

S-4000 RCS

Version 2.4

User's Guide



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Table of Contents

Introduction	4	Managing the M-48 Live Personal Mixer	31
Introduction	4	What is the M-48 live personal mixer	32
About S-4000 RCS	4	40-channel mixer	32
System Requirements	4	Settings and operations for the 40-channel mixer	32
Starting and exiting S-4000 RCS	5	Two sets of outputs	33
Starting S-4000 RCS.....	5	Memory functionality	33
Exiting S-4000 RCS	5	Connecting M-48 units to a Digital Snake system	34
About S-4000 RCS projects.....	6	Connections with an S-1608 system	34
Saving an S-4000 RCS project.....	6	Note when connecting M-48 units (S-1608 system)	34
Opening an S-4000 RCS project file.....	6	Note regarding the ordering of M-48 sources	34
		Example 1: S-1608 + M-48 (16 sources).....	35
		Example 2: S-1608 + S-0816 + M-48 (24 sources).....	36
		Connections with an S-4000 system	37
		Note when connecting M-48 units (S-4000 system)	37
		Note regarding the ordering of M-48 sources	37
		Example 1: S-4000S-4000 + M-48 (40 sources).....	38
		Example 2: S-4000S-3208 + S-4000H + M-48 (32 sources)	39
		Editing and managing M-48 units	40
		Where settings are stored	40
		Operations in the M-48 Manager window	41
		The M-48 Manager window	41
		Opening the M-48 Manager window	41
		Operations in the M-48 List	42
		Operations in the M-48 List.....	43
		Selecting a unit	43
		Editing the unit name	43
		Changing the order of units in the list	43
		Muting the output of a unit	43
		Disabling memory operations from M-48 Manager (MEMORY SAFE function)	43
		Menu operations	44
		Copying/pasting all parameters between units.....	44
		Copying/pasting specific parameters between units	44
		Saving all data of one or more units (Saving multiple units in a single operation)	45
		Memory operations	45
		Storing the memories of all units.....	45
		Recalling the memories of all units.....	45
		Using the Engineer's Monitor function	46
		Specifying an Engineer's Monitor unit.....	46
		Viewing version info for the Engineer's Monitor.....	46
		Editing the Engineer's Monitor preference settings	47
		Releasing the Engineer's Monitor	47
		Note to use the Engineer's Monitor function	47
		Operations in the M-48 edit panel	48
		M-48 edit panel.....	48
		Editing the group name.....	49
		Blinking the unit's LEDs	49
		Editing when the serial port is not connected (Editing a virtual unit)	49
		Setting the source's LEVEL, PAN, and AUX switch (Source level/pan settings)	50
		M-48 Source Lev/Pan window	50
		Opening the M-48 Source Lev/Pan window	50
		Editing the source level / pan settings.....	51
		Resetting the source level / pan settings	51
		Assigning sources to groups (Source assign settings)	52
		M-48 Source Assign window	52
		Opening the M-48 Source Assign window	52
		Making source assignments	53
		Clearing the source assign settings	53
Digital snake system settings	7		
Connections with a Digital Snake system	8		
Serial port connections	8		
USB port connection	9		
Starting a connection with a Digital Snake system	10		
Operations in the S-4000 RCS window	11		
About the menus	11		
Windows	11		
Mac.....	11		
The S-4000 RCS window.....	12		
Controller	12		
Editing the channel settings of the Digital Snake system	13		
Controller	13		
Opening a controller	14		
Opening the controller's channel edit panel.....	14		
Locking/unlocking the controller.....	14		
Editing the channel name	14		
Turning stereo link on/off	15		
Turning +48V phantom power on/off.....	15		
Adjusting the preamp gain	15		
Assigning Physical Inputs to Channels (S-4000M).....	16		
Select sources to be displayed (S-MADI)	16		
Setting the S-MADI's configuration.....	16		
Level meter settings.....	17		
Viewing version info for the Digital Snake	18		
Changing the sample rate of the Digital Snake system.....	19		
Using scene memories	20		
What are scene memories	20		
Scene memories.....	20		
Storing channel settings to a scene	21		
Recalling channel settings from a scene	21		
Editing the name of a scene	21		
Associating scene recall with M-48 memory recall.....	21		
Editing the S-4000M's Input/Output Settings	22		
Storing Input/Output Setups	22		
S-4000M Configuration Window	22		
Opening S-4000M Configuration Window	23		
Resetting Input/Output Setups (System Reset).....	23		
Merge Patchbay Operations.....	24		
MERGE View	24		
S-4000M Merge Patchbay Window	24		
Output Patchbay Operations (S-0808)	26		
OUTPUT View	26		
S-4000M Output Patchbay Window	26		
Splitting Merged Inputs (S-4000M's Split Function).....	28		
Save/Load the S-4000M Input/Output Setup.....	30		

Editing the preference settings	54
M-48 Preferences window.....	54
Opening the M-48 Preferences window.....	54
Editing the preference settings.....	54
Resetting the preference settings	55
Viewing and editing a musician’s mix (Group mix)	56
Viewing and editing the group mix	56
Editing a group name.....	57
Resetting the group mix.....	57
Unit memory operations	58
M-48 Memory window	58
Opening the M-48 Memory window	58
Storing a memory	58
Recalling a memory.....	59
Editing the memory name	59
Clearing the contents of a memory.....	59
Using the M-48 library	60
M-48 Library window	60
Opening the M-48 Library window	60
Storing to the library	60
Recalling from the library	61
Editing the name of a library item	61
Clearing a library item	61
Saving or loading the data of a unit	
(Saving or loading an M-48 project file)	62
Saving an M-48 project file.....	62
Loading an M-48 project file	63
Example setups.....	64
Example setup for Drummer	64
Example setup for lead vocalist.....	65
Example setup for backing vocalists	66

Appendix	67
Messages.....	68

Introduction

About S-4000 RCS

S-4000 RCS is an application that lets you manage and perform setup of the Digital Snake system from your computer.

The S-4000 RCS enables you to perform management and following setups.

- **Editing the channel settings of the Digital Snake system (p. 13)**
- **Editing the S-4000M's Input/Output Settings (p. 22)**
- **Managing the M-48 Live Personal Mixer (p. 31)**

S-4000 RCS is able to edit and manage up to four Digital Snake systems.

System Requirements

Operating System	Windows XP Home Edition/Professional SP2 or later Windows Vista SP1 or later Windows 7 Windows 8/8.1 * S-4000 RCS does not work with the 64-bit Edition of Windows XP * S-4000 RCS does not work with the 64-bit Edition of Windows Vista * S-4000 RCS does not work with Windows XP Media Center Edition. Mac OS X 10.5.8 or later
CPU	Windows: Pentium/Celeron or compatible processor, 1.6GHz or faster * We cannot make guarantees regarding the compatibility of processors. Mac: Intel Processor
RAM	Windows: 512MB or more Mac: 1GB or more
Display	1024 x 768 pixels or higher, 65,536 colors (16-bit color) or higher
Interface	Serial Interface (RS-232C D-Sub 9pins) * Check that the serial interface of your computer works properly. <Expansion of serial interface> Connect USB/serial conversion cable or conversion adaptor to your computer and carry out installation to make all the serial interfaces work properly. [Warning] Using a combination of USB/serial conversion cables and conversion adaptors from various manufacturers may make the system unstable. Please do not use this product with such configurations. USB interface (S-2416 only)

- * While under most conditions, a computer similar to the above will permit normal operation of the S-4000 RCS, Roland Corporation and its affiliates cannot guarantee compatibility solely on these factors. This is due to numerous variables that may influence the processing environment, such as differences in motherboard design and the particular combination of other devices involved.

Starting and exiting S-4000 RCS

Starting S-4000 RCS

1. In the [S-4000RCS] folder, double-click the “S4000 RCS”.

S-4000 RCS will start up, and the S-4000 RCS window will appear.



Exiting S-4000 RCS

1. In the S-4000 RCS window,
Windows: From the “File” menu, choose “Exit”.
Mac: From the “S-4000 RCS” menu, choose “Quit S-4000 RCS”.

S-4000 RCS will close.



If there’s been a change in the S-4000 RCS project (p. 6), a message will ask whether you want to save the project before exiting S-4000 RCS.

About S-4000 RCS projects

S-4000 RCS data is called an S-4000 RCS project. An S-4000 RCS project can be saved as an S-4000 RCS project file (extension: .s4r). An S-4000 RCS project contains the following data.

- Channel names of the Digital Snake system
- Serial port selection for controllers 1–4
- Scene memories
- M-48 list order
- M-48 library data

* The following data is not included in an S-4000 RCS project.

- The memory of the Digital Snake system(s)
- The S-4000M's input/output settings
- The memory of the M-48 unit(s)

Saving an S-4000 RCS project

1. **From the "File" menu, choose "Save as..."**

The "Save As" dialog box will appear.

2. **Specify the location and file name for saving the S-4000 RCS project.**

3. **Click the [Save] button.**

The S-4000 RCS project file will be saved.

Opening an S-4000 RCS project file

Opening a new S-4000 RCS project file

1. **From the "File" menu, choose "New."**

A new S-4000 RCS project will open.

Opening an existing S-4000 RCS project file

1. **From the "File" menu, choose "Open..."**

The "Open" dialog box will appear.

2. **Select the desired S-4000 RCS project file and click the [Open] button.**

The S-4000 RCS project file will open.

MEMO

If a change has been made in the S-4000 RCS project file, a message box will ask whether you want to save the project.

MEMO

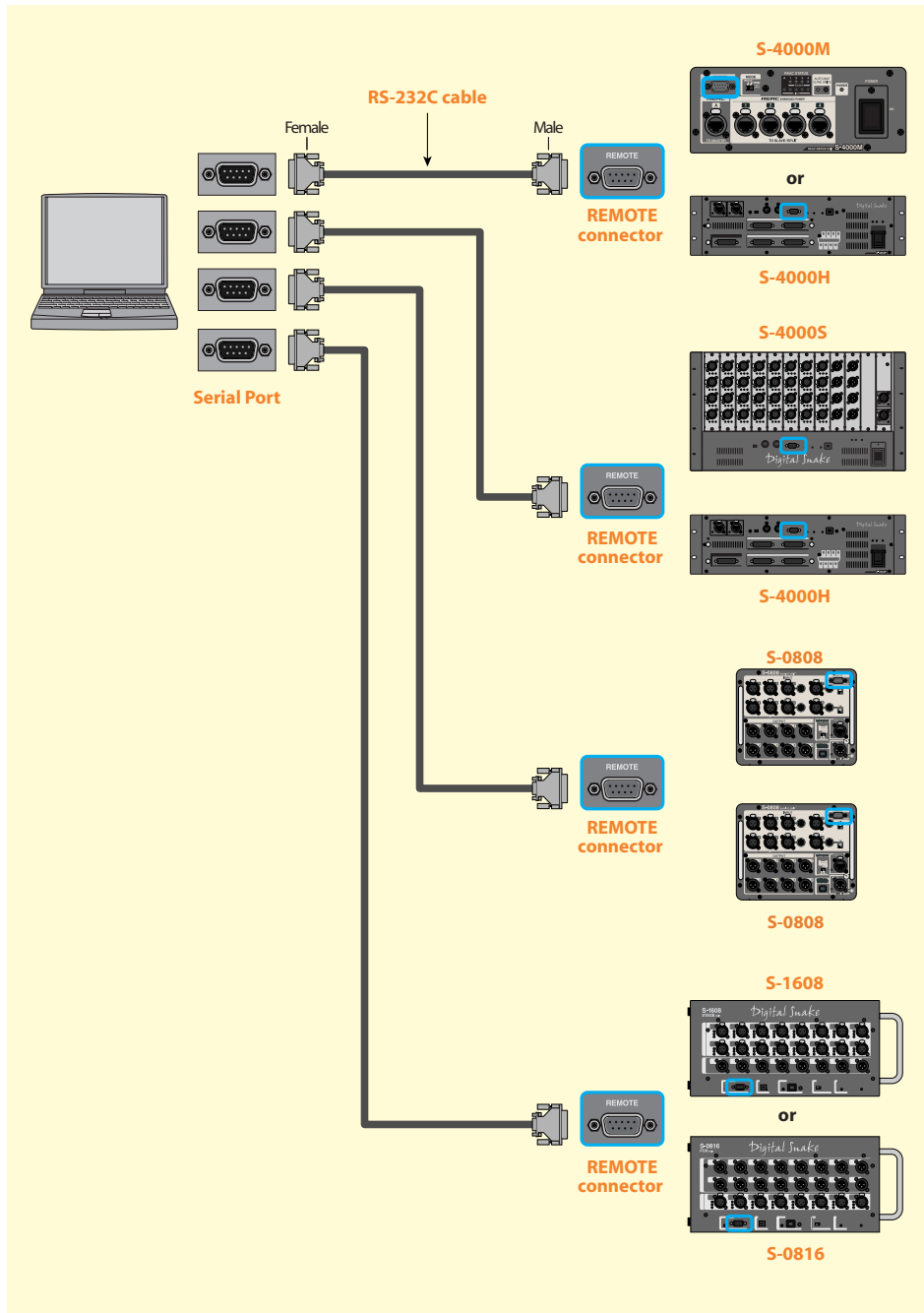
If a change has been made in the S-4000 RCS project file, a message box will ask whether you want to save the project.

Digital snake system settings

Connections with a Digital Snake system

Serial port connections

Connect your computer to the Digital Snake systems as shown in the illustration below. You can connect up to four Digital Snake systems to a single computer.



Caution for serial connections

- * Use the RS-232C cable accessory of the S-4000 Digital Snake system to connect your computer and the S-4000 system. If it's necessary to use longer or shorter cable, please purchase RS-232C cable (D-Sub 9pins/male-female/ straight type).
- * It is recommended to use a cable 15meters in length or shorter.
- * For information of REMOTE connector's pin configuration, refer to the owner's manuals for respective products.

USB port connection

On the S-2416, you can use the USB port for connection to a computer.

A serial driver must be installed on the computer connected via USB to the S-2416.

A SETUP file for serial driver installation is available at the following Roland website.

<http://www.roland.com/support/>

When a USB connection is made, a new serial port (COM port) is created on the computer.

Communication is made using the newly created serial port.

NOTE

When a USB connection has been established, resetting the power on the S-2416 being controlled by S-4000 RCS causes communication to be lost. If this happens, reattach the USB cable.

MEMO

Serial and USB connections can be combined to control up to four Digital Snake systems.

Starting a connection with a Digital Snake system

1. In the controller's serial port select box, choose the serial port to which the desired Digital Snake system is connected.

When the connection is established, the current channel settings of the Digital Snake system will be loaded into the controller.

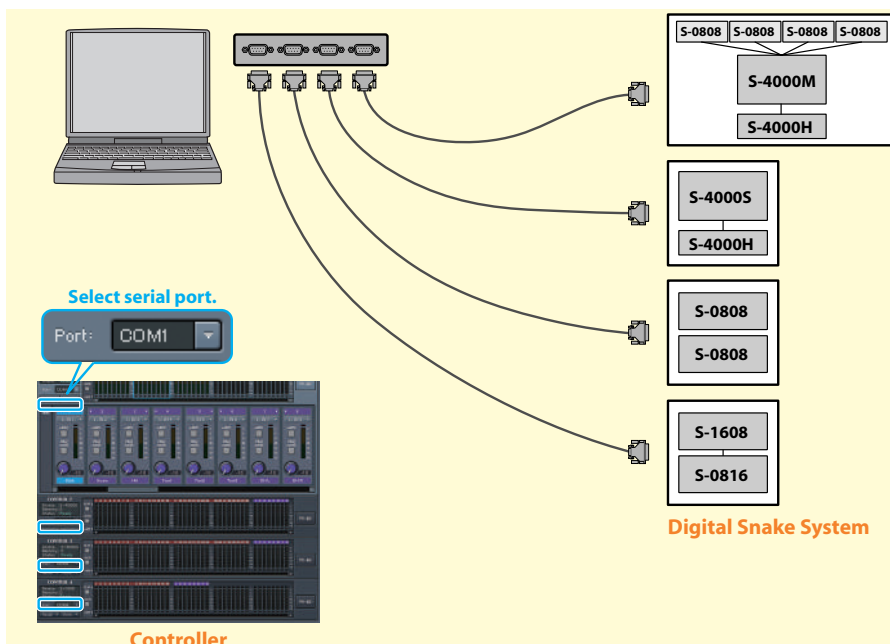


Caution when starting a connection

- * Any channel settings that were made for the controller prior to establishing the connection will be discarded. (However, the channel names will remain.) By storing the scene memory before you start the connection, you can save the channel settings to the S-4000 RCS project.
- * When you select a serial port, the "Virtual" unit indication (p. 49) in the M-48 Manager window (p. 41) will no longer be shown. By storing the settings of the "Virtual" unit to the M-48 library before you select a serial port, you can save the settings to the S-4000 RCS project.

If more than one system is connected

1. From the "Controller" menu, choose #1-#4 to open a controller.
2. Assign each connected Digital Snake system to a controller by selecting the serial port for each controller.



MEMO

A single serial port cannot be selected for more than one controller.

Operations in the S-4000 RCS window

About the menus

Windows

File menu

- **New** Creates a new S-4000 RCS project.
- **Open....** Opens an S-4000 RCS project file.
- **Save** Saves the S-4000 RCS project.
- **Save As...** Saves the S-4000 RCS project under a different name.
- **Exit** Quits the S-4000 RCS application.

Controller menu

- **#1 – #4** Opens the controller of the checked number.
- **Meter Setup...** Opens the Meter Setup dialog box (p. 17).
- **Clear Clip** Clears any lit clip indicators.
- **Updater...*** Updates the system program of the Digital Snake.

Help menu

- **About S-4000 RCS...** Displays the software version of the S-4000 RCS.

Mac

S-4000 RCS menu

- **About S-4000 RCS...** Displays the software version of the S-4000 RCS.
- **Quit S-4000 RCS** Quits the S-4000 RCS application.

File menu

- **New** Creates a new S-4000 RCS project.
- **Open....** Opens an S-4000 RCS project file.
- **Save** Saves the S-4000 RCS project.
- **Save As...** Saves the S-4000 RCS project under a different name.

Controller menu

- **#1 – #4** Opens the controller of the checked number.
- **Meter Setup...** Opens the Meter Setup dialog box (p. 17).
- **Clear Clip** Clears any lit clip indicators.
- **Updater...*** Updates the system program of the Digital Snake.

* For steps to update system program, refer to the guidance document provided with the updater.

The S-4000 RCS window

Controller



MEMO

The S-4000 RCS window is the main window of the S-4000 RCS application.

Item	Name	Function
1	Project name	Indicates the name of the S-4000 RCS project that is currently open.
2	Scene memory	Here you can perform scene memory operations (p. 20).
3	Controller	Here you can edit channel settings for the Digital Snake system (p. 13).


MEMO

If the S-4000 RCS project has been edited, an "*" will be added to the end of the project name.

Editing the channel settings of the Digital Snake system

Controller



Item	Name	Function
1	Device Name	Displays name of the Digital Snake device
2	Memory number	Indicates the currently selected memory number.
3	Serial communication indicator	Indicates the status of serial communication between S-4000 RCS and the S-4000 system. Ready : Serial communication is established REAC Down : No REAC communication Host Down : No serial communication -- : No Serial port is selected
4	Serial port selection box	Selects a serial port.
5	[Recall] button	Recalls the channel settings of the selected memory.
6	[Store] button	Saves the channel settings in the selected memory.
7	[CLIP] button	Click this to clear the clip indicators and peak hold indicators. When a level meter's clip indicator lights, this button will blink red.
8	[LOCK] button	Locks/unlocks the controller. If the controller is locked, this will be lit or blinking orange.
9	Channel number	Indicates the channel number. Brown background : Indicates an input of the REAC master device. Purple background : Indicates an input of a REAC slave device.
10	Level meter	Indicates the input level. You can click this to select a channel.
11	+48V indicator	Indicates the on/off status of +48V phantom power. When on, this will light red.
12	[M-48] button	Opens the M-48 Manager window (p. 41).
13	Channel edit panel	In this panel you can edit the channel settings.
14	[info] button 	Opens the Device Info dialog box (p. 18).
15	Channel number	Clicking the arrow shown by the channel number will turn stereo link on/off.
16	Input Select Box	This is valid for the S-4000M REAC MERGE UNIT only. This part displays the physical input number (of the REAC slave device) assigned to the channel. Click here to change the assignment (p. 16).
17	[+48V] button	Turns +48V phantom power on/off. When on, this will light red.
18	[PAD] button	Turns the pad on/off. When on, this will light orange.
19	Gain knob	Adjusts the preamp gain.

MEMO

The serial port selection and the channel names are saved in the S-4000 RCS project.

MEMO

In the input select box, a physical input number is shown in red, if the input does not exist in the system.

Operations in the S-4000 RCS window

Item	Name	Function
20	Channel name	Indicates the channel name. Double-click this to edit the channel name.
21	Channel level meter	Indicates the input level.

Opening a controller

1. From the “Controller” menu, choose “#1–#4”. Click to add a check mark.
The controller will open.

Opening the controller’s channel edit panel

If more than one controller is open, the channel edit panel is shown for only one controller.

1. Click the desired controller.
The controller’s channel edit panel will open.

If S-4000 RCS is connected to a split REAC device, it is only possible to view the channel settings and level meters.

Locking/unlocking the controller

You can lock the controller to prohibit channel settings from being edited. This lets you prevent channel settings from being inadvertently changed.

1. Click the [LOCK] button to lock or unlock the controller.
If the controller is locked, the [LOCK] button will light or blink orange.

* If S-4000 RCS (or an S-4000R remote controller) is connected to both the REAC master device and to a REAC slave device, you can unlock only one of the controllers. At this time, the other controller will automatically be locked, and the [LOCK] button will blink.

Storage of channel settings

The channel settings of the Digital Snake system are backed up to the internal memory of the REAC master device approximately every 30 seconds. The backed-up settings will be restored the next time you turn on the power.

If you want to execute a backup immediately, perform the following operation.

1. Click the [LOCK] button to switch the lock status.
The channel settings will be backed up to the internal memory of the REAC master device.

Editing the channel name

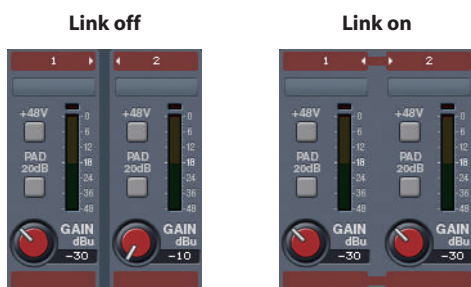
1. Double-click the channel name.
The channel name will be editable.



The channel name is also used as the source name in the M-48 Source Lev/Pan window (p. 50) and the M-48 Source Assign window (p. 52).

Turning stereo link on/off

1. Click the arrow beside the channel number to turn stereo link on/off.



- * Pairing is possible only for adjacent odd-numbered/even-numbered channels.
- * When you turn stereo link on, the preamp gain and pad settings of the odd-numbered channel will be copied to the even-numbered channel. Even if you then turn stereo link off, the even-numbered channel will not return to its prior state.
- * Phantom power can be turned on/off individually even if stereo link is on.

Turning +48V phantom power on/off

1. Click the [+48V] button to turn +48V phantom power on/off.

If +48V phantom power is on, the [+48V] button will light red.

Caution when using +48V phantom power

- * You must turn phantom power off if a device not requiring phantom power is connected. Malfunctions will occur if phantom power is supplied to a dynamic microphone, audio playback device, or any other device that does not require phantom power. Carefully read the owner's manual included with the microphone or other device you're using, and verify its specifications.



When you switch the [+48V] button on/off, that channel will be temporarily muted to prevent noise from being produced.

Adjusting the preamp gain

1. Drag the gain knob of the desired channel up / down or left / right to adjust the preamp gain.

The gain adjustment range will depend on the state of the [PAD] button.

[PAD] button	Gain adjustment range
Off	-65 - -10 dBu
On	-45 - +10 dBu

Operations using the keyboard

Key	Operation
[←] / [→]	Selects a channel
[shift] + [←] / [→]	Selects a channel (in 8-channel steps)
[↑] / [↓]	Increases/decreases the preamp gain (1 dB steps)
[shift] + [↑] / [↓]	Opens the channel edit panel for the controller above or below
[L]	Turns channel link on/off
[P]	Turns PAD on/off
[enter]	Edits the channel name



When you switch the [PAD] button on/off, that channel will be temporarily muted to prevent noise from being produced.

Assigning Physical Inputs to Channels (S-4000M)

You can assign the physical inputs (of the REAC slave device) to the channels (being sent to the REAC master device).

1. **Select the physical input number on the input select box of the target channel.**
Select REAC slave device first and then select input number.



You can also change the assignment on the S-4000M Merge Patchbay (p. 24).

Select sources to be displayed (S-MADI)

You can select sources to be displayed on the controller.

1. **Click the REAC IN tab or the MADI IN tab to select the sources to be displayed on the controller connected to the S-MADI.**

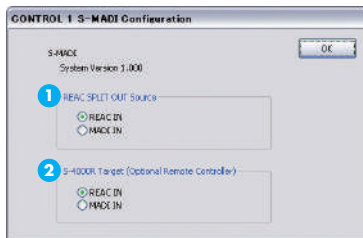


Tab	Sources to be displayed
REAC IN	REAC MAIN input signals
MADI IN	MADI IN signals


Setting the S-MADI's configuration

You can select the sources to be output from the S-MADI's REAC SPLIT OUT connector and the sources to be displayed on an S-4000R connected to the S-MADI.

1. **Click the [info] button  on the controller connected to the S-MADI.**



The S-MADI Configuration dialog box will appear.

2. **Select the sources to be output from the REAC SPLIT OUT connector with REAC SPLIT OUT Source selection button .**

Selection	Sources output from the REAC SPLIT OUT
REAC IN	REAC MAIN input signals
MADI IN	MADI IN signals

3. **Select the sources to be displayed on the S-4000R with S-4000R target button .**

Selection	Sources displayed on the S-4000R
REAC IN	REAC MAIN input signals
MADI IN	MADI IN signals

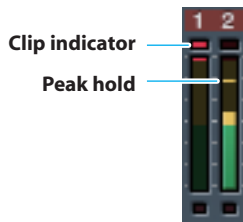
4. **Click the [OK] button.**



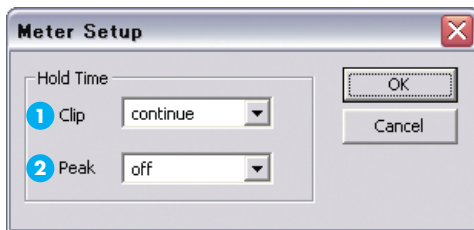
When an S-4000M is connected to the S-MADI's REAC MAIN connector, clicking the [info] button on the controller opens the S-4000M Configuration window (p. 22). You can open the S-MADI Configuration window by clicking the [info] button of the S-MADI on this window.

Level meter settings

You can specify the duration that the clip indicator and peak hold indicator of the level meter will remain lit.



1. From the “Controller” menu, choose “Meter Setup...”



The Meter Setup dialog box will appear.

2. In the Clip selection box **1**, specify the duration that the clip indicator is to remain lit.

Selection	Operation
1sec – 4sec	The clip indicator will remain lit for one to four seconds. After this time has elapsed, the clip indicator will be cleared automatically.
continue	The clip indicator will remain lit until you click the [CLIP] button to clear the level meter.

3. In the Peak selection box **2**, specify the duration that the peak indicator is to remain lit.

Selection	Operation
Off	The peak hold indicator will not be shown.
1sec – 4sec	The peak hold indicator will remain lit for one to four seconds. After this time has elapsed, it will be cleared automatically.
continue	The peak hold indicator will remain lit until you click the [CLIP] button to clear the level meter.

4. Click the [OK] button.

The level meter settings will be applied.

MEMO

The level meter settings are saved as settings for the application.

MEMO

The level meter settings apply to all meters within S-4000 RCS.

Viewing version info for the Digital Snake

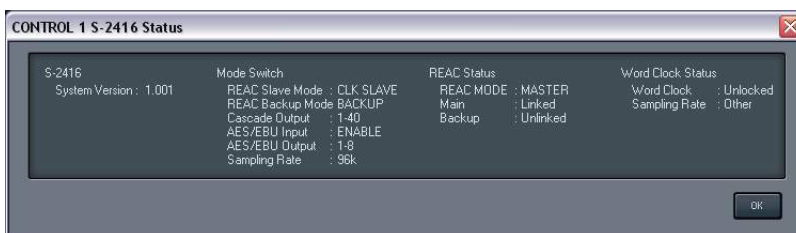
Here's how to view the system program version of the Digital Snake system that is directly connected to S-4000 RCS via a serial or USB connection.



1. In the channel edit panel of the controller, click the [info] button  .



The name and the system program version of the Digital Snake are shown.

- * In the case of the S-2416, along with the version, information such as the state of the MODE switches is also displayed.



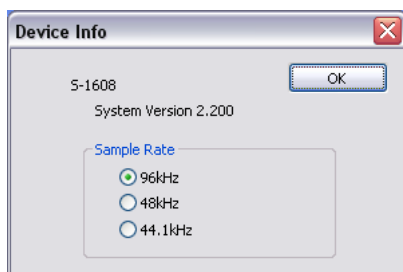
When an S-4000M is connected to the controller, clicking the [info] button  on the controller opens the S-4000M Configuration window (p. 22). You can check the name and the system program version by clicking the [info] button  of the connected devices on the S-4000M Configuration window.



Changing the sample rate of the Digital Snake system

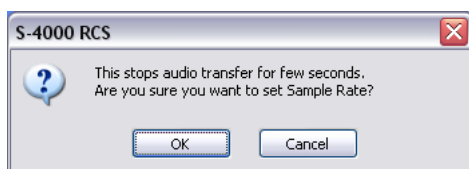
This describes how to change the sample rate of a Digital Snake system that is directly connected to S-4000 RCS via a serial or USB connection and whose REAC mode is set to "master."

1. In the controller, go to the channel edit panel and click the [info] button.



The sample rate of the Digital Snake system is displayed.

2. Click the sample rate you want to change to.



A message prompting you to confirm the operation is displayed.

To change the setting, click the [OK] button.

To cancel the change, click the [Cancel] button.

- * The sample rate of the S-4000H is fixed at 96 kHz, and cannot be changed using this procedure.
- * The sample rate of S-2416 or S-MADI units cannot be changed using this procedure. Make the change on the unit itself.
- * The sample rate cannot be changed when the controller is locked. To make the change, first unlock the controller (p. 14), then make the setting.
- * This function is not available on digital snakes running software versions earlier than those listed below.

Please download the latest software from the "Support" page of the respective product on the Roland website (<http://roland.com/>).

- S-4000S3208/S-4000S0832/S-4000S-MR: Ver.2.500
- S-1608/S-0816: Ver.2.200
- S-0808: Ver.1.003
- S-2416: Ver.1.001



When the sample rate has been changed, audio is interrupted until REAC communication is established.

Using scene memories

What are scene memories

The current channel settings of controllers 1–4 can be stored as a scene and recalled when desired. These settings are called “scene memories.”

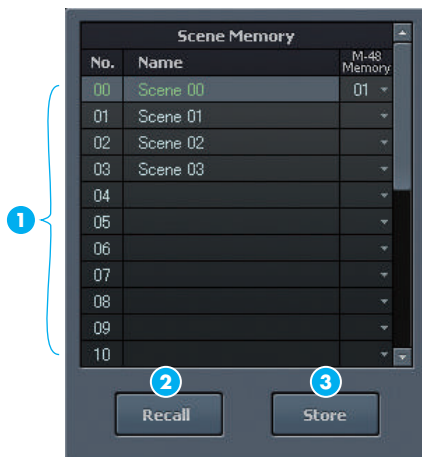
How scene memories are associated with M-48 memories

If an M-48 unit is connected to the Digital Snake system, you can associate scene memories with M-48 memories. An M-48 memory can be stored at the same time that you store a scene, or an M-48 memory can be recalled at the same time that you recall a scene.

Notes regarding scene memories

- * Scene memories are saved within the S-4000 RCS project.
- * An S-4000 RCS project can contain one hundred scenes.
- * Scene memories can be stored and recalled even if a connection has not been established.
- * Storage and recall of M-48 memories occurs within the M-48’s internal memory.
- * If the M-48 is not connected to the system, M-48 memories will not be stored or recalled.
- * Scene memories doesn’t store/recall the S-4000M’s input/output setups (p. 22).

Scene memories



Item	Name	Function	
1	Scene list	No.	Indicates the scene number.
		Name	Indicates the scene name. You can double-click this to edit the scene name.
		M-48 Memory selection box	Selects the M-48 memory number that will be associated with each scene.
2	[Recall] button	Recalls the channel settings from the selected scene.	
3	[Store] button	Stores the channel settings to the selected scene.	

MEMO

The current scene is shown in green.

Storing channel settings to a scene

1. Click the desired scene to specify the storage destination.
2. Click the [Store] button.



The Scene Memory Store dialog box will appear.

3. Verify that the desired scene number **1** is shown.
4. Edit the scene name in the scene name edit box **2**.

If you also want M-48 memories to be stored at the same time, make the following settings.

- In the M-48 Memory area, select the “Store to” check box **3**.
 - In the M-48 Memory area, use the M-48 memory number selection box **4** to select the store-destination memory number.
5. Click the [Store] button **5**.

The scene will be stored, and the Scene Memory Store dialog box will close.



The scene name can consist of a maximum of 16 single-byte alphanumeric characters.

Recalling channel settings from a scene

1. Click the desired scene to select it, and then click the [Recall] button.
The scene will be recalled.

Editing the name of a scene

1. Double-click the name of the desired scene.
The scene name will become editable.



The scene name can consist of a maximum of 16 single-byte alphanumeric characters.

Associating scene recall with M-48 memory recall

1. In the M-48 Memory selection box of the desired scene, select the M-48 memory number that you want to associate with the scene.

When you recall that scene, the associated M-48 memory will be recalled at the same time. (Units whose MEMORY SAFE function (p. 43) is turned on are excepted.)

Editing the S-4000M's Input/Output Settings

The S-4000M has a Merge patchbay and an Output patchbay (Output patchbay supports S-0808 8x8 I/O UNITS only). You can edit the S-4000M's Merge/Output patchbays using S-4000 RCS to change input/output assignments.

Merge Patchbay

This merges the inputs of the REAC slave units (REAC ports 1–4) into the channels being sent to the REAC master unit (REAC port A).

Output Patchbay

This assigns the channels being sent from the REAC master unit (REAC port A) to the outputs of the S-0808 units (REAC ports 1–4).

* You cannot edit an S-4000M's input/output settings when the S-4000M is set to the THRU mode.

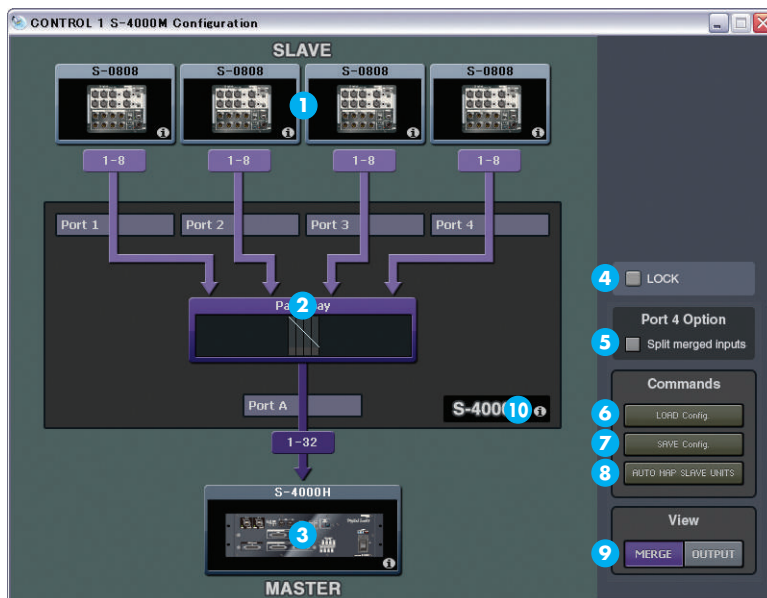
Storing Input/Output Setups

The S-4000M input/output setup is saved to internal memory. The S-4000M configuration window loads and displays the setup from the connected S-4000M.


You can save and load S-4000M input and output setups as a computer file (p. 30).

* S-4000M's input/output setups cannot be saved as part of scene memory.

S-4000M Configuration Window



Item	Name	Function
1	SLAVE device display	Displays the REAC slave devices connected to REAC ports 1–4.
2	S-4000M display	Displays how the REAC slave devices are being patched through the REAC master device.
3	MASTER device display	Displays the REAC master device connected to REAC port A.
4	LOCK button	Locks/unlocks the operation. If the operation is locked, this will be lit or blinking orange.
5	Split merged inputs button	Check this button to send the merged inputs, being sent to the REAC master device, to REAC port 4 as well (p. 28).

Item	Name	Function
6	[LOAD Config] button	Click here to load an S-4000M input/output setup file (p. 30).
7	[SAVE Config] button	Click here to save the S-4000M input/output setup to a file (p. 30).
8	[AUTO MAP SLAVE UNITS] button	Click here to reset input/output setup (p. 23)
9	View Select button	Click here to select view. You can select MERGE view (p. 24) or OUTPUT view (p. 26).
10	[info] buttons 	Click [info] buttons of the SLAVE device display, S-4000M display or MASTER device display to check device name and system version numbers.

MEMO

The [AUTO MAP SLAVE UNITS] button of S-4000 RCS has the same function as physical button on S-4000M's front panel.

Opening S-4000M Configuration Window

1. **Click [info] button on the controller connected to S-4000M.**

The S-4000M Configuration Window opens.

Resetting Input/Output Setups (System Reset)

You can reset and optimize the merge/output patchbays according to the devices physically connected to REAC ports 1–4.

1. **Open S-4000M Configuration Window.**
2. **Click [AUTO MAP SLAVE UNITS] button.**

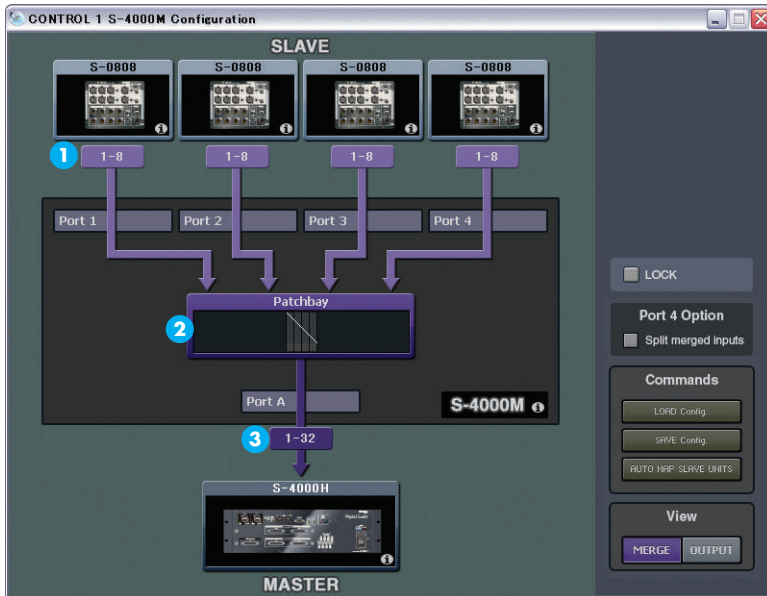
The confirmation message box opens to confirm your operation.

3. **Click [OK].**

S-4000M's input/output setup will be reset.

Merge Patchbay Operations

MERGE View

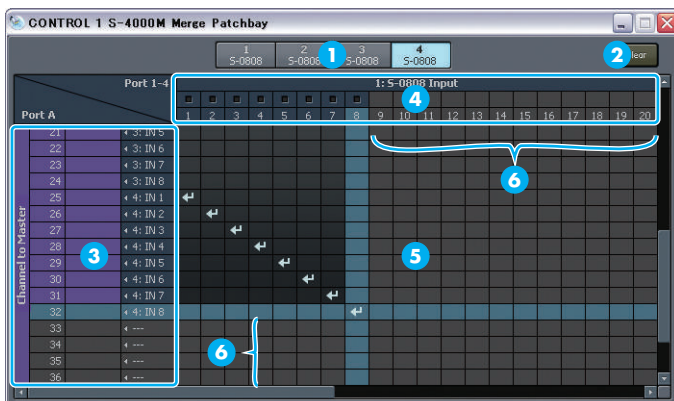



Item	Name	Function
1	SLAVE devices inputs	Displays the physical input numbers of the connected REAC slave devices.
2	Merge Patchbay	Displays overall view of the S-4000M's merge patchbay. Click here to open the S-4000M Merge Patchbay Window. (p. 24)
3	Channels to MASTER	Displays the number of channels being sent to the REAC master device.

Switching to MERGE View




1. Open the S-4000M Configuration Window
2. Click [MERGE] of View Select Button.
You can switch to MERGE View.

S-4000M Merge Patchbay Window



Item	Name	Function
1	REAC Port Select Buttons	Click to select the REAC port.
2	[Clear] button	Click to clear all assignments of currently selected REAC port.
3	Port A Channel display	Displays channel numbers, names and the currently assigned physical inputs.
4	Input display	Displays physical input number of current REAC port and signal level.
5	Patchbay Grid	Icon  appears at the cross point of channel (vertical) and physical input (horizontal).
6	Invalid Area	The following areas are displayed in lighter gray: <ul style="list-style-type: none"> The input area where the REAC slave devices cannot be used. The channel area where the REAC master device cannot be used.

The following colors represent corresponding signal levels:

Color	Signal Level
 Yellow	-18dB or higher
 Green	-48dB or higher, lower than -18dB
 Black	lower than -48dB


Opening the S-4000M Merge Patchbay window

1. **Open the S-4000M Configuration window.**
2. **Switch to MERGE view.**
3. **Click Merge Patchbay.**

The S-4000M Merge Patchbay window opens.

Making assignment in the S-4000M Merge Patchbay

1. **Open the S-4000M Merge Patchbay window.**
2. **Select the REAC port to display by clicking a specific REAC Port button.**
3. **Click the intersection of the target channel and physical input number.**

An icon  appears at the intersection and the assignment of the input is changed.

Clearing All Assignments

1. **Open the S-4000M Merge Patchbay window.**
2. **Select the target REAC port by clicking a specific REAC Port button.**
3. **Click [Clear] button**

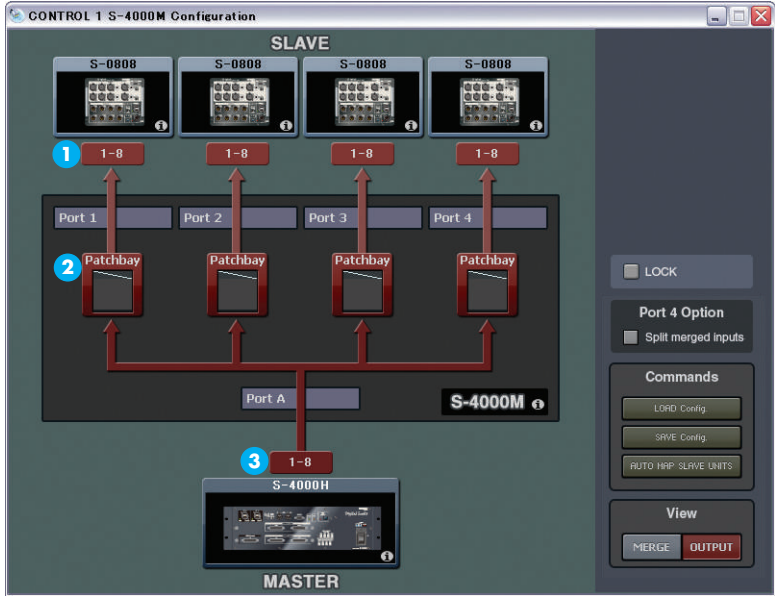
A confirmation message box opens to confirm your operation.

4. **Click [OK]**

All assignments associated with the REAC port selected in a step 2 are cleared.

Output Patchbay Operations (S-0808)

OUTPUT View

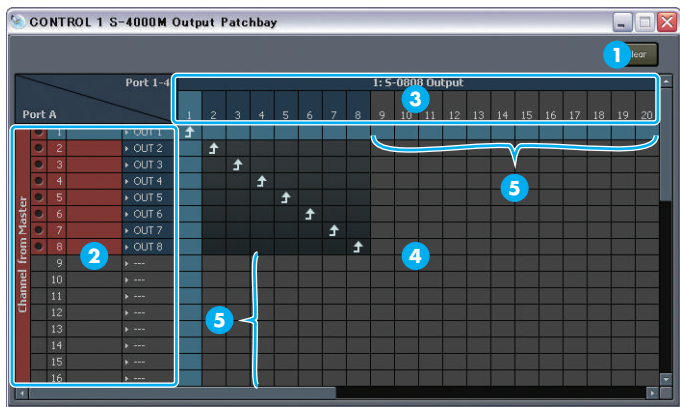



Item	Name	Function
1	SLAVE devices outputs	Displays the available physical output numbers of the connected REAC slave devices.
2	Output Patchbay	Displays the overall view of the S-4000M's output patchbay. Click here to open the S-4000M Output Patchbay Window.(p. 26)
3	Channels from Master	Displays the number of output channels being sent from the REAC master device.

Switching to OUTPUT View





1. Open the S-4000M Configuration Window.
2. Click [OUTPUT] of View Select Button.
Display is changed to OUTPUT View.

S-4000M Output Patchbay Window



Item	Name	Function
1	[Clear] button	Click to clear all assignment
2	Port A channel display	Displays signal levels, channel numbers, names and the currently assigned physical outputs.
3	Output display	Displays physical output number on connected REAC slave devices.
4	Patchbay Grid	Icon  appears at the intersection of channel (vertical) and physical output (horizontal).
5	Invalid Area	The following areas are displayed in lighter gray: <ul style="list-style-type: none"> The output area where the REAC slave devices cannot be used. The channel area where the REAC master devices cannot be used.

The following colors represent corresponding signal levels:

Color	Signal Level
 Red	0dB or higher
 Yellow	-18dB or higher, lower than 0dB
 Green	-48dB or higher, lower than -18dB
 Black	lower than -48dB


Opening the S-4000M Output Patchbay window

1. **Open the S-4000M Configuration Window.**
2. **Switch to OUTPUT view.**
3. **Click target output patchbay.**

S-4000M's output patchbay opens.

Making assignments in the S-4000M's Output Patchbay window

1. **Open target window of the S-4000M output patchbay.**
2. **Click the intersection of target channel and physical output number.**

An icon  appears at the intersection and the assignment of output channel is changed.

Clearing All Assignments

1. **Open the S-4000M Output Patchbay Window.**
2. **Click [Clear] button.**
3. **Click [OK]**

A confirmation message box opens to confirm the operation.

All assignments are cleared.

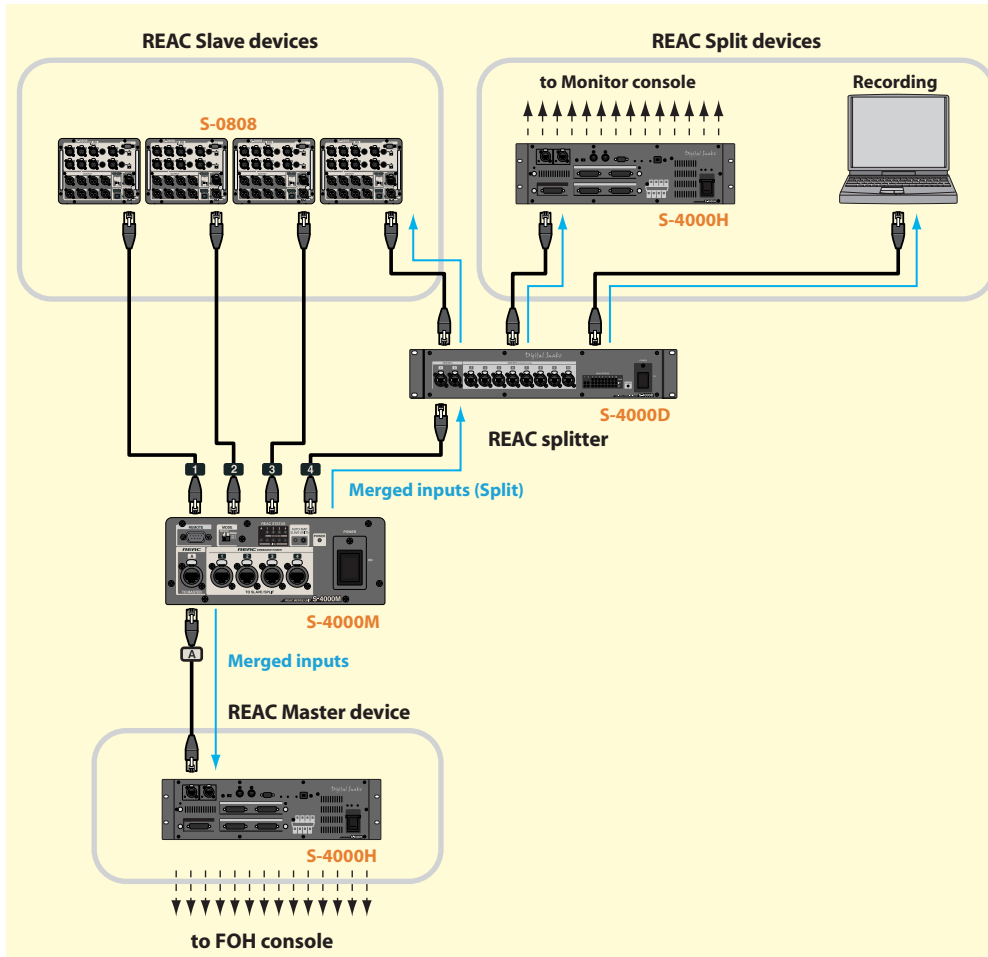
MEMO

When "... " is displayed at the end of currently assigned output, it means same output channel is coming out from multiple physical outputs.

Splitting Merged Inputs (S-4000M's Split Function)

By using the S-4000M's Split Function, you can split the merged inputs (being sent to the REAC master device) to REAC port 4. It is very convenient when splitting to a monitor console or a multi-channel recording system.

- * When a REAC splitter (like the S-4000D) is connected to the S-4000M's REAC port A, the signal from the REAC master device is split.

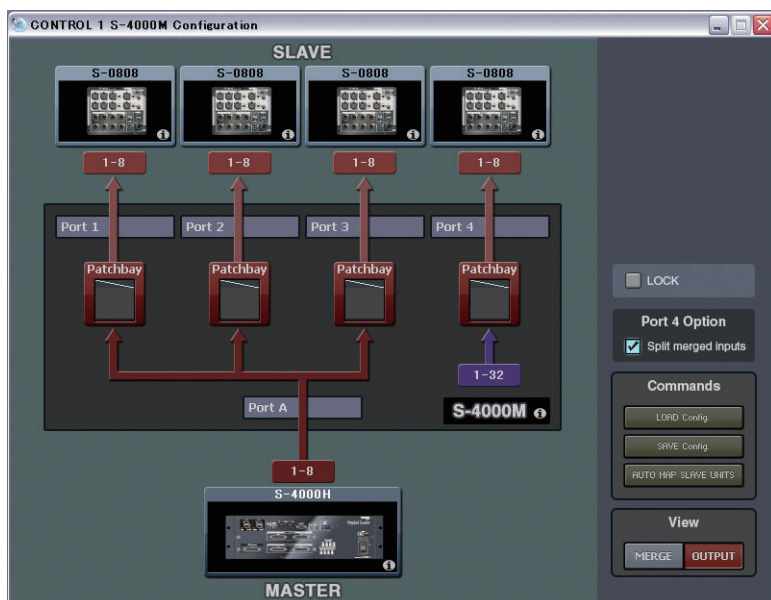
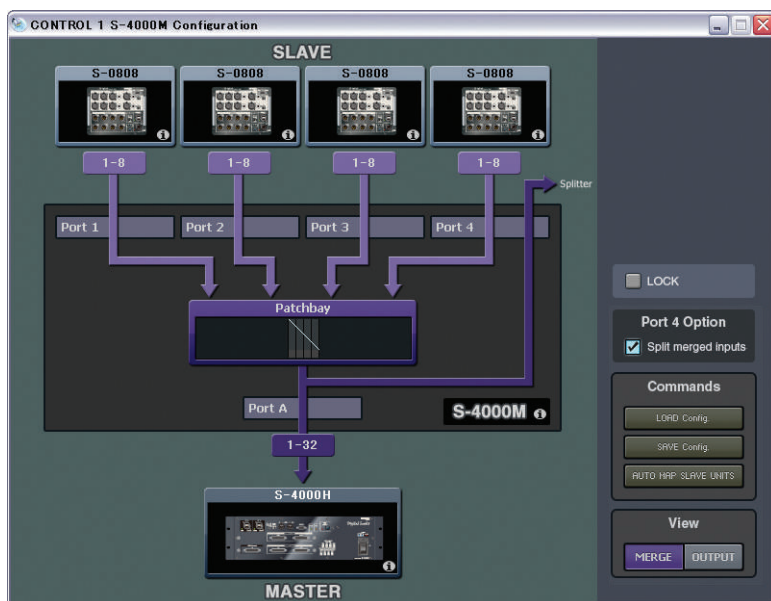


Notes About the S-4000M's Split Function

- * You can connect a REAC slave device to S-4000M's REAC port 4 via a REAC splitter (like the S-4000D). In this case, the physical inputs of the REAC slave device operate normally but all merged inputs being sent to the Master will be sent out from the physical outputs.
- * If an M-48 is connected to the S-4000M's REAC port 4, it is not possible to manage/setup the M-48 from the M-48 Manager window.
- * When a REAC splitter (like the S-4000D) is connected to the S-4000M's REAC port A, the signal from the REAC master device is split.

Using S-4000M's Split Function

1. **Open the S-4000M Configuration window.**
If the "Split merged inputs" button is checked, then the S-4000M's split function is already turned on. The following steps will not be necessary.
2. **Disconnect the REAC cable connected to REAC port 4 on the S-4000M.**
3. **Click "Split merged inputs"**
A confirmation message box opens to confirm the operation.
4. **Click [OK]**
The display mode of S-4000M changes. The signal of merged input channels are split and sent out the device connected to REAC port 4.

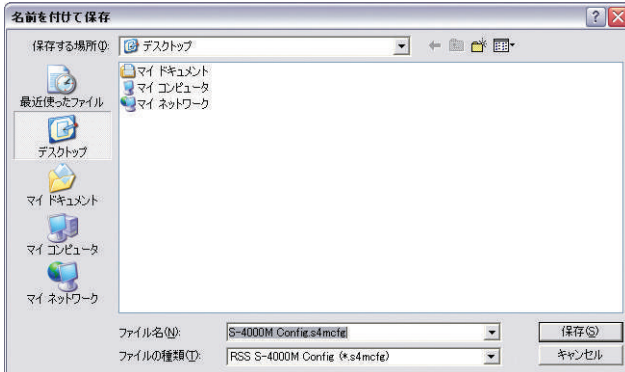


5. **Connect the REAC cable to REAC port 4 on the S-4000M.**

Save/Load the S-4000M Input/Output Setup

Saving the S-4000M Input/Output Setup as Computer File

1. Open S-4000M Configuration window.
2. Click [SAVE config] button.



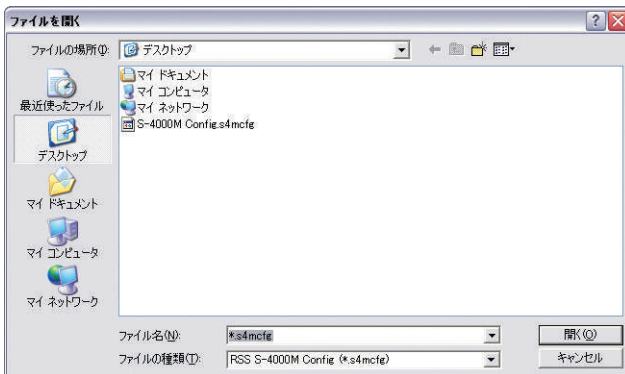
[Save As] dialog appears.

3. Specify save destination folder and file name.
4. Click [SAVE] button.

Saving is completed when "Complete" message is displayed. Click [OK] to close the message dialog.

Loading the S-4000M Input/Output Setup File

1. Open S-4000M Configuration window.
2. Click [LOAD config] button.



[Open File] dialog appears.

3. Specify the file of S-4000M's input/output setup to load.
4. Click [OPEN] button.

Managing the M-48 Live Personal Mixer

What is the M-48 live personal mixer

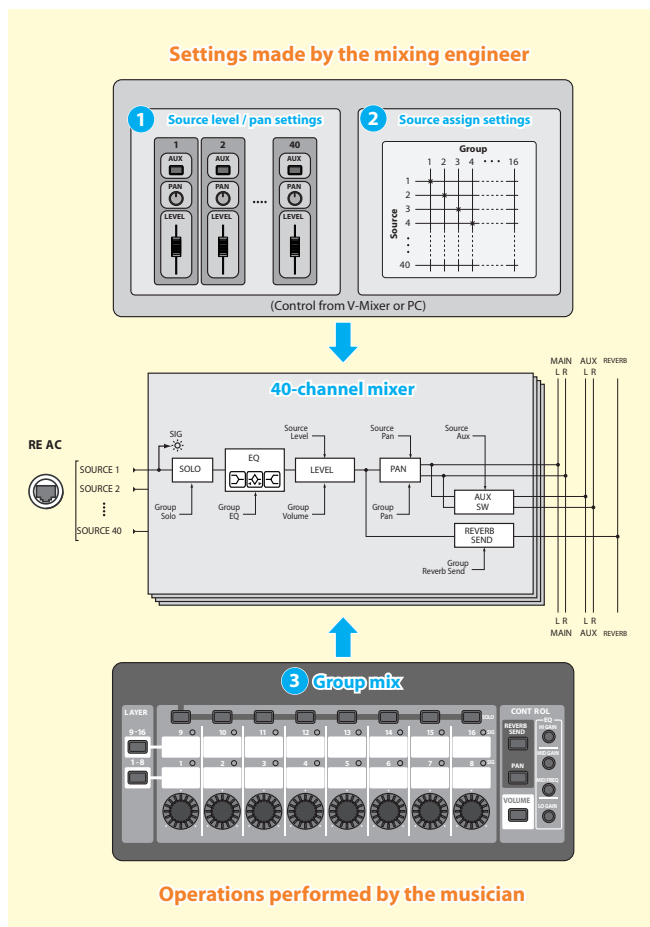
The M-48 is a live personal mixer that allows each musician to create their own mix. By unifying the professional monitor mix created by the mixing engineer with the personal mix created by each musician, the M-48 provides a monitoring environment that's ideal for the musician.

40-channel mixer



The M-48 provides a REAC port that is able to receive up to 40 channels of digital audio via REAC. The digital audio sources are mixed by the internal 40-channel mixer for monitoring via headphones or monitor speakers.

Settings and operations for the 40-channel mixer



The sources 1–40 being input via REAC are mixed by the M-48's 40-channel mixer. Settings and operation of the 40-channel mixer are shared between the mixing engineer and the musician.

* The 40 digital audio source channels being input via REAC to the M-48 are referred to as sources 1–40.

Settings by the mixing engineer

These settings are made by the mixing engineer from the V-Mixer or the PC.

1 Source level / pan settings

These settings specify the LEVEL, PAN, and AUX switch settings for sources 1–40.

2 Source assign settings

These settings assign sources 1–40 to sixteen stereo groups for operation on the M-48.

Operations performed by the musician

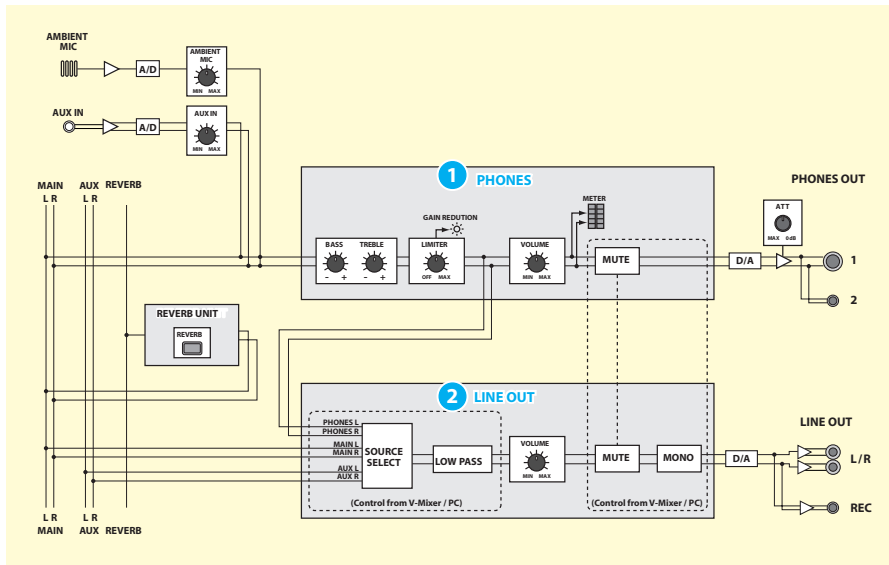
These operations are performed by the musician on the M-48 unit.

3 Group mix

VOLUME, PAN, REVERB SEND, and 3-BAND EQ can be adjusted for each stereo group created by the source assign settings.

* The group mix can also be viewed and edited from the V-Mixer or PC.

Two sets of outputs



The M-48 provides two sets of output: PHONES and LINE OUT.

1 PHONES

REVERB, AMBIENT MIC, and AUX IN are mixed into the MAIN bus, then BASS, TREBLE, and LIMITER are applied to the mix which is then output from these ports. This is used for headphones or in-ear monitoring.

2 LINE OUT

As the LINE OUT source, you can choose either PHONES (the signal immediately before PHONES VOLUME), MAIN bus, or AUX bus. This is used for a floor monitor or for two-channel recording. Since a low-pass filter is provided on LINE OUT, it can also be used to output just the low frequency range to a floor monitor or tactile transducer.

Memory functionality

The M-48 has 16 memories, and allows mixer settings to be stored or recalled.

Memories 1–16 can be manipulated from the M-48 itself or from the V-Mixer or PC.

Connecting M-48 units to a Digital Snake system

Connections with an S-1608 system

Note when connecting M-48 units (S-1608 system)

- * The S-1608 system must be using system software version 2.0 or later.
- * If S-4000 RCS is connected to an S-1608/S-0816 that is operating as a split REAC device, it will not be possible to make M-48 settings.
- * Up to four S-4000D units can be connected in series. Approximately 200 microseconds of propagation delay will occur for each unit.
- * Up to sixty-four M-48 units can be connected to each Digital Snake system.
- * In order to maintain the transmission quality of the digital REAC signal, use fully approved CAT5e Ethernet cable such as the 20 meter or 100 meter REAC cables (SC-W20F / SC-W100S / W100S-R; sold separately).

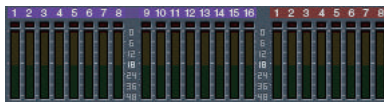


To check the version, refer to "Viewing version info for the Digital Snake" (p. 18).

Note regarding the ordering of M-48 sources

The order in which channels are shown for controllers in the S-4000 RCS window may differ from the order of the M-48 sources.

S-4000 RCS window



M-48 Source Lev/Pan window



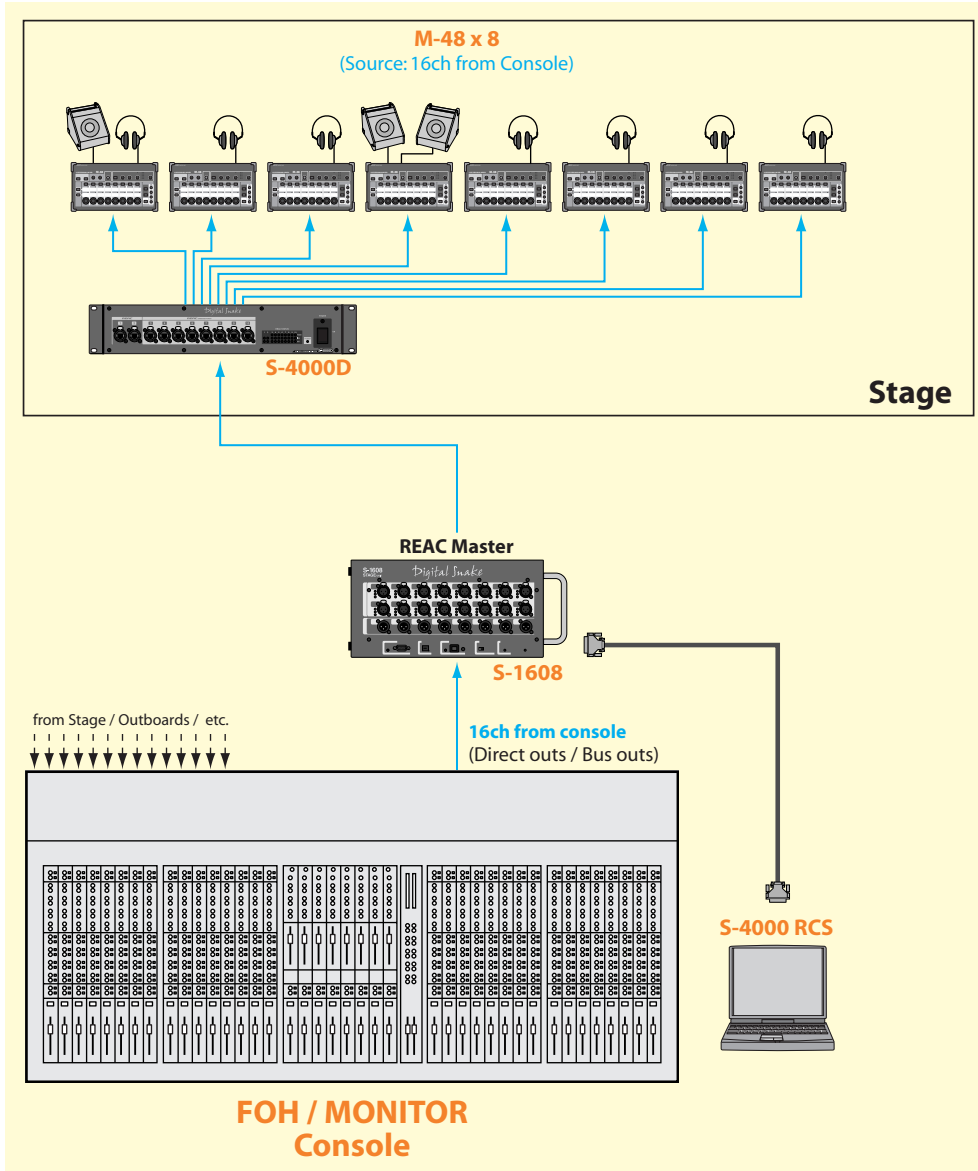
This occurs because the REAC master device and REAC slave device handle channels in a different way than a split REAC device (M-48) handles channels.

On an S-1608 system, this discrepancy will occur in the following case.

- When the S-0816 is the REAC master device

Example 1: S-1608 + M-48 (16 sources)

This is an example in which M-48 units are connected to the S-1608 (REAC master). A total of up to sixteen channels of direct out and bus out signals from the console can be input.

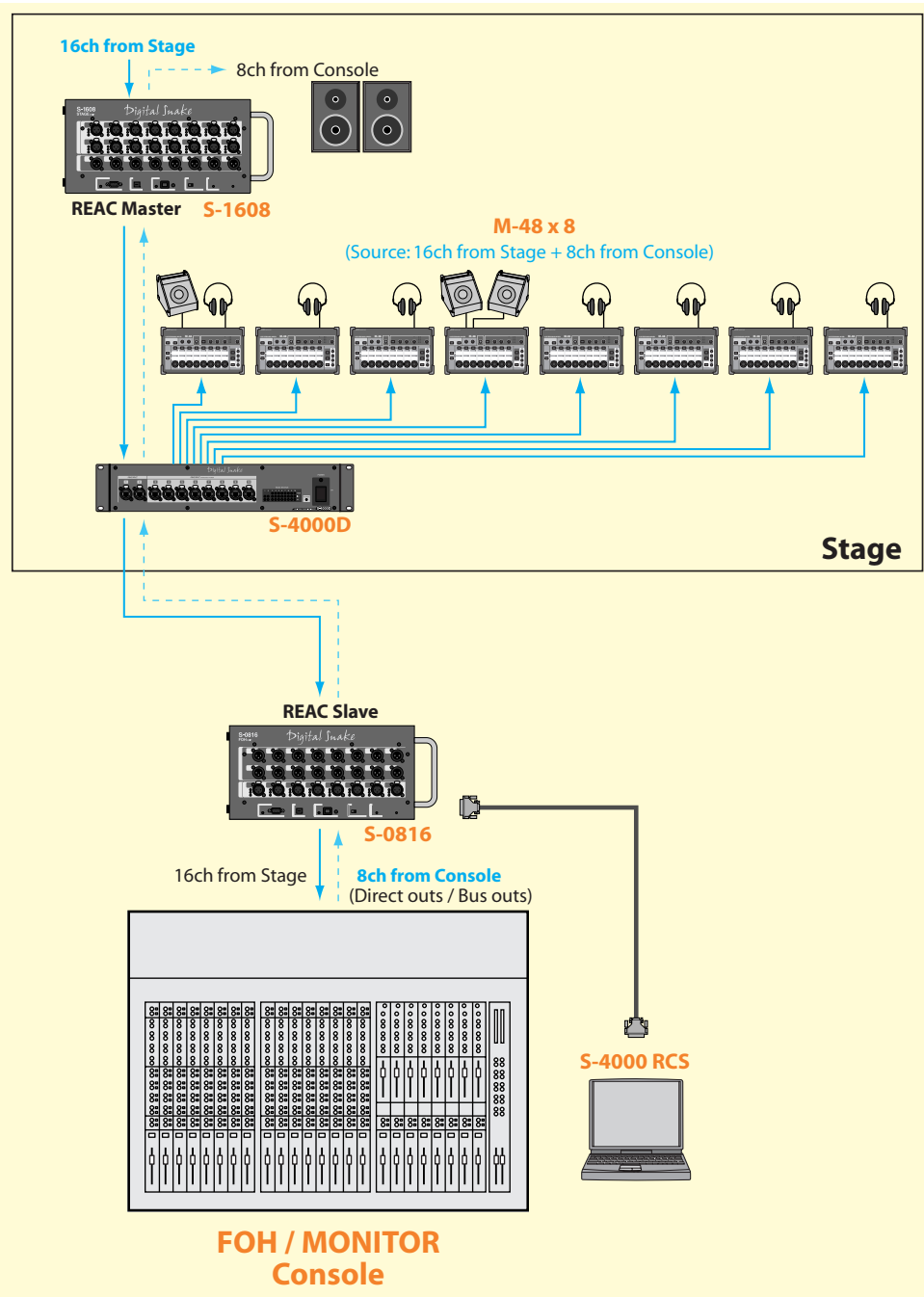


MEMO

In this example, the S-1608's OUTPUT 1-8 cannot be used.

Example 2: S-1608 + S-0816 + M-48 (24 sources)

This is an example in which M-48 units are connected between a connected S-1608 (REAC master) and S-0816 (REAC slave). With sixteen channels from the stage and eight channels from the console, this makes a total of twenty-four channels as the sources for the M-48 units.



Connections with an S-4000 system

Note when connecting M-48 units (S-4000 system)

- * The S-4000 system must be using system software version 2.1 or later.
- * If S-4000 RCS is connected to an S-4000S/S-4000H that is operating as a split REAC device, it will not be possible to make M-48 settings.
- * Up to four S-4000D units can be connected in series. Approximately 200 microseconds of propagation delay will occur for each unit.
- * Up to sixty-four M-48 units can be connected to each Digital Snake system.
- * In order to maintain the transmission quality of the digital REAC signal, use fully approved CAT5e Ethernet cable such as the 20 meter or 100 meter REAC cables (SC-W20F / SC-W100S / W100S-R; sold separately).

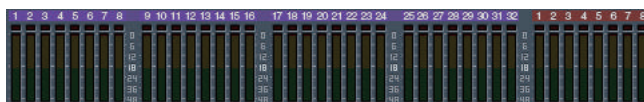


To check the version, refer to "Viewing version info for the Digital Snake" (p. 18).

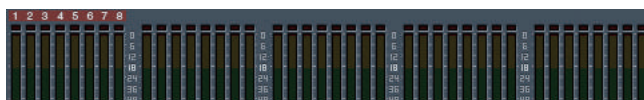
Note regarding the ordering of M-48 sources

The order in which channels are shown for controllers in the S-4000 RCS window may differ from the order of the M-48 sources.

S-4000 RCS window



M-48 Source Lev/Pan window



This occurs because the REAC master device and REAC slave device handle channels in a different way than a split REAC device (M-48) handles channels.

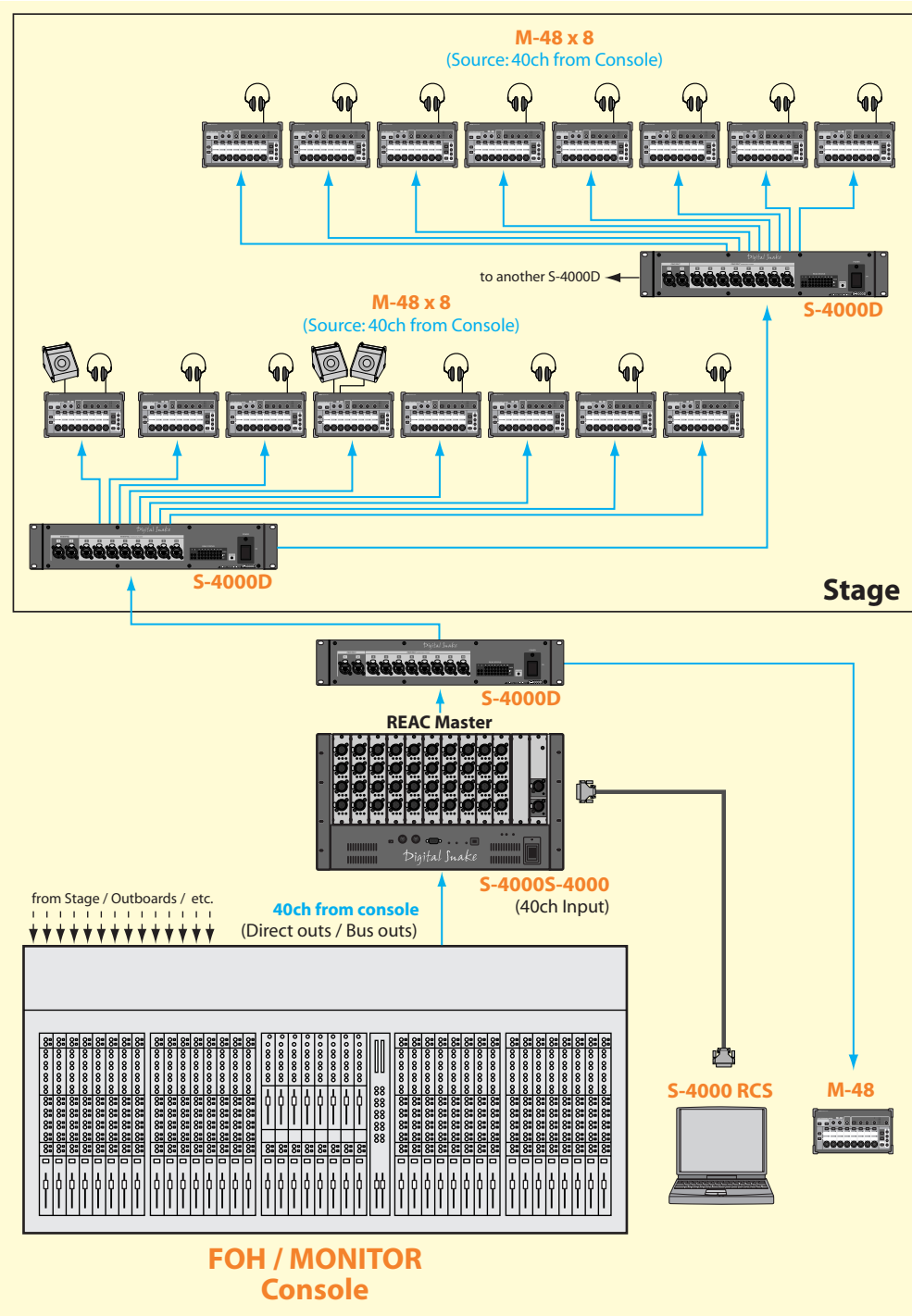
On an S-4000 system, this discrepancy will occur in the following cases.

- When the S-4000H is the REAC master device
- When the S-4000S is the REAC master device and an output module (e.g., SO-DA4 or SO-AES4) is installed in slot 1 of the S-4000S

Connecting M-48 units to a Digital Snake system

Example 1: S-4000S-4000 + M-48 (40 sources)

This is an example in which M-48 units are connected to an S-4000S-4000 (REAC master). A total of up to forty channels of direct out or bus out signals from the console can be input.



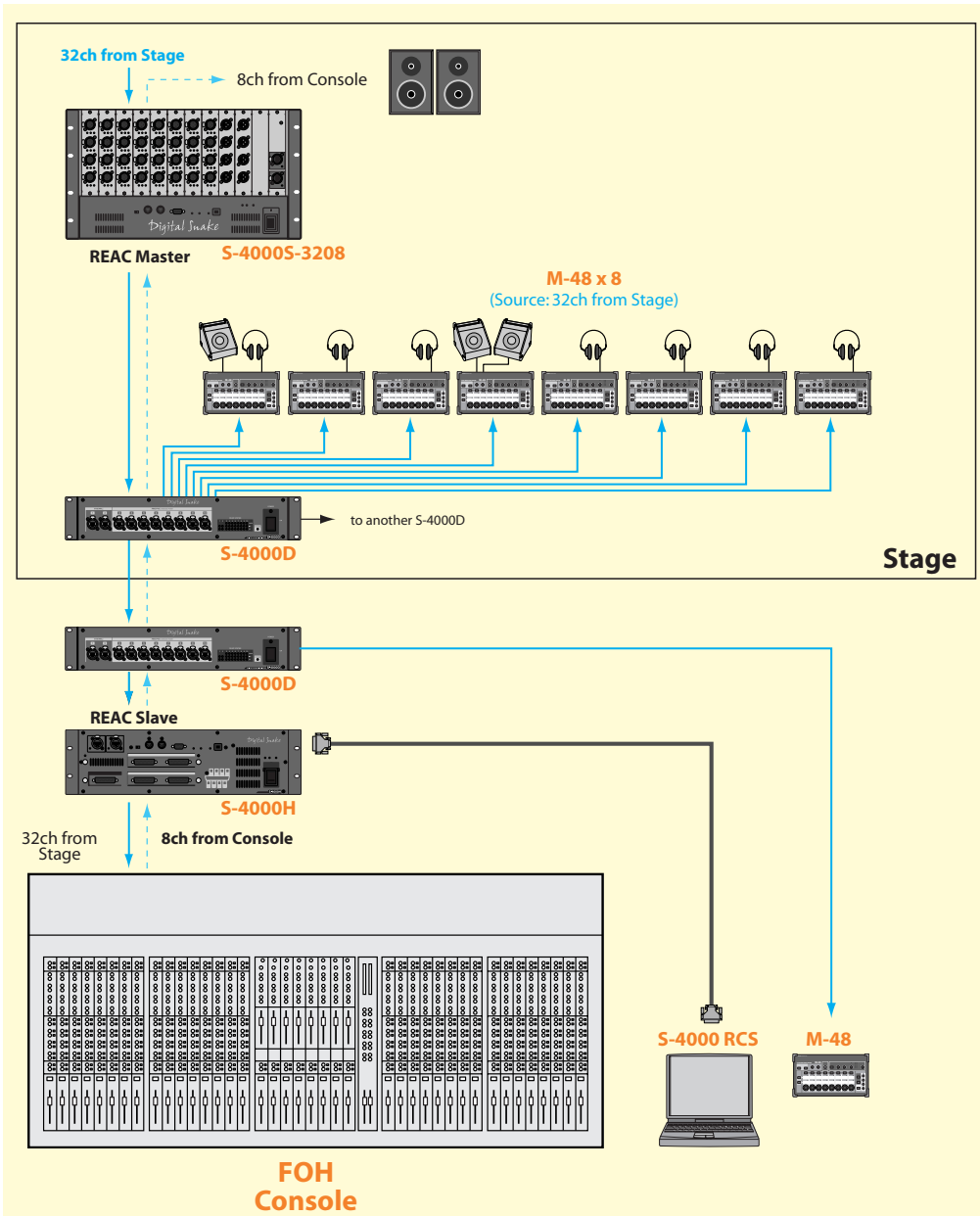
MEMO

AES/EBU output from the digital mixer can also be received if the SI-AES4 is used as an input module for the S-4000S.

In this example, an M-48 unit is also placed by the engineer. By copying settings from another M-48 unit, the engineer can monitor the mix of a musician.

Example 2: S-4000S-3208 + S-4000H + M-48 (32 sources)

This is an example in which M-48 units are connected between a connected S-4000S-3208 (REAC master) and S-4000H. The thirty-two channels from the stage will be the source for the M-48 units.



In this example, an M-48 unit is also placed by the engineer. By copying settings from another M-48 unit, the engineer can monitor the mix of a musician.

Editing and managing M-48 units

S-4000 RCS allows you to use the M-48 Manager to edit and manage M-48 units that are connected to the system. The mixing engineer can edit and manage the settings of each M-48 unit, allowing each musician to use their M-48 unit more conveniently.

The mixing engineer can make the following settings.

Setting	See page	Edit window
Editing the channel settings of the Digital Snake system	p. 13	S-4000 RCS window
Editing the unit name	p. 43	M-48 Manager window
Editing the preference settings	p. 54	M-48 Preferences window
Setting the source's LEVEL, PAN, and AUX switch (Source level/pan settings)	p. 50	M-48 Source Lev/Pan window
Assigning sources to groups (Source assign settings)	p. 52	M-48 Source Assign window

You can also use the following functionality for editing and managing M-48 units.

Setting	See page	Edit window
View a list of connected M-48 units	p. 42	M-48 Manager window
Viewing and editing a musician's mix (Group mix)	p. 56	
Muting the output of a unit	p. 43	
Disabling memory operations from M-48 Manager (MEMORY SAFE function)	p. 43	
Copying/pasting all parameters between units	p. 44	
Unit memory operations	p. 45 p. 58	
Saving or loading the data of a unit (Saving or loading an M-48 project file)	p. 45 p. 62	
Using the M-48 library	p. 60	M-48 Library window
Associating scene recall with M-48 memory recall	p. 21	S-4000 RCS window

Where settings are stored

Settings for each M-48 unit are stored within the respective M-48 unit. M-48 Manager can load the settings from each connected M-48 and edit them.

M-48 settings can be stored externally in either of the following two ways.

- Store the current settings to the M-48 library
- Save all M-48 data as an M-48 project file



M-48 library data is stored within the S-4000 RCS project.

Operations in the M-48 Manager window

The M-48 Manager window



The M-48 Manager window can be opened individually for each controller.

Item	Name	Function
1	M-48 List	Here you can select one of the M-48 units connected to the system (p. 42).
2	Unit editing panel	Here you can edit the settings of the unit selected in the M-48 List (p. 48).

Opening the M-48 Manager window

1. Press the [M-48] button of a controller to which an M-48 unit is connected.

The M-48 Manager window will open.

- * The settings for each unit and the M-48 library data will remain even after you close the M-48 Manager window.



To close the window, click the close button in the title bar.

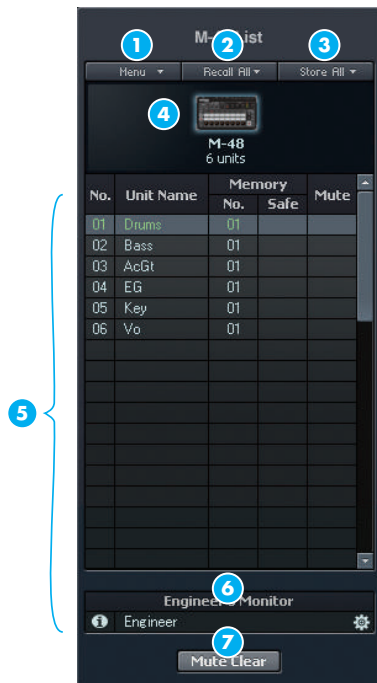
Operating from two computers

If S-4000RCS is connected to both the REAC master device and a REAC slave device of the Digital Snake system, settings can be edited only from the computer that opened the M-48 Manager window first. If you open the M-48 Manager window on the other computer, the title bar will indicate "(View Only)," and editing will not be possible.

If you want to clear the "(View Only)" indication and enable editing, proceed as follows.

1. Close the M-48 Manager window on both computers.
2. Open the M-48 Manager window on the computer that you want to use for editing.

Operations in the M-48 List



Item	Name	Function	
1	[Menu] button	This is the M-48 List menu.	
2	[Recall All] button	Recalls the memories of all units in the M-48 List.	
3	[Store All] button	Stores the memories of all units in the M-48 List.	
4	Number of units	Indicates the number of units in the M-48 List.	
5	List	No.	Indicates the number within the M-48 List.
		Unit Name	Indicates the name of the unit. Double-click this to edit the unit name.
		Memory No.	Indicates the current memory number.
		Memory Safe	If you click this to add a check mark, memory operations from M-48 Manager will be prohibited.
		Mute	If you click this to add a check mark, the unit's output will be muted.
6	Engineer's Monitor area	This shows the unit designated as the Engineer's Monitor (p. 46).	
7	[Mute Clear] button	Clears muting for all units in the M-48 List. This will blink red if any units are muted.	

MEMO

The unit currently shown in the M-48 edit panel (p. 48) is shown in green.

Menu

Menu item	Function
Copy	Copies all current parameters of the unit selected in the M-48 List to the clipboard.
Paste	Pastes the copied parameters from the clipboard to the unit selected in the M-48 List.
Paste Special...	Pastes the copied parameters from the clipboard to the unit selected in the M-48 List (you can select the content to be pasted).
Save Selected...	Saves all data from the unit selected in the M-48 List as an M-48 project file.
Update All M-48...*	Updates the system program of all units in the M-48 List.

MEMO

Paste, Paste Special..., and Save Selected... can be executed on multiple units selected in the M-48 List.

* For details on updating the M-48 system program, refer to the documentation provided with the updater.

Operations in the M-48 List

Selecting a unit

1. Click the desired unit.



You can select multiple units by clicking while you hold down [Shift] or [Ctrl].

Editing the unit name

1. Double-click the Unit Name field of the desired unit.

The unit name will become editable.



You can enter a unit name consisting of up to eight single-byte alphanumeric characters.

Changing the order of units in the list

1. Drag and drop a unit name to the desired location in the list.

The order of the units displayed in the M-48 List will change.

- * A blue line indicating the destination is shown while you drag the unit name.



The displayed order in the M-48 List is saved in the S-4000 RCS project.

Muting the output of a unit

Here's how to mute all outputs of a unit.

1. Click the Mute field of the desired unit to make a check mark appear.

Muting will be turned off if you click the Mute field once again to clear the check mark.

- * You can also mute the selected unit by using the [Mute] button in the M-48 edit panel (p. 48).



You can use the [Mute Clear] button to clear muting for all units in the M-48 List in a single step.

Disabling memory operations from M-48 Manager (MEMORY SAFE function)

Units for which the MEMORY SAFE function is turned on will no longer respond to memory operations from M-48 Manager.

1. Click the Memory Safe field of the desired unit to make a check mark appear.

MEMORY SAFE will be turned off if you click the Memory Safe field once again to clear the check mark.

- * You can also turn the MEMORY SAFE function on/off for the selected unit by using the [Safe] button in the M-48 edit panel (p. 48).

It is convenient to use the MEMORY SAFE function for purposes such as the following.

- Preventing inadvertent memory operations when managing a large number of units
- Excluding a specific unit when associating scene memories and M-48 memories (p. 21)
- Excluding a specific unit from the M-48 List "Store All" operation (p. 45) or "Recall All" operation (p. 45)

Menu operations

Copying/pasting all parameters between units

1. Select the copy-source unit, and click Menu > Copy.

All current parameters of the copy-source unit will be copied to the clipboard.

- * If multiple units are selected in the M-48 List, the parameters will be copied from the unit you clicked last.

2. Select the paste-destination unit, and click Menu > Paste.

The parameters copied to the clipboard in step 1 will be pasted to the paste-destination unit.

- * You can select multiple units in the M-48 List as the paste-destination.
- * The time required for the paste operation will depend on the number of units you selected.

MEMO

The unit name will be appended to the command; e.g., Copy "Drums."

?

The clipboard is a memory area provided within S-4000 RCS. You can copy the parameters of a unit to the clipboard, and paste the contents of the clipboard to another unit.

Copying/pasting specific parameters between units

1. Select the copy-source unit, and click Menu > Copy.

All current parameters of the copy-source unit will be copied to the clipboard.

- * If multiple units are selected in the M-48 List, the parameters will be copied from the unit you clicked last.

2. Select the paste-destination unit, and click Menu > Paste Special...



The Paste Special dialog box will appear.

- * You can select multiple units in the M-48 List as the paste-destination.
- * The time required for the paste operation will depend on the number of units you selected.

3. Add a check mark to the parameters that you want to paste.

Selection	Explanation
Source Lev/Pan	Paste the source level / pan settings.
Source Assign	Paste the source assign settings.
Preferences	Paste the preference settings.
Group Mix	Paste the group mix.

4. Click the [Paste] button.

Of the parameters copied to the clip board in step 1, the parameters you selected in step 3 will be pasted to the paste-destination unit(s).

MEMO

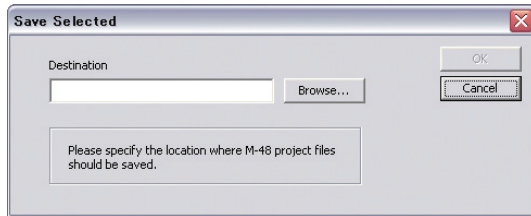
The unit name will be appended to the command; e.g., Copy "Drums."

?

The clipboard is a memory area provided within S-4000 RCS. You can copy the parameters of a unit to the clipboard, and paste the contents of the clipboard to another unit.

Saving all data of one or more units (Saving multiple units in a single operation)

1. Select the desired unit(s), and click **Menu > Save Selected...**



The Save Selected dialog box will appear.

2. Click the **[Browse...]** button and specify the save-destination folder.
3. Click the **[OK]** button.

A message box will ask you to confirm the operation.

4. Click the **[OK]** button.

A message box indicating the progress of the save operation will appear. When the "Completed" indication appears, saving is complete.

- * All data of the unit(s) selected in step 1 will be saved as individual M-48 project files.
- * Each M-48 project file will be automatically given a name composed like this: "the number in the list" + "unit name" + file name extension (.m48pj).
- * If an M-48 project file of the same file name exists in the location you specified in step 2, the old file will be overwritten by the new file.



You can select multiple units in the M-48 List.



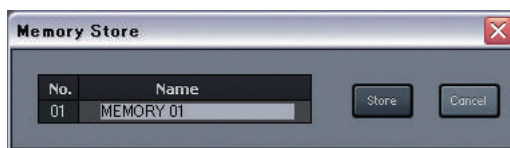
It takes approximately 30 seconds to save the data of one unit. The length of time required for saving will depend on the number of units you selected in step 1.

Memory operations

Storing the memories of all units

This operation stores the current memories of all units in the M-48 List to the memory you specify (except for units whose MEMORY SAFE function is on).

1. From the **[Store All]** button, select the desired memory number.



The Memory Store dialog box will appear.

2. In the **Name** box, edit the memory name.
3. Click the **[Store]** button.



You can enter up to sixteen single-byte alphanumeric characters as the memory name.

Recalling the memories of all units

This operation recalls the memory you select to the current memories of all units in the M-48 list (except for units whose MEMORY SAFE function is on).

1. From the **[Recall All]** button, select the desired memory number.

Using the Engineer's Monitor function

By designating an M-48 located beside the engineer as the Engineer's Monitor, he/she can monitor and control the mix of any musician's M-48 unit from the Engineer's Monitor.



On the Engineer's Monitor, you cannot monitor the AUX IN or the AMBIENT MIC on the musician's side.



You cannot use Engineer's Monitor function if system program version of the M-48 is prior to 1.01.



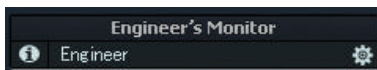
The solo function on the M-48 works independently on the musician's side and engineer's side. Therefore, solo operation on the engineer's side does not affect the musician's side.

Specifying an Engineer's Monitor unit

1. Select a target unit on the M-48 List and drag it to the Engineer's Monitor area (p. 42).

A message box will ask you to confirm the operation.

2. Click the [OK] button.



The specified unit will be displayed on the Engineer's Monitor area.

3. To monitor a musician's mix, select the corresponding M-48 unit in the M-48 List.

4. You can also control the musician's group mix from the Engineer's Monitor.

* To control the musician's mix from the Engineer's Monitor, the Monitor-only check box on the Engineer's Monitor Option (p. 47) must be cleared.

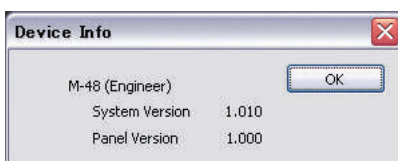
The following knobs work independently on the engineer's side and musician's side. The positions of each knob on the musician's side are displayed on the M-48 Manager window:

- [AUX IN] knob
- [AMBIENT MIC] knob
- LINE OUT [VOLUME] knob
- [BASS] knob
- [TREBLE] knob
- [LIMITER] knob
- PHONES [VOLUME] knob



Viewing version info for the Engineer's Monitor

1. Click the [info] button on the Engineer's Monitor area.



The Device Info window shows the system program version and the panel program version of the unit specified as the Engineer's Monitor.

Editing the Engineer's Monitor preference settings

1. Click the [pref] button  on the Engineer's Monitor area.



The M-48 Preferences window will be opened. You can set the following items:

- Solo Mode
- LAYER select clears SOLO
- Line Out Mono
- Engineer's Monitor Option

By checking the Monitor-only check box on the Engineer's Monitor option, the Engineer's Monitor unit works only for audio monitoring, and it does not control the musician's mix.



The Line out Source setting and the Low-pass Filter setting follows the setting of the musician's unit.



MEMORY operation on the Engineer's Monitor is not allowed.

Releasing the Engineer's Monitor

1. Drag the unit name shown in the Engineer's Monitor area to the M-48 List.

A message box will ask you to confirm the operation.

2. Click the [OK] button.

The Engineer's Monitor will be released.

Note to use the Engineer's Monitor function

- * The Engineer's Monitor function is driven by the M-48 Manager window. Therefore, it will be disabled when you close the M-48 window.

Operations in the M-48 edit panel

M-48 edit panel



Item	Name	Function
1	[Menu] button	This is the menu for the M-48 edit panel.
2	[Memory] button	Opens the M-48 Memory window (p. 58).
3	Unit name	Indicates the number and name of the selected unit.
4	Memory	Indicates the number and name of the current memory.
5	Version	Indicates the version of the unit. System : Indicates the system program version. Panel : Indicates the panel program version.
6	[Mute] button	Turns muting on/off. Lit red when on.
7	[Safe] button	Turns the MEMORY SAFE function on/off. Lit green when on.
8	[Lev/Pan] button	Opens the M-48 Source Lev/Pan window (p. 50).
9	[Assign] button	Opens the M-48 Source Assign window (p. 52)
10	Group Mix	Adjusts the group mix (p. 56).

Menu

Menu item	Function
Copy	Copies the unit's settings.
Paste	Pastes the copied settings.
Paste Special...	Pastes the copied settings (and allows you to select the content that will be pasted).
Reset Group Mix	Resets the group mix (p. 57).
Library...	Accesses the M-48 Library window (p. 60).
Save...	Saves all data of the unit as an M-48 project file (p. 62).
Load...	Loads an M-48 project file into the unit (p. 63).
Blink LEDs	Causes all of the unit's LEDs to blink. Use this to identify the selected unit.
Preferences...	Accesses the M-48 Preferences window (p. 54).

MEMO

The procedure for using Copy, Paste, and Paste Special is the same as for the M-48 List (p. 42). However, the copy destination is limited to the currently selected unit.

Operations using the keyboard

Key	Operation
[←] / [→]	Selects a [Control] knob
[↑] / [↓]	Increase or decrease the value of the [Control] knob
[enter]	Edits the group name
[V]	Opens the M-48 Source Lev/Pan window (p. 50).
[A]	Opens the M-48 Source Assign window (p. 52)
[M]	Opens the M-48 Memory window (p. 58).
[ctrl] + [B]	Turn on/off the Blink LEDs function (p. 49).

Editing the group name

1. **Double-click the group name in the Group Mix area.**

The group name will become editable.

Blinking the unit's LEDs

1. **Click Menu > Blink LEDs to add a check mark.**

All LEDs of the unit will blink. The [Clear Blink] button will appear in the lower right of the M-48 edit panel.



2. **To stop the LEDs from blinking, click the [Clear Blink] button.**

- * The LED blinking will also be cleared when a button on the M-48 itself is operated.
- * You can also clear the LED blinking by clicking Menu > Blink LEDs to clear the check mark.

Editing when the serial port is not connected (Editing a virtual unit)

If no serial port is selected in the serial port selection box (p. 13) of the S-4000 RCS window, the M-48 edit panel will show a unit named "Virtual."



The following operations cannot be performed for a "Virtual" unit.

- Edit the unit name "Virtual"
- Store or recall M-48 memories
- Use the MEMORY SAFE function or make output mute settings
- Save or load M-48 project files

When you select a serial port in the serial port selection box of the S-4000 RCS window, the "Virtual" unit will no longer be displayed. If you store the settings of the "Virtual" unit to the M-48 library (p. 60) before you select a serial port, you will be able to recall (p. 61) those settings for a real unit.

MEMO

You can enter up to six single-byte alphanumeric characters as the group name.

HINT

This is a convenient way to verify which unit is selected.

Setting the source's LEVEL, PAN, and AUX switch (Source level/pan settings)

M-48 Source Lev/Pan window



Item	Name	Function
1	[CLIP] button	Click this to clear the clip indicators and peak hold indicators. This button will light red if a level meter clip indicator is lit.
2	Level meters	Indicate the pre-fader levels of the sources.
3	[Reset] button	Resets the source level/pan settings.
4	Source number	Indicates the Digital Snake's channel number, corresponding to sources 1–40. Brown background : Indicates an input of the REAC master device. Purple background : Indicates an input of a REAC slave device.
5	AUX switch	Turns the send to the AUX bus on/off. Lit orange when on.
6	PAN knob	Sets the panning of the source.
7	Group select box	Selects the group to which the source is assigned.
8	Fader	Adjusts the level of the source.
9	Source level meter	Indicates the pre-fader level of the source.
10	Source name	Indicates the name of the channel within the Digital Snake system.

Opening the M-48 Source Lev/Pan window

1. In the M-48 edit panel, click the [Lev/Pan] button.

The M-48 Source Lev/Pan window will open.

MEMO

To close the window, click the close button in the title bar.

Editing the source level / pan settings

1. **Open the M-48 Source Lev/Pan window.**
2. **Click the AUX switch to turn it on/off.**
If you turn on the AUX switch, the post-fader, post-pan signal will be sent to the AUX bus.
3. **Adjust the PAN setting.**
You can adjust this in a range of L63–C–R63.
* To reset the knob to C (center), hold down [Ctrl] and click the PAN knob.
4. **Adjust the LEVEL.**
You can adjust this in a range of -Inf dB– +10.0 dB.
* To reset the LEVEL to 0.0 dB, hold down [Ctrl] and click the fader.
5. **Use the group select box to assign the source to a group.**

Selection	Function
(Not Assign) or (MAIN)	The source is not assigned to any group. The display differs depending on the Mix Option (p. 52) setup.
1–16	The source is assigned to the group of the selected number.

Operations using the keyboard

Key	Operation
[←] / [→]	Selects a source
[shift] + [←] / [→]	Selects a source (in 8-channel steps)
[↑] / [↓]	Raises or lowers the LEVEL

Resetting the source level / pan settings

1. **Open the M-48 Source Lev/Pan window.**
2. **Click the [Reset] button.**
A message box will ask you to confirm the operation.
3. **Click the [OK] button.**
The parameters of each source will be reset to the following values.

Parameter	value
AUX switch	ON
PAN	C
LEVEL	-Inf dB



For an example of source level / pan settings, refer to "Example setups" (p. 64)



To output the AUX bus signal, use the preference settings (p. 54) to select "Aux bus" as the line out source.



If you select "Not Assign" in the group select box, this source will not be operable from the panel of the M-48 itself. If you don't want this source to be output, you'll need to turn down the LEVEL to -Inf dB.



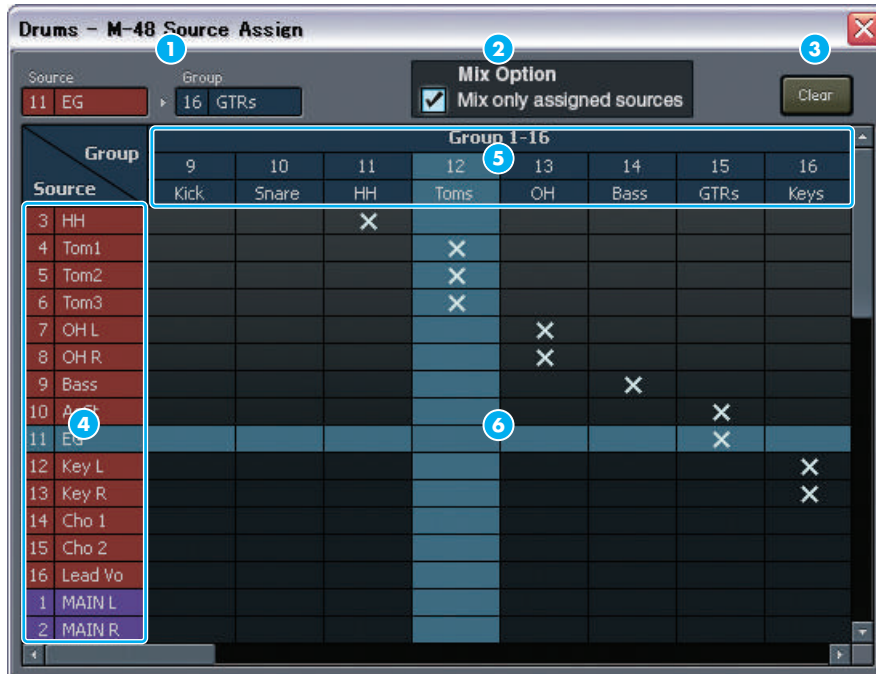
Assignments of sources to groups can also be made using the source assign settings (p. 52).




This operation will not reset the group selections. Use M-48 Source Assign window (p. 52) to reset the group selections.

Assigning sources to groups (Source assign settings)

M-48 Source Assign window



Item	Name	Function
1	Current assignment	Indicates the group to which the source at the cursor location is currently assigned.
2	Mix Option	This sets the M-48's mix option. By checking the "Mix only assigned sources" check box, only sources assigned to a group will be mixed.
3	[Clear] button	Clears the source assign settings.
4	Source list	Shows the Digital Snake channel numbers and channel names corresponding to sources 1–40. Brown background : Indicates an input of the REAC master device. Purple background : Indicates an input of a REAC slave device.
5	Group list	Shows the number and name of each group.
6	Assignment grid	An icon  is shown at the intersection of a currently assigned source and group.

MEMO

You cannot check the "Mix only assigned sources" check box if system program version of the M-48 is prior to 1.01.

Opening the M-48 Source Assign window

1. In the M-48 edit panel, click the [Assign] button.

The M-48 Source Assign window will open.

MEMO

To close the window, click the close button in the title bar.

Making source assignments

1. **Open the M-48 Source Assign window.**
2. **Click the location where the desired source and group intersect.**

An icon  will appear.

- * To cancel an assignment, click the corresponding assignment symbol.
- * A source can be assigned only to one group. You cannot assign a source to multiple groups.



For an example of source assign settings, refer to "Example setups" (p. 64)

Operations using the keyboard

Key	Operation
[←] / [→]	Selects a group
[shift] + [←] / [→]	Selects a group (in 8-group steps)
[↑] / [↓]	Selects a source
[shift] + [↑] / [↓]	Selects a source (in 10-channel steps)

If the "Mix only assigned sources" on the Mix Option **2** is not checked, a source that is not assigned to any group will also be mixed to the M-48's MAIN buses, and that source cannot be controlled from the M-48's panel.

In some cases you may want to include a source without being able to control it from the M-48's panel:

1. For talkback communication

The mixing engineer can have talkback as one of the sources, leaving the source level up but not assigned to a particular group (knob). This way the talkback signal is not controlled by any of the M-48 knobs yet still can be heard by the musician.

2. To provide simple control

E.g., The mixing engineer can provide just vocal control for a vocalist via source assignment. All other sources are not assigned to any groups (knobs) and can be provided as a fixed mix. The vocalist just adjusts the volume of their voice alone.

Clearing the source assign settings

1. **Open the M-48 Source Assign window**
2. **Click the [Clear] button.**
A message box will ask you to confirm the operation.
3. **Click the [OK] button.**
The group assignments of all sources will be cleared.

Editing the preference settings

M-48 Preferences window



Item	Name	Function	
1	Solo	Mode	Selects the solo mode.
		LAYER select clears SOLO	When the layer is switched on the M-48 itself, the solo settings of the now-hidden layer will be cleared automatically.
2	Line Out	Source	SourceSelects the source for the line out.
		Low-pass Filter	Specifies the low-pass filter setting for the line out.
		Mono	Turns the mono switch on/off.
3	Memory	Disable RECALL button	Disables the M-48's [RECALL] button.
		Disable STORE button	Disables the M-48's [STORE] button.
4	[Reset] button	Resets the preference settings.	
5	[OK] button	Closes the M-48 Preferences window.	

Opening the M-48 Preferences window

1. In the M-48 edit panel, click Menu > Preferences...

The M-48 Preferences window will open.

MEMO

To close the window, click the [OK] button.

Editing the preference settings

1. Open the M-48 Preferences window.
2. Specify the Solo setting.
 - Mode

Select the solo mode.

Selection	Explanation
Add On	Solo can be turned on for multiple groups. The soloed groups will be mixed for monitoring.

Selection	Explanation
Last	Only the group whose solo setting was last turned on will be monitored.

- LAYER select clears SOLO

If this is checked, the solo settings of the now-hidden layer will be cleared automatically when the layer is switched.

3. Make settings for Line Out.

- Source

Select the source for line out.

Selection	Explanation
Main bus	Output the Main bus signal.
Aux bus	Output the Aux bus signal (the mixed sources whose AUX switch is turned on in the source level/pan settings).
Phones	Output the signal going to the PHONES. This includes ambient mic.

- Low-pass Filter

Select the low-pass filter setting for the line out.

Selection	Explanation
Off	The low-pass filter will not be used.
80Hz	The frequency range below 80 Hz will be passed.
120Hz	The frequency range below 120 Hz will be passed.

* When switching the low-pass filter setting from 80Hz/120Hz to Off, take care that excessive strain is not applied to your hearing or to the equipment connected to line out.

- Mono

If this is checked, a monaural mix will be output from line out.

4. Make Memory settings.

- Disable RECALL button

If this is checked, the M-48's [RECALL] button will be disabled.

- Disable STORE button

If this is checked, the M-48's [STORE] button will be disabled.



The low-pass filter is a 12 dB/octave filter that passes only the frequency range lower than the specified frequency.

Resetting the preference settings

1. Open the M-48 Preferences window.

2. Click the [Reset] button.

A message box will ask you to confirm the operation.

3. Click the [OK] button.

The preference settings will be reset to the following values.

Parameter		value
Solo	Mode	Add On
	LAYER select clears SOLO	No
Line Out	Source	No
	Low-pass Filter	No
	Mono	Main bus
Memory	Disable RECALL button	Off
	Disable STORE button	Off

Viewing and editing a musician's mix (Group mix)

The M-48 edit panel's Group Mix area is used to view and edit the group mix.



The procedure for Group Mix operations is the same as when operating the panel of the M-48 itself. For details, refer to "M-48 Owner's Manual."

Viewing and editing the group mix

1. Click a button in the layer selection section ① to select a layer.
 2. Click a button in the control selection section ② to select the parameter that will be shown for the [Control] knobs ③ .
 3. Use the [Control] knobs ③ to edit the parameters of the group.
- * By clicking a [Control] knob while holding down [Ctrl], parameters can be reset individually. For the reset value, refer to the table in "Resetting the group mix" (p. 57).
4. Use the [SOLO] buttons ④ to turn solo on/off for each group.

If solo is on, the [Solo Clear] button will be shown.



By clicking this you can clear solo for all groups.

5. Use the [REVERB] button ⑤ to turn reverb on/off.

* The following buttons and knobs cannot be operated from Group Mix.

- [RECALL] button
- [STORE] button
- [AUX IN] knob
- [AMBIENT MIC] knob
- LINE OUT [VOLUME] knob
- [BASS] knob
- [TREBLE] knob
- [LIMITER] knob
- PHONES[VOLUME] knob



The VOLUME adjustment is relative to the LEVEL specified in the source level/pan settings. In some cases, the source's LEVEL may reach the maximum or minimum value before the VOLUME reaches its maximum or minimum value.



The PAN adjustment is relative to the PAN specified in the source level/pan adjustment. In some cases, the source's PAN may reach the maximum or minimum value before this PAN adjustment reaches its maximum or minimum value.

Operations using the keyboard

Key	Operation
[←] / [→]	Selects a [Control] knob
[↑] / [↓]	Increases or decrease the value of the [Control] knob
[enter]	Edits the group name

Editing a group name

1. Double-click the group name **6** in Group Mix.

The group name will be editable.



You can enter up to six single-byte alphanumeric characters as the group name.

Resetting the group mix

1. In the M-48 edit panel, click Menu > Reset Group Mix.

A message box will ask you to confirm the operation.

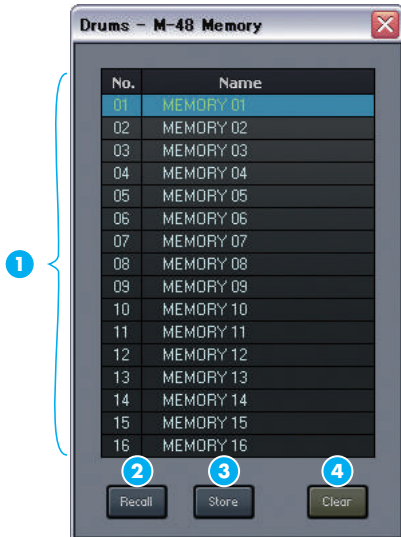
2. Click the [OK] button.

The parameters of each group will be reset to the following values.

Parameter	value
VOLUME	0.0 dB
PAN	C
REVERB SEND	-Inf dB
HI GAIN	0.0 dB
MID GAIN	0.0 dB
MID FREQ	1.00 kHz
LO GAIN	0.0 dB
SOLO	Off

Unit memory operations

M-48 Memory window



Item	Name	Function	
1	Memory list	No.	Indicates the memory number.
		Name	Indicates the memory name. Double-click this to edit the memory name.
2	[Recall] button	Recalls settings from the selected memory number.	
3	[Store] button	Stores settings to the selected memory number.	
4	[Clear] button	Clears the contents of the selected memory.	

MEMO

The current memory is shown in green.

Opening the M-48 Memory window

1. In the unit editing pane, press the [Memory] button.

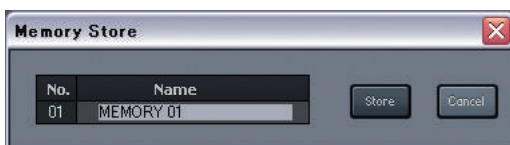
The M-48 Memory window will open.

MEMO

To close the window, click the close button in the title bar.

Storing a memory

1. Open the M-48 Memory window.
2. In the memory list, select the store-destination memory.
3. Click the [Store] button.



The Memory Store dialog box will open.

4. In the Name box, edit the memory name.
5. Click the [Store] button.

The current memory of the unit will be stored to the memory you selected in step 1.

MEMO

You can also use the [S] key on the keyboard to open the Memory Store dialog box.

MEMO

You can enter up to sixteen single-byte alphanumeric characters as the memory name.

Recalling a memory

1. **Open the M-48 Memory window.**
2. **In the memory list, select the desired memory.**
3. **Click the [Recall] button.**

The memory you selected in step 2 will be recalled to the current memory of the unit.

Editing the memory name

1. **Open the M-48 Memory window.**
2. **In the memory list, double-click the Name field of the desired memory.**

The memory name will be editable.

Clearing the contents of a memory

1. **Open the M-48 Memory window.**
2. **In the memory list, select the desired memory.**
3. **Click the [Clear] button.**

A message box will ask you to confirm the operation.

4. **Click the [OK] button.**

The contents of the memory you selected in step 3 will be cleared to the default state.



You can enter up to sixteen single-byte alphanumeric characters as the memory name.



You can also clear the contents of the selected memory by pressing the [Delete] key of your computer.

Using the M-48 library

The current settings of the unit can be saved as M-48 library data. The M-48 library data is saved within the S-4000 RCS project.

M-48 Library window



Item	Name	Function	
1	Library list	No.	Indicates the library number.
		Name	Indicates the library name. Double-click this to edit the library name.
2	[Recall] button	Recalls settings from the selected library number.	
3	[Store] button	Stores settings to the selected library number.	
4	[Clear] button	Clears the selected library.	

Opening the M-48 Library window

1. In the M-48 edit panel, click **Menu > Library...**

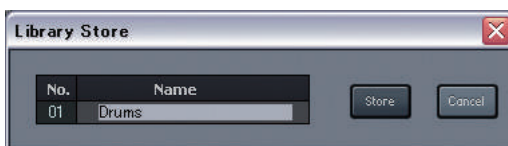
The M-48 Library window will open.



To close the window, click the close button in the title bar.

Storing to the library

1. Open the M-48 Library window.
2. In the library list, select the store-destination library number.
3. Click the [Store] button.



The Library Store dialog box will appear.

4. In the Name box, edit the name.
5. Click the [Store] button.

The unit's current settings will be stored to the library number you selected in step 2.



You can enter a name consisting of up to sixteen single-byte alphanumeric characters as the name of a library item.

Recalling from the library

1. Open the M-48 Library window.
2. In the library list, select the library item that you want to recall.
3. In the Recall Parameters selection boxes, add a check mark to the parameters that you want to recall.

Selection	Explanation
Source Lev/Pan	Source level / pan settings will be recalled.
Source Assign	source assign settings will be recalled.
Preferences	Preference settings will be recalled.
Group Mix	Group mix settings will be recalled.

4. Click the [Recall] button.

The settings of the library item you selected in step 2 will be recalled to the current settings of the unit.

Editing the name of a library item

1. Open the M-48 Library window.
2. In the library list, double-click the Name field of the desired library item.

The name of the library item will become editable.



You can enter a name consisting of up to sixteen single-byte alphanumeric characters as the name of a library item.

Clearing a library item

1. Open the M-48 Library window.
2. In the library list, select the desired library item.
3. Click the [Clear] button.

A message box will ask you to confirm the operation.

4. Click the [OK] button.

The data will be cleared from the library item you selected in step 1.

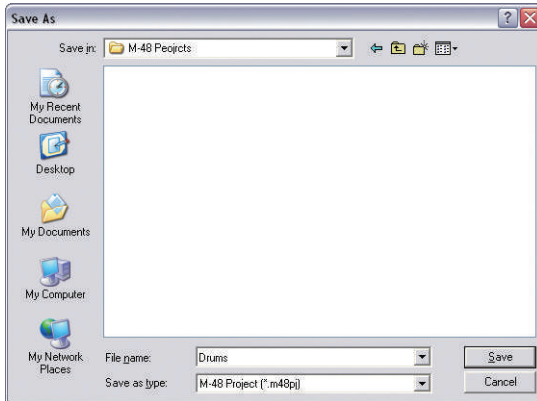


You can also clear the selected library item by pressing the [Delete] key of your computer.

Saving or loading the data of a unit (Saving or loading an M-48 project file)

Saving an M-48 project file

1. In the M-48 edit panel, click Menu > Save...



The "Save As" dialog box will open.

2. Specify a folder and file name for saving the M-48 project file.
3. Click the [Save] button.

A message box will ask you to confirm the operation.

4. Click the [OK] button.

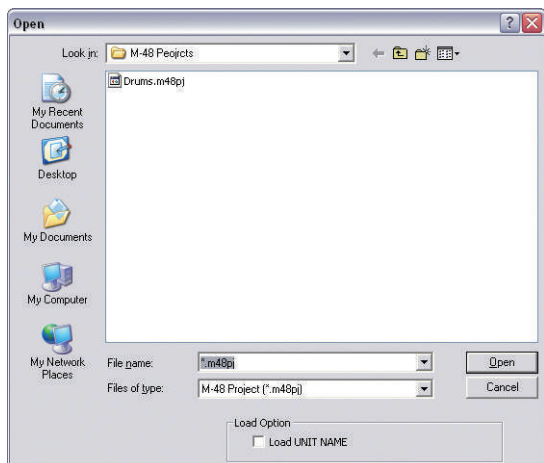
A message box will indicate the status of saving. When saving is finished, the indication "Completed" will appear.



It takes approximately 30 seconds to save the data for one unit.

Loading an M-48 project file

1. In the M-48 edit panel, click Menu > Load...



The "Open" dialog box will appear.

2. Select the desired M-48 project file.
3. Click the [Open] button.

A message box will ask you to confirm the operation.

4. Click the [OK] button.

A message box will indicate the status of loading. When loading is finished, the indication "Completed" will appear.



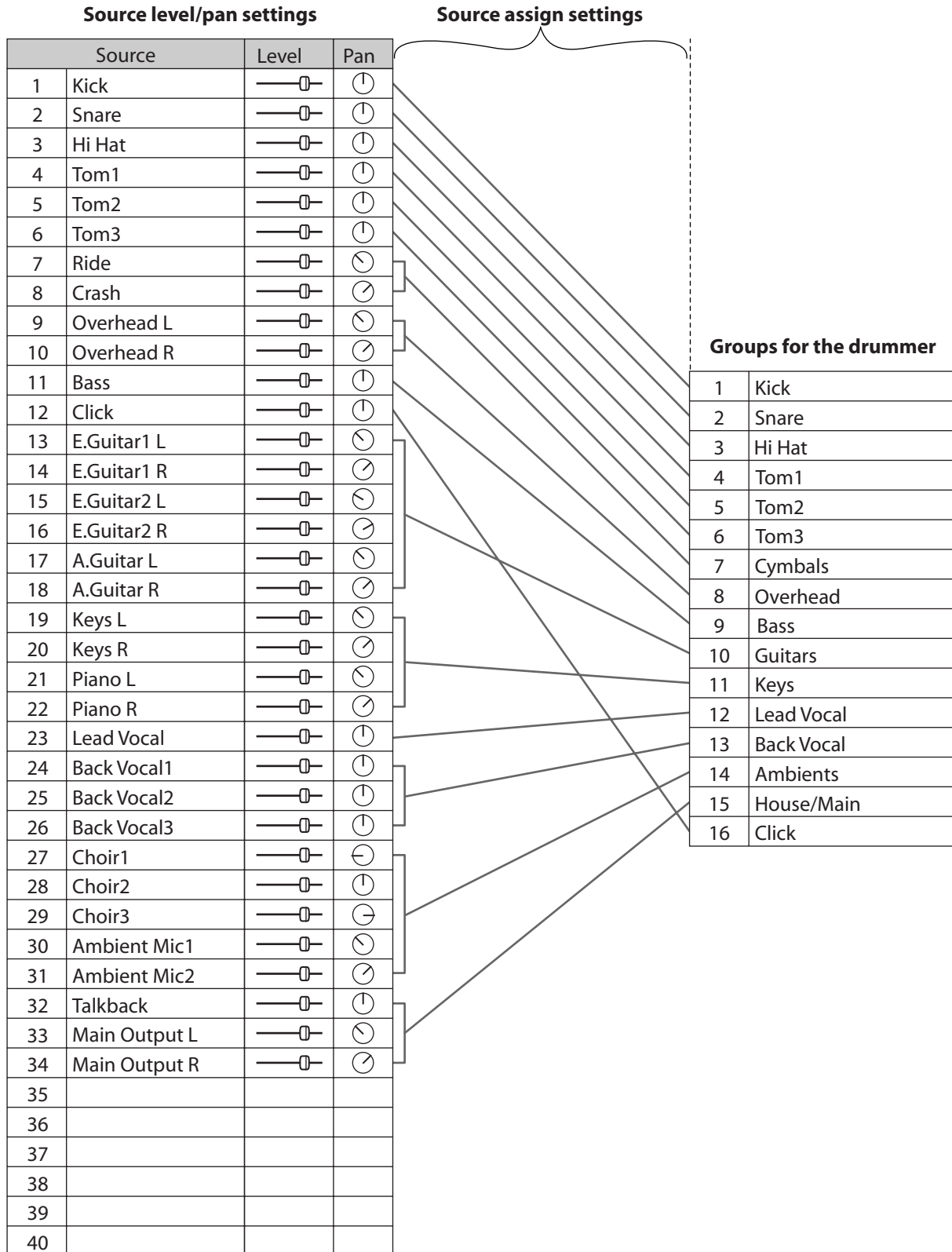
If the Load Option "Load UNIT NAME" box is checked, the unit name will also be loaded.



It takes approximately 30 seconds to load the data for one unit.

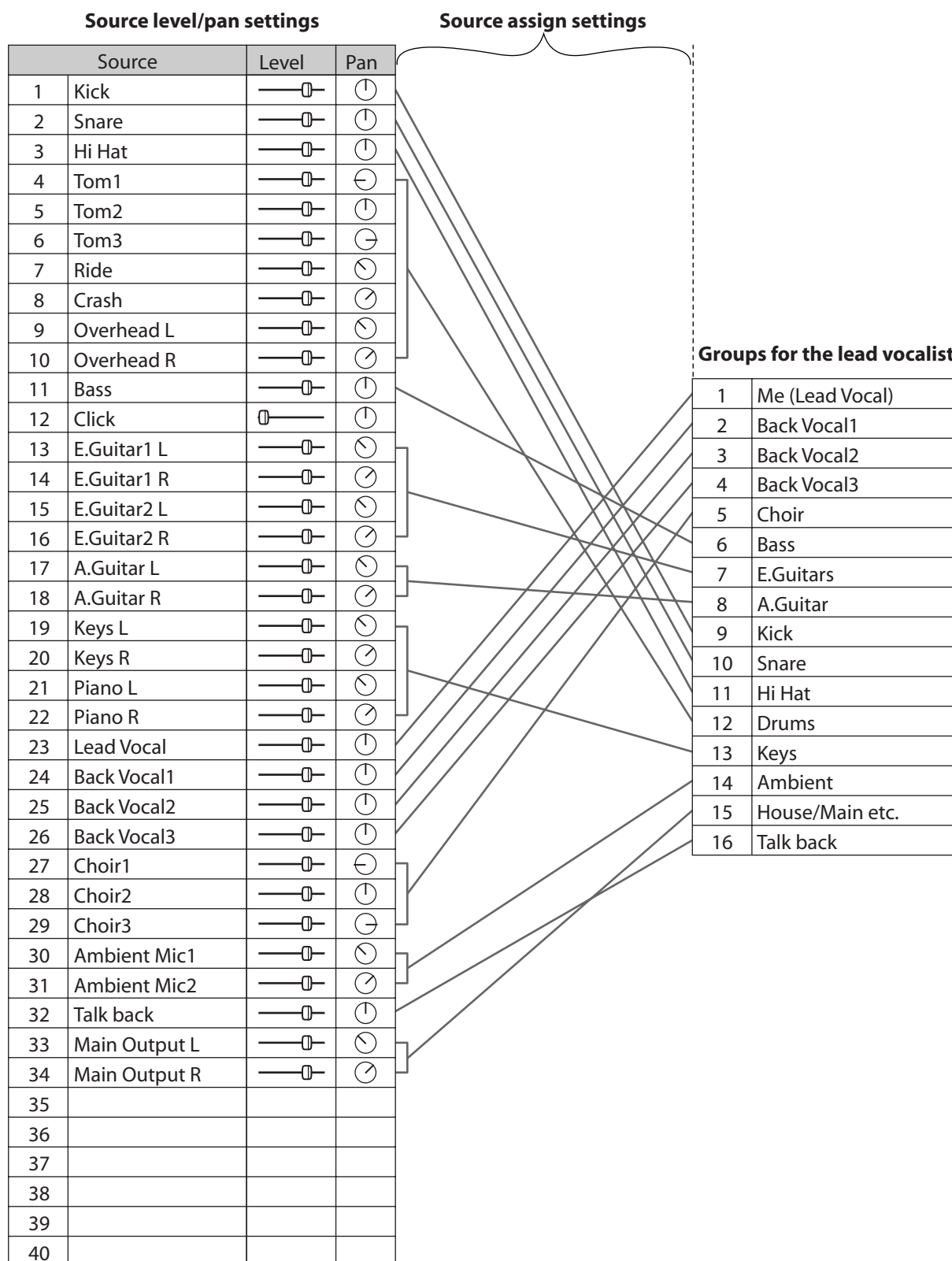
Example setups

Example setup for Drummer



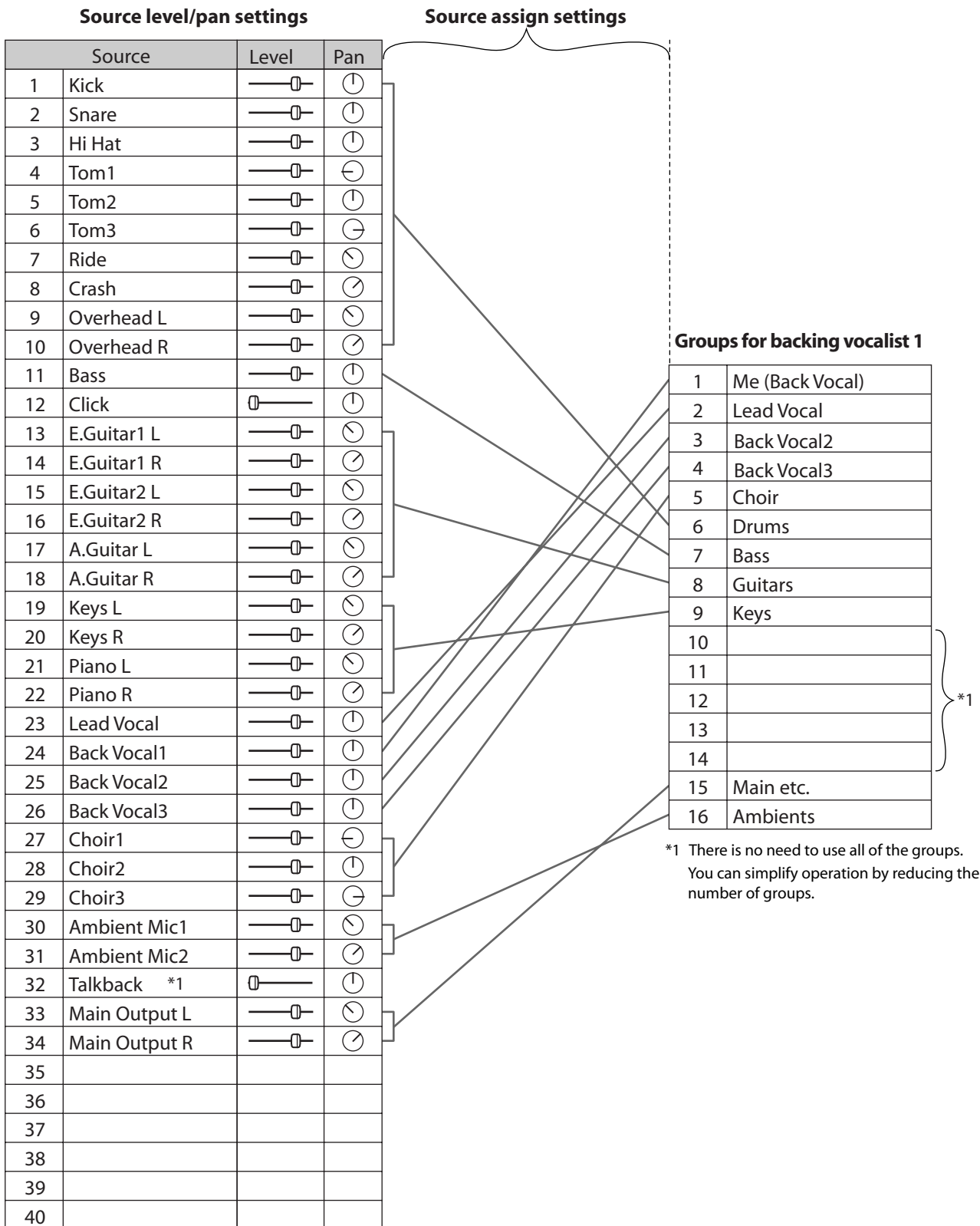
* Level/pan settings shown are approximate.

Example setup for lead vocalist



* Level/pan settings shown are approximate.

Example setup for backing vocalists



* Level/pan settings shown are approximate.

Appendix

Messages

- * For information on how to take corrective action in the event of an error, refer to the "Troubleshooting" section of the owner's manual for the respective Digital Snake system.

Messages	Problems
REAC backup.	REAC communication has switched from the Main to the Backup cable.
Master Fan Error.	Cooling fan of REAC master device has stopped.
Slave Fan Error.	Cooling fan of REAC slave device has stopped.
Master Temperature Error.	An abnormal temperature increase has been detected in the REAC master device.
Slave Temperature Error.	An abnormal temperature increase has been detected in the REAC slave device.
Master Slot Error.	Modules in the REAC master device are not configured properly.
REAC packet Error.	A REAC protocol transfer error has been detected.
All Mute.	All outputs from the system have been muted.
Host Link Down.	Serial communication via RS-232C is terminated.
REAC Link Down.	REAC transfer is terminated.