147).

Well, it's time to try multi-track recording. This will be explained using concrete examples.

Connecting Instruments

1. Turn down the **master fader** as low as possible.
2. Connect instruments and microphones to the **INPUT jacks**.

NOTE

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

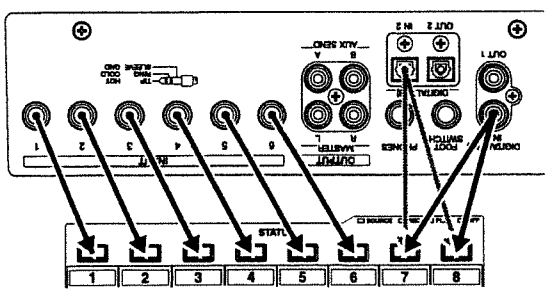
1. Changing the orientation of the microphone(s).
2. Relocating microphone(s) at a greater distance from speakers.
3. Lowering volume levels.

Recording to the Tracks

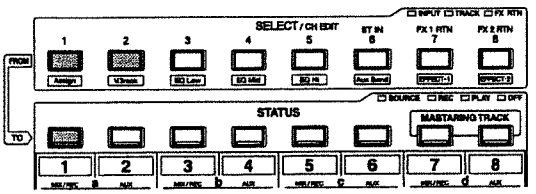
1. Hold down **STATUS button ([1]–[8]; any track is OK)** and press **[CLEAR]**. This will clear any existing input and/or track routing assignments.

MEMO

In a newly created song, sources are assigned to tracks as shown below.



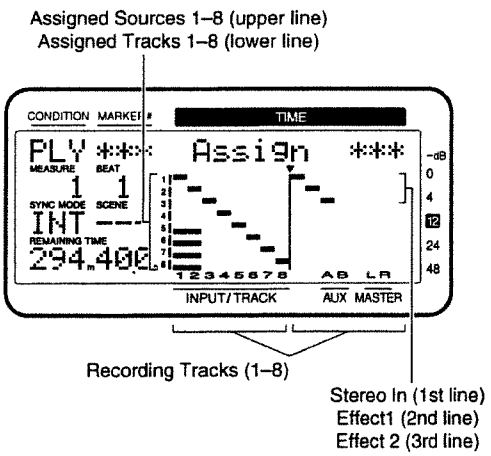
2. Select a recording track. While holding down **[REC]**, press the **STATUS button** for the track to which you want to record. The STATUS indicator blinks red.
3. Switch to the input mixer. Press **[FADER (EDIT)]** several times to let the FADER indicator light orange.
4. Select source to be recorded to the track. While holding down the **STATUS button** for the track to which you want to record, press the **SELECT button** for the input channel whose source you want assigned to the track. The SELECT indicator blinks.



5. Determine the source volume. Since what is recorded is the sound after it passes through the fader, the faders should normally be set to around **0 dB**.
6. Adjust the input sensitivity, with the **INPUT knob** of the channel input assigned as the source. Get a strong input signal by having instrument volumes as high as possible. At this time, raise the volume level as much as possible without making the PEAK indicator light up. Normally, this range is adjusted that the level meter moves within -12 to 0 dB when the channel fader is set to 0 dB.
7. Press **[REC]**. The REC indicator blinks red.
8. Press **[PLAY]**. The PLAY indicator lights green, and recording starts. Now begin playing.
9. When the performance is finished, press **[STOP]**. The song then stops.
10. Listen to the recorded performance. Press **[ZERO]** to return to the beginning of the song.
11. Switch to the track mixer. Press **[FADER]** several times to let the FADER indicator light green.
12. Press **[PLAY]** to begin playback of the song.
13. Use the **channel faders** and the **master fader** to adjust the volume to a comfortable level.
14. Does the recording sound as you though it would? If you are satisfied with the results of your recording, then save the song to the disk, using the procedure described in "Saving a Recorded Performance" (p. 53).

MEMO

In Play Condition, hold down the **STATUS button** to view the source/track/effect which is assigned to that track.



Source for Recording to Tracks

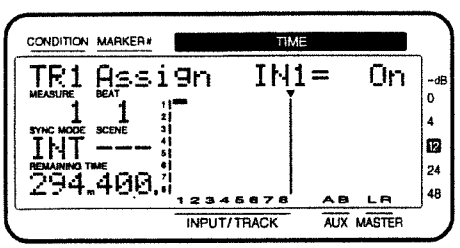
To choose the source for recording to tracks, in addition to the method using the **STATUS button** in step 4 above, you can also specify the tracks at the track channel Edit screen. Use the following procedure after step 4 above.

4-1. Press **[FADER (EDIT)]** several times to let the FADER indicator light green. (Track Mixer)

4-2. Press **[SELECT (CH EDIT)]** for the track to which you want to record.

4-3. Hold down **[SHIFT]**, and press channel 1 **[Assign (CH EDIT)]**.

4-4. Use the **TIME/VALUE dial** to select the source you wish to record, and press **[YES]**.



Assign ***

Specify the source/track/effect return which will assigned to each track for recording. If you press **[YES]** the display will indicate "On," showing that it has been assigned for recording. If you press **[NO]**, the display will indicate "Off," and the signal will not be assigned (it will not be recorded).

The symbols displayed in "***" indicate the following signals.

IN1–IN8: INPUT Jack 1–INPUT Jack 8 (DIGITAL IN)

TR1–TR8: Track 1–Track 8 (Track Bouncing)

FX1: Effect 1 Return

FX2: Effect 2 Return

StIn: Stereo In

For example, a display of "TR1 Assign IN1= On" indicates that "the source from INPUT jack 1 has been assigned to track 1 for recording."

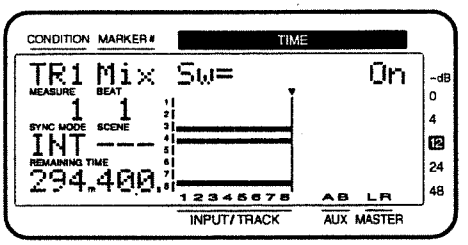
When You Are Recording in Stereo

When recording in stereo, or when recording to tracks with Channel Link (p. 174) on, you can set the **pan** for each input channel. After Step 5 above, perform the procedure described below.

5-1. Press the **SELECT button** for the input channel you want assigned as the source. The SELECT indicator lights.

5-2. Press **PARAMETER [◀◀], [▶▶]** several times until "MIX Sw" appears in the display.

5-3. Rotate the **TIME/VALUE dial**.



MIX Sw (Mix Send Switch)

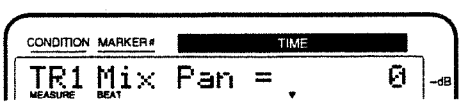
This selects the bus to which the source or track output will be assigned. For this example select "On."

On: The output of each channel is sent to the mixing bus. However, if the channel is assigned to a recording bus, when the track status is **SOURCE** (orange) or **REC** (flashing in red), no output to the mixing bus is made even when "On" has been selected.

Off: The output of each channel is not sent to the mixing bus.

5-4. Press **PARAMETER [▶▶]** until "MIX Pan" appears in the display.

5-5. Rotate the **TIME/VALUE dial**.



MIX Pan (Mix Send Pan)

This adjusts the pan setting (L63–0–R63) of the signal sent to the MIX bus and the REC bus. You can also adjust Mix Send Pan directly using the **PAN knob** on the top panel.

5-6. Repeat Steps 5-1 through 5-3 for all input channels to which you want to make pan settings.

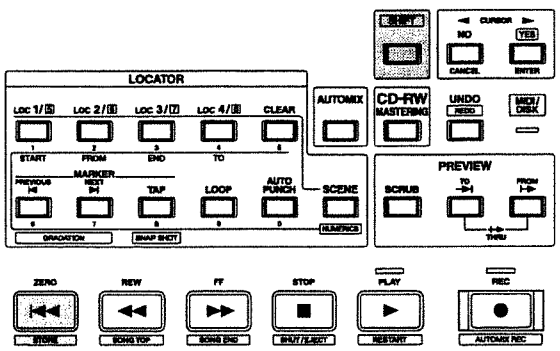
5-7. After making the pan setting, press **[PLAY (DISPLAY)]**. Return to Play condition.

Saving a Recorded Performance (Song Store)

The contents of any recorded performance will be lost if you simply turn the power off, or even if there is an accidental power failure or power outage. Once lost, the contents of a recorded performance cannot be restored to the previous conditions. To avoid this from happening, use the following procedure to save your songs to the disk.

MEMO

When handling important song data, or when using the VS-890 for extended periods, we recommended that you to perform this procedure frequently.



1. Hold down **[SHIFT]** and press **[STORE (ZERO)]**.
2. "STORE OK?" appears in the display. If you are satisfied with the results of your recording, press **[YES]**. If you wish to cancel the save, press **[NO]**.

NOTE

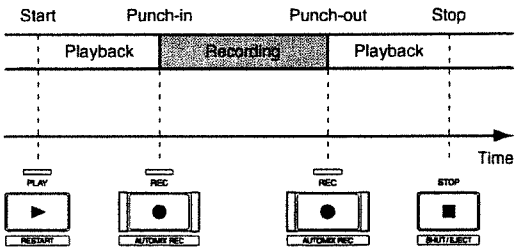
The contents of the demo songs are protected from being changed or overwritten (**Song Protect**; p. 77). You cannot save operation with the demo songs. This means if you press **[YES]** at Step 2 when a demo song is selected, the message "Song Protected" will appear, and the procedure cannot be continued.

Recording Over a Portion of a Performance (Punch-In/ Punch-Out)

Sometimes, when listening to a recorded performance, even if you don't find it necessary to discard the entire song, there may be sections containing mistakes or lyrics that are hard to hear. In such instances, you will find the following procedure convenient for rerecording only selected parts of a recording. The switching from playback to recording status is called **punch-in**, and the switch back from recording to playback is referred to as **punch-out**.

Using [REC] (Manual Punch-In 1)

Use **Transport Control Buttons** to punch in and out.



1. Hold down **[REC]** and press the **STATUS button** which you wish to re-record.
2. Press **[ZERO]** to return to the beginning of the song.
3. Press **[PLAY]** to begin playback of the song. At this point, the performance that has already been recorded on the track or tracks that you want to re-record is monitored.
4. Press the **STATUS buttons** again. The STATUS indicator alternately blinks red and orange. Now, confirm that you can hear source you want recorded to the track coming from the monitors.
5. During playback of the song, each time the **STATUS button** is pressed, the monitor switches between source and track. Using the **INPUT knob**, adjust the volume of the source so that it matches that of the prerecorded performance.
6. Once you have adjusted the input sensitivity, press **[STOP]**.
7. Move to previous located point where you want to re-record.
8. Press **[PLAY]** again to playback the song.

9. When you reach the point in the performance you want to re-record, press **[REC]**. The VS-890 goes in to record mode; start rerecording the song or performance.

10. When you have finished recording, press **[REC]** once more (or press **[PLAY]** to playback the song).

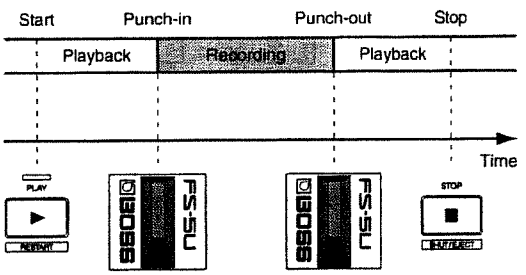
11. Each time the **[REC]** button is pressed, the unit alternately punches in and out. Repeat Steps 9 and 10 for any other tracks you wish to re-record.

12. Press **[STOP]** to stop the song.

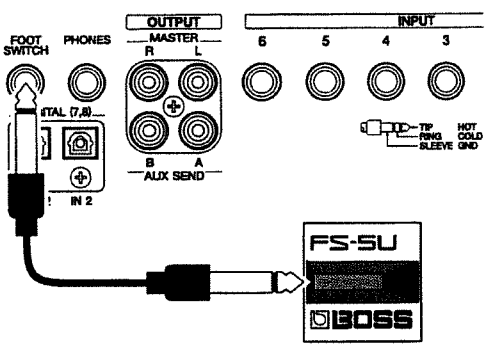
13. Listen to the results of the rerecording. Return to the beginning of the song and press **[PLAY]**.

Using the Foot switch (Manual Punch-In 2)

Use the **foot switch** to punch in and out. Using Punch-In/Punch-Out when both performing on an instrument and recording at the same time is difficult. In such instances, it is convenient to use a foot switch (such as the **DP-2** or the **BOSS FS-5U**) to do your switches.

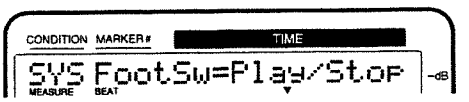


1. Connect an optional foot switch (such as the DP-2 or the BOSS FS-5U) to the VS-890's FOOT SWITCH jack.



2. Press **[SYSTEM]** several times until "SYS System PRM?" appears in the display.

3. Press **PARAMETER [▶▶]** several times until "SYS FootSw=" appears in the display.



FootSw (Foot switch assign)

Set the function of the foot switch connected to the FOOT SWITCH jack.

Play/Stop:
Repeats playback and recording each time the foot switch is pressed.

Record:
Performs the same function as **[REC]**. This is used for switching between recording and playback during manual Punch-In Recording.

TapMarker:
Performs the same function as **[TAP]**. Pressing the foot switch sets a Marker at the mark point.

Next:
Performs the same function as **[NEXT ▶|]**. Moves to the beginning or end of the following phrase each time the foot switch is pressed.

Previous:
Performs the same function as **[PREVIOUS |◀]**. Moves to the beginning or end of the previous phrase each time the foot switch is pressed.

GPI:
Controls playback and recording of the song depending on the GPI trigger signal received from the FOOT SWITCH jack.

GPI (Appendices p. 12)

4. Select "Record" with the **TIME/VALUE dial**.

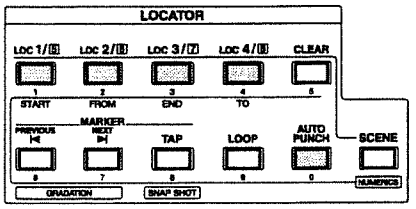
5. Press **[PLAY (DISPLAY)]**. Return to Play condition.

Now, you can switch the setting of the FOOT SWITCH jack between Punch-In and Punch-Out by the foot switch. Carry out Manual Punch-In as described in "Using [REC] (Manual Punch-In 1)". However, use the foot switch instead of **[REC]** to perform the operation.

Specifying Beforehand the Location for Rerecording (Auto Punch-In)

You can automatically punch in and punch out at previously specified locations. This function is called **Auto Punch-In.** This is convenient when you need to punch in or out at a precise time. Before you begin recording, set the times for punch-in/punch-out. There are 3 ways to set these times as described below. Use the method appropriate for your situation.

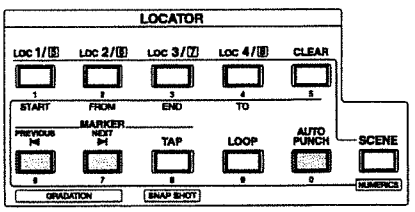
Using Locators



1. Preset locate points where you want to punch in/punch out (p. 40).
2. While holding down **[AUTO PUNCH]**, press the **LOC button ([1/5]–[4/8])** specifying the locate point for the time at which you want to punch in.
3. Then, without releasing **[AUTO PUNCH]**, press the **LOC button ([1/5]–[4/8])** specifying the locate point for the punch-out time.

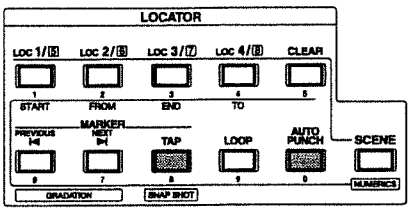
Using Markers

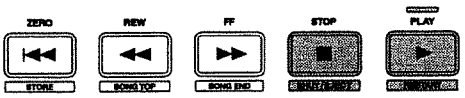
The space between two adjacent mark points can be used to define the segment for Punch-In Recording.



1. Preset Markers where you want to punch in and then punch out (p. 41).
2. Move to the mark point located at the desired punch-in time.
3. While holding down **[AUTO PUNCH]**, press **[NEXT ▶|]**.
4. Without releasing **[AUTO PUNCH]**, press **[PREVIOUS |◀]**.

Specifying the Points While the Song Plays Back

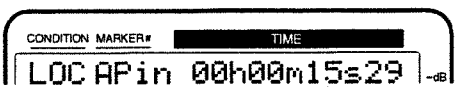




1. Press **[PLAY]** to begin playback of the song.
2. When you reach the desired punch-in location, hold down **[AUTO PUNCH]** and press **[TAP]**.
3. Continue holding down **[AUTO PUNCH]**, wait for the desired punch-out location, and then press **[TAP]** once again.
4. Press **[STOP]**.

Making Fine Adjustments to the Punch-In Segment

1. Press **[LOCATOR]** several times until "LOC APin" appears in the display.



2. The punch-in time will be displayed. (If no punch-in time has been specified, the display will indicate "–h–m–s–f–.") Use the **TIME/VALUE dial** to adjust the time.
3. Press **PARAMETER [▶▶]**. "LOC APOt" appears in the display.
4. The punch-out time will be displayed. (If no punch-out time has been specified, the display will indicate "–h–m–s–f–.") Use the **TIME/VALUE dial** to adjust the time.
5. Press **[PLAY (DISPLAY)]**. Return to Play condition.

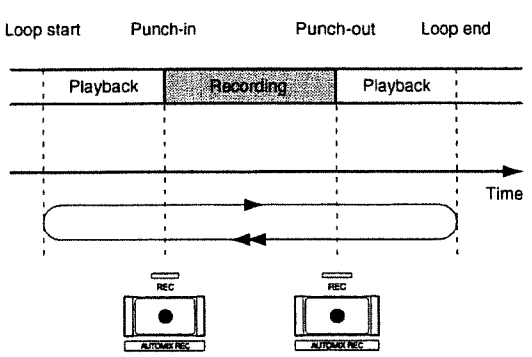
Recording Procedure

1. Hold down **[REC]** and press the **STATUS button** for the track you wish to re-record.
2. Press **[ZERO]** to return to the beginning of the song.
3. Press **[PLAY]** to begin playback of the song. At this point, the performance that has already been recorded on the track or tracks that you want to re-record is monitored.

4. Press the **STATUS buttons** again. The STATUS indicator alternately blinks red and orange. Now, confirm that you can hear source you want recorded to the track coming from the monitors.
5. During playback of the song, each time the **STATUS button** is pressed, the monitor switches between source and track. Using the input sensitivity knob, adjust the volume of the source so that it matches that of the prerecorded performance.
6. Once you have adjusted the input sensitivity, press **[STOP]**.
7. Press **[AUTO PUNCH]**. The AUTO PUNCH indicator lights, and Auto Punch-In Recording is enabled.
8. Move to a previous locate point where you want to re-record.
9. Press **[REC]**.
10. Press **[PLAY]** again. Playback of the song begins.
11. The VS-890 automatically goes into record mode at the point where the punch-in is set. Start the song or performance now.
12. When you reach the point where the punch-out is set, the VS-890 automatically returns to playback mode. Press **[STOP]** to stop the song.
13. Listen to the results of the rerecording. Return to the beginning of the song and press **[PLAY]**.

Repeatedly Recording Over the Same Area (Loop Recording)

You can repeatedly play back a specified area (the loop) and use **Auto Punch-In Recording** in that area. This is called **Loop Recording**. This is convenient for when you want to check the results immediately after recording, or if you want to record a number of takes of a guitar solo and compare the different takes.



Before you begin recording, specify the begin and end times for the loop. There are three ways to specify the loop times. Use the method appropriate for your situation.

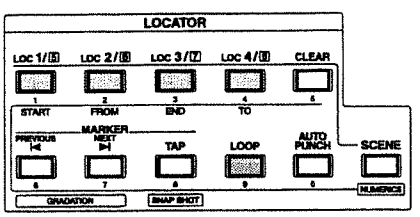
MEMO

To specify the area re-recording (the punch-in point and punch-out point), refer to the previous section "Auto Punch-In."

NOTE

Make settings so that the loop completely includes the area to be rerecorded (i.e., from the punch-in point to the punch-out point). If the area to be rerecorded is not completely within the loop, recording may not start at the specified location, or may be interrupted in the middle of the area for recording.

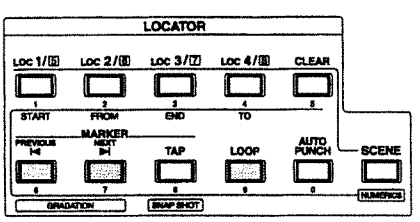
Using Locators



1. First store locate points where you want to begin and end the loop (p. 40).
2. While holding down **[LOOP]**, press the **LOC button ([1/5]–[4/8])** for the locate point where you want the loop to begin.
3. Without releasing **[LOOP]**, press the **LOC button ([1/5]–[4/8])** which specified the end of the loop.

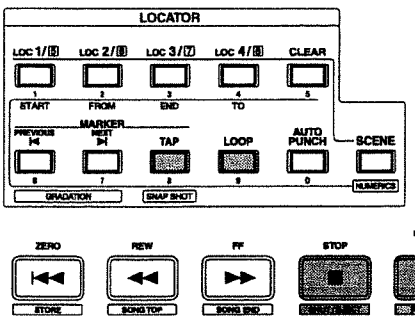
To Use Markers

Adjacent mark points can be used to set the beginning and end of the loop.



1. First, set mark points where you want to punch in and punch out (p. 41).
2. Move to the mark point at the beginning of the loop.
3. While holding down **[LOOP]**, press **[NEXT ▶|]**.
4. Without releasing **[LOOP]**, press **[PREVIOUSprev.next]**.

Specifying The Points While the Song Plays Back



1. Press **[PLAY]** to begin playback of the song.
2. When you reach the desired location for the beginning of the loop, hold down **[LOOP]** and press **[TAP]**.
3. Continue holding down **[LOOP]**, and when you reach the desired location for the end of the loop, press **[TAP]** once again.
4. Press **[STOP]**.

Making Fine Adjustments to the Loop

1. Press **[LOCATOR]** several times until "LOC LpSt" appears in the display.

2. The loop start time will be displayed. (If no loop start time has been specified, the display will indicate "–h–m–s–f–.") Use the **TIME/VALUE dial** to adjust the time.
3. Press **PARAMETER [▶▶]**. "LOC LpEd" appears in the display.
4. The loop end time will be displayed. (If no loop end time has been specified, the display will indicate "–h–m–s–f–.") Use the **TIME/VALUE dial** to adjust the time.
5. Press **[PLAY (DISPLAY)]**. Return to Play condition.

Recording Procedure

1. Hold down **[REC]** and press the **STATUS button** for the track you wish to re-record.
2. Press **[ZERO]** to return to the beginning of the song.
3. Press **[PLAY]** to begin playback of the song. At this point, the performance that has already been recorded on the track or tracks that you want to re-record is monitored.
4. Press the **STATUS buttons** again. The STATUS indicator alternately blinks red and orange. Now, confirm that you can hear source you want recorded to the track coming from the monitors.
5. During playback of the song, each time the **STATUS button** is pressed, the monitor switches between source and track. Using the input sensitivity knob, adjust the volume of the source so that it matches that of the prerecorded performance.
6. Once you have adjusted the input sensitivity, press **[STOP]**.
7. Press **[LOOP]**. The LOOP indicator lights, and Auto Punch-In Recording is enabled.
8. Press **[AUTO PUNCH]**. The AUTO PUNCH indicator lights. You are now set to do Loop Recording.
9. Press **[PLAY]**. Playback of the song begins. The song is played back until the end of the loop is reached, playback will return to the loop start point, and repeat.
10. Press **[REC]** where you want to re-record. The VS-890 will then automatically go into record mode at the point where the punch-in is set. Start the song or performance then.
11. When you reach the point where the punch-in is set, the VS-890 automatically returns to playback mode. Playback continues until the end of the loop, and the loop repeats from the start point once again.
12. With the next playback of the loop, listen to what you recorded to check the result. If the recording hasn't turned out as you intended, repeat Steps 10 and 11.
13. Press **[STOP]** to stop the song.
14. Listen to the results of the recording once more. Press **[LOOP]**. The LOOP indicator goes off.
15. Press **[AUTO PUNCH]**. The AUTO PUNCH indicator goes off.
16. Return to the beginning of the song and press **[PLAY]**.

Recording to Other Tracks (Overdubbing)

In multi-track recording, the normal process is to record new tracks while listening to the performance on previously recorded tracks played back. This is referred to as **overdubbing**.

1. Select the tracks you want to play back. While holding down **[STOP]**, press the **STATUS buttons** for the tracks you want to play back (i.e., that you want to hear while overdubbing). The STATUS indicators light green.
2. Select the tracks to which you want to record. While holding down **[REC]**, press the **STATUS buttons** for the tracks to which you want to record. The STATUS indicators blink red.
3. Select the sources to record to the tracks. While holding down the **STATUS buttons** for the tracks you want to record to, press the **SELECT buttons** for the input channels whose sources you want assigned to the tracks. The SELECT indicators blink.
4. Now you are ready for overdubbing. Follow the Steps of "Recording to the Tracks" (p. 51), to record and then check the content.

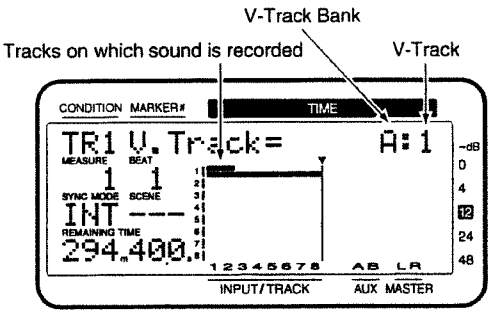
Recording on V-Track 2

The VS-890 features 8 tracks, each of which contains 8 auxiliary tracks. These subsidiary tracks are referred to as **V-tracks**. Each song can have two sets (A and B) of these 64 V-tracks (8 tracks x 8 V-tracks), and each such set is referred to as a **V-track bank**.

By using all of these tracks to their full potential, you can create recordings of up to 128 (64 (V-track) x 2 (V-track bank)) tracks.

Switching V-Tracks

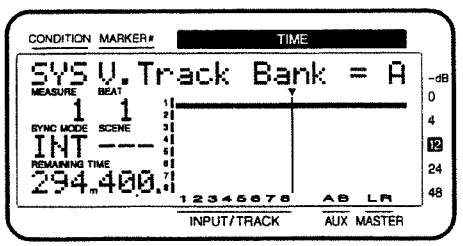
1. Press **[CH EDIT (SELECT)]** for the track whose V-track you wish to switch.
2. Hold down **[SHIFT]** and press the channel 2 **[V.Track (CH EDIT)]**.
3. "V.Track=" appears in the display. Using the **TIME/VALUE dial** to select the V-track.



4. Press **[PLAY (DISPLAY)]**. Return to Play condition.
5. As described in "Recording to the Tracks" (p. 51), record and check the contents.

Switching V-Track Bank

1. Press **[SYSTEM]** several times until "SYS System PRM ?" appears in the display.
2. Press **[YES]**.
3. Press **PARAMETER [▶▶]** several times until "V-Track Bank =" appears in the display.
4. Rotate the **TIME/VALUE dial**. Select "A" or "B."



5. Press **[PLAY (DISPLAY)]**. Return to Play condition.
6. As described in "Recording to the Tracks" (p. 51), record and check the contents.

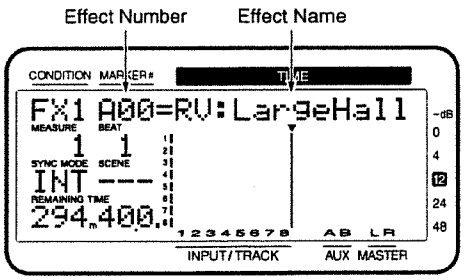
Using Effects

Applying Effects to the Playback

When you playback a song, you will frequently want to apply effects such as reverb or delay. Here we will explain how to apply reverb as you playback previously recorded tracks.

Select an Effect

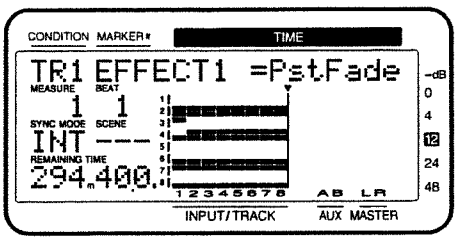
1. Press **[EFFECT]** several times until "EFFECT-1 PRM?" appears in the display.
2. Press **[YES]**. The number and name of the currently selected effect will be displayed, and you can select the desired effect.
3. Use the **TIME/VALUE dial** to select the effect you wish to use. Here, select "A00=RV:LargeHall."



4. After selecting the effect, press **[YES]**.

Specify the Tracks for Playback

5. Press **[FADER (EDIT)]** several times to let the FADER indicator light green (Track Mixer).
6. Hold down **[STOP]** and press the **STATUS button** for the track you want played back. The STATUS indicator lights green.
7. Press **[CH EDIT (SELECT)]** for the track to which you want to apply reverb. The CH EDIT indicator lights.
8. Hold down **[SHIFT]** and press the channel 7 **[EFFECT-1 (CH EDIT)]**. "EFFECT1=" appears in the display.
9. Rotate the **TIME/VALUE dial**.



EFFECT1 (Effect 1 Send Select Switch)

This sets how the signal is sent to the EFFECT 1 bus. Here, select "PstFade" (post-fader) to apply reverb to the sound after the output of the channel fader.

Off: The signal is not sent.

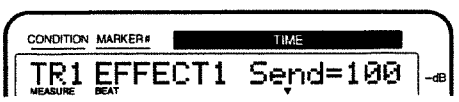
PreFade: The signal before passing through the channel fader is sent.

PstFade: The signal after passing through the channel fader is sent.

NOTE

If the effect has been inserted into another channel, the effect cannot be used. But, the signal from the channel will be sent to EFFECT bus.

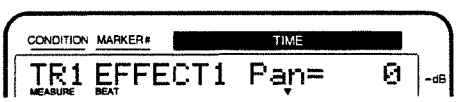
10. Press **PARAMETER [▶▶]**. "EFFECT1 Send=" appears in the display.
11. Rotate the **TIME/VALUE dial**.



EFFECT1 Send (Effect 1 Send Level)

This adjusts the level (0–127) of the signal sent to the EFFECT 1 bus. Set the initial value to "100."

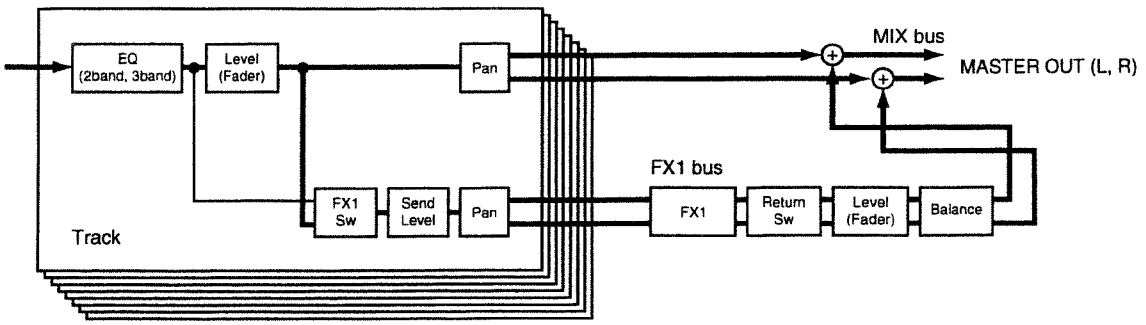
12. Press **PARAMETER [▶▶]**. "EFFECT1 Pan=" appears in the display.
13. Rotate the **TIME/VALUE dial**.



EFFECT1 Pan (Effect 1 Send Pan)

This adjusts the stereo placement of the signal (L63–0–R63) sent to the EFFECT 1 bus.

14. Now reverb will be applied. The signal flow will be as follows.



15. Press **[PLAY (DISPLAY)]**. Return to Play condition. Playback the song and verify that the effect is being applied.

Applying Effects While Recording (Send/Return)

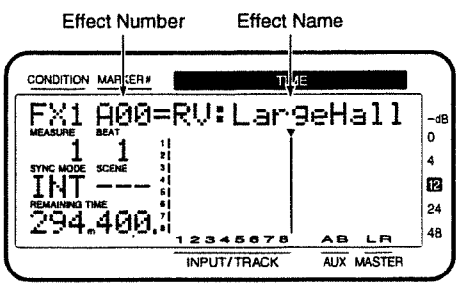
Now we will see how to add affects to the source at the INPUT 1 jack, and then record the direct sound and the sound with effects to Track 1. This is convenient when you want to record vocals with reverb.

Select an Effect

1. Press **[EFFECT]** several times until "EFFECT-1 PRM?" appears in the display.

2. Press **[YES]**. The number and name of the currently selected effect will be displayed, and you can select the desired effect.

3. Use the **TIME/VALUE dial** to select the effect you wish to use. Here, select "A00=RV:LargeHall."



4. After selecting the effect, press **[YES]**.

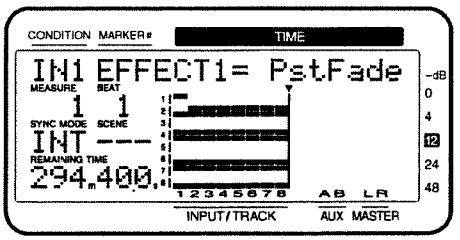
Specify the Input to Which the Effect is to be Applied

5. Press **[FADER (EDIT)]** several times to let the FADER indicator light orange.

6. Press the channel 1 **[CH EDIT (SELECT)]**.

7. Hold down **[SHIFT]** and press the channel 7 **[EFFECT-1 (CH EDIT)]**. "EFFECT1=" appears in the display.

8. Rotate the **TIME/VALUE dial**.



EFFECT1 (Effect 1 Send Select Switch)

This sets how the signal is sent to the EFFECT 1 bus. Here, select "PstFade" (post-fader) to apply reverb to the sound after the output of the channel fader.

Off: The signal is not sent.

PreFade: The signal before passing through the channel fader is sent.

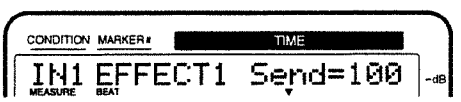
PstFade: The signal after passing through the channel fader is sent.

NOTE

If the effect has been inserted into another channel, the effect cannot be used. But, the signal from the channel will be sent to EFFECT bus.

9. Press **PARAMETER [▶▶]**. "EFFECT1 Send=" appears in the display.

10. Rotate the **TIME/VALUE dial**.

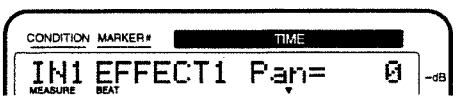


EFFECT1 Send (Effect 1 Send Level)

This adjusts the level (0–127) of the signal sent to the EFFECT 1 bus. Set the initial value to "100."

11. Press **PARAMETER [▶▶]**. "EFFECT1 Pan=" appears in the display.

12. Rotate the **TIME/VALUE dial**.



EFFECT1 Pan (Effect 1 Send Pan)

This adjusts the stereo placement of the signal (L63–0–R63) sent to the EFFECT 1 bus.

Select Source and Effect to be Recorded to the Track

13. Hold down **STATUS button ([1]–[8]; any track is OK)** and press **[CLEAR]**. This will clear any existing input and/or track routing assignments.

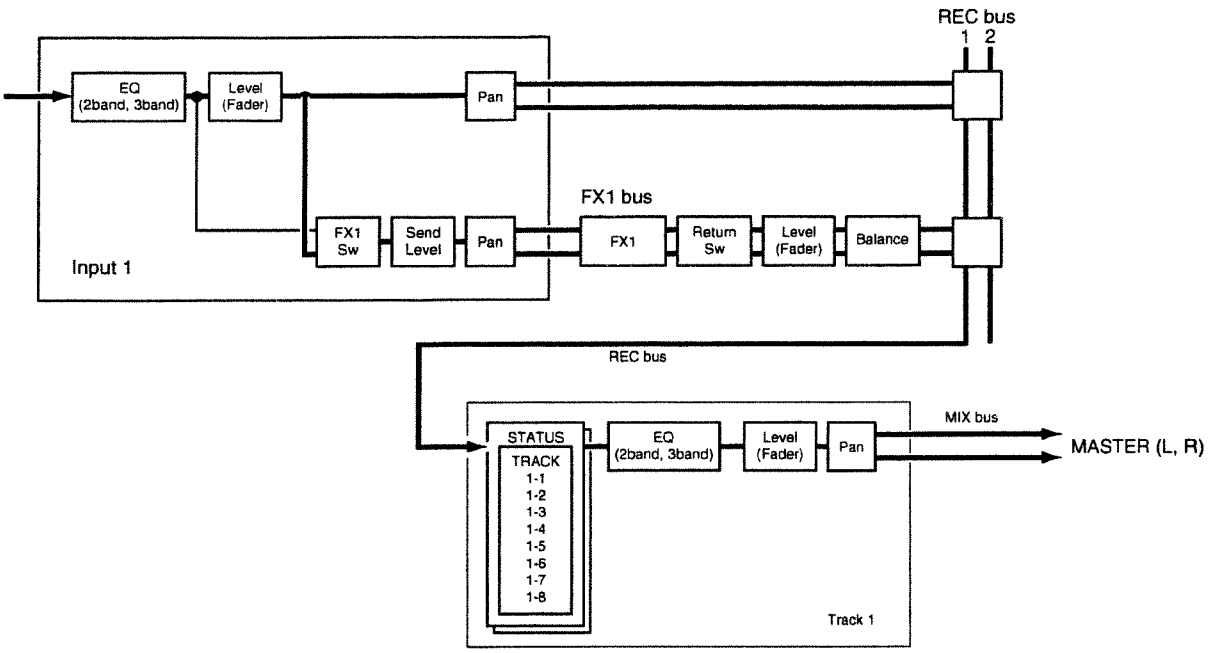
14. Hold down **[REC]** and press the Track 1 **STATUS button**. The STATUS indicator blinks red.

15. While holding down the Track 1 **STATUS button**, press the Input Channel 1 **[SELECT (CH EDIT)]**. The SELECT indicator blinks.

16. Press **[FADER (EDIT)]** several times to let the FADER indicator light red.

17. While holding down the Track 1 **STATUS button**, press the Channel 7 **[SELECT (CH EDIT)]**. The SELECT indicator blinks.

18. At this point, the mixer is set up so that both the direct sound and the sound with effects can be recorded to Track 1. The signal flow will be as follows.



19. Record and check the content as described in "Recording to the Tracks" (p. 51).

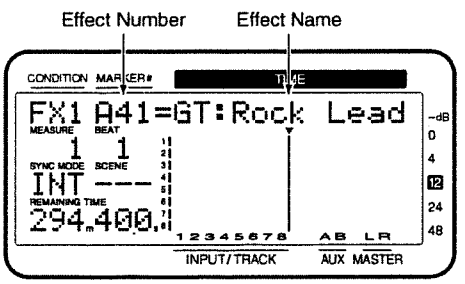
Applying Effects While Recording (Insert)

Many recordings of electric guitar, vocals, or the like contain the insertion of effects such as **Guitar Multi** and **Vocal Multi**.

Here we will explain how you can connect an electric guitar to the INPUT 1 jack, add a stereo effect using the Guitar Multi effect, and record it to Tracks 1and 2.

Select an Effect

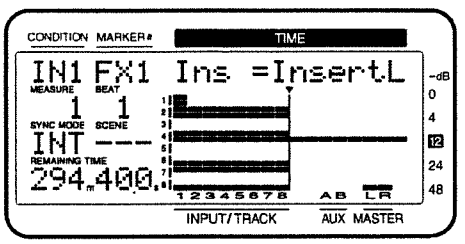
1. Connect your electric guitar to the INPUT 1 jack.
2. Press **[EFFECT]** several times until "EFFECT-1 PRM?" appears in the display.
3. Press **[YES]**. The number and name of the currently selected effect will be displayed, and you can select the desired effect.
4. Use the **TIME/VALUE dial** to select the effect you wish to use. Here, select "A41=GT:Rock Lead."



5. After selecting the effect, press **[YES]**.

Specify the Input Channel to Which the Effect is to be Applied

6. Press **[FADER (EDIT)]** several times to let the FADER indicator light orange.
7. Press the channel 1 **[CH EDIT (SELECT)]**.
8. Press **PARAMETER [◀◀], [▶▶]** until "FX1 Ins =" appears in the display.
9. Rotate the **TIME/VALUE dial**. In this case, select "InsertL."



FX1 Ins (Effect 1 Insert Switch)

This sets how the Insert functions.

Off: There is no Insert.

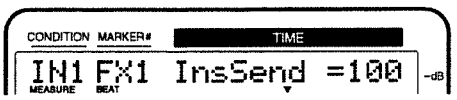
Insert: Inserts in both channels of the stereo effect.

InsertL: Inserts in the left channel of the stereo effect.

InsertR: Inserts in the right channel of the stereo effect.

InsertS: Inserts in the left and right channels of the stereo effect in series.

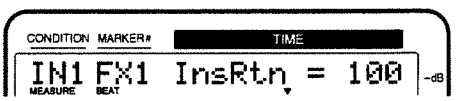
10. Press **PARAMETER [▶▶]**. "FX1 InsSend=" appears in the display.
11. Rotate the **TIME/VALUE dial**.



FX1 InsSend (Effect 1Insert Send Level)

This adjusts the level of the signal (0–127) sent to the Insert effect.

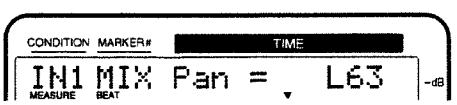
12. Press **PARAMETER [▶▶]**. "FX1 InsRtn=" appears in the display.
13. Rotate the **TIME/VALUE dial**.



FX1 InsRtn (Effect 1 Insert Return Level)

This adjusts the level of the signal (0–127) returned from the Insert effect.

14. Press **PARAMETER [▶▶]** several times until "MIX Pan" appears in the display.
15. Rotate the **TIME/VALUE dial**. For now select "L63."

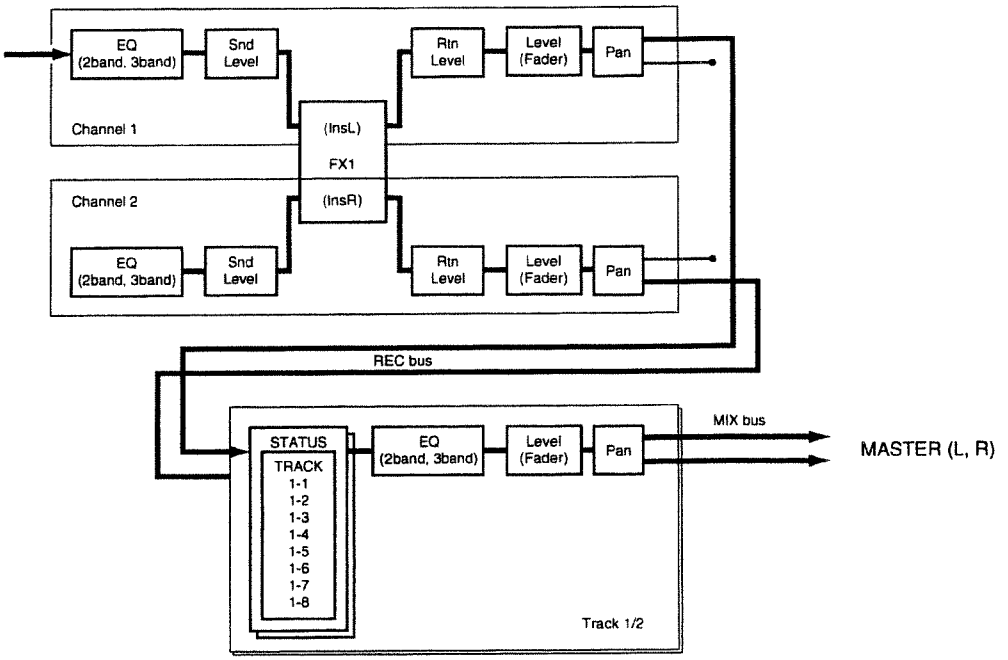


MIX Pan (Mix Send Pan)

This adjusts the pan setting (L63–0–R63) of the signal sent to the MIX bus and the REC bus.

16. Press the channel 2 **[CH EDIT (SELECT)]**.
17. Repeat the Steps 8–15 to make the settings for Channel 2 as same as those for Channel 1. However, select "InsertR" for Steps 9, and "R63" for Step15 respectively.

18. Now the setup is completed. In this case, the signal flow will be as the follows.



19. Hold down **[REC]** and press the Track 1 and 2 **STATUS buttons**. The STATUS indicator blinks red.

20. Hold down the Track 1 **[STATUS]** and channel 1 **[SELECT]**.

21. Hold down the Track 2 **[STATUS]** and channel 2 **[SELECT]**.

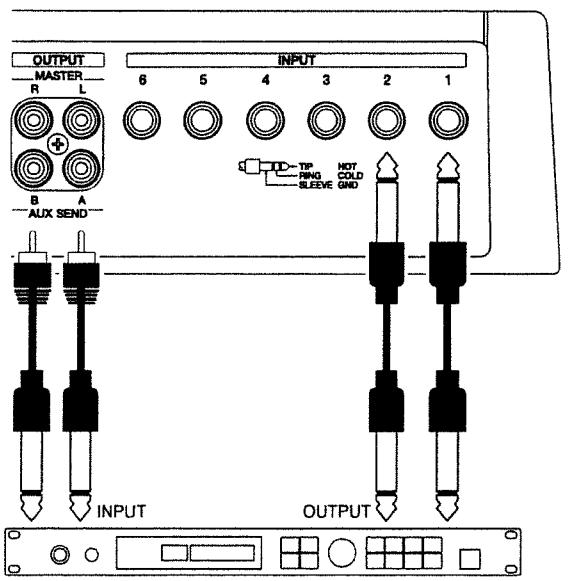
22. Record and check the content as described in "Recording to the Tracks" (p. 51).

Using External Effects Devices

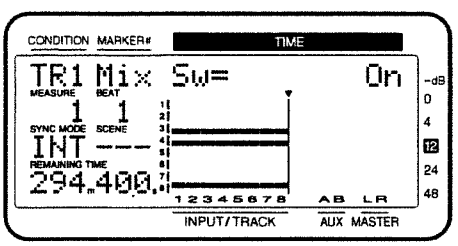
When using external effects devices, the **AUX SEND jacks** (A, B; p. 183) function as effects send jacks. Here we see how effects can be added to a performance recorded in stereo on Track 1. This is handy when, for example, you want to add reverb using an external effects device. Use the INPUT 1 and 2 jacks as the effect return jacks.

Outputting Track 1 to an External Effect

1. Connect your effects device as shown below.



2. Press **[FADER (EDIT)]** several times to let the FADER indicator lights green (Track Mixer).
3. Press **[CH EDIT (SELECT)]** on Channel 1.
4. Use **PARAMETER [◀◀], [▶▶]** to display the following items, then use the **TIME/VALUE dial** to set or adjust them.

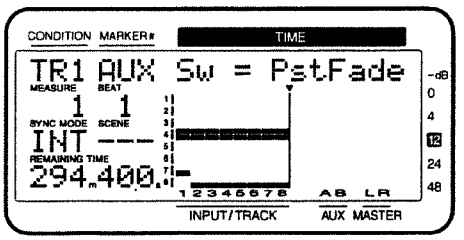


MIX Sw (Mix Send Switch)

This selects the bus to which the source or track output will be assigned. For this example select "On."

On: The output of each channel is sent to the mixing bus. However, if the channel is assigned to a recording bus, when the track status is **SOURCE** (orange) or **REC** (flashing in red), no output to the mixing bus is made even when "On" has been selected.

Off: The output of each channel is not sent to the mixing bus.



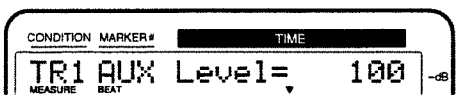
AUX Sw (AUX Switch)

This sets how the signal is sent to the AUX bus. Here, select "PstFade."

Off: The signal is not sent.

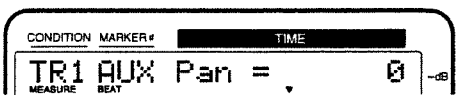
PreFade: The signal before passing through the channel fader is sent.

PstFade: The signal after passing through the channel fader is sent.



AUX Level (AUX Level)

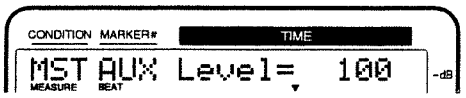
This adjusts the level (0–127) of the signal sent to the AUX bus. Set the initial value to "100."



AUX Pan

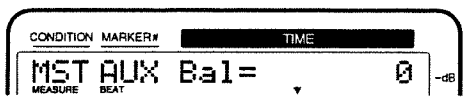
This adjusts the stereo placement of the signal (L63–0–R63) sent to the AUX bus. Set the initial value to "0."

5. Hold down **[SHIFT]** and press **[EDIT (FADER)]** several times until "AUX Level=" appears in the display.
6. Use **PARAMETER [◀◀], [▶▶]** to display the following items, then use the **TIME/VALUE dial** to set or adjust them.



MST AUX Level (Master AUX Level)

Adjust the volume (0–127) of the sound that is output from the **AUX SEND jacks**. This is linked with the **AUX SEND knob** on the top panel.

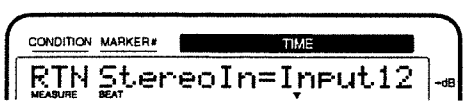


MST AUX Bal (Master AUX Balance)

Adjust the left/right balance (L63–0–R63) of the sound that is output from the AUX SEND jacks. Set the initial value to "0."

Inputting the Return from an External Effect to the VS-890

7. Press **[FADER (EDIT)]** several times to let the FADER indicator lights red (Effect Return Mixer).
8. Press **[CH EDIT (SELECT)]** on Channel 6.
9. Use **PARAMETER [◀◀], [▶▶]** to display the following items, then use the **TIME/VALUE dial** to set or adjust them.



RTN StereoIn (Stereo In)

Select the external input connectors or jacks using Stereo In. Here, select "Input12."

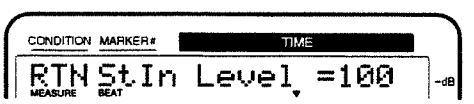
Off: Stereo In is not used.

Input12: Selects INPUT jacks 1/2 for use with Stereo In.

Input34: Selects INPUT jacks 3/4 for use with Stereo In.

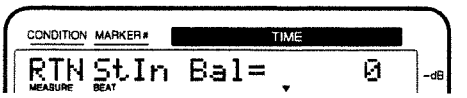
Input56: Selects INPUT jacks 5/6 for use with Stereo In.

Digital: Selects the DIGITAL IN connector (coaxial or optical) for use with Stereo In.



RTN StIn Level (Stereo In Level)

This adjusts the volume level (0–127) for Stereo In. Set the initial value to "100."



RTN StIn Bal (Stereo In Balance)

This adjusts the balance (L63–0–R63) for Stereo In. Set the initial value to "0."

10. With this, you are now ready for add the external effect. Press **[PLAY (DISPLAY)]**. Return to Play condition.
11. While playing back the song, adjust the sound of the effect. The volume level of Stereo In can be adjusted directly with the channel fader 6 when the effect return mixer is in effect (when the FADER indicator is lit red).

Recording Digital Signals

With the VS-890, you can record the digital signals output by CD players, DAT and MD recorders, Roland VS series, and other digital audio devices as is.

MEMO

The VS-890's digital interface conforms to S/P DIF. When recording digital signals, be sure to digital audio devices conforming to the same standards.

?

S/P DIF (Appendices p. 13)

Items Necessary for Digital Recording

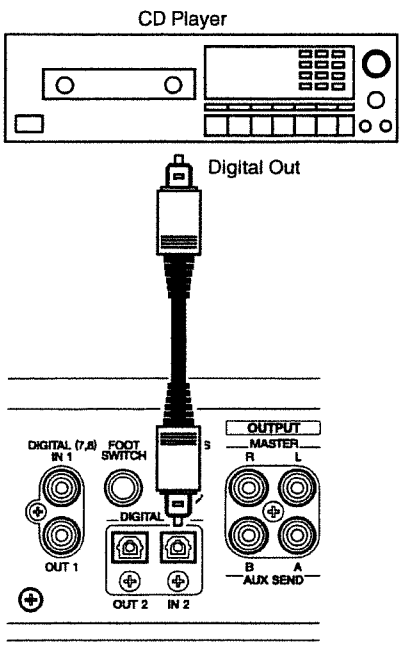
- VS-890 (1)
- CD player, DAT and MD recorder, or other digital audio device or devices
- Digital connector cable (coaxial or optical)

Make the Digital Connections

Connect the digital output connector of your audio device with the VS-890's DIGITAL IN connector. DIGITAL IN1 is a coaxial connector, DIGITAL IN2 an optical connector. Use the appropriate connector for your audio device.

NOTE

DIGITAL IN1 (coaxial) and DIGITAL IN2 (optical) cannot be used simultaneously. Select one of the connectors for use.



Example: Optical Connection

Match the Sample Rates

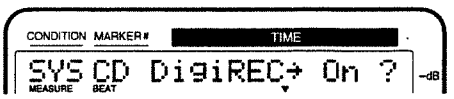
It can record the digital signals when the sample rate of the song is set to match the sample rate of the input source.

The song created when a disk drive is initialized will have a sample rate of 44.1 kHz. If the sample rate of the input source is other than 44.1 kHz, create a new song with that sample rate. Then, if you wish to create original audio CDs, select that sample rate for 44.1 kHz.

In Order to Make a Digital Connection with Your CD Player

At the time of purchase, the VS-890 is not able to record the output of CD players via its DIGITAL IN connectors. Perform the following procedure when you wish to make a digital connection with your CD player.

1. Press **[SYSTEM]** several times until "System PRM ?" appears in the display.
2. Press **[YES]**.
3. Press **PARAMETER [▶▶]** several times until "CD DigiREC → On ?" appears in the display.

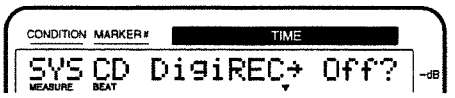


4. Press **[YES]**. "Obey Copyrights?" appears in the display.
5. Carefully read the conditions for permission that are listed on the back cover of this manual, and if you agree to the conditions, press **[YES]**.
6. After the display indicates "— Complete —," you will return to Play condition. Now you will be able to make digital connections with your CD player. If you do not agree to the conditions, press **[NO]**, and you will immediately return to Play condition.

To Prevent Digital Connections with CD Players

Use the following procedure when you want to prevent digital connections with CD players.

1. Press **[SYSTEM]** several times until "System PRM ?" appears in the display.
2. Press **[YES]**.
3. Press **PARAMETER [▶▶]** several times until "CD DigiREC → Off ?" appears in the display.

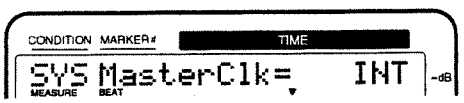


4. Press **[YES]**. After the display indicates "— Complete —," you will return to Play condition. Subsequently it will no longer be possible to make digital connections with your CD player.

Select the Master Clock

Synchronize the VS-890's reference clock (the master clock) with the digital signal from the digital audio device.

1. Press **[SYSTEM]** several times until "System PRM ?" appears in the display.
2. Press **[YES]**.
3. Press **PARAMETER [▶▶]** several times until "SYS MasterClk=" appears in the display.
4. Rotate the **TIME/VALUE dial**.



MasterClk (Master Clock)

This sets the VS-890's reference clock. In this case, select "DIGIN1" or "DIGIN2."

DIGIN1: Based on the digital signal received from the DIGITAL IN connector (coaxial).

INT: Based on the VS-890's reference clock.

DIGIN2: Based on the digital signal received from the DIGITAL IN connector (optical).

NOTE

When you change the master clock value, clicking noise may happen. Please turn down the **master fader** of the VS-890, or the volume of the amplifier beforehand.

5. Press **[PLAY (DISPLAY)]**. Return to Play condition.

If "Digital In Lock" is Displayed

This indicates that the reference clock for the sample rate is set by the digital signal from the DIGITAL IN connector. You can record using the digital connection.

If "Digital In Unlock" is Displayed

This indicates that no digital signal is being received from the DIGITAL IN connector. Alternatively, it may indicate that the sample rate selected for the song does not match the sample rate of the digital device connected to the DIGITAL IN connector. In this state, you cannot record using the digital connection.

Select an Input Source

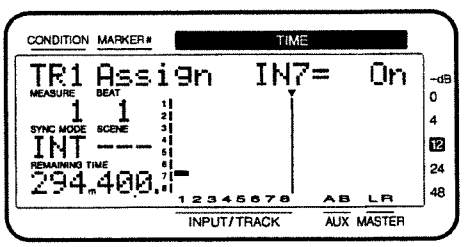
Here we will explain how to select an input source, using the example of recording a digital signal on tracks 1 and 2. Here we will explain how to select input sources, using the example of recording a digital signal (stereo) to tracks 1 and 2. The left channel will be recorded on track 1, and the right channel on track 2.

Using [STATUS]

1. Press **[FADER (EDIT)]** several times to let the FADER indicator light orange. (Input Mixer)
2. While pressing **[REC]**, press the **STATUS buttons** for Tracks 1 and 2. The STATUS indicators light red.
3. While pressing the **[STATUS]** for Track 1, press **[SELECT (CH EDIT)]** on Channel 7.
4. While pressing the **[STATUS]** for Track 2, press **[SELECT (CH EDIT)]** on Channel 8.
5. As described in "Recording to the Tracks" (p. 51), record and check the contents.

Using [YES] or [NO]

1. Press **[FADER (EDIT)]** several times to let the FADER indicator light green. (Track Mixer)
2. Press channel 1 **[SELECT (CH EDIT)]**
3. Hold down **[SHIFT]**, and channel **[Assign (1)]**. "TR1 Assign" appears in the display.
4. Rotate the **TIME/VALUE dial** to let "TR1 Assign IN7" appears in the display.
5. Press **[YES]**.



Assign ***

Specify the source/track/effect return which will assigned to each track for recording. If you press **[YES]** the display will indicate "On," showing that it has been assigned for recording. If you press **[NO]**, the display will indicate "Off," and the signal will not be assigned (it will not be recorded).

The symbols displayed in "****" indicate the following signals.

IN1–IN8: INPUT Jack 1–INPUT Jack 8 (DIGITAL IN)

TR1–TR8: Track 1–Track 8 (Track Bouncing)

FX1: Effect 1 Return

FX2: Effect 2 Return

StIn: Stereo In

For example, a display of "TR1 Assign IN7= On" indicates that "the source from INPUT jack 7 has been assigned to track 1 for recording."

6. Press **[SELECT (CH EDIT)]** on Channel 2.
7. Rotate the **TIME/VALUE dial** to let "TR2 Assign IN8" appears in the display.
8. Press **[YES]**.
9. Press **[PLAY (DISPLAY)]**. Return to Play condition.
10. As described in "Recording to the Tracks" (p. 51), record and check the contents.

Adjusting the Tone (Equalizer)

A two-band (low, high) or three-band (low, mid, high) parametric equalizer is provided for each channel.

First make equalizer adjustments separately for each channel. If you have recorded any stereo pairs, be sure that the same settings are made for both tracks. Then, while paying attention to the overall balance, make final adjustments for equalizer, pan, and volume level for each channel.

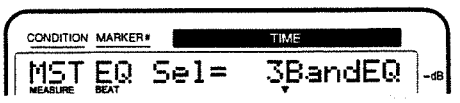
NOTE

Channel Equalizer

- You cannot use the channel equalizer with a song whose recording mode (p. 48) is "VSR."
- The 2-band equalizer and the 3-band equalizer cannot be used simultaneously on different channels.
- Up to **8 channels** can use the 3-band equalizer at the same time. Moreover, the 3-band equalizer cannot be used with respect to identically numbered channels, one in the input mixer and another in the track mixer. It can only be used with one or the other when the channel number is the same. For example, if you are using the 3-band equalizer on Track 1, then you cannot use it on Input 1.
- If you adjust the equalizer while listening to the sound, you may notice a clicking noise. This is not a malfunction. If the noise is objectionable, make adjustments while the sound is not playing.

Using the 3-Band Equalizer

1. Hold down **[SHIFT]** and press **[EDIT (FADER)]**.
2. Press **PARAMETER [◀◀], [▶▶]** to let "EQ Sel=" appears in the display.
3. Rotate the **TIME/VALUE dial**. Here, select "3BandEQ."



EQ Sel (Equalizer Select)

Select the type of equalizer that you wish to use. The 2-band equalizer and the 3-band equalizer cannot be used simultaneously on different channels.

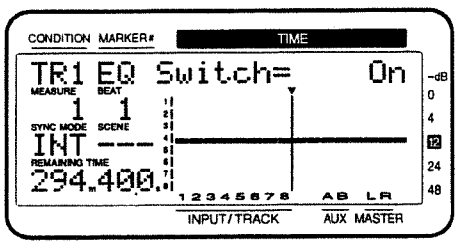
2BandEQ: 2-band equalizer.

3BandEQ: 3-band equalizer.

4. Press **[PLAY (DISPLAY)]**. Return to Play condition.

Adjusting the Equalizer

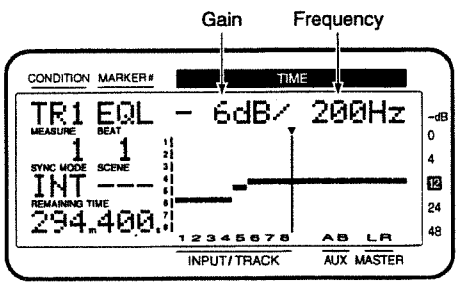
1. If you wish to adjust the equalizer for the input source, press **[FADER (EDIT)]** several times to make the FADER indicator light orange (Input Mixer). If you wish to adjust the equalizer for an already-recorded track, press **[FADER (EDIT)]** several times to make the FADER indicator light green (Track Mixer).
2. Press **[CH EDIT (SELECT)]** for the channel or track whose equalizer setting you wish to adjust. The CH EDIT indicator lights.
3. Hold down **[SHIFT]** and press the channel 3 **[EQ Low (CH EDIT)]**.
4. Press **PARAMETER [◀◀], [▶▶]** to let "EQ Switch=" appears in the display.
5. Rotate the **TIME/VALUE dial**.

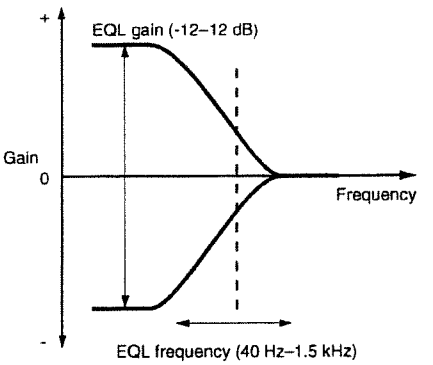


EQ Switch (Equalizer Switch)

If you wish to use the equalizer, set this "On." If not, set this "Off." When equalizer settings are being made, the equalization curve will be shown graphically in the bar display. If this is "Off" the equalizer-related parameters will not be available. For this example, select "On" so that the equalizer will be applied.

6. Hold down **[SHIFT]** and press the channel 3 **[EQ Low (CH EDIT)]**.
7. Use **CURSOR [◀], [▶]** and the **TIME/VALUE dial** to make the setting.





EQL (Equalizer Low)

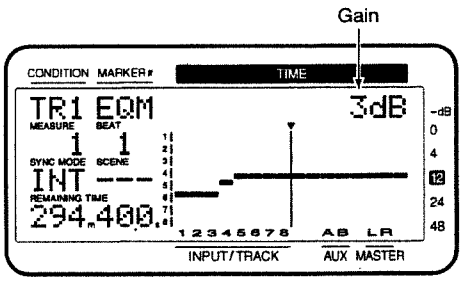
This adjusts the gain (-12–12 dB) and the center frequency (40 Hz–1.5 kHz) of the low-range (shelving) equalizer.

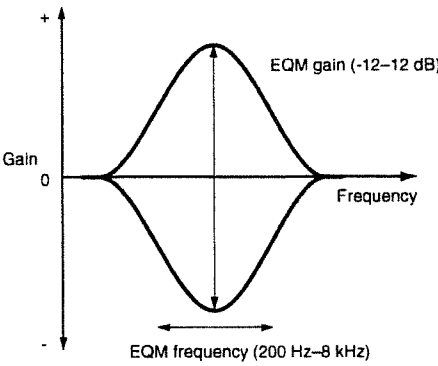
8. Hold down **[SHIFT]** and press the channel 4 **[EQ Mid (SELECT)]**.

NOTE

If "Not 3band EQ" is displayed, the **EQ Sel** (equalizer select; p. 69) is set to "2band EQ." In this case, it will not be possible to adjust the mid-range equalizer.

9. Rotate the **TIME/VALUE dial**.



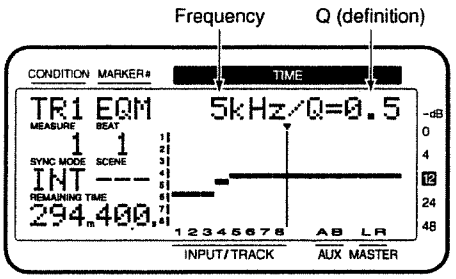


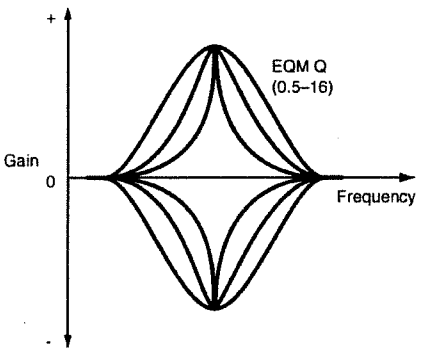
EQM (Equalizer Mid)

This adjusts the gain (-12–12 dB) of the mid-range (peaking) equalizer.

10. Press **PARAMETER [▶▶]**.

11. Use **CURSOR [◀], [▶]** and the **TIME/VALUE dial** to make the setting.



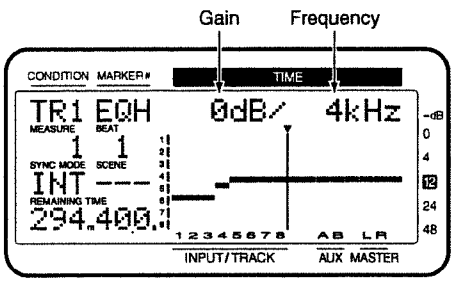


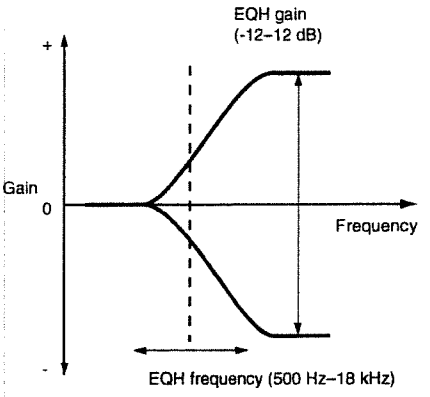
EQM (Equalizer Mid)

This adjusts the center frequency (200 Hz–8 kHz) and Q (definition: 0.5–16) of the mid-range (peaking) equalizer.

12. Hold down **[SHIFT]** and press the channel 5 **[EQ Hi (SELECT)]**.

13. Use **CURSOR [◀], [▶]** and the **TIME/VALUE dial** to make the setting.





EQH (Equalizer High)

This adjusts the gain (-12–12 dB) and the center frequency (500 Hz–18 kHz) of the high-range (shelving) equalizer.

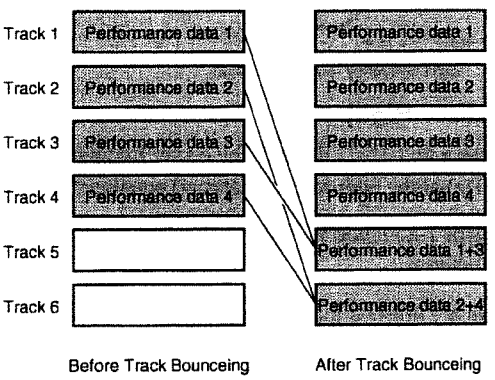
14. Repeat Steps 1–13 if you wish to make adjustments to other equalizers.

15. When you are finished making the adjustments, press **[PLAY (DISPLAY)]**. Return to Play condition. If necessary, save the song (**Song Store**; p. 53).

Combining the Contents of Tracks (Track Bouncing)

You can mix the performances recorded on two or more tracks and rerecord them onto a different empty track. This operation is known as **track bouncing**. It is a convenient technique to use when you have run out of free tracks.

In this section, we will mix the performances recorded on tracks 1–4, and rerecord the result in stereo on tracks 5 and 6.



NOTE

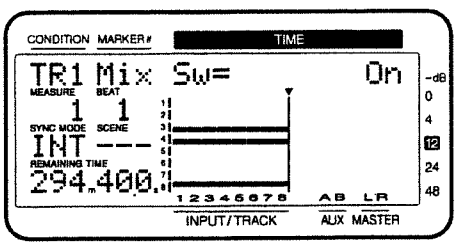
Volume, pan, equalizer, effects, and other settings cannot be adjusted on tracks mixed with track bouncing. Do not use track bouncing with tracks to which you want to apply the equalizer and effects separately.

Specify the Tracks for Playback and Recording

1. Hold down **STATUS button ([1]–[8]; any track is OK)** and press **[CLEAR]**. This will clear any existing input and/or track routing assignments.
2. Press **[CH EDIT (SELECT)]** for Track 5.
3. Press **PARAMETER [◀◀], [▶▶]** until "Channel Link=" appears in the display.
4. Use the **TIME/VALUE dial** to select "On" (Channel Link; p. 174).
5. Press **[PLAY (DISPLAY)]**.
6. While pressing **[STOP]**, press the **STATUS buttons** for Tracks 1–4. The STATUS indicators light green.
7. Press the **STATUS buttons** for Track 5 (or 6) several times to let the STATUS indicators light orange.
8. Press **[FADER (EDIT)]** several times to let the FADER indicators light green (Track Mixer).
9. While pressing the **STATUS button** for Track 5 (or 6), press the **SELECT buttons** on Channels 1–4. The SELECT indicators blink green.
10. Usually, the source entering the INPUT 5–6 jacks is also assigned for recording on Tracks 5–6.

Adjusting the Pan for Each Track

11. Press the Channel 1 **[CH EDIT (SELECT)]**. The CH EDIT indicator lights.
12. Press **PARAMETER [▶▶]** several times until "MIX Sw" appears in the display.
13. Use **PARAMETER [◀◀], [▶▶]** to display the following items, then use the **TIME/VALUE dial** to set or adjust them.

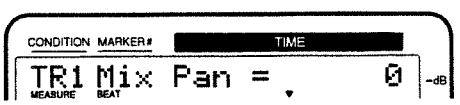


MIX Sw (Mix Send Switch)

This selects the bus to which the source or track output will be assigned. For this example select "On."

On: The output of each channel is sent to the mixing bus. However, if the channel is assigned to a recording bus, when the track status is **SOURCE** (orange) or **REC** (flashing in red), no output to the mixing bus is made even when "On" has been selected.

Off: The output of each channel is not sent to the mixing bus.



MIX Pan (Mix Send Pan)

This adjusts the pan setting (L63–0–R63) of the signal sent to the MIX bus and the REC bus. You can also adjust Mix Send Pan directly using the **PAN control** on the top panel.

14. Repeat Steps 11–13 if you wish to make adjustments to other pans.
15. Press **[PLAY (DISPLAY)]**. Return to Play condition.
16. Press **[FADER (EDIT)]**. The FADER indicators light green. (Track Mixer)

17. Press **[PLAY]** to begin playback of the song.

18. Adjust the volume balance with the **channel faders 1–4**. The presently monitored sound (volume levels, pan) will be recorded to Tracks 5 and 6 just as you hear it. You can raise the volume as much as possible without causing distortion.

19. Press **[STOP]** to stop playback of the song.

Record and Check the Content

20. Press **[ZERO]** to return to the beginning of the song.

21. While pressing **[REC]**, press the **STATUS button** for Track 5 (or 6). The STATUS indicator blinks red.

22. Press **[REC]**. The REC indicator blinks red.

23. Press **[PLAY]**. The PLAY indicator lights green, and starts recording.

24. When recording is finished, press **[STOP]**. This stops the song.

25. Check the content of the recording. Press **[ZERO]** to return to the beginning of the song.

26. Mute (sound is prevented from playing) Tracks 1–4. Press the **STATUS buttons** for Tracks 1–4. The STATUS indicators go off.

27. Press **[PLAY]** to begin playback of the song. Use the **channel faders** 5 and the **master fader** to adjust the volume to a comfortable level. If necessary, save the song (**Song Store**; p. 53).

Applying Reverb While Track Bouncing

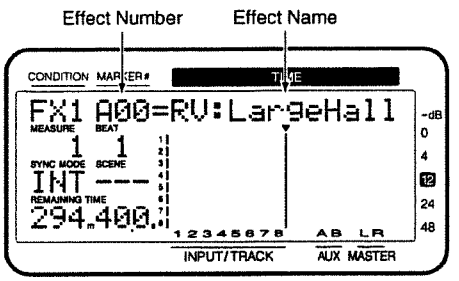
Sometimes you may want to record previously-recorded tracks to another track while apply the effects to them. Here is how to add reverb to Tracks 1–4 while bouncing these tracks to Tracks 5 and 6. This can be convenient when you want to add spatial effects such as reverb and delay to each track while mixing down.

Select an Effect

1. Press **[EFFECT]** several times until "EFFECT-1 PRM?" appears in the display.

2. Press **[YES]**. The number and name of the currently selected effect will be displayed, and you can select the desired effect.

3. Use the **TIME/VALUE dial** to select the effect you wish to use. Here, select "A00=RV:LargeHall."



4. After selecting the effect, press **[YES]**.

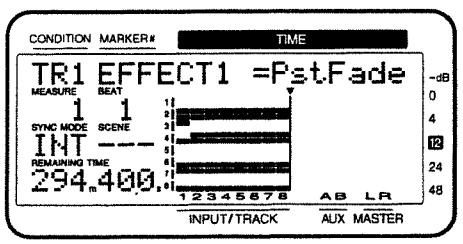
Specify the Track to Which the Effect is to be Applied

5. Press **[FADER (EDIT)]** several times to let the FADER indicator light green (Track Mixer).

6. Hold down **[SHIFT]** and press the channel 7 **[EFFECT-1 (CH EDIT)]**. "EFFECT1=" appears in the display.

7. Press the channel 1 **[CH EDIT (SELECT)]**.

8. Use **PARAMETER [◀◀], [▶▶]** to display the following items, then use the **TIME/VALUE dial** to set or adjust them.



EFFECT1 (Effect 1 Send Select Switch)

This sets how the signal is sent to the EFFECT 1 bus. Here, select "PstFade" (post-fader) to apply reverb to the sound after the output of the channel fader.

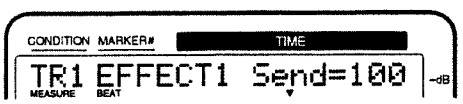
Off: The signal is not sent.

PreFade: The signal before passing through the channel fader is sent.

PstFade: The signal after passing through the channel fader is sent.

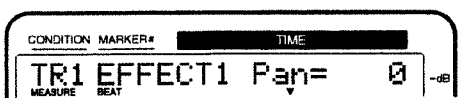
NOTE

If the effect has been inserted into another channel, the effect cannot be used. But, the signal from the channel will be sent to EFFECT bus (User Guide p. 91).



EFFECT1 Send (Effect 1 Send Level)

This adjusts the level (0–127) of the signal sent to the EFFECT 1 bus. Set the initial value to "100."



EFFECT1 Pan (Effect 1 Send Pan)

This adjusts the stereo placement of the signal (L63–0–R63) sent to the EFFECT 1 bus.

9. In the same way as in steps 7–8, make settings so that reverb is applied to tracks 2–4 as well.

10. Press **[PLAY (DISPLAY)]**. Return to Play condition.

Specify the Tracks for Playback and Recording

11. Hold down **STATUS button ([1]–[8]; any track is OK)** and press **[CLEAR]**. This will clear any existing input and/or track routing assignments.

12. Press **[CH EDIT (SELECT)]** for Track 5.

13. Press **PARAMETER [◀◀], [▶▶]** until "Channel link =" appears in the display.

14. Use the **TIME/VALUE dial** to select "On" (Channel Link; p. 174).

15. Press **[PLAY (DISPLAY)]**.

16. Hold down **[STOP]**, and press the **STATUS buttons** for Tracks 1–4. The STATUS indicators light green.

17. Press the **STATUS buttons** for Track 5 (or 6) to let the STATUS indicators light orange.

18. While pressing the **STATUS button** for Track 5 (or 6), press the **SELECT buttons** on Track Channels 1–4. The SELECT indicators blink.

19. Press **[FADER (EDIT)]** several times to light red the FADER indicator (Effect Return Mixer).

20. While pressing the **STATUS button** for Track 5 (or 6), press the Channel 7 **[FX RTN (SELECT)]**. The SELECT indicators blink.

21. Usually, the source entering the INPUT 5–6 jacks is also assigned for recording on Tracks 5 and 6.

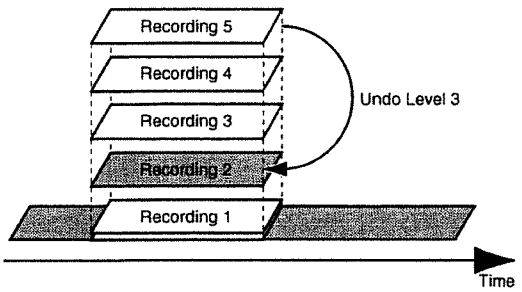
Record and Check the Content

22. Carry out track bouncing by following the procedure described in "Combining the Contents of Tracks" (p. 72). If necessary, save the song (**Song Store**; p. 53).

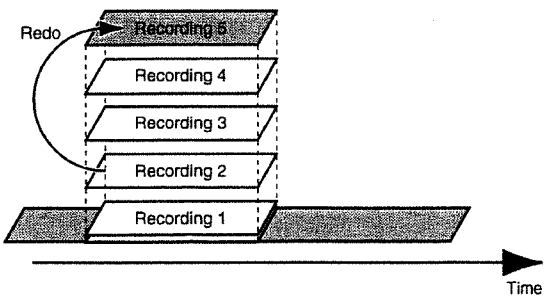
Undoing Recordings and Edits (Undo)

When using the VS-890, recordings may not sound as you intend, settings for editing may be made incorrectly, or there may be other situations where you want to go back and try something again. In such instances, you can restore the previous conditions at each of the steps where something was changed. This is referred to as the **Undo function**. Moreover, you can restore conditions as they were before the last undo. This is called the **Redo function**.

When using the Undo function, you will specify the number of previous steps that will be undone (**Undo Level**). For example, suppose that you use punch-in recording to perform five consecutive re-recordings of the same location. If you later decide to return to the condition of the second recording (step 2), you would set the Undo function to return to the condition of three steps earlier (Undo Level 3).

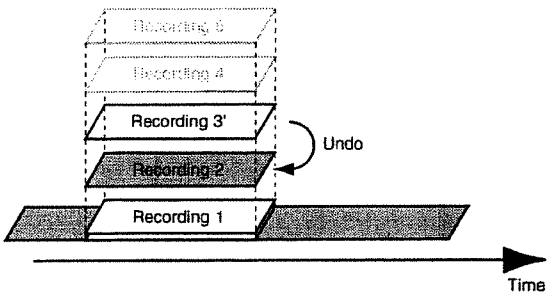


If, after executing the Undo operation, you decide to return to the condition of step 5, execute the Redo operation.



Recording canceled with an undo operation can be recovered, until you perform another undo, or a Song Store (p. 53).

For instance, if you go back to the state of recording 2 and perform recording (step 3'), the content of recordings 3 through 5, discarded by the undo operation is not yet lost. However, after ending a new recording operation (step 3'), if you then use Undo to go back to the state just before, you return to step 2, and recordings 3 through 5 are lost.



Recording and Editing Operations Which Can Be Undone (Undo)

Recording or editing operations performed after creating a song are recorded together with the song data as its operation history, and the data itself is also preserved without being erased. For example, suppose that you perform 10 recording operations on song 1 and then create song 2. The operation history of song 2 is newly recorded from the time when song 2 was created. If you subsequently select song 1 again, the history of the 10 previous recording operations will still be there.

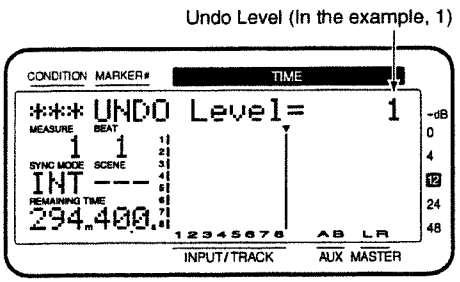
The Undo function refers to the operation history of the currently selected song, and restores the song to the condition in which it was the specified number of operations ago. In the case of song 1 in this example, you will be able to cancel the 10 recording operations that were performed. A maximum of 999 levels of operation history may be recorded for each song.

Operations that can be undone are **recording operations** and **each of the Track Edit operations**. Check the list below for operations that cannot be undone.

- Song Edit operations (Optimize; p. 122, Erase; p. 123, etc.)
- Saves to User Effect Patches (p. 117)
- System operations (mixer initialization; p. 35, Drive Initialize; p. 134, Sync Track Recording; p. 164, etc.)
- Auto Mix operations (Snapshot; p. 108, Gradation; p. 108, Real time Recording; p. 109, etc.)
- Storing in EZ Routing (p. 90)

- Stored Locators (p. 40), Markers (p. 41), Scenes (p. 46)

1. Press **[UNDO]**. "Level=" appears in the display.
2. Rotate the TIME/VALUE dial to select the number of previous steps the conditions of which you want to have restored.



3. Press **[YES]** to execute Undo. The UNDO indicator lights. If you want to cancel the Undo, press **[CANCEL (NO)]**.

Canceling the Last-Performed Undo (Redo)

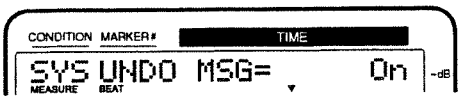
The Redo function can be executed when the UNDO indicator is lit. When the song data is saved, for example by your doing Song Store or selecting another song, the UNDO indicator will go out, indicating that the Undo function will no longer be available.

1. While the UNDO indicator is lit, hold down **[SHIFT]** and press **[UNDO]**.
2. "Cancel the last UNDO?" appears in the display. Press **[YES]**. The UNDO indicator light goes off. If you wish to cancel, press **[CANCEL (NO)]**.

Canceling Only the Very Last-Performed Operation

If you most frequently use the Undo function to undo just the previously performed recording/editing operation (i.e., undo level 1), you may prefer not to be bothered with the messages that appear when **[UNDO]** is pressed. In this case, make the following settings so that just the previous operation will be undone immediately when **[UNDO]** is pressed.

1. Press **[SYSTEM]** several times until "SYS System PRM ?" appears in the display.
2. Press **[YES]**.
3. Press **PARAMETER [▶▶]** several times until "SYS UNDO MSG=" appears in the display.
4. Rotate the **TIME/VALUE dial**. Here, select "Off."



UNDO MSG (UNDO message)

This selects whether or not the Undo confirmation message is displayed.

On: The message is displayed, asking how many levels you want to undo.

Off: The message is not displayed, and only the immediately preceding operation is undone.

5. Press **[PLAY (DISPLAY)]**. Return to Play condition.

Protecting Songs (Song Protect)

The possibility that a performance saved to the disk may still be mistakenly overwritten (recorded over), or that the song itself may be accidentally deleted has been considered. You can protect songs from being rewritten in situations such as these. The function is called **Song Protect**.

Turning on Song Protect disables the following operations.

- Recording
- Undo and Redo
- Song Name, Song Optimize
- Track Edit
- Recording to Sync Track
- Creating Tempo Maps
- Song Store

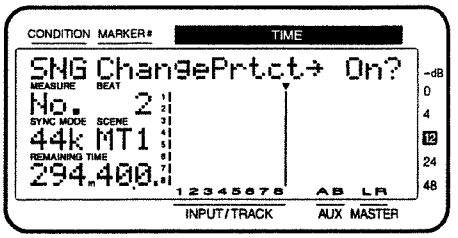
About Effective Use

Song Protect performs the same function as the protect tab or switch on floppy disks and magnet-optical disks. Even if Song Protect is turned on, you can still store locate points and mark points, and carry out operations such as changing Scenes. However, when you try to save the work you have done, "Song Protected" appears in the display, and you are prevented from continuing any further with the save. However, when you remove Song Protect, any settings made when Song Protect was on are lost.

After you have finished all work for the day, turn on Song Protect immediately before shutting off the power to the VS-890. Furthermore, right after turning on the power to the VS-890 at the beginning the day's operations, you should immediately turn off Song Protect.

Protecting Performances

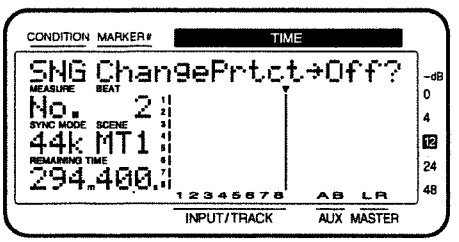
1. Make the current song the one to which you want to apply Song Protect (**Song Select**; p. 50).
2. Press **[SONG]** several times until "SNG Song Name/ Prtct?" appears in the display.
3. Press **[YES]**. Song name appears in the display.
4. Press **PARAMETER [▶▶]**. "SNG ChangePrtct → On?" appears in the display.



5. Press **[YES]**. If you wish to cancel, press **[NO]**.
6. "STORE Current?" appears in the display. If you wish to save the current song and then protect it, press **[YES]**. If you wish to protect the state in which Song Store was last executed without saving the current song, press **[NO]**.
7. The song will be protected. "SNG Complete" appears in the display, and return to Play condition.

To Remove Song Protect

1. Select the song from which you currently want to remove the protect function (**Song Select**; p. 50).
2. Press **[SONG]** several times until "SNG Song Name/ Prtct?" appears in the display.
3. Press **[YES]**. Song name appears in the display.
4. Press **PARAMETER [▶▶]**. "SNG ChangePrtct → Off?" appears in the display.



5. Press **[YES]**. If you wish to cancel, press **[NO]**.
6. Song protect will be disabled. "SNG Complete" appears in the display, and return to Play condition.

Editing a Recorded Performance (Track Editing)

This section explains the content and procedures for editing sound that has been recorded. Please read this section to gain an understanding of the concepts of "editing" described in this section.

About Editing Operations

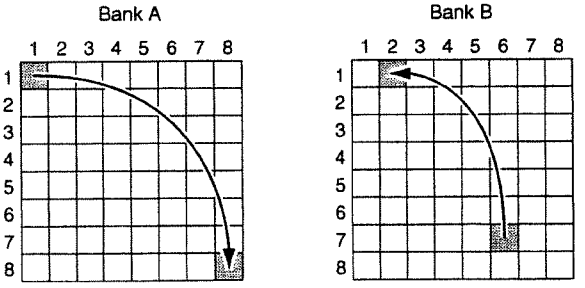
On a tape recorder, in order to modify a performance that has been recorded you have to erase the performance which you recorded previously. Additionally, if you wish to change the composition of a song, you must re-record it from the beginning, or use scissors and tape to splice sections or the recording. In either case, with the tape itself subject to handling, it can never be returned to its original condition. This type of editing is known as **destructive editing**.

Compare with a tape recorder, with digital disk recording, since copying data has negligible effect on the sound, you can copy the original data before editing and back it up. It is also easy to copy parts of the data to different locations, or to erase specified portions of the data (**Track Edit**). Furthermore, even if you make a mistake during Punch-In Recording (p. 53) or Track Bouncing (p. 72), you can restore data to its condition any number of steps before the edit, without the edited content being deleted (Undo function; p. 75). Editing of this type which allows the original data to be recovered is known as **non-destructive editing**.

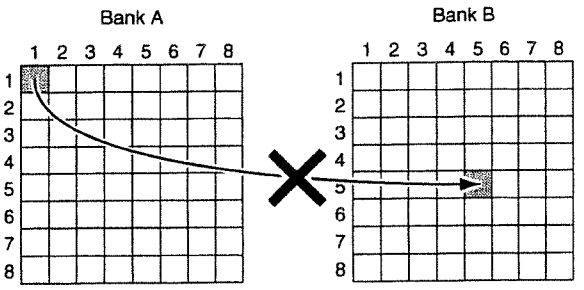
Track Edit Range

To edit the sound, you will need to specify the track or V-track and the location where you wish to edit.

Only tracks or V-tracks within the same V-track bank can be selected for track editing. For example, it is not possible to copy or move track 1 - V-track 1 of V-track bank A to V-track bank B.



Example of when track editing is possible



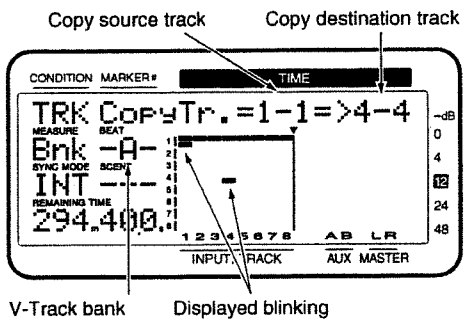
Example of when track editing is not possible

MEMO

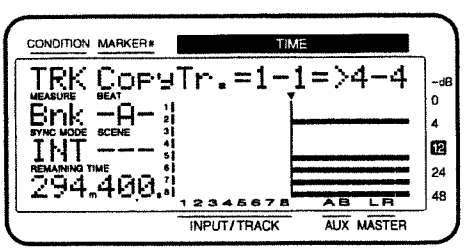
However, Track Exchange (p. 83) is able to edit between different V-track banks.

About the Bar Display

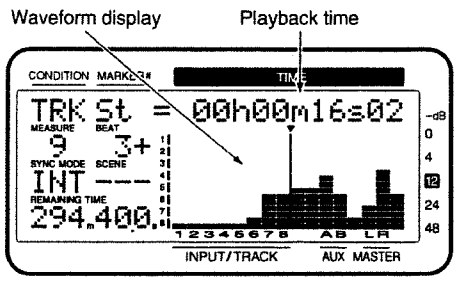
When you are selecting a track, the bar display will indicate the track selection status. The numbers on the horizontal axis are the track numbers, and the numbers on the vertical axis are the V-track numbers. Locations corresponding to tracks which contain data will light. Tracks which are selected for modification will blink.



At this time, you can view a Play List in the bar display. Hold down **[SHIFT]** and press **[PLAY (DISPLAY)]**. To return to the previous display, once again hold down **[SHIFT]** and press **[PLAY (DISPLAY)]**.



If you have selected an item which specifies a time, a play list will appear in the bar display. In this case if you wish to view an **amplitude profile** or the track selection status in the bar display, hold down **[SHIFT]** and press **[PLAY (DISPLAY)]**. The amplitude profile allows you to view the sound recorded in the selected track as a waveform.
Use **[SELECT (CH EDIT)]** to select the track which will be viewed as an amplitude profile.

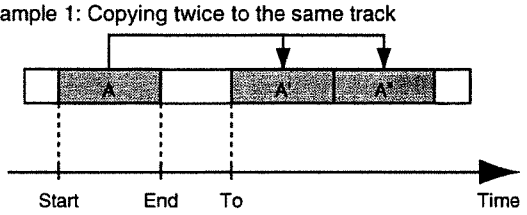


NOTE
For more detailed information, please refer to "Switching the Display Contents" (p. 186).

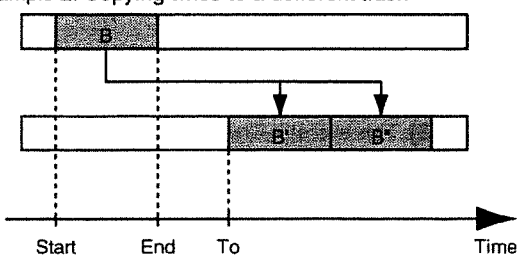
Repeating Performance Data (Track Copy)

This operation copies the playback data of a specified area to another location. For example, this is convenient when you play the same chorus both at the beginning and end of a song. If playback data exists at the copy destination, that data will be overwritten.

Example 1: Copying twice to the same track

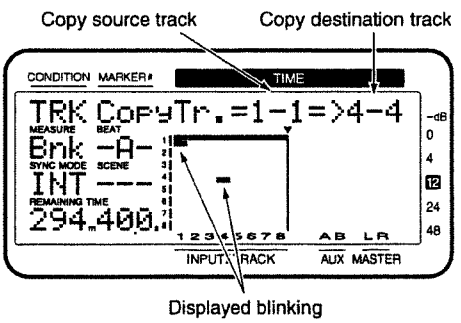


Example 2: Copying twice to a defferent track



NOTE
- Playback data of a track for which Channel Link is ON cannot be copied to a track whose channel has a Channel Link setting of OFF. In the same way, playback data of a track for which Channel Link is OFF cannot be copied to a track whose channel has a Channel Link setting of ON.
- The length of the data to be copied must be greater than 0.5 seconds. If data shorter than 0.5 seconds is copied, the sound will not playback.

1. You can use Track Copy with the tracks that are currently audible. Select the V-track that contains the copy source playback data, and prepare that data for playback.
2. Press **[TRACK]** several times until "TRK Track Copy ?" appears in the display.
3. Press **[YES]**.
4. Press **CURSOR [◀]** several times until "TRK CopyTr.=?-?=>?-?" appears in the display.
5. Press **[SELECT (CH EDIT)]** for the copy source track. The SELECT indicator will light orange. You can also use the **TIME/VALUE dial** to select the copy source track.
6. Press **[STATUS]** for the copy destination track. The STATUS indicator will light red.
7. Rotating the **TIME/VALUE dial** allows you to specify the copy destination V-track. For example, "1-1" indicates "Track 1, V-track 1."



8. If you want to copy multiple tracks simultaneously, repeat Steps 5–7.

NOTE
Do not designate V-tracks that have already been specified as copy destinations for other Tracks.

9. If there are any tracks which you decide not to copy, press that track's **[SELECT (CH EDIT)]** once again, and

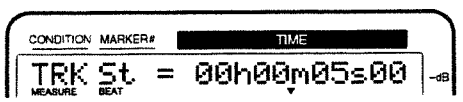
press **[CANCEL (NO)]** twice. Or use **PARAMETER [◀◀], [▶▶]** to access the settings for that track, and press **[NO]** twice. The STATUS indicator will blink green.

10. Press **PARAMETER [▶▶]** several times until "TRK St=" appears in the display.

11. Rotate the **TIME/VALUE dial**.

St (Start point)

Specifies the starting time of the copy range.

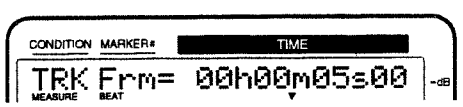


12. Press **PARAMETER [▶▶]**. "TRK Frm=" appears in the display.

13. Rotate the **TIME/VALUE dial**.

Frm (From point)

Specifies the time of the copy source playback data in relation to the "To" point. Normally you will set this to be the same as the Start point.

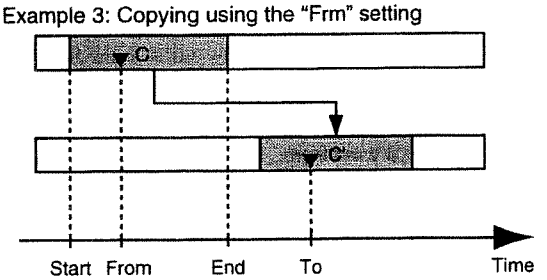


Using "Frm" Effectively

Normally, the data is copied starting at the specified copy destination time. However, if you want to have the copy made with reference to a point within the designated range where a specific sound occurs, set this with "Frm."

For example, suppose that you wish to copy a sound effect of a time bomb ticking and then exploding, and that you want to place the explosion at a specific timing location. Normally, in order to specify the copy destination time, you would have to calculate the time until the explosion occurs. In such cases, however, you can specify "Frm" as "the copy source time at which the explosion begins" and "TO" (the reference time of the copy destination) as "the copy destination time at which you want the explosion to occur." This lets you copy the data with the explosion placed with precisely the right timing.

Example 3: Copying using the "Frm" setting

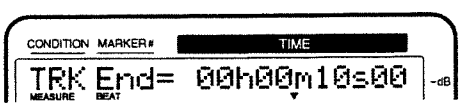


14. Press **PARAMETER [▶▶]**. "TRK End=" appears in the display.

15. Rotate the **TIME/VALUE dial**.

End (End point)

Specifies the ending time of the copy range.

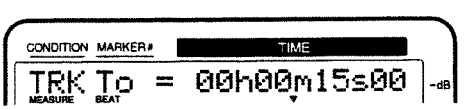


16. Press **PARAMETER [▶▶]**. "TRK To =" appears in the display.

17. Rotate the **TIME/VALUE dial**.

To (To point)

Specifies the reference time of the copy destination.

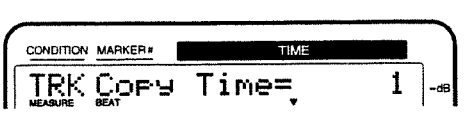


18. Press **PARAMETER [▶▶]**. "TRK Copy Time=" appears in the display.

19. Rotate the **TIME/VALUE dial**.

Copy Time

This specifies the number of times (1–99) the data is to be copied.



20. Press **PARAMETER [▶▶]**. "TRK Track Copy OK ?" appears in the display.

21. Press **[YES]**. This executes Track Copy. If you wish to cancel, press **[NO]**.

NOTE

When the Recording Mode for the Song is Something Other Than "CDR"

- When the CDR recording mode (p. 139) is set to "On," the V-tracks recorded on the mastering tracks (tracks 7 and 8) cannot be copied to V-tracks other than the mastering tracks.
- Even among the same mastering tracks, a V-track recorded with "CDR" can be copied only to a V-track already recorded with "CDR," or to a V-track where nothing has been recorded.
- The V-tracks of songs recorded in a recording mode other than "CDR" cannot be copied to mastering tracks recorded with "CDR."

If the conditions just described are not satisfied, the message "Illegal Track Pair!" appears, and track copying cannot be performed. If this happens, press **[YES]**. Then choose a different destination for copying.

22. When the copy is completed correctly, "Complete" appears in the display, and return to Play condition.

An Easy Way to Specify the Time Settings

Times for the "St," "Frm," "End," and "To" can be specified directly without having to display the Track Copy page. In Play condition, use the following procedure.

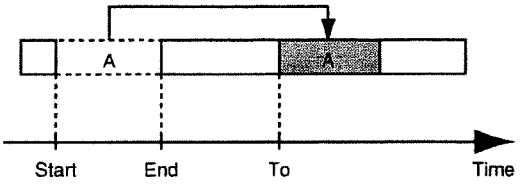
1. Move to the beginning ("St") of the copy source performance data.
2. Hold down **[TRACK]** and press **[LOC1/5]**.
3. Move to the time location in the destination to which the performance data will be copied ("Frm").
4. Hold down **[TRACK]** and press **[LOC2/6]**.
5. Move to the end location of the copy source performance data ("End").
6. Hold down **[TRACK]** and press **[LOC3/7]**.
7. Move to the basic time of the copy destination ("To").
8. Hold down **[TRACK]** and press **[LOC4/8]**.

If you now access the Track Copy page, the times that were specified in steps 1–8 will be input as the time settings for the respective points.

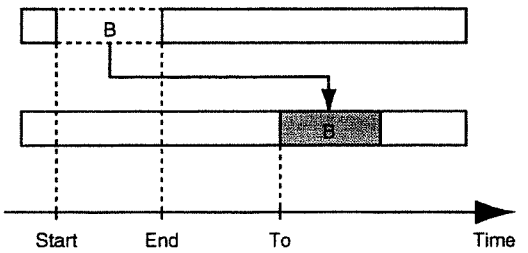
Moving Performance Data (Track Move)

This operation moves the playback data in a specified range to another location. This is convenient for correcting timing mistakes that can occur during recording. If playback data exists at the move destination, that data will be overwritten.

Example 1: Moving with in the same track



Example 2: Moving to a different track



NOTE

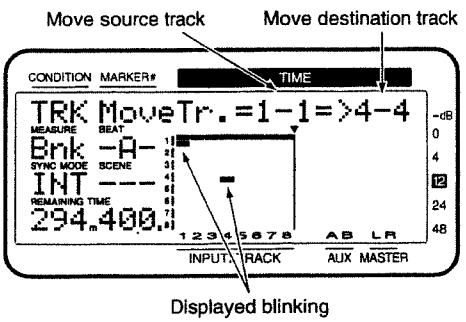
- Playback data of a track for which Channel Link is ON cannot be moved to a track whose channel has a Channel Link setting of OFF. In the same way, playback data of a track for which Channel Link is OFF cannot be moved to a track whose channel has a Channel Link setting of ON.
- The length of the data to be moved must be greater than 0.5 seconds. If data shorter than 0.5 seconds is moved, the sound will not playback.
- Do not leave sound within 0.5 seconds before or after the section of data that is moved. Any sound which was within 0.5 seconds of the moved data will not playback.

1. You can move the tracks that are currently audible. Select the V-track that contains the move source playback data, and prepare that data for playback (p. 58).
2. Press **[TRACK]** several times until "TRK Track Move ?" appears in the display.
3. Press **[YES]**.
4. Press **CURSOR [◀]** several times until "TRK MoveTr.=?-?=>?-?" appears in the display.

5. Press **[SELECT (CH EDIT)]** for the channel containing the move source track. The SELECT indicator will light orange. You can also use the **TIME/VALUE dial** to select the move source track.

6. Press **[STATUS]** for the move destination track. The STATUS indicator will light red.

7. Rotating the **TIME/VALUE dial** allows you to specify the move destination V-track. For example, "1-1" indicates "Track 1, V-track 1."



8. If you want to move multiple tracks simultaneously, repeat Steps 5–7.

NOTE

Do not designate V-tracks that have already been specified as move destinations for other Tracks.

9. If there are any tracks which you decide not to move, press that track's **[SELECT (CH EDIT)]** once again, and press **[CANCEL (NO)]** twice. Or use **PARAMETER [◀◀], [▶▶]** to access the settings for that track, and press **[NO]** twice. The STATUS indicator will blink green.

10. Press **PARAMETER [▶▶]** several times until "TRK St=" appears in the display.

11. Rotate the **TIME/VALUE dial**.

St (Start point)

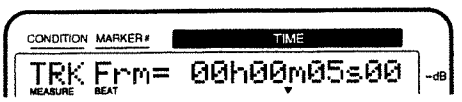
Specifies the starting time of the move range.

12. Press **PARAMETER [▶▶]**. "TRK Frm=" appears in the display.

13. Rotate the **TIME/VALUE dial**.

Frm (From point)

Specifies the time of the move source playback data in relation to the To point. Normally you will set this to be the same as the Start point.

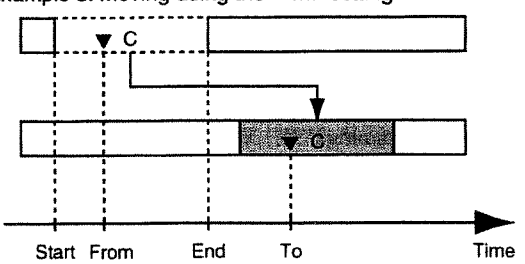


Using "Frm" Effectively

Normally, the data is copied starting at the specified move destination time. However, if you want to have the move made with reference to a point within the designated range where a specific sound occurs, set this with "Frm."

For example, suppose that you wish to move a sound effect of a time bomb ticking and then exploding, and that you want to place the explosion at a specific timing location. Normally, in order to specify the move destination time, you would have to calculate the time until the explosion occurs. In such cases, however, you can specify "Frm" as "the move source time at which the explosion begins" and "TO" (the reference time of the move destination) as "the move destination time at which you want the explosion to occur." This lets you move the data with the explosion placed with precisely the right timing.

Example 3: Moving using the "Frm" setting

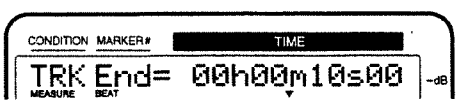


14. Press **PARAMETER [▶▶]**. "TRK End=" appears in the display.

15. Rotate the **TIME/VALUE dial**.

End (End point)

Specifies the ending time of the move range.

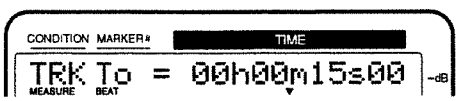


16. Press **PARAMETER [▶▶]**. "TRK To =" appears in the display.

17. Rotate the **TIME/VALUE dial**.

To (To point)

Specifies the reference time of the move destination.



18. Press **PARAMETER [▶▶]**. "TRK Track Move OK ?" appears in the display.

19. Press **[YES]**. This executes Track Move. If you wish to cancel, press **[NO]**.

NOTE

When the Recording Mode for the Song is Something Other Than "CDR"

- When the CDR recording mode (p. 139) is set to "On," the V-tracks recorded on the mastering tracks (tracks 7 and 8) cannot be moved to V-tracks other than the mastering tracks.
- Even among the same mastering tracks, a V-track recorded with "CDR" can be moved only to a V-track already recorded with "CDR," or to a V-track where nothing has been recorded.
- The V-tracks of songs recorded in a recording mode other than "CDR" cannot be moved to mastering tracks recorded with "CDR."

If the conditions just described are not satisfied, the message "Illegal Track Pair!" appears, and track moving cannot be performed. If this happens, press **[YES]**. Then choose a different destination for copying.

20. When the move is completed correctly, "Complete" appears in the display, and return to Play condition.

An Easy Way to Specify the Time Settings

Times for the "St," "Frm," "End," and "To" can be specified directly without having to display the Track Move page. In Play condition, use the following procedure.

1. Move to the beginning ("St") of the move source performance data.

2. Hold down **[TRACK]** and press **[LOC1/5]**.

3. Move to the time location in the destination to which the performance data will be moved ("Frm").

4. Hold down **[TRACK]** and press **[LOC2/6]**.

5. Move to the end location of the move source performance data ("End").

6. Hold down **[TRACK]** and press **[LOC3/7]**.

7. Move to the basic time of the move destination ("To").

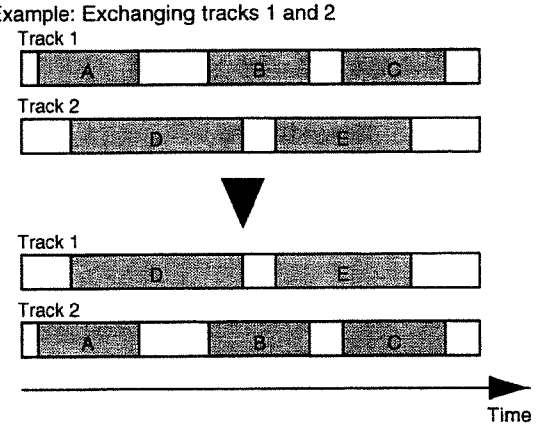
8. Hold down **[TRACK]** and press **[LOC4/8]**.

If you now access the Track Move page, the times that were specified in steps 1–8 will be input as the time settings for the respective points.

Exchanging Performance Data Between Tracks (Track Exchange)

This operation exchanges the playback data of two tracks.

Example: Exchanging tracks 1 and 2



NOTE

Playback data of a track for which Channel Link is ON cannot be exchanged to a track whose channel has a Channel Link setting of OFF. In the same way, playback data of a track for which Channel Link is OFF cannot be exchanged to a track whose channel has a Channel Link setting of ON.

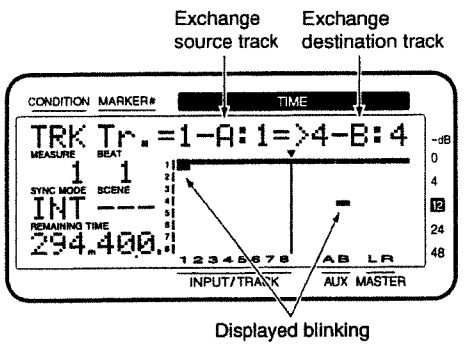
1. You can exchange the tracks that are currently audible. Select the V-track containing the source playback data to be exchanged (p. 58).

2. Press **[TRACK]** several times until "TRK Track Exchange ?" appears in the display.

3. Press **[YES]**.

4. Press **CURSOR [◀]** several times until "TRK Tr.=?-*:?=>?-?:?" ("*" is the current V-track bank) appears in the display.

5. Press **[SELECT (CH EDIT)]** for the channel containing the exchange source track. The SELECT indicator will light orange. You can also use the **TIME/VALUE dial** to select the exchange source track.
6. Press **[STATUS]** for the exchange destination track. The STATUS indicator will light red.
7. Rotating the **TIME/VALUE dial** allows you to specify the exchange destination V-track. For example, "1-A:1" indicates "V-track 1 of track 1 in V-track bank A."



8. If you want to exchange multiple tracks simultaneously, repeat Steps 5–7.

NOTE

Do not designate V-tracks that have already been specified as exchange destinations for other Tracks.

9. If there are any tracks which you decide not to exchange, press that track's **[SELECT (CH EDIT)]** once again, and press **[CANCEL (NO)]** twice. Or use **PARAMETER [◀◀], [▶▶]** to access the settings for that track, and press **[NO]** twice. The STATUS indicator will blink green.
10. Press **PARAMETER [▶▶]**.
"TRK TrackExchangeOK ?" appears in the display.
11. Press **[YES]**. This executes Track Exchange. If you wish to cancel, press **[NO]**.

NOTE

When the Recording Mode for the Song is Something Other Than "CDR"

- When the CDR recording mode (p. 139) is set to "On," the V-tracks recorded on the mastering tracks (tracks 7 and 8) cannot be exchanged with V-tracks other than the mastering tracks.
- Even among the same mastering tracks, a V-track recorded with "CDR" can only be exchanged with a V-track already recorded with "CDR," or to a V-track where nothing has been recorded.
- The V-tracks of songs recorded in a recording mode other than "CDR" cannot be exchanged with mastering tracks recorded with "CDR."

If the conditions just described are not satisfied, the message "Illegal Track Pair!" appears, and track exchange cannot be performed. If this happens, press **[YES]**. Then choose a different destination for exchange.

12. When the exchange is completed correctly, "Complete" appears in the display, and return to Play condition.

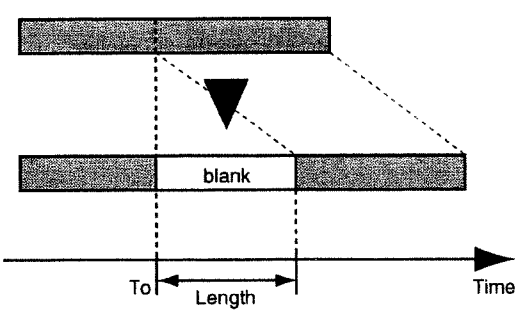
Track Exchange with a different V-track bank

You can use Track Exchange to swap tracks or V-tracks of different V-track banks. For example if you wish to copy track 1 / V-track 1 of V-track bank A (hereafter referred to as A-1-1) to track 1 / V-track 1 of V-track bank B (referred to as B-1-1), you can use the following procedure. (If A-2-1 is NOT used.)

1. Track exchange A-2-1 and B-1-1
2. Copy A-1-1 to B-2-1.
3. Once again, track exchange A-2-1 and B-1-1.

Inserting a Blank Space Into Performance Data (Track Insert)

This operation inserts blank space at the specified location.

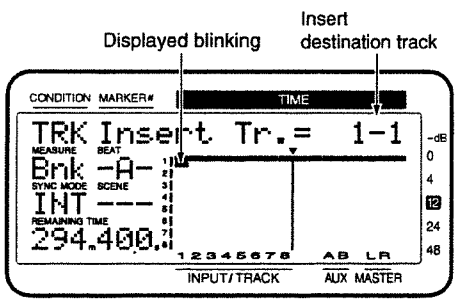


NOTE

Do not leave sound within 0.5 seconds before or after the area into which the data will be inserted. Any sound which was within 0.5 seconds of the inserted data will not playback.

1. Press **[TRACK]** several times until "TRK Track Insert ?" appears in the display.
2. Press **[YES]**.

3. Press **CURSOR [◀** several times until "TRK Insert Tr.=?-?" appears in the display.
4. Press **[STATUS]** for the channel containing the insert source track. The STATUS indicator will light red.
5. Rotating the **TIME/VALUE dial** allows you to specify the insert destination V-track. For example, "1-1" means "V-track 1 of track 1," "1-*" means "all V-tracks of track 1," and "*-*" means "all V-tracks of all tracks."



6. If you want to insert multiple tracks simultaneously, repeat Steps 4 and 5.
7. If there are any tracks which you decide not to insert, press that track's **[SELECT (CH EDIT)]** once again, and press **[CANCEL (NO)]**. Or use **PARAMETER [◀◀], [▶▶]** to access the settings for that track, and press **[NO]**. The STATUS indicator will blink green.
8. Press **PARAMETER [▶▶]** several times until "TRK To=" appears in the display.
9. Rotate the **TIME/VALUE dial**.

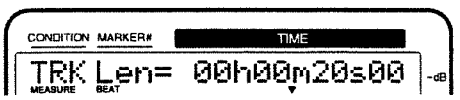
To (To point)

Specify the time location at which the blank will be inserted.

10. Press **PARAMETER [▶▶]**. "TRK Len=" appears in the display.
11. Rotate the **TIME/VALUE dial**.

Len (Length)

Specify the time (length) length of the blank.



12. Press **PARAMETER [▶▶]**. "TRK Track Insert OK ?" appears in the display.
13. Press **[YES]**. This executes Track Insert. If you wish to cancel, press **[NO]**.
14. When the insert is completed correctly, "Complete" appears in the display, and return to Play condition.

An Easy Way to Specify the Time Settings

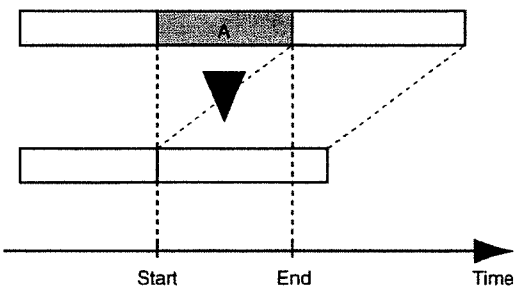
The time for the "To" can be specified directly without having to display the Track Insert page. In Play condition, use the following procedure.

1. Move to the time location into which you wish to insert the blank ("To").
2. Hold down **[TRACK]** and press **[LOC4/8]**.

If you now access the Track Erase page, the time that was specified in steps 1–2 will be input as the time setting for the To point. Just specify the length of the blank (Length), and execute Track Erase.

Deleting Performance Data (Track Cut)

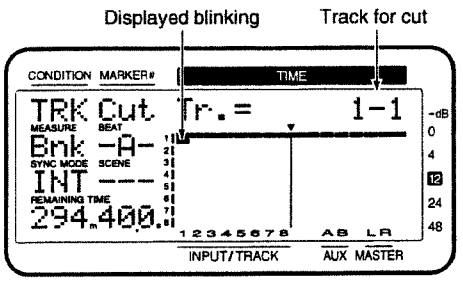
This operation cuts playback data from the specified area. When playback data is cut using this operation, any playback data following the data that was cut will move forward to fill the gap. To use the analogy of a tape recorder, this operation is like cutting an unwanted portion out of an audio tape, and splicing the ends.



NOTE

- Do not leave sound within 0.5 seconds before or after the area to be cut. Any sound which was within 0.5 seconds of the cut data will not playback.
- While it may seem that the performance data has disappeared, the data itself is not deleted from the hard disk. Thus, even when you carry out the Track Cut procedure, the free disk space shown in the display does not change. If you wish to increase the available recording time, please read "Deleting Only Unneeded Performance Data (Song Optimize)".

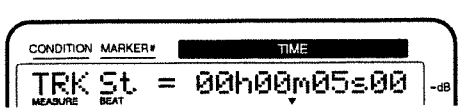
1. Press **[TRACK]** several times until "TRK Track Cut ?" appears in the display.
2. Press **[YES]**.
3. Press **CURSOR [◀]** several times until "TRK Cut Tr.=?-?" appears in the display.
4. Press **[STATUS]** for the track on which you want to carry out Track Cut. The STATUS indicator will light red.
5. You can use the **TIME/VALUE dial** to specify the V-track that you wish to delete. For example, "1-1" means "V-track 1 of track 1," "1-*" means "all V-tracks of track 1," and "*-*" means "all V-tracks of all tracks."



6. If you want to cut multiple tracks simultaneously, repeat Steps 4 and 5.
7. If there are any tracks which you decide not to cut, press that track's **[SELECT (CH EDIT)]** once again, and press **[CANCEL (NO)]**. Or use **PARAMETER [◀◀], [▶▶]** to access the settings for that track, and press **[NO]**. The STATUS indicator will blink green.
8. Press **PARAMETER [▶▶]** several times until "TRK St=" appears in the display.
9. Rotate the **TIME/VALUE dial**.

St (Start point)

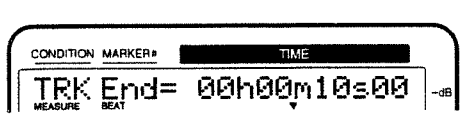
Specifies the starting time of the segment to be cut.



10. Press **PARAMETER [▶▶]**. "TRK End=" appears in the display.
11. Rotate the **TIME/VALUE dial**.

End (End point)

Specifies the ending time of the segment to be cut.



12. Press **PARAMETER [▶▶]**. "TRK Track Cut OK ?" appears in the display.
13. Press **[YES]**. This executes Track Cut. If you wish to cancel, press **[NO]**.
14. When the cut is completed correctly, "Complete" appears in the display, and return to Play condition.

An Easy Way to Specify the Time Settings

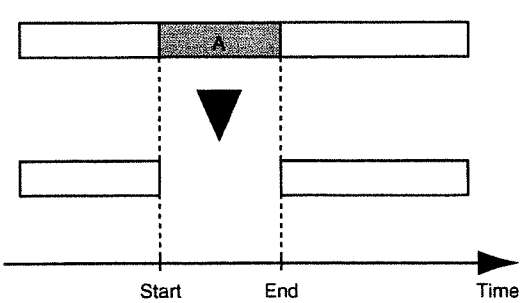
Times for the "St" and "End" can be specified directly without having to display the Track Cut page. In Play condition, use the following procedure.

1. Move to the beginning of the area that you wish to cut ("St").
2. Hold down **[TRACK]** and press **[LOC1/5]**.
3. Move to the end of the area that you wish to cut ("End").
4. Hold down **[TRACK]** and press **[LOC3/7]**.

If you now access the Track Cut page, the times that were specified in steps 1–4 will be input as the time settings for the respective points.

Erasing Performance Data (Track Erase)

This operation erases playback data from the specified area. If this operation is used to erase playback data, even if playback data exists after the area that was erased, it will not be moved forward. To use the analogy of a tape recorder, this operation is like recording silence over an unwanted section of the tape.



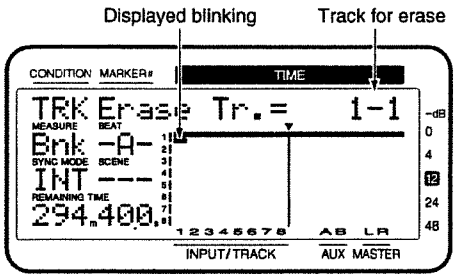
NOTE

- Do not leave sound within 0.5 seconds before or after the area to be erased. Any sound which was within 0.5 seconds of the erased data will not playback.

NOTE

While it may seem that the performance data has disappeared, the data itself is not deleted from the hard disk. Thus, even when you carry out the Track Erase procedure, the free disk space shown in the display does not change. If you wish to increase the available recording time, please read "Deleting Only Unneeded Performance Data (Song Optimize)".

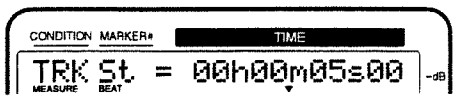
1. Press **[TRACK]** several times until "TRK Track Erase ?" appears in the display.
2. Press **[YES]**.
3. Press **CURSOR [◀]** several times until "TRK Erase Tr.=?-?" appears in the display.
4. Press **[STATUS]** for the track on which you want to carry out Track Erase. The STATUS indicator will light red.
5. You can use the **TIME/VALUE dial** to specify the V-track that you wish to erase. For example, "1-1" means "V-track 1 of track 1," "1-*" means "all V-tracks of track 1," and "*-*" means "all V-tracks of all tracks."



6. If you want to erase multiple tracks simultaneously, press repeat Steps 4 and 5.
7. If there are any tracks which you decide not to copy, press that track's **[SELECT (CH EDIT)]** once again, and press **[CANCEL (NO)]**. Or use **PARAMETER [◀◀], [▶▶]** to access the settings for that track, and press **[NO]**. The STATUS indicator will blink green.
8. Press **PARAMETER [▶▶]**. "TRK St=" appears in the display.
9. Rotate the **TIME/VALUE dial**.

St (Start point)

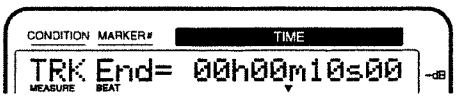
Specifies the starting time of the segment to be erased.



10. Press **PARAMETER [▶▶]**. "TRK End=" appears in the display.
11. Rotate the **TIME/VALUE dial**.

End (End point)

Specifies the ending time of the segment to be erased.



12. Press **PARAMETER [▶▶]**. "TRK Track Erase OK ?" appears in the display.
13. Press **[YES]**. This executes Track Erase. If you wish to cancel, press **[NO]**.
14. When the erase is completed correctly, "Complete" appears in the display, and return to Play condition.

An Easy Way to Specify the Time Settings

Times for the "St" and "End" can be specified directly without having to display the Track Erase page. In Play condition, use the following procedure.

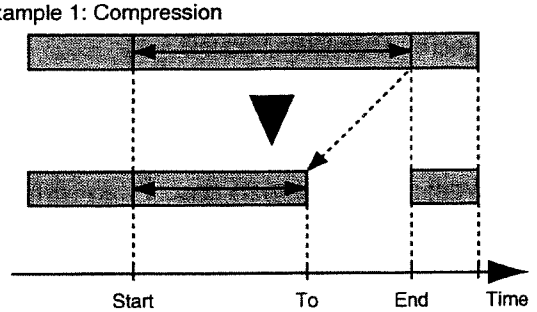
1. Move to the beginning of the area that you wish to erase ("St").
2. Hold down **[TRACK]** and press **[LOC1/5]**.
3. Move to the end of the area that you wish to erase ("End").
4. Hold down **[TRACK]** and press **[LOC3/7]**.

If you now access the Track Erase page, the times that were specified in steps 1–4 will be input as the time settings for the respective points.

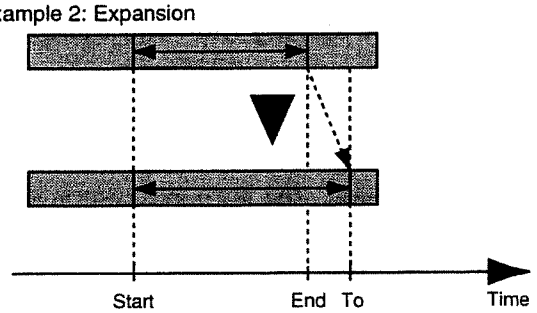
Modifying the Playback Time of the Performance Data (Time Compression/Expansion)

This operation allows you to expand or compress the playback time of a song to a specified length of time.

Example 1: Compression



Example 2: Expansion



MEMO

- In general, when you compress or expand the playback time, the pitch changes in proportion to the amount of compression or expansion. For example, if the playback time is shortened, the pitch of the sound played back then rises. On the VS-890, you can select whether the playback pitch changes in accordance with the ratio of compression or expansion, or whether the original playback pitch is preserved.
- You can specify the amount of compression or expansion in a range of 75–125%, but the more extreme the settings, the more adverse the effect will be on the sound quality. We recommend that you normally keep compression and expansion within a range of 93–107%.

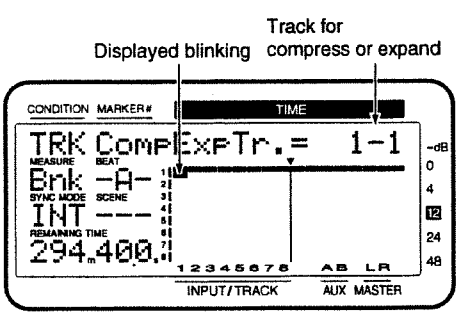
NOTE

- If "CDR" is selected as the Record Mode (recording mode) (for a song or for mastering tracks), it is not possible to execute Time Compression/Expansion.
- Time Compression/Expansion creates new performance data with a different playback time. For this reason, it cannot be executed if there is not sufficient space on the current drive.

NOTE

- It is not possible to make Track Compression/Expansion settings when the elapsed time from the Start Point to the End Point or from the Start Point to the To Point is less than 0.5 seconds.
- Do not compress data to a period of 0.5 seconds or shorter. If it is compressed to 0.5 seconds or less, the sound will not be played.

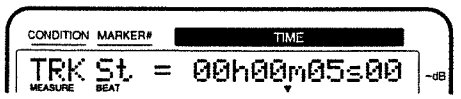
1. Press **[TRACK]** several times until "TRK Time Comp/ Exp. ?" appears in the display.
2. Press **[YES]**.
3. Press **CURSOR [◀]** several times until "TRK CompExpTr.=?-?" appears in the display.
4. Press **[STATUS]** for the track on which you want to compress or expand. The STATUS indicator will light red.
5. You can use the **TIME/VALUE dial** to specify the V-track that you wish to compress or expand. For example, "1-1" means "V-track 1 of track 1," "1-*" means "all V-tracks of track 1," and "*-*" means "all V-tracks of all tracks."



6. If you want to compress or expand multiple tracks simultaneously, repeat Steps 4 and 5.
7. If there are any tracks which you decide not to copy, press that track's **[SELECT (CH EDIT)]** once again, and press **[CANCEL (NO)]**. Or use **PARAMETER [◀◀], [▶▶]** to access the settings for that track, and press **[NO]**. The STATUS indicator will blink green.
8. Press **PARAMETER [▶▶]**. "TRK St=" appears in the display.
9. Rotate the **TIME/VALUE dial**.

St (Start point)

This specifies when compression or expansion of the playback time starts.

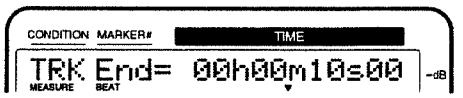


10. Press **PARAMETER [▶▶]**. "TRK End=" appears in the display.

11. Rotate the **TIME/VALUE dial**.

End (End point)

This specifies when compression or expansion of the playback time ends.

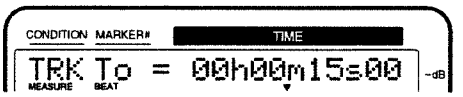


12. Press **PARAMETER [▶▶]**. "TRK To=" appears in the display.

13. Rotate the **TIME/VALUE dial**.

To (To point)

This specifies the ending time location that will result from the compression or expansion.

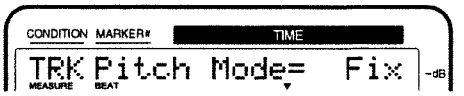


14. Press **PARAMETER [▶▶]**. "TRK Pitch Mode=" appears in the display.

15. Rotate the **TIME/VALUE dial**.

Pitch Mode

If you want the playback pitch to change as a result of the compression or expansion, set this to "Variable"; if not, set this to "Fixed."



16. Press **PARAMETER [▶▶]**. "TRK Type=" appears in the display.

17. Rotate the **TIME/VALUE dial**.

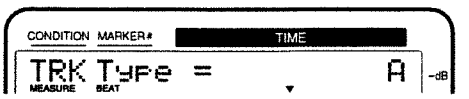
Type

This specifies the type of conversion. Select the setting that fits your needs or that matches the type song you are working with.

A: For vocals or narration.

B: For slow-tempo songs such as slow ballads.

C: For fast-tempo songs such as rock.

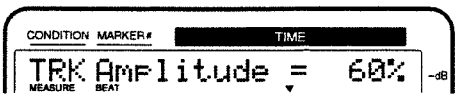


18. Press **PARAMETER [▶▶]**. "TRK Amplitude=" appears in the display.

19. Rotate the **TIME/VALUE dial**.

Amplitude

This specifies the volume level ratio (50, 60, 70, 80, 90, 100%) that will result from the conversion. Normally, the default value of 60% is recommended. If the volume level after conversion is too low, use the Undo function to return to the original data, increase the amplitude settings, and try the operation again. However, excessively high settings can introduce noise in the data.



20. Press **PARAMETER [▶▶]**.
"TRK TimeComp/Exp. OK ?" appears in the display.

21. Press **[YES]**. This executes Time Compression/Expansion. If you wish to cancel, press **[NO]**.

NOTE

Be aware that, depending on conditions, it may take some time for compression or expansion to be completed. This is not a malfunction. Progress of the operation is shown in the display: do not turn off the power until the compression or expansion the track is completed. You can cancel compression or expansion by pressing **[NO]**.

22. When the compression or expansion is completed correctly, "Complete" appears in the display, and return to Play condition.

Calling Up Stored Connections (EZ Routing)

Settings related to mixer connections, including settings for routing of inputs to tracks for recording, for determining where signals are output, and for determining which output is to be monitored can be stored and recalled easily with the VS-890. This is referred to as **EZ Routing**.

For example, when setting tracks to be played back or recorded during track bouncing, or when dealing with effects settings during mixdown there are settings which remain the same, regardless of the song. In such situations, by preparing stored mixer settings to be recalled later, you can easily get the most effective and appropriate mixer settings for each parameter.

At the time of purchase, your VS-890 came with 4 read-only EZ Routing settings (**Preset Routings**) already configured. In addition to these, the VS-890 offers 25 re-writable EZ Routing settings (**User Routings**), allowing you to make changes to the settings provided and then save these to the User Routings.

Easy Routing can be used in the following situations.

Recording

When you want to record the performance input via the INPUT jacks.

Bouncing

When recording the performance data from multiple tracks onto a number of other tracks.

Mixdown

When you want adjust the balance of each track or to record a MD player or similar input in two-channel stereo.

Mastering

Select when you mix down the tracks 1 to 6 into the tracks 7 and 8. Mastering Tool Kit (FX) is inserted to the mix bus.

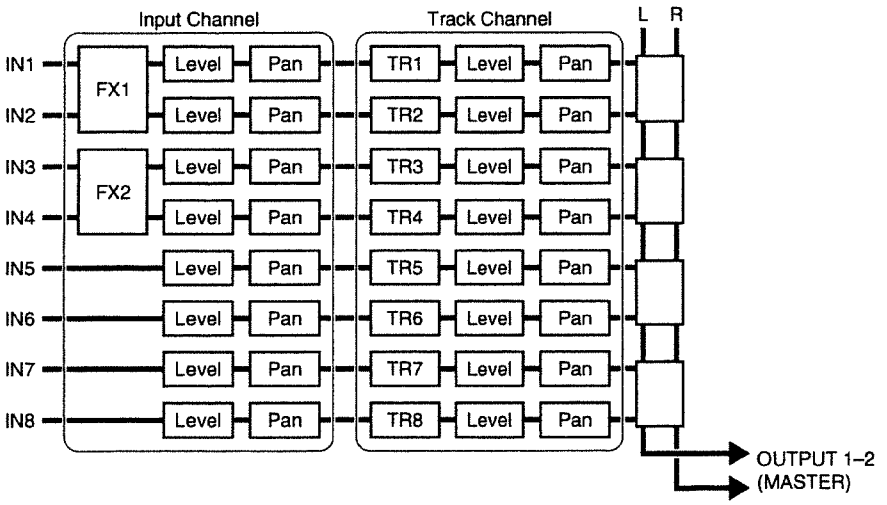
Recalling a setup (Template)

Recall a read-only setting (**Preset Routing**) or a previously stored setting (**User Routing**) without change.

Recalling Recording Settings

Select this when you want to record the performance input via the INPUT jacks. Recall a preset routing (recording) which has been pre-registered when the VS-890 was shipped.

1. Press **[EZ ROUTING]** several times until "EZR Recording ?" appears in the display.
2. Press **[YES]**. "EZR Use Template" (do you wish to apply the template?) appears in the display.
3. Press **[YES]** again.
4. When the routing has been recalled, "Complete" appears in the display, and return to Play condition. At this time, the mixer settings will be as follows.



INPUT Jack	Recording Track
INPUT 1	1
INPUT 2	2
INPUT 3	3
INPUT 4	4
INPUT 5	5
INPUT 6	6
DIGITAL IN1 (7)	7
DIGITAL IN1 (8)	8

Display	Input Mixer	Track Mixer
MIX Sw	On	On
MIX Level	100	100
MIX Pan	IN1, 3, 5, 7 = L63	0
	IN2, 4, 6, 8 = R63)	0
AUX Sw	Off	Off
Channel Link	Off	Off
FX1 Ins	— (IN1 = InsertL, IN2 = InsertR)	—

Display	Input Mixer	Track Mixer
FX1 InsSend	100	—
FX1 InsRtn	100	—
EFFECT1	Off	Off
FX2 Ins	— (IN3 = InsertL, IN4 = InsertR)	—
FX2 InsSend	100	—
FX2 InsRtn	100	—
EFFECT2	Off	Off

Display	Master Block
Master Sel	MIX
MST FX1 Ins Sw	—
MST FX2 Ins Sw	—
EQ Sel	3bandEQ
Direct Out	Off

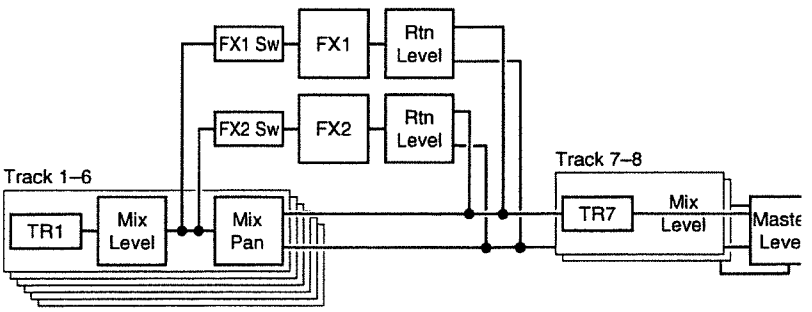
Display	Effects
FX1 Sel	A96 = DualComp/Lim
FX2 Sel	A96 = DualComp/Lim

Display	Mastering Track Switch
MasteringSw	On

Recalling Track Bouncing Settings

Select this when recording the performance data from multiple tracks onto a number of other tracks. Recall a preset routing (bouncing) which has been pre-registered when the VS-890 was shipped.

1. Press **[EZ ROUTING]** several times until "EZR Bouncing ?" appears in the display.
2. Press **[YES]**. "EZR Use Template" (do you wish to apply the template?) appears in the display.
3. Press **[YES]** again.
4. When the routing has been recalled, "Complete" appears in the display, and return to Play condition. At this time, the mixer settings will be as follows.



Recording Track: TRACK 7–8

Input jack/track/effect assigned to the recording track:

INPUT 1–6, DIGITAL IN1 (7/8), TRACK 1–6, FX1 Return, FX2 Return

Display	Input Mixer	Track Mixer
MIX Sw	On	On
MIX Level	100	100
MIX Pan	0 (IN7 = L63, IN8 = R63)	0 (TR7 = L63, TR8 = R63)
AUX Sw	Off	Off
Channel Link	Off	Off (1–6), On (d)
FX1 Ins	Off	Off
EFFECT1	PstFade	PstFade (1–6), Off (d)
EFFECT1 Send	100	
EFFECT1 Pan	0	
FX2 Ins	Off	Off
EFFECT2	PstFade	PstFade (1–6), Off (d)
EFFECT2 Send	100	
EFFECT2 Pan	0	

Display	Master Block
Master Sel	MIX
MST FX1 Ins Sw	—
MST FX2 Ins Sw	—
EQ Sel	3bandEQ
Direct Out	Off

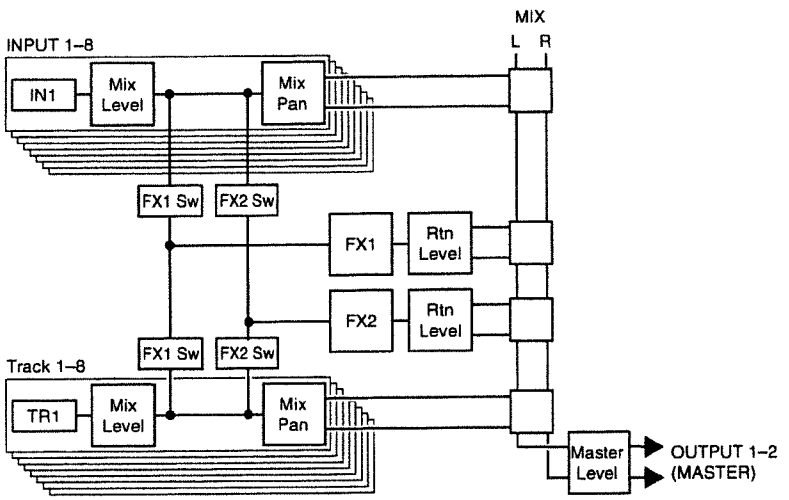
Display	Effects
FX1 Sel	A00 = RV:LargeHall
FX2 Sel	A22 = Short Dly

Display	Mastering Track Switch
MasteringSw	On

Recalling Mixdown Settings

Select this when you want adjust the balance of each track or to record a MD recorder or similar input in two-channel stereo. Recall a preset routing (mixdown) which has been pre-registered when the VS-890 was shipped.

1. Press **[EZ ROUTING]** several times until "EZR Mix Down ?" appears in the display.
2. Press **[YES]**. "EZR Use Template" (do you wish to apply the template?) appears in the display.
3. Press **[YES]** again.
4. When the routing has been recalled, "Complete" appears in the display, and return to Play condition. At this time, the mixer settings will be as follows.



Playback Track: TRACK 1–8

Input jack/track/effect assigned to the master out:
INPUT 1–6, DIGITAL IN1 (7/8), TRACK 1–6, FX1 Return, FX2 Return

Display	Input Mixer	Track Mixer
MIX Sw	On	On
MIX Level	100	100
MIX Pan	0 (IN7 = L63, IN8 = R63)	0
AUX Sw	Off	Off
Channel Link	Off	Off
FX1 Ins	Off	Off
EFFECT1	PstFade	PstFade
EFFECT1 Send	100	100
EFFECT1 Pan	0	0
FX2 Ins	Off	Off
EFFECT2	PstFade	PstFade
EFFECT2 Send	100	100
EFFECT2 Pan	0	0

Display	Master Block
Master Sel	MIX
MST FX1 Ins Sw	—
MST FX2 Ins Sw	—
EQ Sel	2bandEQ
Direct Out	Off

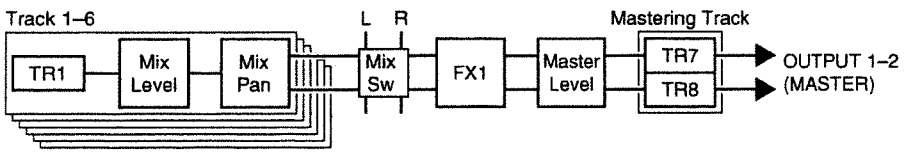
Display	Effects
FX1 Sel	A00 = RV:LargeHall
FX2 Sel	A22 = DL:Short Dly

Display	Mastering Track Switch
MasteringSw	On

Recalling Mastering Settings

Select when you mix down the tracks 1 to 6 into the tracks 7 and 8. Mastering Tool Kit (FX) is inserted to the mix bus. (Optional VS8F-2 is needed.) Recall a preset routing (mastering) which has been pre-registered when the VS-890 was shipped.

1. Press **[EZ ROUTING]** several times until "EZR Mastering?" appears in the display.
2. Press **[YES]**. "EZR Use Template?" appears in the display.
3. Press **[YES]** again.
4. When the routings has been recalled, "Complete" appears in the display, and return to Play condition. At this time, the mixer setting will be as follows.



Playback Track: TRACK 1–6

Recording Track: TRACK 7–8 (Mastering Track)

Display	Input Mixer	Track Mixer
MIX Sw	On	On
MIX Level	100	100
MIX Pan	0 (IN7 = L63, IN8 = R63)	0
AUX Sw	Off	Off
Channel Link	Off	Off
FX1 Ins	—	—
EFFECT1	Off	Off
FX2 Ins	Off	Off
EFFECT2	Off	Off

Display	Master Block
Master Sel	MIX
MST FX1 Ins Sw	On
MST FX2 Ins Sw	Off
EQ Sel	3bandEQ
Direct Out	Off

Display	Effects
FX1 Sel	C10 = MTK:Mixdown

Display	Mastering Track Switch
MasteringSw	On

Modifying internal connections in logical sequence (Step Edit)

Reply to questions in dialog format to make settings in a logical sequence.

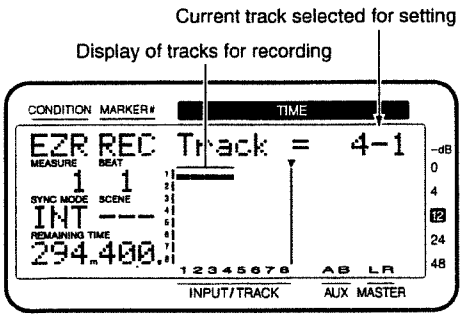
Storing Recording Settings

Select this when you want to record the performance input via the INPUT jacks.

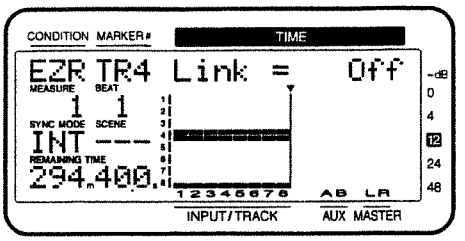
MEMO

You can return to the previous screen by pressing **PARAMETER [▶▶]**.

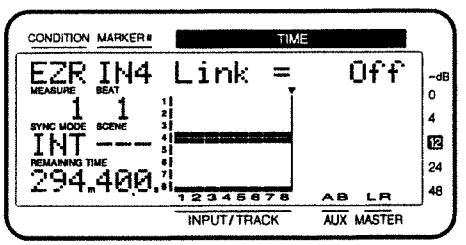
1. Press **[EZ ROUTING]** several times until "EZR Recording ?" appears in the display.
2. Press **[YES]**. "EZR Use Template" (do you wish to apply the template?) appears in the display.
3. Press **[NO]**.
4. "REC Track = "appears in the display. Specify the track on which you will record. Press **STATUS buttons ([1]–[8])** of the track that you wish to record. The STATUS indicator will blink red. Each time you press the **STATUS buttons ([1]–[8])**, you will cycle between recording and not recording. You can rotate the **TIME/VALUE dial** to select the V-track that you wish to record. Then press **PARAMETER [▶▶]**.



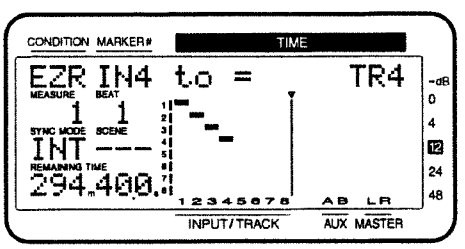
5. "TR* Link = " ("*" is the displayed track) appears in the display. Specify the tracks for which you will turn Channel Link ON. Press **STATUS buttons ([1]–[8])** of the tracks for which you wish to turn Channel Link ON, and rotate the **TIME/VALUE dial**. Then Press **PARAMETER [▶▶]**.



6. "IN* Link =" ("*" is the displayed input) appears in the display. Specify the inputs for which you will turn Channel Link ON. Press **STATUS buttons ([1]–[8])** of the inputs for which you wish to turn Channel Link ON, and rotate the **TIME/VALUE dial**. Then Press **PARAMETER [▶▶]**.



7. "IN* to =" appears in the display. Specify which source is to be recorded on each track. First press the source input **[SHIFT]** + **[1]**-**[8]**, then press the track **[1]**-**[8]** for the track to which the source is to be recorded. You can also use the **TIME/VALUE dial** to select the recording destination track. If you select "-," that input will not be output anywhere (i.e., the sound will not be heard). If you select "MIX," the source will be assigned to a mix bus (i.e., sound will be heard but will not be recorded). Then press **PARAMETER [▶▶]**.

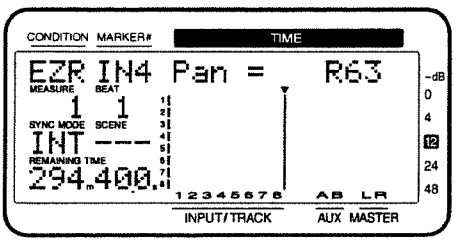


NOTE

Sources that have Channel Link set to "On" cannot be recorded to tracks on which Channel Link is set to "Off" with the Step Edit.

8. "IN* Pan =" appears in the display. Adjust the pan of the source. Press **SELECT button ([1]–[8])** for the input whose pan you wish to adjust, and use the **TIME/VALUE**

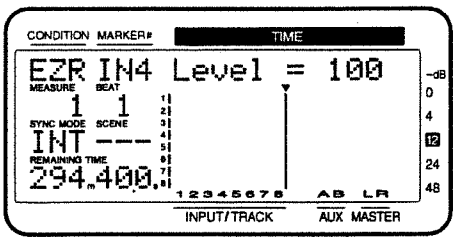
dial. You can also use the **pan knobs** on the top panel to adjust the pan. Then press **PARAMETER [▶▶]**.



MEMO

When Channel Link is on, adjust the Offset Balance of the sources. (p. 174)

9. "IN* Level = " appears in the display. Adjust the level of the source. Press **SELECT button ([1]–[8])** for the input whose level you wish to adjust, and use the **TIME/VALUE dial**. You can also use the channel faders on the top panel to adjust the level. Then press **PARAMETER [▶▶]**.

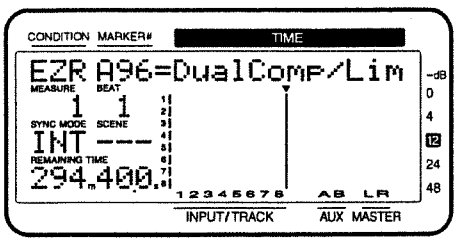


MEMO

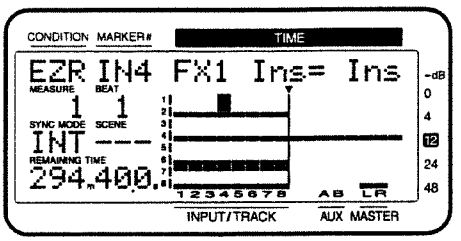
When Channel Link is on, adjust the Offset Level of the sources. (p. 174)

10. "Use EFFECT1 ?" appears in the display. If you wish to use effect 1, press **[YES]**. If you do not wish to use effect 1, press **[NO]** and proceed to step 14.

11. The effect patch will be displayed. Use the **TIME/VALUE dial** to select the effect patch that you wish to use (i.e. A96 = DualComp/Lim). Then press **PARAMETER [▶▶]**.



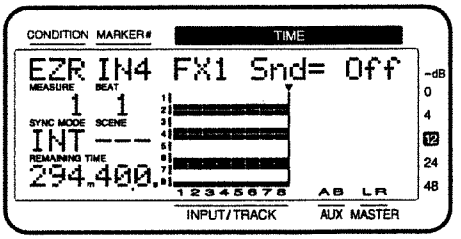
12. "IN* FX1 Ins = "appears in the display. Rotate the **TIME/VALUE dial**. If you wish to insert effect 1, select either "Ins," "InsL," "InsR," or "InsS," and press **PARAMETER [▶▶]**. If you wish to use effect 1 in a send/return configuration, select "Off" and press **PARAMETER [▶▶]**.



12-1. "IN* InsSnd = "appears in the display. Use the **TIME/VALUE dial** to adjust the insert send level. Then press **PARAMETER [▶▶]**.

12-2. "IN* InsRtn =" appears in the display. Use the **TIME/VALUE dial** to adjust the insert return level. Then press **PARAMETER [▶▶]**.

13. "IN* FX1Snd =" appears in the display. Rotate the **TIME/VALUE dial**. If you wish to send the input to the effect 1 bus, select either "Pre" or "Pst," and press **PARAMETER [▶▶]**. If you do not wish to send the input to the effect 1 bus, select "Off," and press **PARAMETER [▶▶]**.

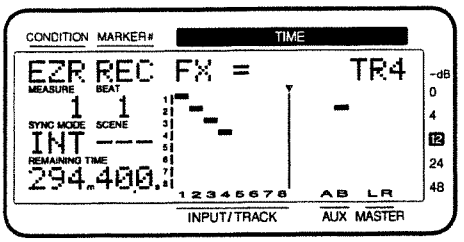


13-1. "IN* SndLev =" appears in the display. Use the **TIME/VALUE dial** to adjust the send level. Then press **PARAMETER [▶▶]**. If in step 12 you selected except "Off," the sound already processed by the effect will be sent to the effect bus. (It will not be re-input to effect 1.)

13-2. "IN* SndPan" appears in the display. Use the **TIME/VALUE dial** to adjust the send pan. Then press **PARAMETER [▶▶]**.

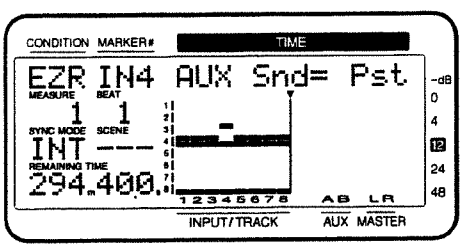
13-3. "REC FX1 =" appears in the display. If you wish to record the effect which you are using in a send/return configuration, press **STATUS buttons ([1]–[8])** for the recording destination track. Then press **PARAMETER [▶▶]**. However if in step 12 you selected except "Off," this display will not appear. (The sound with

the inserted effect will be recorded.)



14. "Use EFFECT2 ?" appears in the display. Make settings for effect 2 as described in steps 10-13.

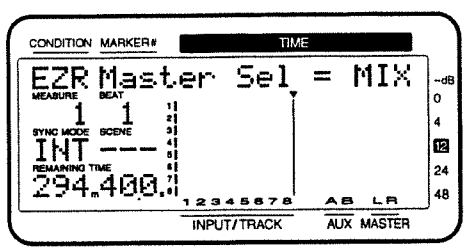
15. "IN* AUX Snd" appears in the display. Rotate the **TIME/VALUE dial**. If you wish to send the input to the AUX bus, select either "Pre" or "Pst," and press **PARAMETER [▶▶]**. If you do not wish to send the input to the AUX bus, select "Off," and press **PARAMETER [▶▶]**.



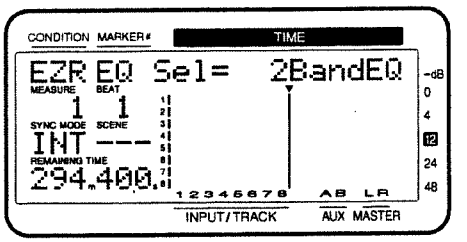
15-1. "IN* SndLev =" appears in the display. Use the **TIME/VALUE dial** to adjust the send level. Then press **PARAMETER [▶▶]**.

15-2. "IN* SndPan" appears in the display. Use the **TIME/VALUE dial** to adjust the send pan. Then press **PARAMETER [▶▶]**.

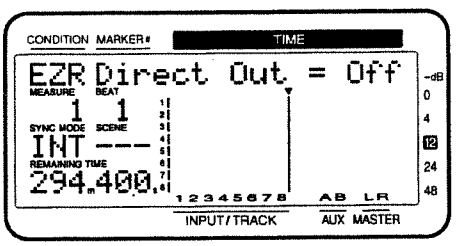
16. "Master Sel =" appears in the display. Use the **TIME/VALUE dial** to select the bus (MIX, AUX, FX1, FX2, REC) that you wish to output from the MASTER jacks. Then press **PARAMETER [▶▶]**.



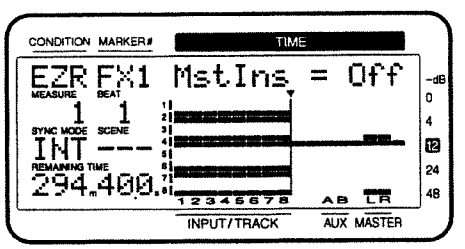
17. "EQ Sel =" appears in the display. Rotate the **TIME/VALUE dial** to select the equalizer type, and press **PARAMETER [▶▶]**.



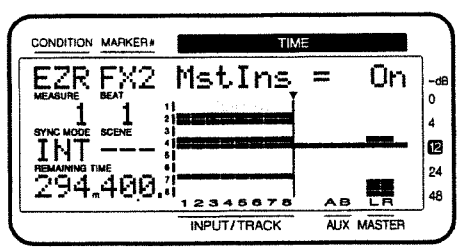
18. "Direct Out =" appears in the display. Rotate the **TIME/VALUE dial** to switch the Direct OUT On/Off. Then press **PARAMETER [▶▶]**.



19. "FX1 MstIns =" appears in the display. If you wish to insert FX1 into the master out, select "On." If not, select "Off." Then press **PARAMETER [▶▶]**. If FX1 has been inserted in another channel, the display will indicate "— " and this item cannot be set.



20. "FX2 MstIns =" appears in the display. If you wish to insert FX2 into the master out, select "On." If not, select "Off." Then press **PARAMETER [▶▶]**. If FX2 has been inserted in another channel, the display will indicate "— " and this item cannot be set.



21. "Change Routing ?" appears in the display. Press **[YES]**. When the routing has been finalized, "Complete" appears in the display, and you will return to Play condition. If you decide to discard the routing that was set, press **[NO]**.

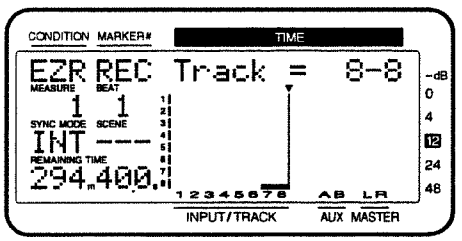
Storing Track Bouncing Settings

Select this when recording the performance data from multiple tracks onto a number of other tracks.

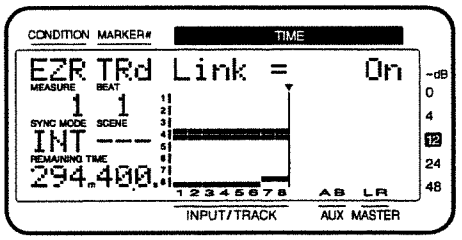
MEMO

You can return to the previous screen by pressing **PARAMETER [◀◀]**.

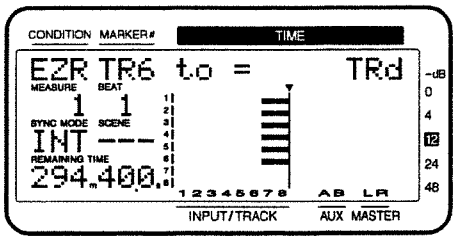
1. Press **[EZ ROUTING]** several times until "EZR Bouncing ?" appears in the display.
2. Press **[YES]**. "EZR Use Template" (do you wish to apply the template?) appears in the display.
3. Press **[NO]**.
4. "REC Track =" appears in the display. Specify the track on which you will record. Press **STATUS buttons ([1]–[8])** for the track that you wish to record. The STATUS indicator will blink red. Each time you press the **STATUS buttons ([1]–[8])**, you will alternate between recording and not recording. Use the **TIME/VALUE dial** to select the V-track on which you will record. Then press **PARAMETER [▶▶]**.



5. "TR* Link =" ("*" is the displayed track) appears in the display. Specify the playback tracks/recording tracks for which you will turn Channel Link ON. Press **SELECT buttons ([1]–[8])** of the tracks for which you wish to turn Channel Link ON, and rotate the **TIME/VALUE dial**. Then press **PARAMETER [▶▶]**.



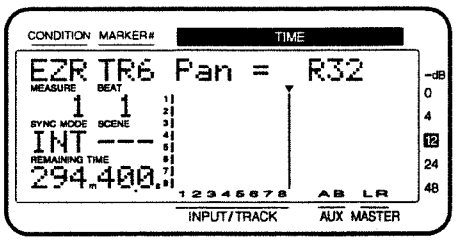
6. "TR* to =" appears in the display. Specify which track will be recorded to which track. First press **SELECT button ([1]–[8])** for the playback track, and then press **STATUS buttons ([1]–[8])** for the track that you wish to record. Then press **PARAMETER [▶▶]**. You can also use the **TIME/VALUE dial** to select the recording destination track. If you select "—," that track will not be played back (it will not be heard). If you select "MIX," the playback track will be assigned to the mix bus (it will be heard but not recorded).



NOTE

Playback tracks that have Channel Link set to "On" cannot be recorded to tracks on which Channel Link is set to "Off" with the EZ Routing.

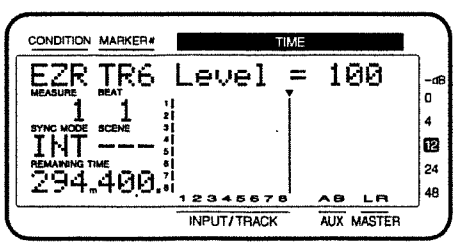
7. "TR* Pan =" appears in the display. Adjust the pan of the playback track. Press **SELECT button ([1]–[8])** for the playback track whose pan you wish to adjust, and use the **TIME/VALUE dial**. You can also use the **pan knobs** on the top panel to adjust the pan. Then press **PARAMETER [▶▶]**.



MEMO

When Channel Link is on, adjust the Offset Balance of the sources/tracks. (p. 174)

8. "TR* Level =" appears in the display. Adjust the level of the playback track. Press **SELECT button ([1]–[8])** for the playback track whose level you wish to adjust, and use the **TIME/VALUE dial**. Then press **PARAMETER [▶▶]**.

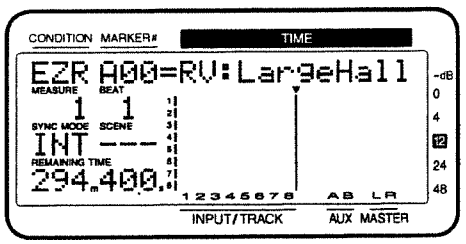


MEMO

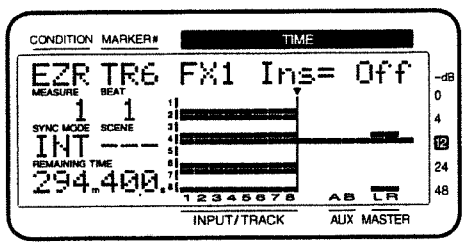
When Channel Link is on, adjust the Offset Level of the tracks. (p. 174)

9. "Use EFFECT1 ?" appears in the display. If you wish to use effect 1, press **[YES]**. If you do not wish to use effect 1, press **[NO]** and proceed to step 13.

10. The effect patch will be displayed. Use the **TIME/VALUE dial** to select the effect patch (A00 = LargeHall, etc.) that you wish to use. Then press **PARAMETER [▶▶]**.



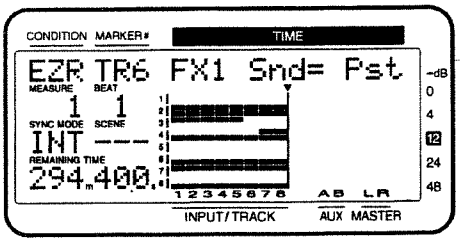
11. "TR* FX1 Ins =" appears in the display. Rotate the **TIME/VALUE dial**. If you wish to insert effect 1, select either "Ins," "InsL," "InsR," or "InsS," and press **PARAMETER [▶▶]**. If you wish to use effect 1 in a send/return configuration, select "Off" and press **PARAMETER [▶▶]**.



11-1. "TR* InsSnd =" appears in the display. Use the **TIME/VALUE dial** to adjust the insert send level. Then press **PARAMETER [▶▶]**.

11-2. "TR* InsRtn =" appears in the display. Use the **TIME/VALUE dial** to adjust the insert return level. Then press **PARAMETER [▶▶]**.

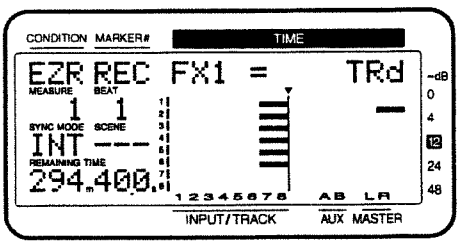
12. "TR* FX1 Snd =" appears in the display. Rotate the **TIME/VALUE dial**. If you wish to send the playback track to the effect 1 bus, select either "Pre" or "Pst," and press **PARAMETER [▶▶]**. If you do not wish to send the playback track to the effect 1 bus, select "Off," and press **PARAMETER [▶▶]**.



12-1. "TR* SndLev =" appears in the display. Use the **TIME/VALUE dial** to adjust the send level. Then press **PARAMETER [▶▶]**. If in step 11 you selected except "Off," the sound already processed by the effect will be sent to the effect bus. (It will not be re-input to effect 1.)

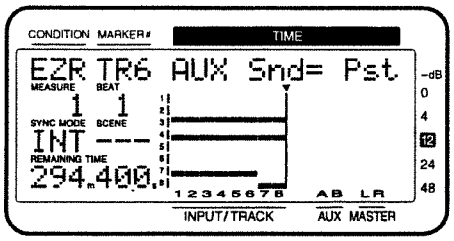
12-2. "TR* SndPan" appears in the display. Use the **TIME/VALUE dial** to adjust the send pan. Then press **PARAMETER [▶▶]**.

12-3. "REC FX1 =" appears in the display. If you wish to record the effect which you are using in a send/return configuration, press **STATUS buttons ([1]–[8])** for the recording destination track. Then press **PARAMETER [▶▶]**. However if in step 11 you selected except "Off," this display will not appear. (The sound with the inserted effect will be recorded.)



13. "Use EFFECT2 ?" appears in the display. Make settings for effect 2 as described in steps 9-12.

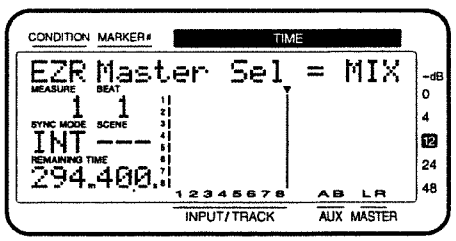
14. "TR* AUX Snd" appears in the display. Rotate the **TIME/VALUE dial**. If you wish to send the playback track to the AUX bus, select either "Pre" or "Pst," and press **PARAMETER [▶▶]**. If you do not wish to send the playback track to the AUX bus, select "Off," and press **PARAMETER [▶▶]**.



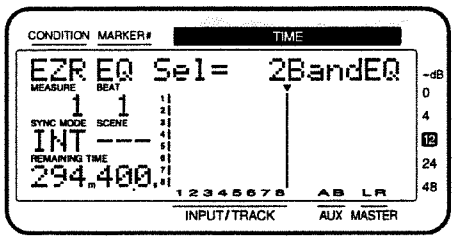
14-1. "TR* SndLev =" appears in the display. Use the **TIME/VALUE dial** to adjust the send level. Then press **PARAMETER [▶▶]**.

14-2. "TR* SndPan =" appears in the display. Use the **TIME/VALUE dial** to adjust the send pan. Then press **PARAMETER [▶▶]**.

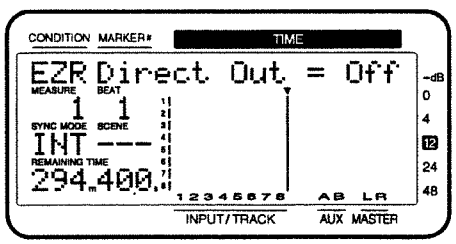
15. "Master Sel =" appears in the display. Use the **TIME/VALUE dial** to select the bus (MIX, AUX, FX1, FX2, REC) that you wish to output from the MASTER jacks. Then press **PARAMETER [▶▶]**.



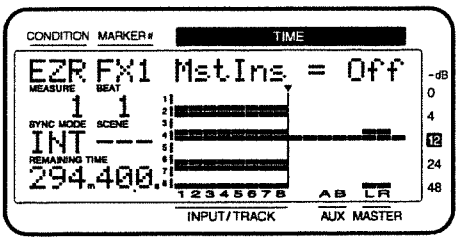
16. "EQ Sel =" appears in the display. Rotate the **TIME/VALUE dial** to select the equalizer type, and press **PARAMETER [▶▶]**.



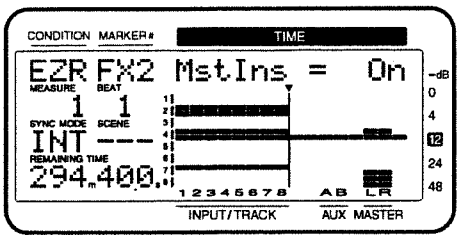
17. "Direct Out =" appears in the display. Rotate the **TIME/VALUE dial** to switch the Direct OUT On/Off. Then press **PARAMETER [▶▶]**.



18. "FX1 MstIns =" appears in the display. If you wish to insert FX1 into the master out, select "On." If not, select "Off." Then press **PARAMETER [▶▶]**. If FX1 has been inserted in another channel, the display will indicate "— " and this item cannot be set.



19. "FX2 MstIns =" appears in the display. If you wish to insert FX2 into the master out, select "On." If not, select "Off." Then press **PARAMETER [▶▶]**. If FX2 has been inserted in another channel, the display will indicate "— " and this item cannot be set.



20. "Change Routing ?" appears in the display. Press **[YES]**. When the routing has been finalized, "Complete" appears in the display, and you will return to Play condition. If you decide to discard the routing that was set, press **[NO]**.

Storing Mixdown Settings

Select this when you want adjust the balance of each track or to record a MD recorder or similar input in two-channel stereo. Additionally, when playing back all 8 tracks, by mixing the output of the VSR-880 along with the output of a synchronized MIDI sequencer or other such device, you can also record to MD recorders or similar devices.

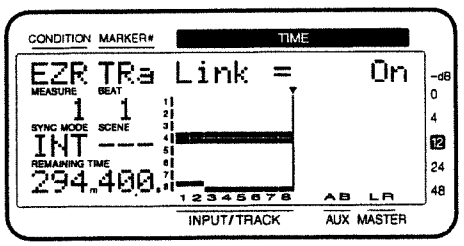
By Step Editing a mixdown, you can change the track and source settings to be the same. If you wish to change the track settings, press **[FADER (EDIT)]** to let the FADER indicator lights green (Track Mixer). If you wish to change the source settings, press **[FADER (EDIT)]** to let the FADER indicator lights orange (Input Mixer).

Here we will explain the example of how to change the track settings.

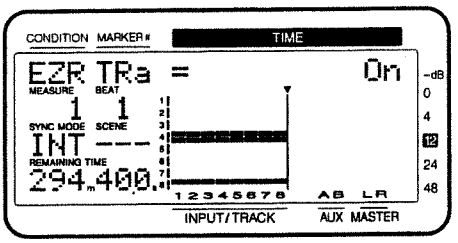
MEMO

You can return to the previous screen by pressing **PARAMETER [◀◀]**.

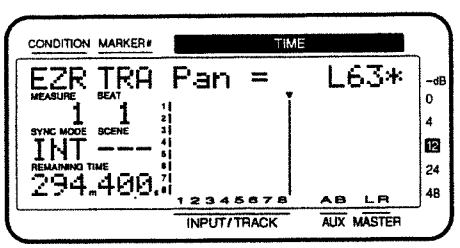
1. Press **[EZ ROUTING]** several times until "EZR Mix Down ?" appears in the display.
2. Press **[YES]**. "EZR Use Template" (do you wish to apply the template?) appears in the display.
3. Press **[NO]**.
4. "TR* Link =" or "IN* Link =" ("*" is the displayed track/source) appears in the display. Select the tracks/sources for which you wish to turn Channel Link ON. Press **SELECT buttons ([1]–[8])** for the track/source for which you wish to turn on Channel Link, and use the **TIME/VALUE dial**. Then press **PARAMETER [▶▶]**.



5. "TR* =" or "IN* =" appears in the display. Specify the tracks/sources that you wish to output to the mix bus. Press **SELECT buttons ([1]–[8])** for the corresponding track/source, and use the **TIME/VALUE dial**. Tracks/sources which are turned "On" will be output. Then press **PARAMETER [▶▶]**.



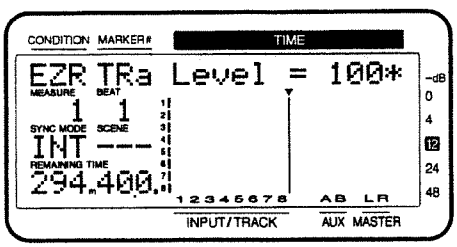
6. "Pan =" appears in the display. Adjust the pan of the track/source. Press **SELECT button ([1]–[8])** for the track/source whose pan you wish to adjust, and use the **TIME/VALUE dial**. You can also adjust the pan using the pan knobs on the top panel. Then press **PARAMETER [▶▶]**.



MEMO

When Channel Link is on, adjust the Offset Balance of the sources/tracks. (p. 174)

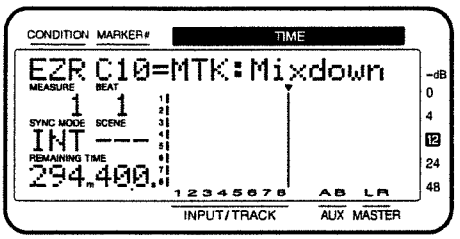
7. "Level =" appears in the display. Adjust the level of the track/source. Press **SELECT button ([1]–[8])** for the track/source whose level you wish to adjust, and use the **TIME/VALUE dial**. Then press **PARAMETER [▶▶]**.



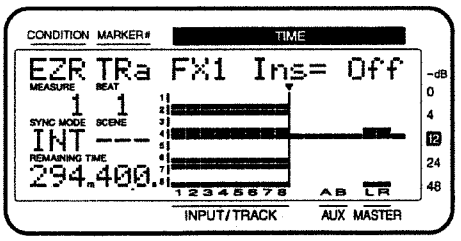
MEMO

When Channel Link is on, adjust the Offset Level of the sources/tracks. (p. 174)

8. "Use EFFECT1 ?" appears in the display. If you wish to use effect 1, press **[YES]**. If you do not wish to use effect 1, press **[NO]** and proceed to step 12.
9. The effect patch will be displayed. Use the **TIME/VALUE dial** to select the effect patch (for example, C10:MTK:Mixdown) that you wish to use. Then press **PARAMETER [▶▶]**.



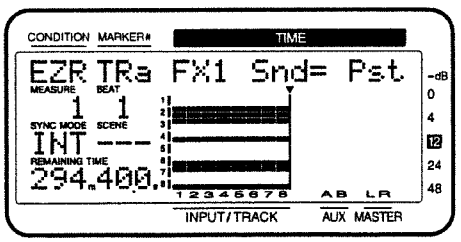
10. "FX1 Ins =" appears in the display. Rotate the **TIME/VALUE dial**. If you wish to insert effect 1, select either "Ins," "InsL," "InsR," or "InsS," and press **PARAMETER [▶▶]**. If you wish to use effect 1 in a send/return configuration, select "Off" and press **PARAMETER [▶▶]**.



10-1. "InsSnd =" appears in the display. Use the **TIME/VALUE dial** to adjust the insert send level. Then press **PARAMETER [▶▶]**.

10-2. "InsRtn =" appears in the display. Use the **TIME/VALUE dial** to adjust the insert return level. Then press **PARAMETER [▶▶]**.

11. "FX1 Snd =" appears in the display. Rotate the **TIME/VALUE dial**. If you wish to send the track/source to the effect 1 bus, select either "Pre" or "Pst," and press **PARAMETER [▶▶]**. If you do not wish to send the track/source to the effect 1 bus, select "Off," and press **PARAMETER [▶▶]**.

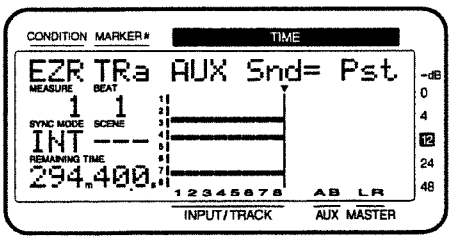


11-1. "SndLev =" appears in the display. Use the **TIME/VALUE dial** to adjust the send level. Then press **PARAMETER [▶▶]**. If in step 10 you selected except "Off," the sound already processed by the effect will be sent to the effect bus. (It will not be re-input to effect 1.)

11-2. "SndPan" appears in the display. Use the **TIME/VALUE dial** to adjust the send pan. Then press **PARAMETER [▶▶]**.

12. "Use EFFECT2 ?" appears in the display. Make settings for effect 2 as described in steps 8-11.

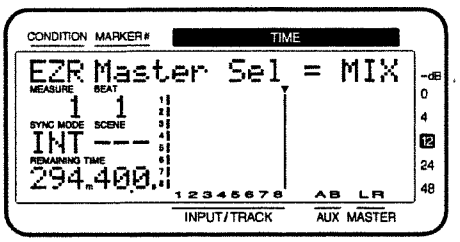
13. "AUX Snd =" appears in the display. Rotate the **TIME/VALUE dial**. If you wish to send the track/source to the AUX bus, select either "Pre" or "Pst," and press **PARAMETER [▶▶]**. If you do not wish to send the track/source to the AUX bus, select "Off," and press **PARAMETER [▶▶]**.



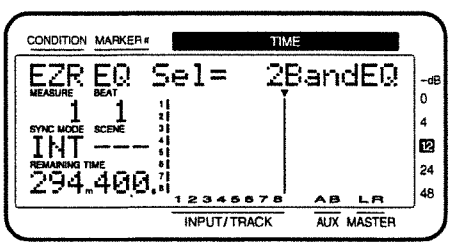
13-1. "TR* SndLev =" appears in the display. Use the **TIME/VALUE dial** to adjust the send level. Then press **PARAMETER [▶▶]**.

13-2. "TR* SndPan" appears in the display. Use the **TIME/VALUE dial** to adjust the send pan. Then press **PARAMETER [▶▶]**.

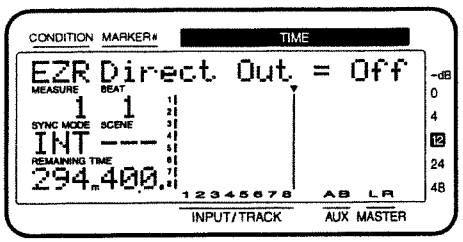
14. "Master Sel =" appears in the display. Use the **TIME/VALUE dial** to select the bus (MIX, AUX, FX1, FX2, REC) that you wish to output from the MASTER jacks. Then press **PARAMETER [▶▶]**.



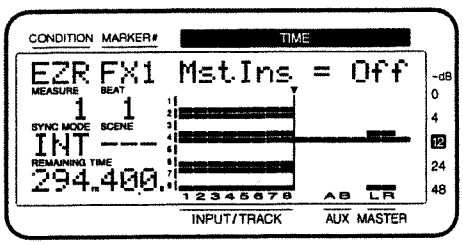
15. "EQ Sel =" appears in the display. Rotate the **TIME/VALUE dial** to select the equalizer type, and press **PARAMETER [▶▶]**.



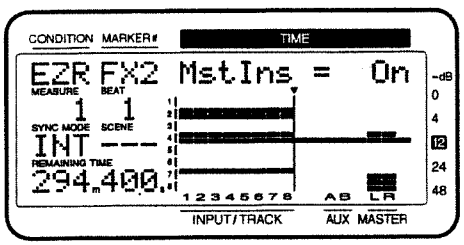
16. "Direct Out =" appears in the display. Rotate the **TIME/VALUE dial** to switch the Direct OUT On/Off. Then press **PARAMETER [▶▶]**.



17. "FX1 MstIns =" appears in the display. If you wish to insert FX1 into the master out, select "On." If not, select "Off." Then press **PARAMETER [▶▶]**. If FX1 has been inserted in another channel, the display will indicate "—" and this item cannot be set.



18. "FX2 MstIns =" appears in the display. If you wish to insert FX2 into the master out, select "On." If not, select "Off." Then press **PARAMETER [▶▶]**. If FX2 has been inserted in another channel, the display will indicate "—" and this item cannot be set.



19. "Change Routing ?" appears in the display. Press **[YES]**. When the routing has been finalized, "Complete" appears in the display, and you will return to Play condition. If you decide to discard the routing that was set, press **[NO]**.

Storing Mastering Settings

Select when you mix down the tracks 1 to 6 into the tracks 7 and 8. **Mastering Tool Kit** (FX) is inserted to the mix bus.

MEMO

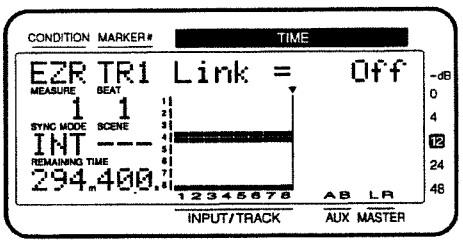
You can return to the previous screen by pressing **PARAMETER [◀◀]**.

1. Press **[EZ ROUTING]** several times until "EZR Mastering ?" appears in the display.

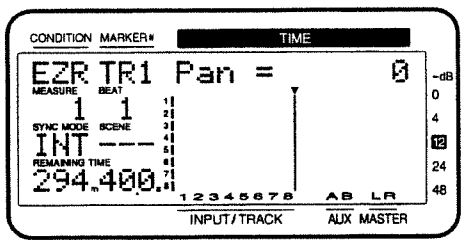
2. Press **[YES]**. "EZR Use Template" (do you wish to apply the template?) appears in the display.

3. Press **[NO]**.

4. "TR* Link =" ("*" is the displayed track) appears in the display. Specify the tracks for which you will turn Channel Link ON. Press **SELECT buttons ([1]–[6])** of the tracks for which you wish to turn Channel Link ON, and rotate the **TIME/VALUE dial**. Then Press **PARAMETER [▶▶]**.



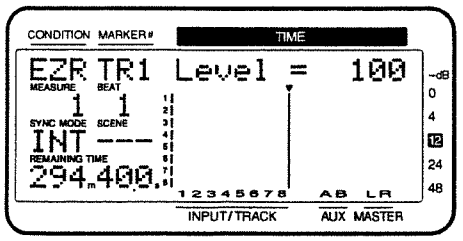
5. "TR* Pan =" appears in the display. Adjust the pan of the playback track. Press **SELECT button ([1]–[6])** for the playback track whose pan you wish to adjust, and use the **TIME/VALUE dial**. Then press **PARAMETER [▶▶]**.



MEMO

When Channel Link is on, adjust the Offset Balance of the tracks. (p. 174)

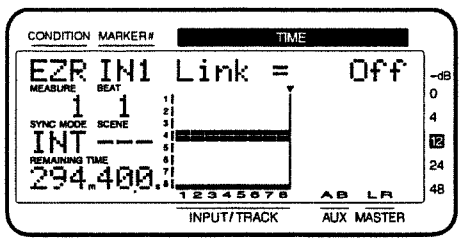
6. "TR* Level =" appears in the display. Adjust the level of the playback track. Press **SELECT button ([1]–[6])** for the playback track whose level you wish to adjust, and use the **TIME/VALUE dial**. Then press **PARAMETER [▶▶]**.



MEMO

When Channel Link is on, adjust the Offset Level of the tracks. (p. 174)

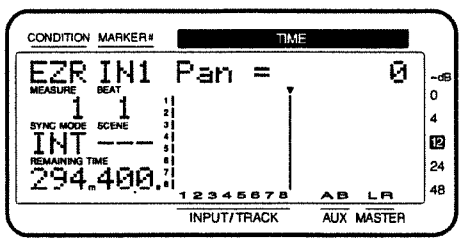
7. "IN* Link =" ("*" is the displayed input) appears in the display. Specify the inputs for which you will turn Channel Link ON. Press **SELECT buttons ([1]–[8])** of the inputs for which you wish to turn Channel Link ON, and rotate the **TIME/VALUE dial**. Then Press **PARAMETER [▶▶]**.



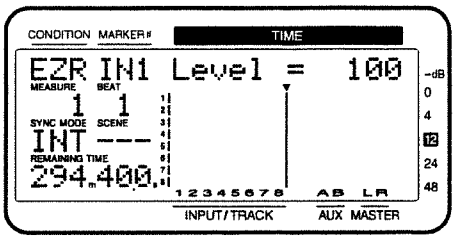
8. "IN* Pan =" appears in the display. Adjust the pan of the source. Press **SELECT button ([1]–[8])** for the input whose pan you wish to adjust, and use the **TIME/VALUE dial**. You can also use the pan knobs on the top panel to adjust the pan. Then press **PARAMETER [▶▶]**.

MEMO

When Channel Link is on, adjust the Offset Balance of the sources. (p. 174)



9. "IN* Level =" appears in the display. Adjust the level of the source. Press **SELECT button ([1]–[8])** for the input whose level you wish to adjust, and use the **TIME/VALUE dial**. You can also use the channel faders on the top panel to adjust the level. Then press **PARAMETER [▶▶]**.



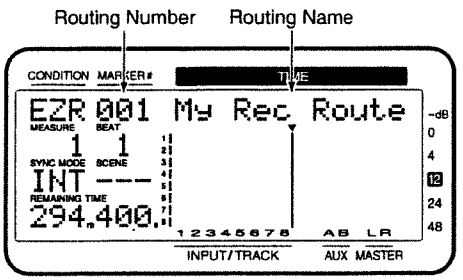
MEMO

When Channel Link is on, adjust the Offset Level of the sources. (p. 174)

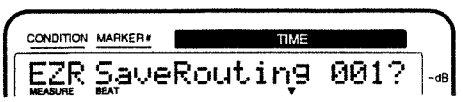
10. "Change Routing ?" appears in the display. Press **[YES]**. When the routing has been finalized, "Complete" appears in the display, and you will return to Play condition. If you decide to discard the routing that was set, press **[NO]**.

Saving the Current Routing (User Routing)

1. Use Template or Step Edit to finalize the routing that you wish to save.
2. Press **[EZ ROUTING]** several times until "SaveCurRouting ?" appears in the display.
3. Press **[YES]**. The number and name of the user routing will be displayed.



4. Use the **TIME/VALUE dial** to select the routing number for the desired save destination.
5. Press **PARAMETER [▶▶]**.
6. Use **CORSOR [◀], [▶]** to move the cursor. Use the **TIME/VALUE dial** to assign a name to the user routing.
7. Press **PARAMETER [▶▶]**. The cursor will move to the routing number.
8. Press **[YES]**.
9. A message will ask for confirmation. Press **[YES]**.



10. When the user routing has been saved, "Complete" appears in the display, and return to Play condition.

Recalling User Routing

1. Press **[EZ ROUTING]** several times until "User Routing ?" appears in the display.
2. Press **[YES]**. The number and name of the user routing will be displayed.
3. Use the **TIME/VALUE dial** to select the routing number that you wish to recall. If not even one user routing has been saved, "EZR No User Routing" appears in the display, and return to step 1.
4. Press **[YES]**.
5. When the user routing has been recalled, "Complete" appears in the display, and return to Play condition.

Deleting User Routings

1. Press **[EZ ROUTING]** several times until "DelUserRouting ?" appears in the display.
2. Press **[YES]**. The number and name of the user routing will be displayed.
3. Use the **TIME/VALUE dial** to select the routing number that you wish to delete. If not even one user routing has been saved, "EZR No User Routing" appears in the display, and return to step 1.
4. Press **[YES]**. A confirmation message is displayed.
5. Press **[YES]** again.
6. When the user routing has been deleted, "Complete" appears in the display, and you will return to Play condition.

Recording Mixer Settings (Auto Mix)

With the VS-890, you can record the present status or condition of the mixer as a **Scene**. Unlike with Scenes, you can alternatively store information at specific times during playback to markers. Referred to as **Auto Mix**, this includes the mixer settings, time-based channel fader movements, and other settings. When during playback you reach a point where a marker is set, the mixer settings automatically switch to those stored at the marker. This is convenient when mixing with complicated settings that are difficult to reproduce manually.

The following mixer settings can be recorded in Auto Mix.

MEMO

Items printed in bold are those that can be adjusted directly with the faders on the top panel. You can record the time-based movements of the faders by moving the faders during playback of the song (**Realtime**; p.**).

Input Mixer or Track Mixer

[FADER (EDIT)] (FADER indicator lights orange or green) → SELECT buttons ([1]–[8])

Mix Level (Mix Send Level): **channel faders 1–8**

Mix Pan (Mix Send Pan): **pan knobs 1–8**

AUX Level

AUX Pan

EFFECT1 Send (Effect 1 Send Level)

EFFECT1 Pan (Effect 1 Send Pan)

EFFECT2 Send (Effect 2 Send Level)

EFFECT2 Pan (Effect 2 Send Pan)

Effect Return Mixer

[FADER (EDIT)] (FADER indicator lights red) → SELECT buttons ([6]–[8])

StIn Level (Stereo In Level):channel fader 6

StIn Bal (Stereo In Balance):pan knob 6

FX1 RTN Rev (Effect 1 Return Level):channel fader 7

FX1 RTNBal (Effect 1 Return Balance):pan knob 6

FX2 RTN Lev (Effect 2 Return Level):channel fader8

FX2 RTN Bal (Effect 1 Return Balance):pan knob 8

Master Block

[SHIFT] + [EDIT (FADER)]

MasterLevel: **master fader**

Master Bal (Master Balance)

AUX Level (Master AUX Send Level)

AUX Bal (Master AUX Send Balance)

FX1 SND Lev (Master Effect 1 Send Level)

FX1 SND Bal (Master Effect 1 Send Balance)

FX2 SND Lev (Master Effect 2 Send Level)

FX2 SND Bal (Master Effect 2 Send Balance

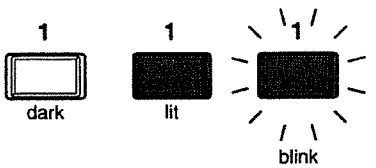
Effects

FX1 Sel (Effect 1 Program Number)

FX2 Sel (Effect 2 Program Number)

Auto Mix Status of Each Channel

The automix status of each channel will be displayed as follows.



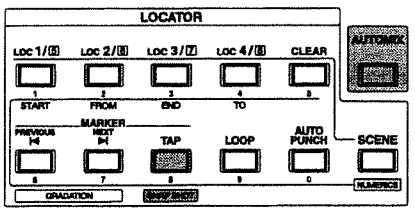
Indicator off: Auto Mix is disabled (manual fader).

Indicator on: Auto Mix playback is enabled.

Indicator blinking: Auto Mix is enabled for recording and playback.

Recording the Mixer Settings, Method 1 (Snapshot)

Mixer settings recorded with Auto Mix can be recorded directly to markers. This method is known as taking a **Snapshot**. When you move to that marker, the mixer settings that were recorded will be reproduced. For example, this is convenient when you want the intro and ending to have different volume levels or different effect send levels for guitar parts during intros or solos.



1. Move to the time location where you wish to record the auto mix by using the **Trans Control buttons**, etc.
2. Press **[AUTOMIX]**. The AUTOMIX indicator lights, indicating that the VS-890 is in Auto Mix mode.
3. Select the channels which you want to record using Snapshot.
   - **3-1.** If you want to record a Snapshot of the Input Mixer, press **[FADER (EDIT)]** to let the FADER indicator lights orange. If you want to record a Snapshot of the Track Mixer, press **[FADER (EDIT)]** to let the FADER indicator lights green. If you want to record a Snapshot of the Effect Return Mixer, press **[FADER (EDIT)]** to let the FADER indicator lights red.
   - **3-2.** While pressing **[AUTOMIX]**, so that the button indicators to blink, press the each channel **SELECT button ([1]–[8])** or **[EZ ROUTING]** (Master Block).
4. Hold down **[AUTOMIX]** and press **[TAP]**. A marker is added at the current time location. At the same time, a Snapshot of the mixer settings is recorded at the marker. A marker in which mixer settings are recorded will be indicated by an "*" following it.

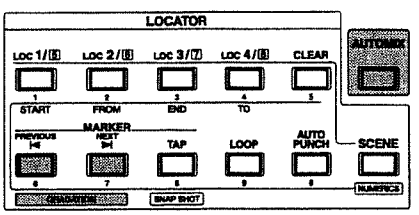
NOTE

If a marker already exists within 0.1 seconds before the time location where you are attempting to place a new marker (i.e., the current time), the Snapshot is recorded at the earlier marker. A marker will not be newly assigned. If a marker already exists within 0.1 seconds after the time location at which you are attempting to place a new marker (i.e., the current time), the Snapshot is recorded at the later marker.

5. Press **[AUTOMIX]**. The AUTOMIX indicator light goes off, indicating that Auto Mix mode has been turned off.

Recording the Mixer Settings, Method 2 (Gradation)

This creates an auto mix that smoothly connects Snapshots recorded in two adjacent markers. This method is called **Gradation**. For example, this is convenient when you wish to specify the length of a fade-in or fade-out.



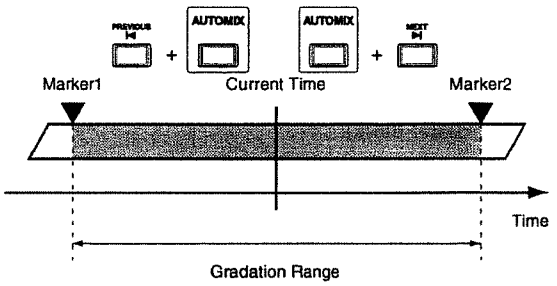
1. Follow the operation as described in "Recording the Mixer Settings, Method 1," record a Snapshot with the time locations at which you want Gradation to begin and end.
2. Press **[AUTOMIX]**. The AUTOMIX indicator lights, indicating that the VS-890 is in Auto Mix mode.
3. Select the channels which you want to record using Gradation.
   - **3-1.** If you want to record a Gradation of the Input Mixer, press **[FADER (EDIT)]** to let the FADER indicator lights orange. If you want to record a Gradation of the Track Mixer, press **[FADER (EDIT)]** to let the FADER indicator lights green. If you want to record a Gradation of the Effect Return Mixer, press **[FADER (EDIT)]** to let the FADER indicator lights red.
   - **3-2.** While pressing **[AUTOMIX]**, so that the button indicators to blink, press the each channel **SELECT button ([1]–[8])** or **[EZ ROUTING]** (Master Block).

4. Hold down **[AUTOMIX]** and press **[PREVIOUS ⏮]** or **[NEXT ⏭]**.

5. A confirmation message appears on the screen. Press **[YES]**. A new mark point is automatically added between the two mark points, and Gradation is executed. Press **[CANCEL (NO)]** if you wish to cancel Gradation.

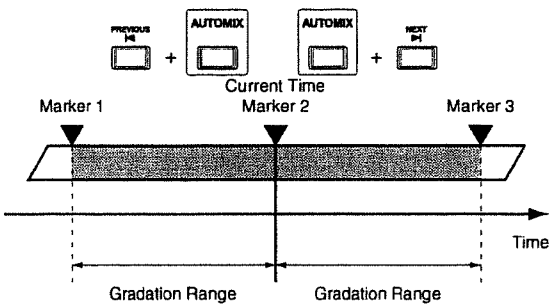
When the current time is included in an adjacent marker

Press either **[AUTOMIX]** and **[PREVIOUS ⏮]** or **[AUTOMIX]** and **[NEXT ⏭]**, the gradation range will be specified in a same range.



When the current time matches with a marker

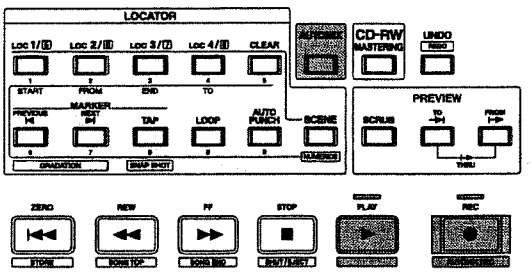
When you press **[AUTOMIX]** and **[PREVIOUS ⏮]**, the gradation includes the preceding marker; pressing **[AUTOMIX]** and **[NEXT ⏭]** creates a gradation including the following marker.



6. Press **[AUTOMIX]**. The AUTOMIX indicator light goes off, indicating that Auto Mix mode has been turned off.

Recording Fader Operations (Realtime)

With this method, time-based both channel fader and master fader movement during play back song are recorded to the marker directly. This method is referred to as **Realtime**. This is convenient when, for example, you want to freely adjust the volume levels of individual tracks.



1. Move to the time location at which you wish to record in Realtime by using the **Transport Control buttons**, etc.

2. Press **[AUTOMIX]**. The AUTOMIX indicator lights, indicating that the VS-890 is in Auto Mix mode.

3. Select the channels which you want to record using Realtime.

   3-1. If you want to record a Realtime of the Input Mixer, press **[FADER (EDIT)]** to let the FADER indicator lights orange. If you want to record a Realtime of the Track Mixer, press **[FADER (EDIT)]** to let the FADER indicator lights green. If you want to record a Realtime of the Effect Return Mixer, press **[FADER (EDIT)]** to let the FADER indicator lights red.

   3-2. While pressing **[AUTOMIX]**, so that the button indicators to blink, press the each channel **SELECT button ([1]–[8])** or **[EZ ROUTING]** (Master Block).

4. Hold down **[AUTOMIX]** and press **[REC]**. The AUTOMIX indicator blinks, indicating that Auto Mix Realtime recording is ready.

5. Adjust the top panel **channel faders, master fader**, and **PAN knobs** to the desired positions.

NOTE

When the Fader Match (p. 190) in the System parameters is set to "Null," and the current fader positions of do not match the actual volume levels, if you don't first move the channel faders to their actual values, you will be unable to record the data using Auto Mix.

6. Press **[PLAY]**. Automix Realtime recording will begin.
7. Operate the **channel faders**, **master fader**, and **PAN knobs** on the top panel. Auto mix data will be recorded only for those channels that are modified.
8. When the mix is finished, press **[STOP]**. Markers will be automatically created in the area which was played back. If you wish to re-do realtime, repeat steps 3–8.
9. Press **[AUTOMIX]**. The AUTOMIX indicator light goes off, indicating that Auto Mix mode has been turned off.

If You Don't Want to Record Fader Settings (Mask Fader)

You can specify that the settings adjustable from the top panel will not be recorded, as described in "Recording the Mixer Settings, Method 1 (Snapshot)." For example, this is effective when you have made fade-in settings as in "Recording the Mixer Settings, Method 2 (Gradation)", and then wish to modify effect send levels or other settings.

1. Press **[SYSTEM]** several times until "SYS Scene/Auto Mix?" appears in the display.
2. Press **[YES]**.
3. Press **PARAMETER [▶▶]** several times until "SYS A.Mix Snap=" appears in the display.
4. Rotate the **TIME/VALUE dial**.

A.Mix Snap (Auto Mix Snapshot Mode)

This selects the settings that will be recorded by the snapshot.

All: All settings are recorded.

MaskF: Settings which can be adjusted from the top panel (channel faders etc.) will be ignored.

5. Press **[PLAY (DISPLAY)]**. Return to Play condition.
6. Record the Snapshot as described in "Recording the Mixer Settings, Method 1."

Playing Back the Auto Mix

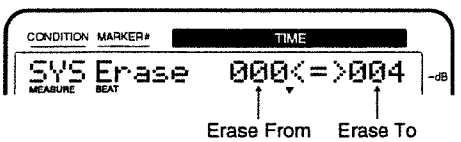
1. Press **[AUTOMIX]**. The AUTOMIX indicator lights, indicating that the VS-890 is in Auto Mix mode.
2. Select the channels which you want to record using Snapshot.
   - **3-1.** If you want to play a automix of the Input Mixer, press **[FADER (EDIT)]** to let the FADER indicator lights orange. If you want to play a automix of the Track Mixer, press **[FADER (EDIT)]** to let the FADER indicator lights green. If you want to play a automix of the Effect Return Mixer, press **[FADER (EDIT)]** to let the FADER indicator lights red.
   - **3-2.** While pressing **[AUTOMIX]**, so that the button indicators to blink, press the each channel **SELECT button ([1]–[8])** or **[EZ ROUTING]** (Master Block).
3. Press **[PLAY]**. Playback of Auto Mix begins. Moving the **channel faders**, **master fader**, or **PAN knobs** while Auto Mix is being played back cancels the Auto Mix for that fader. If you stop and then start playback again, Auto Mix will once again take effect. Alternatively, you can temporarily disable Auto Mix during playback and then enable it by turning it on again.
4. When the playback is finished, press **[STOP]**.
5. Press **[AUTOMIX]**. The AUTOMIX indicator light goes off, indicating that Auto Mix mode has been turned off.

Disabling Auto Mix on All Channels

MEMO

If you delete Auto-mix, you cannot cancel the operation with the Undo function (p. 75).

1. Press **[SYSTEM]** several times until "SYS Scene/Auto Mix?" appears in the display.
2. Press **[YES]**.
3. Press **PARAMETER [▶▶]** several times until "SYS A.Mix Erase?" appears in the display.
4. Press **[YES]**.
5. Use the **CURSOR [◀], [▶]** and **TIME/VALUE dial** to specify the first marker in the range that you want Auto Mix erased.



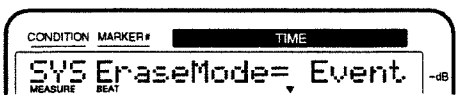
Erase From

Specify the first marker in the range that you want Auto Mix erased.

Erase To

Specify the last marker in the range that you want Auto Mix erased.

6. Press **PARAMETER [▶▶]**. "SYS EraseMode=" appears in the display.
7. Rotate the **TIME/VALUE dial**.



Erase Mode

Select the auto mix data which will be erased.

Event: Only Auto Mix events will be erased.

Marker: Both markers and Auto Mix events will be erased.

8. Press **PARAMETER [▶▶]**. "SYS Erase___<=>___?" appears in the display. The marker you specified in steps 5 will be displayed in the underlined area.
9. Press **[ENTER (YES)]**. A confirmation message appears on the screen.
10. Press **[YES]**. If you wish to cancel the erase, press **[NO]**.
11. Press **[PLAY (DISPLAY)]**. Return to Play condition.

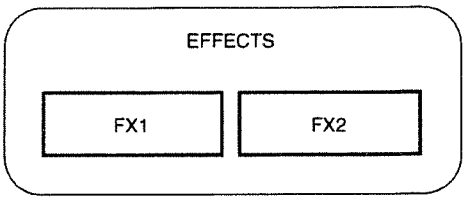
Using the Internal Effects

The VS-890 contains effects, allowing up to two stereo effects to be applied without using any equipment other than the VS-890 itself.

This chapter explains how to use these internal effects.

Composition of the Effects

The VS-890 has two effect units which allow two types of effect to be applied simultaneously (FX1 and FX2). For each channel of the mixer you can specify the effect which will be used.

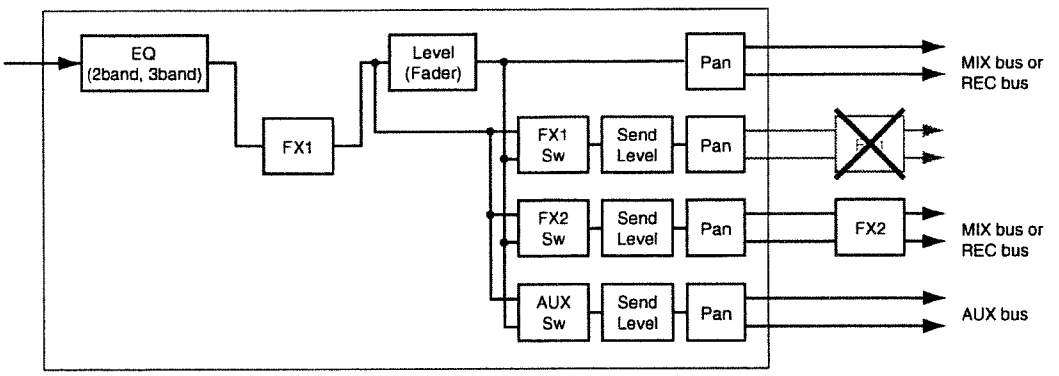


Connecting the Effects

Changing the Source Sound Itself (Insert)

The effect is directly added either between each channel's equalizer and fader or before the master fader. Connect the effect in this way if you want to use effects applied to change the output of the sound itself, such as when using distortion or overdrive effects.

When inserting an effect into one of the channels or into the Master Block, that effect cannot be used in send/return.



NOTE

Depending on the effects used, when mixing with different effects inserted into each channel, or mixing channels having effects inserted with other channels having no effects, timing shifts may occur, or you may not be able to achieve the effect you desire.

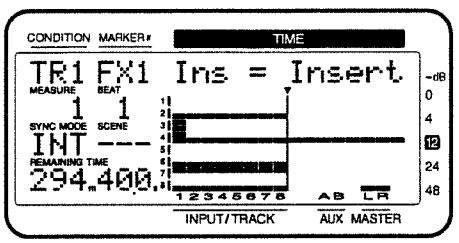
Inserting with Input and Track Channels

1. If you want to insert the effect into the Input Mixer, press **[FADER (EDIT)]** to let the FADER indicator lights orange. If you want to insert the effect into the Track Mixer, press **[FADER (EDIT)]** to let the FADER indicator lights green.
2. Press **[CH EDIT (SELECT)]** for the channel to which you want to apply the effect. The CH EDIT indicator lights.
3. Press **PARAMETER [◀◀], [▶▶]** until "FX1 Ins=" appears in the display. Now you can make settings for effect 1.

MEMO

You can insert FX2 in the same way. In this case, perform step 2 so that "FX2 Ins=" is displayed.

4. Rotate the **TIME/VALUE dial** to select how the effect will be connected.



FX1 Ins (Effect 1 Insert Switch)

This sets how the effects are connected.

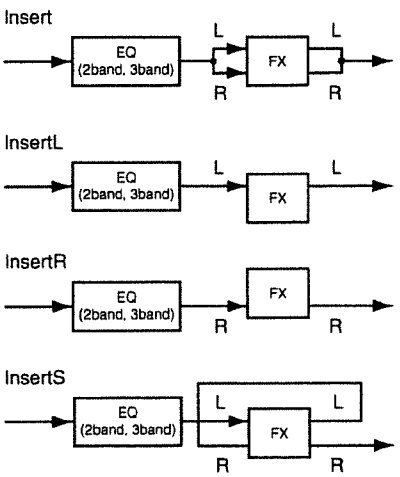
Off: There is no insert.

Insert: Inserts in the between the equalizer and fader.

InsertL: Inserts in the left channel of the stereo effect.

InsertR: Inserts in the right channel of the stereo effect.

InsertS: Inserts in the combined left and right channels of the stereo effect in series.



NOTE

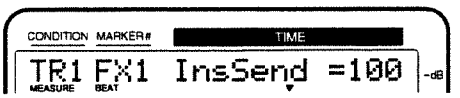
- If the channel or track where the effect is applied is channel-linked, you cannot select **InsertL**, **InsertR**, or **InsertS**.
- When **Insert** or **InsertS** is selected, that effect cannot be used on any other channel. Furthermore, when **InsertL** or **InsertR** is selected, that effect can be inserted on only one other channel.

5. Press **PARAMETER [▶▶]**. "FX1 Ins Send=" appears in the display.

MEMO

Steps 5–8 can be adjusted only when the effect is being used as an insertion effect.

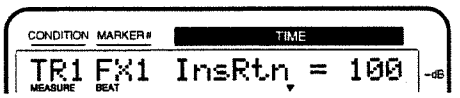
6. Rotate the **TIME/VALUE dial**.



Ins Send (Insert Send Level)

This adjusts the level of the signal (0–127) sent to the Insert effect. Set the initial value to "100."

7. Press **PARAMETER [▶▶]**. "FX1 Ins Rtn=" appears in the display.
8. Rotate the **TIME/VALUE dial**.



Ins Rtn (Insert Return Level)

This adjusts the level of the signal (0–127) returned from the Insert effect. Set the initial value to "100."

9. At this point, you are ready to insert FX1 into the selected channel. Press **[PLAY (DISPLAY)]**. Return to Play condition.

Inserting an Effect into the Master Block

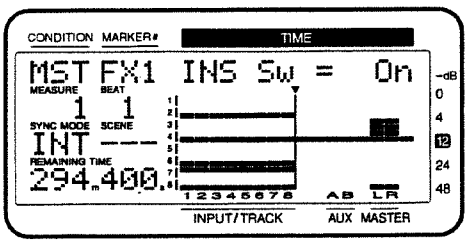
This inserts the effect into the MASTER Out. After the mix for each channel is completed, the entire song is put through the compressor, which is convenient at such times as when you listen to the total volume while mixing down.

1. Hold down **[SHIFT]** and press **[EDIT (FADER)]**.
2. Press **PARAMETER [◀◀], [▶▶]** until "MST FX1 INS Sw=" appears in the display. If FX1 has been inserted into another channel, the display will indicate "MST FX1 INS Sw=—" (the setting cannot be made).

MEMO

You can insert FX2 in the same way. In this case, perform step 1 so that "MST FX2 INS Sw=" is displayed.

3. Rotate the **TIME/VALUE dial**.



MST FX1 INS Sw (Master Effect 1 Insert Switch)

This sets how the effects are connected.

Off: There is no Insert.

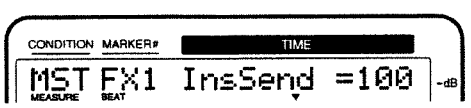
On: Inserts in both channels of the stereo effect.

4. Press **PARAMETER [▶▶]**. "MST FX1 Ins Send=" appears in the display.

MEMO

@m Steps 4–7 can be adjusted only when the effect is being used as an insertion effect.

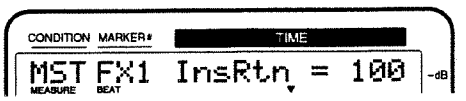
5. Rotate the **TIME/VALUE dial**.



MST FX1 Ins Send (Master Effect 1 Insert Send Level)

This adjusts the level of the signal (0–127) sent to the Insert effect. Set the initial value to "100."

6. Press **PARAMETER [▶▶]**. "MST FX1 Ins Rtn=" appears in the display.
7. Rotate the **TIME/VALUE dial**.



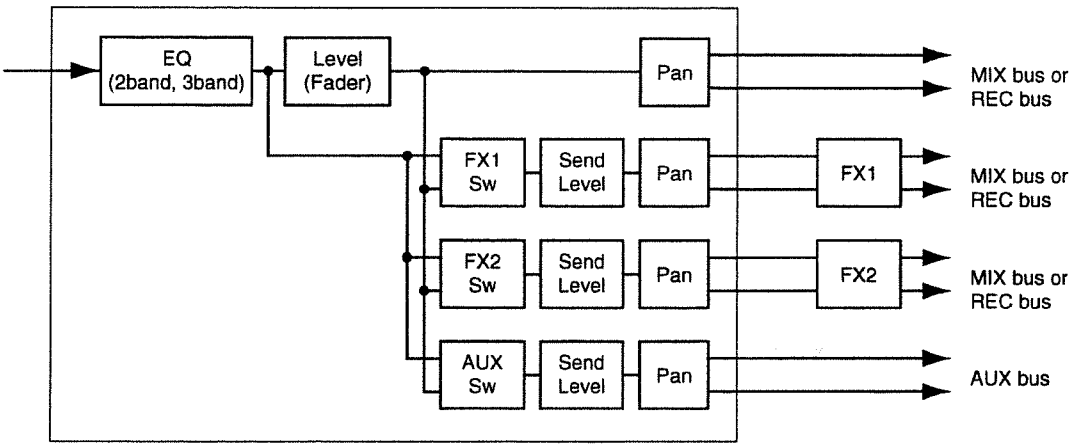
MST FX1 Ins Rtn (Master Effect 1 Insert Return Level)

This adjusts the level of the signal (0–127) returned from the Insert effect. Set the initial value to "100."

8. Press **[PLAY (DISPLAY)]**. Return to Play condition.

Adding the Sound with the Effect Applied to the Direct Sound (Send/Return)

When adding the sound with effect to the direct sound, such as is done with reverb or delay, use the EFFECT bus. With some effects, while you can have output of both the direct sound and effect sound, it's usually better to have the effect sound output separately. The direct sound and effect sound are adjusted with each channel fader. The present signal flow is shown below.



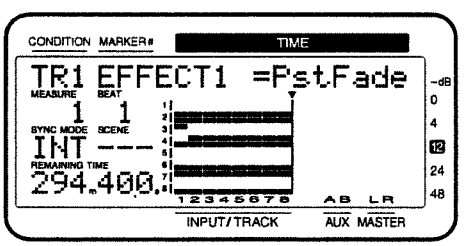
Settings for Each Channel

1. If you want to insert the effect into the Input Mixer, press **[FADER (EDIT)]** to let the FADER indicator lights orange. If you want to insert the effect into the Track Mixer, press **[FADER (EDIT)]** to let the FADER indicator lights green.
2. Press **[CH EDIT (SELECT)]** for the channel to which you want to apply the effect. The CH EDIT indicator lights.
3. Hold down **[SHIFT]** and press the channel 7 **[EFFECT-1 (CH EDIT)]**. The upper line of the display will indicate "EFFECT 1," and you can make settings for effect 1.

MEMO

You can use the same method to make settings for each channel for FX2 as well. In this case, hold down **[SHIFT]** and press channel 8 **[EFFECT-2 (CH EDIT)]** in step 2.

4. Rotate the **TIME/VALUE dial** to select how the effect will be connected.



EFFECT 1 (Effect 1 Send Select Switch)

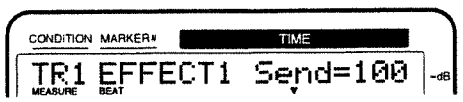
This selects the how the signal is sent to the EFFECT 1 bus (send).

Off: The signal is not sent.

PreFade: The sound before passing through the channel fader is sent.

PstFade: The sound after passing through the channel fader is sent.

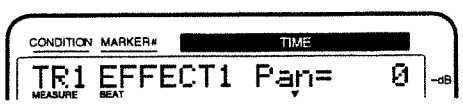
5. Press **PARAMETER [▶▶]**. "EFFECT1 Send=" appears in the display.
6. Rotate the **TIME/VALUE dial**.



EFFECT1 Send (Effect 1 Send Level)

This adjusts the volume level of the signal (0–127) sent to the EFFECT 1 bus. Set the initial value to "100."

7. Press **PARAMETER [▶▶]**. "EFFECT1 Pan=" appears in the display.
8. Rotate the **TIME/VALUE dial**.



EFFECT1 Pan (Effect 1 Send Pan)

This adjusts the stereo placement of the signal (L63–0–R63) sent to the EFFECT 1 bus.

9. Press **[PLAY (DISPLAY)]**. Return to Play condition.

Master Block Settings (Send Level or Balance Adjustment)

You can adjust the total effect send level and for each effect with the effect send level and send pan settings that are assigned to each individual channel left as they are.

NOTE

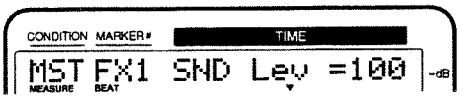
If FX1 has been inserted into another channel, or if it has been inserted into the MASTER OUT jacks, these displays will not appear (settings cannot be made).

1. Hold down **[SHIFT]** and press **[EDIT (FADER)]** (Master Block).
2. Press **PARAMETER [◀◀], [▶▶]** to let "MST FX1 SNDLev=" appears in the display.

MEMO

You can adjust the send level in the same way for FX2 as well. In this case, access the "MST FX2 SND Lev=" display in step 2.

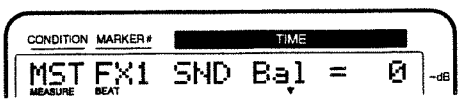
3. Rotate the **TIME/VALUE dial**.



MST FX1 SND Lev (Master Effect 1 Send Level)

This adjusts the total volume level of the signal (0–127) sent to the effect. Set the initial value to "100."

4. Press **PARAMETER [▶▶]**. "MST FX1 SND Bal=" appears in the display.
5. Rotate the **TIME/VALUE dial**.



MST FX1 SND Bal (Master Effect 1 Send Balance)

This adjusts the balance (L63–0–R63) of the total signal sent to the effect. Set the initial value to "0" (center).

6. Press **[PLAY (DISPLAY)]**. Return to Play condition.

Effect Return Mixer Settings (Return Level or Balance Adjustment)

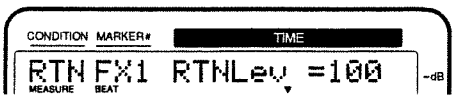
Use the channel faders and the pan knob on the top panel to adjust the output volume (return level) of the effects returned to the mixing bus, and the balance.

1. Press **[FADER (EDIT)]** several times until the FADER indicator lights red (Effect Return Mixer).
2. Press the channel 7 **[EFFECT-1 (CH EDIT)]**. The CH EDIT indicator lights.
3. Press **PARAMETER [◀◀], [▶▶]** until "RTN FX1 RTNLev=" appears in the display.

MEMO

You can make master block settings in the same way for FX2 as well. For step 2 in this case, press channel 8 **[CH EDIT (EFFECT-2)]**.

4. Rotate the **TIME/VALUE dial**.

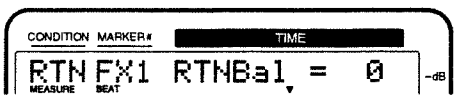


RTN FX1 RTNLev (Master Effect 1 Return Level)

Adjust the return level (0–127) of the effect sound. Set the initial value to "100." You can also adjust Master Effect 1 Return Level directly using the **channel fader 7** (FX1 RTN) on the Effect Return Mixer.

5. Press **PARAMETER [▶▶]**. "RTN FX1Bal=" appears in the display.

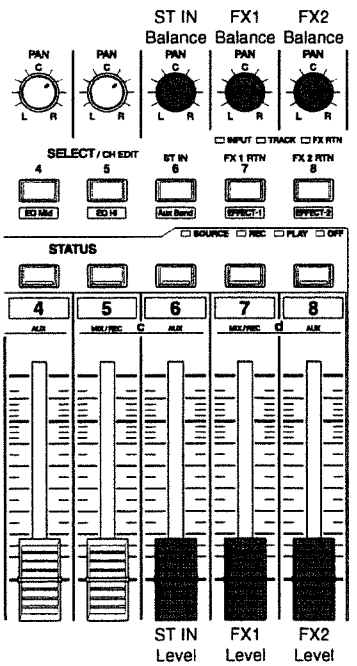
6. Rotate the **TIME/VALUE dial**.



RTN FX1 RTNBal (Master Effect 1 Return Balance)

Adjust the left/right balance (L63–0–R63) of the effect sound. Set the initial value to "0" (center). You can also adjust Master Effect 1 Return Balance directly using the **pan knob 7** (FX1 RTN) on the Effect Return Mixer.

7. Press **[PLAY (DISPLAY)]**. Return to Play condition. At this time, the channel faders on the top panel will function as follows.



Selecting Effects (Patch)

An effect settings is referred to as a patch. The VS-890 provides 240 (A00–A99, B00–B99, C00–C39) read-only effects (**Preset Patches**) and 100 (U00–U99) read and write effects (**User Patches**). Please take a moment to check these effects.

NOTE

- If used in combination with the Vari Pitch function (p. 178), delay times may change somewhat, and for distortion effects (distortion, overdrive, etc.), there may be some change in the quality of the tone.
- With some of the effects, you may not want the direct sound output, or other special setting may be required. Please refer to "Algorithm List" (Appendices p. 25) when making these settings.

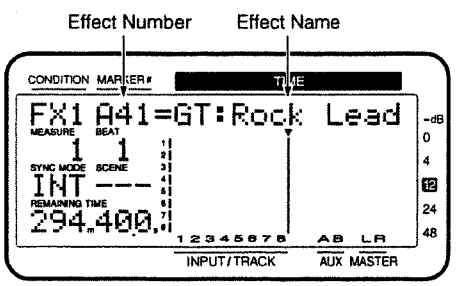
1. Press **[EFFECT]** several times until "EFFECT-1 PRM?" appears in the display.

MEMO

You can use the same procedure to hear the effect of FX2 as well. For step 1 in this case, make the display read "EFFECT-2 PRM?"

2. Press **[YES]**. The number and name of the currently selected effect will be displayed, and you will be able to select the effect.

3. Use the **TIME/VALUE dial** to select the effect you wish to use.



4. After selecting the effect, press **[YES]**.

5. Check the effect to make sure that the sound is actually being played. Repeat Steps 3–5 for any other patches whose effects you want to confirm.

NOTE
Noise may occur with some types of effects when the effect patches are selected. If the audio device is at high volume levels, then protect the speakers and other device from damage, turn off the **[EFFECTS ON/OFF]** or lower the volume on the audio device before selecting the effect patches.

6. After you have checked the patches, press **[PLAY (DISPLAY)]**. Return to Play condition.

NOTE
Patches using the following algorithms can not be selected for FX2. A horizontal line is drawn through the effect name in such cases. Please select patches using these algorithms for use with FX1.

- Reverb
- Gated Reverb
- Vocorder 2
- Voice Transformer
- Mastering Tool Kit

Creating New Effects Sounds

When creating a new effect, first select the existing patch whose sound is closest to the "image" of the patch you wish to create, and then alter that patch settings.

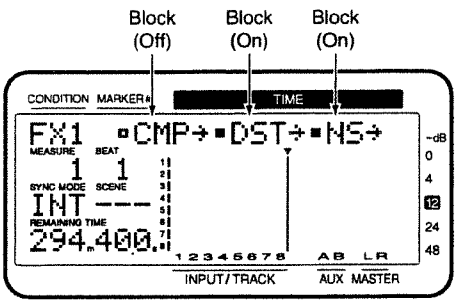
Since changes to effects settings are temporary, they are lost once you select another patch or recall a different Scene. When saving changed effects settings, either save them to the **User Patches** or store the mixer settings as a **Scene**.

MEMO
An algorithm determines the composition or structure of an effect. The VS-890 features 36 different algorithms. The settings for the effects in each patch use at least one of these algorithms. Check the algorithms used in each patch in "Preset Patch List" (Appendices p. 20). For details on each algorithm, refer to "Algorithm List" (Appendices p. 21).

1. Using the procedure described in "Selecting Effects (Patch)" (p. 117), call up the patch containing the effect on which you will base your new effect.

2. Press **PARAMETER [▶▶]**. When you select a patch with an algorithm in which the effect can be turned on and off, the following screen is displayed.

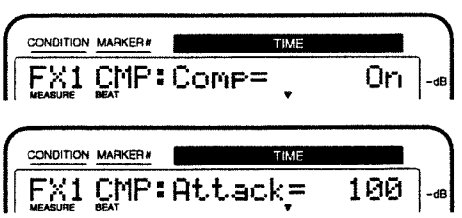
An effect block which is currently ON is displayed as " ■ " and an effect block which is currently OFF is displayed as " □ ."



3. Use **CURSOR [◀], [▶]** to move the cursor to the effect block that you wish to turn on/off.

4. Rotate the **TIME/VALUE dial**. If an effect block is turned off, parameters related to that effect cannot be set.

5. Use **PARAMETER [◀◀], [▶▶]** to access the parameter that you wish to adjust.



6. Rotate the **TIME/VALUE dial**. Check the effect.

7. Repeat the Steps 5–6 to create new effects sounds.

8. Press **PARAMETER [▶▶]** several times until "FX1 Nam=" appears in the display.

9. Assign a patch name. Use **CURSOR [◀], [▶]** so that the character you wish to change is blinking. Use the **TIME/VALUE dial** to select the desired character. A name of up to 12 characters can be assigned.

10. Save the effect. If you wish to keep the effect settings that you have modified, you must save the settings either as a User Patch or as mixer settings in a Scene. If you wish to use the effect settings in another song, save them as a User Patch. Then read "Saving to a User Patch" below. If you wish to use the effect settings in the currently selected song, save them as a Scene. Then read "Saving to a Scene" below.

MEMO

Convenient Operations

- You can hold down **[SHIFT]** and press **[EFFECT]** to alternate between the Effect Select page, Effect Name page, and Effect On/Off page.
- In the Effect On/Off page, you can move directly to the setting page for the effect that is blinking by pressing **PARAMETER [▶▶]**.
- In the Effect Setting page, you can display the parameters of the next effect block by holding down **[SHIFT]** and pressing **PARAMETER [▶▶]**. To display the parameters of the previous effect block, hold down **[SHIFT]** and press **PARAMETER [▶▶]**.

NOTE

About Effect Levels

- Many algorithms include parameters for effect level, which adjusts the output level of the effect sound, and direct level, which adjusts the output level of the direct sound. When these parameters are preceded by a minus sign, the phase is inverted.
- The direct level of the Preset Patches, which were created with careful consideration given to the connection to the EFFECT bus, is set to "0." When inserting an effect into a channel, raise the direct level. To determine the type for each Preset Patch, please refer to "Preset Patch List" (Appendices p. 20).

Saving to a User Patch

When you save effect settings to a User Patch, the User Patch that had previously been in that location is lost. At the time of purchase, the effects in the VS-890's User Patches are the same as those stored in the Preset Patches.

1. Press **PARAMETER [▶▶]**. "Save User Patch?" appears in the display.
2. Press **[YES]**.
3. Rotate the **TIME/VALUE dial** to select the destination patch number (U00–U99).
4. Press **[YES]**. When the User Patch has been saved, the display will indicate "Complete."
5. Press **[PLAY (DISPLAY)]**. Return to Play condition.

Saving to a Scene

For more detailed information, please refer to "Recording the Current Condition of the Mixer (Scene)."

1. Press **[SCENE]**. The SCENE indicator lights.
2. Press the **LOC buttons ([1/5]–[4/8])** whose indicators are not blinked. For example, if you want to store the settings to Scene 1, then press **[1/5]**. If you wish to store the settings in Scene 5, hold down **[SHIFT]** and press **[1/5]**.
3. Hold down **[SHIFT]** and press **[STORE (ZERO)]**. "STORE OK?" appears in the display.
4. Press **[YES]**.
5. Press **[SCENE]** once more. The SCENE indicator will go dark. If you wish to halt the registration procedure, press **[SCENE]** before step 2.
6. Press **[PLAY (DISPLAY)]**. Return to Play condition.

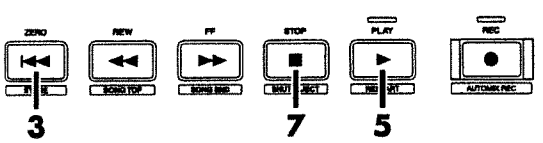
Creating a Master Tape (Casette, MD or DAT)

When you finish recording a song, adjust the balance of each track (equalizer, pan, and volume level), and using your stereo recorder, record a two-channel stereo master mix to a stereo cassette, DAT, MD, or other media. This process is called **mixdown**.

Prepare for Mixdown

1. Hold down **[STOP]** and press the **STATUS buttons ([1]–[8])** for all tracks you want to have mixed down. The STATUS light green.
2. Press **[FADER (EDIT)]** several times to let the FADER indicator lights green (Track Mixer).
3. Use the **channel faders** and **pan knobs** on the top panel to adjust the volume and pan of each track. First determine the volume of the song's main tracks (usually the vocals or perhaps a guitar melody). Then, set levels for the other tracks. It is a good idea to create a balance in which the volume of the other tracks is lower than the main tracks. Afterwards, make final adjustments to the pan and equalizer settings for each track as you listen to the overall mix.

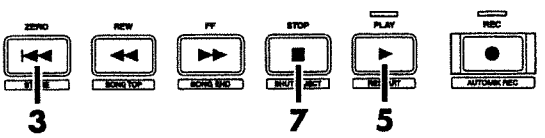
To Record to a Cassette Tape (Analog Connection)



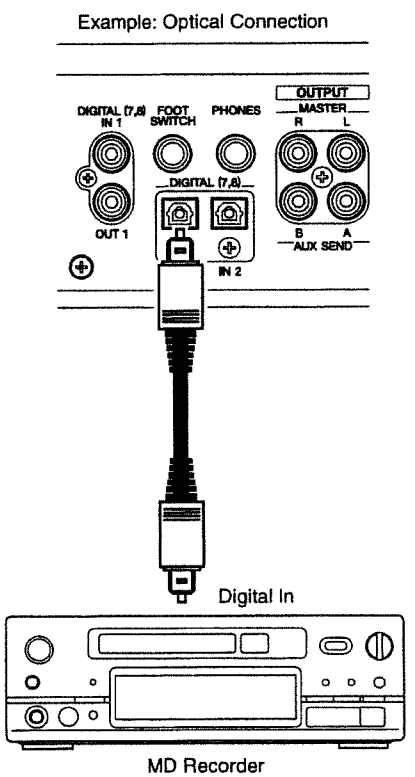
1. Connect the VS-890's **MASTER jacks** to the input jacks of your cassette recorder.
2. Adjust the recording levels for the cassette recorder. Adjust the output volume with the VS-890's master fader, making it as high as possible without causing any input overload on the recorder. Set the recording levels on the cassette recorder as high as possible before causing distortion, with the level meter moving a lot.
3. Press **[ZERO]** on the VS-890.
4. Put the cassette recorder in record mode.
5. Press **[PLAY]** on the VS-890 to begin playback of the song. If you want to fade in or out, use the VS-890's master fader for this.
6. When you have finished recording, stop the cassette recorder.
7. Press **[STOP]** on the VS-890.
8. Listen to the recorded result. Rewind the tape and play back the recording.

Recording with DAT or MD Recorders (Digital Connection)

The VS-890 features two types of digital out connectors, **coaxial** and **optical**, either of which is ready to use. At the factory settings, these connectors are set to output the same sound as the **MASTER jacks**.



1. Connect the digital input connector of your digital recorder with the VS-890's **DIGITAL OUT** connector.



2. Set your digital recorder to enable it to record digital signals. Match the recorder's sample rate to that of song recorded on the VS-890 (normally at 44.1 kHz). Many digital recorders can determine the sample rate automatically. Match the rates manually only when special settings are necessary.

NOTE

There are some DAT recorders that cannot record digital signals at 44.1 kHz. If such instances, change to an analog connection and set the recorder to enable it to record analog signals.

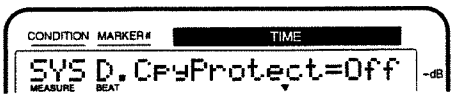
3. Press **[ZERO]** on the VS-890.
4. Put the digital recorder in record mode.
5. Press **[PLAY]** on the VS-890. Playback of the song begins. If you want to fade in or out, use the VS-890's master fader for this.
6. When you have finished recording, stop the cassette recorder.
7. Press **[STOP]** on the VS-890.
8. Listen to the recorded result. Rewind the tape and play back the recording.

To Prohibit Digital Copying

When mixing down from the VS-890 to a DAT recorder or MD recorder etc. via a digital connection, you can prevent digital copying of the tape/disc to which the mixdown has been recorded.

For example, you are allowed to make only one copy of a regular audio CD onto a MD disc. Once the digital copy has been made to the MD disc, you cannot make further copies onto other digital devices using digital connections. This function makes MD discs copied digitally from the VS-890 behave as those copied digitally from CDs.

1. Press **[SYSTEM]** several times until "SYS System PRM?" appears in the display.
2. Press **PARAMETER [▶▶]** several times until "D.CpyProtect" appears in the display.
3. Rotate the **TIME/VALUE dial.**



Digital Copy Protect (Digital Copy Protect Switch)

This setting determines whether or not the digitally mixed down tape can be later copied digitally. If you wish to prohibit digital copying, set this "On."

Off: Digital copying is not prohibited.

On: Digital copying is prohibited.

4. Press **[PLAY (DISPLAY)]**. Returns to Play condition.

With this procedure, you have made it so that your digitally mixed master tapes cannot be later copied digitally onto DAT tapes or similar digital media.

NOTE

Some DAT recorders do not conform to SCMS standards or cannot be connected digitally to CD players. If you are using such a DAT recorder, then if you set the Digital Protect Switch to "On," the digital output from the VS-890 cannot be copied to the DAT recorder. In such instances, set the Digital Protect Switch to "Off."

?

SCMS (Appendices p. 12)

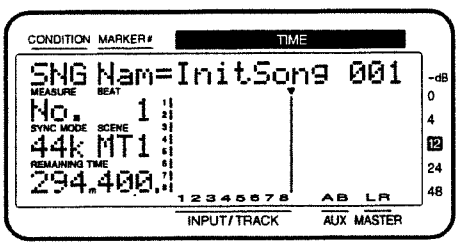
Song and Disk Management (Song or Disk Drive)

By following the steps so far, you have just about finished multitrack recording, and produced your work. This section describes how to do things like giving the produced work a name, and saving the work (**Song Copy**; p. 124). It also explains how to work with disk drives (such as an internal hard drive or Zip drive) for backing up your data.

Changing the Name of Performance Data (Song Name)

When you create a song, it will automatically be given a name like "InitSong001." However this makes it difficult to remember what song it is. We recommend that you assign a unique name to your song so that data management will be easier.

1. Make the song whose name you want to change the current song (**Song Select**; p. 50).
2. Press **[SONG]** several times until "SNG Song Name/ Prtct?" appears in the display.
3. Press **[YES]**. The name of the song (Song Name) appears in the display.



4. Use **CURSOR [◀], [▶]** to move the cursor so that the character that you wish to modify will blink.
5. Rotate the **TIME/VALUE dial** to modify the character. By holding down **[SHIFT]** as you rotate the **TIME/VALUE dial** you can make the characters change more rapidly.
6. When you have finished writing the song name or comments, hold down **[SHIFT]** and press **[STORE (ZERO)]**. "STORE OK ?" appears in the display.
7. Press **[YES]**. The song is saved.
8. Press **[PLAY (DISPLAY)]**. Return to Play condition.

When the Disk Has Little Remaining Space

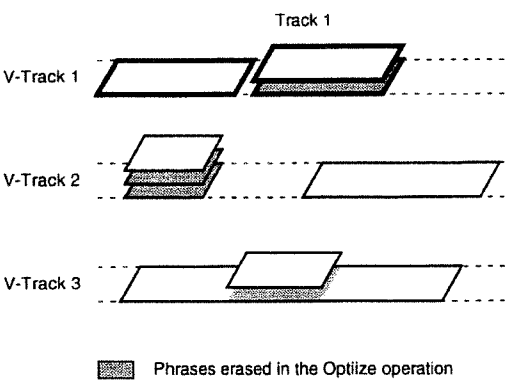
When you repeatedly carry out multitrack recording, the performance data is saved to the hard drive over and over, reducing the amount of free space, until eventually it becomes impossible to record anew. If the amount of free space on the drive gets too small, delete performance data that you no longer need.

Deleting Only Unneeded Performance Data (Song Optimize)

When operations such as overdubbing and Punch-In Recording are repeated, the old data will remain in the disk drive. In some cases, significant amounts of memory can be occupied by this unnecessary data, decreasing the available space on the current drive, and shortening the length of time available for recording.

Deleting this unnecessary data from the disk drive and thus freeing up available disk space on the drive is referred to as **Song Optimize**. This operation cannot be undone with the Undo function.

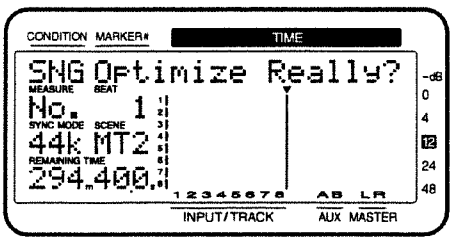
The Optimize operation searches all V-tracks on the target song, and when playing back those V-tracks, erases the phrases that cannot be heard. For example, even if you execute the Optimize with the V-track 1 of Track 1 selected, the phrases that are heard when V-tracks 2–8 are selected for playback are not deleted.



NOTE

Depending on the structure of the song data, running Song Optimize may not free up as much space as expected.

1. Select the song you want to optimize as the current song (**Song Select**; p. 50).
2. Press **[SONG]** several times until "Song Optimize ?" appears in the display.
3. Press **[YES]**.
4. "SongOptimize OK?" appears in the display. Press **[YES]**. If you wish to cancel Song Optimize, the press **[CANCEL (NO)]**.
5. "Optimize Sure ?" appears in the display. Press **[YES]**. If you wish to cancel Song Optimize, the press **[CANCEL (NO)]**.
6. A confirmation message appears in the display. Press **[YES]**. If you wish to cancel the procedure, press **[NO]**.



7. When the optimize is finished, return to Play condition.

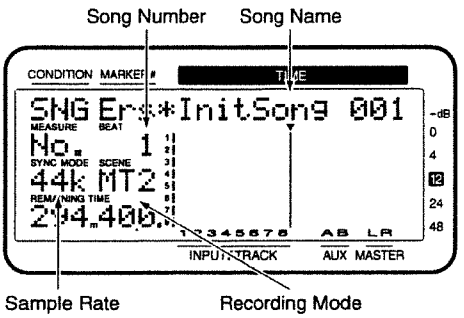
NOTE

Be aware that, depending on conditions, it may take some time for the Optimize operation to be completed. This is not a malfunction. Do not turn the power off until the Optimize operation is completed.

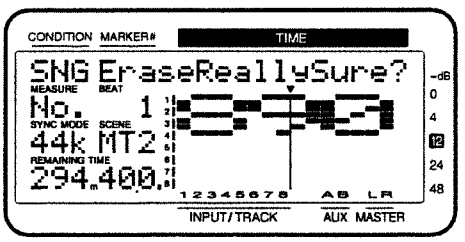
Deleting One Song of Performance Data (Song Erase)

When you are making a master tape or backing up songs to a Zip disk, this operation deletes song data that has become unnecessary. This operation cannot be undone with the Undo function (p. 75).

1. Select the drive contains the song you want to erase as the current drive (**Drive Select**; p. 133).
2. Press **[SONG]** several times until "SNG Song Erase ?" appears in the display.
3. Press **[YES]**. The names of the songs stored on the current drive will appear. An asterisk "*" will appear at the beginning of the current song.
4. Rotate the **TIME/VALUE dial** to select the song that you wish to erase.



5. Press **[YES]**.
6. "Erase Song Sure?" appears in the display. Press **[YES]**. If you wish to cancel the procedure, the press **[CANCEL (NO)]**.
7. A confirmation message appears in the display. Press **[YES]**. If you wish to cancel the procedure, then press **[CANCEL (NO)]**.



8. If the song you are erasing is not the current song, "STORE Current?" then appears in the display.
9. If you wish to save the current song, press **[YES]**; if not, then press **[NO]**. **If you have selected a demo song, then press [NO].**
10. When the song has been erased, return to Play condition.

MEMO

If the current song has been erased, the lowest-numbered song in the current drive will be selected as the current song.

Duplicating the Performance Data (Song Copy)

You can copy (save) song data created with the VS-890 to an internal hard drive or Zip disk. This is called **song copy**. This can be handy at times such as when you want to back up your data as a precaution against trouble, or when there is little free space on the internal hard drive.

Furthermore, since Zip disks are easy to handle and manage, you can use them when sharing song data with friends or when you have a VS-880EX both in the studio and at home. We recommend keeping copies of important song data on multiple disks.

MEMO

For more detailed information about SCSI, please refer to "About SCSI" (Appendices p. 4).

Before Using Zip Disks

Handling the Zip Disk Drive

- Install the unit on a solid, level surface in an area free from vibration. If the unit must be installed at an angle, be sure the installation does not exceed the permissible range: upward, 12°; downward, 12°.
- Avoid using the unit immediately after it has been moved to a location with a level of humidity that is greatly different than its former location. Rapid changes in the environment can cause condensation to form inside the drive, which will adversely affect the operation of the drive and/or damage Zip disks. When the unit has been moved, allow it to become accustomed to the new environment (allow a few hours) before operating it.
- To insert a disk, push it gently but firmly into the drive—it will click into place. To remove a disk, press the EJECT button firmly. Do not use excessive force to remove a disk which is lodged in the drive.
- Remove any disk from the drive before powering up or down.
- To prevent damage to the disk drive's heads, always try to hold the Zip disk in a level position (not tilted in any direction) while inserting it into the drive. Push it in firmly, but gently. Never use excessive force.
- To avoid the risk of malfunction and/or damage, insert only Zip disks into the disk drive. Never insert any other type of disk. Avoid getting paper clips, coins, or any other foreign objects inside the drive.

Handling Zip Disks

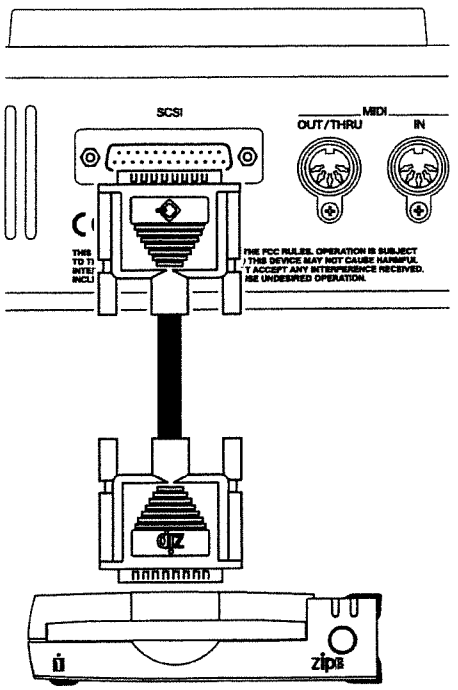
- Zip disks contain a plastic disk with a thin coating of magnetic storage medium. Microscopic precision is required to enable storage of large amounts of data on such a small surface area. To preserve their integrity, please observe the following when handling *** disks:
  - Never touch the magnetic medium inside the disk.
  - Do not use or store Zip disks in dirty or dusty areas.
  - Do not subject Zip disks to temperature extremes (e.g., direct sunlight in an enclosed vehicle). Recommended temperature range: -22 to 51° C (-7.6 to 123.8° F).
  - Do not expose *** disks to strong magnetic fields, such as those generated by loudspeakers.
- The identification label should be firmly affixed to the disk. Should the label come loose while the disk is in the drive, it may be difficult to remove the disk.
- Store all disks in a safe place to avoid damaging them, and to protect them from dust, dirt, and other hazards. By using a dirty or dust-ridden disk, you risk damaging the disk, as well as causing the disk drive to malfunction.
- Put the Zip disk back into its case for storage.
- Zip disks do not have a protect tab to prevent data from being erased accidentally. If necessary, use Song Protect to protect your data (p. 77).

About power-save mode

If approximately thirty minutes pass without data being written to or read from a disk, a Zip drive will automatically stop rotation of the disk. This is referred to as Auto Power Save mode (Sleep mode). This function limits the power consumption and extends the life of the disk. When you perform a read or write operation on the disk, it will return to its normal state. This will take two or three seconds.

Connecting the Zip Drive

Use the following procedure to connect the Zip drive to the VS-890.



NOTE

- 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.
- Once the connections have been completed, 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.
- Always make sure to have the volume level turned down before switching on power. Even with the volume all the way down, you may still hear some sound when the power is switched on, but this is normal, and does not indicate a malfunction.

1. Turn on the power of the Zip drive.
2. Turn on the power of the VS-890 with the **POWER switch** on the rear panel.
3. Turn on the power of connected audio equipments.
4. Raise the volume of the audio devices to appropriate levels.

MEMO

* For more detailed information regarding Zip drive connections, including the necessary settings, please refer to "About SCSI" (Appendices p. 4).

Initializing a Zip Disk

A new disk just purchased at computer store or a disk that was used by another device cannot be used on the VS-890 as is. You must initialize the disk so that it can be used by the VS-890 (**Drive Initialize**; p. 134).

NOTE

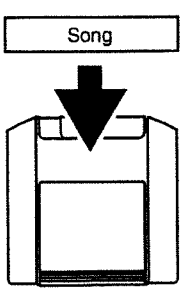
- When a disk is initialized, the entire contents are irretrievably lost. Check any such disk you plan to initialize to make sure that it does not contain anything that you don't want deleted. • Disks used with the VS-890 cannot be used on other devices (such as personal computers).
- If you accidentally delete data that you need, that data cannot be restored to its previous condition. Roland Corporation assumes no liability concerning such loss of data.

Song Copy Procedure

There are two ways to carry out the Song Copy procedure. Select the method depend on the amount of free space on the destination disk (100 MB for Zip disks). The size of the current song is shown in the display (p. 186).

Playable (p. 126)

Use this method to copy songs that use relatively little data onto disks with sufficient memory to hold them. If the destination drive or disk already has saved song data on it, then you can copy additional songs that will fit within the remaining free space.



The approximate times which can be copied to one Zip disk (100 MB) are as follows (conversion in one track, unit: minutes).

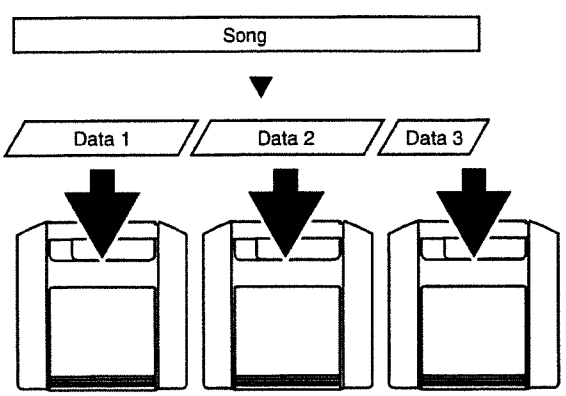
Record Mode	Sample Rate		
	48.0kHz	44.1kHz	32.0kHz
VSR	34	37	52
CDR	17	18	26
MAS	17	18	26
MT1	34	37	52
MT2	46	50	69
LIV	55	60	83

MEMO

When operations such as punch-in recording are repeated, old (now unused) performance data still remains on the disk drive. By erasing this unnecessary data from the disk drive, you can free up a significant amount of disk space. When you find that you cannot save something to a single disk, then try the "Song Optimize" procedure. This way, you can reduce the memory required to save a song, enabling you to save to a single disk.

Archives (p. 128)

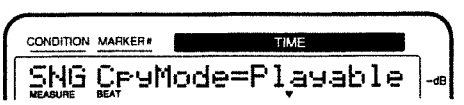
Use this method to copy songs that are too large to be saved on a single disk. The song data is converted into a data format specifically for saving (archives format), and is copied onto multiple disks according to the free space on the disks. This means that it will not be possible to directly play back the song data. If you wish to play back song data copied in archive format, you will need to reload the archive data into the current drive using the appropriate procedure. Furthermore, song data cannot be copied onto disks that already have songs recorded on them.



Saving a Song to a Single Disk (Playable)

Here, the procedure for saving a playable copy of a song on the VS-890's internal hard disk to a Zip disk which is set to SCSI ID Number 5 is explained.

1. Select the disk containing the source song you want to copy as the current drive (Drive Select; p. 133)
2. Press **[SONG]** several times until "SNG Song Copy ?" appears in the display.
3. Press **[YES]**. "SNG CpyMode=" appears in the display.
4. Rotate the **TIME/VALUE dial**. Here, select "Playable."



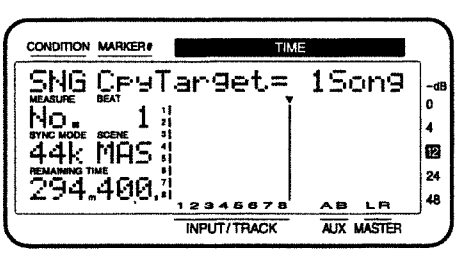
CpyMode (Copy Mode)

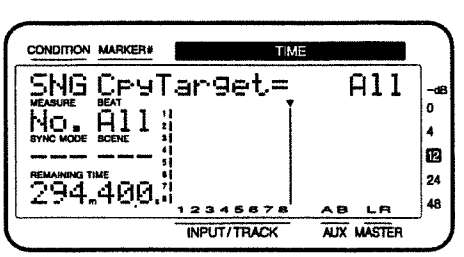
Select how the song will be copied.

Playable: Playable type.

Archives: Archives type.

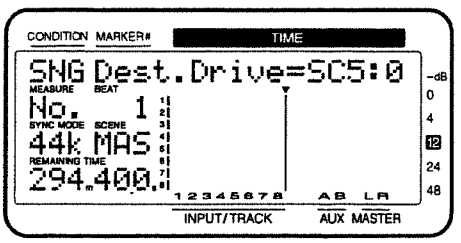
5. Press **PARAMETER [▶▶]**. "SNG CpyTarget=" appears in the display.
6. Rotate the **TIME/VALUE dial**. If you wish to copy the current song, select "1 Song." To copy all songs from the current drive, select "All."





7. Press **PARAMETER [▶▶]**. "SNG Dest.Drive=" appears in the display.

8. Rotate the **TIME/VALUE dial**. Select the copy destination disk drive. The internal hard disk will be shown as "IDE," and external disk drives will be shown as "SC0–SC7." The number following each disk drive indicates the partition number. For example if you wish to copy to a Zip disk, select "SC5:0."

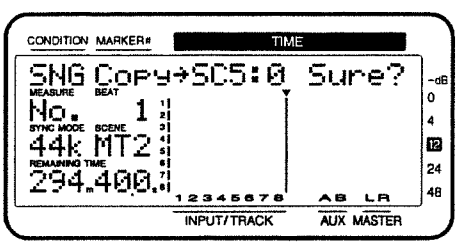


NOTE

The destination disk for the copy operation must already have been initialized for the Roland VS series, or have some song data (playable type) saved on it.

9. Press **[YES]**. A message asking if you want to continue appears in the display.

10. Press **[YES]** again. A message asking if you want to continue appears in the display.



11. Press **[YES]** again. "STORE Current?" (Store the current song?) appears in the display.

12. If you wish to save the current song, press **[YES]**; if not, then press **[NO]**. **If you have selected a demo song, then press [NO].**

13. If "ALL" is specified as the target in step 6, a confirmation message will ask you whether you want to initialize the copy destination disk drive. If you wish to initialize the copy destination disk drive and copy the song data, press **[YES]**. In this case, all song data that had been saved on the copy destination disk drive will be lost. If you wish to copy without initializing, press **[NO]**.

14. If you wish to copy with initializing, press **[YES]** again.

15. When the Playable Copy procedure is finished, return to Play condition.

NOTE

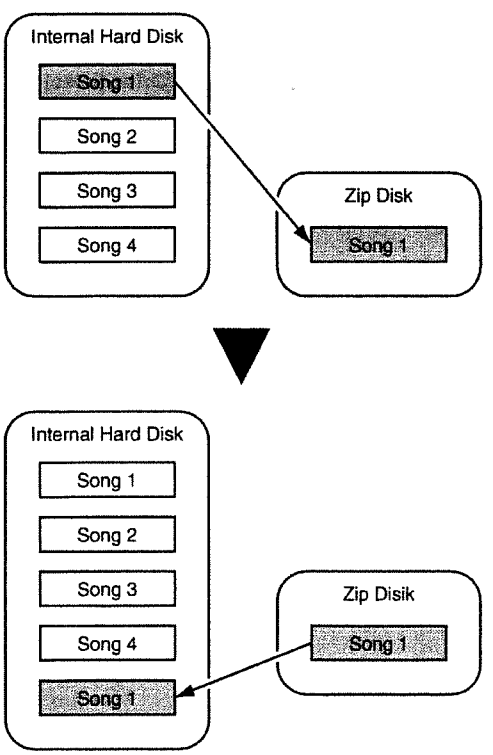
If "Disk Memory Full" appears in the display, this indicates that the destination disk has insufficient free space, or that the number of songs on the disk has exceeded the maximum number (200 songs) that can be stored on the disk, and that the copy procedure was canceled. However, you can still use the song data copied up to that point.

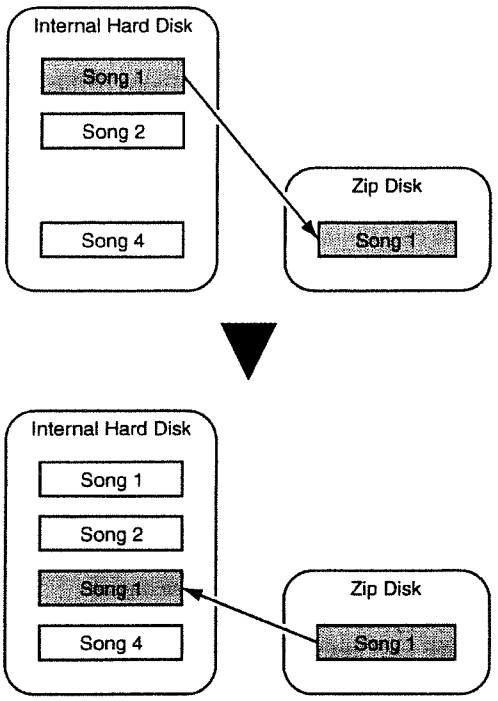
To Load Data from Zip Disks

If you want to take playable songs that have been copied to Zip disks and load them onto the VS-890's hard disk, first switch the current drive to the Zip drive (**Drive Select**; p. 133). Afterwards, you can make playable copies onto the internal hard disk from the Zip disk.

NOTE

Even if you remake a playable copy of a song from the Zip disk to the internal hard disk without first deleting an existing playable copy of the song from the hard disk (even if you return it to the hard disk), the original song is not overwritten. In this case, a new song is created with the same song name as that of the original and is written to the lowest available song number.





1. Confirm that power of both the Zip drive and the VS-890 is turned on.
2. Insert a disk into the Zip drive.
3. Select the Zip drive as the current drive (**Drive Select**; p. 133).
4. Following the procedure described in "Saving a Song to a Single Disk," make a playable copy of the song on the Zip disk to the internal hard disk.
5. After you have made the copy, reselect the internal hard disk as the current drive (**Drive Select**; p. 133).

When You Cannot Save a Song to a Single Disk (Archives)

To save songs in **archives format**, the destination disk must be initialized. This initialization procedure differs from the usual Drive Initialize formatting (p. 134). This procedure lets you carry out Archives Copy with newly purchased disks, disks which previously have been used with a personal computer or other device, or other disks which have not been formatted with Drive Initialize. However, any song data saved to the disk is lost once the Archives Copy procedure is performed.

Additionally, you cannot designate a disk containing archive format songs as the current drive. If you try to do this, the disk is identified as being an uninitialized disk.

Saving to Disks (Store)

Here we will explain the example of when a Zip drive with SCSI ID number 5 is connected as an external disk drive.

1. Make the drive (internal hard disk) containing the song you want to copy the current drive (**Drive Select**; p. 133).
2. Insert a disk into the Zip drive.
3. Press **[SONG]** several times until "SNG Song Copy ?" appears in the display.
4. Press **[YES]**. "SNG CpyMode=" appears in the display.
5. Rotate the **TIME/VALUE dial**. Here, select "Archives."

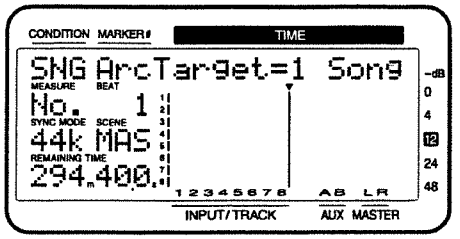
CpyMode (Copy Mode)

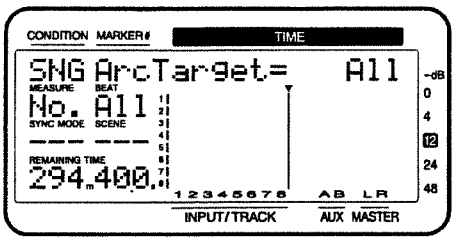
Select how the song will be copied.

Playable: Playable type.

Archives: Archives type.

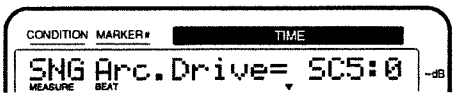
6. Press **PARAMETER [▶▶]**. "SNG ArcTarget=" appears in the display.
7. Rotate the **TIME/VALUE dial**. If you wish to copy the current song, select "1 Song." To copy all songs from the current drive, select "All."





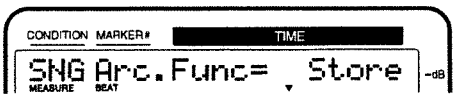
8. Press **PARAMETER [▶▶]**. "SNG Arc.Drive=" appears in the display.

9. Rotate the **TIME/VALUE dial**. Select the copy destination disk drive. For this operation, you will be able to select only removable disk drives which are connected to the SCSI connector. It is not possible to select the current drive (the internal hard disk) as the copy destination drive. For example if you wish to copy to a Zip disk, select "SC5:0."



10. Press **PARAMETER [▶▶]**. "SNG Arc.Func=" appears in the display.

11. Rotate the **TIME/VALUE dial**. Here, select "Store."



Arc.Func (Archives Function)

Select the Archive Type copy method.

Store: Saving to Zip Disks.

Extract: Loading from Zip Disks.

12. Press **[YES]**. A message asking if you want to continue appears in the display.

13. Press **[YES]** again. "STORE Current?" (Store the current song?) appears in the display.

14. If you wish to save the current song, press **[YES]**; if not, then press **[NO]**. If you have selected a demo song, then press **[NO]**.

15. The display will ask, "You'll Lose Data/Continue ?." Press **[YES]**. If you decide to cancel the Archives Copy operation, press **[NO]**.

NOTE

All data saved on the Zip disk will be deleted. Do not use any Zip disk containing song data that you need.

16. If the song holds a large amount of data, and cannot be contained on a single Zip disk, the disk is ejected, and the message "Please Insert Disk" appears in the display. Insert the next disk and press **[YES]**. At this time, be sure to write the disk numbers on the labels so that you can keep track of the order in which the disks were inserted into the drive.

17. When copying over multiple Zip disks, "Insert Disk #" (# indicates the number in the order of insertion) appears in the display. Insert each of the disks once more in the proper order and press **[YES]**.

18. When the Archives Store procedure is finished, return to Play condition.

Loading Data From Disks (Extract)

1. Select the load (restore) destination drive (internal hard disk) as the current drive (**Drive Select**; p. 133).

2. Insert a disk that was copied by Archives Store into the Zip drive.

3. Press **[SONG]** several times until "SNG Song Copy ?" appears in the display.

4. Press **[YES]**. "SNG CpyMode=" appears in the display.

5. Rotate the **TIME/VALUE dial**. Here, select "Archives."

CpyMode (Copy Mode)

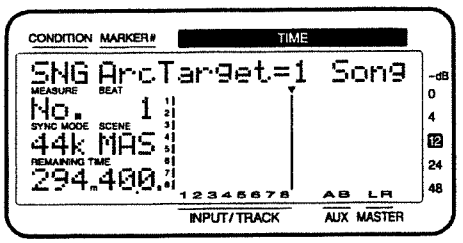
Select how the song will be copied.

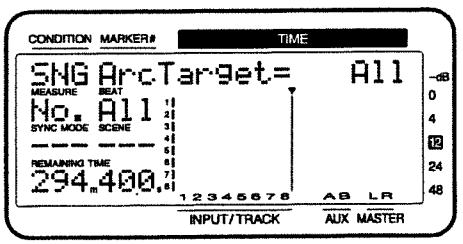
Playable: Playable type.

Archives: Archives type.

6. Press **PARAMETER [▶▶]**. "SNG ArcTarget=" appears in the display.

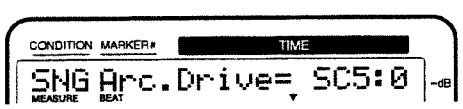
7. Rotate the **TIME/VALUE dial**. If you wish to copy the current song, select "1 Song." To copy all songs from the current drive, select "All."





8. Press **PARAMETER [▶▶]**. "SNG Arc.Drive=" appears in the display.

9. Rotate the **TIME/VALUE dial**. select the disk drive from which the data will be loaded. For this operation, you will be able to select only removable disk drives which are connected to the SCSI connector. It is not possible to select the current drive (the internal hard disk) as the copy destination drive. For example if you wish to copy from a Zip disk, select "SC5:0."



10. Press **PARAMETER [▶▶]**. "SNG Arc.Func=" appears in the display.

11. Rotate the **TIME/VALUE dial**. Here, select "Extract."

Arc.Func (Archives Function)

Select the Archive Type copy method.

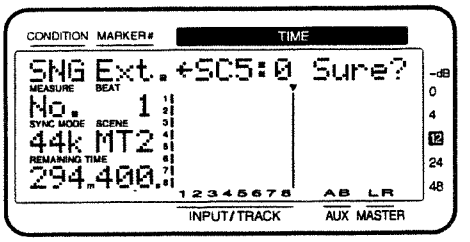
Store: Saving to Zip Disks.

Extract: Loading from Zip Disks.

12. If "1 Song" is selected as the target in step 7, press **[YES]**. The names of the saved songs will also be displayed. Use the **TIME/VALUE dial** to select the name of the song you wish to copy.

13. Press **[YES]**. A confirmation message appears in the display.

14. Press **[YES]** again. A confirmation message appears in the display.



15. Press **[YES]** again. "STORE Current?" (Store the current song?) appears in the display.

16. If you wish to save the current song, press **[YES]**; if not, then press **[NO]**. If you have selected a demo song, then press **[NO]**.

17. If you have selected "All" in step 3, the display will ask "Init. IDE:0 OK?" This message is asking you to confirm that you wish to initialize the loading destination drive (the internal hard disk). If you wish to initialize the drive and then load, press **[YES]**. If you decide not to initialize, press **[NO]**.

NOTE

If at this point you press **[YES]**, all songs saved on the internal hard disk will be lost. Normally you should press **[NO]**. If the loading destination hard disk does not have sufficient space, you should first make a backup copy of the internal hard disk, and then press **[YES]**.

18. If you wish to copy with initializing, press **[YES]** again.

19. Execute the load. When copying over multiple disks, "Insert Disk #" (# indicates the number in the order of insertion) appears in the display. Insert the next disk and press **[YES]**.

20. When the Archive Extract procedure is finished, return to Play condition.

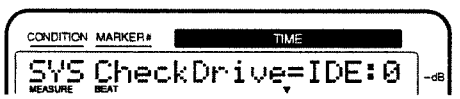
Confirming That a Drive is Not Damaged (Drive Check)

You can check the drive you are using to make sure it can be read correctly. This is referred to as **Drive Check**.

This provides a way to determine whether a failure during Song Copy (p. 124) or CD-R Backup (p. 147) is due to a problem in the song itself that was saved on disk, whether the problem is with the connections, or if there is a problem of some other kind.

If data cannot be read correctly, the display will indicate the song in which the error occurred.

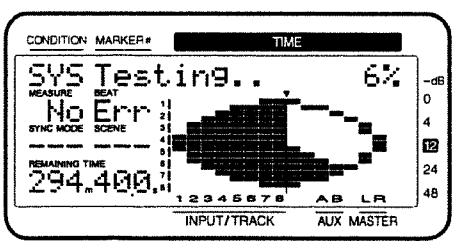
1. Press **[SYSTEM]** several times until "SYS Drive Check ?" appears in the display.
2. Press **[YES]**.
3. Rotate the **TIME/VALUE dial** to select the drive that you wish to check.



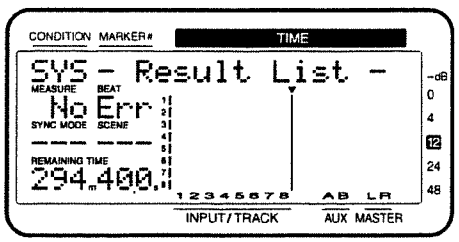
CheckDrive (Check drive)

Select the disk drive that you wish to check.

4. When you have selected the drive you wish to check, press **[YES]**.
5. A confirmation message ask you that you want to proceed with the Drive Check appears in the display. Press **[YES]**.
6. "STORE Current?" appears in the display. If you wish to save the current song, press **[YES]**; if not, then press **[NO]**. If you have selected a demo song, then press **[NO]**.
7. Drive Check is the executed. Progress of the operation is shown in the display. Do not turn off the power until the operation is completed.



8. When Drive Check is completed, the display screen appears as shown below.

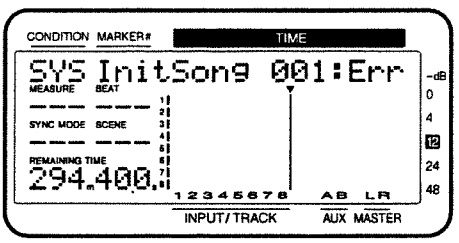


If the display indicates "No Err"

The entire disk could be read correctly. Press **[YES]**. Return to Play condition.

If the display indicates "___ Err"

The underlines portion will display the number of times that a read error occurred. Rotate the **TIME/VALUE dial** to check the list. The display will indicate "Err" for locations where an error was found. Locations for which "OK" was displayed have no problems. Then read "Deleting Disk Errors" below.



ResultList (Drive check results)

System:	Location where basic data used by the VS-890 for recording and playback is stored
SongList:	Location where the saved songs are managed
InitSong001:	Each song (in actual use, the song name is displayed)
InitSong002:	
:	
InitSong 200:	

ClusterInfo. (Cluster information)

Total:	Number of clusters on the entire disk
Defect:	Number of clusters tagged as unusable memory
Used:	Number of clusters currently being used
Free:	Number of clusters currently not being used
X-LinkErr:	Number of cross-linked clusters
LooseArea:	Number of clusters whose links are lost

IllegalDIR: Number of directories with incorrect content

ReadError: Number of read errors detected by this operation

MEMO

Clusters

These are the smallest unit of memory that the VS-890 uses to manage data on a disk drive. The smallest physical units on a disk drive are called either **sectors** or **blocks**, and depending on the device, the size that is handled can be selected. For example, the VS-890 is designed to use disks with 512 bytes/sector. When the VS-890 manages song data, it handles 64 sectors as a single unit (cluster). This means that 512 (bytes) x 64 (sectors) = 32768 bytes (32 kilobytes) is one cluster.

Cross Link

This is an error in which a cluster is detected as being included in two or more songs. In such a case, a completely different song may be heard in the middle of a song. Such an error condition is referred to as a **cross link**.

Loose Areas

An error in which clusters not included in any song are detected as containing valid data. In this case, the VS-890 will not store data in those clusters. A situation which causes this error to occur is called a **loose area**.

Directories

The VS-890 stores data such as audio data or parameter values on disk in units called files. In order to manage large numbers of files, the VS-890 keeps lists of file names and the locations on disk in which the data of these files is stored. These lists are called **directories**.

The "IllegalDIR" message will appear when this list is incorrect. For example, this message will appear if the data of a certain file is supposed to be recorded in an area of the disk which does not actually exist, or if the list itself becomes permanently unreadable.

MEMO

You can use the following procedure to cancel the Drive Check.

1. Press **[CANCEL (NO)]**. "Cancel?" appears in the display.
2. Press **[YES]**. Drive Check is canceled.

To Erase the Disk Error

If a disk error is found, it is possible to erase only the data that was lost as a result of the error (Recover). I.e., the disk can be restored to a correct operating condition while keeping as much possible of the non-error data.

NOTE

This procedure does not correct the disk error. All error locations will be erased. This means that depending on the location in which the error occurred, a take that was recorded may no longer be playable, auto mix data may be lost, or even the entire song itself may be erased. If the error has occurred in the system or song list, the probability of this danger is especially high.

1. Press **PARAMETER [▶▶]**. "RecoverDriveTry?" appears in the display.
2. The message "You'll Lose Data" will appears in the display. Press **[YES]**. The Recover operation is executed. If you want to cancel the operation, press **[CANCEL (NO)]**.
3. When the recovery is finished, the results are shown on the display screen. Songs that have been partially altered are indicated by "Adj"; deleted songs are indicated by "Del." Songs that have not been changed are not indicated. Please check the display.

RecoverResult (Recovery result)

InitSong001: Modified songs (in actual operation, the song name)

InitSong002:

:

InitSong200:

ClusterInfo. (Cluster information)

Total: Number of clusters on the entire disk

Defect: Number of clusters marked as unusable memory

Used: Number of clusters currently being used

Free: Number of clusters currently unused

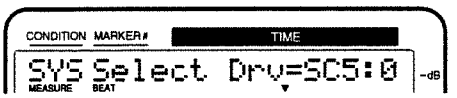
4. Press **[YES]**. Return to Play condition.

Change Partitions (Drive Select)

When a Zip drive is connected, or a single internal hard disk has multiple partitions, you can specify which partition of which drive will be used. This is called **Drive Select**. Additionally, this disk drive partition currently used is referred to as the **current drive**.

Here we will explain the procedure of how to switch the current drive from the internal hard disk to the Zip drive. If you want to switch the current drive to the other partition of the internal hard disk, please proceed to Step 3.

1. Confirm that power of both the Zip drive and the VS-890 is turned on.
2. Insert a disk into the Zip drive.
3. Press **[SYSTEM]** several times until "SYS Drive Select" appears in the display.
4. Press **[YES]**. The connected disk drives will be detected.
5. Rotate the **TIME/VALUE dial**. Select the disk drive to which you want to change. The internal hard disk will be shown as "IDE," and external disk drives will be shown as "SC0–SC7." The number following each disk drive indicates the partition number. For example if you wish to switch to the Zip drive, select "SC5:0."



6. Press **[YES]**. A confirmation message appears on the screen.
7. Press **[YES]** again. "STORE Current?" (Store the current song?) appears in the display.
8. If you wish to save the current song, press **[YES]**; if not, then press **[NO]**. If you have selected a demo song, then press **[NO]**.
9. After you have switched the current drive, return to Play condition.

Initializing the Disk (Drive Initialize)

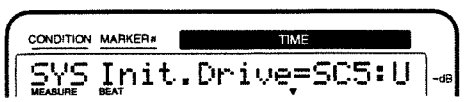
A new disk just purchased at computer store or a disk that was used by another device cannot be used on the VS-890 as is. You must initialize the disk so that it can be used by the VS-890. When a disk is initialized, the entire contents are irretrievably lost. Check any such disk you plan to initialize to make sure that it does not contain anything that you don't want deleted. Additionally, disks used with the VS-890 cannot be used on other devices (such as personal computers).

NOTE

- If you accidentally delete data that you need, that data cannot be restored to its previous condition. Roland Corporation assumes no liability concerning such loss of data.
- If you are using a drive or disk that has been partitioned, please note that you will not be able to choose a particular partition that you wish to initialize. When you carry out a drive initialization, the whole drive and all its partitions will be initialized at once.

Here is an example how to initialize new Zip disks.

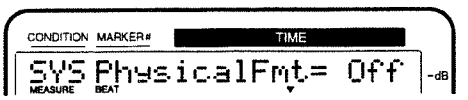
1. Confirm that power of the Zip drive and the VS-890 is turned on.
2. Insert a disk into the Zip drive.
3. Press **[SYSTEM]** several times until "SYS DriveInitialize" appears in the display.
4. Press **[YES]**. "Init.Drive=" appears in the display.
5. Rotate the **TIME/VALUE dial** to select the disk drive to which you want to initialize.



Init Drive (Initialize Drive)

Select the disk drive (IDE, SCSI0–SCSI7)." The internal hard disk will be shown as "IDE," and external disk drives will be shown as "SC0–SC7." The number following each disk drive indicates the partition number. For example, select "SC5:U" when selecting the Zip drive connection.

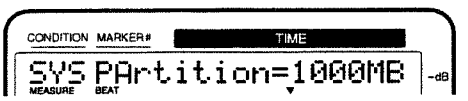
6. Press **PARAMETER [▶▶]**. "PhysicalFmt" appears in the display.
7. Rotate the **TIME/VALUE dial**.



Physical Fmt (Physical Format)

Select whether or not to use physical formatting. In normal circumstances, set this to "Off." If a disk error is found with **Surface Scan** (p. 135), set this to "On," then initialize the hard disk again.

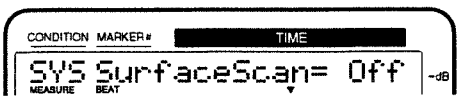
8. Press **PARAMETER [▶▶]**. "Partition" appears in the display.
9. Rotate the **TIME/VALUE dial**.



Partition

Select the partition size (500 MB or 1000 MB). In normal circumstances, select "1000 MB."

10. Press **PARAMETER [▶▶]**. "Surface Scan" appears in the display.
11. Rotate the **TIME/VALUE dial**.



Surface Scan

This confirms that the read and write functions in all of the disk drive's partitions are operating correctly when the drive is initialized. In normal circumstances, set this to "On" (p. 135)

12. Press **[YES]**. "SYS Init.***:* OK ?" appears in the display. "***:*" refers to the drive's SCSI ID number. For example, "SC5:U" indicates the Zip drive.
13. Press **[YES]** again. "SYS Init.***:*, Sure ?" (Really initialize the disk?) appears in the display.
14. Press **[YES]** again. "STORE Current?" (Store the current song?) appears in the display.
15. If you wish to save the current song, press **[YES]**; if not, then press **[NO]. If you have selected a demo song, then press [NO].**
16. After the initialization is completed correctly, the VSR-880 restarts automatically, and return to Play condition.

NOTE

Be aware that initializing a drive requires some time. This is not a malfunction. For example, when physical formatting is turned on, the time required to format one Zip disk is approximately 10 minutes. The progress of initialization will be shown in the display. Be sure not to turn the power off until initialization is complete.

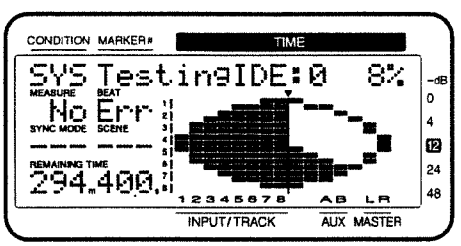
Checking Disk Reliability (Surface Scan)

When initializing a hard disk or other disk, you can confirm that the read and write functions in all of the disk partitions are operating correctly. This is referred to as **Surface Scan.** When Surface Scan is performed, it will require somewhat more time to initialize the drive, but the reliability of the hard disk will be enhanced. We recommend that you also perform Surface Scan when you initialize a drive.

NOTE

- If there are any places on the disk where the reading or writing of data cannot be performed, the VS-890 registers this as unusable memory. Recording and playback then become unavailable at that location.
- Performing this procedure deletes all contents saved on the disk. Conduct this check when initializing newly purchased disks or disks which previously have been used with a personal computer or other device. Be sure to make a backup copy of any disk you are presently using on the VS-890 before carrying out the procedure on it.

1. Set Surface Scan to "On," and as described in "Initializing the Disk" (p. 134), carry out the Drive Initialize procedure.
2. After initialization of the disk is completed, Surface Scan begins automatically.



NOTE

The Surface Scan procedure takes a certain amount of time. Be aware that Surface Scan requires some time. This is not a malfunction. For example, the time required to conduct Surface Scan on one Zip disk (100 MB) is approximately 10 minutes. The time it will take to conduct Surface Scan on your disk drive should be based on the size (capacity) of the disk. The progress of the Surface Scan procedure is shown in the display.

3. When Surface Scan is completed, one of the following messages appears in the display.

"File System Err"

A read or write failure has occurred in a location which stores basic data used by the VS-890 for recording and playback. This disk drive cannot be used by the VS-890.

"____Defect"

The underlined portion will indicate the number of unusable memory locations in this drive. The larger this number is, the lower the reliability of this drive.

"- Complete -"

This drive has no unusable memory.

4. Press **[YES]**. VS-890 will restart.

MEMO

You may cancel Surface Scan by performing the following procedure.

1. Press **[NO)]**. "Cancel?" appears in the display.
2. Press **[YES]**. Surface Scan is new canceled. However, the memory found to be unusable up to that point is not registered.
3. The VS-890 restarts automatically.

Creating an Original Audio CD (CD-R Write)

You can connect a **Roland CD Recorder** (CD-RW drive which is designated by Roland), to the VS-890's SCSI connector. This section explains the procedures involved in creating your own original audio CDs and in backing up song data to CD-RW discs. Refer to the owner's manual of Roland CD Recorder (CD-RW drive) as you proceed.

MEMO

For more detailed information about SCSI, please refer to "About SCSI" (Appendices p. 4).

Create Master Data (Mastering)

What is written to the CD-R disc is performance data of the current song in two tracks (**Mastering Tracks**). This is not the performance data that can be heard from the output from the **MASTER jacks** or **PHONES jack**. Song data that can be written to CD-R discs for the creation of original audio CDs must satisfy the following conditions. Check the disc you plan to use.

Songs

Only the **VS-890's songs** can be written to CD-R discs. Songs for the other VS series (VS-880/880EX) cannot be written to CD-R discs. If you wish to write VS-880/880EX's songs to CD-R disc, convert them to VS-890 songs (**Song Import**; p. 155).

MEMO

- Songs recorded with the VSR-880 are recognized as VS-890 songs.
- On the VS-890, a VS-1680 song will not be displayed in the Song Select (p. 50) screen (it cannot be recognized). However, you can import this song (**Song Import**; p. 155).
- On the VS-890, a VS-1880 song will not be displayed in the Song Select (p. 50) screen (it cannot be recognized). Also, you cannot import this song.

Sample Rate

Only songs with a sample rate of **44.1 kHz** can be written to CD-R discs. Songs with sample rates other than this cannot be written to CD-R discs.

Tracks

Two V-tracks, one as the left track and one as the right, can be written to a CD-R disc. Bounce the tracks of song data that has not been mixed down to two-channel stereo tracks. Designate these tracks as the master tracks (V-track write sources) to be written to the CD-R disc when writing is to be carried out.

Mixing

The content of adjustments made to mixer settings during playback are not recorded to the CD-R disc.

For example, in a normal performance, even if you control fade-ins and fade-outs with the master fader, this is not reflected in what is written to CD-R disc; rather, it ends up sounding as if the song is cutting in and out. Adjust equalizer, level, pan, and other settings during track bouncing.

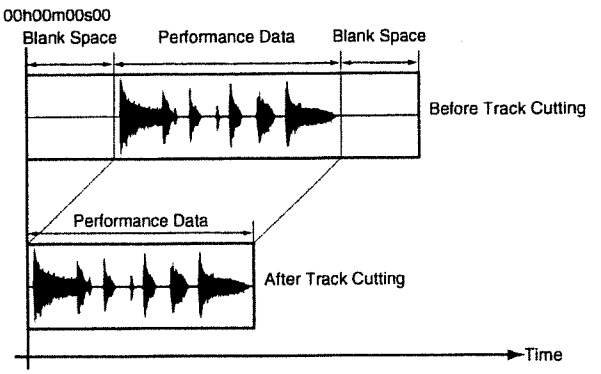
Setting up Auto Mix beforehand can make the track bouncing operation simpler.

Effects

Effects that are operating during playback are not recorded on CD-R discs. For example, in a normal performance, even if you have reverb or delay applied to the output of each track, this is not reflected in what is written to CD-R disc; rather, it ends up sounding as if no effect has been applied. Add effects during mastering.

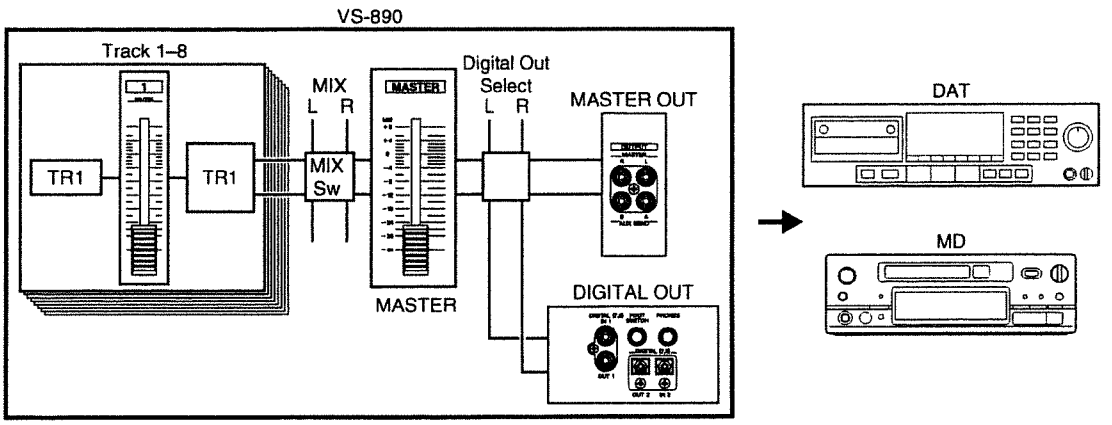
Track Editing

The two tracks designated by the VS-890 for writing to the CD-R disc are written from the beginning of the tracks (normally "00h00m00s00") to the end (song end). Thus, any blank space on the tracks before or after the actual performance results in wasted space on the CD-R disc. To avoid this, use Track Cut to remove any unused portions on the tracks.

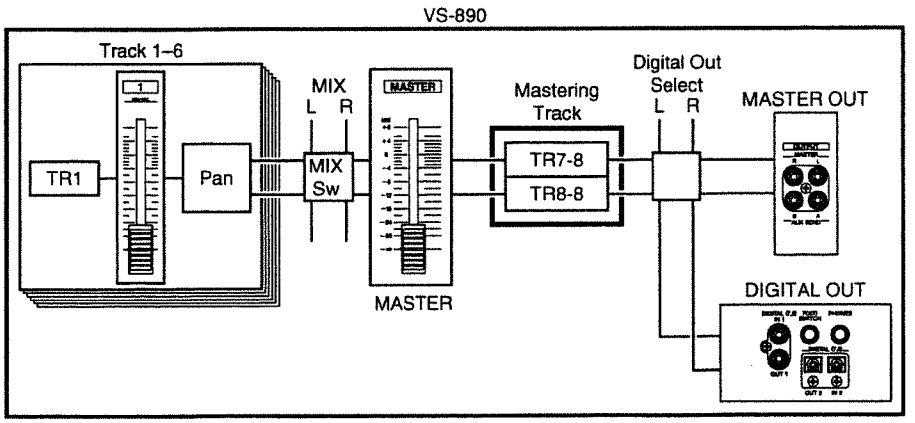


About Mastering Tracks

Usually, you had to use an external **DAT recorder** or **MD recorder** if you wanted to **mixdown** a song.



On the VS-890 itself, **Mastering Tracks** equivalent to this external recorder (DAT or MD) are provided. For example, you can play back Tracks 1–6, and record the result on Mastering Tracks (Tracks 7 and 8).



Mixdown to Mastering Tracks (Mastering Room)

Let's adjust the balance and effects for each track to create mastering tracks (**Mastering**).

While performing a mixdown, it is common to insert an effect such as a **Parametric EQ** or an overall **Compressor**. For this example, we will insert the Effect (**Mastering Tool Kit**; Appendices p. 25) to adjust the overall volume balance as we mixdown.

Mastering Track Settings

1. Press **[CD-RW]** several times until "CDR Mastering Room?" appears in the display.
2. Press **[YES]**. "MasteringSw=" appears in the display.
3. Rotate the **TIME/VALUE dial** to select "On." The CD-RW indicator blinks, indicating that the Mastering Room is on.

MasteringSw (Mastering Switch)

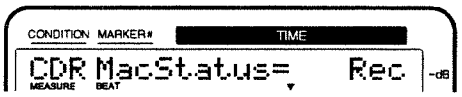
Choose whether to make tracks 7 and 8 the mastering tracks. For this example, select "On."

Off: The VS-890 is used as an 8-track recorder.

On: Tracks 7 and 8 are used as **mastering tracks**. At this time, you cannot play back tracks 1–6 and track 7–8 at the same time.

4. Press **PARAMETER [▶▶]**. "MasStatus=" appears in the display.

5. As necessary, use **PARAMETER [◀◀], [▶▶]** and the **TIME/VALUE dial** to make the following settings.



MasStatus (Mastering Track Status)

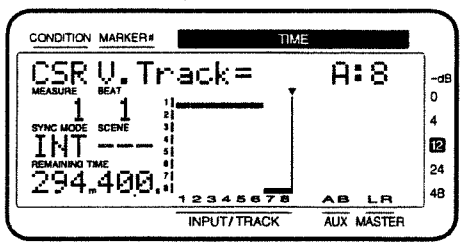
Specify the status of the mastering tracks.

Rec: Play back tracks 1–6 while recording them to the mastering tracks (7 and 8).

Play: Play back the mastering tracks (7 and 8). The sound of tracks 1–6 will not be output from the MASTER jacks.

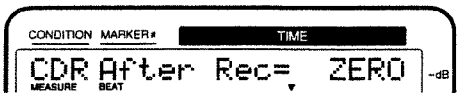
MEMO

When the Mastering Room is on, **MasStatus** (Mastering Track Status) can be switched by pressing **STATUS button ([7] or [8])**.



V.Track

Select the two V-tracks (L and R) that will be assigned as mastering tracks. The mastering tracks are fixed at tracks 7 and 8. When a new song is created, V-track 8 of tracks 7 and 8 (7-8, 8-8) will be assigned as the mastering tracks.



After Rec (After Recording)

Specify the time location of the mastering track to which the mixdown will be recorded. When creating an original audio CD, it is usually best to select "to ZERO."

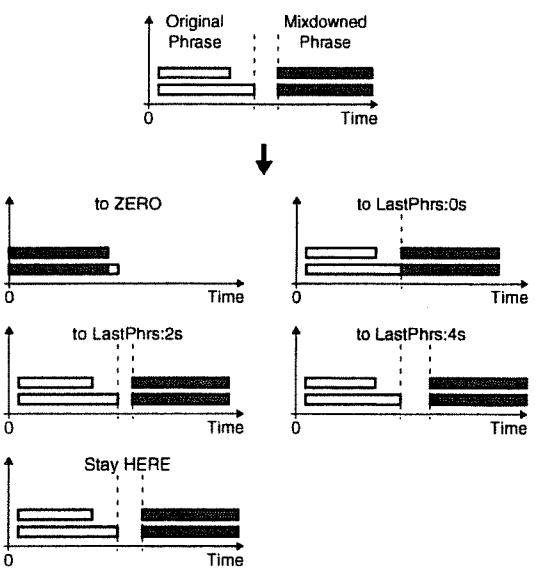
ZERO: Place the data starting at 00h00m00s00f

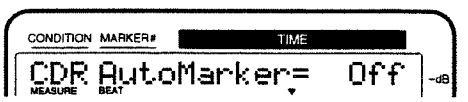
L:0s: Place the data after the end of the last phrase in the mastering tracks.

L:2s: Place the data two seconds after the end of the last phrase in the mastering tracks.

L:4s: Place the data four seconds after the end of the last phrase in the mastering tracks.

Stay: Place the data at the time location at which it was actually recorded.



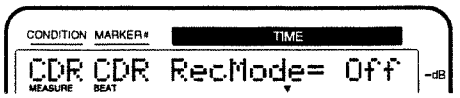


AutoMarker (Auto Marker)

If this is turned "On," a track number marker will automatically be assigned to the beginning of the phrase that is mixed down. Normally you will set this "On."

NOTE

Depending on the **After Rec** (After Recording) setting or on the location relative to other markers, the display may indicate "Can't Set Marker," and the track number marker may not be assigned.



CDR RecMode (CDR recording mode)

If this is turned "On," the performance data recorded in the mastering tracks will be set to a recording mode of "CDR" regardless of the recording mode of the current song. In this case, you can omit the step of creating an image file when writing the song to a CD-R disc.

NOTE

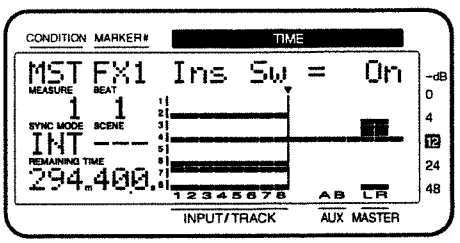
Performance data that was recorded to the mastering tracks with a CDR RecMode (CDR recording mode) setting of "On" can be played back only in the mastering room. (It cannot be played back in Play condition.)

Effect Settings

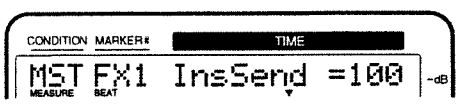
6. Hold down **[SHIFT]**, and press **[EDIT (FADER)]** (Master Block).

7. Press **PARAMETER [▶▶]** several times until "FX1 Ins Sw =" appears in the display.

8. Rotate the **TIME/VALUE dial** to select "On."

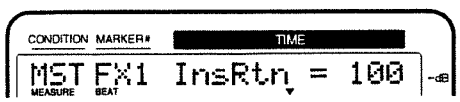


9. As necessary, use **PARAMETER [▶▶]**, **[▶▶]** and the **TIME/VALUE dial** to make the following settings.



FX1 InsSend (FX1 insert send level)

Adjust the volume level of the signal that is sent to the insertion effect (0 to 127). By default, this will be "100."



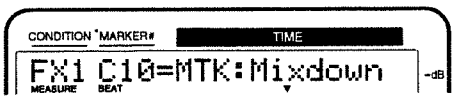
FX1 InsRtn (FX1 insert return level)

Adjust the volume level of the signal that is output from the insertion effect (0 to 127). By default, this will be "100."

10. Hold down **[SHIFT]**, and press **[EFFECT]** several times until "EFFECT-1 PRM?" appears in the display.

11. Press **[YES]**. The number and name of the currently selected effect will be displayed, and you will be able to select the effect.

12. Rotate the **TIME/VALUE dial** to select the effect you wish to use. For this example, select an effect such as "C10=MTK:Mixdown."



13. After selecting the effect, press **[YES]**.

Recording to Mastering Tracks

14. Press **[PLAY (DISPLAY)]**.

15. Press **STATUS ([1]–[6])** of the tracks that you wish to mixdown to let the STATUS indicators light green.

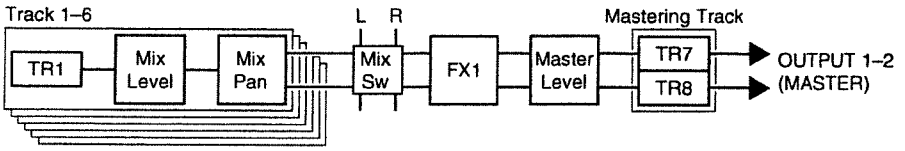
16. Press **[PLAY]**. The song will play back.

17. Raise and lower **master fader**, and verify that the volume changes. At this time, the volume that is passing through the **master fader** will be recorded on the mastering tracks.In order to record with the optimal audio quality, you should normally set the fader at 0 dB.

18. Press **[FADER (EDIT)]** several times to let the FADER indicator light green (Track Mixer).

19. Raise or lower **channel faders 1–6** to adjust the volume balance of each track. At this time, the volume that is being output to the MIX bus (recording level, pan) will be recorded without further change on the mastering tracks. It is best to set the volume as high as possible without allowing the sound to distort.

20. When you finish adjusting the volume, press **[STOP]**. The song will stop. The present signal flow (routing) is shown below.



21. Move to the time location at which you wish to begin the mixdown (e.g., 00h00m00s00f) by using the **Transport Control buttons, etc.**

22. Press **[REC]**. The REC indicator will light in red.

23. Press **[PLAY]**. The PLAY indicator will light in green, and recording will begin.

24. When you finish recording, press **[STOP]**.

25. Hold down **[SHIFT]** and press **[CD-RW]**. The mastering room will be turned off (Play condition).

Playing Back the Mastering Tracks

Here's how you can verify the result that was mixed down to the Mastering Tracks. Tracks 1–6 will not be played back.

NOTE

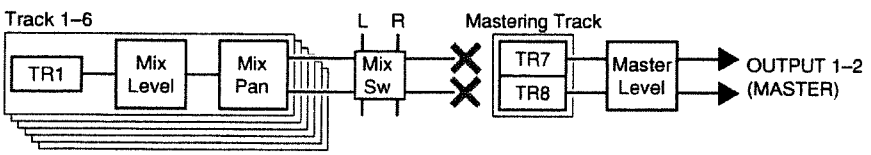
Performance data that was recorded to the mastering tracks with a CDR RecMode (CDR recording mode) setting of "On" can be played back only in the mastering room. (It cannot be played back in Play condition.)

1. Press **[CD-RW]** several times until "CDR Mastering Room ?" appears in the display.

2. Press **[YES]**. "MasteringSw=" appears in the display.

3. Rotate the **TIME/VALUE dial** to select "On." The CD-RW indicator blinks, indicating that the Mastering Room is on.

4. Press **STATUS ([7] or [8])**. The STATUS indicator lights in green, indicating that the **MasStatus** (Mastering Status) is Play. The present signal flow (routing) is shown below.



5. Press **[PLAY (DISPLAY)]**.

6. Move to the location at which you started the mixdown by using the **Transport Control buttons**, etc.

7. Press **[PLAY]**. The mastering tracks will play back.

8. Raise and lower **master fader** to adjust the volume of the Mastering Track.

9. When playback ends, press **[STOP]**.

10. Hold down **[SHIFT]**, and press **[CD-RW]**. The mastering room will be turned off (Play condition).

Joining More Than One Set of Master Data

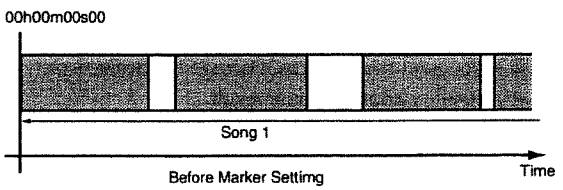
By taking master data (mastering tracks) created for different songs and joining them (that is, arranging them together into a single song), you can write the songs together as a song to a CD-R disk. For instance, if you are working with the master data for songs 1 through 3, you can copy the master data for songs 2 and 3 to song 1. Then, by writing song 1 to a CD-R disk, you will have written the master data for all three songs.

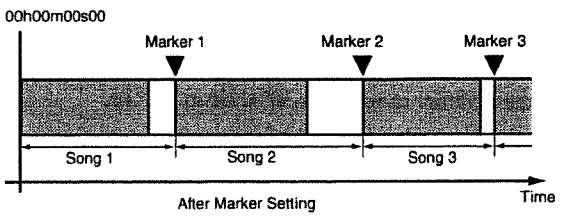
The method below describes how to group master data together.

- Record the master data on an external recording device, such as an MD or DAT recorder, and then re-record it on the VS-890.

Adding Track Number Markers

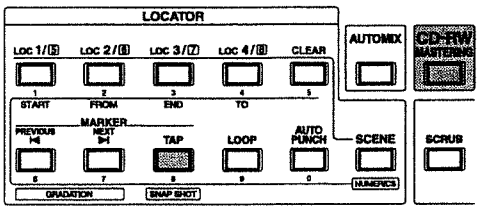
By placing two or more songs one after the other in the same track, you can write these songs consecutively to the CD-R disc. In this case, you can place markers between songs to function as track numbers, just as on a pre-recorded audio CD. These track numbers will be written to the audio CD that you record on your CD-RW drive.





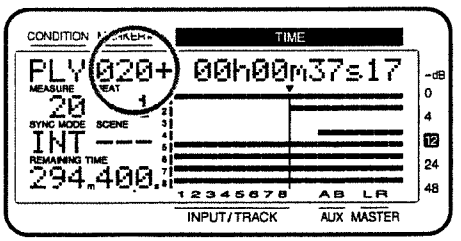
1. While listening to the song, move to the location where you wish to place a track number by using the **Transport Control buttons**, etc. You will probably find it convenient to use the Preview function or the Scrub function.

2. Hold down **[CD-RW (MASTERING)]** and press **[TAP]**. A track number marker will be placed at the current time location.



MEMO

A "+" (plus sign) appears at the end of the track number mark point.

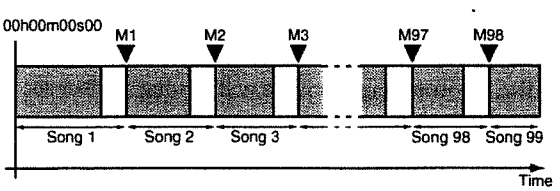


NOTE

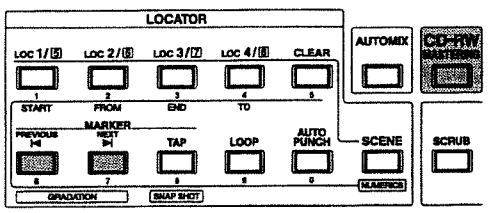
- You cannot set markers for four seconds from the top of songs ("00h00m00s00").
- Due to audio CD standards, songs must be at least four seconds long. Thus, if you try to set two markers as track numbers within four seconds of each other, "Can't Set Marker" appears on the display, and the process cannot be carried out. Reset the track number markers so there is an interval greater than four seconds between them.

MEMO

Audio CD standards allow up to 99 songs to be stored on one disc. Furthermore, even if no track number marker is set at the beginning of the song, it is still used for the beginning of the first song. Thus, you can set up to 98 markers as track numbers.



3. Pressing **[PREVIOUS ⏮]** while also pressing **[CD-RW (MASTERING)]** moves you to the previous track number marker. Pressing **[NEXT ⏭]** while also pressing **[CD-RW (MASTERING)]** moves you to the next track number marker. Please check the time at the track number.



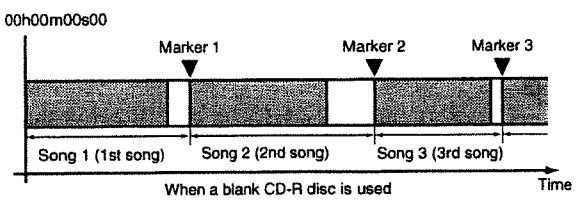
To Delete Track Number Markers

Delete markers used as track numbers the same way you would regular markers.

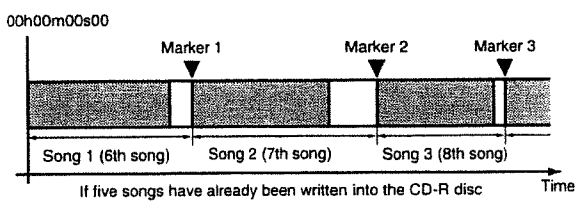
1. Move to the marker you want to delete.
2. Hold down **[CLEAR]** and press **[TAP]**.

Assigning Track Numbers

When you write an audio CD, a track number will automatically be assigned to "00h00m00s00f." For this reason, the track number markers and the actual song order will be as follows.



If you write additional songs onto a CD-R disc to which songs have already been written, track numbers will be assigned in sequence to follow the previously-written songs. For example if five songs have already been written to the CD-R disc, the next song you write will be song number six.



Before Using CD-R/RW Drives

Handling the CD-R/RW Drives

- Install the unit on a solid, level surface in an area free from vibration. If the unit must be installed at an angle, be sure the installation does not exceed the permissible range: upward, 5 °; downward, 5 °.
- Avoid using the unit immediately after it has been moved to a location with a level of humidity that is greatly different than its former location. Rapid changes in the environment can cause condensation to form inside the drive, which will adversely affect the operation of the drive and/or damage CD-R/RW discs. When the unit has been moved, allow it to become accustomed to the new environment (allow a few hours) before operating it.
- Remove any disc from the loading tray before powering up or down.
- When transporting the CD-RW drive, remove the disc from the loading tray. Also, avoid having the loading tray face downwards when carrying it.

Handling CD-R/RW Discs

- DO NOT play a CD-R/RW disc (CD-R disc on which song data has been backed up) on a conventional audio CD player. The resulting sound may be of a level that could cause permanent hearing loss. Damage to speakers or other system components may result.
- Please observe the following when handling discs:
  - Never touch the magnetic medium inside the disk.
  - Do not use or store discs in dirty or dusty areas.
  - Do not subject discs to temperature extremes (e.g., direct sunlight in an enclosed vehicle). Recommended temperature range: 10 to 50° C (50 to 122° F).
- Put the disc back into its case for storage.
- Do not leave discs in the CD-RW drive for extended periods.
- Do not affix stickers, labels, or other such items to the face of discs.
- Avoid touching or scratching the shiny underside (encoded surface) of the disc. Damaged or dirty CD-ROM discs may not be read properly. Keep your discs clean using a commercially available CD cleaner.
- Using a soft, dry cloth, wipe the disc from the center to the outer rim. Do not wipe the disc about the center in a circular direction.
- Do not apply record cleaners or sprays, benzene, or other solvents.

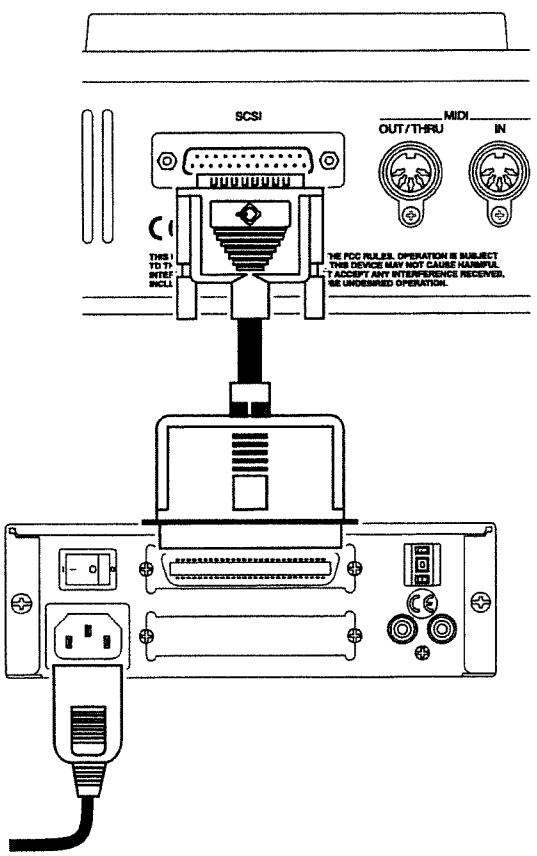
- Avoid bending or twisting discs, as this can adversely affect them to extent that data can no longer be read from, nor written to them. Device malfunction can be caused as well.

Connecting the CD-RW Drive

Use the following procedure to connect the CD-RW drive to the VS-890.

NOTE

- 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.
- Once the connections have been completed, 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.
- Always make sure to have the volume level turned down before switching on power. Even with the volume all the way down, you may still hear some sound when the power is switched on, but this is normal, and does not indicate a malfunction.



1. Turn on the power of the Roland CD Recorder.
2. Turn on the power of the VS-890 with the **POWER Switch** on the rear panel.
3. Turn on the power of connected audio equipment.
4. Raise the volume of the audio devices to appropriate levels.

Creating an Audio CD

You can create your own audio CD by writing sound data that from two specified tracks (**Mastering Tracks**) on the VS-890 to a CD-R disc.

The VS-890 first creates a CD-R **image file** on its internal IDE hard disk, then writes that **image file** to the CD-R disc. Thus, an internal IDE hard disk is necessary for this procedure. Furthermore, internal IDE hard disk must has a enough free space on the hard disk for the creation of the image file.

MEMO

- Regardless of partition settings, all free space on the internal hard disk may be accessed by the image data file. After writing of the image data file to the CD-R disc is completed, it is automatically deleted.
- If you have selected **CDR** as the **Record Mode** (recording mode) (p. 139), or if you have turned the **CDR RecMode** (CDR recording mode) setting **On**, the step of creating the image data file will be omitted.

Items Necessary for Creating an Audio CD

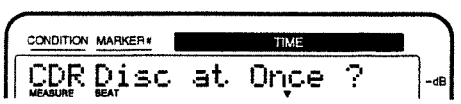
- VS-890 (1)
- Roland CD Recorder (CD-RW drive) (1)
- Internal IDE hard disk (1)
- Blank CD-R (Compact Disc-Recordable) disc
- Audio equipment to be connected to the MASTER jacks, or stereo headphones

Writing Songs to CD-R Discs

NOTE

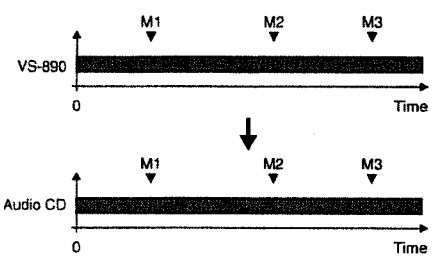
Audio data written to a CD-RW disc cannot be played back on a conventional CD player. In such cases, you can listen to the data using the VS-890's CD Player function.

1. Place a blank CD-R disc in the Roland CD Recorder.
2. Press **[CD-RW]** several times until "CDR CD-R Write ?" appears in the display.
3. Press **[YES]**. "STORE Current?" appears in the display.
4. If you wish to save the current song, press **[YES]**; if not, press **[EXIT/NO]**. **If you have selected a demo song, then press [EXIT/NO].**
5. The VS-890 displays the SCSI ID number of the connected CD recorder for a set time.
6. Then "Disc at Once?" or "Track at Once?" appears in the display. Press **PARAMETER [◀◀], [▶▶]** to select how the data will be written, and press **[YES]**.



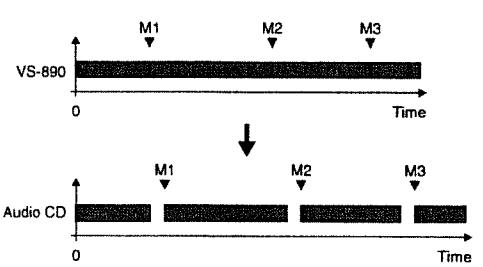
Disc at Once

The song data and the track number markers attached to the song data will be written to the CD-R disc without change. However, additional song data cannot be added later to a CD-R disc that was written using Disc At Once. (It will be in the same condition as if Finalize had been performed.)



Track at Once

Two seconds of silence will automatically be written to the CD-R disc before each track number marker attached to the song data. (This is the same condition as when additional songs are written to the disc later.) Additional song data can be written to a CD-R disc that was written using Track at Once.



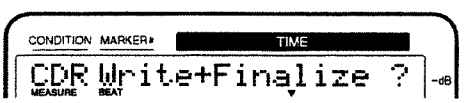
NOTE

If you use the CD-RW disc, you cannot choose "Track at Once" upon writing.

MEMO

For example, if you have assigned track numbers to a medley of songs, **Disc at Once** would be the appropriate choice. This is because Track at Once would add approximately two seconds of silence, which would cause the playback to sound fragmented.

7. If you select **Track at Once**, press **PARAMETER [◀◀], [▶▶]** to select whether or not the finalize is carried out, press **[YES]**. A TOC (Table Of Contents) will be written so that the audio CD created by the VS-890 can be played back on a standard CD player. It is not possible to write additional data to an audio CD that has been finalized.



Write + Finalize ?:
Write the song, and then finalize.

Write w/o Fin. ?:
Write only the song, and do not finalize.

Finalize ?:
Only finalize without writing the song. Select this if you have inserted a CD-R disc to which you have already written songs, but which has not yet been finalized.

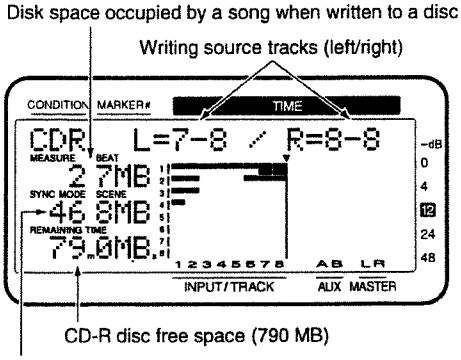
NOTE

Although the **Finalize** is selected to **On**, song data cannot be added later to the CD-R disc that was written using **Disc at Once**.

TOC (Appendices p. 13)

8. Use **CURSOR [◀], [▶]** and **TIME/VALUE dial** to select the tracks on the CD-R disc to which you want the song written.

Disk space occupied by a song when written to a disc (27MB)



MEMO

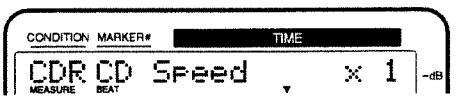
The disk space occupied by a song when written to a CD-R disc may not be equivalent to the size of the song itself (the space is indicated when [SHIFT] + [SONG] are pressed). This is something that varies with the number of tracks and recording mode used. You can make a rough estimate of the space required for a song when written to a CD-R disc as shown below.

- Size (bytes) = 44,100 (Hz) x 2 (stereo tracks) x 2 (bytes) x "song length" (in seconds)

MEMO

The used capacity of the song is displayed as 1 MB = 1,000,000 bytes. The displayed value is the approximate standard value.

9. Press **PARAMETER [▶▶]**. "CD Speed" appears in the display. Use **TIME/VALUE dial** to select the speed at which the song will be written to the CD-R disc.



CD Speed

Select the speed at which the song data will be written to the CD-R disc.

x 1: The song will be written at normal speed. This will provide higher reliability.

x 2: The song will be written at double speed.

x 4: The song will be written at fourfold speed.

NOTE

- With some CD-R discs, the data may not be written correctly if you select "x2." In this case, select "x1."
- If a CD-RW disc is inserted into the CD-RW drive, **CD Speed** is selected to "x2 automatically.

10. Press **PARAMETER [▶▶]**. A confirmation message appears in the display.

11. Press **[YES]**. "CDR CD Track No. OK?" is displayed.

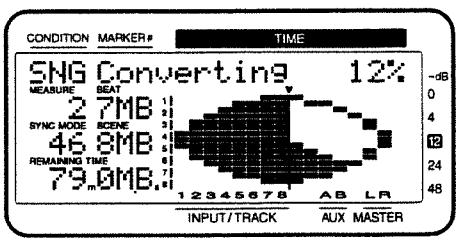
12. Press **[YES]** again. "Obey Copyrights?" is displayed.

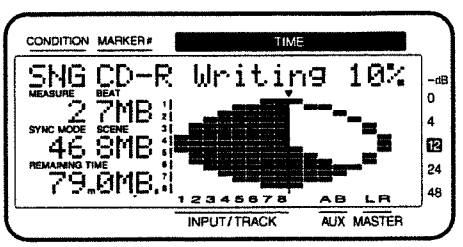
13. Carefully read the License Agreement (detailed on the back cover of this manual); if you agree to the terms, press **[YES]**.

14. Writing to the CD-R disc begins. If you do not agree to the terms, press **[CANCEL (NO)]**. The VSR-880 just returns to the condition at Step 2.

MEMO

If no performance data has been recorded on the tracks to be written, the display will indicate "No Data to Write." Press **[YES]** to return to step 2.





15. After the write procedure has been carried out normally, "Write Another?" appears in the display.

16. When you want to write the same song information to another CD-R disc, insert another disc in the CD-RW drive and press **[YES]**. Repeat Steps 10–15. Press **[NO]** to return to the condition at Step 2.

17. Press **[NO]**. This returns you to the status at Step 2. Pressing **[CD-RW]** also returns you to Step 2.

Auditioning (Test Listening) Songs Written to CDs (CD Player Function)

You cannot playback CD-RW discs or CD-R discs that have just had written songs to them with regular commercial CD players. To listen to songs that have been just written to a disc in order to check them, carry out the following operation.

NOTE

- Audio data written to a CD-RW disc cannot be played back on a conventional CD player. In such cases, you can listen to the data using the VS-890's CD Player function.
- You can listen to the contents of the disc through the VS-890's **MONITOR jacks** or the **PHONES jack**. You cannot output the contents through the CD-R drive's PHONES jack or AUDIO OUT jacks.

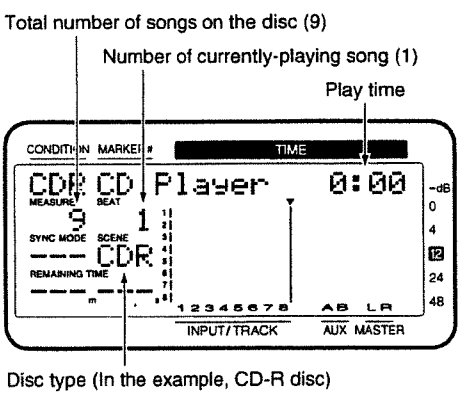
MEMO

Other commercially-available CD software can also be played using the CD player function.

?

Finalize (Appendices p. 12)

1. Insert the CD-R disc or commercial CD software onto the CD recorder.
2. Press **[CD-RW]** until "CDR CD Player?" appears in the display.
3. Press **[YES]**. "STORE Current?" (Store the current song?) appears in the display.
4. If you wish to save the current song, press **[YES]**; if not, press **[NO]**. **If you have selected a demo song, then press [NO].**
5. The VS-890 displays the SCSI ID number of the connected CD recorder for a set time.
6. The CD-R disc information is then displayed.



7. Only the following buttons, knobs, and faders effect the sound. Try listening to the contents of the disc.

   [ZERO]: Goes to the start of the first song.

   [REW]: Rapidly rewinds as long as the button is held down. (while stops)

   [FF]: Rapidly advances as long as the button is held down. (while stops)

   [STOP]: Stops the CD.

   [PLAY]: Begins playing back from the present location.

   [|◀◀]: Returns to the previous song.

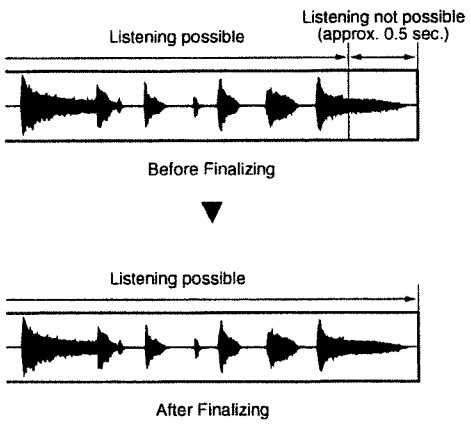
   [▶▶|]: Advances to the next song.

   PHONES Knob: Adjusts headphone volume.

   Master Fader: Adjusts the MasterLevel.

NOTE

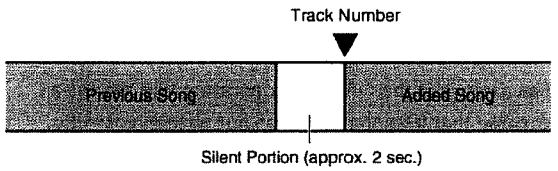
- **Buttons**, **knobs** and **faders** response may be slow, but this does not indicate any malfunction. For example, expect to wait about five seconds after pressing **[PLAY]** or **[◀◀]** before you hear sound.
- **Transport control buttons** are used in controlling the CD control. They are not controls for the VSR-880's songs. Furthermore, the content of the CD currently listened to cannot be recorded by the VS-890.
- When listening to discs that have not been finalized, the last approximately 0.5 seconds of the song cannot be played back. Finalizing makes this portion audible.



8. When you are finished listening to the material, press **[STOP]**.
9. Press **[NO]**. This returns you to the status at Step 2. Pressing **[CD-RW]** also returns you to Step 2.

Writing Additional Songs to the Disc

To the extent that any remaining free space allows, you can add songs to CD-R discs that have not yet been finalized. Repeat the procedure described in "Writing Songs to CD-R Discs" (p. ???). Here you can insert approximately 2 seconds of blank space between the new song and the song before it. The track number is also recorded automatically.



Saving Songs to CD-RW Discs (CD-R Backup)

You can save song data stored on the VS-890's hard disk to CD-R/RW discs. This procedure is called **backup**. Conversely, the process of loading backed up song data onto the internal hard disk is referred to as **recover**. Besides all V-track performance data, backed up data also includes Locator (p. 40), Marker (p. 41), and Scene settings (p. 46) made in the songs.

In CD-R backup, the song data is converted into a data format specifically for saving. This means that it will not be possible to directly play back the song data. If you wish to play back song data copied in archive format, you will need to reload the backed up data into the current drive using the appropriate procedure. Furthermore, when copying a song that does not fit on a single disc, it is copied onto multiple discs according to the free space on the discs.

Song data backed up on CD-R discs cannot be rewritten. Thus, this is an appropriate procedure for backing up completed song data in its final form.

NOTE

- Song data recorded onto Zip disks cannot be backed up onto CD-R discs or CD-R discs.
- It is impossible to save any additional song data to the CD-R/RW discs that already have songs backed up on them. When you back up onto the CD-RW discs, existing contents should be totally erased before the new contents are saved.
- Incorrectly conducting the backup procedure may result in the loss of data. Roland Corporation assumes no liability concerning such loss of data.
- Roland does not warrant any copied data, regardless of the performance or condition of the CD recorder.

Items Necessary for CD-R Backup

- VS-890 (1)
- Roland CD Recorder (1)
- Internal IDE hard disk
- CD-R/RW blank disc

Backup the song to CD-R discs

1. Saving Songs to CD-R Discs

1. Select the disk (internal IDE hard disk) containing the source song you want to back up as the current drive (**Drive Select**; p. 133.

2. Place a CD-R/RW disc in the Roland CD Recorder.

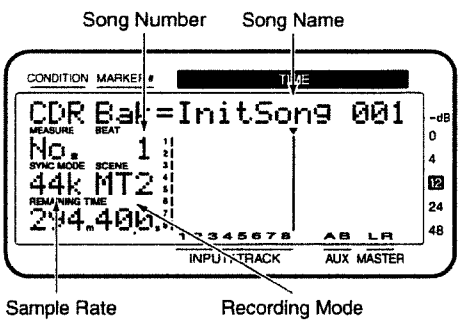
3. Press **[CD-RW]** several times until "CD-R Backup ?" appears in the display.

4. Press **[YES]**. "STORE Current?" (Store the current song?) appears in the display.

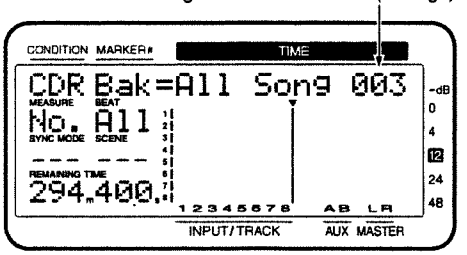
5. If you wish to save the current song, press **[YES]**; if not, then press **[NO]**. **If you have selected a demo song, then press [NO].**

6. The VS-890 displays the SCSI ID number of the connected CD recorder for a set time.

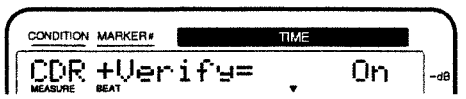
7. Then "CDR Bak=" appears in the display. Use the **TIME/VALUE dial** to select the song (only one song or all songs on the current drive) that you wish to save. To backup all songs from the current drive, select "All."



Total number of songs in the current drive (3 songs)



8. "+Verify=" appears in the display. Rotate the **TIME/VALUE dial** to select "On" or "Off," and press **PARAMETER [▶▶]**.



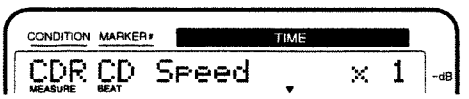
+Verify

If this is turned "On," verification will be performed after the song data has been backed up, to check whether or not the data was saved correctly.

NOTE

- When backing up to a CD-R, we recommend that you also execute +Verify to check whether the data was backed up correctly.
- Since +Verify checks the entire CD-R disc, the operation will take a certain amount of time.
- If as a result of the "+Verify" operation you receive a warning that the song data was not written correctly, please make a backup on another disk.

9. "CD Speed=" appears in the display. Rotate the **TIME/VALUE dial** to select the backup speed.



CD Speed

Select the speed at which the song data will be backed up to the CD-R disc.

x 1: The song will be backed up at normal speed. This will provide higher reliability.

x 2: The song will be backed up at double speed.

x 4: The song will be backed up at fourfold speed.

NOTE

- Depending on the disc, it may not be possible to back up reliably to a CD-R disc with a setting of "x 2." In such cases, select "x 1."
- If a CD-RW disc is inserted into the CD-RW drive, **CD Speed** is selected to "x2" automatically.

10. Press **[YES]**. CD-R backup function will begin.

11. If the song holds a large amount of data, and cannot be contained on a single CD-RW disc, the disc is ejected, and the message "Insert Blank #" (# indicates the number in the order of insertion) appears in the display to check the total amount of necessary discs. Insert the next CD-RW disc and press **[YES]**. At this time, we recommend that you write the disc numbers on the labels so that you can keep track of the order in which the discs were inserted into the drive.

12. When you are performing a backup that spans more than one disk, a check for the necessary number of disks is performed, and then "Insert Blank #" is displayed. Insert each of the discs once more in the proper order and press **[YES]**.

13. When the CD-R backup procedure is finished, return to Play condition.

Loading Songs From CD-R Discs (CD-R recover)

1. Select the disk (internal IDE hard disk) containing the song you want to load as the current drive (**Drive Select**; p. 133).

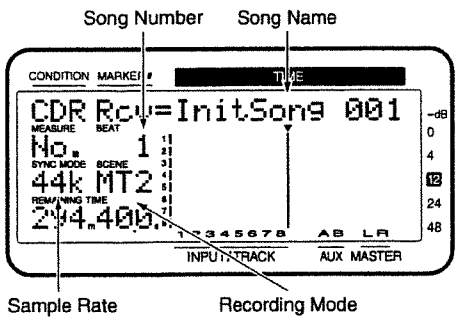
2. Place the CD-R disc to which the song data has been backed up into the Roland CD recorder.

3. Press **[CD-RW]** several times until "CD-R Recover ?" appears in the display.

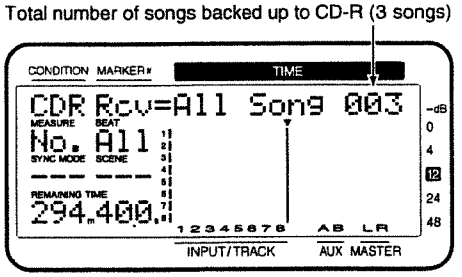
4. Press **[YES]**. "STORE Current?" (Store the current song?) appears in the display.

5. If you wish to save the current song, press **[YES]**; if not, then press **[NO]**. **If you have selected a demo song, then press [NO].**

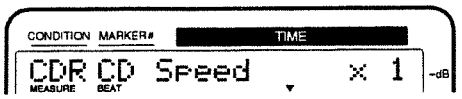
6. "CDR Rcv=" appears in the display. Use the **TIME/VALUE dial** to select the song (only one song or all songs on the CD-RW disc) that you wish to load. To recover all songs from the current drive, select "All."



Total number of songs backed up to CD-R (3 songs)



7. "CD Speed=" appears in the display. Rotate the **TIME/VALUE dial** to select the recover speed.



CD Speed

Select the speed at which the song data will be recovered from the CD-R disc.

x 20: The song will be recovered at twentyfold speed.

x 8: The song will be recovered at eightfold speed.

x 4: The song will be recovered at fourfold speed.

x 1: The song will be recovered at normal speed. This will provide higher reliability.

NOTE

- Depending on the disc, it may not be possible to recover reliably from some CD-R discs at speeds of "x20" or "x8." In this case, select "x1."
- If a CD-RW disc is inserted into the CD-RW drive, **CD Speed** is selected to "x2" automatically.
- Even if the "CD Speed" is set to "x20" or "x8" the time it takes for recovery is not always 1/20 or 1/8 of the base. This is because writing to the internal hard disk can take a lot of time, or disc read errors can sometimes occur.

8. Press **[YES]**. CD-R recover will begin.

9. If you selected "All" in step 6, the display will indicate "INIT ***:* OK ?" (OK to initialize the disk drive?). "***:*" is the ID number and partition number of the recover destination disk drive. For example when recovering to partition 0 of the internal hard disk drive, the display would indicate "IDE:0."

10. If you wish to initialize the current drive and then recover, press **[YES]**. If at this point you press **[YES]**, all songs saved on the internal hard disk will be lost. If you decide not to initialize, press **[NO]**. Normally you should press **[NO]**.

11. Execute the load. When over multiple discs, the disc is ejected, "Insert Disc #" (# indicates the number in the order of insertion) appears in the display. Insert the next disc and press **[YES]**.

12. When the CD-R recover procedure is finished, return to Play condition.

How to Erase the Data in the CD-RW Disc

It is impossible to write audio data to the CD-R discs in which the song data is saved. To write audio data to the finalized CD-RW discs, erase the existing data as follows.

1. Place the CD-RW disc which includes the data you wish to erase into the Roland CD Recorder.

2. Press **[CD-RW]** several times until "CD-R Backup?" appears in the display.

3. Press **[YES]** and "STORE Current?" appears.

4. Press **[YES]** to save the current song, or **[NO]** if not. **If the current song is the demo song, press [NO].** "CDR Bak=" appears in the display.

5. Press **[YES]** and "Finalized CD!" or "Not Blank CD!" appears.

6. Press **[YES]** and "CD-RW Erase?" appears.

7. Press **[YES]** and "CD-RW Erasing..." appears and the contents in the CD-RW disc is erased.

8. "Continue?" appears and press **[NO]**.

Compatibility

Disks used with Roland's VS-series VS-880, VS-1680, VS-880EX, VSR-880 and VS-1880 models can also be used by the VS-890. Additionally, song data recorded on such disks can be loaded by the VSR-880. However, because differences in the structure of disk space and song data on disks that can be used, there are a number of precautions concerning the loading and saving of data that should be observed.

NOTE

- **The VS-880 does not have a DAT recovery function.** Thus, song data backed up to DAT on another device (except the VSR-880) cannot be recovered by the VS-890.
- If you wish to recover song data that was backed up to DAT by another device, you must first restore (**DAT recover**) the song to the device that performed the DAT backup. Then you must use a method such as **CD-R Backup** or **Archive Store** to save the song data on a disk that the VS-890 is able to use (CD-R/RW disc, Zip disk, etc.).

Using a disk from another model of device on the VS-890 (Disk Compatibility 1)

VS-880 or VS-880EX → VS-890

- A disk that was used by the VS-880/880EX (internal hard disk, playable Zip disks, etc.) are recognized as the initialization disk. In this case, the VS-890 can be used for playing back songs recorded with the VS-880/880EX, and creating new songs as well. However, you cannot use the VS-890 to edit songs that were recorded on the VS-880/880EX, or save new versions of songs.
- If you wish to edit VS-880/880EX song data with VS-890, convert it to VS-890 song data (**Song Import**; p. 155).
- Song data that has been saved using the CD-R backup procedure on the VS-880/880EX can be restored with the VS-890 (**CD-R recover**). However, the VS-890 cannot edit or save new versions of the extracted songs. In this case, you should first execute CD-R Recover. Then convert the extracted song data for use with the VS-890 (**Song Import**; p. 155).
- Song data that has been saved using the Archive Copy procedure on the VS-880/880EX can be restored with the VS-890 (**Archive Extract**). However, the VS-890 cannot edit or save new versions of the extracted songs. In this case, you should first execute Song Archive Extract. Then convert the extracted song data for use with the VS-890 (**Song Import**; p. 155).

VS-1680 → VS-890

- A disk that was used by the VS-1680 (internal hard disk, playable Zip disks, etc.) will be recognized as a properly initialized disk only if the partition size is 1 GB. In this case, however, the VS-890 can create new songs on the disk. **Furthermore, the VS-890 cannot recognize songs recorded on the VS-1680.** The VS-1680 song will not be displayed in the Song Select.
- If you wish to edit VS-1680 song data with VS-890, convert it to VS-890 song data (**Song Import**; p. 155).

MEMO

Even if the disk has been initialized with the "Partition" set to "2000 MB," the disk can be used if the actual partition is 1 GB or less (such as Zip disks, etc.).

- Song data that has been saved using the CD-R backup procedure on the VS-1680 can be restored with the VS-890 (**CD-R recover**; p.**). However, the VS-890 cannot edit or save new versions of the extracted songs. In this case, you should first execute CD-R Recover. Then convert the extracted song data for use with the VS-890 (**Song Import**; p. 155).
- Song data that has been saved using the Archive Copy procedure on the VS-1680 can be restored with the VS-890 (**Archive Extract**). However, the VS-890 cannot edit or save new versions of the extracted songs. In this case, you should first execute Song Archive Extract. Then convert the extracted song data for use with the VS-890 (**Song Import**; p. 155).

NOTE

On the VS-890, The VS-1680 song name obtained by CD-R Recover or Song Archive Extract will not be displayed in the Song Select screen (it cannot be recognized).

VSR-880 → VS-890

- A disk that was used by the VSR-880 (internal hard disk, playable Zip disks, etc.) are recognized as the initialization disk. At this time, songs recorded with the VSR-880 are recognized as VS-890 songs. This means that in addition to playing back songs recorded with the VSR-880 and creating new songs, you can use the VS-890 to do things like editing songs recorded with the VSR-880 and saving new songs.
- Song data that has been saved using the CD-R backup procedure on the VSR-880 can be restored with the VS-890 (**CD-R recover**). You can edit and save restored songs with the VS-890.
- Song data that has been saved using the Archive Copy procedure on the VSR-880 can be restored with the VS-890 (**Archive Extract**). You can edit and save restored songs with the VS-890.

VS-1880 → VS-890

- A disk that was used by the VS-1880 (internal hard disk, playable Zip disks, etc.) will be recognized as a properly initialized disk only if the partition size is 1 GB. In this case, however, the VS-890 can create new songs on the disk. **Furthermore, the VS-890 cannot recognize songs recorded on the VS-1880.** The VS-1680 song will not be displayed in the Song Select (p.**) or Song Import (p. 155).
- If you wish to playback or edit the VS-1880 song on the VS-890, you must convert that song data into the VSR-880 format (VS-1880's Song Export). You can take songs for the VSR-880 and play them back, edit them, or re-save them on the VS-890, without having to modify anything.

MEMO

Even if the disk has been initialized with the "Partition" set to "2000 MB," the disk can be used if the actual partition is 1 GB or less (such as Zip disks, etc.).

- Song data that has been saved using the CD-R Backup procedure on the VS-1880 cannot be restored (CD-R recovered) by the VS-890.
- Song data that has been saved using the Archive Copy procedure on the VS-1880 cannot be restored (archive extracted) by the VS-890.

VS-840 or VS-840EX → VS-890

- When a Zip disk used by a VS-840/840EX is inserted in a Zip drive connected to the VS-890, it is recognized as an un-initialized disk.
- If you wish to playback/edit the VS-840/840EX song on the VS-890, you must convert that song data into the VS-890 format (**Song Import**; p. 155). However in this case, only the performance data (audio data) and the data specifying the track on which each audio data is recorded will be converted.

Using the VS-890 disk on a different device (Disk Compatibility 2)

VS-890 → VS-880/880EX

- A disk used on the VS-890 (internal hard disk or playable Zip disk) will be recognized as an initialized disk for partitions 0–3 only. **Partitions 4-9 will not be recognized.** In this case, however, the VS-880/880EX can create new songs on the disk. Furthermore, the VS-880/880EX cannot recognize songs recorded on the VS-890.
- If you wish to edit VS-890 song data with VS-880/880EX, convert it to VS-880/880EX song data (**Song Export**; p. 157).
- Song data that has been saved using the CD-R Backup procedure on the VS-890 cannot be restored (CD-R recovered) by the VS-880/880EX.
- Song data that has been saved using the Archive Copy procedure on the VS-890 cannot be restored (archive extracted) by the VS-880/880EX.

VS-890 → VS-1680

- A disk used on the VS-890 (internal hard disk, playable Zip disk, etc.) will be recognized as an initialized disk for partitions 0–7 only. **Partitions 8–9 will not be recognized.** In this case, the VS-1680 can be used for playing back songs recorded with the VS-890 and creating new songs as well. However, you cannot use the VS-1680 to edit songs that were recorded on the VS-890 or save new versions of songs.
- If you wish to edit VS-890 song data with VS-1680, convert it to VS-1680 song data (**Song Export**; p. 157).
- Song data that has been saved using the CD-R backup procedure on the VS-890 cannot be restored (CD-R recovered) with the VS-1680.
- Song data that has been saved using the Archive Copy procedure on the VS-890 cannot be restored (archive extracted) with the VS-1680.

VS-890 → VSR-880

- A disk that was used by the VS-890 (internal hard disk, playable Zip disks, etc.) are recognized as the initialization disk. At this time, songs recorded with the VS-890 are recognized as VSR-880 songs. This means that in addition to playing back songs recorded with the VS-890 and creating new songs, you can use the VSR-880 to do things like editing songs recorded with the VS-890 and saving new songs.
- Song data that has been saved using the CD-R backup procedure on the VS-890 can be restored with the VSR-880 (VSR-880's CD-R recover). You can edit and save restored songs with the VS-890.
- Song data that has been saved using the Archive Copy procedure on the VS-890 can be restored with the VSR-880 (VSR-880's Archive Extract). You can edit and save restored songs with the VS-890.

VS-890 → VS-1880

- A disk used on the VS-890 (internal hard disk, playable Zip disk, etc.) will be recognized as an initialized disk for partitions 0–7 only. **Partitions 8–9 will not be recognized.** In this case, the VS-1880 can be used for playing back songs recorded with the VS-890 and creating new songs as well. However, you cannot use the VS-1880 to edit songs that were recorded on the VS-890 or save new versions of songs.
- If you wish to edit VS-890 song data with VS-1880, convert it to VS-1880 song data (VS-1880's Song Import; VS-890 songs are recognized as VSR-880 songs.).
- Song data that has been saved using the CD-R backup procedure on the VS-890 can be restored with the VS-1880 (VS-1880's CD-R recover). However, the VS-1880 cannot edit or save new versions of the extracted songs (VS-890 songs are recognized as VSR-880 songs.). In this case, you should first execute CD-R Recover. Then convert the extracted song data for use with the VS-1880 (VS-1880's Song Import).
- Song data that has been saved using the Archive Copy procedure on the VS-890 can be restored with the VS-1880 (VS-1880's Archive Extract). However, the VS-1880 cannot edit or save new versions of the extracted songs (VS-890 songs are recognized as VSR-880 songs.). In this case, you should first execute Song Archive Extract. Then convert the extracted song data for use with the VS-1880 (VS-1880's Song Import).

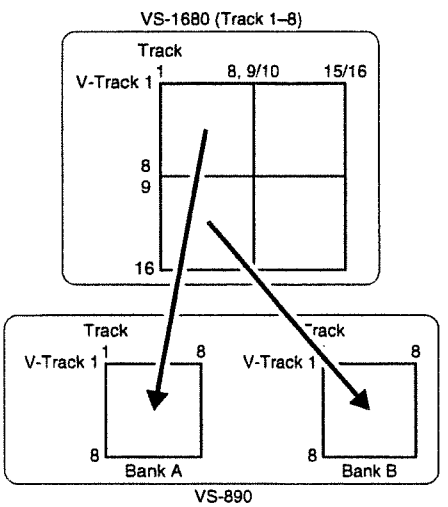
VS-890 → VS-840/840EX

- When a Zip disk used by a Zip drive connected to the VS-890 is inserted in a VS-840/840EX, it is recognized as an un-initialized disk.
- If you wish to playback/edit an VS-890 song on the VS-840/840EX, you must first convert the VS-890 song data into VS-880 format, and save it on a Zip disk (VS-890's **Song Export**; p. 157). Then you must convert that song data into the VS-840/840EX format (VS-840/840EX's Song Convert function). However in this case, only the performance data (audio data) and the data specifying the track on which each audio data is recorded will be converted.

Converting the Other VS-series Performance Data into the VS-890 (Song Import)

You can convert songs created on the other VS-series for use with the VS-890 and copy them as new songs to the current drive. This is referred to as **Song Import**.

- All the data such as mixer setting including equalizer and channel link, system setting including sync track and tempo map, locators and markers, and effect setting will be imported. However, that the Locator times for Locator Banks 5 through 8 on the VS-1680/1880 are ignored (and cannot be imported).
- The sample rate and recording mode of the newly created song will be the same as the original song. If the song whose recording mode is set to "LIV2" (VS-1680, VS-840 or VS-840EX), Song Import cannot be carried out.
- If the recording mode of the VS-1680 song is "MTP," it is imported by converting into the VS-890 song with "VSR." This means that importing the songs may take a long time. Also, equalizer settings are ignored.
- When importing the VS-1680 song, you must select either tracks 1–8 or tracks 9–16. V-tracks 1–8 of the selected tracks will be imported to V-track bank A of the VS-890, and V-tracks 9–16 will be imported to V-track bank B of the VS-890.

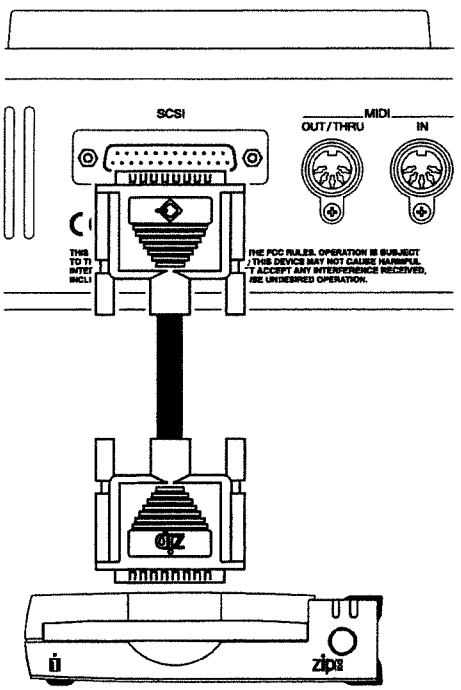


- If there is insufficient free space on the current drive, Song Import cannot be carried out.

Song Import procedure

Here we will explain the procedure by which a song from another device that was copied to a Zip disk as a playable copy can be converted for use by the VS-890 via a Zip drive connected to the VS-890. If you are importing song data for another model that is also intermixed on the internal hard drive, start reading at step 3.

1. Make settings as shown below.



2. Insert the disk onto which the other VS-series song data has been recorded into the Zip drive.

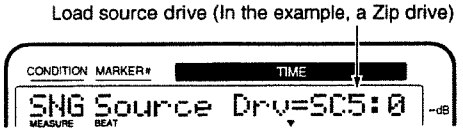
3. For the current drive, select the drive (internal IDE hard disk) you want to be the load destination (**Drive Select**).

4. Press **[SONG]** several times until "Song Import ?" appears in the display.

5. Press **[YES]**.

6. "Source Drv=" (the drive from which the data will be read) appears in the display. Use the **TIME/VALUE dial** to select the drive which contains the song you wish to convert. For example if the source drive is the Zip drive, select "SC5:0."

Load source drive (In the example, a Zip drive)



MEMO

In the case of a song of another model that is saved on the VS-890's hard disk, select "IDE:0" or whatever else is appropriate.

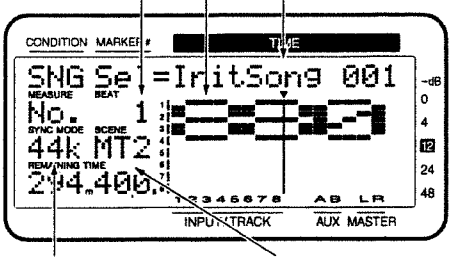
7. Press **[YES]**.

8. "Sel=" appears in the display. Use the **TIME/VALUE dial** to select the song you want to convert.

Song Type (In the example, VS-880's song)

Song Number

Song Name



Sample Rate

Recording Mode

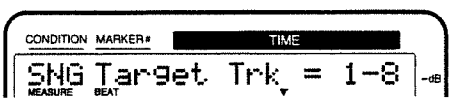
MEMO

Different types of songs (for the VS-880, VS-1680 or VS-880EX) are distinguished (p. 158).

9. Press **[YES]**. A confirmation message appears in the display.

9-1. When importing a VS-1680 song, the display will indicate "Target Trk=."

9-2. Use the **TIME/VALUE dial** to select the tracks (1–8 or 9–16) that you wish to import, and press **[YES]**.



10. Press **[YES]** again. "STORE Current?" (Store the current song?) appears in the display.

11. If you wish to save the current song, press **[YES]**; if not, then press **[NO]. If you have selected a demo song, then press [NO].**

12. After Song Import is completed, return to Play condition. The song converted for use by the VS-890 will be the current song.

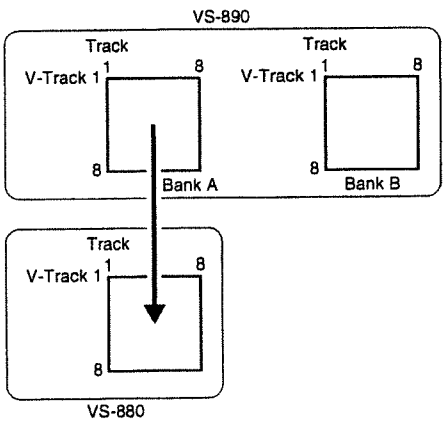
Converting The VS-890 Song Data for Use with the other VS-series (Song Export)

You can convert the current song for use with the other VS-series and copy it as a new songs to a Zip drive connected to the VS-890's SCSI connector, etc. This is referred to as **Song Export**.

- All song data, including mixer settings such as equalizer and Stereo Link, system settings such as sync tracks and Tempo Maps, locator and markers, effects settings, and so on are exported.
- The sample rate and recording mode of the newly created song will be the same as the original song.
- If there is insufficient free space on the conversion destination drive, Song Export cannot be carried out.

Export for Use with the VS-880

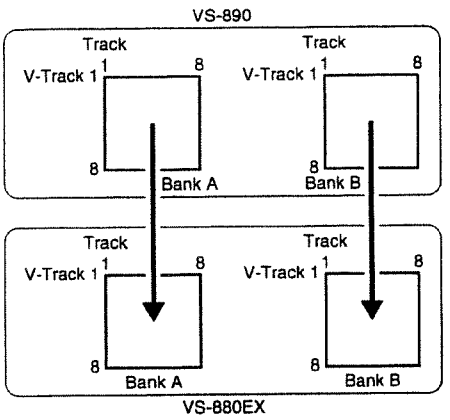
When you export to a VS-880 song, V-track bank A song data (tracks 1–8, V-tracks 1–8) will be copied. Please copy the data in the V-track bank B to the V-track bank A beforehand, by using Track Exchange



- It is not possible to export a song whose **recording mode** (p. 48) is "CDR" or "VSR" for use with the VS-880.
- Song export is not performed for mastering tracks recorded when the **CDR RecMode** (CDR recording mode; p. 139) is set to **on**.

Export for Use with the VS-880EX

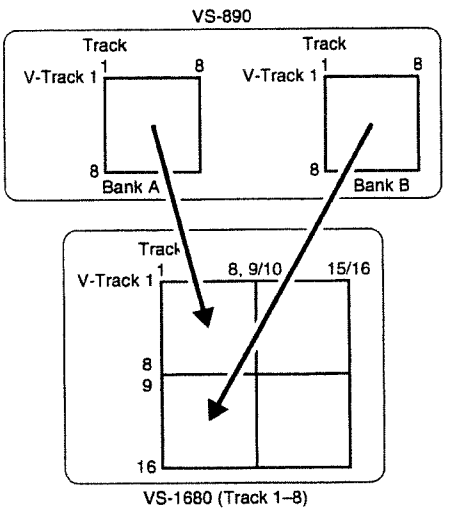
When exporting for use with the VS-880EX, song data on V-tracks and Banks A and B (tracks 1 through 8 and V-tracks 1 through 8) is exported unchanged.



- It is not possible to export a song whose **recording mode** (p. 48) is "CDR" or "VSR" for use with the VS-880.
- Song export is not performed for mastering tracks recorded when the **CDR RecMode** (CDR recording mode; p. 139) is set to **on**.

Export for Use with the VS-1680

When exporting for use with the VS-1680, V-track bank A of the VS-890 will be imported to Tracks 1–8 (V-tracks 1–8) of the VS-1680, and V-track bank B of the VS-890 will be imported to Tracks 1–8 (V-tracks 9–16).

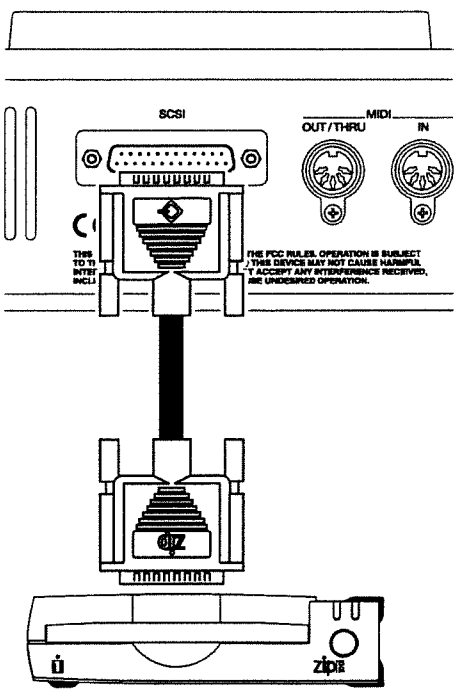


- It is not possible to export a song whose **recording mode** (p. 48) is "CDR" for use with the VS-1680.
- Song export is not performed for mastering tracks recorded when the **CDR RecMode** (CDR recording mode; p. 139) is set to **on**.
- If the recording mode of the VS-890 song is "VSR," it is exported by converting into the VS-1680 song with "MTP." This means that exporting the songs may take a long time.

Song Export Procedure

Here we will explain the procedure of converting a VS-890 song for use by the other VS-series (for this example, VS-880), and saving it in playable format to a Zip disk. If you are performing song export to place song data for another model on the internal hard drive as well, start reading at step 3.

1. Make settings as shown below.



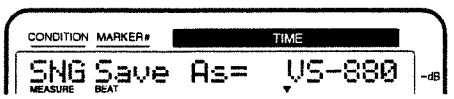
2. Insert a disk into the Zip drive.

3. Select the song you want to convert as the current song (**Song Select**).

4. Press **[SONG]** several times until "Song Export ?" appears in the display.

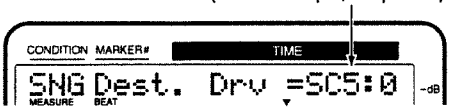
5. Press **[YES]**.

6. "Save As =" appears in the display. Use the **TIME/VALUE dial** to select the model (VS-880, VS-1680 or VS-880EX) for which you wish to convert the song, and press **PARAMETER [▶▶]**. Here, select the "VS-880."



7. "Dest. Drv=" (the save destination drive) appears in the display. Use the **TIME/VALUE dial** to select the drive on which you wish to save the converted song data. For example if you wish to save the data to the Zip drive, select "SC5:0."

Write destination drive (In the example, a Zip drive)



MEMO

If you wish to save a song of another model on the VS-890's hard disk, select "IDE:0" or whatever else is appropriate.

8. Press **[YES]**. A confirmation message appears in the display.

9. Press **[YES]** again. "STORE Current?" (Store the current song?) appears in the display.

10. If you wish to save the current song, press **[YES]**; if not, then press **[NO]**. **If you have selected a demo song, then press [NO].**

11. After Song Export is completed, return to Play condition.

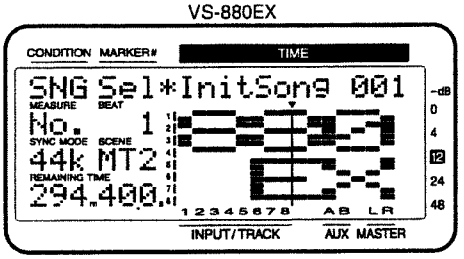
Coexistence of Performance Data for Multiple Models

Song data for the VS-880, VS-880EX, VSR-880 and the VS-890 could end up residing together on the same disk if you restore songs using Archive Extract, CD-R Recover, or similar operations. When this happens, the songs are given song numbers ranging from 1 to 200 for each model.

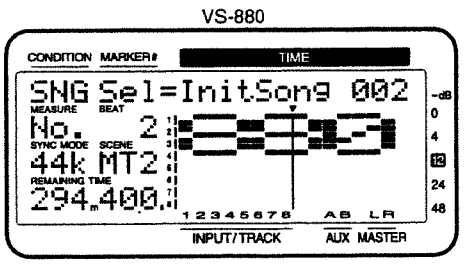
The total number of songs that can be saved on a single partition is limited to 500. For example, if partition 0 of the internal hard drive has 200 songs each for the VS-890 and the VS-880, the number of songs for the VS-880EX that can additionally be saved is limited to a maximum of 100 songs.

Also, songs for different models (the VS-880, VS-880EX, and VSR-880, and the VS-890) are grouped separately on the screen for Song Select and the like.

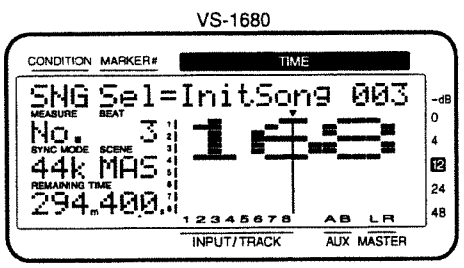
VS-880EX



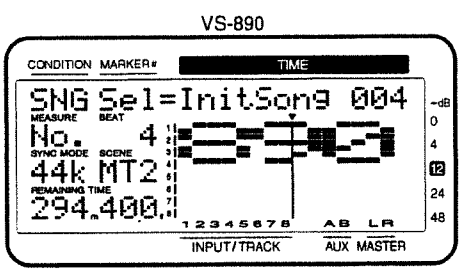
VS-880



VS-1680



VS-890



Recording Mode Compatibility Chart

- The checkmarks in the chart indicate recording modes supported by the respective products.
- For example, the recording modes that the VS-890 supports are the ones shown by the checkmarks in the VS-890 column along the left edge, namely **VSR**, **MAS**, **MT1**, **MT2**, **LIV**, and **CDR**.
- Within each box in the chart, the songs for the product groups along the horizontal axis can be imported from, or exported to, the product on the vertical axis.

Examples: The VS-1880 and the VS-890 (thick-line frame)

- Both the VS-890 and the VS-1880 support **MAS**, **MT1**, **MT2**, **LIV**, and **CDR** songs. On the VS-890, each of the various types can be exported without change as songs for the VS-1880. Similarly, each of the various types of VS-1880 songs can be imported without change as songs for the VS-890 (the export tracks are selectable).
- **LV2** songs are not supported on the VS-890. This means that VS-1880 LV2 songs cannot be imported as songs for the VS-890.
- VS-890 **VSR** songs can be exported as VS-1880 **MTP** songs.
- VS-1880 **MTP** songs can be imported as VS-890 **VSR** songs.

Products (imported from, or exported to)

Recording Mode (Supported)

		VS-1880	VS-1680	VS-880EX	VS-880	VSR-880	VS-890
VS-1880	VSR		--	--	--	Import (MTP←)	Import (MTP←)
	MTP ✔		Import / Export	--	--	Export (→VSR)	Export (→VSR)
	MAS ✔		Import / Export	Import / Export	Import / Export	Import / Export	Import / Export
	MT1 ✔		Import / Export	Import / Export	Import / Export	Import / Export	Import / Export
	MT2 ✔		Import / Export	Import / Export	Import / Export	Import / Export	Import / Export
	LIV ✔		Import / Export	Import / Export	Import / Export	Import / Export	Import / Export
	LV2 ✔		Import / Export	--	--	--	--
	CDR ✔		--	--	--	Import / Export	Import / Export
VS-1680	VSR	--		--	--	--	--
	MTP ✔	--		--	--	--	--
	MAS ✔	--		Import / Export	Import / Export	--	--
	MT1 ✔	--		Import / Export	Import / Export	--	--
	MT2 ✔	--		Import / Export	Import / Export	--	--
	LIV ✔	--		Import / Export	Import / Export	--	--
	LV2 ✔	--		--	--	--	--
	CDR	--		--	--	--	--
VS-880EX	VSR	--	--		--	--	--
	MTP	--	--		--	--	--
	MAS ✔	--	--		Import / Export	--	--
	MT1 ✔	--	--		Import / Export	--	--
	MT2 ✔	--	--		Import / Export	--	--
	LIV ✔	--	--		Import / Export	--	--
	LV2	--	--		--	--	--
	CDR	--	--		--	--	--
VS-880	VSR	--	--	--		--	--
	MTP	--	--	--		--	--
	MAS ✔	--	--	--		--	--
	MT1 ✔	--	--	--		--	--
	MT2 ✔	--	--	--		--	--
	LIV ✔	--	--	--		--	--
	LV2	--	--	--		--	--
	CDR	--	--	--		--	--
VSR-880	VSR ✔	--	Export (→MTP)	--	--		Rec / Play
	MTP	--	Import (VSR←)	--	--		
	MAS ✔	--	Import / Export	Import / Export	Import / Export		Rec / Play
	MT1 ✔	--	Import / Export	Import / Export	Import / Export		Rec / Play
	MT2 ✔	--	Import / Export	Import / Export	Import / Export		Rec / Play
	LIV ✔	--	Import / Export	Import / Export	Import / Export		Rec / Play
	LV2	--	--	--	--		
	CDR ✔	--	--	--	--		Rec / Play
VS-890	VSR ✔	--	Export (→MTP)	--	--	Rec / Play	
	MTP	--	Import (VSR←)	--	--		
	MAS ✔	--	Import / Export	Import / Export	Import / Export	Rec / Play	
	MT1 ✔	--	Import / Export	Import / Export	Import / Export	Rec / Play	
	MT2 ✔	--	Import / Export	Import / Export	Import / Export	Rec / Play	
	LIV ✔	--	Import / Export	Import / Export	Import / Export	Rec / Play	
	LIV2	--	--	--	--		
	CDR ✔	--	--	--	--	Rec / Play	

Use with MIDI Devices

This section describes the **MIDI messages** that can be handled by the VS-890 and the operations that the VS-890 can perform using MIDI messages.

For more detailed information about MIDI, please refer to "About MIDI" (Appendices p. 3).

Synchronizing with MIDI Sequencers

The VS-890 can be operated in synchronization with a MIDI sequencer. Refer to the owner's manual for your sequencer in conjunction with this manual. There are two main ways to accomplish synchronization, one is method using **MTC (MIDI time code)** and the other one is method using **MIDI Clock**, with MIDI Clock further divided into two types, **Sync Track** and **Tempo Map**, either if which can be selected. Use the method that is appropriate for your situation.

?
MTC (Appendices p. 12)

- Using MTC (MIDI time code)
- Using the sync track
- Using the tempo map

Items Necessary for Synchronization

- VS-890 (1)
- Internal IDE hard disk
- Audio equipment to be connected to the MASTER jack, or stereo headphones
- External MIDI sequencer or computer sequencer software (such as Cakewalk Pro Audio)
- MIDI cables

Master and Slave

When synchronizing the VS-890 with a MIDI sequencer, the device that sends, or transmits **MTC** or **MIDI Clock** and acts as the reference device is referred to as the **master**. Conversely, the device that receives the MTC or MIDI Clock signals from the controlling device is called the **slave**.

When using **MTC**, you can choose whether to have the MIDI sequencer be the master that controls the VS-890, or to have the VS-890 be the master that controls the MIDI sequencer. In contrast, when you use MIDI Clock, whereas you can synchronize a MIDI sequencer from the VS-890 (VS-890 as master), it will not be possible to synchronize the VS-890 from the sequencer (VS-890 as slave).

Using MTC

This section explains how the VS-890 can be synchronized with a MIDI sequencer that implements MTC (MIDI Time Code). When using MTC, you can choose to have the VS-890 be the master that controls the MIDI sequencer, or to have the MIDI sequencer be the master that controls the VS-890.

MTC Type

The VS-890 can work with the following types of MTC. Check the specifications of the MIDI devices that you are using, and select the appropriate type of MTC on the VS-890.

30: 30 frames per second non-drop format. This is used by audio devices such as analog tape recorders, and for NTSC format black and white video.

29N: 29.97 frames per second non-drop format. This is used for NTSC format color video.

29D: 29.97 frames per second drop format. This is used for NTSC format broadcast color video.

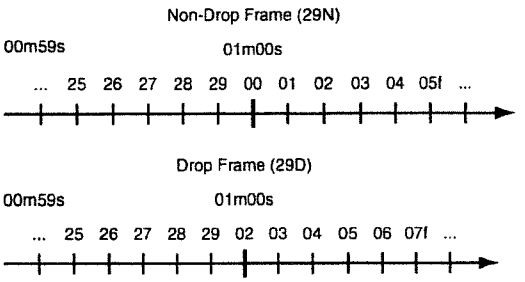
25: 25 frames per second. This is used for SECAM or PAL format video, audio equipment, and film.

24: 24 frames per second. This is used for video, audio devices, and film in the US.

?
Frame (Appendices p. 12), NTSC Format (Appendices p. 12), SECAM Format/PAL Format (Appendices p. 12)

Drop Frame and Non-Drop Frame

There are two types of time code used by **NTSC format** video cassette recorders, **drop**, in which the time code is not continuous, and **non-drop**, which features continuous time code. In drop, which is used for NTSC color video format, the first two frames of every minute are dropped, except for those at ten-minute intervals.



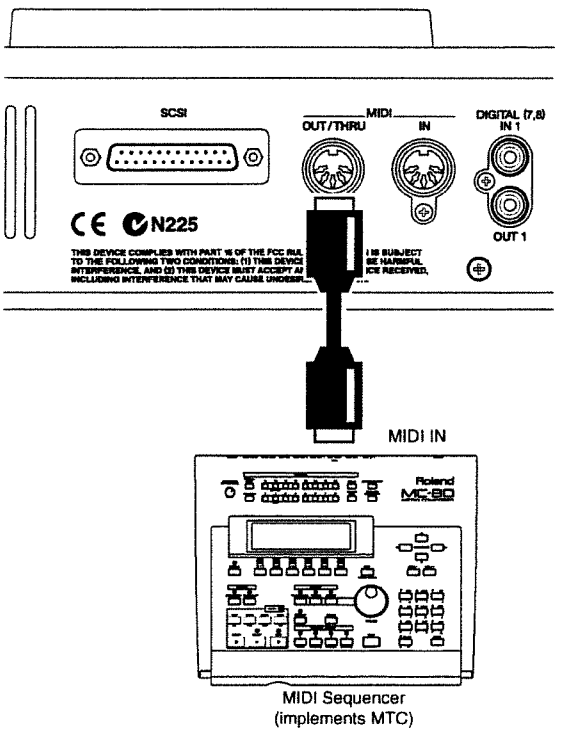
MEMO

In most video and audio production, since formats with continuous frames are easier to deal with, non-drop is generally used. In contrast, in situations such as in broadcast, where the time code must match actual clock time, drop is used.

Synchronization with the VS-890 as the Reference (Master)

When you are having the VS-890 act to control the MIDI sequencer, use the following procedure.

1. Connect the VS-890 and the MIDI sequencer as shown below.



2. Press **[SYSTEM]** several times until "SYS MIDI PRM ?" appears in the display.
3. Press **[YES]**.
4. Press **PARAMETER [▶▶]** several times until "SYS MID: MIDIThr=" appears in the display.
5. Rotate the **TIME/VALUE dial**.

MIDI Thr (MIDI Thru Switch)

This selects the function of the MIDI OUT/THRU connector. For now, select "Out."

Out: The connector transmits MIDI messages from the VS-890. Select this when you want to transmit metronome Note messages or mixer parameter settings (Control Change messages or Exclusive messages).

Thru: MIDI messages received at the MIDI IN connector will be retransmitted from the connector without change.

6. Press **[SYSTEM]** several times until "SYS Sync/Tempo ?" appears in the display.
7. Press **[YES]**.
8. Press **PARAMETER [▶▶]** several times until "SYS Gen.=" appears in the display.
9. Rotate the **TIME/VALUE dial**.

Gen. (Generator)

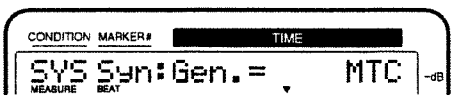
This selects the type of synchronization signal that will be transmitted from the MIDI OUT connector. At this point, select "MTC."

Off: Synchronization signals are not transmitted.

MTC: MIDI Time Code is transmitted.

MIDIClk: MIDI Clock according to the Tempo Map is transmitted.

SyncTr: MIDI Clock data recorded on the sync track is transmitted.



10. Press **PARAMETER [▶▶]**. "SYS MTC Type=" appears in the display.
11. Rotate the **TIME/VALUE dial**.

MTC Type

This selects the MTC type (30, 29N, 29D 25, 24). Select the MTC that matches your MIDI sequencer.

12. Press **[PLAY (DISPLAY)]**. Return to Play condition.

13. Set your MIDI sequencer so that it can operate according to the MIDI Clock messages received from external devices, and set it so that it can play back MIDI song data. When playback begins on the VS-890, the MIDI sequencer begins playback as well.

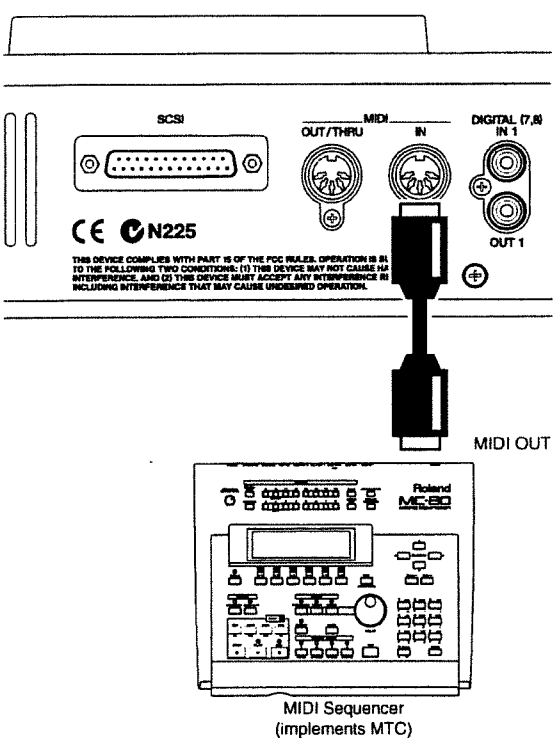
Synchronization with the MIDI Sequencer as the Reference (Slave)

When the MIDI sequencer is used as the basis to control the VS-890, use the following procedure.

MEMO

When using MIDI sequencer software for personal computers, then depending on the hardware specifications and the playing conditions, the MTC signal sent to the VS-890 may be unstable. As much as possible, try to synchronize using the VS-890 as the master.

1. Connect the VS-890 and the MIDI sequencer as shown below.



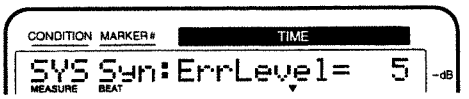
MIDI Sequencer
(implements MTC)

2. Press **[SYSTEM]** several times until "SYS Sync/Tempo ?" appears in the display.

3. Press **[YES]**.

4. Press **PARAMETER [▶▶]** several times until "SYS Sync/Tempo ?" appears in the display.

5. Rotate the **TIME/VALUE dial**.



ErrLevel (Error Level)

This sets the interval (0–10) for checking MTC reception when synchronizing the VS-890 as MTC is transmitted by an external MIDI device. When MTC is not sent continuously, the VS-890 checks the MTC and cancels synchronization if there is an error. By setting a longer interval under such circumstances, synchronization can continue, even if there is a certain degree of error.

6. Press **PARAMETER [▶▶]**. "SYS MTC Type=" appears in the display.

7. Rotate the **TIME/VALUE dial**.

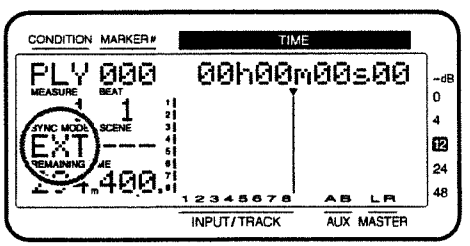
MTC Type

This selects the MTC type (30, 29N, 29D 25, 24). Select the MTC that matches your MIDI sequencer.

8. Press **[PLAY (DISPLAY)]**. Return to Play condition.

9. Set your MIDI sequencer to send MTC.

10. Hold down **[SHIFT]** and press **[SYSTEM]**. The "SYNC MODE" field of the display will show "EXT," indicating that the unit will now operate in synchronization with MTC received from a MIDI sequencer.



11. Press **[PLAY]**. The PLAY indicator blinks green, indicating that the VS-890 is in MTC receive standby mode. When the MIDI sequencer begins playback, then playback also begins on the VS-890. During synchronization, the PLAY indicator are lit.

12. When you stop the MIDI sequencer, the VS-890 will also stop. The PLAY indicator blinks green.

13. Press **[STOP]**. The PLAY indicator goes off.

14. Hold down **[SHIFT]** and press **[SYSTEM]**. The "SYNC MODE" field of the display will show "INT," indicating that the unit will no longer operate in synchronization.

Synchronizing with an External MIDI Device

When the VS-890 is running under the control of the MTC from an external MIDI device, you can synchronize the song's playback time and the MTC time. This time is called the **offset**. For example, if the MTC time is "01h00m00s00f00," and the song's time is "00h10m00s00f00," the "offset" is as follows.

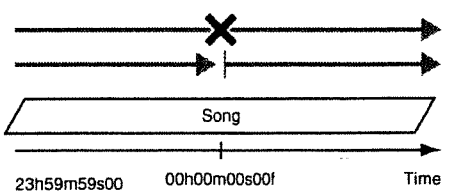
(Offset)
= (MTC time) - (destined time of the song)
= (01h00m00s00f00) - (00h10m00s00f00)
= (00h50m00s00f00)

If the offset value turns out to be negative, add "24h00m00s00f00" to the MTC time before subtracting the destined time of the song. For example, if the MTC time transmitted is 00h00m50s00f00," and you want the song to play back at "00h01m00s00f00," then the offset works out as shown below.

(Offset)
= (MTC time) - (destined time of the song)
= (00h00m50s00f00) - (00h01m00s00f00)
= ((24h00m00s00f00) + (00h00m50s00f00)) - (00h01m00s00f00)
= (23h59m50s00f00)

NOTE

With the VS-890, continuous playback from "23h59m59s29f99" to "00h00m00s00f00" does not correspond to (overnight mode). The song that crosses over "00h00m00s00f00" momentarily stops at "23h59m59s29f99" then resumes playback.



1. Press **[SYSTEM]** several times until "SYS System PRM ?" appears in the display.

2. Press **[YES]**.

3. Press **PARAMETER [▶▶]**.

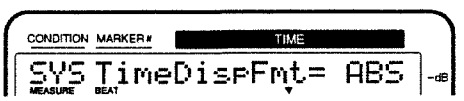
4. "TimeDispFmt=" appears in the display. Rotate the **TIME/VALUE dial**.

TimeDispFmt (Time Display Format)

Select one of the reference times (REL, ABS) that appear in the display. For now, choose "ABS."

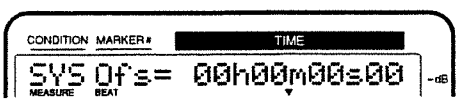
REL: The starting time of the song is displayed as "00h00m00s00f00."

ABS: The time displayed includes the addition of the offset time.



5. Press **PARAMETER [▶▶]**.

6. "Ofs=" appears in the display. Rotate the **TIME/VALUE dial**.



Ofs (Offset)

When the VS-890 is running under the control of the MTC from an external MIDI device, you can synchronize the song's playback time and the MTC time. The offset settings range varies depending on the MTC type selected for the current song.

7. Press **[PLAY (DISPLAY)]**. Return to Play condition.

Using the Sync Track (Master)

If your MIDI sequencer supports **Song Position Pointer** messages, you can use the MIDI Clock to synchronize operations. There are two methods of synchronization using the MIDI Clock: one is using the sync track, and the other one is using the tempo map. Here is an explanation of how to control the MIDI sequencer from the VS-890 using the **sync track**.

What is the Sync Track?

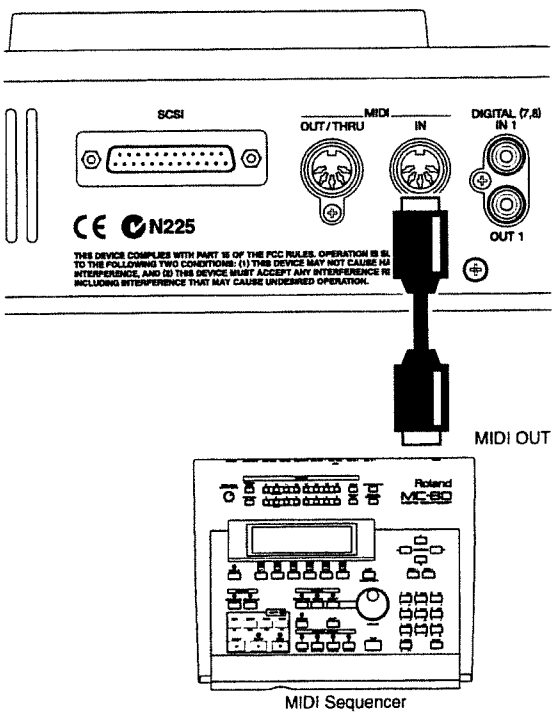
In addition to the tracks for recording audio signals, the VS-890 has a separate track for recording MIDI Clock signals. This is called the sync track. Unlike conventional multi-track recorders, it is not necessary to reserve one of the audio tracks for recording the sync signal.

To use the sync track, first the MIDI clock of the MIDI song data to which you want to synchronize must first be recorded onto the sync track. Then, transmit the recorded MIDI clock data to the MIDI sequencer to synchronize the MIDI song data. This is a convenient method to use when the MIDI song data has been created earlier than the VS-890 song.

In particular, when synchronizing to MIDI song data in which the tempo gradually increases or decreases, using the tempo map allows more precise following of tempo changes, compared to the tempo map in which tempo is set for each measure.

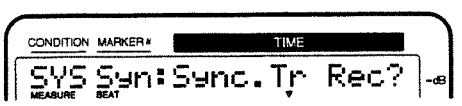
Recording MIDI Clock Messages

1. Connect the VS-890 and the MIDI sequencer as shown below.



MIDI Sequencer

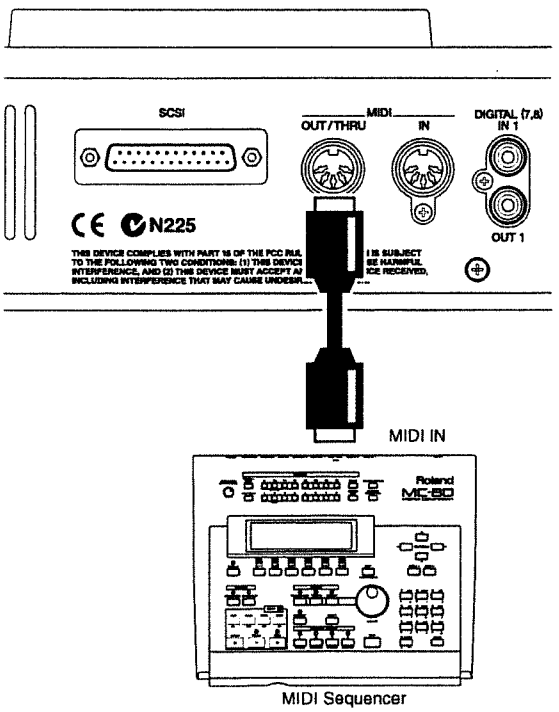
2. Press **[SYSTEM]** several times until "SYS Sync/Tempo ?" appears in the display.
3. Press **[YES]**.
4. Press **PARAMETER [▶▶]** several times until "SYS SYN: Sync Tr. Rec?" appears in the display.



5. Press **[YES]**. "Wait for Start" appears in the display, and the sync track is ready for record MIDI clock data.
6. Start playback of the MIDI song data. The MIDI clock data is recorded on the sync track. While MIDI clock data is being recorded onto the sync track, the input sources can be monitored, but audio tracks cannot be recorded or played back.
7. When the MIDI song data is finished playing back, the VS-890 automatically stops recording MIDI clock data. Return to Play condition.

Synchronized Operation

1. Connect the VS-890 and the MIDI sequencer as shown below.



2. Press **[SYSTEM]** several times until "SYS MIDI PRM ?" appears in the display.
3. Press **[YES]**.
4. Press **PARAMETER [▶▶]** several times until "SYS MID: MIDIThr=" appears in the display.
5. Rotate the **TIME/VALUE dial**.

MIDI Thr (MIDI Thru Switch)

This selects the function of the MIDI OUT/THRU connector. For now, select "Out."

Out: The connector transmits MIDI messages from the VS-890. Select this when you want to transmit metronome Note messages or mixer parameter settings (Control Change messages or exclusive messages).

Thru: MIDI messages received at the MIDI IN connector will be retransmitted from the connector without change.

6. Press **[SYSTEM]** several times until "SYS Sync/Tempo ?" appears in the display.
7. Press **[YES]**.
8. Press **PARAMETER [▶▶]** several times until "SYS Gen.=" appears in the display.
9. Rotate the **TIME/VALUE dial**.

Gen. (Generator)

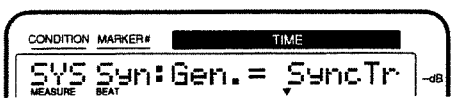
This selects the type of synchronization signal that will be transmitted from the MIDI OUT connector. At this point, select "SyncTr."

Off: Synchronization signals are not transmitted.

MTC: MIDI Time Code is transmitted.

MIDIClk: MIDI Clock according to the Tempo Map is transmitted.

SyncTr: MIDI Clock data recorded on the sync track is transmitted.



10. Press **[PLAY (DISPLAY)]**. Return to Play condition.
11. Set your MIDI sequencer so that it can operate according to the MIDI Clock messages received from external devices, and set it so that it can play back MIDI song data. When playback begins on the VS-890, the MIDI sequencer begins playback as well.

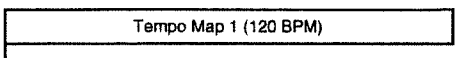
Using the Tempo Map (Master)

If your MIDI sequencer supports **Song Position Pointer** messages, you can use the MIDI Clock to synchronize operations. There are two methods of synchronization using the MIDI Clock: one is using the sync track, and the other one is using the tempo map. This section gives an explanation of how to control the MIDI sequencer from the VS-890 using the **tempo map**.

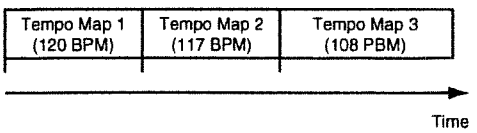
What is a Tempo Map?

A tempo map is a song's measure, beat, and tempo information. Transmitting this information to MIDI sequencers and other devices, it can be used in synchronizing operations with external MIDI devices. The tempo map sets tempo changes for each measure, so you can record information specifying changes in rhythm and tempo to be played from any designated measure. With the VS-890, tempo maps are numbered sequentially from the beginning of the song, with Tempo Map 1 first, followed by Tempo Map 2, Tempo Map 3, and so on. Tempo Map 1 is already specified at the beginning of the song, and determines the initial tempo of the song. To change the tempo at a subsequent measure, create a new tempo map at each location where you want the tempo to change. Up to 50 tempo maps can be created.

Example 1: Song with no tempo changes

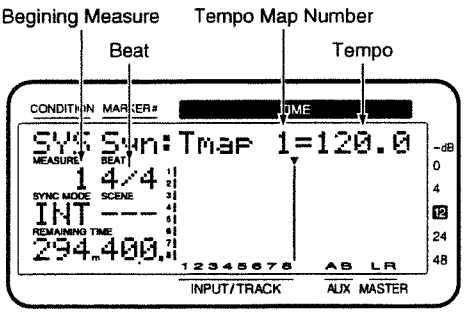


Example 2: Song with tempo changes occurring during the song



Creating a Tempo Map

1. Hold down **[SHIFT]**, and press **[TAP]**.
2. Tempo Map 1 (the song's initial tempo) is displayed. The measure appearing in the display and its beat, metronome sound, and MIDI Clock transmitted from the VS-890 follow the tempo map settings. The following example indicates that a tempo map with time signature of 4/4 and quarter note=120 begins at measure 1.



3. Use **CURSOR [◀], [▶]** and the **TIME/VALUE dial** to make the setting.

(Tempo)

Sets the tempo map tempo (25.0–250.0).

Measure (Measure)

Selects the beginning measure (1–999) for each tempo map.

NOTE

Tempo Map 1 is the song's initial tempo. You cannot be changed or deleted the beginning measure setting of "1."

Beat

This sets the tempo map time signature (1/1–8/1, 1/2–8/2, 1/4–8/4, 1/8–8/8).

4. If you wish to change the tempo during the song, press **CURSOR [◀]**. The cursor will move to the tempo map number display.

MEMO

By pressing **[CANCEL (NO)]** while the tempo map number is displayed by the cursor, you can delete the tempo map.

5. Rotate the **TIME/VALUE dial** clockwise. "<New>" appears in the display.
6. Press **[YES]**.

7. Repeat steps 3–6 to specify the tempo map. By rotating the **TIME/VALUE dial** counterclockwise in step 12, you can modify a previously-specified tempo/starting measure/time signature.

8. When you are finished making tempo map settings, press **[PLAY (DISPLAY)]**. Return to Play condition.

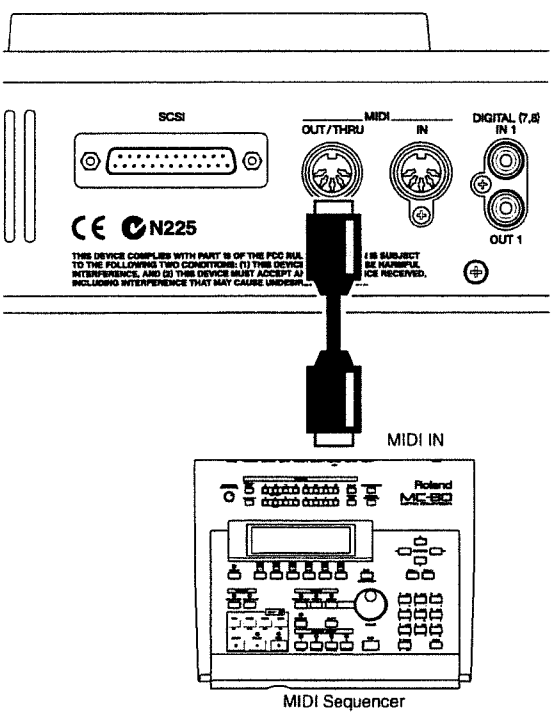
MEMO

Limitations on changing the starting measure

Tempo maps are numbered from the beginning of the song as tempo map 1, tempo map 2, tempo map 3, etc. This means that it is not possible to modify the starting measure of a tempo map to make it earlier than the starting measure of the previous tempo map, or later than the starting measure of the following tempo map. For example if tempo map 2 has a starting measure of "8" and tempo map 4 has a starting measure of "16," the starting measure of tempo map 3 can be modified only in the range of "9–15."

Synchronized Operation

1. Connect the VS-890 and the MIDI sequencer as shown below.



2. Press **[SYSTEM]** several times until "SYS MIDI PRM ?" appears in the display.

3. Press **[YES]**.

4. Press **PARAMETER [▶▶]** several times until "SYS MID: MIDIThr=" appears in the display.

5. Rotate the **TIME/VALUE dial**.

MIDI Thr (MIDI Thru Switch)

This selects the function of the MIDI OUT/THRU connector. For now, select "Out."

Out: The connector transmits MIDI messages from the VS-890. Select this when you want to transmit metronome Note messages or mixer parameter settings (Control Change messages or exclusive messages).

Thru: MIDI messages received at the MIDI IN connector will be retransmitted from the connector without change.

6. Press **[SYSTEM]** several times until "SYS Sync/Tempo ?" appears in the display.

7. Press **[YES]**.

8. Press **PARAMETER [▶▶]** several times until "SYS Gen.=" appears in the display.

9. Rotate the **TIME/VALUE dial**.

Gen. (Generator)

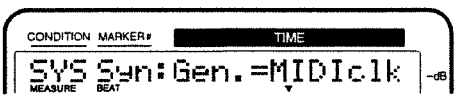
This selects the type of synchronization signal that will be transmitted from the MIDI OUT connector. At this point, select "MIDIClk."

Off: Synchronization signals are not transmitted.

MTC: MIDI Time Code is transmitted.

MIDIClk: MIDI Clock according to the Tempo Map is transmitted.

SyncTr: MIDI Clock data recorded on the sync track is transmitted.



10. Press **[PLAY (DISPLAY)]**. Return to Play condition.

11. Set your MIDI sequencer so that it can operate according to the MIDI Clock messages received from external devices, and set it so that it can play back MIDI song data. When playback begins on the VS-890, the MIDI sequencer begins playback as well.

Various Operations Related to Synchronized Operation

There may be times when you want to use MIDI Clock to synchronize with an external MIDI sequencer or other device, even without recording using the metronome. In such instances, to synchronize with the tempo of the recorded song, first set a Marker. You can then create a sync track or tempo map beginning at that Marker.

- Setting Markers Along with the Tempo
- Creating a Sync Track from the Marker
- Creating a Sync Track from the Marker
- Creating a Tempo Map from a Sync Track
- Creating a Sync Track Automatically
- Delaying Sync Track and Tempo Map Start Times

Setting Markers Along with the Tempo

1. Press **[ZERO]**.
2. Press **[PLAY]** to begin playback of the song.
3. While listening to the song, press **[TAP]** at the downbeat at the each beat.
4. When you have finished setting the Markers, press **[STOP]**.

MEMO

To correctly place Markers on the downbeats of other song, we recommend using the Preview and Scrub functions.

Creating a Sync Track from the Marker

A sync track can be generated from markers that were assigned according to the tempo of a previously recorded performance. This is convenient when you have already recorded a performance of an acoustic instrument such as guitar or vocal, and now you wish to synchronize a MIDI sequencer etc. to the recording.

1. Press **[SYSTEM]** several times until "SYS Sync/Tempo?" appears in the display.
2. Press **[YES]**.
3. Press **PARAMETER [▶▶]** several times until "SYS MIDI PRM ?" appears in the display.
4. Press **[YES]**.
5. Rotate the **TIME/VALUE dial**.

CV (Convert)

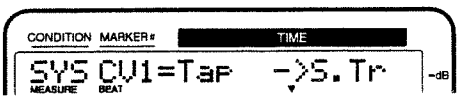
Here you can select how the sync track / tempo map will be created. For this example, select "CV1."

CV1=Tap->S.Tr: Create the sync track from mark points.

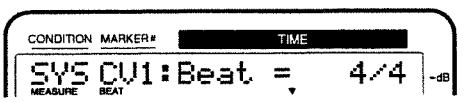
CV2=Tap->T.Map: Create the tempo map from mark points.

CV3=S.Tr->T.Map: Create the tempo map from the sync track.

CV4=Time->S.Tr: Automatically create the sync track.



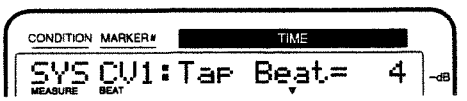
6. Press **PARAMETER [▶▶]**. "SYS CV:Beat=" appears in the display.
7. Rotate the **TIME/VALUE dial**.



Beat

Specify the number of beat (1/1–8/1, 1/2–8/2, 1/4–8/4, 1/8–8/8) in one measure.

8. Press **PARAMETER [▶▶]**. "SYS CV:Tap Beat=" appears in the display.
9. Rotate the **TIME/VALUE dial**.



Tap Beat

Specify the number of marks (1–8) in each measure.

10. Press **[YES]**.
11. A confirmation message asking if you want to save the changes to the sync track appears in the display. If you want to save the changes, press **[YES]**. If you wish to cancel, then press **[NO]**.
12. When the sync track has been completed, "— Complete —" appears in the display.
13. Press **[PLAY (DISPLAY)]**. Return to Play condition.

Creating a Sync Track from the Marker

A sync track can be generated from markers that were assigned according to the tempo of a previously recorded performance. This is convenient when you have already recorded a performance of an acoustic instrument such as guitar or vocal, and now you wish to synchronize a MIDI sequencer etc. to the recording.

1. Press **[SYSTEM]** several times until "SYS Sync/Tempo?" appears in the display.
2. Press **[YES]**.
3. Press **PARAMETER [▶▶]** several times until "SYS Sync.Tr Cnv?" appears in the display.
4. Press **[YES]**.
5. Rotate the **TIME/VALUE dial**.

CV (Convert)

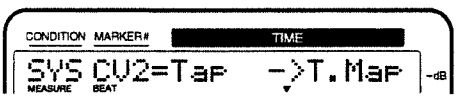
Here you can select how the sync track / tempo map will be created. For this example, select "CV2."

CV1=Tap->S.Tr: Create the sync track from mark points .

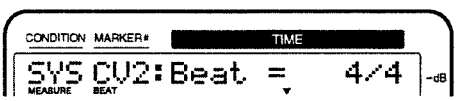
CV2=Tap->T.Map: Create the tempo map from mark points.

CV3=S.Tr->T.Map: Create the tempo map from the sync track .

CV4=Time->S.Tr: Automatically create the sync track .



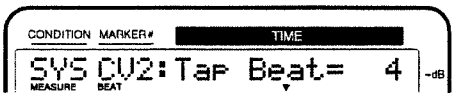
6. Press **PARAMETER [▶▶]**. "SYS CV:Beat=" appears in the display.
7. Rotate the **TIME/VALUE dial**.



Beat

Specify the number of beat (1/1–8/1, 1/2–8/2, 1/4–8/4, 1/8–8/8) in one measure.

8. Press **PARAMETER [▶▶]**. "SYS CV:Tap Beat=" appears in the display.
9. Rotate the **TIME/VALUE dial**.



Tap Beat

Specify the number of marks (1–8) in each measure.

10. Press **[YES]**.
11. A confirmation message asking if you want to save the changes to the tempo map appears in the display. If you want to save the changes, press **[YES]**. If you wish to cancel, then press **[NO]**.
12. When the tempo map has been completed, "— Complete —" appears in the display.
13. Press **[PLAY (DISPLAY)]**. Return to Play condition.

Creating a Tempo Map from a Sync Track

You can create a tempo map from sync track stored in the VS-890. This is convenient when you want to change a sync track's MIDI Clock with the VS-890.

1. Press **[SYSTEM]** several times until "SYS Sync/Tempo?" appears in the display.
2. Press **[YES]**.
3. Press **PARAMETER [▶▶]** several times until "YS Sync.Tr Cnv?" appears in the display.
4. Press **[YES]**.
5. Rotate the **TIME/VALUE dial**.

CV (Convert)

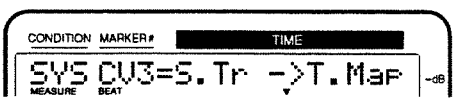
Here you can select how the sync track / tempo map will be created. For this example, select "CV3."

CV1=Tap->S.Tr: Create the sync track from mark points .

CV2=Tap->T.Map: Create the tempo map from mark points .

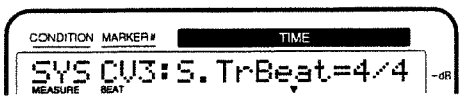
CV3=S.Tr->T.Map: Create the tempo map from the sync track.

CV4=Time->S.Tr: Automatically create the sync track .



6. Press **PARAMETER [▶▶]**. "Sync Trk Beat=" appears in the display.

7. Rotate the **TIME/VALUE dial**.



Sync Trk Beat (Sync Track Beat)

Specify the number of beats (1/1–8/1, 1/2–8/2, 1/4–8/4, 1/8–8/8) per measure in the MIDI clock that is recorded in the sync track.

8. Press **[YES]**.
9. A confirmation message asking if you want to save the changes to the tempo map appears in the display. If you want to save the changes, press **[YES]**. If you wish to cancel, then press **[NO]**.
10. When the tempo map has been completed, "— Complete —" appears in the display.
11. Press **[PLAY (DISPLAY)]**. Return to Play condition.

Creating a Sync Track Automatically

You can automatically create a sync track by specifying the start and end times of the song, and the number of measures that it contains. This is convenient when you already know the length of the song, such as with commercials.

1. Press **[SYSTEM]** several times until "SYS Sync/Tempo?" appears in the display.
2. Press **[YES]**.
3. Press **PARAMETER [▶▶]** several times until "SYS Sync.Tr Cnv?" appears in the display.
4. Press **[YES]**.
5. Rotate the **TIME/VALUE dial**.

CV (Convert)

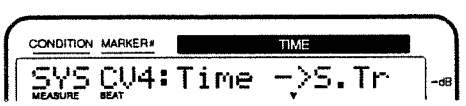
Here you can select how the sync track / tempo map will be created. For this example, select "CV4."

CV1=Tap->S.Tr: Create the sync track from mark points.

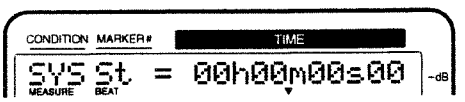
CV2=Tap->T.Map: Create the tempo map from mark points .

CV3=S.Tr->T.Map: Create the tempo map from the sync track .

CV4=Time->S.Tr: Automatically create the sync track .



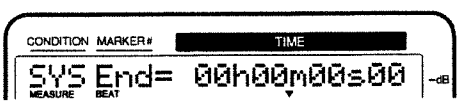
6. Press **PARAMETER [▶▶]**. "Start Time=" appears in the display.
7. Rotate the **TIME/VALUE dial**.



Start Time

Specify the song start time.

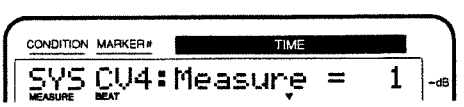
8. Press **PARAMETER [▶▶]**. "End Time=" appears in the display.
9. Rotate the **TIME/VALUE dial**.



End Time

Specify the song end time.

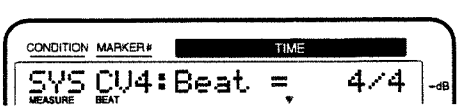
10. Press **PARAMETER [▶▶]**. "Measure=" appears in the display.
11. Rotate the **TIME/VALUE dial**.



Measure

Specify the number of measures (1–999) within a specified time.

12. Press **PARAMETER [▶▶]**. "Beat=" appears in the display.
13. Rotate the **TIME/VALUE dial**.



Beat

Specify the number of beat (1/1–8/1, 1/2–8/2, 1/4–8/4, 1/8–8/8) in one measure.

14. Press **[YES]**.
15. A confirmation message asking if you want to save the changes to the sync track appears in the display. If you want to save the changes, press **[YES]**. If you wish to cancel, then press **[NO]**.
16. When the sync track has been completed, "— Complete —" appears in the display.
17. Press **[PLAY (DISPLAY)]**. Return to Play condition.

Delaying Sync Track and Tempo Map Start Times

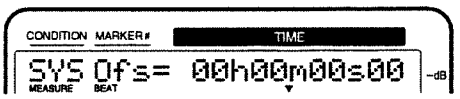
Usually, a sync track or tempo map is created with "00h00m00s00f00" as the beginning of the song. However, recording usually doesn't actually start from "00h00m00s00f00." In this kind of situation, you can determine how much later recording begins after the start of the song. This time is referred to as **offset**.

For example, if you want recording to begin ten seconds after the start of the song (with time to spare), set the offset time to "00h00m10s00f00."

MEMO

During recording or playback, when the beginning of a sync track or tempo map is reached, the start message is sent from the MIDI OUT connector. This is convenient when you wish to synchronize operation with an external MIDI sequencer.

1. Press **[SYSTEM]** several times until "SYS Sync/Tempo?" appears in the display.
2. Press **[YES]**.
3. Press **PARAMETER [▶▶]** several times until "SYS Ofs=" appears in the display.
4. Rotate the **TIME/VALUE dial**.



Ofs (Offset)

Specify the time at which the sync track/tempo map will begin.

5. Press **[PLAY (DISPLAY)]**. Return to Play condition.

MEMO

Holding down **[SHIFT]** and pressing **[NUMERICS]** lets you use the ten **LOCATOR buttons** as a numeric keypad to enter numbers directly. Read "Entering Numbers Directly" .

Use with a MIDI Controller

The VS-890 can transmit its mixer settings and functions as MIDI messages. Conversely, MIDI messages from an external MIDI controller can be used to control the VS-890's track status and mixer settings.

Switching Track Status

You can use **MIDI Control Change messages** to switch the status of each track (**track status**). MIDI channels 1–8 correspond to Tracks 1–8 respectively. Use controller number 29 to switch the track status.

1. Press **[SYSTEM]** several times until "SYS MIDI PRM?" appears in the display.
2. Press **[YES]**.
3. Press **PARAMETER [▶▶]** several times until "SYS MID:CtrType=" appears in the display.
4. Rotate the **TIME/VALUE dial**.

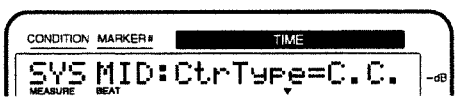
CtrType (Mixer Control Type)

This selects the type of MIDI messages that will be used when transmitting mixer settings to an external MIDI device, or when MIDI messages from an external MIDI device are used to control the mixer. At this time, set this to "C.C."

Off: MIDI messages related to mixer operation are not transmitted or received.

C.C.: The mixer is controlled using Control Change messages.

Excl: The mixer is controlled using Exclusive messages.



5. Press **[PLAY (DISPLAY)]**. Return to Play condition.

Depending on the value of controller number 29, the track status changes as shown below.

When stopped

VALUE	0–31	32–63	64–95	96–127
STATUS	MUTE→OFF	MUTE→PLAY	MUTE→REC	MUTE→SOURCE
	PLAY→MUTE	PLAY→PLAY	PLAY→REC	PLAY→SOURCE
	REC→MUTE	REC→PLAY	REC→REC	REC→SOURCE
	SOURCE→MUTE	SOURCE→PLAY	SOURCE→REC	SOURCE→SOURCE

During playback or recording

VALUE	0–31	32–63	64–95	96–127
STATUS	-(*1)	MUTE→PLAY	-(*1)	-(*1)
	PLAY→MUTE	PLAY→PLAY	-(*1)	-(*1)
	-(*1)	-(*1)	REC→REC	REC→SOURCE(*2)
	SOURCE→MUTE	-(*1)	SOURCE→REC(*2)	SOURCE→SOURCE

(*1) Ignored.

(*2) Cannot be switched while recording. Also, "SOURCE" here indicates "the status in which the track indicator blinks alternately red and orange," and is valid only when Record Monitor is set to "AUTO" .

Switching Scenes

You can switch Scenes with **MIDI Program Change messages** sent by the external MIDI controller.

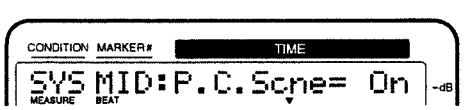
NOTE

- Scenes cannot be switched during playback of a song. Because of this, the VS-890 stops momentarily if it receives a program change message during playback instructing it to change scenes. While it is stopped, the scene is switched, and then playback resumes.
- Furthermore, during recording, only effect program change messages can be received. Scenes cannot be switched during recording.

1. Press **[SYSTEM]** several times until "SYS MIDI PRM ?" appears in the display.
2. Press **[YES]**.
3. Press **PARAMETER [▶▶]** several times until "SYS MID:P.C.Scne=" appears in the display.
4. Rotate the **TIME/VALUE dial**.

P.C.Scene (Program Change Scene)

With this set to "On," the scene is changed when program change messages are received. For now, select "On."



5. Press **[PLAY (DISPLAY)]**. Return to Play condition.

Use MIDI channel 15 for switching scenes. The relationship between the program change number received by the VS-890 and the Scene Number it switches to is shown below.

Program Number	Scene Number
1–8	1–8

NOTE
For more detailed information, please refer to "MIDI Implementation" (Appendices p. 3).

Switching Effects

You can use MIDI Control Change messages transmitted from an external MIDI controller to switch effects.

1. Press **[SYSTEM]** several times until "SYS MIDI PRM ?" appears in the display.
2. Press **[YES]**.
3. Press **PARAMETER [▶▶]** several times until "SYS MID:P.C.Eff=" appears in the display.
4. Rotate the **TIME/VALUE dial.**

P.C.Eff (Program Change Effect)

With this set to "On," the effect is switched when program change messages are received. For now, select "On."

5. Press **[PLAY (DISPLAY)]**. Return to Play condition.

Use MIDI channel 1 to switch FX1, and MIDI channel 2 to switch FX2. The relationship between the bank number received by the VS-890 and the Effect Patch Number it switches to is shown below.

Bank No.LSB	Bank No.LSB	Program No.	Patch No.
0	0	0–99	Preset A00–A99
0	1	0–99	Preset B00–B99
0	2	0–99	User U00–U99
0	3	0–99	Preset C00–C39

NOTE
For more detailed information, please refer to "MIDI Implementation" (Appendices p. 3).

Adjusting Effects

You can use **MIDI Control Change messages** transmitted from an external MIDI controller to control effects.

1. Press **[SYSTEM]** several times until "SYS MIDI PRM ?" appears in the display.
2. Press **[YES]**.
3. Use **PARAMETER [◀◀], [▶▶]** to display the following items, then use the **TIME/VALUE dial** to set or adjust them.

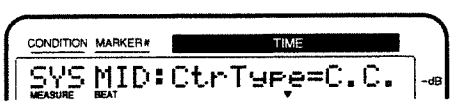
CtrType (Mixer Control Type)

This selects the type of MIDI messages that will be used when transmitting mixer settings to an external MIDI device, or when MIDI messages from an external MIDI device are used to control the mixer. At this time, set this to "C.C."

Off: MIDI messages related to mixer operation are not transmitted or received.

C.C.: The mixer is controlled using Control Change messages.

Excl: The mixer is controlled using Exclusive messages.



C.C.Eff (Control Change Effect)

With this set to "On," the effect is adjusted when Control Change messages are received. For now, select "On."

4. Press **[PLAY (DISPLAY)]**. Return to Play condition.

NOTE
If you wish to use Control Change messages to switch effects, use NRPN (Non Registered Parameter Numbers). For more detailed information, please refer to "MIDI Implementation" (Appendices p. 3).

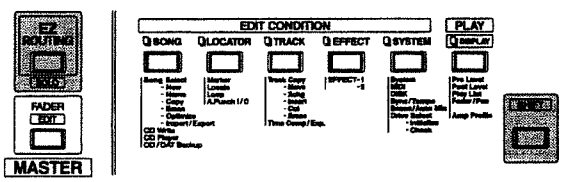
Other Convenient Functions

Listening Only to a Specific Channel (Solo/Mute)

When making equalizer adjustments or checking the balance during mixdown, it is often desirable to be able to monitor the sound of one specific channel. Although it would be possible to individually mute each of the channels that you didn't want to hear with STATUS buttons, this is inconvenient. In such cases, you can monitor only a specific channel and mute all the other channels. This is called the Solo function. To use the Solo function, use the following procedure. If, in contrast to the **Solo function**, you wish to mute only specific channels, this is called the **Mute function**.

Listening Only to a Specific Channel

1. Hold down **[SHIFT]** and press **[SOLO (EZ ROUTING)]** in the master section. The display will briefly indicate "SOLO Mode ON," indicating that the Solo function is on.



The display in the CONDITION field will alternate between the name of the current condition and "sol," also indicating that the Solo function is on. At the same time, the SELECT indicators for each channels are blink. In the present status, all channels are monitored.

2. Press the **SELECT buttons ([1]–[8])** for the channel you wish to monitor. The SELECT indicator stays blink, and only that channel is now monitored. At this time you can make adjustments to fader, balance, equalizer, effects, and other settings.

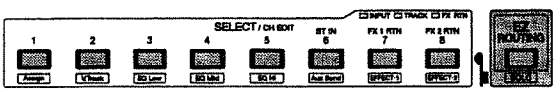
3. Monitor and Mute alternate each time you press **SELECT buttons ([1]–[8])**. Furthermore, you can monitor two or more channels. However, channels which were muted before the Solo function was turned on cannot be monitored even when their **SELECT buttons ([1]–[8])** are pressed. Additionally, when you are monitoring just one channel, pressing the **SELECT buttons ([1]–[8])** of that channel allows you to then monitor all channels. At this time, you will be able to hear the automix status of each channel while you continue pressing **[AUTOMIX]**.

4. To turn off the Solo function, hold down **[SHIFT]** and press the **[SOLO (EZ ROUTING)]** once again. Return to Play condition.

Muting Only to a Specific Channel

1. Hold down **[SOLO (EZ ROUTING)]**. This turns the Mute function on; the **SELECT buttons ([1]–[8])** indicators are all blink. In the present status, all channels are monitored.

2. While holding down **[SOLO (EZ ROUTING)]**, press the **SELECT buttons ([1]–[8])** for the channel you wish to mute. The button indicator goes off, and only that channel is now muted. You can also mute two or more channels.



3. Monitor and Mute alternate each time you press **[SOLO (EZ ROUTING)]** and **SELECT buttons ([1]–[8])**. The muted state will remain valid even if you take your hand off **[SOLO (EZ ROUTING)]** or the **SELECT buttons ([1]–[8])**. If you wish to switch the input/track/effect return, press **[FADER (EDIT)]**.

4. If you wish to monitor all channels, hold down **[SOLO (EZ ROUTING)]** and press **[CLEAR]**.

Simultaneously Adjusting a Stereo Source (Channel Link)

When recording or playing back a stereo source, normal mixer operations require you to control the left and right channels separately, which can make it inconvenient to adjust equalizer, effects, and other settings. In such cases, you can have the settings for a pair of channels, with the exception of the fader and pan settings, linked so that they adjusted in the same way. This is called the **Channel Link**.

When Channel Link is on, adjacent odd- and even-numbered channels are paired as shown below. The settings of each odd-numbered channel will be the same as the settings of the corresponding even-numbered channel. When the setting of one channel are modified, the settings of the paired channel will change in the same way.

Channel a	Channel 1	2
Channel b	Channel 3	4
Channel c	Channel 5	6
Channel d	Channel 7	8

At this time, you can use the channel faders and pan knobs to make the following adjustments.

Odd-numbered channel faders

Overall volume level of the signal that is output to the mix bus or the recording bus (Offset Level)

Odd-numbered channel pan knobs

Overall left/right balance of the signal that is output to the mix bus or the recording bus (Offset Balance)

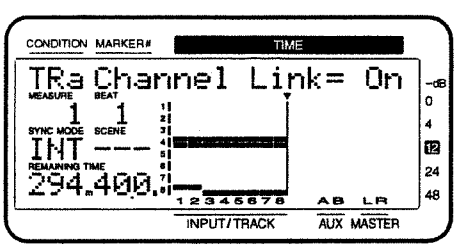
Even-numbered channel faders

Overall volume level of the signal that is output to the AUX bus (AUX level)

Even-numbered channel pan knobs

Overall left/right balance of the signal that is output to the AUX bus (AUX balance)

1. Press **[CH EDIT (SELECT)]** for the channels for which you wish to have Channel Link turned on.
2. Press **PARAMETER [◀◀], [▶▶]** to let "Channel Link" appears in the display.
3. Rotate the **TIME/VALUE dial**. For now, select "On."



Channel Link

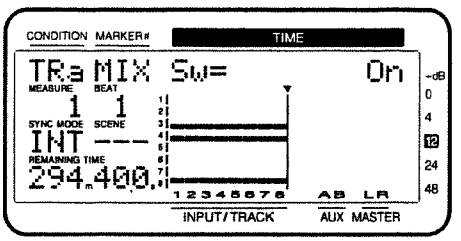
This turns the Channel Link function on and off.

4. Press **[PLAY (DISPLAY)]**. Return to Play condition.

Adjusting the Faders

When Channel Link is on, the balance of both channels is preserved, and the total volume level controlled with fader for the odd-numbered channel. If you want the channel faders to act independently, use the following procedure.

1. Press **[CH EDIT (SELECT)]** for the channels for which you wish to adjust that channel's fader.
2. Press **PARAMETER [◀◀], [▶▶]** to let "MIX Sw" appears in the display.
3. Rotate the **TIME/VALUE dial**.



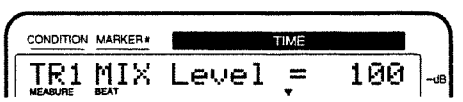
MIX Sw (Mix Send Switch)

This selects the bus to which the source or track output will be assigned. For this example select "On."

On: The output of each channel is sent to the mixing bus. However, if the channel is assigned to a recording bus, when the track status is **SOURCE** (orange) or **REC** (flashing in red), no output to the mixing bus is made even when "On" has been selected.

Off: The output of each channel is not sent to the mixing bus.

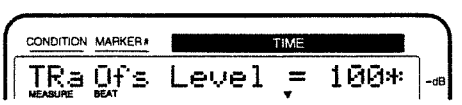
4. Press **PARAMETER [◀◀], [▶▶]** to let "MIX Level" appears in the display.
5. Rotate the **TIME/VALUE dial**.



MIX Level

Adjust the volume level (0–127) of the signal that is output to the mix bus or the recording bus.

6. Press **[CH EDIT (SELECT)]** for the other channel.
7. Repeat steps 2–5 to make the same settings for the other channel.
8. Press **PARAMETER [◀◀], [▶▶]** to let "Ofs Level" appears in the display.
9. Rotate the **TIME/VALUE dial**.

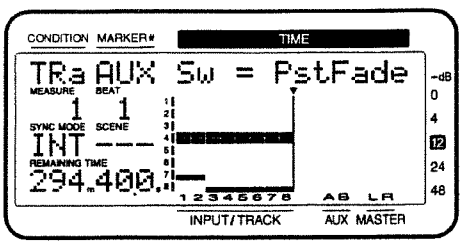


Ofs Level (Offset Level)

Adjust the overall volume level (0–127) while maintaining the volume balance of the two channels. This will operate linked with the channel fader of the odd-numbered channel.

10. If you wish to assign the output of a source or track to the AUX bus, press **PARAMETER [▶▶]** to let "AUX Sw" appears in the display.

11. Rotate the **TIME/VALUE dial**.



AUX Sw (AUX Switch)

This sets how the signal is sent to the AUX bus. Here, select "PstFade."

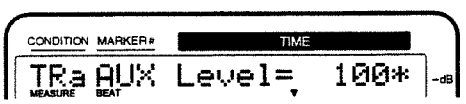
Off: The signal is not sent. (This will not be output from the AUX jacks.)

PreFade: The signal before passing through the channel fader is sent.

PstFade: The signal after passing through the channel fader is sent.

12. Press **PARAMETER [▶▶]**. "AUX Level" appears in the display.

13. Rotate the **TIME/VALUE dial**.



AUX Level (AUX Level)

This adjusts the level (0–127) of the signal sent to the AUX bus.

14. Press **[CH EDIT (SELECT)]** for the other channel.

15. Repeat steps 11–14 to make the same settings for the other channel.

16. Press **[PLAY (DISPLAY)]**. Return to Play condition.

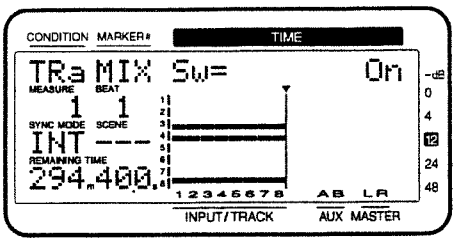
Adjusting the Pan

When Channel Link is on, this adjusts the total left-right balance while preserving the pan settings for both channels. If you want to adjust the pan for each channel independently, use the following procedure.

1. Press **[CH EDIT (SELECT)]** for the channels whose pan settings you wish to adjust.

2. Press **PARAMETER [◀◀], [▶▶]** to let "MIX Sw" appears in the display.

3. Rotate the **TIME/VALUE dial**.



MIX Sw (Mix Send Switch)

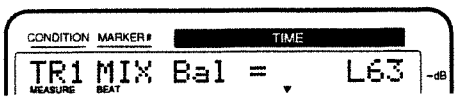
This selects the bus to which the source or track output will be assigned. For this example select "On."

On: The output of each channel is sent to the mixing bus. However, if the channel is assigned to a recording bus, when the track status is **SOURCE** (orange) or **REC** (flashing in red), no output to the mixing bus is made even when "On" has been selected.

Off: The output of each channel is not sent to the mixing bus.

4. Press **PARAMETER [▶▶]** to let "MIX Bal" appears in the display.

5. Rotate the **TIME/VALUE dial**.



MIX Bal (Mix Balance)

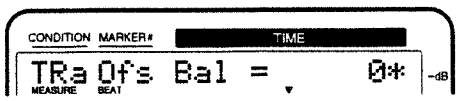
Adjust the pan (L63–0–R63) of the signal that is output to the mix bus or the recording bus.

6. Press **[CH EDIT (SELECT)]** for the other channel.

7. Repeat steps 2–5 to make the same settings for the other channel.

8. Press **PARAMETER [▶▶]**. "Ofs Bal" appears in the display.

9. Rotate the **TIME/VALUE dial**.

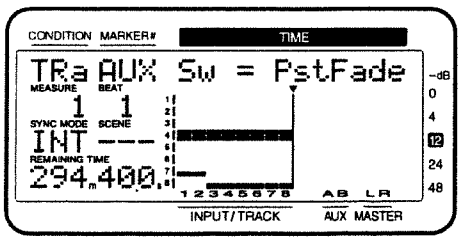


Ofs Bal (Offset Balance)

Adjust the overall left/right level (L63–0–R63) while maintaining the panning of both channels. This will operate linked with the pan knob of the odd-numbered channel.

10. If you wish to assign the output of a source or track to the AUX bus, press **PARAMETER [▶▶]** to let "AUX Sw" appears in the display.

11. Rotate the **TIME/VALUE dial**.



AUX Sw (AUX Switch)

This sets how the signal is sent to the AUX bus. Here, select "PstFade."

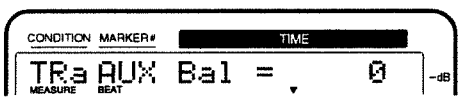
Off: The signal is not sent. (This will not be output from the AUX jacks.)

PreFade: The signal before passing through the channel fader is sent.

PstFade: The signal after passing through the channel fader is sent.

12. Press **PARAMETER [▶▶]** twice. "AUX Bal" appears in the display.

13. Rotate the **TIME/VALUE dial**.



AUX Bal (AUX balance)

This adjusts the pan setting (L63–0–R63) of the signal sent to the AUX bus.

14. Press **[CH EDIT (SELECT)]** for the other channel.

15. Repeat steps 10–13 to make the same settings for the other channel.

16. Press **[PLAY (DISPLAY)]**. Return to Play condition.

Linking Only the Faders (Fader Link)

The faders alone of adjacent odd- and even-numbered channels can be linked so that the volume balance of the channel pair can be maintained as you adjust the overall volume level. This is referred to as **Fader Link**. When fader link is turned on, equalizer settings and effect send level settings etc. for the two channels can be made (independently) for either channel.

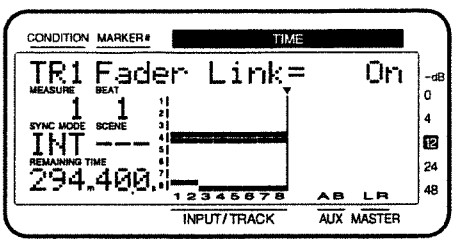
NOTE

Fader Link is valid only when Channel Link (p. 174) is turned OFF. If Channel Link is also turned on, settings such as equalizer and effect send level will also be linked.

1. Press **[CH EDIT (SELECT)]** for the channels for which you wish to have Fader Link turned on.

2. Press **PARAMETER [◀◀], [▶▶]** to let "Fader Link" appears in the display.

3. Rotate the **TIME/VALUE dial**. For now, select "On."



Fader Link

This turns the Fader Link function on and off.

4. Press **[PLAY (DISPLAY)]**. Return to Play condition.

5. As described in "Adjusting the Faders (p. 175)," adjust the volume balance of each channel and the overall volume level.

Mixing In a Stereo Source (Stereo In)

You can assign input signals from the INPUT jacks or DIGITAL IN connector to the MIX bus or RECORDING bus, without having them pass through the input mixer. You can also monitor these signals without having them pass through the input mixer or output mixer. This is referred to as **Stereo In**. This can be convenient when, for example, the same input source features sounds with effects and sounds without effects recorded on separate tracks. Use the following procedure for Stereo In.

1. Press **[FADER (EDIT)]** several times to let the FADER indicator lights red (Effect Return Mixer).
2. Press channel 6 **[ST IN (CH EDIT)]** several times until "RTN StereoIn" appears in the display.
3. Use **PARAMETER [◀◀], [▶▶]** to display the following items, then use the **TIME/VALUE dial** to set or adjust them.

StereoIn

This selects the external input connector or jack using Stereo In.

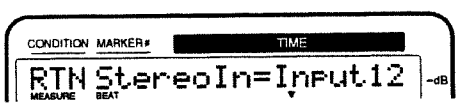
Off: Stereo In is not used.

Input12: Selects INPUT jacks 1/2 for use with Stereo In.

Input34: Selects INPUT jacks 3/4 for use with Stereo In.

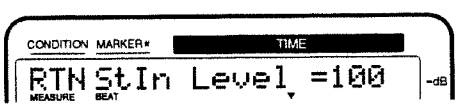
Input56: Selects INPUT jacks 5/6 for use with Stereo In.

Digital: Selects the DIGITAL IN connector (coaxial or optical) for use with Stereo In.



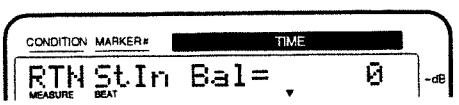
StIn Level (Stereo In Level)

This adjusts the volume level (0–127) for Stereo In.



StIn Bal (Stereo In Balance)

This adjusts the balance (L63–0–R63) for Stereo In.



4. Press **[PLAY (DISPLAY)]**. Return to Play condition. The volume level of Stereo In can be adjusted directly with the channel fader 6 when the effect return mixer is in effect (when the FADER indicator is lit red).

Changing the Pitch During Playback (Vari-Pitch)

When recording an ensemble performance, all the instruments normally tune to an instrument such as an acoustic piano whose tuning cannot easily be changed. However, it is sometimes necessary to record (overdub) an acoustic piano onto an existing recording. In this case, if the pitch of the recording is different than that of the acoustic piano, something must be done about it.

In such cases, by changing the playback speed of the recorder, you can change the pitch of the performance being played back to match the pitch of the instrument you want to record. This is referred to as the **Vari-Pitch** function. Vari-Pitch can be used not only to compensate for pitch differences, but can also be used when you want to purposely produce special effects. To use the Vari-Pitch function, use the following procedure.

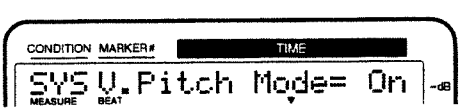
NOTE

When the Vari Pitch function is **On**, up to 4 tracks can be recorded simultaneously (Up to 8 tracks can be played back simultaneously).

1. Press **[SYSTEM]** several times until "SYS SYSTEM PRM ?" appears in the display.
2. Press **[YES]**.
3. Press **PARAMETER [▶▶]** several times until "V.Pitch Mode" appears in the display.
4. Rotate the **TIME/VALUE dial**.

V.Pitch Mode (Vari Pitch Mode)

This turns the Vari Pitch function on and off. Here, select "On."



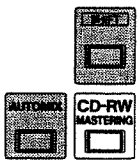
5. Press **PARAMETER [▶▶]**. The current sample rate appears in the display.

6. Press **[PLAY]** to begin playback of the song.
7. Rotate the **TIME/VALUE dial** to change the pitch of the playback. Check the playback to see how the pitch actually sounds.
8. After adjust the pitch, press **[STOP]**.

9. Press **[PLAY (DISPLAY)]**. Return to Play condition. Thereafter, whenever **V.Pitch Mode** (Vari-pitch mode) is on, playback is in the pitch you adjusted in step 7.

MEMO

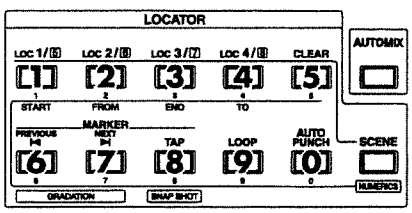
Vari-Pitch turns on and off each time hold down **[SHIFT] + [VARI PITCH]** is pressed.



Directly Inputting Numeric Characters

When modifying the time locations of a locator or punch-in point, you can use the LOCATOR buttons as numeric keys to input numbers directly. Not only can you use the normal process of rotating the **TIME/VALUE dial** to enter text, but you can also use the buttons on the top panel like an ASCII keyboard, for example when editing markers or locators (using numerals).

1. Hold down **[SHIFT]**, and press **[NUMERICS (SCENE)]**. The NUMERICS indicator blinks.
2. Press the LOCATOR button. The buttons can be used to enter numerals as indicated below.



MEMO

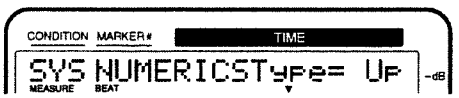
Depend on parameters (effect etc.), you can enter "-" (a minus sign) by pressing **[0]** twice.

3. After you have finished entering the numbers, press **[ENTER (YES)]**. This sets the numbers.

Selecting the Method for Numeric Input

When using the numeric keys for input, you can select whether to input the digits starting from the upper place or from the lower place. Use the method with which you are most comfortable.

1. Press **[SYSTEM]** several times until "SYS System PRM ?" appears in the display.
2. Press **[YES]**.
3. Press **PARAMETER [▶▶]** several times until "SYS NUMERICSType" appears in the display.
4. Rotate the **TIME/VALUE dial**.



NUMERICSType (Numeric key type)

Select the input method for when using the LOCATOR buttons as numeric keys.

Up: Input from the lowest place.

Dwn: Input from the highest place.

5. Press **[PLAY (DISPLAY)]**. Return to Play condition.

Example of entering numerals from lower to higher place digits

For example, let's see how "01h23m45s00f" is input when the NUMERICS Type is set to "Up."

1. Hold down **[SHIFT]**, and press **[NUMERICS]**. The NUMERICS indicator blinks.
2. The cursor appears at the digit furthest to the right (in the lowest place). Press the **LOCATOR buttons [1], [2], [3], [4], [5], [0]**, and **[0]**, in that order. The numerals appear in the place furthest to the right and shift to higher places as other numerals are entered. You can also move the cursor to the desired place by pressing the **CURSOR [◀], [▶]**.
3. When you are finished inputting the number, press **[ENTER (YES)]**. The numerical value is set, and the button indicator goes off.

Example of entering numerals from higher to lower place digits

Now let's see how "01h23m45s00f" is input when the NUMERICS Type is set to "Dwn."

1. Hold down **[SHIFT]**, and press **[NUMERICS]**. The NUMERICS indicator blinks.
2. The cursor appears in the digit furthest to the left (the highest place). Press the **LOCATOR buttons [0], [1], [2], [3], [4], [5], [0]**, and **[0]**, in that order. The numerals appear from left to right, just as they are entered. You can also move the cursor to the desired place by pressing the **CURSOR [◀], [▶]**.
3. When you are finished inputting the number, press **[ENTER (YES)]**. The numerical value is set, and the button indicator goes off.

Sounding the Metronome

No matter how accurately one tries to play, listening to the recording play back sometimes reveals inaccuracies in rhythm or tempo. The VS-890 provides a **metronome (click track)** that can be sounded at a specified tempo. By listening to the metronome as you play your instrument, you will be able to record your performance with more accurate timing. At the same time, since this allows you to specify segments for song editing by measure and beat, you can edit songs in a more musical way.

The metronome tempo can be controlled by the Tempo Map or Sync Track MIDI Clock. When using this feature, set up the **Tempo Map** or **Sync Track** beforehand. When you create a new song, the Tempo Map default settings include a 4/4 rhythm and tempo of 120.

MEMO

The metronome will begin sounding when recording or playback begins. However you may sometimes wish to hear a count-in on the metronome to help you catch the tempo before recording begins. In such cases, you can set aside the first few measures of the recording to be only for the count-in, and not record on those measures. The metronome sound is only for the purpose of helping you keep your playing in time.

1. The metronome sound is output from the **MASTER jack**. Connect an audio playback device (such as an amp or a submixer) to the **MASTER jack**.
2. Press **[SYSTEM]** several times until "SYS System PRM ?" appears in the display.
3. Press **[YES]**.
4. Use **PARAMETER [◀◀], [▶▶]** to display the following items, then use the **TIME/VALUE dial** to set or adjust them.

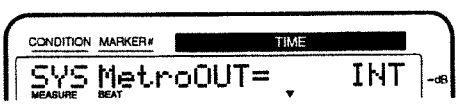
MetroOUT (Metronome Out)

Selects how the metronome is output. For now, select "INT." Selecting "Off" prevents you from making any settings related to the Metronome.

Off: The metronome sound is not output.

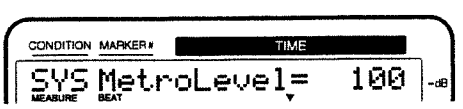
INT: The metronome sound is output from the MONITOR jacks.

MIDI: The metronome signal is transmitted via the MIDI OUT connector.



MetroLevel (Metronome Level)

Adjusts the volume level (0–127) of the metronome sound.



MetroMd (Metronome Mode)

This is for selecting when the metronome sound is played.

Rec Only: The metronome sounds only during recording.

Rec&Play: The metronome sounds during both recording and playback.

5. Press **[SYSTEM]** several times until "SYS Sync/Tempo ?" appears in the display.
6. Press **[YES]**.
7. Press **PARAMETER [▶▶]** several times until "SYS SYS Gen." appears in the display.
8. Rotate the **TIME/VALUE dial**.

Gen. (Generator)

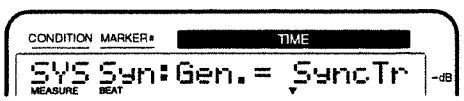
Selects the MIDI Clock on which the Metronome will be based. Select "MIDIclk" if you wish to use the Tempo Map, and "SyncTr" if you are going to use Sync Track.

Off: The MIDI Clock is not transmitted (the metronome does not sound).

MTC: MIDI Time Code is transmitted (the metronome does not sound).

MIDIclk: The Tempo Map MIDI Clock is transmitted.

SyncTr: The Sync Track MIDI Clock is transmitted.

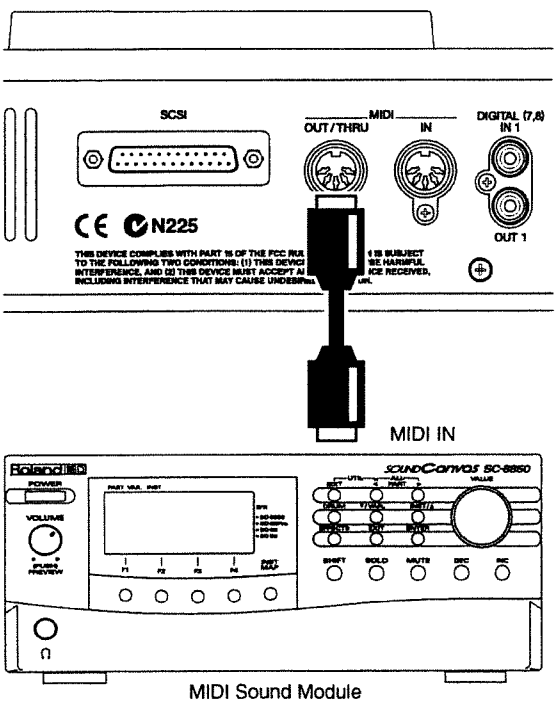


9. This completes the metronome settings. Press **[PLAY (DISPLAY)]** to return to Play condition.

Using an External MIDI Sound Source to Play the Metronome

A MIDI sound source can be used to play the metronome with a sound of your choosing. To do this, use the following procedure.

1. Connect the MIDI sound generator and the VS-890 as shown below.



2. Press **[SYSTEM]** several times until "SYS System PRM ?" appears in the display.

3. Press **[YES]**.

4. Use **PARAMETER [◀◀], [▶▶]** to display the following items, then use the **TIME/VALUE dial** to set or adjust them.

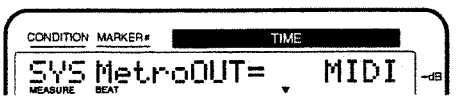
MetroOUT (Metronome Out)

Selects how the metronome is output. For now, select "MIDI." Selecting "Off" prevents you from making any settings related to the Metronome.

Off: The metronome sound is not output.

INT: The metronome sound is output from the MONITOR jacks.

MIDI: The metronome signal is transmitted via the MIDI OUT connector.

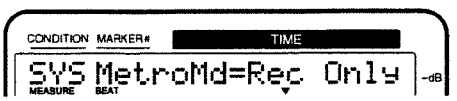


MetroMd (Metronome Mode)

This is for selecting when the metronome sound is played.

Rec Only: The metronome sounds only during recording.

Rec&Play: The metronome sounds during both recording and playback.



5. Press **[SYSTEM]** several times until "SYS MIDI PRM ?" appears in the display.

6. Press **[YES]**.

7. Use **PARAMETER [◀◀], [▶▶]** to display the following items, then use the **TIME/VALUE dial** to set or adjust them.

MIDIThr (MIDI Thru Switch)

Switches the function of the MIDI OUT/THRU connector. Here, select "Out."

Out: MIDI messages are sent from the VS-890. Select this when sending metronome sound note messages or mixer parameter settings (Control Change messages or Exclusive messages).

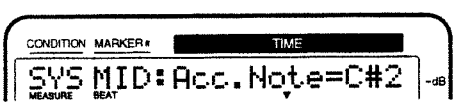
Thru: This sends MIDI messages received via the MIDI IN connector without change.

MetroCh (Metronome Channel)

Sets the MIDI channel (1–16) for transmitting Metronome sound Note Messages.

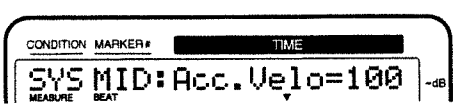
Acc.Note (Accent Note)

Sets note numbers (C0–G9) for the downbeat. When the Drum set is playing, this selects specific percussion sounds.



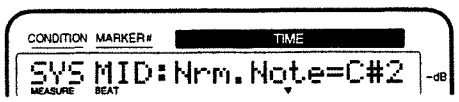
Nrm.Note (Normal Note)

Sets note numbers (C0–G9) for the upbeats. When the Drum set is playing, this selects specific percussion sounds.



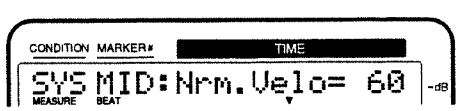
Acc.Velo (Accent Velocity)

Sets the velocity (1–127) for the downbeat.



(Normal Velocity)

Sets the velocity (1–127) for the upbeats.



8. Press **[SYSTEM]** several times until "SYS Sync/Tempo ?" appears in the display.
9. Press **[YES]**.
10. Press **PARAMETER [▶▶]** several times until "SYS Gen." appears in the display.
11. Rotate the **TIME/VALUE dial**.

Gen. (Generator)

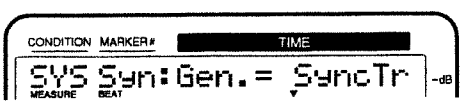
Selects the MIDI Clock on which the Metronome will be based. Select "MIDIclk" if you wish to use the Tempo Map, and "SyncTr" if you are going to use Sync Track.

Off: The MIDI Clock is not transmitted (the metronome does not sound).

MTC: MIDI Time Code is transmitted (the metronome does not sound).

MIDIclk: The Tempo Map MIDI Clock is transmitted.

SyncTr: The Sync Track MIDI Clock is transmitted.

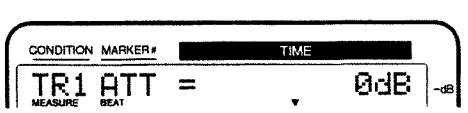


12. This completes the settings for sounding the metronome with an external MIDI device. Press **[PLAY (DISPLAY)]**. Return to Play condition.

Adjusting the Levels for Each Track

You can adjust the volume level of each input and track channel without using the channel faders. You can raise the volume when playing back tracks that were recorded at low levels, avoid distorted sound that may occur when adjusting the channel equalizers, and be able to operate with the channel faders near 0 dB. Use the following procedure.

1. Press **[CH EDIT (SELECT)]** for the channels whose volume levels you wish to adjust.
2. Press **PARAMETER [◀◀], [▶▶]** to let "ATT" appears in the display.
3. Rotate the **TIME/VALUE dial**.



ATT (Attenuator)

Adjusts the volume level (-12 – +12 dB) of each channel's digital signal.

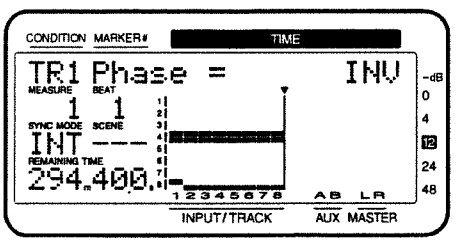
4. Press **[PLAY (DISPLAY)]**. Return to Play condition.

To Invert the Phase of Audio Signal

The VS-890 features balanced (TRS) INPUT jacks, each one configure as follows.

However, some audio devices have the opposite HOT (TIP) and COLD (RING) configuration. Using such equipment as is may result in poor sound placement, disintegration of the left-right balance, and a loss of the separation between left and right sounds when using stereo inputs. In such instances, you need to switch the phase of each channel.

1. Press **[CH EDIT (SELECT)]** for the channels whose phase you wish to switch.
2. Press **PARAMETER [◀◀], [▶▶]** to let "Phase" appears in the display.
3. Rotate the **TIME/VALUE dial**.



Phase

This selects the phase (NRM, INV) for each channel. Usually, "NRM" is selected.

NRM: Normal phase (same phase as the input)

INV: Inverted phase (opposite phase)

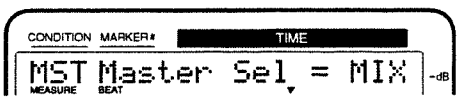
4. Press **[PLAY (DISPLAY)]**. Return to Play condition.

Determining Output

The VS-890 features four analog output jacks (**MASTER jacks L/R, AUX jacks L/R**) and two digital connectors (**DIGITAL OUT1, DIGITAL OUT2**), each of which can have various signals assigned to it. Set the output for each output jacks or connectors using the following procedure.

MASTER Jacks

1. Hold down **[SHIFT]** and press **[EDIT (FADER)]** (Master Block).
2. Press **PARAMETER [◀◀], [▶▶]** to let "Master Sel" appears in the display.
3. Determine what is to be output from the **MASTER jacks** by rotate the **TIME/VALUE dial**.



Master Sel (Master Select)

Selects what sounds are heard through the MASTER jacks.

MIX: The sounds assigned to the MIX bus after passing through the **master fader**.

AUX: The sounds assigned to the AUX bus after passing through the **AUX SEND knob**.

FX1: The sounds assigned to the FX1 bus.

FX2: The sounds assigned to the FX2 bus.

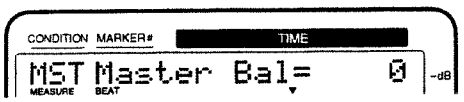
REC: All sounds assigned to the REC bus.

4. Press **PARAMETER [▶▶]**.
5. "MasterLevel" appears in the display. Use the **TIME/VALUE dial** to adjust the volume of the sound that is output from the **MASTER jacks**. This value is linked with **master fader** on the top panel.

NOTE

The **master fader** ("MixLevel") is effective for "MIX" only.

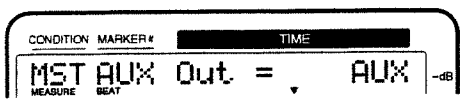
6. Press **PARAMETER [▶▶]**.
7. "Master Bal" appears in the display. Use the **TIME/VALUE dial** to adjust the left/right balance of the sound that is output from the **MASTER jacks**.



8. Press **[PLAY (DISPLAY)]**. Return to Play condition.

AUX Jacks

1. Hold down **[SHIFT]** and press **[EDIT (FADER)]** (Master Block).
2. Press **PARAMETER [◀◀], [▶▶]** to let "AUX Out" appears in the display.
3. Determine what is to be output from the AUX jacks by rotating the **TIME/VALUE dial**.



AUX Out

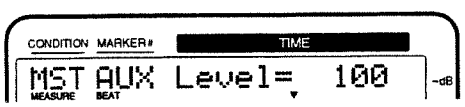
Selects what sounds are heard through the AUX jacks.

AUX: The sounds assigned to the AUX bus after passing through the **AUX SEND knob**.

FX1: The sounds assigned to the FX1 bus.

FX2: The sounds assigned to the FX2 bus.

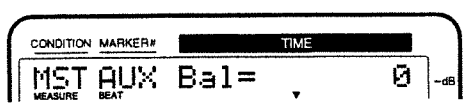
4. Press **PARAMETER [▶▶]**.
5. "AUX Level" appears in the display. Use the **TIME/VALUE dial** to adjust the volume of the sound that is output from the AUX jacks. This value is linked with **AUX SEND knob** on the top panel.



NOTE

The **AUX SEND knob** ("AUX Level") is effective for "AUX" only.

6. "AUX Bal" appears in the display. Use the **TIME/VALUE dial** to adjust the left/right balance of the sound that is output from the AUX jacks.



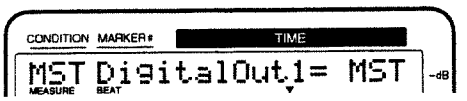
7. Press **[PLAY (DISPLAY)]**. Return to Play condition.

DIGITAL OUT Connectors

1. Hold down **[SHIFT]** and press **[EDIT (FADER)]** (Master Block).
2. Press **PARAMETER [◀◀], [▶▶]** to let "DigitalOut1" appears in the display.
3. Determine what is to be output from the DIGITAL OUT1 connectors by rotating the **TIME/VALUE dial**.

MEMO

The DIGITAL OUT2 (optical) connector is set in the same way. In this case, make the display read "DigitalOut2" in step 2.



Digital Out1

Selects what sounds are heard through the DIGITAL OUT1 (coaxial) connector.

MST: Same sound as is heard from the MASTER jacks (MIX bus after through the master fader).

AUX: The sounds assigned to the AUX bus after through the AUX SEND knob.

FX1: The sounds assigned to the (FX1) EFFECT bus.

FX2: The sounds assigned to the (FX2) EFFECT bus.

1-2: The sounds assigned to the Tracks 1–2.

3-4: The sounds assigned to the Tracks 3–4.

5-6: The sounds assigned to the Tracks 5–6.

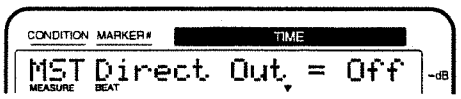
7-8: The sounds assigned to the Tracks 7–8.

4. Press **[PLAY (DISPLAY)]**. Return to Play condition.

Direct Out

The sounds from each of the Tracks 1–4 or Tracks 5–8 are output from separate analog jacks.

1. Hold down **[SHIFT]** and press **[EDIT (FADER)]** (Master Block).
2. Press **PARAMETER [◀◀], [▶▶]** to let "Direct Out" appears in the display.
3. Determine what is to be output from the Direct Out by rotating the **TIME/VALUE dial**.



Direct Out

The metronome sound is not output.

Off: The Direct Out is not use.

1–4: The sounds from Tracks 1–4 are output from the following jacks. In this case, the settings for the MASTER and AUX jacks are not in effect. The sounds from Tracks 1 and 2 are output from the PHONES jack. Additionally, the sounds output from the DIGITAL OUT connectors are specified in the Master Block.

Track 1: MASTER jack (L)
Track 2: MASTER jack (R)
Track 3: AUX A jack (L)
Track 4: AUX A jack (R)

5–8: The sounds from Tracks 5–8 are output from the following jacks. In this case, the settings for the MASTER and AUX jacks are not in effect. The sounds from Tracks 5 and 6 are output from the PHONES jack. Additionally, the sounds output from the DIGITAL OUT connectors are specified in the Master Block.

Track 5: MASTER jack (L)
Track 6: MASTER jack (R)
Track 7: AUX A jack (L)
Track 8: AUX A jack (R)

4. Press **[PLAY (DISPLAY)]**. Return to Play condition.

Making Global Settings and Checking Conditions

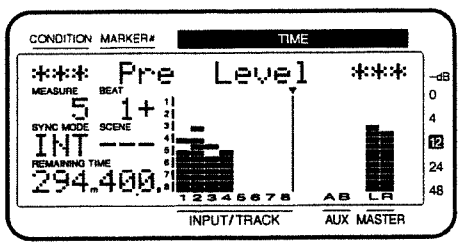
This section describes the settings that affect the overall functioning of the VS-890.

Switching the Display Content

In Play condition, you can hold down **[SHIFT]** and press **[DISPLAY (PLAY)]** to switch the contents of the bar display. In Edit condition, the contents of the display will change depending on the selected parameter or operation.

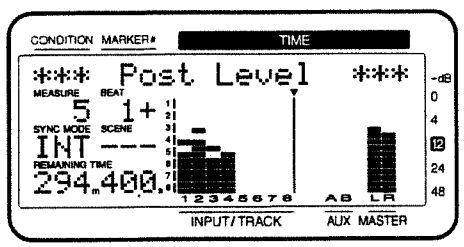
Pre Level

The volume of each channel before passing through the **channel faders** will be displayed. The AUX and MASTER fields indicate the respective volume levels of the signal after passing through the **AUX SEND knob** and the **master fader**.



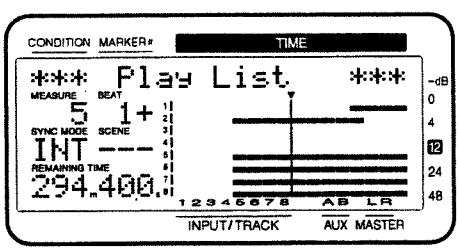
Post Level

The volume of each channel after passing through the **channel faders** will be displayed. The AUX and MASTER fields indicate the respective volume levels of the signal after passing through the **AUX SEND knob** and the **master fader**.



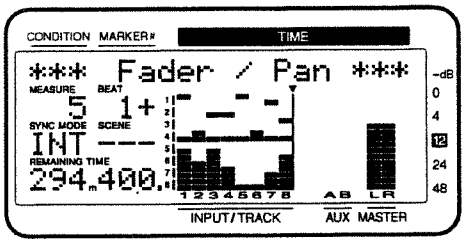
Play List

The way in which sound is recorded in the various tracks before and after the current time will be displayed.



Fader / Pan

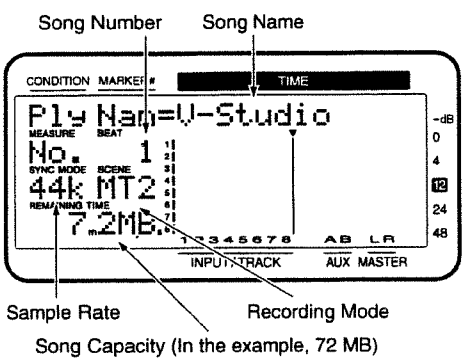
The settings of the **master fader** and the **PAN knob** and **fader** of each channel will be displayed. If the displayed location of the **PAN knobs** or **faders** is different than the actual location (as when the mixer mode has been switched), the current location of the **PAN knob** or **fader** will blink.



Checking the Size of a Recorded Performance

You can see the Song Name, Song Number, Sample Rate, Recording Mode, and the actual used capacity of the current song by the following operation.

1. Press **[STOP]** (the song will stopped).
2. Press **[PLAY (DISPLAY)]**. Return to Play condition.
3. Hold down **[SHIFT]** and press **[SONG]**. The display will indicate Song Information briefly.



NOTE

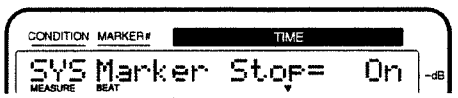
The actual used capacity of the song is displayed as 1 MB = 1,000,000 bytes. The displayed value is the approximate standard value.

Overall System Settings

Stopping Automatically

You can cause song playback to stop automatically at a marker.

1. Press **[SYSTEM]** several times until "SYS System PRM ?" appears in the display.
2. Press **[YES]**.
3. Press **PARAMETER [▶▶]** several times until "SYS Marker Stop" appears in the display.
4. Rotate the **TIME/VALUE dial**.



Marker Stop

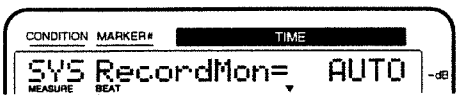
When this is set to "On," recording or playback of the song stops automatically when a designated marker is reached.

5. Press **[PLAY (DISPLAY)]**. Return to Play condition.
6. Press **[PLAY]** to begin playback of the song. When the song reaches the location containing the marker, recording or playback then stops.

Constantly Monitoring the Input Source

On channels for which Track Status is set to REC, playing back the song in record ready mode (REC indicator blinking) will allow you to monitor the performance that is recorded in the track, and during recording (REC indicator lit) you will be able to monitor the input source. At this time, pressing the **STATUS buttons ([1]–[8])** will let you switch between monitoring the track and monitoring the input source. It is also possible to make settings so that the input source is always monitored.

1. Press **[SYSTEM]** several times until "SYS System PRM ?" appears in the display.
2. Press **[YES]**.
3. Press **PARAMETER [▶▶]** several times until "SYS Record Mon" appears in the display.
4. Rotate the **TIME/VALUE dial**.



Record Mon (Record Monitor)

Switches between track and source monitoring.

AUTO: Switches monitoring between track and source.

SOURCE: Sets the VS-890 to monitor the source at all times.

MEMO

Monitor Status

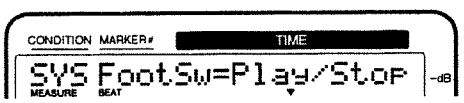
	While stopped	During playback	During recording
AUTO	SOURCE	TRACK/SOURCE	SOURCE
SOURCE	SOURCE	SOURCE	SOURCE

5. Press **[PLAY (DISPLAY)]**. Return to Play condition.

Using the Foot Switch

With an optional foot switch (such as the **Roland DP-2** or **BOSS FU-5U**) connected to the **FOOT SWITCH jack** on the rear panel, you can choose how the foot switch functions.

1. Press **[SYSTEM]** several times until "SYS System PRM ?" appears in the display.
2. Press **[YES]**.
3. Press **PARAMETER [▶▶]** several times until "SYS Foot Sw" appears in the display.
4. Rotate the **TIME/VALUE dial**.



Foot Sw (Foot Switch Assign)

Sets the foot switch function.

Play/Stop: Pressing the switch alternately starts and stops playback of the song.

Record: Works the same as the **[REC]** button. Use this to switch between recording and playback during manual Punch-In Recording.

TapMarker: Works the same as the **[TAP]** button. Mark points are set when the pedal is pressed.

Next: Works the same as the **[NEXT ▶|]** button. Each time the pedal is pressed recalls the next marker.

Previous: **Works the same as the [PREVIOUS |◀]** button. Each time the pedal is pressed recalls the previous marker.

GPI: This controls start and stopping of playback of the song according to the GPI trigger signal received from the FOOT SWITCH jack.

? GPI (Appendices p. 12)

5. Press **[PLAY (DISPLAY)]**. Return to Play condition.

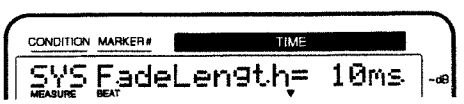
If Noise Between Segments is Obtrusive

In the seams or breaks that occur when recording is begun or ended or when a phrase is copied, obtrusive noise may occur. The VS-890 fades-in and fades-out these breaks so that this noise will not be heard. If objectionable noise occurs, you can adjust the length of the fade-in and fade-out.

NOTE

It is not possible to set the fade-in/fade-out time to 0. Thus in some cases, such as if you copy a sustained sound such as strings and use it elsewhere, the break may be even more noticeable than if there had been no fade.

1. Press **[SYSTEM]** several times until "SYS System PRM ?" appears in the display.
2. Press **[YES]**.
3. Press **PARAMETER [▶▶]** several times until "SYS Fade Length" appears in the display.
4. Rotate the **TIME/VALUE dial**.



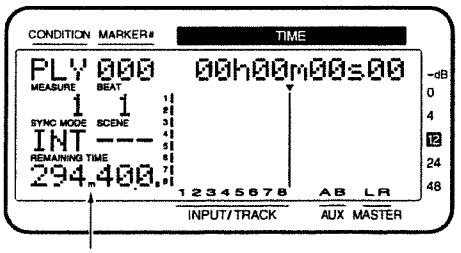
Fade Length

Sets the length (2, 10, 20, 30, 40, or 50 ms) of the fade-in or fade-out.

5. Press **[PLAY (DISPLAY)]**. Return to Play condition.

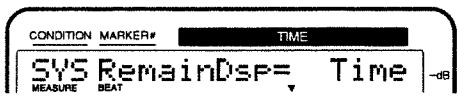
Checking the Remaining Disk Space

The amount of free disk space available for recording the current song is displayed as "REMAINING TIME" field in the display. You can select the type of display for this.



Remaining amount (in the example, 294 minutes 40 seconds)

1. Press **[SYSTEM]** several times until "SYS System PRM ?" appears in the display.
2. Press **[YES]**.
3. Press **PARAMETER [▶▶]** several times until "SYS RemainDsp" appears in the display.
4. Rotate the **TIME/VALUE dial**.



RemainDsp (Remaining Display)

Selects how the remaining disk space is shown.

Time: This indicates the time (minutes/seconds) left for recording.

CapaMB: This shows the actual memory (in megabytes).

Capa %: This indicates the remaining space as a percentage of the total disk space.

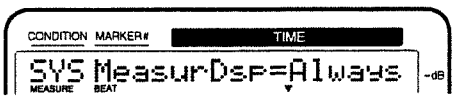
Event: This shows the number of events used in the recording.

5. Press **[PLAY (DISPLAY)]**. Return to Play condition.

Displaying Measures and Beats

If both the metronome is being used and MIDI clock messages are being transmitted, the measure and beat of the song can be displayed in the graphic display. When you are running in synchronization with an external device or recording a song along with a previously-created tempo map, this allows you to operate the VS-890 just as though you were operating a MIDI sequencer. Set the metronome to sound as described in "Sounding the Metronome" (p. 180).

1. Press **[SYSTEM]** several times until "SYS System PRM ?" appears in the display.
2. Press **[YES]**.
3. Press **PARAMETER [▶▶]** several times until "SYS MeasureDsp" appears in the display.
4. Rotate the **TIME/VALUE dial**.



MeasureDsp

Use this to select whether or not the measure and beat appear in the graphic display.

Always: The measure and beat are constantly displayed.

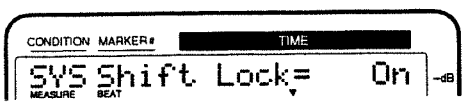
Auto: The measure and beat are not displayed when the metronome is not in use.

5. Press **[PLAY (DISPLAY)]**. Return to Play condition.

Holding the function of [SHIFT] (Shift Lock)

You can temporarily hold functions by pressing **[SHIFT]**. Operations such as switching V-tracks or saving songs can be performed with one hand.

1. Press **[SYSTEM]** several times until "SYS System PRM ?" appears in the display.
2. Press **[YES]**.
3. Press **PARAMETER [▶▶]** several times until "SYS Shift Lock" appears in the display.
4. Rotate the **TIME/VALUE dial**.



Shift Lock (Shift Lock Switch)

Setting to "On" temporarily holds the **[SHIFT]** button function.

5. Press **[PLAY (DISPLAY)]**. Return to Play condition.
6. Afterwards, the **[SHIFT]** button indicator light goes on and off each time the button is pressed. **[SHIFT]** is in effect when the indicator is lit. The hold is lifted the next time another button is pressed or if the **TIME/VALUE dial** is rotated.

Example Procedure for Switching the Solo Function ON

1. Press **[SHIFT]** and immediately release the button. The SHIFT indicator lights. The display will briefly indicate "Shift Lock." The display in the "CONDITION" field will alternate between the name of the current condition and "sft," also indicating that the Shift Lock function is on.
2. Press [SOLO **(EZ ROUTING)]**. The display will briefly indicate "SOLO Mode ON," indicating that the Solo function is on. The SHIFT indicator goes off.

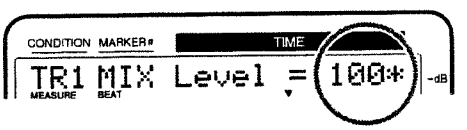
MEMO

When Holding Down the [SHIFT] Button

If **[SHIFT]** is held down during the operation, the Shift Lock function will be ignored. For example, if you hold down the **[SHIFT]** and press **[AUTOMIX (VARI PITCH)]**, Shift Lock will not be turned on when you take your finger off **[SHIFT]**. The function of **[SHIFT]** itself remains in effect, so the Vari-Pitch function is on at this time. Additionally, rotating the **TIME/VALUE dial** while holding down the **[SHIFT]** button increases or decreases the value of some parameter setting by a factor of ten (or 1/10).

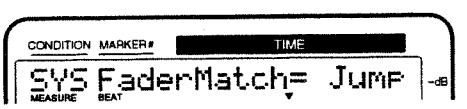
Having the Volume Change as Soon as the Faders are Moved

When you press **[FADER (EDIT)]** to switch between input and track channels or to recall Scenes, there will be times when fader positions may not correspond to their actual volume settings. In such instances, the position of each fader is represented by a black dot, and the actual level that is set is represented by a white circle.



Use the following procedure when you wish to have the volume change as soon as the faders are moved.

1. Press **[SYSTEM]** several times until "SYS System PRM ?" appears in the display.
2. Press **[YES]**.
3. Press **PARAMETER [▶▶]** several times until "SYS FaderMatch" appears in the display.
4. Rotate the **TIME/VALUE dial**.



Fader Match

Here, the fader is selected to control the sound if there is a discrepancy between the current fader and the actual volume level.

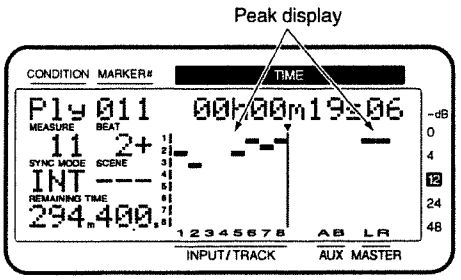
Jump: The actual value will change at the instant that the fader is moved.

Null: No change is made unless the fader or **PAN knob** is moved to its current actual value.

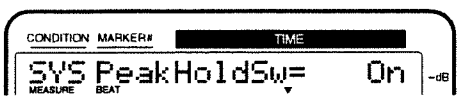
5. Press **[PLAY (DISPLAY)]**. Return to Play condition.

Holding Level Meter Peaks

You can hold the display of maximum values (peaks) while the level meter appears in the graphic display.



1. Press **[SYSTEM]** several times until "SYS System PRM ?" appears in the display.
2. Press **[YES]**.
3. Press **PARAMETER [▶▶]** several times until "SYS PeakHoldSw" appears in the display.
4. Rotate the **TIME/VALUE dial**.



PeakHoldSw (Peak Hold Switch)

With this set to "On," the level meter in the graphic display holds the display of peak levels.

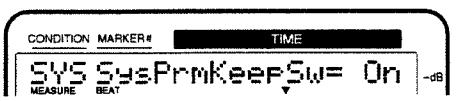
5. Press **[PLAY (DISPLAY)]**. Return to Play condition. Now, the peak display is reset (cleared) each time **[PLAY (DISPLAY)]** is pressed.

Creating a Song Which Maintains the Current System Settings (System Parameter Keep Switch)

It is possible to create a new Song (**Song New**), with the current system parameter setting remained. You can start recording or editing with the current environment of system parameters, without re-customizing the Preview Length or Metronome settings. Operation is as follows.

System parameters which are saved in the disk drive as a song setting are maintained in the new song. For the details of the parameters which are maintained when "SysPrmKeepsSw" is on (initialized when off), please refer to "Parameter List" (Appendices p.**).

1. Press **[SYSTEM]** several times until "SYS System PRM?" is displayed.
2. Press **[YES]**.
3. Press **PARAMETER [▶▶]** several times until "SysPrmKeepSw" is displayed.
4. Rotate the **TIME/VALUE dial**.



SysPrmKeepSw (System Parameter Keep Switch)

Determines whether the system parameter setting should be maintained or not in the newly created Song, upon executing Song New,

Off: Create a new Song with all the parameters initialized.

On: Create a new Song which maintains the system parameters of the current Song.

5. Press **[PLAY (DISPLAY)]** to go back to Play condition.
6. As described in "Creating a New Song (Song New)", create a new song.

NOTE

If the sample rates of the current song and the new song are different (ex. 48.0kHz for the current song and 44.1kHz for the new song), Vari pitch setting cannot be maintained. It will be initialized according to the their respective sample rates.

MEMO

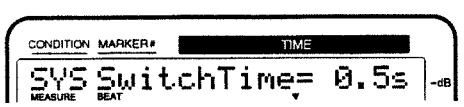
Following system parameters are saved in the VS-890's internal memory as the general setting. Even if System Parameter Keep Switch is off, current setting is maintained.

- LCD Contrast
- MeasurDsp (Measure Display)
- Shift Lock
- NUMERICSType (Numerics Type)
- SysPrmKeepSw (System Parameter Keep Switch)
- SwitchTime (Switching Time)
- Peak Level
- DC Cut Sw (DC Cut Switch)
- CD DigiREC (CD Digital Recording)
- IDE Drv (IDE Drive)
- SCSI Self (SCSI Self ID)

Adjusting the Button Sensitivity

On the VS-890, function of **STATUS buttons ([1]–[8])** differs by it is hit and released quickly or it is held for longer seconds. You can specify the length of this time.

1. Press **[SYSTEM]** several times until "SYSTEM PRM ?" appears in the display.
2. Press **[YES]**.
3. Press **PARAMETER [▶▶]** several times until "SwitchTime" appears in the display.
4. Rotate the **TIME/VALUE dial.**



SwitchTime (Switching Time)

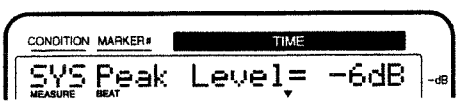
Designates the time the buttons must be held down (0.3–2.0 seconds) in order to change functions.

5. Press **[PLAY (DISPLAY)]**. Return to Play condition.

Changing at the Level at Which the Peak Indicator Lights

You can designate the level at which the peak indicator lights for sounds input via the **INPUT jacks (1–6)**.

1. Press **[SYSTEM]** several times until "SYS System PRM ?" appears in the display.
2. Press **[YES]**.
3. Press **PARAMETER [▶▶]** several times until "Peak Level" appears in the display.
4. Rotate the **TIME/VALUE dial.**



Peak Level

Sets the volume level at which the peak indicator lights.

CLIP: The indicator lights when the sound distorts.

-3dB: The indicator lights 3 dB before the sound distorts.

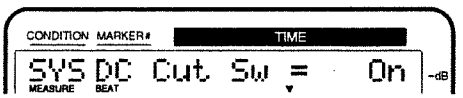
-6dB: The indicator lights 6 dB before the sound distorts.

5. Press **[PLAY (DISPLAY)]**. Return to Play condition.

Removing Direct Current Offset from the Mix Bus

Direct current offset on the mix bus can be removed. For example in some cases, the level meters of a device (mixer etc.) connected to the output of the VS-890 may move even though no sound is being output. This is caused by a direct current offset on the mix bus (MASTER output, etc.). This component can be removed.

1. Press **[SYSTEM]** several times until "SYS System PRM ?" appears in the display.
2. Press **[YES]**.
3. Press **PARAMETER [▶▶]** several times until "DC Cut Sw" appears in the display.
4. Rotate the **TIME/VALUE dial**.



DC Cut Sw (DC Cut Switch)

When this is turned "On," any direct current offset on the mix bus will be removed before output.

5. Press **[PLAY (DISPLAY)]**. Return to Play condition.

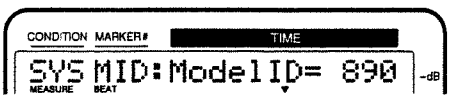
MIDI Setting (MIDI)

Switching the Model ID

MIDI devices communicating with the VS-890 using System Exclusive messages identify it by its model ID number. The MIDI Model ID parameter allows you to switch the VS-890's ID number to the number used by the VS-880EX. When MIDI Model ID is set to "88EX," you can use VS-880-based software with the VS-890.

The MIDI Model ID is not the same thing as a MIDI Device ID—the VS-890 provides a separate Device ID parameter.

1. Press **[SYSTEM]** several times until "SYS MIDI PRM ?" appears in the display.
2. Press **[YES]**.
3. Press **PARAMETER [▶▶]** several times until "ModelID" appears in the display.
4. Rotate the **TIME/VALUE dial**.



Model ID

Usually set to "890." Select "88EX" if you use the MIDI data created with the VS-880EX on the VS-890.

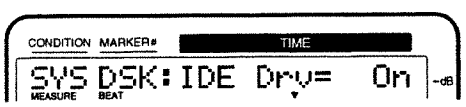
5. Press **[PLAY (DISPLAY)]**. Return to Play condition.

Disk Settings (DISK)

When There Is No Hard Disk Installed

Even when there is no hard disk installed in the VS-890, it still can be used with only a Zip drive connected to the SCSI connector. In such instances, it takes approximately 30 seconds after the power is turned on of the VS-890 to check its internal hard disk connection status. To avoid this wait, you can preset the VS-890 not to attempt to use the internal hard disk.

1. Press **[SYSTEM]** several times until "SYS DISK PRM ?" appears in the display.
2. Press **[YES]**.
3. Press **PARAMETER [▶▶]** several times until "SYS DSK:IDE Drv" appears in the display.
4. Rotate the **TIME/VALUE dial**.



IDE Drv (IDE Drive)

When not using the internal hard disk, set this to "Off." Normally, this is set to "On."

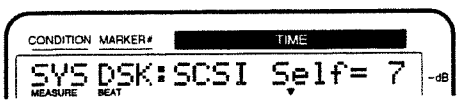
5. Hold down **[SHIFT]** and press **[STORE (ZERO)]**. "STORE OK?" appears in the display.
6. Press **[YES]**. The song is saved.
7. Press **[PLAY (DISPLAY)]**. Return to Play condition. The changed setting becomes effective from the next time when the VS-890 is turned on.

Changing the VS-890's SCSI ID Number

When connecting SCSI devices with the VS-890, the SCSI ID number of each device must be set so that none of the devices have the same ID number. The VS-890's SCSI ID number is set to "7" at the factory. When connecting the VS-890 to other SCSI devices (for example, Zip drives or CD-R drives), be sure to set the SCSI ID number for these other devices to a number other than "7."

If no other SCSI ID number is vacant, it is also possible to change the SCSI ID number of the VS-890.

1. Press **[SYSTEM]** several times until "SYS DISK PRM ?" appears in the display.
2. Press **[YES]**.
3. Press **PARAMETER [▶▶]** several times until "SYS DSK:SCSI Self" appears in the display.
4. Rotate the **TIME/VALUE dial**.



SCSI Self (SCSI Self ID Number)

Sets the VS-890's own SCSI ID number (0–7).

5. Hold down **[SHIFT]** and press **[STORE (ZERO)]**. "STORE OK?" appears in the display.
6. Press **[YES]**. The song is saved.
7. Press **[PLAY (DISPLAY)]**. Return to Play condition. The new SCSI ID number becomes effective from the next time when the VS-890 is turned on.

Take Advantages of the VS-890 (idea and examples)

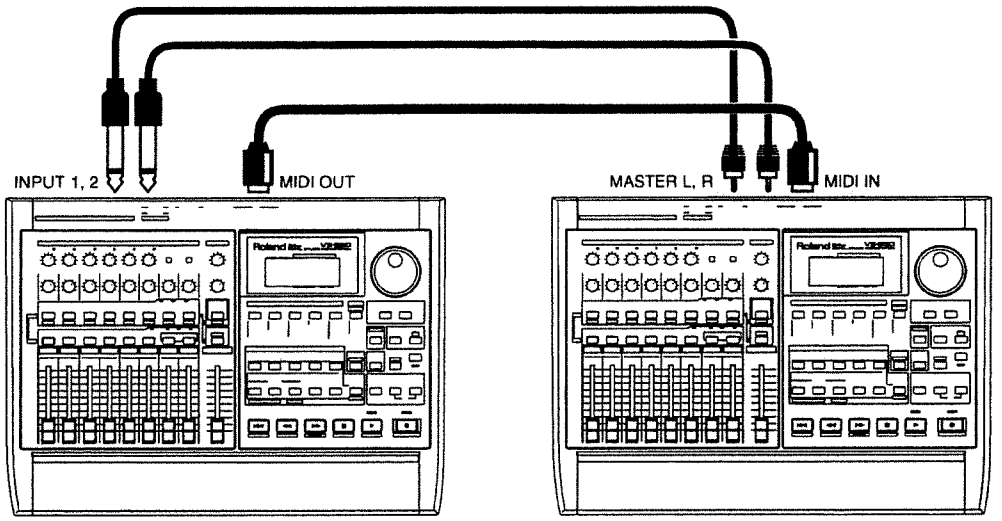
Along with the functions or external devices explained in earlier chapters, this chapter explains some actual ways and gives some tips in which the VS-890 can be used effectively.

Synchronizing the Operations of Two VS-890 Units

The VS-890 is compatible with **MMC**. Here, we explain how the operation of two VS-890 units can be synchronized. One VS-890 acts as the MMC/MTC **master**, and the other acts as the MMC/MTC **slave**. Make connections as described below.

?

MMC (Appendices p. 12)



VS-890 (Master)
MMC:MASTER
MTC:MASTER

VS-890 (Slave)
MMC:SLAVE
MTC:SLAVE

MEMO

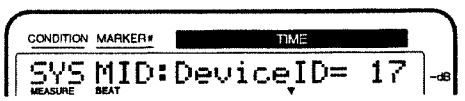
In this example, you can use the master's Stereo In function for the mix balance between the master and slave VS-890s. First adjust the individual track balances on both machines. Of course, you can also send the output of the master and slave VS-890s to a separate mixer.

Settings for the Master VS-890

1. Press **[SYSTEM]** several times until "SYS MIDI PRM ?" appears in the display.
2. Press **[YES]**.
3. Use **PARAMETER [◀◀], [▶▶]** to display the following items, then use the **TIME/VALUE dial** to set or adjust them.

DeviceID

This sets the Device ID number (1–32) that is used when exchanging exclusive messages (mixer parameters) with an external MIDI device. Exclusive messages can be transmitted and received between devices which have the same Device ID number setting. Here, set this to "17."



MIDIThr (MIDI Thru Switch)

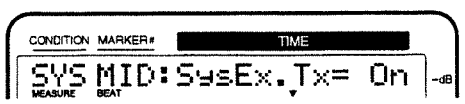
This switches the function of the MIDI OUT/THRU connector. For now, set this to "Out."

Out: The connector transmits MIDI message such as metronome Note messages or MTC from the VS-890.

Thru: MIDI messages received at the MIDI IN connector are retransmitted from the connector without any changes.

SysEx.Tx. (System Exclusive Transmit Switch)

Exclusive messages are transmitted when this is set to "On." At this time, set this to "On."



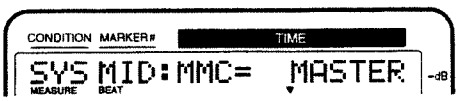
MMC (MMC Mode)

This setting determines how the VS-890 implements MMC. Set this to "MASTER."

Off: MMC is neither transmitted nor received.

MASTER: MMC is transmitted. The VS-890 functions as the master device for external MIDI equipment.

SLAVE: MMC is received. The VS-890 functions as a slave device for external MIDI equipment.



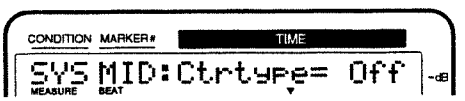
CtrType (Mixer Control Type)

This selects the type of MIDI messages that will be used when transmitting mixer settings to an external MIDI device, or when MIDI messages from an external MIDI device are used to control the mixer. At this time, set this to "Off."

Off: MIDI messages related to mixer operation are not transmitted or received.

C.C.: The mixer is controlled using Control Change messages.

Excl: The mixer is controlled using Exclusive messages.



NOTE

When "C.C." or "Excl" is selected, making mixer adjustments on the master VS-890 makes the same adjustments to the slave VS-890 mixer. For more detailed information about Exclusive messages, please refer to "MIDI Implementation" (Appendices p. 81).

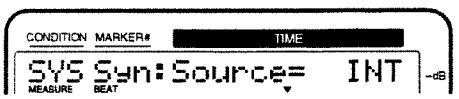
4. Press **[SYSTEM]** several times until "SYS Sync/Tempo ?" appears in the display.
5. Press **[YES]**.
6. Use **PARAMETER [◀◀], [▶▶]** to display the following items, then use the **TIME/VALUE dial** to set or adjust them.

Sync Source

This determines how the VS-890 is synchronized with other devices. Here, set this to "INT."

INT: The VS-890 runs according to its own internal clock. Select this setting when you are not synchronizing with other devices or when you want external MIDI devices to be controlled by synchronization signals from the VS-890.

EXT: The VS-890 is controlled with synchronization signals (MTC) from the connected external MIDI device. In this case, the VS-890 does not operate unless it is receiving MTC signals. Select this setting when you want to use the MTC from an external MIDI device to control the VS-890.



Gen. (Generator)

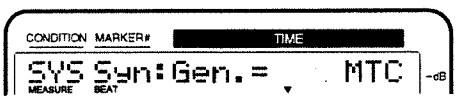
This selects the type of synchronization signal transmitted from the MIDI OUT connector. For now, set this to "MTC."

Off: Synchronization signals are not transmitted.

MTC: MIDI Time Code is transmitted.

MIDIClk: MIDI Clock according to the Tempo Map is transmitted.

SyncTr: MIDI Clock data recorded on the sync track is transmitted.



MTC Type (MTC Type)

This selects the type of MTC (30, 29N, 29D, 25, or 24). Set this to conform to the type of MTC on the slave VS-890. Here, select "30."

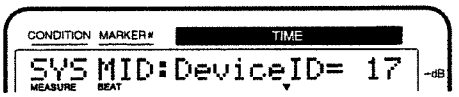
7. Press **[PLAY (DISPLAY)]**. Return to Play condition.

Settings for the Slave VS-890

1. Press **[SYSTEM]** several times until "SYS MIDI PRM ?" appears in the display.
2. Press **[YES]**.
3. Use **PARAMETER [◀◀], [▶▶]** to display the following items, then use the **TIME/VALUE dial** to set or adjust them.

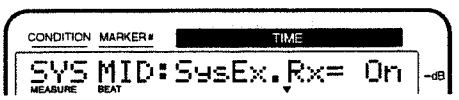
DeviceID

This sets the Device ID number (1–32) that is used when exchanging exclusive messages (mixer parameters) with an external MIDI device. Exclusive messages can be transmitted and received between devices which have the same Device ID number setting. Here, set this to "17."



SysEx.Rx. (System Exclusive Receive Switch)

Exclusive messages are received when this is set to "On." At this time, set this to "On." The Exclusive messages can be received when the VS-890 is in Play condition.



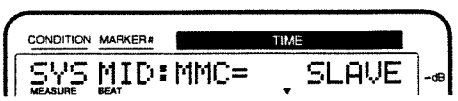
MMC (MMC Mode)

This setting determines how the VS-890 implements MMC. Set this to "SLAVE."

Off: MMC is neither transmitted nor received.

MASTER: MMC is transmitted. The VS-890 functions as the master device for external MIDI equipment.

SLAVE: MMC is received. The VS-890 functions as a slave device for external MIDI equipment.



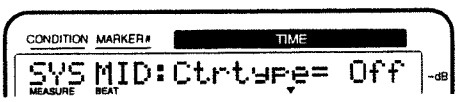
CtrType (Mixer Control Type)

This selects the type of MIDI messages that will be used when transmitting mixer settings to an external MIDI device, or when MIDI messages from an external MIDI device are used to control the mixer. At this time, set this to "Off."

Off: MIDI messages related to mixer operation are not transmitted or received.

C.C.: The mixer is controlled using Control Change messages.

Excl: The mixer is controlled using Exclusive messages.



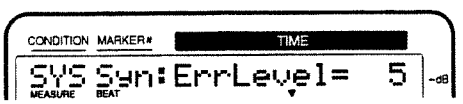
MEMO

When "C.C." or "Excl" is selected, making mixer adjustments on the master VS-890 makes the same adjustments to the slave VS-890 mixer. For more detailed information about Exclusive messages, please refer to "MIDI Implementation" (Appendices p. 81).

4. Press **[SYSTEM]** several times until "SYS Sync/Tempo ?" appears in the display.
5. Press **[YES]**.
6. Use **PARAMETER [◀◀], [▶▶]** to display the following items, then use the **TIME/VALUE dial** to set or adjust them.

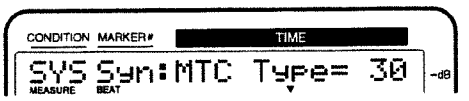
ErrLevel (Error Level)

This sets the interval (0–10) for checking MTC receiving status when synchronize VS-890 with MTC from an external MIDI device. If the MTC is not being sent continuously, the VS-890 checks the MTC and if there is an error, cancels synchronization. By setting a longer interval under such circumstances, synchronization can continue, even if there is a certain degree of error. Normally, set this to "5."

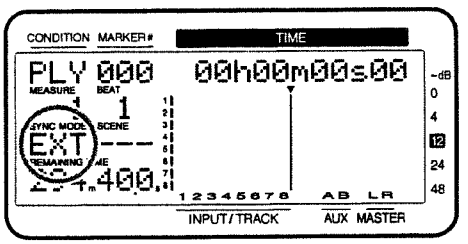


MTC Type (MTC Type)

This selects the type of MTC (30, 29N, 29D, 25, or 24). Set this to conform to the type of MTC on the slave VS-890. Here, select "30."



7. Press **[PLAY (DISPLAY)]**. Return to Play condition.
8. Hold down **[SHIFT]** and press **[SYSTEM]**. The "SYNC MODE" field of the display will show "EXT," indicating that the unit is waiting to receive MTC.

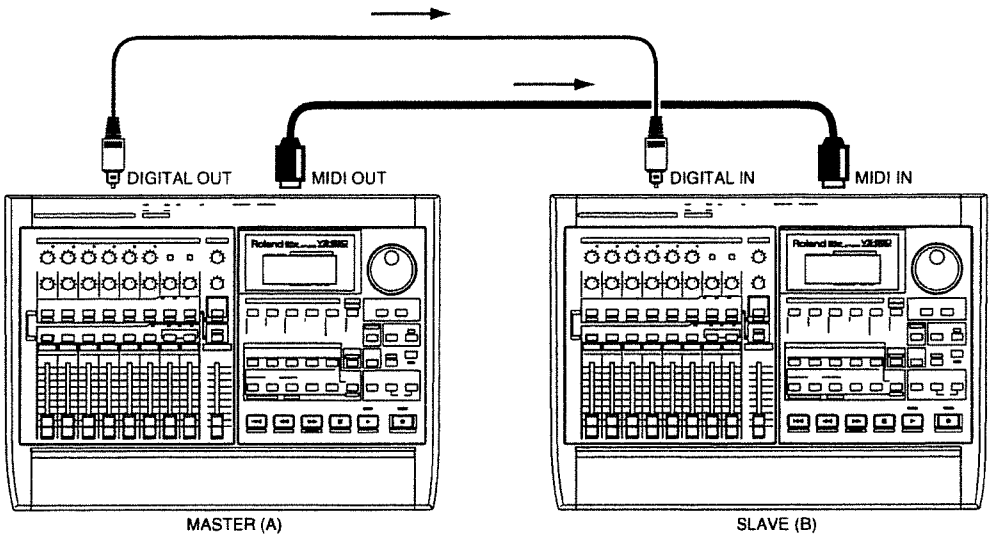


In this condition, the slave VS-890 is operated synchrony when the master VS-890 is operated.

If You Want to Make Digital Connection

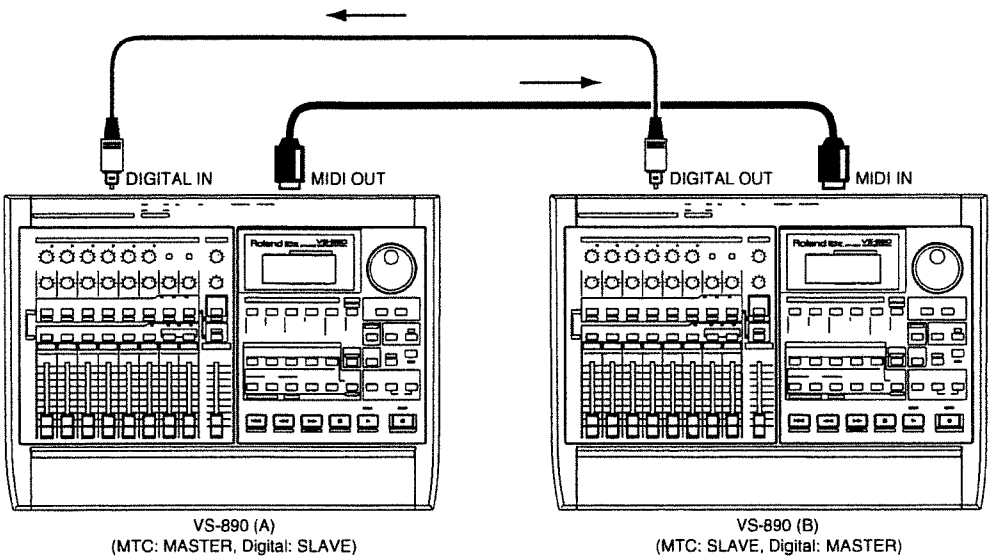
Make connections as described below.

Master VS-890	**Sync Source:**	INT
	Master Clock	INT
Slave VS-890	**Sync Source:**	EXT
	Master Clock	DIGIN1 or DIGIN2



Digital Connection Can NOT Be Used

When the master Clock of VS-890 (A) is set to "DIGIN1" or "DIGIN2," the VS-890 (A) operates according to the Clock (digital signal) transmitted by the connected MIDI device. You can thus make MTC the master Clock. However, in this case, the VS-890 (B) attempts to operate according to the MTC transmitted by the VS-890 (A), while the VS-890 (A) attempts to operate according to the digital signals transmitted by the VS-890 (B). In such instances, since this ends up in there being no reference clock, both the VS-890 (A, B) cannot operate correctly.



Synchronizing with MIDI sequence software (MMC)

The VS-890 supports **MMC**. This means that when two VS-890 units are synchronized or when a VS-890 is used in conjunction with an MMC-supporting MIDI sequencer etc., operations such as song playback, stop and fast-forward can be performed by operating only the master device.

?

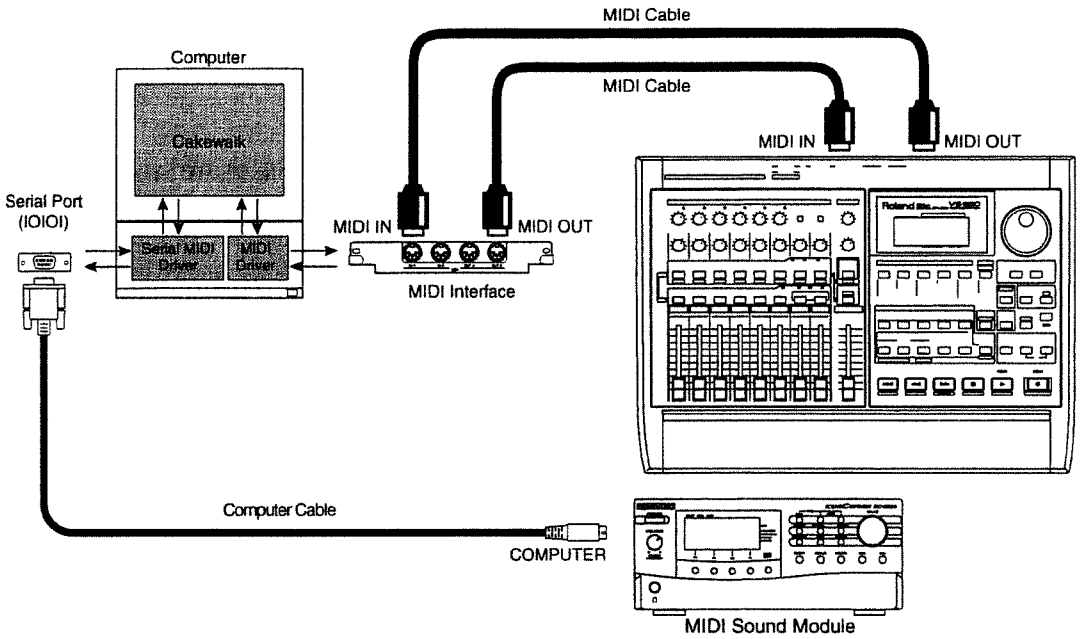
MMC (Appendices p. 12)

NOTE

Some MIDI devices are not compatible with the MMC used by the VS-890. If you are using such a device, the VS-890 cannot be operated in the manner described in this Owner's Manual. For more detailed information about MMC functions for the VS-890, please refer to "MIDI Implementation" (Appendices p. 81).

Here, we will see an example of synchronizing the VS-890 with a computer-based MIDI sequence software software application. Make the connections as shown below, referring to the MIDI sequence software Owner's Manual as you go along.

In this example, MIDI sequence software is the master device when MMC is used, and the VS-890 is the master device when using MTC. MIDI sequence software can be used to control such operations of the VS-890 as playback, stopping, switching track status, and more.



NOTE

In order to connect the computer to the VS-890, the computer must have a MIDI interface. When controlling the MIDI sound device at the same time as the VS-890, there is a chance that, depending on the MIDI messages, it may not be possible to control the VS-890 correctly, so we recommend using separate MIDI ports whenever possible.

VS-890 Settings

1. Press **[SYSTEM]** several times until "SYS MIDI PRM ?" appears in the display.
2. Press **[YES]**.
3. Use **PARAMETER [◀◀], [▶▶]** to display the following items, then use the **TIME/VALUE dial** to set or adjust them.

MIDIThr (MIDI Thru Switch)

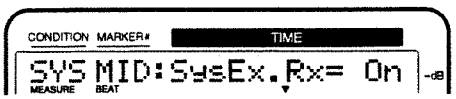
This switches the function of the MIDI OUT/THRU connector. For now, set this to "Out."

Out: The connector transmits MIDI message such as metronome Note messages or MTC from the VS-890.

Thru: MIDI messages received at the MIDI IN connector are retransmitted from the connector without any changes.

SysEx.Rx. (System Exclusive Receive Switch)

Exclusive messages are received when this is set to "On." At this time, set this to "On." The Exclusive messages can be received when the VS-890 is in Play condition.



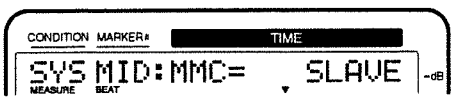
MMC (MMC Mode)

This setting determines how the VS-890 implements MMC. Set this to "SLAVE."

Off: MMC is neither transmitted nor received.

MASTER: MMC is transmitted. The VS-890 functions as the master device for external MIDI equipment.

SLAVE: MMC is received. The VS-890 functions as a slave device for external MIDI equipment.



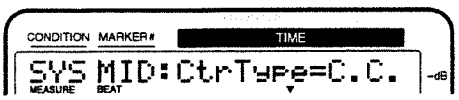
CtrType (Mixer Control Type)

This selects the type of MIDI messages that will be used when transmitting mixer settings to an external MIDI device, or when MIDI messages from an external MIDI device are used to control the mixer. At this time, set this to "C.C."

Off: MIDI messages related to mixer operation are not transmitted or received.

C.C.: The mixer is controlled using Control Change messages.

Excl: The mixer is controlled using Exclusive messages.



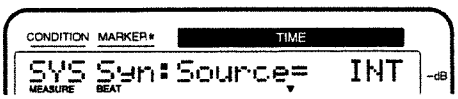
4. Press **[SYSTEM]** several times until "SYS Sync/Tempo ?" appears in the display.
5. Press **[YES]**.
6. Use **PARAMETER [◀◀], [▶▶]** to display the following items, then use the **TIME/VALUE dial** to set or adjust them.

Sync Source

This determines how the VS-890 is synchronized with other devices. Here, set this to "INT."

INT: The VS-890 runs according to its own internal clock. Select this setting when you are not synchronizing with other devices or when you want external MIDI devices to be controlled by synchronization signals from the VS-890.

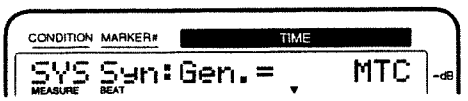
EXT: The VS-890 is controlled with synchronization signals (MTC) from the connected external MIDI device. In this case, the VS-890 does not operate unless it is receiving MTC signals. Select this setting when you want to use the MTC from an external MIDI device to control the VS-890.



Gen. (Generator)

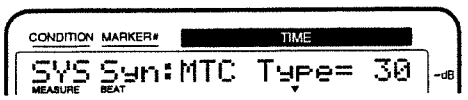
This selects the type of synchronization signal transmitted from the MIDI OUT connector. For now, set this to "MTC."

Off:	Synchronization signals are not transmitted.
MTC:	MIDI Time Code is transmitted.
MIDIClk:	MIDI Clock according to the Tempo Map is transmitted.
SyncTr:	MIDI Clock data recorded on the sync track is transmitted.



MTC Type (MTC Type)

This selects the type of MTC (30, 29N, 29D, 25, or 24). Set this to conform to the type of MTC on the slave VS-890. Here, select "30."



7. Press **[PLAY (DISPLAY)]**. Return to Play condition.

MIDI Sequence Software Settings

Make the settings for MIDI sequence software as described below. For more detailed information, please refer to the MIDI sequence software Owner's Manual.

- Set the MIDI sequence software to run according to the MTC (MIDI time code) from an external MIDI device.
- Select the MTC of the MIDI sequence software so that it matches MTC of the VS-890.
- Set the MIDI sequence software to transmit MMC (MIDI Machine Control).

MEMO

Generally, "30 Frame Drop" in the MIDI sequence software corresponds to "29D" on the VS-890.

Under this condition, when playback is begun with MIDI sequence software, MMC is transmitted to the VS-890, and upon receiving the MMC, the VS-890 also begins playback. During playback, MTC is sent from the VS-890 to MIDI sequence software, thus synchronizing operations.

Making Digital Connections with MIDI sequence software

When you have a sound card (such as Audiomedia III or CardD) that features digital input and output connectors installed in your computer, you can connect MIDI sequence software and your VS-890 digitally. This is convenient when, for example, you want to record the audio tracks from the VS-890 to MIDI sequence software via a digital connection, edit the material in MIDI sequence software, and then send it back via the digital connection to the VS-890 for mixdown. Be sure to read the owner's manuals for MIDI sequence software as well as the sound card you are using.

About Sound Cards

Even when using the digital connections as described in the example, noise originating inside the computer in the vicinity of the sound card may be introduced into the sound. The level of noise will vary according to the computer's exterior panels, interior boards, the condition of the cable connections, etc. In general, high-performance sound cards that tend to resist this kind of noise better.

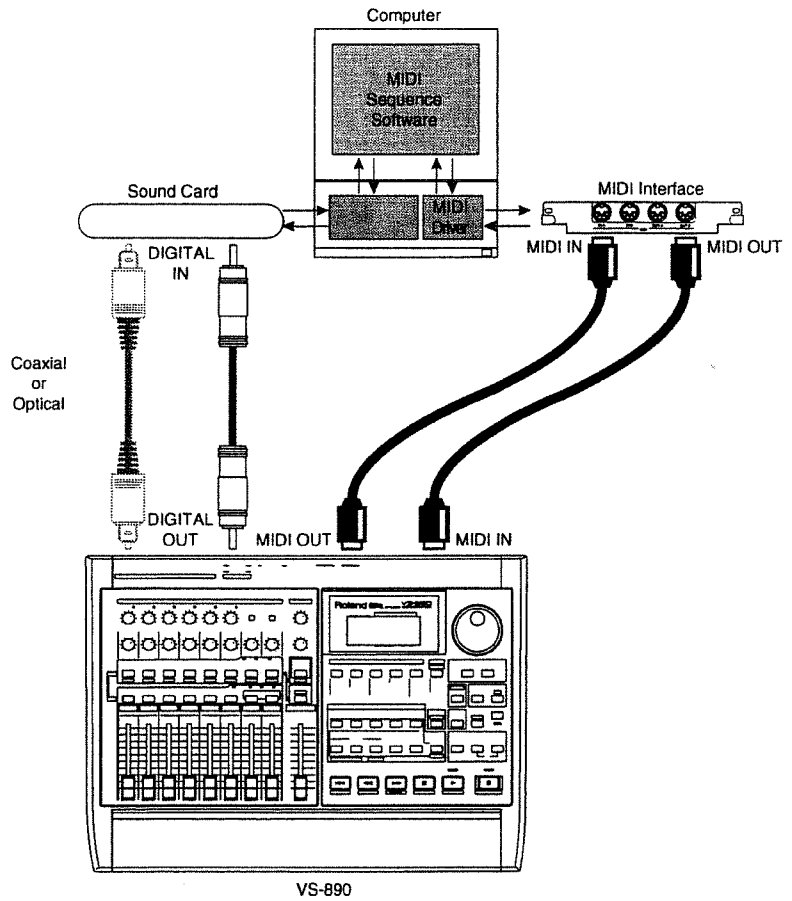
With sound cards that feature both analog and digital input and output, it may be necessary to set the card to use the digital input and output. After carefully reading the owner's manual for your sound card, make the necessary settings to enable the sound card to use the digital input and output connectors.

About the Recording Mode

Even when using the digital connections as described in the example, since audio tracks are recorded from the VS-890 to MIDI sequence software, edited, and then sent back to the VS-890, this can be likened to repeated track bouncing. Thus, we recommend that you to use a recording mode featuring higher quality sound, such as "VSR" or "MT1."

Recording to MIDI sequence software

1. Make the connections as shown below.



2. Follow the procedure as described in "Settings for the VS-890" and "Settings for MIDI sequence software", set up the system so that the VS-890 and MIDI sequence software are synchronized.

3. If the MIDI sequencing program has a setting for playing back the MIDI tracks and the audio track match with timing in sync, activate this setting. For more information, read the operation manual for the MIDI sequencing program.

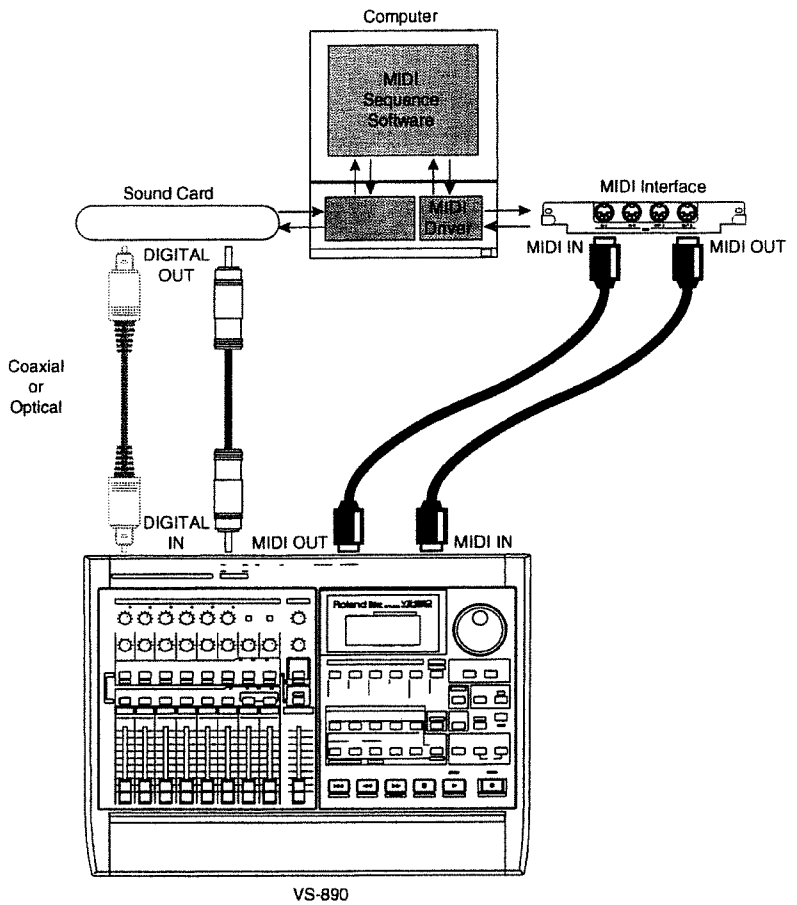
NOTE

If your computer does not feature adequate performance, even with the above settings, you may not be able to get stable digital audio output, meaning the sound will suffer when digital connections are used.

n the present status/condition, when record is begun with MIDI sequence software, MMC is transmitted to the VS-890, and upon receiving the MMC, the VS-890 also begins playback. During playback, MTC is sent from the VS-890 to MIDI sequence software, thus synchronizing operations.

Recording to the VS-890

1. Make the connections as shown below.



2. Follow the procedure as described in "Settings for the VS-890" and "Settings for MIDI sequence software," set up the system so that the VS-890 and MIDI sequence software are synchronized.

NOTE

If your computer does not feature adequate performance, even with the above settings, you may not be able to get stable digital audio output, meaning the sound will suffer when digital connections are used.

3. Press **[SYSTEM]** several times until "SYS System PRM?" appears in the display.
4. Press **[YES]**.
5. Press **PARAMETER [▶▶]** several times until "SYS MasterClk=" appears in the display.
6. Rotate the **TIME/VALUE dial**.

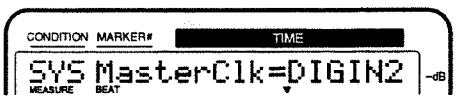
MasterClk (Master Clock)

This is used to select the reference clock for the VS-890 operations. Here, set this to "DIGIN1" or "DIGIN2."

DIGIN1: Based on the digital signal received at the DIGITAL IN connector (coaxial).

INT: Based on the VS-890's internal clock.

DIGIN2: Based on the digital signal received at the DIGITAL IN connector (optical).



7. Press **[PLAY (DISPLAY)]**. Return to Play condition.
8. Make the settings for the VS-890 by following the procedure as described in "Recording Digital Signals." Under this condition, when playback is begun with MIDI sequence software, MMC is transmitted to the VS-890, and upon receiving the MMC, the VS-890 also begins record. During playback, MTC is sent from the VS-890 to MIDI sequence software, thus synchronizing operations.

Using an External MIDI Device to Adjust the Mixer (Compu Mix)

The VS-890 can send and receive the mixer settings and movements as MIDI messages. You can use an external MIDI controller to control the VS-890's faders, and by using a MIDI sequencer to record mixer settings and movements during playback as MIDI song data, the mixer can be controlled automatically by the MIDI sequencer when the song is played back later. This is referred to as **Compu Mix**. Compu Mix uses **MIDI Control Change messages** and **MIDI Exclusive messages**.

This roughly describes how things proceed when performing operations using Control Change messages. For more detailed information, please read the appropriate pages.

MEMO

- When working in Compu Mix, you should use normal MIDI Control Change messages. However, if the use of MIDI Control Change messages would affect other MIDI devices in you setup, you may use MIDI System Exclusive messages.
- For more detailed information about Control Change messages and Exclusive messages, please refer to "MIDI implementation" (Appendices p. 81).

The Correspondence Between MIDI Channels and Controller Numbers

MIDI channels correspond to the mixer channels as shown below. For channel pairs linked with the Stereo Link function, Control Change messages can be exchanged using the odd-numbered channel's MIDI channel. Control Change messages transmitted via the even-numbered channel's MIDI channel are ignored.

MIDI Ch.	Input Ch.	Track Ch.	FX RTN.	Master
1	1	1	-	-
2	2	2	-	-
3	3	3	-	-
4	4	4	-	-
5	5	5	-	-
6	6	6	-	-
7	7 (DIGITAL L)	7	-	-
8	8 (DIGITAL R)	8	-	-
11	-	-	ST IN	-
12	-	-	FX1	-
13	-	-	FX2	-
16	-	-	-	MST

Controller numbers correspond to the track mixer parameters as follows.

Controller Number	Mixer Parameter
3	TRACK STATUS
7	MIX Send Level
10	MIX Send Pan
12	EQ L Freq.
13	EQ L Gain
14	EQ M Freq.
15	EQ M Gain
16	EQ M Q
17	EQ H Freq.
18	EQ H Gain
19	FX1 SND Level
20	FX1 SND Pan/Bal
21	FX2 SND Level
22	FX2 SND Pan/Bal
23	AUX Send Level
24	AUX Send Pan/Bal
29	MIX Offset Level
30	MIX Offset Bal

Controller numbers correspond to the input mixer parameters as follows.

Controller Number	Mixer Parameter
68	MIX Send Level
70	MIX Send Pan/Bal
71	EQ L Freq.
72	EQ L Gain
73	EQ M Freq.
74	EQ M Gain
75	EQ M Q
76	EQ H Freq.
77	EQ H Gain
78	FX1 SND Level
79	FX1 SND Pan/Bal
80	FX2 SND Level
81	FX2 SND Pan/Bal
82	AUX Send Level
83	AUX Send Pan/Bal
88	MIX Offset Level
89	MIX Offset Bal

Controller numbers correspond to the effect return mixer parameters as follows.

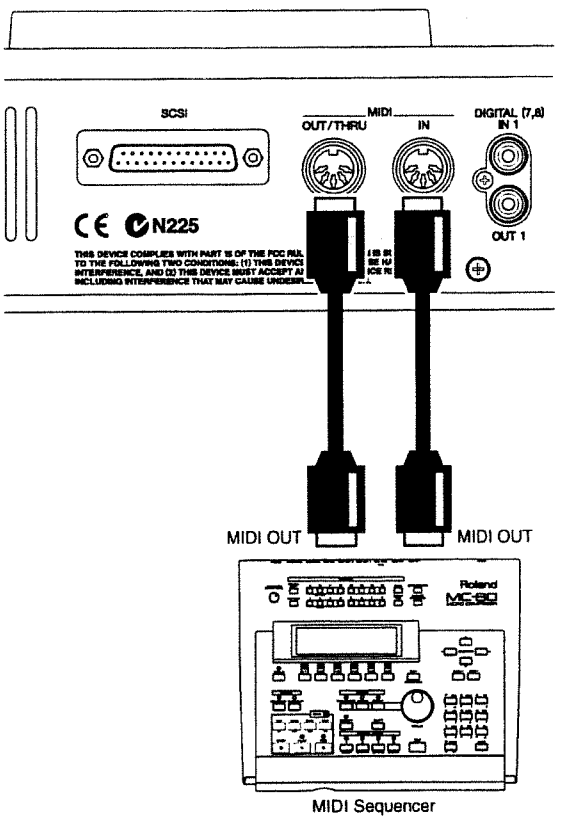
Controller Number	Mixer Parameter
68	MIX Send Level
70	MIX Send Balance

Controller numbers correspond to the Master section parameters as follows.

Controller Number	Mixer Parameter
68	Master Level
70	Master Balance
78	FX1 SND Level
79	FX1 SND Balance
80	FX2 SND Level
81	FX2 SND Balance
82	AUX Level
83	AUX Balance

Preparations for Compu Mix

1. Make the connections as shown below.



2. Press **[SYSTEM]** several times until "SYS MIDI PRM ?" appears in the display.

3. Press **[YES]**.

4. Use **PARAMETER [◀◀], [▶▶]** to display the following items, then use the **TIME/VALUE dial** to set or adjust them.

MIDIThr (MIDI Thru Switch)

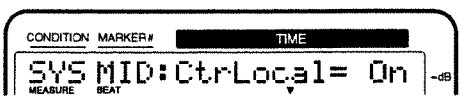
This switches the function of the MIDI OUT/THRU connector. For now, set this to "Out."

Out: The connector transmits MIDI message such as metronome Note messages or MTC from the VS-890.

Thru: MIDI messages received at the MIDI IN connector are retransmitted from the connector without any changes.

CtrLocal (Control Local Switch)

When this is set to "Off," actual volume levels remain unchanged even when the faders on the top panel are moved (fader movements have no effect). Normally, this is set to "On." At this time, set the Control Local switch to "On."



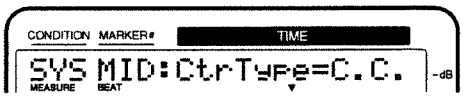
CtrType (Mixer Control Type)

This selects the type of MIDI messages that will be used when transmitting mixer settings to an external MIDI device, or when MIDI messages from an external MIDI device are used to control the mixer. At this time, set this to "C.C."

Off: MIDI messages related to mixer operation are not transmitted or received.

C.C.: The mixer is controlled using Control Change messages.

Excl: The mixer is controlled using Exclusive messages.



5. Follow the procedure as described in "Synchronizing with MIDI Sequencers" (p. 160), make the necessary settings in both the VS-890 and the MIDI sequencer to synchronize the two machines. In addition, make sure to set the MIDI sequencer so that MIDI messages received at the MIDI In connector are not output from the MIDI OUT connector.

Recording with Compu Mix

1. Prepare the VS-890's mixer settings (faders, pan, etc.) and ready for playback the song.
2. Put the MIDI sequencer in Record mode, and begin playback with the VS-890.
3. When playback begins, immediately hold down **[SHIFT]** and press **[SCENE]**.

The mixer's initial condition is transmitted from the MIDI OUT connector.

4. As you listen to the song, make adjustments to the faders and other controls as needed.
5. When playback of the song is finished, stop the MIDI sequencer and the VS-890.

This completes the recording with Compu Mix. Save the MIDI song data to a floppy disk or other storage media. When you go back to the beginning of the MIDI song data and the VS-890 song, and then begin playback on the VS-890, the mixer is controlled according to the Compu Mix while the song is played back.

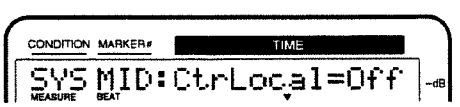
To Have the Fader Movements Ignored

When playing back songs using Compu Mix, may be you want the actual volume levels to remain unchanged even when the faders on the top panel are moved. In such instances, use the following procedure.

1. Press **[SYSTEM]** several times until "SYS MIDI PRM ?" appears in the display.
2. Press **[YES]**.
3. Press **[PARAMETER [▶▶]** several times until "MID:CtrLocal=" appears in the display.
4. Rotate the **TIME/VALUE dial**.

CtrLocal (Control Local Switch)

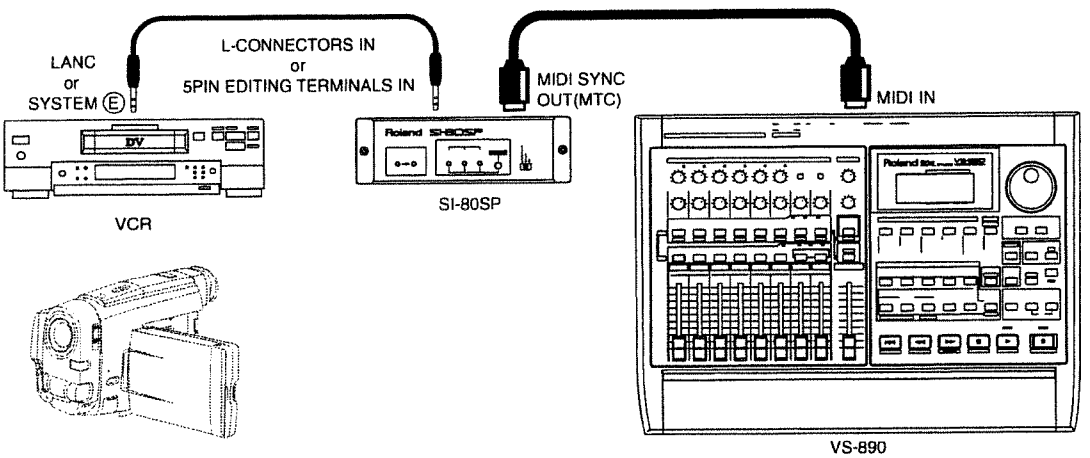
When this is set to "Off," actual volume levels remain unchanged even when the faders on the top panel are moved (fader movements have no effect). Normally, this is set to "On." At this time, set the Control Local switch to "Off."



5. Press **[PLAY (DISPLAY)]**. Return to Play condition.

Synchronizing with Video Equipment

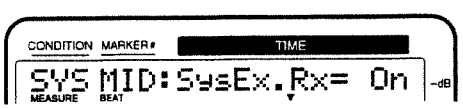
When used in combination with the Roland SI-80SP, you can control playback and stop functions on the VS-890 with video equipment featuring a consumer video interface that conforms to (RCTC) time code. Make the connections as shown below, and refer to the SI-80S owner's manual and the owner's manual for your video device.



1. Press **[SYSTEM]** several times until "SYS MIDI PRM ?" appears in the display.
2. Press **[YES]**.
3. Press **PARAMETER [▶▶]** several times until "SYS MID:SysEx.Rx.=" appears in the display.
4. Rotate the **TIME/VALUE dial**.

SysEx.Rx. (System Exclusive Receive Switch)

Exclusive messages are received when this is set to "On." At this time, set this to "On." The Exclusive messages can be received when the VS-890 is in Play condition.



5. Press **PARAMETER [▶▶]**. "SYS MID:MMC=" appears in the display.
6. Rotate the **TIME/VALUE dial**.

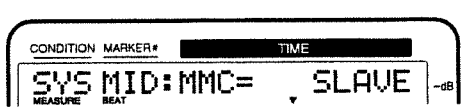
MMC (MMC Mode)

This setting determines how the VS-890 implements MMC. Set this to "SLAVE."

Off: MMC is neither transmitted nor received.

MASTER: MMC is transmitted. The VS-890 functions as the master device for external MIDI equipment.

SLAVE: MMC is received. The VS-890 functions as a slave device for external MIDI equipment.



7. Press **[SYSTEM]** several times until "SYS Sync/Tempo ?" appears in the display.

8. Press **[YES]**.

9. Press **PARAMETER [▶▶]** several times until "SYS Syn:ErrLevel=" appears in the display.

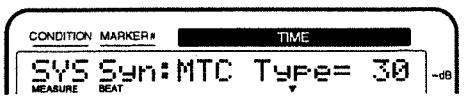
10. Rotate the **TIME/VALUE dial.**

ErrLevel (Error Level)

This sets the interval (0–10) for checking MTC receiving status when synchronize VS-890 with MTC from an external MIDI device. If the MTC is not being sent continuously, the VS-890 checks the MTC and if there is an error, cancels synchronization. By setting a longer interval under such circumstances, synchronization can continue, even if there is a certain degree of error. Normally, set this to "5."

11. Press **PARAMETER [▶▶]**. "SYS Syn:MTC Type=" appears in the display.

12. Rotate the **TIME/VALUE dial.**

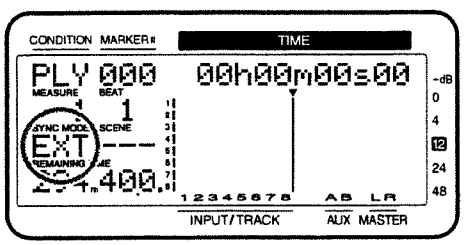


MTC Type (MTC Type)

This selects the type of MTC (30, 29N, 29D, 25, or 24). Set this to conform to the type of MTC on the SI-80SP. Here, select "30."

13. Press **[PLAY (DISPLAY)]**. Return to Play condition.

14. Hold down **[SHIFT]** and press **[SYSTEM]**. The "SYNC MODE" field of the display will show "EXT," indicating that the unit will operate in synchronization to MTC received from the SI-80S.



In this condition, operations performed on the video equipment are performed in synchrony on the VS-890.

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As of June 11, 1999

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CE This product complies with the requirements of European Directives EMC 89/336/EEC and LVD 73/23/EEC.

For the USA

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

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

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This equipment requires shielded interface cables in order to meet FCC class B Limit.

For Canada

NOTICE

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SCMS (Appendices p. 13)

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- Permanent loss of your music or data
- Inability to continue using the VS-890 itself or a connected device

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