

TASCAM

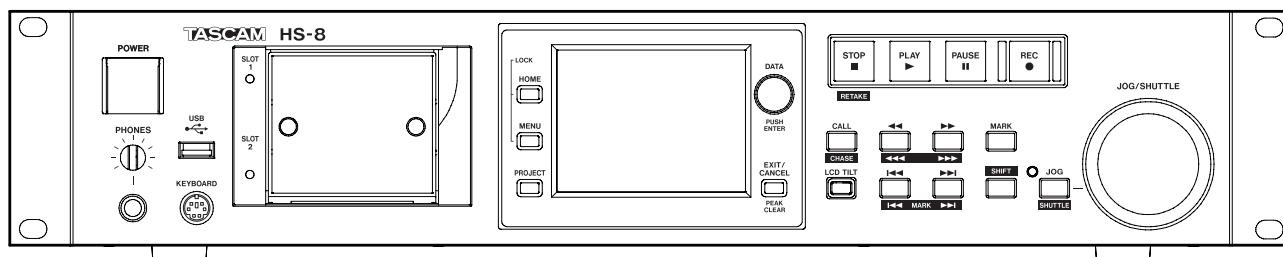
TEAC PROFESSIONAL

D01106920A

HS-8

8 Channel Audio Recorder

OWNER'S MANUAL



IMPORTANT SAFETY INSTRUCTIONS



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



The lightning flash with arrowhead symbol, within 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 appliance.

This appliance has a serial number located on the rear panel. Please record the model number and serial number and retain them for your records.

Model number _____

Serial number _____

WARNING: TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

For U.S.A.

TO THE USER

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications.

Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

CAUTION

Changes or modifications to this equipment not expressly approved by TEAC CORPORATION for compliance could void the user's authority to operate this equipment.

CE Marking Information

- a) Applicable electromagnetic environment: E4
- b) Peak inrush current: 14 A

In North America use only on 120V supply.

产品有毒有害物质或元素的名称及含量

机种: HS-8		有毒有害物质或元素					
	品名	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr(VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
1	CHASSIS部份	○	○	○	○	○	○
2	PCB Assy部份	×	○	○	○	○	○
3	线材部份	○	○	○	○	○	○
4	附属品部份	○	○	○	○	○	○
5	LABEL部份	○	○	○	○	○	○
6	包装部份	○	○	○	○	○	○

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

×: 表示该有毒有害物质至少在该部件的某一均质材料中的含量超出 SJ/T11363-2006 标准规定的限量要求。

(针对现在代替技术困难的电子部品及合金中的铅)

IMPORTANT SAFETY INSTRUCTIONS

- 1 Read these instructions.
- 2 Keep these instructions.
- 3 Heed all warnings.
- 4 Follow all instructions.
- 5 Do not use this apparatus near water.
- 6 Clean only with dry cloth.
- 7 Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
- 8 Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
- 9 Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
- 10 Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
- 11 Only use attachments/accessories specified by the manufacturer.
- 12 Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.



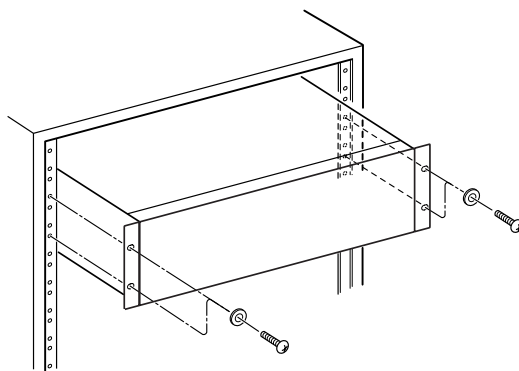
- 13 Unplug this apparatus during lightning storms or when unused for long periods of time.
- 14 Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

- Do not expose this apparatus to drips or splashes.
- Do not place any objects filled with liquids, such as vases, on the apparatus.
- Do not install this apparatus in a confined space such as a book case or similar unit.
- The apparatus draws nominal non-operating power from the AC outlet with its POWER or STANDBY/ON switch not in the ON position.
- The apparatus should be located close enough to the AC outlet so that you can easily grasp the power cord plug at any time.
- The mains plug is used as the disconnect device, the disconnect device shall remain readily operable.
- Products with Class I construction are equipped with a power supply cord that has a grounding plug. The cord of such a product must be plugged into an AC outlet that has a protective grounding connection.
- If the product uses batteries (including a battery pack or installed batteries), they should not be exposed to sunshine, fire or excessive heat.
- CAUTION for products that use replaceable lithium batteries: there is danger of explosion if a battery is replaced with an incorrect type of battery. Replace only with the same or equivalent type.
- Caution should be taken when using earphones or headphones with the product because excessive sound pressure (volume) from earphones or headphones can cause hearing loss.

■ RACK-MOUNTING THE UNIT

Use the supplied rack-mounting kit to mount the unit in a standard 19-inch rack, as shown below.

Remove the feet of the unit before mounting.



CAUTION

- Leave 1U of space above the unit for ventilation.
- Allow at least 10 cm (4 in) at the rear of the unit for ventilation.

Contents

1 – Introduction	6	CALL.....	31
Features	6	Flash start function	31
Included items.....	6	Online function	32
Conventions used in this manual.....	6	5 – Projects.....	33
Intellectual property rights.....	6	File formats.....	33
Precautions for placement and use	7	Monophonic and polyphonic modes.....	33
Beware of condensation	7	Folder where files are saved in mono	
Cleaning the unit	7	mode	33
Cleaning the display	7	PROJECT screen overview	33
About CF cards.....	7	Project selection screen	33
Precautions for use	7	Folder selection screen	34
2 – Names and functions of parts.....	8	Take selection screen	34
Front panel.....	8	Project operations.....	34
Rear panel	11	Creating new projects	34
PARALLEL connector	13	Editing the project name	35
RS-232C Connector	13	Changing a project name later	36
RS-422 connector	13	Editing the name of the first folder	36
Home Screen	14	Loading projects	36
3 – Preparation.....	19	Rebuilding projects.....	37
Inserting and removing CF cards	19	Erasing a project	37
Inserting CF cards.....	19	Folder operations.....	37
Removing CF cards.....	19	Creating new folders.....	37
Security screws	19	Loading folders.....	38
About the display	20	Rebuilding folders	38
Adjusting the display angle	20	Copying folders.....	39
Adjusting the display and indicator		Erasing folders	40
brightness.....	20	Take operations.....	40
Turning the power ON and OFF	20	Loading takes.....	40
Setting the time of the built-in clock	21	Erasing takes	40
Panel lock function	21	Changing the start time of a take	41
Recording duration.....	22	Using “@” with take names	41
4 – Recording and Playback	23	6 – Internal Settings.....	43
Preparing to record.....	23	Menu screen	43
CF card selection	23	Recording settings (REC SETUP).....	43
Formatting a CF card	23	REC TRACKS page	43
Create a new project	24	FILE FORMAT page	43
Set the master clock.....	25	OPTIONS page	44
Set the recording tracks	25	Playback settings (PLAY SETUP).....	45
Set the file format	26	GENERAL page	45
Make other recording settings	26	CONTROL page	45
Connecting headphones	27	Sync and time code settings (SYNC T/C).....	45
Setting the inputs	27	CLOCK page	45
Monitor the input	28	SYNC page.....	46
Make a recording.....	28	T/C page	46
Stop recording	28	SETUP page	47
Retake a recording	28	I/O page	47
Recording operation limitations	29	Remote settings (REMOTE SETUP)	48
Play a recording	29	PARALLEL TAB	48
Select a project/folder/take	29	RS-232C page	48
Disabling input monitoring.....	30	RS-422 page.....	48
Start playback	30	Mixer settings (MIXER SETUP)	49
Mixing the playback sound	30	INPUT page	49
		DIGITAL SOURCE page.....	49

SETUP page	49	Audio performance	68
OUTPUT page	49	Other specifications	68
CHx NAME (button)	50	Dimensional drawings	69
Channel settings (CHANNEL SETUP).....	50	Block diagram	70
When channels are linked.....	51		
Stereo (L/R) channel	51		
Digital source settings (CHx-x DIGI SOURCE)	51		
Level meter settings (METER SETUP).....	51		
System settings (SYSTEM SETUP).....	52		
PREFERENCES page	52		
CLOCK ADJUST page	52		
Managing CF cards (CF MANAGE).....	52		
Version display (VERSION INFO)	53		
Folder structure	53		
File names.....	54		
7 – Mark and Locate Functions	55		
Mark functions.....	55		
Adding marks.....	55		
Using keys to locate to marks	55		
Mark list screen	55		
Locating to marks	56		
Viewing mark information.....	56		
Erasing marks	56		
Editing marks	56		
Renumbering marks	57		
Manual locate function	57		
8 – Operation using a computer keyboard	58		
Setting the keyboard type	58		
Use the keyboard to input the name	58		
List of keyboard operations	58		
9 – Online functions	59		
Enabling online functions	59		
Activating online playback mode	59		
10 – Playback synchronized with external timecode	60		
Using synchronized playback.....	60		
Timecode offset.....	60		
Rechase.....	60		
11 – Troubleshooting	61		
12 – Messages	62		
13 – Specifications.....	67		
General	67		
Input and output	67		
Analog audio input and output connectors	67		
Digital audio input and output connectors	67		
Control input and output connectors.....	68		

1 – Introduction

Thank you very much for purchasing a TASCAM HS-8 8 Channel Audio Recorder. Please read this manual thoroughly before using the unit so that you understand correct operating procedures and can use its functions fully. We hope that you enjoy using this unit for many years.

Please keep this manual so that you can read it at any time. A digital copy of this manual can also be downloaded from our website (<http://www.tascam.com/>)

Features

- CF cards used as recording media (Ultra DMA compatible)
- Simultaneous recording of 8-channel multitrack and stereo mix at 44.1/48 kHz, 16/24 bit
- 8-channel multitrack recording at 88.2/96 kHz, 16/24 bit
- 4-channel multitrack recording at 176.4/192 kHz, 16/24 bit
- Broadcast Wave Format (BWF) files
- Flash start possible using optional RC-HS20PD
- JOG/SHUTTLE functions
- Intuitive operation using graphical interface on TFT color touch-screen
- 8 balanced analog inputs and outputs on 25-pin D-sub connectors
- 8 AES/EBU digital inputs and outputs on a 25-pin D-sub connector
- 8-channel ADAT digital input and output
- 2 channels of balanced XLR analog input and output
- XLR AES/EBU digital input and output
- Headphones output
- BNC time code input and output
- BNC video reference, as well as word clock input and output/thru
- USB storage media can be connected and files copied (support planned in a version upgrade)
- LAN (Ethernet) functions allow file transfer, remote control and monitoring over a network (support planned in a version upgrade)
- Cascade function allows multiple units to be operated in sync (support planned in a version upgrade)
- Can be used with parallel remote control
- Can be used with RS-232C serial remote control
- Can be used with RS-422 (9-pin serial protocol standard) serial remote control

Included items

This product includes the following items.

Take care when opening the package not to damage the items. Keep the package materials for transportation in the future.

Please contact the store where you purchased this unit if any of these items are missing or have been damaged during transportation.

- Main unit (HS-8)..... 1
- Power cord set 1
- Rack-mounting screw kit 1
- Security screws 3
- Warranty card..... 1
- Owner's manual (this manual) 1

Conventions used in this manual

In this manual, we use the following conventions:

- Keys, jacks and other parts on the main unit and external devices are indicated like this: **MENU**
- Messages on the unit's display are shown like this: **ON**
- "CompactFlash card" is abbreviated as "CF card."
- Additional information is provided as necessary as tips, notes and cautions.

TIP

These are tips about how to use the unit.

NOTE

These provide additional explanations and describe special cases.

CAUTION

Failure to follow these instructions could result in injury, damage to equipment or lost recording data, for example.

Intellectual property rights

- TASCAM is a trademark of TEAC Corporation, registered in the U.S. and other countries.
- CompactFlash is a US registered trademark of SanDisk Corporation.
- Other company names, product names and logos in this document are the trademarks or registered trademarks of their respective owners.

Any data, including, but not limited to information, described herein are intended only as illustrations of such data and/or information and not as the specifications for such data and/or information. TEAC Corporation disclaims any warranty that any use of such data and/or information shall be free from infringement of any third party's intellectual property rights or other proprietary rights, and further, assumes no liability of whatsoever nature in the event of any such infringement, or arising from or connected with or related to the use of such data and/or information.

This product is designed to help you record and reproduce sound works to which you own the copyright, or where you have obtained permission from the copyright holder or the rightful licensor. Unless you own the copyright, or have obtained the appropriate permission from the copyright holder or the rightful licensor, your unauthorized recording, reproduction or distribution thereof may result in severe criminal penalties under copyright laws and international copyright treaties. If you are uncertain about your rights, contact your legal advisor. Under no circumstances will TEAC Corporation be responsible for the consequences of any illegal copying performed using the recorder.

Precautions for placement and use

- The guaranteed operating temperature range of this product is 5° - 35° C (41°- 95° F).
- Do not install in the following types of places. Doing so could degrade the sound quality and/or cause malfunctions.
 - Places with significant vibrations or that are otherwise unstable
 - Near windows or other places exposed to direct sunlight
 - Near heaters or other extremely hot places
 - Extremely cold places
 - Places with bad ventilation or high humidity
- Make sure that the unit is mounted in a level position for correct operation.
- In order to promote the emission of heat, do not place anything on top of this product.
- Do not place this product on top of a powered amplifier or other equipment that emits heat.

Beware of condensation

If the unit is moved from a cold to a warm place, or used immediately after a cold room has been heated or otherwise exposed to a sudden temperature change, condensation could occur. Should this happen, leave the unit for one or two hours before turning the unit on.

Cleaning the unit

Wipe the unit with a soft dry cloth to clean it. Do not use any benzine, paint thinner, alcohol or other chemical agents. Doing so could damage the surface of the unit or cause fading.

Cleaning the display

Slightly wipe the display with a soft dry cloth that does not shed dust (e.g. a cleaning cloth). Avoid wiping with a stiff cloth or rubbing with force. Doing so could damage the surface of the LCD. Do not use benzene, thinner, manicure remover, alcohol or similar substances.

About CF cards

The capacities and performance of your HS-8 will vary based on the speed and abilities of the Compact Flash (CF) media used. Older and some cheaper Compact Flash (CF) cards use slower memory components and little internal buffering which results in poor recording performance. Newer CF cards, particularly those made for high-precision DSLR cameras, not only perform reading and writing faster, but also come in larger storage size.

A list of CF cards that we have confirmed to work with this unit is provided on our website (<http://www.tascam.com>).

If a CF card is used that has not been confirmed, this unit might not operate correctly.

CAUTION

We can accept no responsibility for any loss of the data you record using this product onto a CF card.

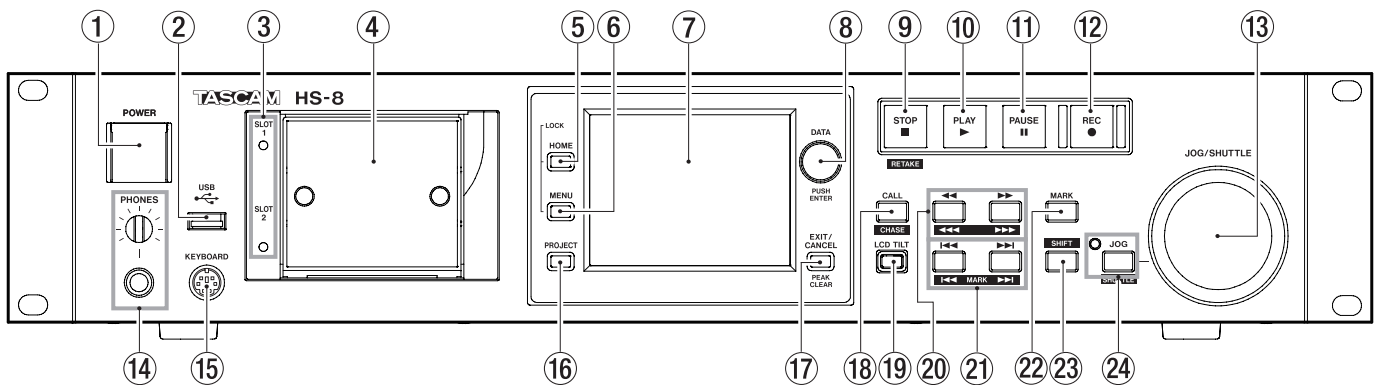
Precautions for use

CompactFlash cards are precision devices. To prevent damage to the card or the slot, please observe the following cautions.

- Do not leave a CF card in an extremely hot or cold location.
- Do not leave a CF card in an extremely damp location.
- Do not allow a CF card to become wet.
- Do not place any object on top of a CF card, or twist or bend it.
- Do not subject a CF card to strong impact.
- Do not insert or remove a CF card during recording, playback, data transfer or other operations that access a card.

2 – Names and functions of parts

Front panel



1 POWER switch

Use to turn the power on and off. This switch has a cover to prevent misoperation. Open the cover from below to access and operate the switch.

2 USB connector (support planned in a version upgrade)

By connecting a USB flash drive, for example, you can back up data from a CF card and save files to the card.

NOTE

Do not disconnect USB flash memory when using it to copy files. You can connect and disconnect USB flash memory at all other times. You can connect and disconnect USB keyboards at any time.

3 SLOT 1 and SLOT 2 indicators

The indicator for the currently selected card slot lights. It rapidly blinks when recording or copying. When no CF card is inserted in the current slot, the indicator blinks slowly.

CAUTION

Do not remove a card from a slot when its indicator is rapidly blinking.

4 CompactFlash card slots (SLOT 1/SLOT 2)

Insert CF cards here (see "Inserting and removing CF cards" on page 15).

5 HOME key

Press to open the Home Screen.

Press the **MENU** key while pressing and holding the **HOME** key to open the **LOCK SETUP** screen. (See "Panel lock function" on page 21.)

Turn the **DATA** dial while pressing and holding the **HOME** key to adjust the brightness of the color display, the **JOG (SHUTTLE)**, **SLOT 1** and **SLOT 2** indicators and the **PAUSE**, **REC** and **PLAY** keys.

Push and turn the **DATA** dial while pressing and holding the **HOME** key to adjust only the brightness of the color display.

6 MENU key

Press to open the **MENU** screen.

Press the **MENU** key while pressing and holding the **HOME** key to open the **LOCK SETUP** screen. (See "Panel lock function" on page 21.)

7 Color display

This 3.5-inch TFT color display with a resolution of 320 x 240 shows various types of information and responds to touch.

8 DATA dial

Turn the **DATA** dial to change settings, and press it to use it as an **ENTER** key. When setting parameter values, press while turning to change them in large increments (coarse mode). When a pop-up window is open, this works as an **OK** or **CLOSE** button.

Turn the **DATA** dial while pressing and holding the **HOME** key to adjust the brightness of the color display, the **JOG (SHUTTLE)**, **SLOT 1** and **SLOT 2** indicators and the **PAUSE**, **REC** and **PLAY** keys.

Push and turn the **DATA** dial while pressing and holding the **HOME** key to adjust only the brightness of the color display.

9 STOP (RETAKE) key

Press to stop recording or playback.

Press this while pressing and holding the **SHIFT** key to retake the recording (erasing the last recorded take).

While recording, press this key to stop recording and stop the unit at the beginning of the last recorded file.

10 PLAY key/indicator

When stopped or in playback standby, press this key to start playback. This key lights during playback.

Press this key when in recording standby to start recording. Both the **PLAY** and **REC** keys light during recording.

11 PAUSE key/indicator

Press this key when stopped or during playback to put the unit in playback standby. This key lights when in standby.

2 – Names and functions of parts

Press this key while recording to put the unit in recording standby. Both the **PAUSE** and **REC** keys light during recording standby.

⑫ **REC key/indicator**

When a recordable CF card is installed and the unit is stopped, press this key to put the unit into recording standby. Both the **PAUSE** and **REC** keys light during recording standby.

Press this key while recording to stop recording the current file, and continue recording to a new file.

CAUTION

- If you press the **REC** key less than 4 seconds after beginning recording, the unit will not start recording a new take. Depending on the folder setting for mono recording files, the required time could be even longer. (See "Folder where files are saved in mono mode" on page 33.)
- Depending on other conditions, recording of a new take might not be possible when the **REC** button is pressed during recording. (See "Recording operation limitations" on page 29.)
- Recording is not possible if any of the following conditions apply. Change the recording folder.
 - The folder contains 999 takes
 - The number at the end of the take name has reached 999
 - The remaining recording time indicator on the Home Screen shows "Rec Limit". (See "Recording operation limitations" on page 29.)

⑬ **JOG/SHUTTLE dial**

When in jog operation mode, turn this to change the playback position by a corresponding amount.

When in shuttle operation mode, turn this to adjust the playback speed according to the degree of rotation. If you return to the original position when in shuttle operation mode, the transport status is restored to how it was before shuttle playback was begun.

⑭ **PHONES knob/jack**

Connect stereo headphones to this standard stereo phone jack. Use the **PHONES** knob to adjust the headphones output level.

CAUTION

Before connecting headphones, turn the **PHONES** knob to the minimum volume. Failure to do so could cause sudden loud noises to occur, which might damage your hearing or equipment.

⑮ **KEYBOARD connector**

Connect an IBM PC-compatible keyboard with a PS/2 interface, and use it to input project, folder, and channel names, for example. By default, the unit is set to use a US keyboard. To use a Japanese keyboard, since the key allocation is different, change the setting on the **PREFERENCES** page of the **SYSTEM SETUP** screen. (See "PREFERENCES page" on page 52.)

⑯ **PROJECT key**

Press to open the **PROJECT** screen. (See "PROJECT screen overview" on page 33.)

⑰ **EXIT/CANCEL (PEAK CLEAR) key**

Press to cancel input or item selection. On the Home Screen, this functions as a reset button for peak hold marks shown on the level meters.

When the **MENU** screen or **PROJECT** screen is open, press this to return to the Home Screen. On other screens, press this to return to the previous screen.

When a pop-up window is open, press this to cancel an operation.

⑱ **CALL (CHASE) key**

Press to locate the call point, which is where playback last started from playback standby, and resume playback standby.

Press this key while pressing the **SHIFT** key to turn synchronization with external timecode ON/OFF.

⑲ **LCD TILT button**

Press this button to unlock the color display, so that you can adjust its angle by pulling the bottom of the display outward.

To put the display away, press this button to unlock it and push the bottom inward.

⑳ **◀◀ (◀◀◀)/▶▶ (▶▶▶) (search) keys**

Use these keys to search.

◀◀ (◀◀◀): Search backward

▶▶ (▶▶▶): Search forward

Press one of these keys while pressing the **SHIFT** key to search at high speed

㉑ **◀◀/▶▶ (MARK ◀◀/▶▶) (SKIP) keys**

Use these to skip to the previous/next take.

Press these keys while pressing the **SHIFT** key to move to the previous/next mark. After moving, the same playback state resumes (stopped/standby/playback).

㉒ **MARK key**

Press this key to add a mark at the currently located time. The maximum number of marks, including automatic marks, possible in a single file (take) is 99. (See "Mark functions" on page 55.)

㉓ **SHIFT key**

When stopped/in playback standby/during playback:

- Press the ◀◀ while pressing and holding this key to move to the previous mark, and resume the same playback state.
- Press the ▶▶ key while pressing and holding this key to move to the next mark, and resume the same playback state.
- Press a ◀◀ (◀◀◀)/▶▶ (▶▶▶) key while pressing and holding this key to search at high speed.
- Press the **JOG (SHUTTLE)** key while pressing and holding this key to activate the shuttle operation mode.
- Press the **STOP (RETAKE)** key while pressing and holding this key to retake the recording (erasing the last recorded take).

2 – Names and functions of parts

②④ **JOG (SHUTTLE) key and indicator**

Use to enable use of the **JOG/SHUTTLE** dial. Press this key to enable the jog operation mode of the **JOG/SHUTTLE** dial. When this mode is enabled, this indicator lights.

Press this key while pressing the **SHIFT** key to enable the shuttle operation mode of the **JOG/SHUTTLE** dial. When this is enabled, this indicator blinks.

Press this key again to disable either mode.

2 – Names and functions of parts

36 DIGITAL I/O (AES/EBU) INPUT A/B and OUTPUT L/R connectors

These XLR balanced connectors are for digital audio input (**INPUT A/B**) and output (**OUTPUT L/R**) in AES/EBU (AES3-2003/IEC60958-4) format.

Transmission occurs at double speed when the sampling frequency is 88.2 and 96 kHz and at quad speed when 176.4 and 192 kHz.

The digital input section includes a sampling rate converter that is compatible with sampling frequencies between 32–216 kHz

The digital output section outputs the stereo signal mixed in this unit or the monitoring signal (the same sound output from the **PHONES** jack, including soloed tracks, etc.).

37 SIGNAL GND terminal

When using a TASCAM RC-HS20PD remote control (sold separately), depending on the operating environment, the color display might flicker or noise might be heard when monitoring. If this occurs, use the **SIGNAL GND** terminal. (Please prepare a wire to use with the SIGNAL GND terminal.)

38 CASCADE IN connector (support planned in a version upgrade)

This connector is for cascade connection input.

39 CASCADE OUT connector (support planned in a version upgrade)

This connector is for cascade connection output.

40 TIME CODE IN connector

This BNC-type connector is for SMPTE time code input.

41 TIME CODE OUT connector

This BNC-type connector is for SMPTE time code output.

42 WORD/VIDEO IN connector

This BNC-type connector is for word clock and video reference signal input. You can input a word clock signal (44.1 kHz, 48 kHz, 48 kHz pull-down, 48 kHz pull-up, 88.2 kHz, 96 kHz, 176.4 kHz, 192 kHz) or a video reference signal (NTSC/PAL black burst signal, HDTV Tri-Level signal). You can also use the switch to the right to set whether or not to terminate with 75Ω.

43 WORD/VIDEO THRU, WORD OUT connector

This BNC-type connector is for word clock thru or output and video reference signal thru. You can output a word clock signal (thru, 44.1 kHz, 48 kHz, 48 kHz pull-down, 48 kHz pull-up, 88.2 kHz, 96 kHz, 176.4 kHz, 192 kHz) or a video reference signal (IN connector signal thru). Use the **THRU/OUT** switch to set the signal output. (**OUT** is only for **WORD**.)

44 75Ω OFF/ON and THRU/WORD OUT switch

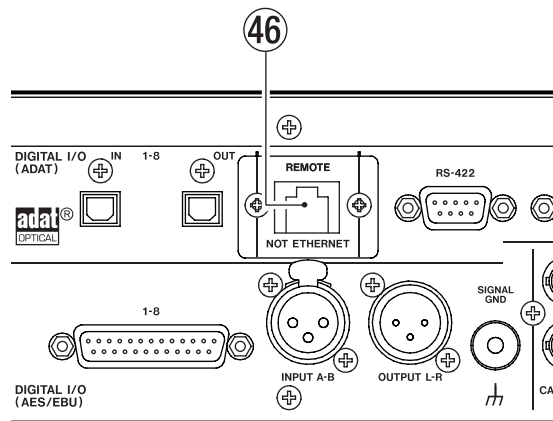
Use this switch to make the following settings.

- Whether or not **WORD/VIDEO IN** has termination resistance (75Ω)
- The **WORD/VIDEO** output **THRU/OUT** setting (**OUT** is only for **WORD**)

45 ETHERNET connector (support planned in a version upgrade)

Use this Ethernet connector to connect with a network for file transfer and to control this unit from an external source.

When the REMOTE Connector cover is removed



46 REMOTE connector

Connect a dedicated RC-HS20PD remote controller (sold separately) here.

CAUTION

- This is not an Ethernet connector (LAN, etc.). Never connect it to a network using an Ethernet cable. Doing so could cause this unit or network devices to malfunction.
- When the unit is shipped from the factory, this connector has a cover attached with screws in order to prevent accidental connection to a network.

2 – Names and functions of parts

PARALLEL connector

The **PARALLEL** connector on the rear panel allows external control of this unit. The pin assignments are as follows.

Pin No.	Function	In/Out
1	GND	
2	PLAY/Flash 1	In
3	STOP/Flash 2	In
4	RECORD/Flash 3	In
5	SKIP FWD/Flash 4	In
6	SKIP BWD/Flash 5	In
7	FLASH LOAD (STOP)	In
8	FADER START	In
9	FLASH Tally	Out
10	READY Tally	Out
11	RECORD Tally	Out
12	STOP Tally	Out
13	PLAY Tally	Out
14	REMOTE Select	In
15	PAUSE/Flash 6	In
16	CALL/Flash 7	InIn
17	AUX1/Flash 8	In
18	AUX2/Flash 9	In
19	AUX3/Flash 10	In
20	Flash Page	In
21	Reserved	
22	CF1 Tally	Out
23	ONLINE Tally	Out
24	CF2 Tally	Out
25	+5V*	

In: Command input, for transport control
Internal circuit, +5V pull-up
Operates with low commands of 50 msec or more

Out: Command output, for tally output
The internal circuit is open collector (output impedance 10Ω)
Low command output when operating
20 V dielectric strength, 35 mA maximum current

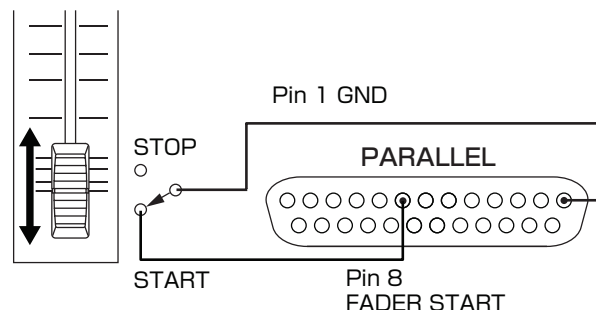
*+5V: 50 mA maximum supplied current

NOTE

- The **FLASH LOAD (STOP)** (pin 7) functions are **FLASH LOAD** when stopped and **STOP** during playback and when paused.
- When **Remote Select** (Pin 14) is high, the input pins that have two commands separated by a "/" (pins 2–6 and 15–19) in the above table will perform the first-listed function, and can be used as conventional parallel controllers.
When this pin is low, the above-listed input pins will function as flash start keys. Moreover, the key assignments will be as follows according to the high/low state of pin 20.

#14	#20	Flash-start take
Low	High	1–10
Low	Low	11–20

- The following example is of a connection that uses a fader to start and stop playback of this device.



For information about the assignment of AUX1-3 (pins 17-19) functions, see the "PARALLEL tab" of the REMOTE SETUP screen on page 48.

RS-232C Connector

The RS-232C connector on the rear panel can be connected to an RS-232C connector on a computer to allow control of this unit from that computer.

Makes settings related to communication on the REMOTE SETUP screen RS-232C page. (See "RS-232C page" on page 48.)

NOTE

Please contact TASCAM customer support for information about this unit's RS-232C command protocol.

RS-422 connector

You can control this unit remotely by connecting the RS-422 connector on its rear panel to a controller or editor compatible with SONY P2 protocol (RS-422).

Make settings related to operation on the REMOTE SETUP screen RS-422 page. (See "RS-422 page" on page 48.)

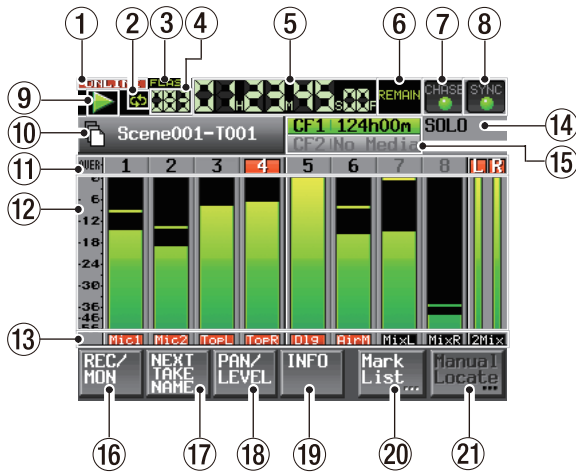
NOTE

Please contact TASCAM customer support for information about this unit's protocol compatibility.

2 – Names and functions of parts

Home Screen

Press the **HOME** key to open the Home Screen.



① ONLINE status indicator



When the ONLINE function is active and ONLINE playback mode is ON, the **ONLINE** icon appears red.



When the ONLINE function is active and ONLINE playback mode is OFF, the **ONLINE** icon appears unlit.

When the ONLINE function is not active, the **ONLINE** icon is not displayed.

② Repeat status indicator



When repeat playback is ON, the **Repeat** icon appears green.



When repeat playback is OFF, the **Repeat** icon appears unlit.

③ Flash status indicator



When flash start is possible, the **FLASH** icon appears green. The icon blinks when flash start is being prepared.



When flash start is not possible, the **FLASH** icon appears unlit.

④ Take number display

The number of the currently selected take is shown. This number is assigned to a take in the order that it was recorded within a folder.

⑤ Time counter (button)

The current time displayed is either the elapsed time or the remaining time. Touch this part of the screen to change the time display mode.

⑥ Time mode indicator (button)

This shows the current time display mode. Touch this part of the screen to change the time display mode.



The time elapsed from the beginning of the take is shown.



The time remaining until the end of the take is shown. When recording, the remaining time until the maximum file size is reached is shown.



The time elapsed from the beginning of the folder is shown.



The time remaining until the end of the folder is shown. When recording, the remaining amount of time that can be recorded on the currently selected CF card, which depends on the current recording settings, is shown.



The time code for the file being recorded or played is shown.

⑦ Time code status (button/indicator)



When accurate time code is input and the input time code matches the time code setting made on the project, this indicator appears green.



When the input time code does not match the time code setting made on the project, this indicator appears unlit.

Synchronized playback status is shown when playback is synchronized to external timecode.



The **CHASE** indicator appears green when synchronized with the external timecode.

The **CHASE** indicator blinks when playback is not synchronized with external timecode. This includes when synchronization is lost during synchronized playback.

Touch this part of the screen to open the **SYNC T/C** screen. (See "Sync and time code settings (SYNC T/C)" on page 45.)

⑧ Audio synchronization status (button/indicator)



When the selected Master clock is synchronized, this indicator appears green.

This blinks when the selected Master clock is not synchronized.

Touch this part of the screen to open the **SYNC T/C** screen. (See "Sync and time code settings (SYNC T/C)" on page 45.)

⑨ Transport status indicator

This shows the current transport status.



Playing back



Playback standby










Stopped





Searching backward

2 – Names and functions of parts

-  Searching forward
-  Searching backward (high-speed search)
-  Searching forward (high-speed search)
-  The number shown when searching backward (shuttle operation) changes with the current speed: x2, x4, x8, x16, x32.
-  The number shown when searching forward (shuttle operation) changes with the current speed: x2, x4, x8, x16, x32.
-  Recording
-  Recording standby

10 Take name display (button)

This shows the icon for the currently active file mode and the take name. The two types of file mode icons are as follows.

-  Monophonic mode (Single track BWF file)
-  Polyphonic mode (Multitrack BWF file)

Touch this part of the screen to open the PROJECT (current project/folder take list) screen. (See "Project operations" on page 34.)

11 Track number display

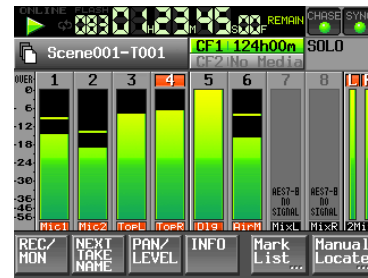
The track number appears black when recording is possible and appears gray when it is not possible (according to the sampling frequency). Moreover, the track number area functions as an overload indicator and appears red when there is an overload. The L/R area appears yellow when the limiter is functioning to control volume.

12 Level meter (button)

The input signal level for a track is shown if input monitoring for it is set to ON. The input signal level for a track is also shown if it is armed for recording and not playing back. During playback, the playback level of a track is shown if input monitoring is set to OFF.

When the input source is set to a digital input, but there is no input signal or if the input signal differs from the internal setting, the channel meter display area appears grey and one of the following messages appears.

Display	Description
AESx-x NO SIGNAL	If there is no input signal
ADAT NO SIGNAL	
AESx-x UNLOCK	If the input signal is not synchronized with the system
ADAT UNLOCK	
AESx-x NOT AUDIO	If the Cbit information of the input signal is not audio
AESx-x NOT PRO	If the Cbit information of the input signal is not professional
AESx-x Cbit ERROR	If other input signal Cbit information differs from the actual operation mode



AESx-x NO SIGNAL

Touch a level meter to solo that channel. Yellow highlighting appears around the level meter and the number of a soloed channel. The level meters of the other channels are dimmed.

The following settings can be made for the display of the level meters in the METER SETUP screen from the MENU screen.

- Peak hold time
- Release time
- Overload indicator peak indication level
- Reference level line display ON/OFF

13 Track name display, and record arming and input monitoring status

The area beneath each level meter shows the track name (four characters or less) and indicates whether recording and input monitoring are enabled.

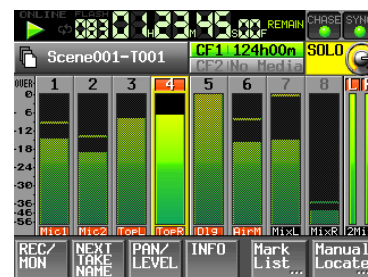
	REC Off	REC On
MON Off	Black	Red
MON On	Blue	Red/blue

14 SOLO indicator (button)

If any channel is being soloed, the SOLO indicator appears yellow, and the SOLO level knob is shown. Turn the DATA dial when a channel is soloed to adjust its level while soloed.

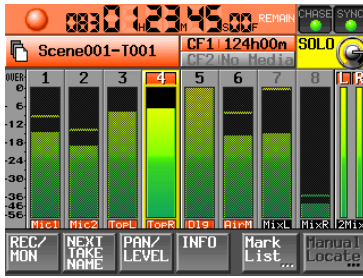
Yellow highlighting appears around the level meter and the number of a channel that is soloed. The level meters of the other channels are dimmed.

To choose a channel to solo, touch its level meter.



Home Screen during playback

2 – Names and functions of parts



Home Screen during recording



Home Screen REC/MON page



Home Screen NEXT TAKE NAME page



Home Screen PAN/LEVEL page



Home Screen INFO page

15 Recording media display (button)

This shows which of the two CF card slots is being used, as well as its remaining recording time. The background of the media that is currently being

used appears green during playback and red when recording.

If there is no media in the slot, No Media is shown and the background is light grey. If the card has no projects or folders, a NoProject message appears. When an unformatted CF card is inserted in the CF card slot that is not being used, UNFORMAT appears. When a CF card is inserted during recording, UNMOUNT appears. When recording is stopped, the usual screen is shown.

If the total number of entries, including files and subfolders, inside a folder exceeds about 5000, recording becomes impossible and "Rec Limit" is shown. For details, see "Recording operation limitations" on page 29.

Press this part of the screen to open the CF SELECT screen (media selection screen). (See "CF card selection" on page 23.)

16 REC/MON button

Touch this button to open the REC/MON page where you can make record function and input monitoring settings.



<Record arm button>

Touch this to arm a track for recording. When a track is armed, the track signal will be recorded during recording.

When a channel is armed for recording, the signal from the assigned input connector is input when the unit is stopped, recording or in recording standby.

<Input monitoring button>

Touch this to enable/disable input monitoring.

When enabled for a channel, sound input through the assigned input connector is always input.

17 NEXT TAKE NAME button

Touch this button to open the "NEXT TAKE NAME" page where you can set the name that will be given to takes recorded in the future.

• First half of take names

The first half of the take name can be set to either the "User Word" or the "Folder Name". (Default setting: Folder Name)

NOTE

The first half of the take name can only be changed when the unit is stopped.

2 – Names and functions of parts

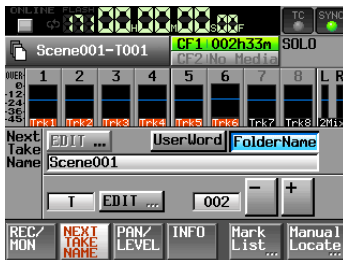
- “UserWord” mode (button)

Use the user word for the first half of the take name. Press the EDIT button to open the screen where you can change the user word. (This works the same as the screen for editing project names.)



- “Folder Name” mode (button)

Use the folder name as the first half of the take name. This is the default value.



- Second half of take names

The second half of the take name is comprised of one alphabetical letter and a three-digit number.

Press the EDIT button to open the screen where you can change the letter.

You can change the three-digit number with the + and – buttons. You can also touch the numerical part to highlight it in yellow and use the DATA dial to change the number.

The numerical part cannot be selected when the track is soloed.

In the following cases, “---” appears and the value cannot be changed.

- No project or folder is loaded
- The selected CF card is unavailable
- When the numerical part of the file name of the current take is 999

NOTE

- The “Next Take Name” setting is saved with each project. If you change projects, the setting of the loaded project is used.
- The numerical part of the second half of the take name can be changed even during playback and recording. (The first half of the take name and the letter in the second half can only be changed when stopped.)
- If the first half of the take name or the letter in the second half are different, a take that has the same three-digit number in the second half can be created.

- When the unit is put in recording standby, the file name of the next take to be recorded is shown above the take name button on the Home Screen.

18 PAN/LEVEL button

Press this button to open the PAN/LEVEL page where you can adjust stereo mix recording and the 2mix output.



Each channel has a PAN and 2MIX LVL knob. If you touch one, its background becomes white and you can control its parameter with the DATA dial.

If two channels are linked, the PAN knob functions as a balance adjustment knob.

When in solo mode, PAN or 2MIX LVL knob cannot be selected.

19 INFO button

Press this button to open the INFO page, which shows the current settings of the unit and information about the loaded file.



The Play Info section shows information related to current playback settings. If an item is gray, that item is OFF.

Touch this part to open the PLAY SETUP screen.

The Sys. Info section shows the current settings of this unit. Touch this part of the screen to open the SYNC T/C screen.

The File Info section shows information about the currently loaded file. Touch this part of the screen to open the PROJECT screen. You can also use the DATA dial to scroll the display of project and take names.

NOTE

On this screen only, when a track is soloed, a SOLO knob appears in place of the TC and SYNC indicators at the top right.

20 Mark List button

Press this button to open the mark list. (See “Mark list screen” on page 55.)

2 – Names and functions of parts

② **Manual Locate button**

Press this button to open the `MANUAL LOCATE` screen for locating manually. (See “Manual locate function” on page 57.)

Inserting and removing CF cards

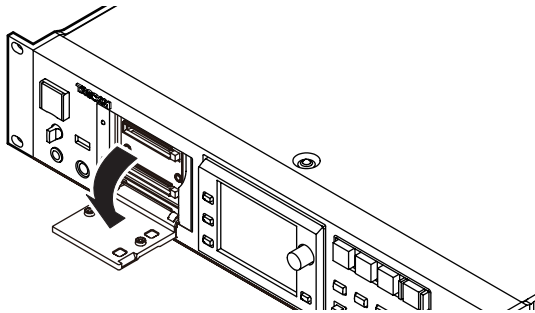
Inserting CF cards

Insert a CF card into CF card **SLOT 1** or **SLOT 2** on the front panel of the unit in order to use it for recording and playback.

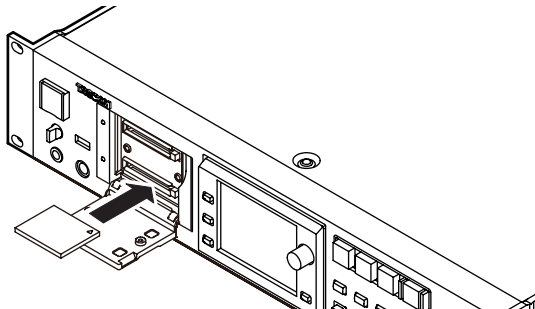
NOTE

CF cards can be inserted whether the power is ON or OFF.

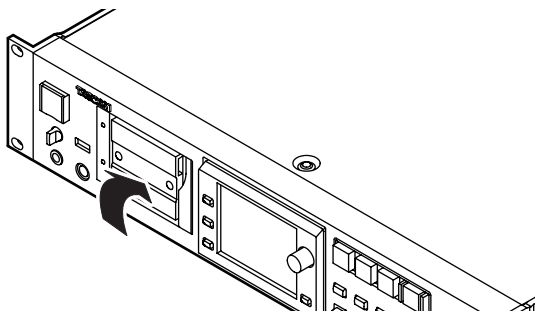
- 1 Open the CF card slot cover.



- 2 Insert the CF card with the correct orientation. With the labeled side up, insert the end with the connector completely.



- 3 Close the cover.



NOTE

If you cannot close the slot cover, remove the CF card once, press the square button to the right of the slot in and then reinsert the card.

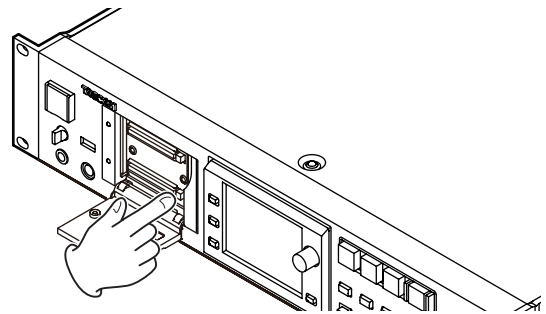
Removing CF cards

Turn the unit power OFF or stop operations before removing a CF card.

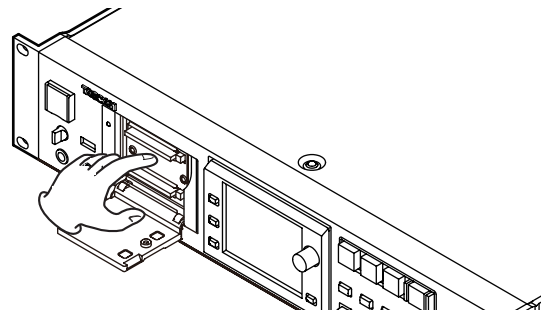
CAUTION

Never remove a CF card during recording, playback, or anything else that accesses the CF card. Doing so could, for example, cause recording errors, loss of recorded data, and sudden loud noises to be output through monitoring equipment, which could result in damaged equipment and hearing loss.

- 1 Pull the CF card slot cover forward.
- 2 Press the square button to the right of the CF card slot to bring the button out.

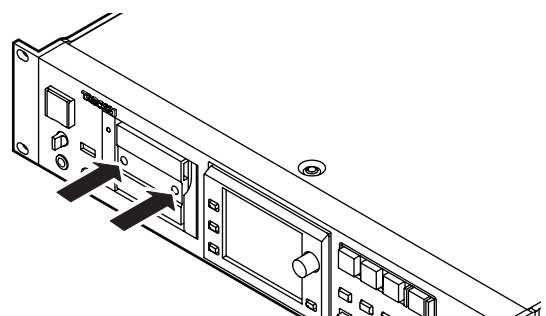


- 3 Press the square button in again to partially eject the CF card.
- 4 Pull the CF card out by hand.



Security screws

The included security screws can be used to lock the CF card slot covers. Use a Phillips head screwdriver to install or remove the screws.



3 – Preparation

About the display

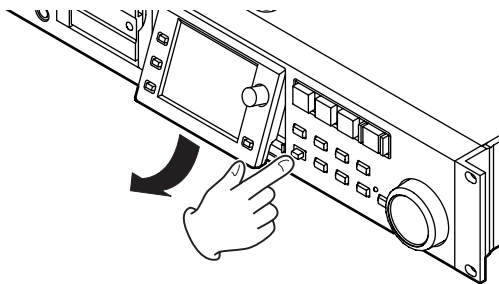
Adjusting the display angle

Push the **LCD TILT** button to unlock the display, and then pull the bottom of the display forward to adjust the angle. Pull the bottom of the display until you hear a clicking sound.

To restore it to its flat position, push the **LCD TILT** button again to unlock the display, and push the bottom of the display. Do not push the display surface. Push the bottom of the display until you hear a clicking sound.

CAUTION

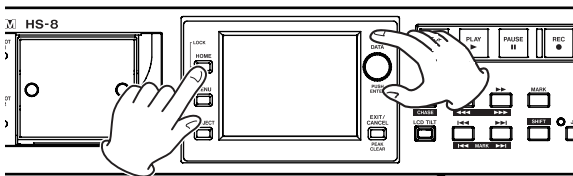
Do not push the display screen itself.



Adjusting the display and indicator brightness

Turn the **DATA** dial while pressing and holding the **HOME** key to adjust the brightness of the color display, the **PAUSE**, **REC** and **PLAY** keys, and the **JOG (SHUTTLE)**, **SLOT 1** and **SLOT 2** indicators.

Push and turn the **DATA** dial while pressing and holding the **HOME** key to adjust only the brightness of the color display.



CAUTION

- The display can easily be scratched, so do not use pointed objects, including fingernail tips, to touch it. Always touch it with your fingers.
- Do not press the display forcefully with a finger or poke it with a pen, toothpick or other pointed object. Doing so could scratch the display or cause malfunction.
- The display touch panel is comprised of a film and glass. Do not apply a strong force to its surface. Doing so could break the glass.

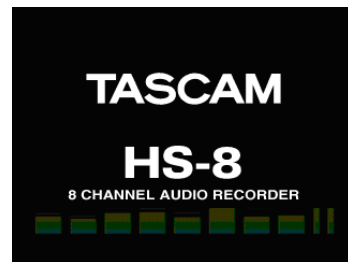
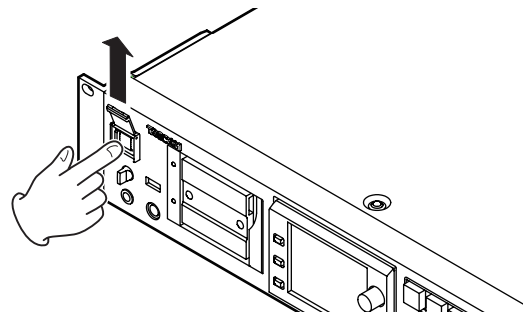
- When using the display, do not put a hand on the panel or push around the display forcefully. Doing so could prevent accurate position detection.
- Do not place anything on top of the display or otherwise put weight on the same place for a long time. Doing so could cause the panel to warp or result in inaccurate position detection.
- Do not apply a commercially-available screen protection film to the display. Doing so could prevent normal operation.
- Gently wipe the display with a soft dry cloth that does not shed dust (e.g. a cleaning cloth). Avoid wiping with a stiff cloth or rubbing with force. Doing so could damage the surface of the LCD. Do not use benzene, thinner, manicure remover, alcohol or similar substances.

NOTE

The display is produced with extremely high-precision manufacturing technologies, and 99.99% or more of the pixels are effective, but sometimes pixels might not appear or might appear as red or black dots. This is not a malfunction.

Turning the power ON and OFF

Open the front panel **POWER** switch cover to turn the power ON with the switch.



Startup screen



Home Screen

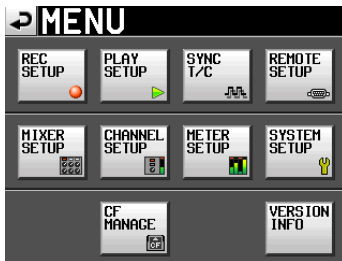
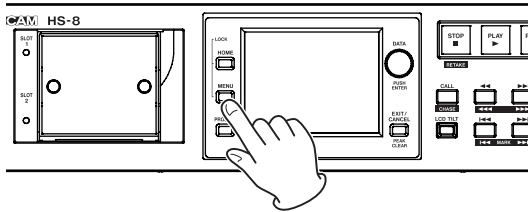
To turn the power OFF, push the switch on the front panel again.

CAUTION

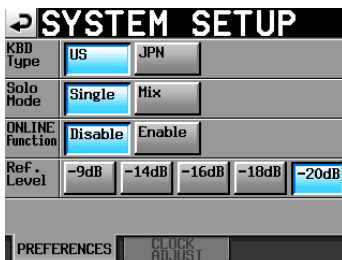
Never turn the power OFF during recording, playback, or anything else that accesses the CF card. Doing so could, for example, cause recording errors, loss of recorded data, and sudden loud noises to be output through monitoring equipment, which could result in damaged equipment and hearing loss.

Setting the time of the built-in clock

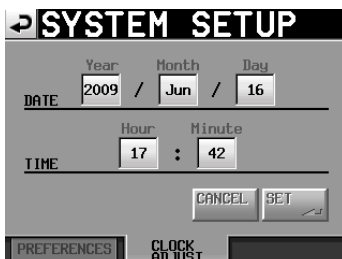
- 1 Press the **MENU** key on the front panel to open the **MENU** screen.



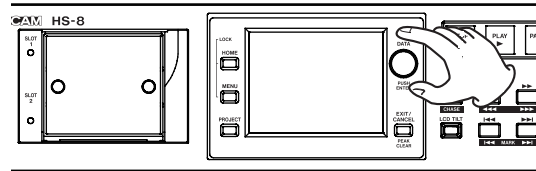
- 2 Touch the **SYSTEM SETUP** button to open the **SYSTEM SETUP** screen.



- 3 Touch the **CLOCK ADJUST** tab to open the page where you can set the built-in clock.



- 4 Touch the item that you want to change, and use the **DATA** dial on the front panel to change the value.



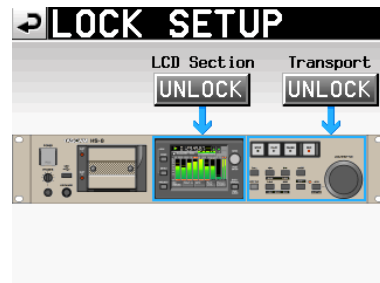
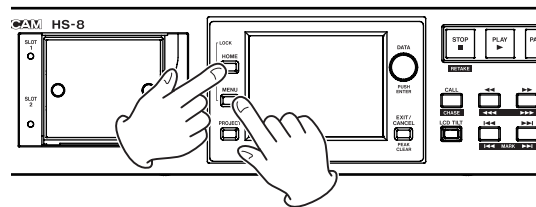
- 5 Touch the **SET** button, or push the **DATA** dial to confirm the setting.

NOTE

After purchasing this unit, set the clock before making your first recording. If you do not set the clock, the time stamps on recording files will not be correct.

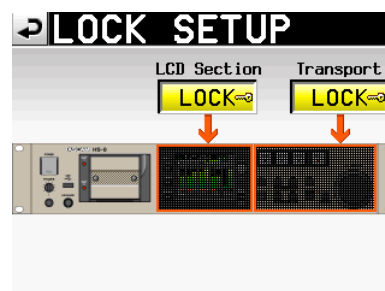
Panel lock function

Press the **MENU** key while pressing and holding the **HOME** key on the front panel to open the **LOCK SETUP** screen where you can disable or enable operation from the front panel.



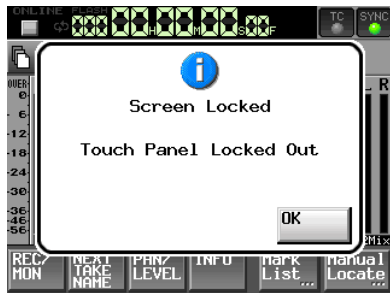
The front panel is divided into two sections, which can be locked and unlocked separately.

If you press the button for a section, it changes from **UNLOCK** to **LOCK** (with a yellow background) and the locked area appears dimmed.



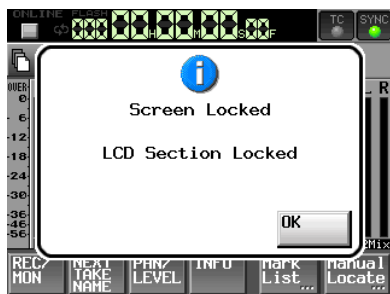
If the display is touched when the LCD section is locked, the following pop-up window message appears.

3 – Preparation



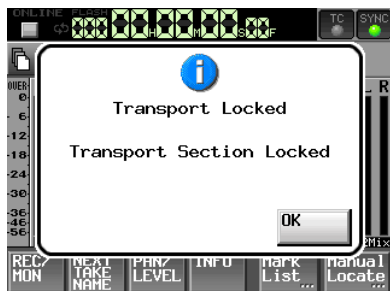
When the display (panel) is locked

If one of the keys around the display is used, the following pop-up window message appears.



When the display (keys) is locked

If one of the transport keys is used when the Transport is locked, the following pop-up window message appears.



When the transport is locked

Recording duration

The table below shows the amount of recording time possible on CF cards of various capacities for each available recording format.

File recording format and number of recordable tracks	CF card capacity		
	8 GB	16 GB	32 GB
16-bit, 44.1 kHz, 8 tracks	3 hours 9 minutes	6 hours 18 minutes	12 hours 36 minutes
16-bit, 44.1 kHz, 8 tracks + stereo mix	2 hours 31 minutes	5 hours 2 minutes	10 hours 5 minutes
16-bit, 48 kHz, 8 tracks	2 hours 54 minutes	5 hours 47 minutes	11 hours 34 minutes
16-bit, 48 kHz, 8 tracks + stereo mix	2 hours 19 minutes	4 hours 38 minutes	9 hours 16 minutes
24-bit, 44.1 kHz, 8 tracks	2 hours 6 minutes	4 hours 12 minutes	8 hours 24 minutes
24-bit, 44.1 kHz, 8 tracks + stereo mix	1 hour 41 minutes	3 hours 22 minutes	6 hours 43 minutes
24-bit, 48 kHz, 8 tracks	1 hour 56 minutes	3 hours 51 minutes	7 hours 43 minutes
24-bit, 48 kHz, 8 tracks + stereo mix	1 hour 33 minutes	3 hours 5 minutes	6 hours 10 minutes
24-bit, 88.2 kHz, 8 tracks	1 hour 3 minutes	2 hours 6 minutes	4 hours 12 minutes
24-bit, 96 kHz, 8 tracks	58 minutes	1 hour 55 minutes	3 hours 51 minutes
24-bit, 176.4 kHz, 4 tracks	1 hour 3 minutes	2 hours 6 minutes	4 hours 12 minutes
24-bit, 192 kHz, 4 tracks	58 minutes	1 hour 56 minutes	3 hours 51 minutes

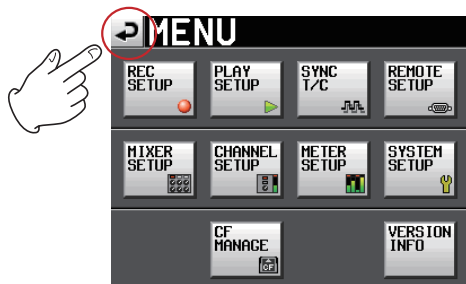

- The recording times shown above are estimates. They might differ depending on the CF card in use.
- The recording times shown above are not continuous recording times, but rather they are the total possible recording times for the CF card.

4 – Recording and Playback

In this chapter, we explain basic procedures for recording and playback. The display on this unit functions as a touch-screen. Operate the unit using its keys, switches and touch-screen display buttons.

NOTE

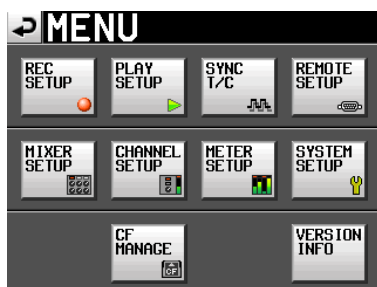
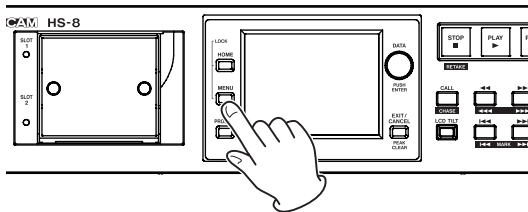
This unit can record a maximum of 8 separate tracks and a stereo track (when the sampling frequency is set to 44.1 or 48 kHz). The maximum number of input channels is 8. The stereo track records a stereo mix of the 8 recorded tracks.

On every screen except the Home Screen, a “A screenshot of the unit's touch-screen menu. At the top left, there is a back arrow icon followed by the word "MENU". Below this, there are several menu options: REC SETUP, PLAY SETUP, SYNC T/C, REMOTE SETUP, MIXER SETUP, CHANNEL SETUP, METER SETUP, SYSTEM SETUP, CF MANAGE, and VERSION INFO. A hand is shown pointing to the MENU button.

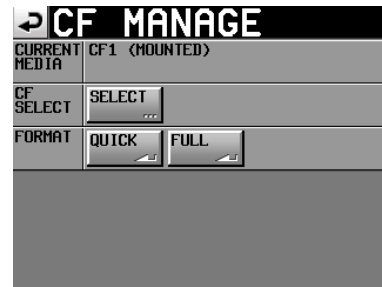
Preparing to record

CF card selection

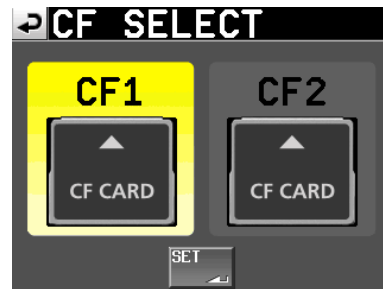
- 1 Press the MENU key on the front panel to open the MENU screen.



- 2 Touch the CF MANAGE button to open the CF MANAGE screen.



- 3 Touch the SELECT button next to the CF SELECT item to open the CF SELECT screen.



- 4 Touch the button for the CF card that you want to use to select it. The background of the selected CF card appears yellow.
- 5 Touch the SET button to return to the CF MANAGE screen.

NOTE

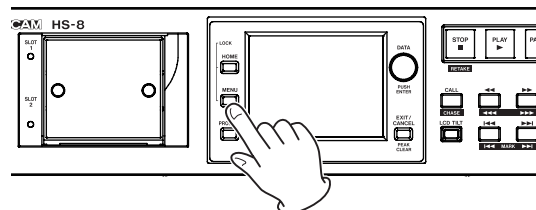
If you also want to format the CF card now, follow the procedures starting with step 3 in "Formatting a CF card" below.

Formatting a CF card

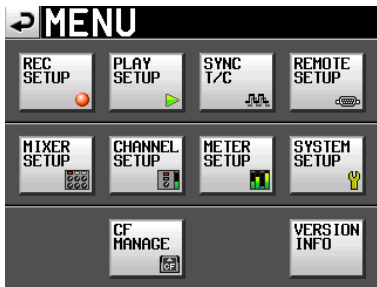
CAUTION

- Formatting a CF card erases all the data on it.
- Always format CF cards in this unit before using them in it. If a CF card that has been formatted by another device or PC is used, operation might be affected.
- If a CF card with a capacity of 2 GB or less that has been formatted by this unit is viewed by a computer, it might not show any open capacity and the writing of files and folders might not be possible.

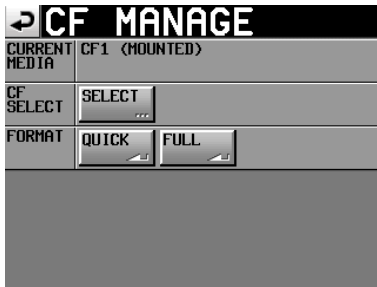
- 1 Press the MENU key on the front panel to open the MENU screen.



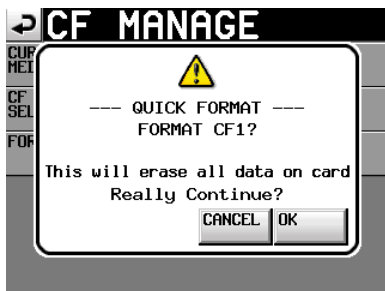
4 – Recording and Playback



- 2 Touch the **CF MANAGE** button to open the **CF MANAGE** screen.



- 3 Touch the **QUICK** button next to the **FORMAT** item. The following pop-up message appears.

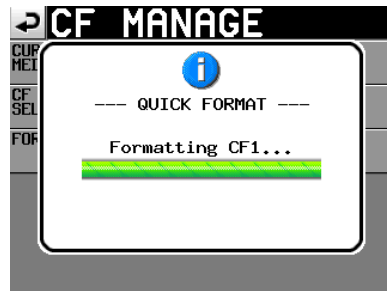


NOTE

If no CF card is inserted in that slot, the following pop-up message appears.



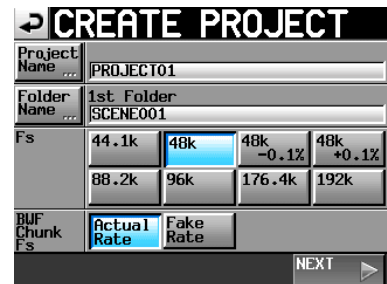
- 4 Touch the **OK** button on the pop-up message. During formatting, the following pop-up message appears.



When formatting completes, the following pop-up message appears.



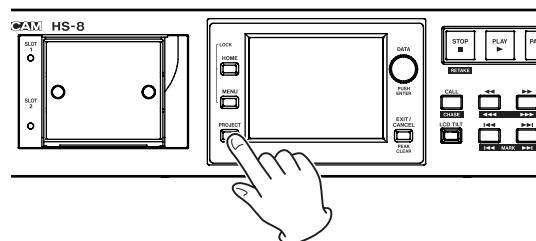
- 5 Touch the **OK** button on the pop-up message. The **CREATE PROJECT** screen automatically opens.



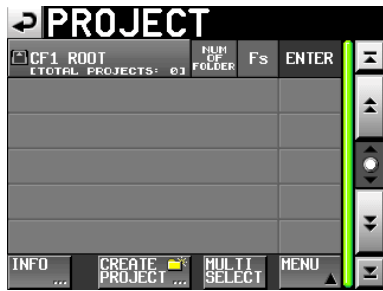
- 6 To make a new project, follow the procedures starting with step 2 in the following “Create a new project” section.

Create a new project

- 1 Press the **PROJECT** key on the front panel to open the **PROJECT** screen.



4 – Recording and Playback



- 2 Touch the **CREATE PROJECT** button to open the **CREATE PROJECT** screen.

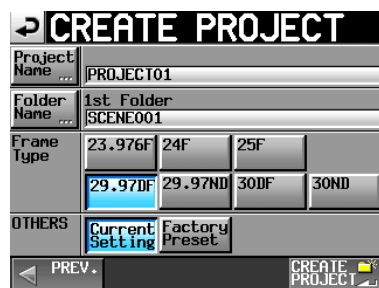
The **CREATE PROJECT** screen has two pages.



On the first page, you can set the project name, the name of the first created folder, the sampling frequency, and the sampling frequency written to BWF chunks.

For details about each item, see “Creating new projects” on page 34.

- Touch the **NEXT** button to open the next page.



On this page, you can set the frame type for the project and select the default factory preset.

For details about each item, see “Creating new projects” on page 34.

- 3 After you complete making the settings touch the **CREATE PROJECT** button.

NOTE

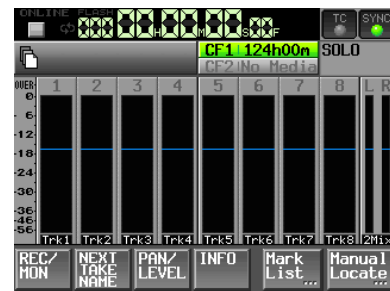
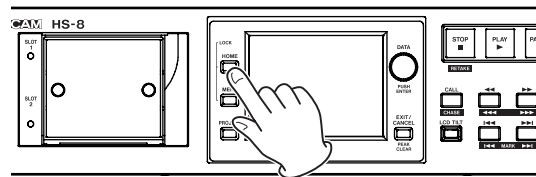
If a project with the same project name already exists, the **CREATE PROJECT** button appears gray and you will not be able to create a new project. If this happens, change the project name.

- 4 Check the settings on the confirmation pop-up message that appears, and press the okay button to return to the Home Screen.

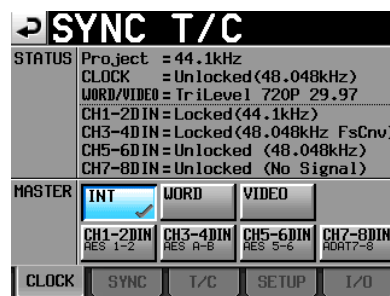


Set the master clock

- 1 Press the **HOME** key on the front panel to open the Home Screen.



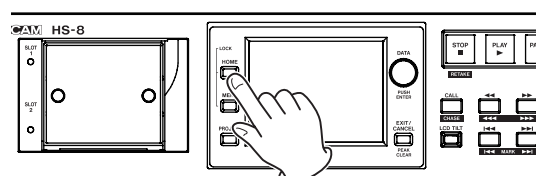
- 2 Touch the **SYNC** button to open the **SYNC T/C** screen.



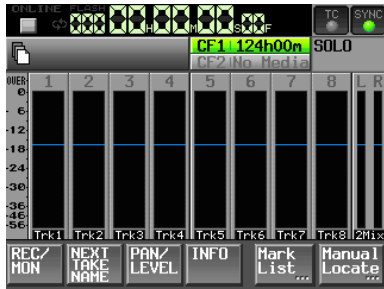
- 3 Select the master clock that you want to use from the **MASTER** item.

Set the recording tracks

- 1 Press the **HOME** key on the front panel to open the Home Screen.



4 – Recording and Playback



2 Touch the **REC/MON** button to open the REC/MON page.



To arm tracks for recording, touch the record arm buttons below their level meters.

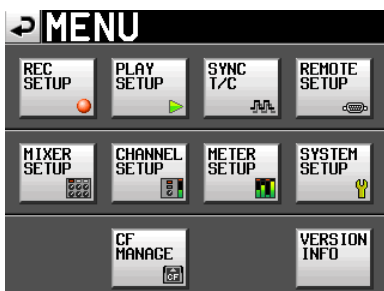
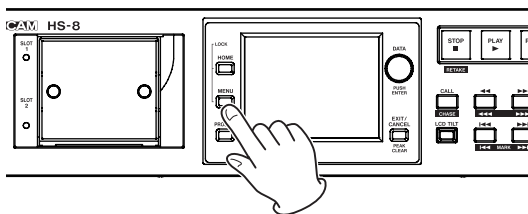
When a track is armed to record, the button background appears red.

NOTE

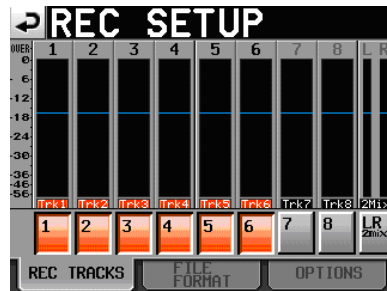
- To record the stereo mix from the internal mixer at the same time, arm LR 2MIX. (This is only possible when the sampling frequency is 44.1 kHz or 48 kHz.)
- You can also open the REC TRACKS page to arm tracks for recording by pressing the MENU key to open the MENU screen and touching the REC SETUP button.

Set the file format

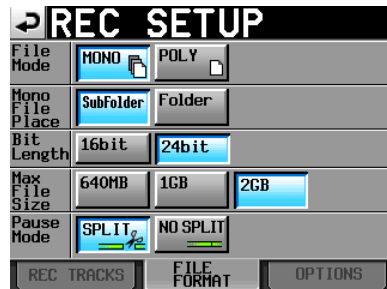
1 Press the **MENU** key on the front panel to open the MENU screen.



2 Touch the **REC SETUP** button to open the REC SETUP screen.



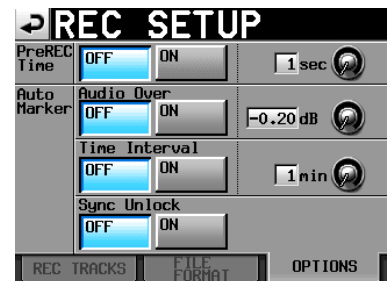
3 Touch the **FILE FORMAT** tab to open the following screen.



On the FILE FORMAT page, you can set the file mode, mono file recording folder, bit length, maximum file size, and behavior when a recording is paused. The backgrounds of the selected items appear pale blue. For details, see “FILE FORMAT page” on page 43.

Make other recording settings

Touch the **OPTIONS** tab to open the following screen.

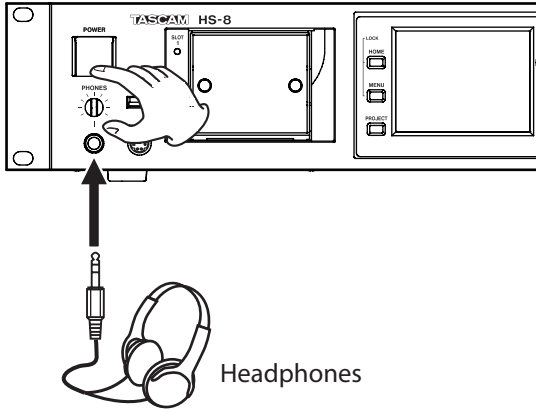


On the OPTIONS page, you can set the pre-recording time and the use of auto markers. For details, see “OPTIONS page” on page 44.

4 – Recording and Playback

Connecting headphones

Connect headphones to the PHONES connector on the front panel. Keep the headphones knob turned to MIN (all the way to the left) when connecting headphones.

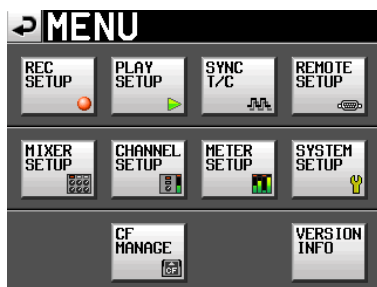
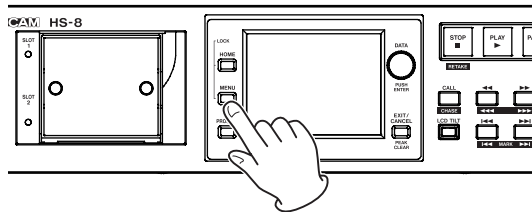


CAUTION

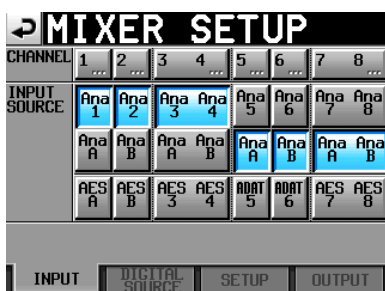
Before connecting headphones, turn the PHONES knob to the minimum volume. Failure to do so could cause sudden loud noises to occur, which might damage your hearing or equipment.

Setting the inputs

- 1 Press the MENU key on the front panel to open the MENU screen.



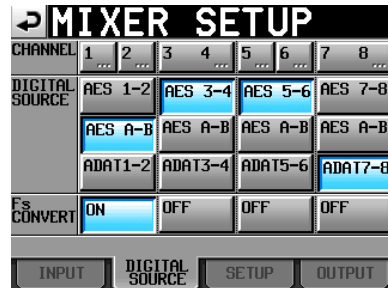
- 2 Touch the MIXER SETUP button to open the MIXER SETUP screen.



On the INPUT page, make settings for each channel's input source. For details, see "INPUT page" on page 49.

- 3 If necessary, open the DIGITAL SOURCE, SETUP and OUTPUT pages to make additional settings.

For details about the DIGITAL SOURCE page, see "DIGITAL SOURCE page" on page 49.



On the SETUP page, you can edit channel names and turn channel links ON and OFF. To edit channel names, touch the buttons next to the CH NAME item. For details, see "CHx NAME (button)" on page 50.



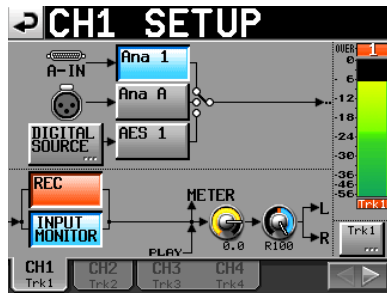
Make output settings on the "OUTPUT" page. For details, see "OUTPUT page" on page 49.



Input settings can also be changed on the CHx SETUP screens ("x" is the channel). These screens can be opened in two ways.

- Touch a CHANNEL SETUP button on the MENU screen.
- Touch a CHANNEL button at the top of the MIXER SETUP screen.

4 – Recording and Playback



See “Channel Settings (CHANNEL SETUP)” on page 50 for details about making settings on CHANNEL SETUP screens.

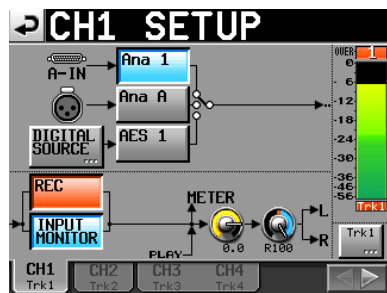
Monitor the input

Touch the **PAN/LEVEL** button on the Home Screen to open the PAN/LEVEL page or open a CHx SETUP screen (“x” is the channel) where you can adjust the PAN and 2Mix LVL knobs. After these adjustments to all the channels, the mixed sound is sent to the outputs for headphones and external speakers and can be monitored.

When in solo mode, PAN and 2Mix LVL knobs cannot be selected.



Home Screen PAN/LEVEL page



CHx SETUP screen

NOTE

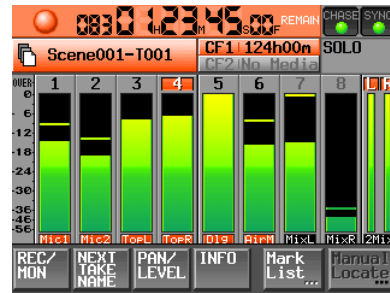
If the sampling frequency is set to 44.1 or 48 kHz, you can simultaneously record the stereo mix of the channels with their levels and pan positions adjusted.

Make a recording

Press the **REC** key to put the unit into recording standby.

When in recording standby, press the **PLAY** key to start recording.

The transport status display at the top left of the Home Screen changes into the recording status display and part of the background of the Home Screen becomes red, indicating that the unit is recording. The time counter starts at the same time.



If you press the **REC** key while recording, recording to the current file stops, but recording continues on a new file.

NOTE

- If you press the **REC** key less than 4 seconds after beginning recording, the unit will not start recording a new take. Depending on the Mono file recording folder settings, the required time could be even longer. (See “Folder where files are saved in mono mode” on page 33.)
- Depending on other conditions, recording of a new take might not be possible when the **REC** button is pressed during recording. (See “Recording operation limitations” below.)
- Recording is not possible if any of the following conditions apply. Change the recording folder.
 - The folder contains 999 takes
 - The number at the end of the take name has reached 999
 - The remaining recording time indicator on the Home Screen shows “Rec Limit”. (See “Recording operation limitations” on page 29.)
- Recording functions (except retaking) can also be used through parallel control.

Stop recording

Press the **STOP (RETAKE)** key to stop recording.

Retake a recording

Press the **STOP (RETAKE)** key while pressing and holding the **SHIFT** key to erase the last recorded take.

If a 2Mix take was recorded simultaneously, it is also erased.

If the **REC** key was pressed during recording to record multiple consecutive takes, retaking from the beginning of any of the recordings is possible. Each time the **STOP (RETAKE)** key is pressed while pressing and holding the **SHIFT** key, the previous take is selected for retaking.

4 – Recording and Playback

Recording operation limitations

A limitation of this unit is that recording in a folder becomes impossible when the total number of files, subfolders and other items in it becomes large. For this reason, the following things might occur.

- **When the total number of items in the folder exceeds about 2000**

If you press the REC key during recording, starting the next take might not be possible. In this case, the following pop-up message appears.

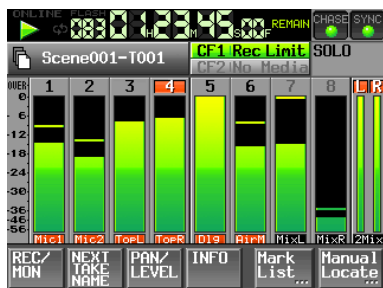


- **When the total number of items in the folder exceeds about 5000**

Recording of a new take might not be possible even when starting recording from a stopped state. Moreover, when a project or folder is loaded, recording to that folder by not be possible. In these cases, the following pop-up message appears.



Moreover, in these cases, the remaining recording time indicator on the Home Screen shows "Rec Limit".



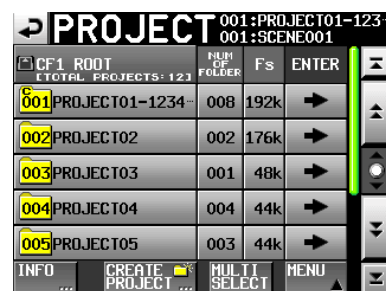
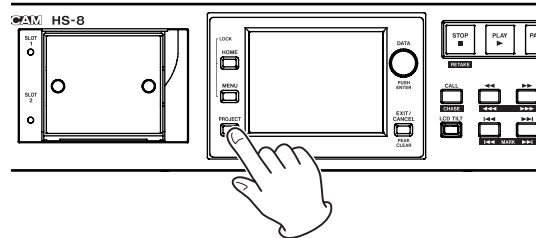
NOTE

The total number of items inside one folder includes files and folders not created by this unit. Moreover, management files, system files and other files and folders that are not ordinarily visible are also included.

Play a recording

Select a project/folder/take

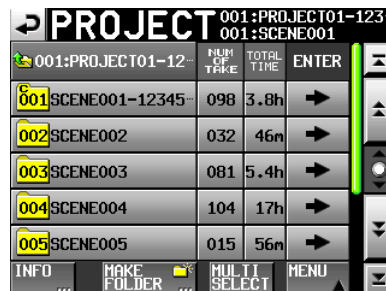
- 1 Press the PROJECT key on the front panel to open the PROJECT screen.



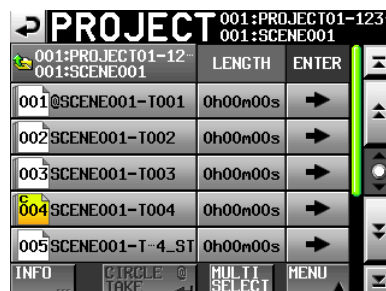
NOTE

Alternatively, press the folder/take name area on the Home Screen to open the PROJECT screen.

- 2 Touch the "➔" button next to the project that you want to play to open the folder selection screen.



- 3 Touch the "➔" button next to the folder that you want to play to open the take selection screen.



- 4 Touch the "➔" button next to the take that you want to play.

If the take is currently in the selected project, a Load selected take? pop-up message appears.

4 – Recording and Playback

If the take is not currently in the selected project, a Selected take is in another project pop-up message appears.



Message shown when the take is inside the project



Message shown when the take is outside the project

5 Touch the OK button.

When loading completes, the Home Screen reopens.

Disabling input monitoring

Turn input monitoring OFF for the channels (tracks) that you are playing back. If input monitoring is ON for a channel, sound will be input through the corresponding input connector.

- 1 Touch the REC/MON button on the Home Screen to open the REC/MON screen.
- 2 Touch the input monitoring buttons for the channels that you want to play to turn input monitoring OFF.

NOTE

You can also access the input monitoring buttons by pressing the MENU key to open the MENU screen or by touching the CHANNEL SETUP button to open the CHANNEL SETUP screen.

Start playback

Press the **PLAY** key.

Press the **PAUSE** key to pause playback.

Press the **PLAY** key again to resume playback.

Press the **STOP (RETAKE)** key to stop playback.

Press the **◀◀** and **▶▶** keys briefly to change the take. While pressing the **SHIFT** key, press the **◀◀ (MARK ◀◀)** and **▶▶ (MARK ▶▶)** keys to move between marks.

Press and hold the **◀◀ (◀◀◀)** or **▶▶ (▶▶▶)** keys to search backward or forward during playback. While pressing the **SHIFT** key, press and hold a **◀◀ (◀◀◀)** or **▶▶ (▶▶▶)** key to search at high speed.

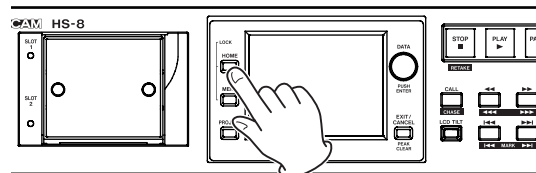
NOTE

- On the **PLAY SETUP** screen, you can set whether only the currently selected take is played or whether all the takes within the current folder are played. You can also enable and disable repeat playback. (See "Playback settings (PLAY SETUP)" on page 45.)
- Playback functions can also be used through parallel control.

Mixing the playback sound

Use the internal mixer function to mix the recorded tracks into stereo and output them to the **ANALOG OUTPUTS L/A, R/B (XLR)**, and **DIGITAL OUTPUT L-R (XLR)** connectors.

- 1 Press the **HOME** key on the front panel to open the Home Screen.



- 2 Touch the **PAN/LEVEL** button on the Home Screen to open the PAN/LEVEL page.



PAN knobs: Use these to adjust the left-right position sent to the stereo bus. Touch a knob and then adjust its value using the **DATA** dial.

2Mix LVL knob: Use these to adjust the level sent to the stereo bus. Touch a knob and then adjust its value using the **DATA** dial.

NOTE

When in solo mode, PAN or 2Mix LVL knob cannot be selected.

4 – Recording and Playback

- 3 Touch the knob that you want to adjust. Use the DATA dial on the front panel to adjust its value.

TIP

Press the DATA dial as you turn it to make adjustments in larger increments. This is useful for making rough adjustments quickly.

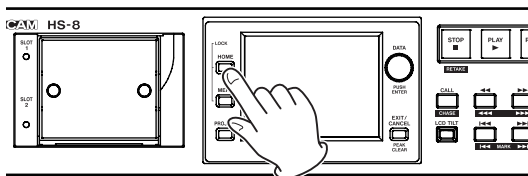
CALL

Press the **CALL (CHASE)** key to locate to the point where playback was last started from standby and put the unit in playback standby mode.

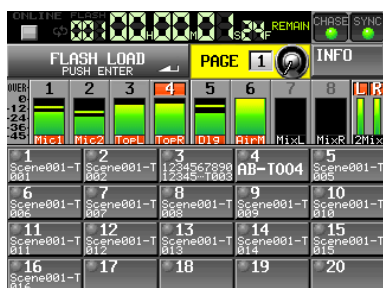
Flash start function

Use the flash start function to instantly start playback of takes that you have designated in advance. The beginnings of up to 20 takes can be stored in the unit's memory beforehand so that playback can be started immediately. Flash start can be executed using the unit's touch screen, a PS/2 keyboard connected to the front panel or an external controller connected to one of the units remote control connectors (REMOTE, RS-232C and PARALLEL).

- 1 Select the folder that contains the file you want to play back. (See "Loading folders" on page 38.)
- 2 Press the HOME key on the front panel to open the Home Screen.



- 3 When the Home Screen is open, press the HOME key again to open the Flash Start screen.

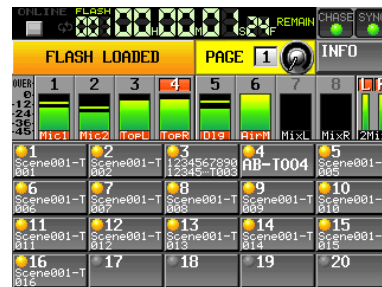


- 4 Use the DATA dial to select the page of the Flash Start screen that contains the takes you want to enable or flash playback.

NOTE

The Flash Start screen contains five pages with 20 takes shown on each.

- 5 Touch the "FLASH LOAD" button or press the DATA dial to load a take. While loading, the **FLASH** icon blinks. When loading has completed, the **FLASH** icon appears green.
- 6 All of the takes shown are loaded. The "FLASH LOAD" button changes to say "FLASH LOADED" and its background becomes orange. Takes that have been properly loaded have an orange flash start indicator in the upper left.



- 7 Touch the button on the touch screen for a take that shows an orange flash start indicator to start flash playback.

Flash start playback can also be executed using a PS/2 keyboard or an external controller connected to one of the units remote control connectors (REMOTE, RS-232C and PARALLEL).

NOTE

- Touching the button of a take that has not been flash loaded will cause it to start playback normally.
- Touch the "INFO" button to open an information screen. The contents of this screen are the same as shown on the information screen that opens when the Home Screen "INFO" button is touched.



- When using the flash start function, tracks cannot be soloed. (Touching the level meter will not solo the corresponding channel. Moreover, if solo is enabled for any channels, it is automatically turned off when the Flash Start screen is opened.

4 – Recording and Playback

8 The following actions disable the flash start function. Conduct one of them if you want to disable it.

- A new project or folder is loaded
- The unit is put into recording standby or recording is started
- The CF card currently in use is removed

Online function

Turning this unit's "Online Function" ON, allows switching to online playback and monitor playback. For details about the online function, see "9 – Online function" on page 59.

This unit manages audio files in projects. A CF card contains project folders, and each project folder contains subfolders that hold audio files, which are called takes.

Project: Contains all the materials for one program or work

Folder: Includes all the materials for a project

Take: An audio file of a recording

CAUTION

The sampling frequency and time code frame-type in a project are fixed.

File formats

This unit can record and play files in the following types of formats.

- File format: BWF
- Sampling frequencies: 44.1/48/47.952/48.048/88.2/96/176.4/192 kHz (47.952/48.048: 48 kHz \pm 0.1% pull-down/pull-up)
- Bit length: 16 or 24
- Number of tracks:
 - 1–8 tracks (at 44.1, 48, 88.2 or 96 kHz)
 - 1–8 tracks + stereo mix (at 44.1 or 48 kHz)
 - 1–4 tracks (at 176.4 or 192 kHz)
- File mode: monophonic or polyphonic

Monophonic and polyphonic modes

In monophonic mode, each track is recorded as an independent monaural BWF file.

In polyphonic mode, multiple tracks are recorded together as a single BWF file.

When transferring a file to an audio application that is compatible with polyphonic files, multiple tracks can be input at once.

The 2mix file is always recorded as a polyphonic (stereo) file.

Folder where files are saved in mono mode

In mono mode, files can be saved in one of two places (folders).

- **SubFolder mode**
Subfolders are created for each take inside project folders, and recorded audio files are saved in them.
- **Folder mode**
Recorded audio files are saved directly inside the project folder.

NOTE

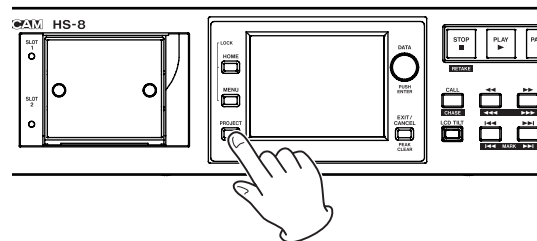
- When Folder mode is selected, the number of files created is large. For this reason, the number of tracks that can be recorded

is greatly reduced. (See “Recording operation limitations” on page 29.)

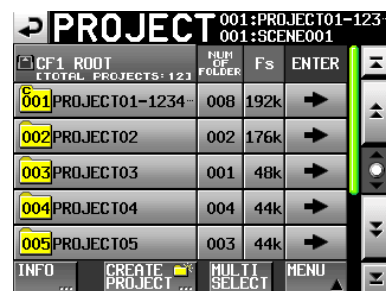
- During recording, you can press the REC key to start recording a new take. This function can be used 4 seconds after beginning recording in Poly and Subfolder modes, but in Folder mode, you might have to wait more than 4 seconds.
- The default setting is “SubFolder”.

PROJECT screen overview

Press the **PROJECT** key on the front panel to open the PROJECT screen. The last used PROJECT screen page (project selection, folder selection or take selection) opens.



Project selection screen



Directory display: The current directory level and number of projects is shown. (In the example above, the root directory of CF card 1 contains 12 projects.)

NUM OF FOLDER: This shows the number of folders in each project.

Fs: This shows the sampling frequency of the project. The values are abbreviated as follows.

44.1 kHz:	44k
48 kHz:	48k
48 kHz -0.1% (pull-down):	48k-
48 kHz +0.1% (pull-up):	48k+
88.2 kHz:	88k
96 kHz:	96k
176.4 kHz:	176k
192 kHz:	192k

ENTER: Press a project “➔” button to show the contents of that project.

5 – Projects

Project name buttons: Touch to select a project or projects. In addition, the numbers assigned in the order of creation on the card are shown inside the **002** icons.

INFO button: Touch to open a pop-up window that shows information about the project that is currently selected.

If no project is selected, press this button to show information about the current CF card.

CREATE PROJECT button: Touch to open the CREATE PROJECT screen.

MULTI SELECT button: Touch to enable the selection of multiple projects.

MENU button: Touch to open a pop-up menu where you can select LOAD, REBUILD, EDIT NAME and DELETE.

Scroll buttons: Use these buttons to scroll to the beginning or end of the project list or scroll one page (five lines) forward or backward. You can also scroll through the list one line at a time using the **DATA** dial.

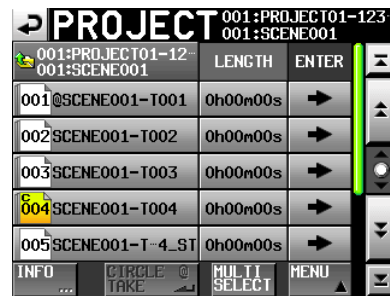
Project name/folder name display at the top right of the screen: Touch to open a screen that shows the list of takes in the current project/folder.

MENU button: Touch to open a pop-up menu where you can select LOAD, REBUILD, COPY, and DELETE.

Scroll buttons: Use these buttons to scroll to the beginning or end of the folder list or scroll one page (five lines) forward or backward. You can also scroll through the list one line at a time using the **DATA** dial.

Project name/folder name display at the top right of the screen: Touch to open a screen that shows the list of takes in the current project/folder.

Take selection screen



Folder name display: The current folder name is shown.

LENGTH: This shows the length (time) of the take.


ENTER: Press a take “ → ” button to load the take.

Take name buttons: Touch to select a take or takes.

In addition, the numbers assigned in the order of creation on the card are shown inside the **001** icons.

INFO button: Touch to open a pop-up window that shows information about the currently selected take.

If no take is selected, press this button to show information about the current folder.

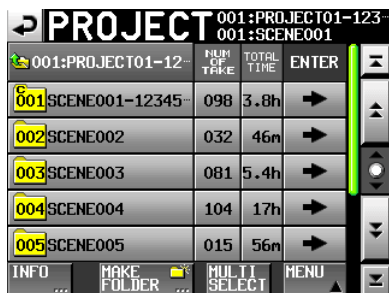
CIRCLE TAKE button: Touch to add or remove an  to the take name.

MULTI SELECT button: Touch to enable the selection of multiple takes.

MENU button: Touch to open a pop-up menu where you can select LOAD, REBUILD, EDIT TC and DELETE.

Scroll buttons: Use these buttons to scroll to the beginning or end of the list or scroll one page (five lines) forward or backward. You can also scroll through the list one line at a time using the **DATA** dial.

Folder selection screen



Project name display: The current project name is shown.

NUM OF TAKE: This shows the number of takes in the folder.

TOTAL TIME: This shows the total recording time of the takes in the folder.

ENTER: Press a folder “ → ” button to show the contents of that folder.

Folder name buttons: Touch to select a folder or folders. In addition, the numbers assigned in the order of creation on the card are shown inside the **002** icons.

INFO button: Touch to open a pop-up window that shows information about the currently selected folder.

If no folder is selected, press this button to show information about the current project.

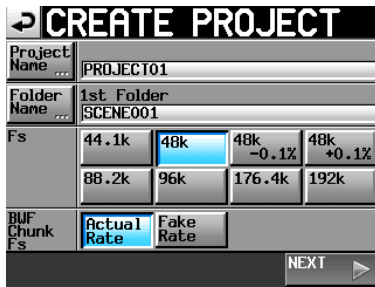
MAKE FOLDER button: Touch to open the screen where you can create a new folder.

MULTI SELECT button: Touch to enable the selection of multiple folders.

Project operations

Creating new projects

- 1 Press the **PROJECT** key on the front panel to open the **PROJECT** screen.
- 2 Touch the **CREATE PROJECT** button on the **PROJECT** screen to open the **CREATE PROJECT** screen. This screen has two pages.



CREATE PROJECT screen 1

You can make the following settings on this screen.

Project Name: Touch the Project Name button to open the screen where you can edit the project name.

The maximum number of characters for project and folder names is 31. Extra characters are discarded.

Folder Name: Touch the Folder Name button to open a screen where you can change the name of the first folder.

NOTE

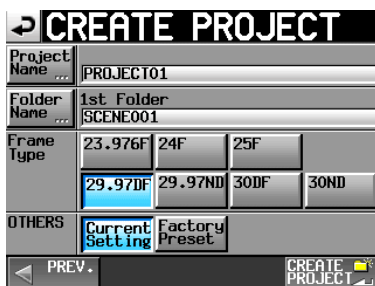
On the 1st FOLDER screens, the maximum number of characters allowed is indicated by the yellow background.

Fs: Set that sampling frequency of the project.

48k-0.1% sampling frequency is pull-down compatible, and 48k+0.1% is pull-up compatible.

BWF Chunk Fs: Set the sampling frequency for BWF chunks. To use the actual sampling frequency of the recordings, select Actual Rate. For pull-up/pull-down, select Fake Rate to write 48k instead of 48k±0.1%.

NEXT: Open the next page.



CREATE PROJECT screen 2

You can make the following settings on this screen.

Frame Type: Set the time code frame type.

OTHERS: Use the Current Settings of other parameters to create a project or select Factory Preset to use the default settings.

3 After you complete making the settings, touch the CREATE PROJECT button.

NOTE

If a project with the same project name already exists, the CREATE PROJECT button appears gray and you will not be able to create a new project. If this happens change the project name.

4 Touch the OK button when the confirmation pop-up message appears.



When creation of the project completes, the Home Screen reopens.

NOTE

- Immediately after creation, the new project becomes the current (loaded) project.
- The letter "C" appears on the icon to the left of the name of the current project on the PROJECT screen.

Editing the project name

1 Touch the Project Name button on the CREATE PROJECT screen to open the PROJECT NAME screen as shown below.



Date button: Touch this button to change the project name to the date currently set for the unit in a "yyyy-mm-dd" format.

NOTE

- If the same project name or folder name already exists, an underscore (" _ ") followed by a number that has not been used is added.
- After pressing the "Date" button to change the name to the date, you can further edit the name on this screen.

Project name display area: The input project name is shown. The maximum number of characters allowed is indicated by the yellow background.

Character buttons: Use these to input the project name.

BS button: Use this to erase the character to the left of the cursor.

DEL button: Use this to erase the character to the right of the cursor.

Shift button: Touch this to switch between numerals and symbols and uppercase and lowercase Roman letters.

5 – Projects

Caps button: Use to input uppercase letters.

Space button: Use to input a space.

<- / -> buttons: Use these to move the cursor.

Enter button: Touch this to confirm the input name.

NOTE

When the "PROJECT NAME" screen is open, you can also use an external keyboard that is connected to the KEYBOARD connector on the front panel to input names.

2 Touch the Enter button on the PROJECT NAME screen or press the DATA dial to confirm the project name.

Character input limitation

The maximum number of characters allowed is indicated by the yellow background in the project name display area. Excess characters have a grey background and are discarded when the Enter button is pressed.



Follow the same procedures as in "Editing the project name" on page 35 to change the scene name.

NOTE

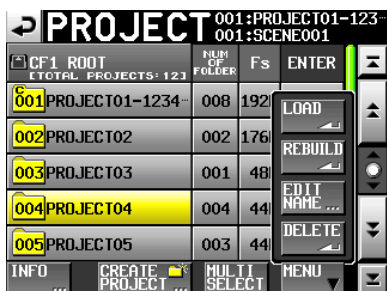
The folder name cannot be changed later.

Changing a project name later

1 Select the project that you want to change on the PROJECT screen.

The background of the selected project name appears yellow.

2 Touch the MENU button to open a pop-up menu.



3 Touch the EDIT NAME button in the pop-up menu to open the PROJECT NAME screen.

NOTE

When multiple projects are selected, the "EDIT NAME" button in the pop-up menu is not available.

4 Input the project name using the procedures described above.

5 Touch the Enter button on the PROJECT NAME screen or press the DATA dial to confirm the project name and return to the PROJECT screen.

Editing the name of the first folder

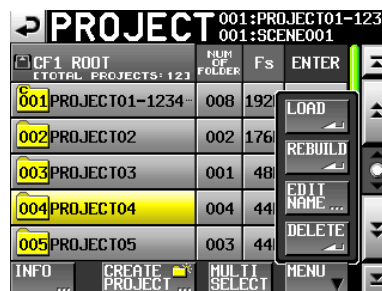
Touch the Folder Name button on the CREATE PROJECT screen to open the 1st Folder screen, as shown below.

Loading projects

1 Press the PROJECT key on the front panel to open the PROJECT screen.

2 Select the project that you want to load.

3 Touch the MENU button to open a pop-up menu.



4 Touch the LOAD button in the pop-up menu.

NOTE

When multiple projects are selected, the "LOAD" item is not available.

5 Touch the OK button or press the DATA dial when the confirmation pop-up message appears.

After loading completes the Home Screen opens.



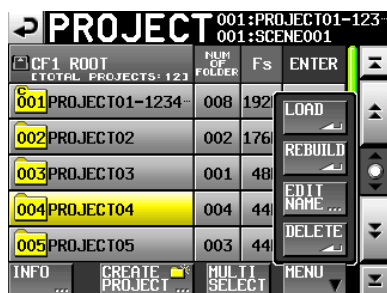
NOTE

When a project is loaded, the last loaded folder is also loaded. The highest numbered take in that folder is also loaded.

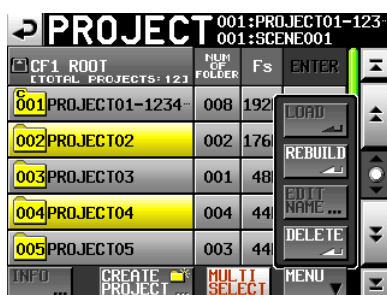
Rebuilding projects

Rebuilding a project makes it possible to play files that were not recorded by this unit, including files that have been copied between folders on the unit and files that have been copied to a CF card folder from a computer (the audio files must be in formats that can be played by this unit).

- 1 Press the **PROJECT** key on the front panel to open the **PROJECT** screen.
- 2 Select the project that you want to rebuild.
Touch the **MULTI SELECT** button on the **PROJECT** screen to allow the selection of multiple projects.
- 3 Touch the **MENU** button on the **PROJECT** screen to open a pop-up menu.



One project selected



Multiple projects selected

- 4 Touch the **REBUILD** button in the pop-up menu.
- 5 Touch the **OK** button or press the **DATA** dial when a confirmation pop-up message appears.



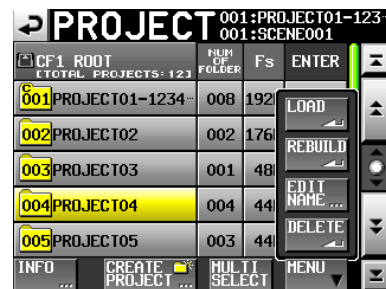
During rebuilding, a progress status pop-up appears. When rebuilding completes, the pop-up disappears.

NOTE

If you rebuild when no project has been selected in the **PROJECT** screen, the selected CF card is rebuilt entirely.

Erasing a project

- 1 Press the **PROJECT** key on the front panel to open the **PROJECT** screen.
- 2 Select the project that you want to erase.
Touch the **MULTI SELECT** button on the **PROJECT** screen to allow the selection of multiple projects.
- 3 Touch the **MENU** button on the **PROJECT** screen to open the pop-up menu.



- 4 Touch the **DELETE** button in the pop-up menu.
- 5 Touch the **OK** button or press the **DATA** dial when a confirmation pop-up message appears.



During erasure, a progress status pop-up appears. When erasure completes, the pop-up disappears.

NOTE

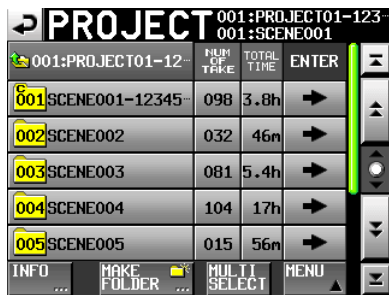
When you erase a project, every folder and take in the project is also erased.

Folder operations

Creating new folders

- 1 Touch the **PROJECT** key on the front panel to open the **PROJECT** screen.
- 2 Touch the "➔" button of the project to which you want to add a folder to open its folder list.

5 – Projects



- 3 Touch the **MAKE FOLDER** button to open the **MAKE FOLDER** screen.



Follow the same procedures as in “Editing the project name” on page 35 to name the folder.

NOTE

You cannot use the “@” symbol at the beginning of a folder name.

- 4 Touch the **Enter** button or press the **DATA** dial to open a confirmation pop-up message.
- 5 Touch the **OK** button or press the **DATA** dial to confirm the folder name.



During the creation of a folder, a progress status pop-up appears. When folder creation completes, the pop-up disappears.

NOTE

- Immediately after creation, the new folder becomes the current (loaded) folder.
- The letter “C” appears on the **002** icon to the left of the name of the current folder on the **PROJECT** screen.

Loading folders

- 1 Press the **PROJECT** key on the front panel to open the **PROJECT** screen.

- 2 Touch the “→” button for the project that contains the folder that you want to load to open the folder list.
- 3 Select the folder that you want to load.
- 4 Touch the **MENU** button to open a pop-up menu.



- 5 Touch the **LOAD** button in the pop-up menu.
- 6 Touch the **OK** button or press the **DATA** dial when a confirmation pop-up message appears.



When loading completes, the Home Screen opens.

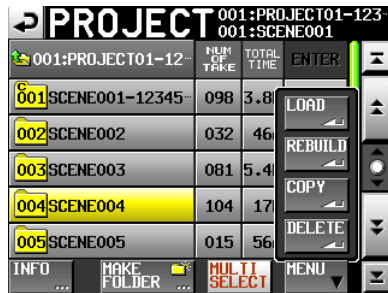
NOTE

The letter “C” appears on the **002** icon to the left of the folder name of the currently selected folder.

Rebuilding folders

Rebuilding a folder makes it possible to play back files that were not recorded by this unit, including files that have been copied between folders on the unit and files that have been copied to a CF card folder from a computer (the audio files must be in formats that can be played by this unit).

- 1 Press the **PROJECT** key on the front panel to open the **PROJECT** screen.
- 2 Touch the “→” button for the project that contains the folder that you want to rebuild to open the folder list.
- 3 Select the folder that you want to rebuild. Touch the **MULTI SELECT** button to enable the selection of multiple folders.
- 4 Touch the **MENU** button to open a pop-up menu.



- 5 Touch the **REBUILD** button in the pop-up menu item.
- 6 Touch the **OK** button or press the **DATA** dial when a confirmation pop-up message appears.



During rebuilding, a progress status pop-up appears. When rebuilding completes, the pop-up disappears.

NOTE

You can also rebuild a folder from that folder's take selection screen.

Copying folders

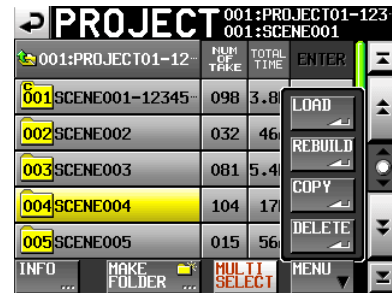
You can copy folders between CF SLOT 1 and CF SLOT 2 (two CF cards are necessary).

If you copy a folder, the same directory structure is created at the copy destination.

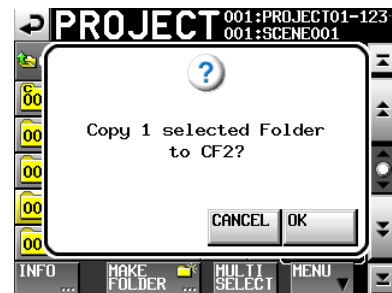
NOTE

- To play copied folders on this unit, you must rebuild the destination project or the folder.
- If you copy a folder with a different sampling frequency into a project, the folder cannot be rebuilt.

- 1 Press the **PROJECT** key on the front panel to open the **PROJECT** screen.
- 2 Press the "➡" button for the project that contains the folder that you want to copy to open the folder list.
- 3 Select the folder that you want to copy. Touch the **MULTI SELECT** button to enable the selection of multiple folders.
- 4 Touch the **MENU** button on the **PROJECT** screen to open a pop-up menu.



- 5 Touch the **COPY** button in the pop-up menu.
- 6 Touch the **OK** button or press the **DATA** dial when a confirmation pop-up message appears.



During copying, a progress status pop-up appears. When copying completes, the pop-up disappears.

NOTE

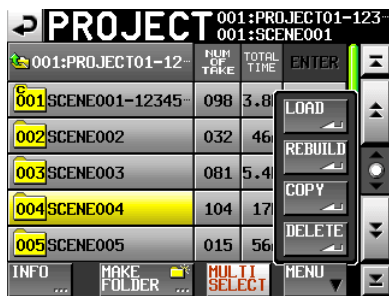
If a folder with the same name already exists on the destination CF card, a message confirming that you want to overwrite the existing scene appears. Touch the **OK** button or press the **DATA** dial to overwrite the existing file and copy the selected scene to the destination.



5 – Projects

Erasing folders

- 1 Press the **PROJECT** key on the front panel to open the **PROJECT** screen.
- 2 Press the “➔” button for the project that contains the folder that you want to erase to open the folder list.
- 3 Select the folder that you want to erase. Touch the **MULTI SELECT** button to enable the selection of multiple folders.
- 4 Touch the **MENU** button on the **PROJECT** screen to open a pop-up menu.



- 5 Touch the **DELETE** button in the pop-up menu.
- 6 Touch the **OK** button or press the **DATA** dial when a confirmation pop-up message appears.



During erasure, a progress status pop-up appears. When erasure completes, the pop-up disappears.

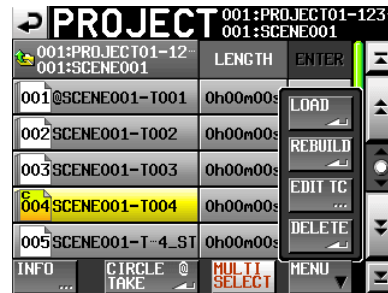
CAUTION

When you erase a folder, every take in that folder is also erased.

Take operations

Loading takes

- 1 Press the **PROJECT** key on the front panel to open the **PROJECT** screen.
- 2 Press the “➔” button for the project that contains the take that you want to load.
- 3 Press the “➔” button for the folder that contains the take that you want to load to open the take list.
- 4 Select the take that you want to load.
- 5 Touch the **MENU** button to open a pop-up menu.



- 6 Press the **LOAD** button in the pop-up menu.

NOTE

Alternatively, press the “➔” button next to the take that you want to load.

- 7 Touch the **OK** button or press the **DATA** dial when a confirmation pop-up message appears



When loading completes, the Home Screen opens.

NOTE

If a take is loaded from outside the currently selected project, a warning appears in a pop-up window: “Selected take is in another project.”

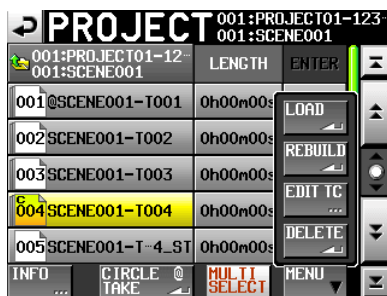


If it is okay to change the project/folder and load the take, touch the “OK” button or press the **DATA** dial to do so.

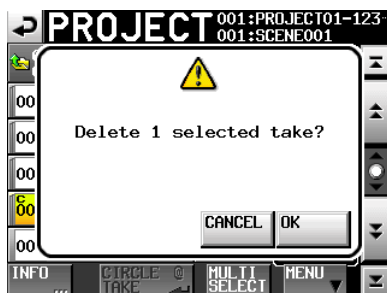
Erasing takes

- 1 Press the **PROJECT** key on the front panel to open the **PROJECT** screen.
- 2 Press the “➔” button for the project that contains the take that you want to erase.
- 3 Press the “➔” button for the folder that contains the take that you want to erase.

- 4 Select the take that you want to erase. Touch the **MULTI SELECT** button to enable the selection of multiple takes.
- 5 Touch the **MENU** button to open a pop-up menu.



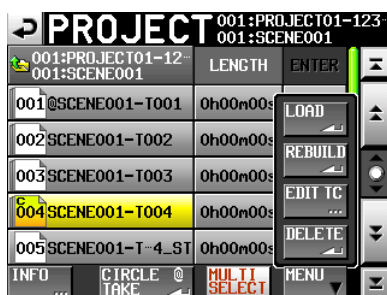
- 6 Touch the **DELETE** button in the pop-up menu.
- 7 Touch the **OK** button or press the **DATA** dial when a confirmation pop-up message appears.



During erasure, a progress status pop-up appears. When erasure completes, the pop-up disappears.

Changing the start time of a take

- 1 Press the **PROJECT** key to open the **PROJECT** screen.
- 2 Touch the “→” button for the project that contains the take for which you want to edit the start time to open the folder selection screen.
- 3 Touch the “→” button for the folder that contains the take that you want to edit to open the take selection screen.
- 4 Select the take that you want to edit.
- 5 Touch the “MENU” button on the “PROJECT” screen to show the pull-up menu.



- 6 Touch the “**EDIT TC**” button in the pull-up menu to open the “**EDIT TAKE T/C**” screen.

- 7 On the “**EDIT TAKE T/C**” screen, and use the “**FRAME EDIT**” button to set whether or not to input the frame value.



Frame edit on



Frame edit off

- 8 Use the number buttons to input the take start time.
 - If you begin input without selecting the digit, input will start from the smallest one.
 - To input a specific digit, touch it and make its background yellow, then use the number buttons or the **DATA** dial to enter two digits at a time.
 - Touch the “**CLEAR**” button to erase all entered values.
- 9 Touch the “**ENTER**” button to confirm the setting.

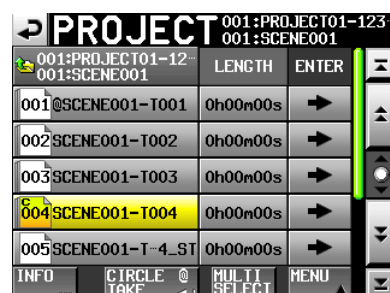
TIP

- This can also be edited using a PS/2 keyboard.
- Press the PS/2 keyboard **ESC** key to erase all the values.

- 10 When the confirmation pop-up window appears, touch the “**OK**” button or press the **DATA** dial.

Using “@” with take names

Select a take and touch the “**CIRCLE @ TAKE**” button to add “@” to the take name or remove it if it has been added previously.



5 – Projects

TIP

You can use this to mark the good takes, for example.

NOTE

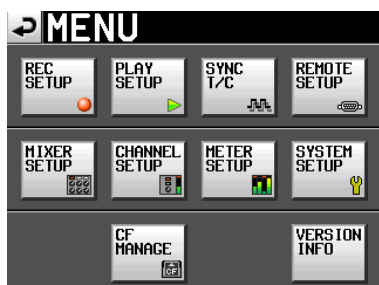
You cannot edit take names.

6 – Internal Settings

In this chapter, we explain the unit's internal settings in detail.

Menu screen

Press the **MENU** key on the front panel to open the following **MENU** screen.



• REC SETUP button

Make recording settings.

• PLAY SETUP button

Make playback settings.

• SYNC T/C button

Make synchronization and time code settings.

• REMOTE SETUP button

Make settings for external remote control.

• MIXER SETUP button

Make mixer settings.

• CHANNEL SETUP button

Make settings for each channel.

• METER SETUP button

Make level meter settings.

• SYSTEM SETUP button

Make system settings.

• CF MANAGE button

Manage CF cards.

• VERSION INFO button

Show the system version.

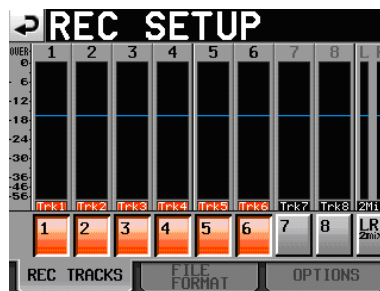
Recording settings (REC SETUP)

The **REC SETUP** screen has three tabbed pages: **REC TRACKS**, **FILE FORMAT** and **OPTIONS**. Touch the tabs at the bottom of the screen to open the corresponding page.

REC TRACKS page

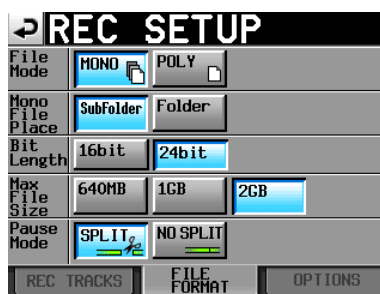
Touch the record arm buttons below the level meters to arm the tracks that are to be recorded and disarm the tracks that are not to be recorded.

When a track is armed for recording, the button background appears red. (Default setting: no tracks armed—buttons not red)



FILE FORMAT page

Use this to make file format settings.



File Mode

Set the mode for recording files.

MONO (default value): Each track is handled as a monophonic file.

POLY: Multiple tracks are handled as a single combined file.

Mono File Place

When the "File Mode" is set to "MONO", set the folder where audio files are saved with the following buttons.

SubFolder button (default value): Audio files are saved in subfolders created for each take within the folder.

Folder button: Audio files are saved directly in the folder.

NOTE

- In both modes, a subfolder is created for each take inside the folder, and management files are generated in these subfolders.
- When Folder mode is selected, the maximum number of takes that can be recorded in a single folder is greatly reduced from normal. For this reason, when switching to Folder mode the following pop-up window appears with a warning about the reduced maximum limit to the number of takes.

6 – Internal Settings and Operations



Moreover, when switching to Subfolder mode, the following pop-up window appears explaining the restored maximum limit to the number of takes.



- When Folder mode is selected, the number of files created is large. For this reason, the number of tracks that can be recorded is greatly reduced. (See "Recording operation limitations" on page 29.)
- During recording, you can press the REC key to start recording a new take. This function can be used 4 seconds after beginning recording in Poly and Subfolder modes, but in Folder mode, you might have to wait more than 4 seconds.

Bit Length

Set the quantization bit rate for recording files.

Setting buttons: 16bit, 24bit (default setting)

Max File Size

Set the maximum size for recording files.

Setting buttons: 640MB, 1GB, 2GB (default setting)

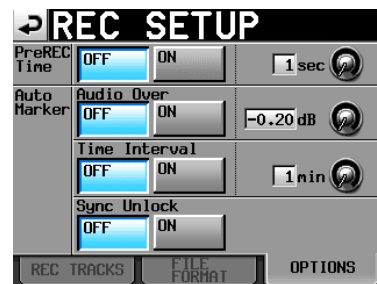
Pause Mode

Set whether or not to divide files when a recording is paused.

Setting buttons: SPLIT (default setting), NO SPLIT

OPTIONS page

Make settings related to the pre-recording and auto markers.



PreREC Time

Turn pre-recording ON/OFF and set its time. (Default setting: OFF)

When PreREC Time is ON, the signal input during recording standby is captured by the built-in memory for the set amount of time, allowing a maximum of 5 seconds before recording is started to be recorded.

To set the pre-recording time, touch the knob, and adjust the value using the **DATA** dial. The setting range is 1–5 seconds. (Default setting: 2 seconds)

Auto Marker

Make settings related to auto markers.

Audio Over: Use this to add markers when the set audio level is detected. Turn this function ON or OFF. (Default setting: OFF) and set the detection level (Default setting: -0.20dB).

To set the audio detection level, touch the knob, and adjust the value using the **DATA** dial. The setting options are: -0.20 dB (default setting), -0.17 dB, -0.13 dB, -0.10 dB, -0.06 dB to -0.03 dB.

Settings made here are reflected in the Over Level setting on the METER SETUP screen.

Time Interval: Use this to add marks at fixed time intervals. Turn this function ON or OFF and set the time interval. (Default setting: OFF)

To set the time, touch the knob, and adjust the value using the **DATA** dial. The range of setting values is 1–10 minutes (default setting: 5 minutes)

Sync Unlock: Use this to add a mark when synchronization with the master clock is lost. Turn this function ON or OFF. (Default setting: OFF)

NOTE

An "audio over" occurs when the level exceeds the maximum level (full scale) minus the value set by the user. (In the example above, this would be when the level exceeds the maximum level minus 0.20 dB.)

6 – Internal Settings and Operations

Playback settings (PLAY SETUP)

Use this screen to make settings related to playback.

GENERAL page



Play Mode

Set how the playback of takes is handled.

One Take: Only the currently selected take is played back.

All Take: All the takes in the currently loaded folder are played back.

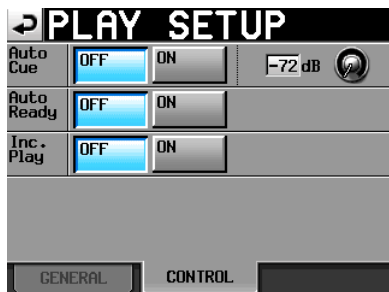
(Default setting: One Take)

Repeat Mode

Turn repeat playback ON and OFF.

(Default setting: OFF)

CONTROL page



Auto Cue

Turn the auto cue function ON or OFF (Default setting: OFF). If auto cue is ON, whenever a take is changed or loaded, the unit will enter playback standby at the point where sound first starts in the take.

If no sound is detected before the end of the take, the unit pauses at the start of the take. To set the auto cue start point detection level, touch the knob area and use the DATA dial to change the value.

Options: -72 dB, -66 dB, -60 dB, -54 dB (default value), -48 dB, -42 dB, -36 dB, -30 dB, -24 dB

Auto Ready

Turn the auto ready function ON or OFF. If auto ready is ON, when playback of a take completes the unit automatically stops at the beginning of the next take. (Default setting: OFF)

Inc. Play

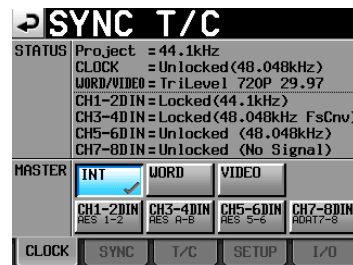
Turn the incremental play function ON or OFF. When incremental play is ON, press the **PLAY** key during playback to move to the beginning of the next take and continue playing, or press the **STOP (RETAKE)** key during playback to move to the beginning of the next take and pause playback. (Default setting: OFF)

Sync and time code settings (SYNC T/C)

Use the SYNC T/C screen to make synchronization and time code settings. This screen has five pages: **CLOCK**, **SYNC**, **T/C**, **SETUP** and **I/O**. Touch the tabs at the bottom of the screen to open the corresponding page.

CLOCK page

View various clock status information and select the clock used for synchronization.



STATUS

The top section shows the project sampling frequency and the clock synchronization status.

The bottom section shows digital input signal status for pairs of channels in the format CHx-xDIN (x-x shows the channels), as follows.

Digital input signal status	Display
When locked	Locked (xx.xxx kHz)
When sampling frequency conversion (FsCnv) is ON	Locked (xx.xxx kHz FsCnv)
When unlocked	Unlocked (xx.xxx kHz)
When there is no signal	Unlocked (No signal)
When there is no audio signal	Not Audio
When Cbit information is not professional	Not Professional
When other Cbit information and the actual operation mode are different	Unmatched Cbit

6 – Internal Settings and Operations

MASTER

Select the master clock to use.

INT (default value): Use this unit's internal clock.

WORD: Synchronize with the word clock input through the **WORD/VIDEO IN** connector.

VIDEO: Synchronize with the video clock input through the **WORD/VIDEO IN** connector.

CH1-2DIN - CH7-8DIN: Synchronize with the clock of the digital signal (AES1-8, AES A-B, or ADAT1-8) selected as the digital input for CH1-2, 3-4, 5-6, or 7-8.

You cannot select an input as the master clock if the sampling rate converter is ON for that input.

The second line of the button shows the name of the selected digital input signal.

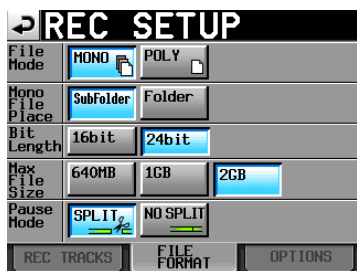
NOTE

- A check mark appears on the button of the currently active master clock.
- If synchronization from an external clock is interrupted, the unit's internal clock becomes active. In this case, a check mark appears on the INT button to show that it has become the active clock, and an "x" appears on the button of the selected external clock that was lost.



SYNC page

Make setting related to synchronization.



STATUS

Shows the status of the currently loaded project's sampling frequency and clock synchronization.

Play Fs

When playing a take with a sampling frequency of 48 kHz, 48 kHz pull-up, or 48 kHz pull-down, the unit can be made to synchronize with an external clock by setting it to play back with pull-up or pull-down.

Depending on the combination of Project sampling frequency and Play sampling frequency settings, the unit will operate with the Fs shown below.

Project sampling frequency	Play sampling frequency setting		
	OFF (Default setting)	Pull-down	Pull-up
48 kHz	48 kHz	48 kHz - 0.1%	48 kHz + 0.1%
48 kHz pull-up	48 kHz + 0.1%	48 kHz	Not possible
48 kHz pull-down	48 kHz - 0.1%	Not possible	48 kHz
All others	Project sampling frequency	Not possible	Not possible

NOTE

Set this to OFF before recording. Recording is not possible when set to Pull-up +0.1% or Pull-down -0.1%. If you try to record when not OFF, "Cannot REC" appears in a warning pop-up window.

TC Chase

Use to turn playback synchronized with external timecode ON/OFF (default value: OFF). Set it to ON, when you want to match the timing of this unit's audio with a timecode master unit (audio recorder or video).

You can also set timecode offset (TC Offset) with the timecode master device. Touch the "EDIT" button to open the "TC Offset" screen where you can set the offset value in a range between "-23: 59: 59.29" and "+23: 59: 59.29" (default value: "00: 00: 00.00").

NOTE

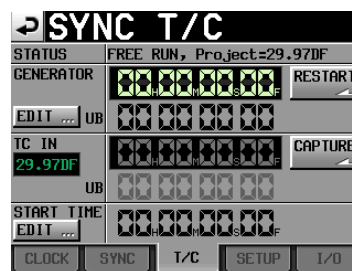
TC Chase can also be turned ON/OFF by pressing the SHIFT and CALL keys at the same time.

TC Rechase

Turn this function, which re-synchronizes when synchronization with external timecode becomes inaccurate, ON/OFF (default value: "OFF"). To set the amount of inaccuracy that triggers rechase, touch the knob and turn the DATA dial to select a value in frames of 1/3, 1, 2, 5 or 10 (default value: 2 frames).

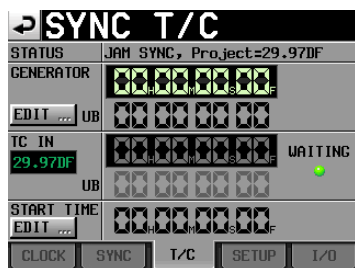
T/C page

Make settings related to time code.



Free run mode

6 – Internal Settings and Operations



Free once, jam sync

STATUS

This shows the time code generator mode of the unit and the time code frame type of the current project.

GENERATOR

The top line shows the time of the current time code generator.

The bottom line shows the user bits.

Touch the GENERATOR item EDIT button or the user bit display area to open the T/C USER BITS screen.

When the time code generator is in Free Run mode, press the RESTART button to return to the start time of the time code generator time code.

TC IN

The top line shows the time of the input time code and the frame type. The bottom line shows the user bits of the input time code.

In Free Run mode, touch the CAPTURE button to capture the current time code and set it as the time code of the time code generator.

If the time code generator mode is Free Once or Jam Sync, the capture status (WAITING) indicator lights green when waiting for time code, and it turns off after time code is captured.

START TIME

When you touch the GENERATOR item's RESTART button, the time when the time code restarts is shown. Touch the START TIME item EDIT button or the start time display area to open the START TIME screen.

SETUP page

Make settings related to the time code generator.



STATUS

This area shows the unit's current project time code frame type.

TC GEN MODE

Set the time code generator mode.

FREE RUN: The time code generator runs on its own.

FREE ONCE (default value): After the input time code is captured once, the unit starts free run mode.

TIME OF DAY: If you conduct any of the following operations, the time will be captured from the internal clock and free run mode will start.

- Turn the power on
- Set "TC GEN MODE" to this mode
- Reset the internal clock

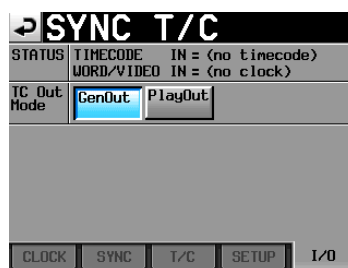
JAM SYNC: When time code is input, the unit synchronizes to it. If time code input is interrupted, the unit enters free run mode.

REGEN: The unit synchronizes to the input time code.

REC RUN: The time code generator only functions during recording. At all other times, the time code generator stops.

I/O page

Set the synchronization signal status display and time code output.



STATUS

This shows the status of synchronization signals.

- TIME CODE IN: When time code is input, the time code frame rate is shown.
- WORD/VIDEO IN: When a synchronization signal is input, WORD, VIDEO or TriLevel is shown.

TC Out Mode

Set the time code output mode.

- GenOut (default setting): Timecode is output from the internal timecode generator.
- PlayOut: Only during playback, output the time code recorded in the file.

6 – Internal Settings and Operations

Remote settings (REMOTE SETUP)

Make settings for PARALLE connector AUX 1-3 functions and the RS-232C and RS-422 control connectors. The REMOTE SETUP screen has a PARALLEL page, an RS-232C page, and an RS-422 page. Touch the tabs at the bottom of the screen to open the corresponding page.

PARALLEL TAB

Set the AUX 1-3 functions of the PARALLE connector.



AUX Assign

Touch a knob, making the background become yellow and turn the **DATA** dial to set the parameter. The parameters that can be selected include F.FWD, REW, MARK, MARK SKIP-, MARK SKIP+ and ONLINE.

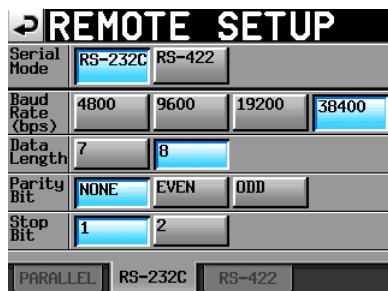
AUX1 Function: Set the function of **PARALLEL** connector pin 17 (AUX1). (Default setting: MARK SKIP +)

AUX2 Function: Set the function of **PARALLEL** connector pin 18 (AUX2). (Default setting: MARK SKIP -)

AUX3 Function: Set the function of **PARALLEL** connector pin 19 (AUX3). (Default setting: MARK)

RS-232C page

Make RS-232C transmission settings.



Serial Mode

Set the serial connection mode with the following buttons.

Setting buttons: "RS-232C" (default value), "RS-422"

NOTE

The RS-232C and RS-422 connectors cannot both be used at the same time. Only the connector selected with this setting functions. This setting is synchronized with the "Serial Mode" item on the RS-422 page.

Baud Rate (bps)

Set the transmission speed. The options are 4800, 9600, 19200 and 38400 bps (default setting).

Data Length

Set the data length in bits. The options are 7 and 8 (default setting).

Parity Bit

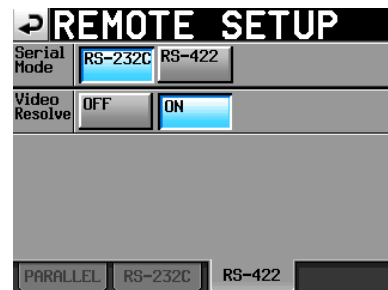
Set whether or not there is a parity bit. The options are NONE (default setting), EVEN and ODD.

Stop Bit

Set the stop bit. The options are 1 (default setting) and 2.

RS-422 page

Make communication settings for RS-422 serial control.



Serial Mode

Set the serial connection mode with the following buttons.

Setting buttons: "RS-232C" (default value), "RS-422"

NOTE

The RS-232C and RS-422 connectors cannot both be used at the same time. Only the connector selected with this setting functions. This setting is synchronized with the "Serial Mode" item on the RS-232C page.

Video Resolve

When slaving this unit to a VCR, video sync signals might be used instead of word sync signals for the common standard clock. In the same way as with word sync signals, you can select whether the video clock is followed (synchronizing the beginning of time code frames with video signal frame edges) or it is independent of the frame clock. This must be turned ON to control this unit from a video editor.

Setting buttons: "OFF", "ON" (default value)

6 – Internal Settings and Operations

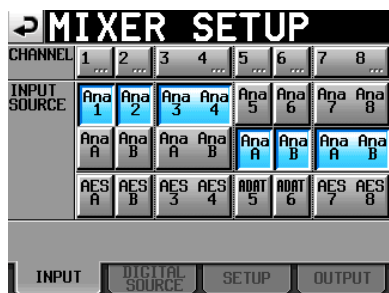
Mixer settings (MIXER SETUP)

Make mixer settings on this screen.

The MIXER SETUP screen has 4 pages: INPUT, DIGITAL SOURCE, SETUP and OUTPUT. Touch the tabs at the bottom of the screen to open the corresponding page.

INPUT page

Make input settings on this page.



CHANNEL buttons

Press a channel button to open the corresponding CHx SETUP screen ("x" is the channel).

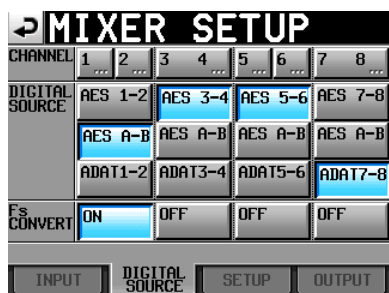
INPUT SOURCE

Set the input source for each channel

- Ana 1-8: 25-pin D-sub analog input (default setting)
- Ana A-B: XLR analog input
- AES 1-8: 25-pin D-sub AES/EBU input
- AES A-B: XLR AES/EBU input
- ADAT 1-8: ADAT input

DIGITAL SOURCE page

Set the digital input sources.



CHANNEL buttons

Press a channel button to open the corresponding CHx SETUP screen ("x" is the channel).

DIGITAL SOURCE

Set the digital input source for each pair of channels.

- AES x-x (default setting): 25-pin D-sub AES/EBU input
- AES A-B: XLR AES/EBU input
- ADAT x-x: ADAT input

Fs CONVERT buttons

Turn the sampling rate converter ON or OFF for each pair of inputs (default setting: all OFF).

SETUP page

Access the channel name editing screen and turn channel links ON and OFF on this page.



CHANNEL buttons

Press a channel button to open the corresponding CHx SETUP screen ("x" is the channel).

CH NAME

Touch these buttons to edit the name of the corresponding channel.

CH Link

Touch these buttons to turn channel links ON and OFF. (Default settings: all OFF)

The following parameters are shared by link channels.

- 2Mix LVL knob
- Solo
- Record arming
- Input source
- PAN pot (becomes balance)
- Input monitor

OUTPUT page

Make settings related to output on this page.



XLR Output Source

Set the source to be output from the **ANALOG OUTPUT L/R** and **DIGITAL OUTPUT L/R** connectors.

L/R button (default value): Stereo mix

6 – Internal Settings and Operations

MONITOR button: Monitoring mix (same signal output from the PHONES connector, which includes soloed signals, etc.)

CHx NAME (button)

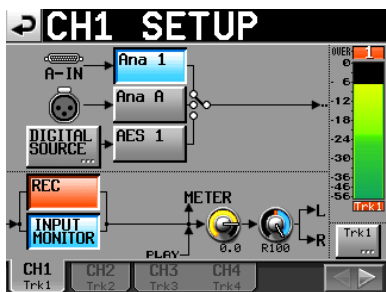
Edit the name of the channel (“x” is the channel).
Use the **Shift** and **CAPS** buttons to change the available character types.



Follow the same procedures to enter names as in “Editing the project name” on page 35, with the exception that there is no “Date” button. A maximum of 4 characters are allowed in channel names.

Channel settings (CHANNEL SETUP)

Make settings for each channel.
Select the channel using the tabs at the bottom of the screen.



- Ana x buttons (“x” indicates the channel number): Set analog input channel 1-8 as the input source.
- Ana x buttons (“x” is “A” or “B”): Set analog input channel A/B as the input source.
- AES x/ADAT x button (“x” indicates the channel number): Set AES/EBU digital input channel 1-8 or A/B or ADAT input channel 1-8 as the input source.
- DIGITAL SOURCE button: Touch this button to set digital input as the input source and open the “CHx-x DIGITAL SOURCE” screen where you can select the desired digital input connector.
- REC button: Arm or disarm recording. When armed, the button background becomes red. When recording, the signals of tracks that are enabled are recorded. Moreover, when a channel is armed for recording, the signal from the assigned input connector is input

when the unit is stopped, recording or in recording standby. (Default setting: disarmed—button not red)

INPUT MONITOR button: Use to turn input monitoring ON/OFF. When ON for a channel, sound is always input through its input connector.

Level knob: Touch the knob to adjust the level sent to the stereo bus. When its background color turns yellow, use the **DATA** dial to adjust it. Setting values range from $-\infty$ to +10 dB. (Default setting: 0 dB)

Pan pot: Touch the knob to adjust the stereo position of the signal sent to the stereo bus. When its background color turns yellow, use the **DATA** dial to adjust it. Setting values range from L100 to R100 with C as the center value. (Default setting: C)

Level meter: The input signal level is shown for a channel when input monitoring is ON or recording is armed and it is not being played back. The playback level is shown during playback and for tracks that have input monitoring OFF.

The area beneath each level meter shows the track name (four characters or less) and indicates whether recording and input monitoring are enabled. Depending on whether or not recording and input monitoring are enabled, the background color will appear as follows.

	REC Off	REC On
MON Off	Black	Red
MON On	Blue	Red/blue

If the input source is set to a digital input and there is no signal on the corresponding digital input or the input signal differs from the unit setting, the channel meter display appears gray and the following messages appear. (The channels are indicated by “x-x”)

Display	Description
AESx-x NO SIGNAL	If there is no input signal
ADAT NO SIGNAL	
AESx-x UNLOCK	If the input signal is not synchronized with the system
ADAT UNLOCK	
AESx-x NOT AUDIO	If the Cbit information of the input signal is not audio
AESx-x NOT PRO	If the Cbit information of the input signal is not professional
AESx-x Cbit ERROR	If other input signal Cbit information differs from the actual operation mode

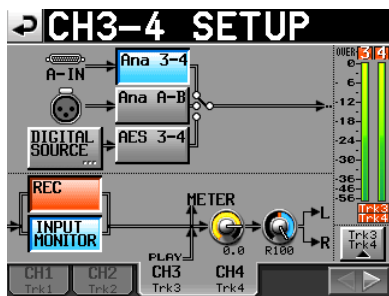
Channel name button: Touch this button to edit the name of the channel.

◀▶ button: Touch this button to open the next channel setting screen.

6 – Internal Settings and Operations

When channels are linked

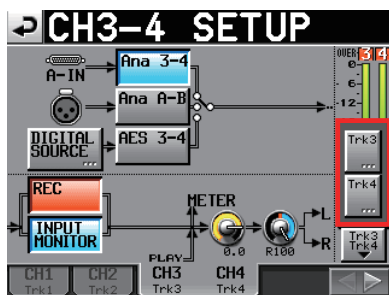
When channels are linked, the screen appears as follows.



Channel setup screen when channels are linked

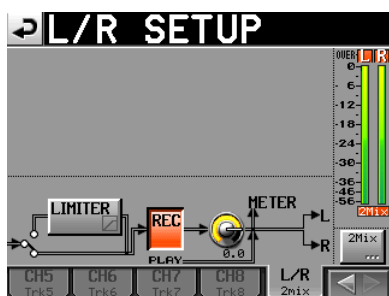
When channels are linked:

- The input source selection button shows the pair of channels.
- The signal flow line is doubled.
- A stereo meter (2 bars) is shown.
- Touch the channel name button to show a pop-up with buttons for each channel in the pair.



Stereo (L/R) channel

The stereo channel setting (L/R SETUP) screen appears as follows.



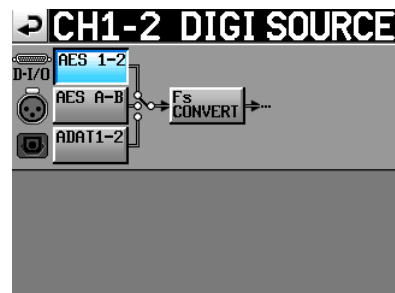
Stereo channel setting screen

The stereo channel has a limiter function. Touch the LIMITER button to turn it ON and OFF.

The stereo (L/R) channel does not have input source selection buttons, a pan pot or an input monitor button.

Digital source settings (CHx-x DIGI SOURCE)

Touch the DIGITAL SOURCE button on the channel settings screen to open the following screen.



AES x-x button ("x" indicates the channel number): Set AES/EBU digital input channel 1-8 as the input source.

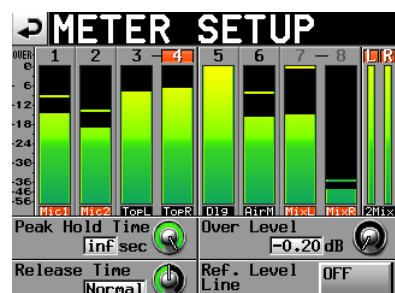
AES A-B button: Set AES/EBU digital input channel A/B as the input source.

ADAT x-x button ("x" indicates the channel number): Set ADAT digital input channel 1-8 as the input source.

Fs CONVERT button: Turn the sampling rate converter ON or OFF.

Level meter settings (METER SETUP)

Make level meter settings on this screen.



Peak Hold Time knob: Touch this to set the peak hold time. Use the **DATA** dial to adjust the time. The setting values are 0 sec, 1 sec (default setting), 2 sec and inf (hold forever).

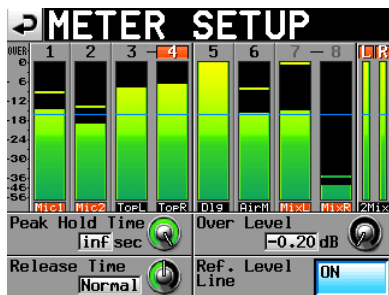
Release Time knob: Touch this to set the release time. Use the **DATA** dial to adjust the time. The setting values are Slow, Normal (default setting) and Fast.

Over Level knob: Touch this to set the level at which the overload indicator lights. This is the amount in dB below the maximum level (full scale). Use the **DATA** dial to adjust the level. The setting values are -0.20 dB (default setting), -0.17 dB, -0.13 dB, -0.10 dB, -0.06 dB, or -0.03 dB.

This setting is reflected in the Audio Over setting of the Auto Marker item on the **OPTIONS** page of the REC SETUP screen.

Ref. Level Line button: Touch to turn the reference level line that appears on the level meter ON (default setting) or OFF.

6 – Internal Settings and Operations



Reference level line display ON

NOTE

If you press the EXIT/CANCEL (PEAK CLEAR) key when the Home Screen is open, the peak hold display resets.

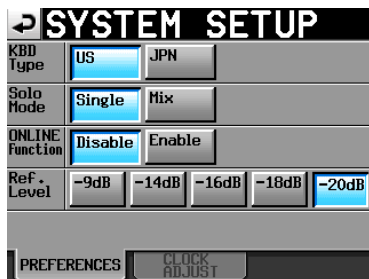
System settings (SYSTEM SETUP)

Make system settings on this screen.

The SYSTEM SETUP screen has 2 pages: PREFERENCES and CLOCK ADJUST. Touch the tabs at the bottom of the screen to open the corresponding page.

PREFERENCES page

Set system preferences on this page.



KBD Type

Set the connected keyboard type to either US (default setting) for English keyboards or JPN for Japanese keyboards.

Solo Mode

Set the solo mode.

Set to "Single" (default setting) to solo one track at a time or "Mix" to allow more than one track to be soloed at the same time.

Online Function

Set whether or not to use the online function. Set to "Enable" to allow on line playback to be used from the parallel connector, serial connector (RS-232C), or a TASCAM RC-HS20PD remote controller (sold separately). Set to "Disable" to not allow on line playback to be used and always output the sound from all connectors. For details, see "9 – Online functions" on page 59.

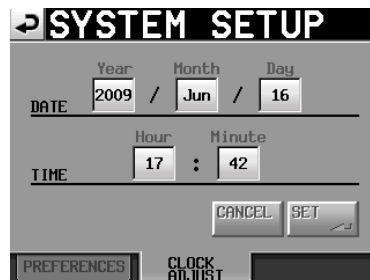
Ref. Level

Set the reference level for analog input and output to a number of decibels below the maximum level (full scale utilization).

Setting buttons: -9dB, -14dB, -16dB, -18dB and -20dB (default setting)

CLOCK ADJUST page

Set the time of the built-in clock.



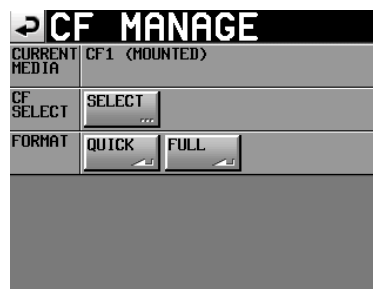
Touch the item that you want to set, and use the DATA dial to adjust the item. (See "Setting the time of the built-in clock" on page 21.) When you finish setting the items, touch the SET button on the CLOCK ADJUST page or press the DATA dial to confirm the setting.

NOTE

While setting the time, the clock stops and the ":" does not blink. When you touch the SET button, the clock starts again and the ":" blinks.

Managing CF cards (CF MANAGE)

Use this screen to manage CF cards.



CURRENT MEDIA

This shows the currently selected card slot name and its status.

CF SELECT

Touch this to open the CF SELECT screen where you can choose the CF card for recording and playback.

FORMAT

Format the CF card.

QUICK: This only formats file management information.

FULL: This formats the entire disc.

6 – Internal Settings and Operations

NOTE

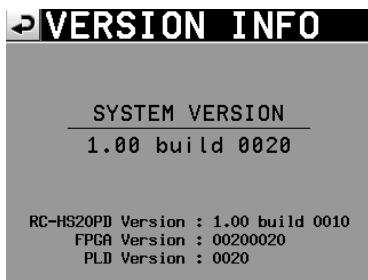
CF cards with capacities of 2 GB or less that have been formatted by this unit might be seen by computers as having no open capacity, preventing files and folders from being written.

Version display (VERSION INFO)

Show the unit's SYSTEM version.

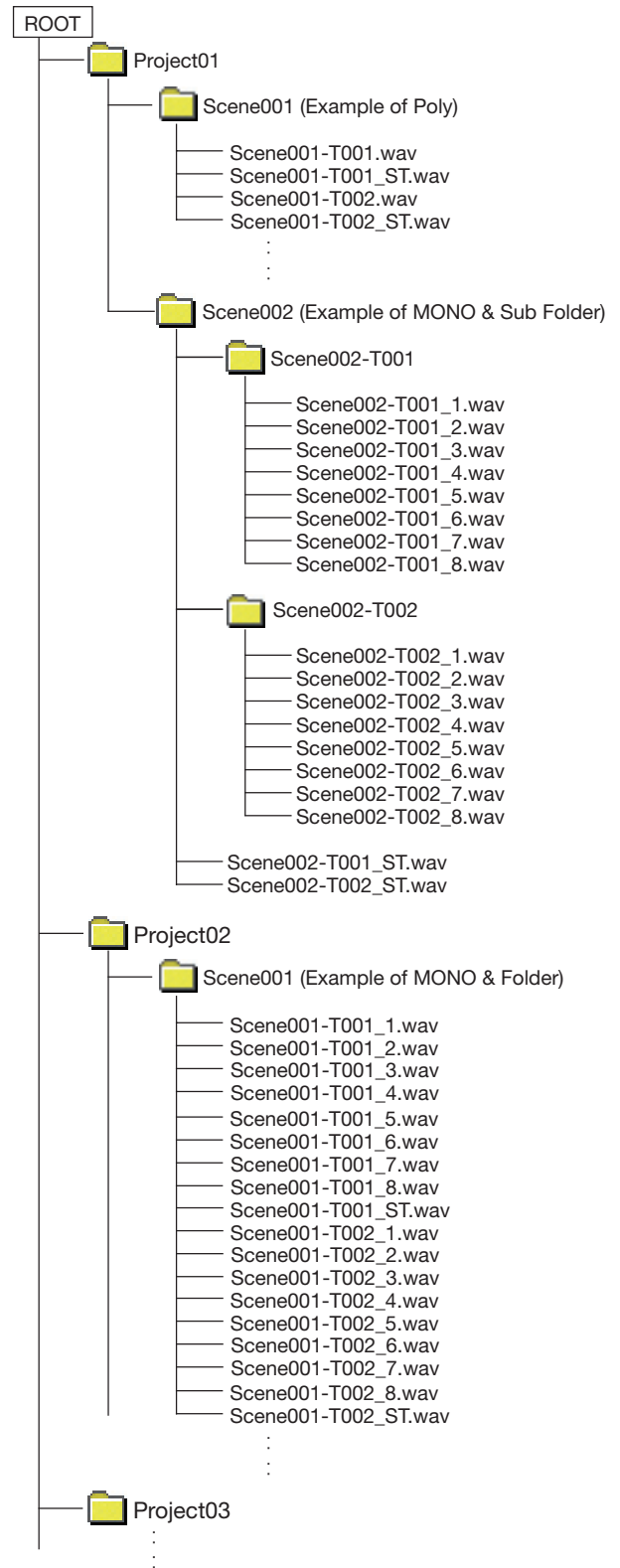


Touch the bottom center of the screen to show the version of the internal device data and the version of any TASCAM RC-HS20PD remote controller (sold separately) connected to the unit.



Folder structure

The folder structure is as shown below. You can check the structure of folders and files by using a computer to view the CF card. Be aware, however, if you change or erase a file inside a project, or change any names, the HS-8 might not be able to play that project.



NOTE

Poly files are created directly in the folder.

With mono files, subfolders are created inside the folder for each take. When the "Mono File Place" setting is "SubFolder", files are created in the take subfolders. When the setting is "Folder", files are created directly in the folder.

6 – Internal Settings and Operations

CAUTION

- *Even when “Mono File Place” is set to “Folder”, subfolders are created and management files are stored in them. Do not erase these subfolders.*
- *Other management files and folders are created in addition to these.*

File names

The format used in naming files is as follows.

1-8 track poly files

[Take name first half]-[letter][take number].wav

1-8 track mono files

[Take name first half]-[letter][take number]_[track number].wav

2mix files

[Take name first half]-[letter][take number]_ST.wav

7 – Mark and Locate Functions

Mark functions

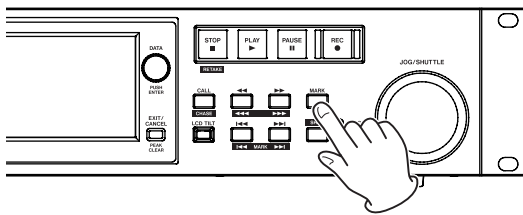
Adding marks

Use the following methods to create marks.

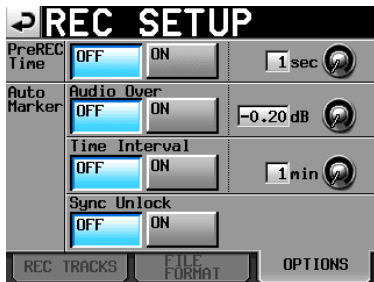
One file (take) can have a maximum of 99 marks, including automatically-created marks.

Use the following two methods to create marks.

- Push the **MARK** key on the front panel.
Press the MARK key to add a mark at the current playback/recording time.
Mark names are in the format “MARK XX” with XX being a number assigned in ascending order.



- Use the auto marker function (see “OPTION page” on page 44.)



When the auto marker function is ON, marks can be automatically added when audio overs occur, at regular time intervals and when synchronization errors occur (see “OPTION page” on page 44).

Marks are named according to how they were made.

	Mark Names
Audio level	OVER XX
At time interval	TIME XX
When a synchronization error occurs	UNLK XX

NOTE

The REC, END and PRE marks cannot be turned ON or OFF.

Recording start point	REC xx
Recording end point	END xx
Pre-recordings start point	PRE xx

NOTE

- An “audio over” occurs when the level exceeds the maximum level (full scale) minus the value set by the user. (In the example

above, this would be when the level exceeds the maximum level minus 0.20 dB.)

- If a mark is input using parallel control, a mark is added in the same manner as if the MARK key had been pushed.

Using keys to locate to marks

Press the **◀◀** (**◀◀ MARK**) or **▶▶** (**MAKR ▶▶**) key while pressing and holding the **SHIFT** key to locate to the previous or next mark.

NOTE

If MARK SKIP +/- is input using parallel control, the unit will locate to the next or previous mark.

Mark list screen

Touch the Mark List button on the Home Screen to open the MARK LIST screen.



NAME button: Touch to sort by mark name in descending or ascending order. When the mark names are sorted in ascending order, a “△” icon appears inside the “MARK” button. When in descending order, a “▽” icon appears inside this button.

TIME button: Touch to sort marks by time in descending or ascending order. When they are sorted by time in ascending order, a “△” icon appears inside the “TIME” button. When in descending order, a “▽” icon appears inside this button.

Mark name buttons: Touch to select a mark.

Locate buttons (“▶”): Touch one of these to locate to the corresponding mark.

LIST INFO button: Touch this to see a list of the number of marks by type in the currently selected take.

RENUMBER button: Renumber the marks. Reorder marks by time in ascending order, and change the numbers at the ends of the mark names to reflect that order.

DELETE button: When a mark is selected, touch this button to erase that mark.

Edit button: When a mark is selected, touch this button to edit that mark.

Scroll buttons: Use these buttons to scroll to the beginning or end of the list or scroll one page (five lines) forward or backward. You can also scroll through the list one line at a time using the **DATA** dial.

7 – Mark and Locate Functions

Locating to marks

Touch the “” button to locate to that mark.

Viewing mark information

Touch the LIST INFO button on the MARK LIST screen to open the LIST INFO page.

This shows a list of the number of marks by type in the currently loaded take.

Touch the LIST INFO button again to return to the MARK LIST screen.



TYPE	COUNT
TOTAL	18
MANUAL MARK	2
TIME	5
OVER	10
UNLK	1

LIST INFO page of the MARK LIST screen

NOTE

After recording, the MARK LIST screen might show a TOTAL number of marks that is 2 or 3 greater than the sum of the MANUAL MARK, TIME, OVER and UNLK marks. This is because the total includes REC, END and PRE (when using prerecording) marks that are always created during recording.

Erasing marks

- 1 Select the mark that you want to erase on the MARK LIST screen or type of mark that you want to erase on the LIST INFO page.



NAME	TIME	LOCATE
MARK01	00:00:00.00	
OVER02	00:00:00.00	
TIME03	00:00:00.00	
UNLK04	00:00:00.00	
MARK05	00:00:00.00	

MARK LIST screen



TYPE	COUNT
TOTAL	18
MANUAL MARK	2
OVER	10
UNLK	1

LIST INFO page

- 2 Touch the DELETE button.

- 3 When a confirmation pop-up message appears, press the OK button or the DATA dial to erase the mark or marks.



Erasing a mark using the MARK LIST screen



Erasing marks using the LIST INFO page

Editing marks

Marks added by using the MARK key (marks with names in the “MARK XX” format) can be edited.

NOTE

Automatically placed marks cannot be edited.

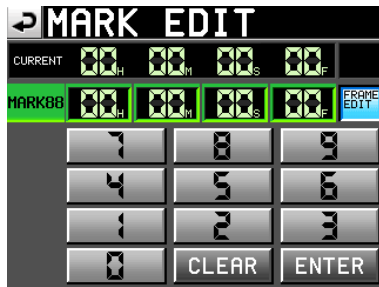
- 1 Select the mark that you want to edit on the MARK LIST screen.



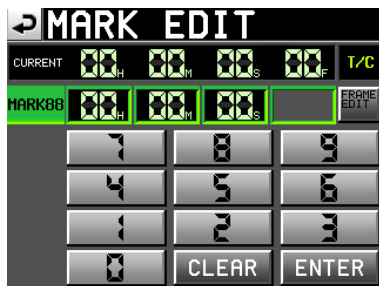
NAME	TIME	LOCATE
MARK01	00:00:00.00	
OVER02	00:00:00.00	
TIME03	00:00:00.00	
UNLK04	00:00:00.00	
MARK05	00:00:00.00	

- 2 Touch the Edit button to open the MARK EDIT screen. Touch the FRAME EDIT button to set whether or not the frame value can be edited.

7 – Mark and Locate Functions



FRAME EDIT ON



FRAME EDIT OFF

- 3 Touch a number button to edit a mark. Use the DATA dial to change the time for the selected number.

Press the **ENTER** button to confirm the setting and return to the **MARK LIST** screen.

Touch the **CLEAR** button to reset the input value.

TIP

You can use a PS/2 keyboard to set these values. Press the Enter key to confirm and press the ESC key to reset the input value.

Renumbering marks

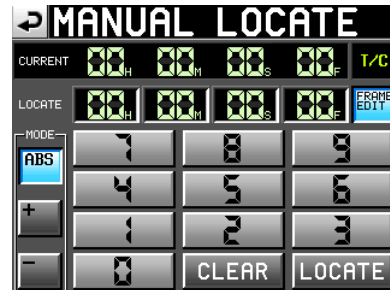
- 1 Touch the **RENUMBER** button on the **MARK LIST** screen to open the following confirmation message.



- 2 Press the **OK** button or the **DATA** dial to renumber the marks.

Manual locate function

You can directly input a time and locate to it. Touch the **Manual Locate** button on the Home Screen to open the **MANUAL LOCATE** screen. Touch the **FRAME EDIT** button to set whether or not the frame value can be edited.



FRAME EDIT ON



FRAME EDIT OFF

There are three locate modes.

ABS: Input an actual time and locate to it.

+: Input an amount of time to go forward from the current time and locate to the new time.

-: Input an amount of time to go back from the current time and locate to the new time.

Input the time using the number buttons. You can also select a number field and use the **DATA** dial to adjust the time.

Press the **LOCATE** button to locate to the new time and return to the Home Screen.

Touch the **CLEAR** button to clear all input values.

TIP

You can use a PS/2 keyboard to set these values. Press the enter key on the PS/2 keyboard to confirm or press the ESC key button to clear all input values.

8 – Operation using a computer keyboard

You can control this unit using an IBM-PC-compatible keyboard with a PS/2 interface by connecting it to the KEYBOARD connector on the front panel of this unit. A variety of operations are possible, but using the keyboard is especially efficient for inputting names.

Setting the keyboard type

Set the type according to the keyboard connected. Change the setting as necessary on the "PREFERENCES" page of the "SYSTEM SETUP" screen (on page 52.).

Use the keyboard to input the name

You can edit and input characters for the following items in the same manner as inputting characters on a computer.

- Project names ("Editing the project name" on page 35.)
- Folder names ("Editing the name of the first folder" on page 36, "Creating new folders" on page 37.)
- First half of the next take name ("NEXT TAKE NAME button" on page 16.)
- Letter in the second half of the next take name ("NEXT TAKE NAME button" on page 16.)
- Channel names ("CHx NAME (button)" on page 50.)

You can also use it to enter numbers in the following operations.

- Editing the T/C USER BITS (on page 47.),
- Editing the START TIME (on page 47.),
- Editing marks (on page 56.),
- Using the manual locate function (on page 57.)
- Editing the TC Chase offset (on page 46.)

Selecting the type of character to input

In the same manner as with a computer, use the Shift and Caps Lock keys to select the type of character to input.

Inputting characters

You can use the number, letter and symbol keys to import them directly.

Moving the cursor

Use the ←/→ keys.

Erasing characters

Use the Delete key to erase the character at the cursor position.

Use the Backspace key to erase the character before the cursor position.

Inserting characters

Input the character at the desired position.

NOTE

- The following characters and punctuation marks cannot be used in names.
` \ / ; : , . ? " < > |`
- Japanese katakana cannot be input.
- The letter in the second half of the next take name can only be an uppercase letter from the alphabet.

List of keyboard operations

In addition to inputting names, a keyboard can be used to control the transport and conduct various other operations. The following is a summary of keyboard key functions.

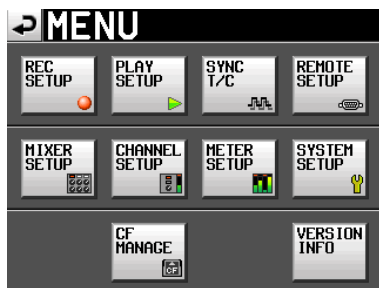
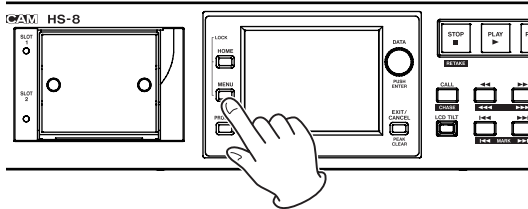
	Operation
F1 key	The same as the I◀◀ key
F2 key	The same as the ▶▶I key
F3 key	The same as the CALL key
F4 key	The same as the STOP key
F5 key	The same as the PLAY key
F6 key	The same as the PAUSE key
F7 key	Turn auto cue ON/OFF
F8 key	The same as the RECORD key
F9 key	Turn auto ready ON/OFF
F10 key	Turn repeat ON/OFF
F11 key	Change the play mode
F12 key	Flash load when stopped; stop during playback or when paused
CTRL + F1 key	FLASH 1
CTRL + F2 key	FLASH 2
CTRL + F3 key	FLASH 3
CTRL + F4 key	FLASH 4
CTRL + F5 key	FLASH 5
CTRL + F6 key	FLASH 6
CTRL + F7 key	FLASH 7
CTRL + F8 key	FLASH 8
CTRL + F9 key	FLASH 9
CTRL + F10 key	FLASH 10
CTRL + F11 key	FLASH 11
CTRL + F12 key	FLASH 12

9 – Online functions

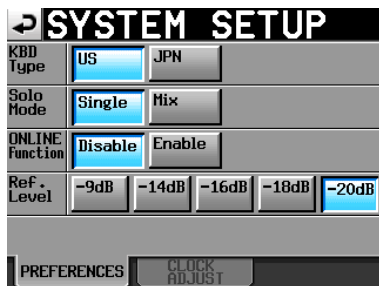
Enabling online functions

In order to use online functions, in the online function setting must be enabled.

- 1 Press the **MENU** key on the front panel to open the **MENU** screen.



- 2 Touch the **"SYSTEM SETUP"** button to open the **"SYSTEM SETUP"** screen.



- 3 Touch the **Enable** button of the **ONLINE** Function item to change the online function setting (default value: **Disable**).

Activating online playback mode

When the online function is enabled, the online playback mode can be activated by one of the following operations.

- ONLINE event from connected parallel control
- ONLINE command from connected RS-232C serial control
- ON LINE key pressed on connected RC-HS20PD remote controller designed for use with this unit

When online playback mode is activated, the Home Screen opens automatically, and the **ONLINE** icon on the screen appears red. When online playback mode is not activated, the **ONLINE** icon appears unlit on the screen.

Relationship between the online playback mode and sound output is as follows.

On line playback mode	Off	On
Analog output (1-8)	×	○
Digital output (1-8, AES/EBU)	×	○
Digital output (1-8, ADAT)	×	○
Analog output (L/A, R/B)	○*	○**
Digital output (L/R)	○*	○**
Headphones	○***	○***
RC-HS20PD (Headhones, speaker)	○***	○***

* If "XLR Output Source" is set to "MONITOR", the monitoring mix is output.

** The signal output is according to the "XLR Output Source" setting.

*** The monitoring mix is always output.

Moreover, when online playback mode is activated, the buttons operate as follows.

	Playback status	Pause status
ONLINE ON/OFF	×	○
Play	×	×
Fader Play	×	○
Stop	○*	○
Fader Stop	○*	○
FLASH	○**	○***
PAUSE	×	---
Track Skip	×	×
Mark Skip	×	×
CALL	×	×
Search	×	×
JOG	×	×
SHUTTLE	×	×
FLASH LOAD	×	×
MARK	×	×
MENU operation	×	×
PROJECT operation	×	×
Mark List	×	×
Manual locate	×	×

* If incremental play is set to ON, when you press the stop key or lower the fader to stop playback, the unit pauses at the beginning of the next track (Online Ready).

** If you press a FLASH key to play a loaded take, the take is changed to the corresponding one and flash playback occurs. (If the take is not loaded, ordinary playback begins.)

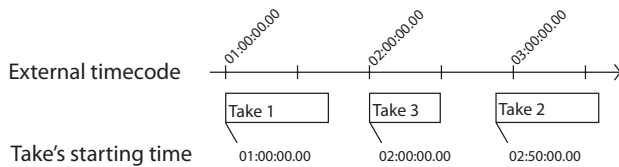
*** If you press a FLASH key when the unit is paused and the fader is lowered (Fader Stop) the take is changed and the unit stays paused. Otherwise, the take changes and begins playing immediately (flash playback).

NOTE

When the "ONLINE Function" item is set to "Disable" (the online function is OFF), sound is output from all connectors.

10 – Playback synchronized with external timecode

In this chapter, we explain playback synchronization with external timecode. The playback of all takes in one folder on this unit can be synchronized with SMPTE timecode input through the TIMECODE IN connector on the rear panel. When synchronized, the timecode time stamp in the take is used as the starting time of that take. The playback time during playback of a take is based on that take's starting time.



You can check the timecode time stamp of a take by pressing the INFO button on the take selection screen (see "Take selection screen" on page 34). You can also freely change the timecode time stamp of a take (see "Changing the start time of a take" on page 41).

NOTE

- Synchronized playback with external timecode can only play the takes in one folder. Synchronized playback from multiple folders is not possible.
- Synchronized playback with external timecode is based on the starting time of each take. For this reason, during synchronized playback the order is not related to the take numbers (with the following exception).
- When using synchronized playback with external timecode, if multiple takes have the same starting time, only the take with the highest take number is played.

Using synchronized playback

- 1 Load the folder to be played back (See "Loading takes" on page 40.)
- 2 Either of the following operations will start synchronized playback.
 - While pressing and holding the SHIFT key, press the CALL [CHASE] key on the front panel.
 - On the "SYNC" page of the "SYNC T/C" screen, set "TC Chase" to "ON".

- 3 If there is a take that can be synchronized with external timecode, synchronized playback starts and the CHASE indicator on the Home Screen appears green.

If there is no take that can be played back synchronized with external timecode (because the time is between takes, for example), the unit pauses at the beginning of the next text that can be played back and the CHASE indicator on the Home Screen blinks.

- 4 Either of the following operations will cancel synchronized playback.
 - While pressing and holding the SHIFT key, press the CALL [CHASE] key on the front panel.

- On the "SYNC" page of the "SYNC T/C" screen, set "TC Chase" to "OFF".

After doing this, playback and other unit operations continue. Moreover, the CHASE indicator on the Home Screen is replaced with the timecode status display.

- 5 Conduct one of the operations described in step 3 to restart synchronized playback.

NOTE

- During synchronized playback, press the STOP key to stop playback. The CHASE indicator on the home screen blinks when synchronized playback is stopped.
- When stopped, press the PLAY or PAUSE key to restart synchronized playback.

Timecode offset

You can set an offset for external timecode synchronization. By doing so, you can synchronize to external timecode with a set time difference (see "SYNC page" on page 46).

Rechase

This unit continues to monitor external timecode even after synchronized playback starts. Should the playback time of this unit and the external timecode become unsynchronized for any reason, the unit can "rechase" the timecode. You can set whether or not the unit uses rechase and the degree of the discrepancy before rechasing (see "SYNC page" on page 47).

If the operation of this unit becomes irregular, please check the following things before requesting repair. If the following measures do not resolve the problem, contact the store where you purchased the device or a TEAC Repair Center

■ Power does not turn on.

- Confirm that the power plug, for example, is connected completely.

■ Media is not recognized.

- Confirm that the CF card is securely inserted into the CF slot.
- Pause recording or playback.

■ The unit does not function.

- Is the panel lock function ON?

■ Playback is not possible.

- Confirm that the file is of a compatible sampling frequency (44.1/48/48 pull-down/48 pull-up/88.2/96/176.4/192 kHz) and bit rate (16/24).

■ There is no sound.

- Reconfirm the connections of your monitoring system and check the level of your amplifier.
- Confirm that the “Level” setting on the HOME (PAN/LEVEL) screen is not lowered.
- If you are using an RC-HS20PD, confirm that the fader is not lowered.
- If you cannot hear the input signal, arm recording and turn input monitoring ON.
- If you cannot hear the playback sound, turn input monitoring OFF.
- Check the online function and online playback mode settings.

■ Recording is not possible.

- Reconfirm connections.
- Adjust the recording levels.
- If the CF card does not have enough capacity, erase unneeded data and increase the amount of open space or change the CF card.
- If the maximum number of recordable takes or the maximum take number has been reached, change the recording folder.
- If the total number of items in the folder, including files and subfolders is too large, change the recording folder.

■ Setting changes that I made are not remembered.

- This unit backs up settings whenever the CF card selection is changed, a project, folder or take is loaded, and playback or recording occurs. After startup, if none of these actions is conducted, settings might not be backed up even if they are changed.

■ I hear noise.

- Confirm that all cable connections are secure.

■ The touch panel does not work properly.

- Do not use commercially-available protective film for LCD screens on the touch panel.
- Confirm that the panel lock function is not engaged and locking the display.

■ I cannot create a new project.

- Confirm that a project with the same name does not already exist.
- If the amount of space remaining on the CF card is too small, a new project cannot be created. Erase unnecessary data and then try again.

12 – Messages

The following is a list of messages that the HS-8 shows in pop-up windows in some situations. Refer to this list to learn more about each message as well as how to respond to them.

Message	Details and responses	Remarks
--- error --- INFO WRITING	An error occurred while writing information.	
--- FORMAT --- Completed.	Format has completed.	
--- FULL FORMAT --- FORMAT CFn? This will erase all data on card Really Continue?	Full format will be executed.	n = 1 or 2
--- FULL FORMAT --- Formatting CFn...	Full format is occurring.	n = 1 or 2
--- ONLINE Function --- Changes Output Routing.	Enabling and disabling the ONLINE function changes the sound output routing.	
--- QUICK FORMAT --- FORMAT CFn? This will erase all data on card Really Continue?	Quick format will be executed.	n = 1 or 2
--- QUICK FORMAT --- Formatting CFn...	Quick format is occurring.	n = 1 or 2
--- RETAKE --- Delete last take? "ttttttttt"	A retake will be executed.	ttttttt = the name of the take to be deleted
--- Shutdown --- working...	The unit is shutting down.	
CHn-n D-In: Fs convert On Cannot select as Master clock.	The sampling rate converter is ON for the digital input that you tried to set as the clock master.	n-n = 1-2, 3-4, 5-6, 7-8
Cannot Change Now Currently **	This item cannot be changed during playback, on line operation, timecode chase or recording.	** = "Playing", "ONLINE", "Chasing TC" or "Recording"
Cannot Copy Not enough space on CFn	There is not enough available space on the copy destination card.	n = 1 or 2
Cannot Copy. Folder already exists on CFn. Overwrite Folder?	A folder with the same name already exists at the copy destination. Do you want to overwrite that scene?	n = 1 or 2
Cannot create more than 100 projects.	The maximum number of projects has already been reached, so a new project cannot be created.	
Cannot create new mark point.. Mark point already exists at the same timestamp.	You tried to create a mark at a time where a mark already exists. You cannot create a mark at the same time as another mark.	
Cannot create new project. Media Full.	The card does not have enough space, so you cannot create a new project.	
Cannot edit this mark point. Mark point already exists at the same timestamp.	Since a mark already exists at the same time, the mark cannot be edited.	Editing is possible even when time data is the same at the frame level if the value differs at the subframe level, which is not visible on the screen.
Cannot increment Take. Interval is too short.	The interval is not long enough to allow the unit to increment the take.	
Cannot increment Take. System limit reached. Please make new folder.	The total number of items in the folder, including files and folders is too large, so starting recording of the next take is not possible.	
Cannot make more than 1000 scenes.	The maximum number of folders has already been reached, so a new folder cannot be created.	
Cannot make new scene. Media Full.	The card does not have enough space, so you cannot create a new folder.	
Cannot RECORD. (Internal state error)	Something is preventing recording.	
Cannot RECORD. Media Full.	The CF card does not have enough space, so you cannot record.	
Cannot RECORD System limit reached Please make new folder	The total number of items in the folder, including files and folders is too large, so starting recording of the next take is not possible.	

Message	Details and responses	Remarks
Cannot RECORD. Take limit reached. Please change to another Folder	Since the maximum number of recordable takes or the take number has been reached, recording is not possible. Change the folder.	
Cannot RECORD Play Fs setting is not OFF Please change Play Fs to OFF	Recording is not possible because PlayFs is set to Pull-up or Pull-down. Set PlayFs to Off.	
Cannot Retake. No Recent Take History.	You cannot retake.	
Cannot set Mark point. Mark limit reached.	You cannot create more than 99 marks.	
Cannot turn Fs convert On. CHn-n D-In is already Master Clock.	You tried to turn the sampling rate converter on for the digital input that is selected as the master clock.	n-n = 1-2, 3-4, 5-6, 7-8
CFn DEVICE ERROR	The CF card cannot be recognized.	n = 1 or 2
CFn Format failed	An error occurred during formatting, and formatting could not be completed.	n = 1 or 2
CFn has no projects. Please create a project.	The CF card does not have even one project.	
CFn is not available.	There is no CF card.	n = 1 or 2
CFn is not usable	You cannot copy.	n = 1 or 2
CFn MEDIUM ERROR	The unit failed to read the card.	n = 1 or 2
CFn not recommended format for Recording/Playing.	The media was not formatted by this unit, so proper recording and playback cannot be guaranteed.	n = 1 or 2 This appears when the card is formatted with a cluster size that is smaller than the standard of this unit.
CFn not recommended for Recording/Playing. (not UltraDMA)	This card does not meet the specifications required by the system, so using it for recording/playback is not recommended.	n = 1 or 2
CFn Read Error	An error occurred when reading the card.	n = 1 or 2
CFn unrecognized format Please Format this card.	This card has been formatted in a format other than FAT. Format it for use with this unit.	n = 1 or 2
CFn unsupported type	This card does not meet the specifications required by the system, so it cannot be used.	n = 1 or 2
CFn Write Error	An error occurred when writing to the card.	n = 1 or 2
CFn(vvvvvvvv) NUM OF PROJECTS : p USED SIZE : u FREE SIZE : f TOTAL SIZE : t	This shows information about the CF card	n = 1 or 2 vvvvvvvv = volume level p: project number, u: capacity used f: unused capacity, t: total capacity of CF card
Completed	The operation has completed.	
Copy N selected folder to Cfn?	Confirm that you want to copy the selected folder(s).	N = number of selected scenes n = 1 or 2
Copying folder...	The folder is being copied.	
Create new project? "PPPPPPPP" "SSSSSSSS" Fs:***kHz, Frame Type:**F	Confirm that you want to create a new project.	pppppppp = name of project to be created ssssssss = name of first folder to be created
Create Project failed	The creation of the project failed.	
Creating Project...	The project is being created.	
Delete all marks of this type? (Count:N)	Confirm the deletion of marks of the selected type.	N = number of marks of selected mark type
Delete N selected marks?	Confirm the deletion of the selected marks.	N = number of marks
Delete N selected project?	Confirm the deletion of the selected projects.	N = number selected
Delete N selected folder?	Confirm the deletion of the selected folders.	N = number selected
Delete N selected take?	Confirm the deletion of the selected takes.	N = number selected
Deleting Project...	The project is being deleted.	
Deleting Folder...	The folder is being deleted.	
Deleting Take...	The take is being deleted.	

12 – Messages

Message	Details and responses	Remarks
Digital Input Error DIN1-2 (Unlocked) DIN3-4 (no signal) DIN5-6 (not audio) DIN7-8 (unmatched Cbit)	An error occurred with the digital input selected for the input signal.	<ul style="list-style-type: none"> Unlocked: not synchronized with system no signal: no signal is being input not audio: Cbit information of input signal is not audio not professional: Cbit information of input signal is consumer unmatched Cbit: other Cbit information of input signal is different from actual operation mode
External Clock Lost, Switched to Internal	Synchronization with an external clock was disrupted, so the internal clock was activated.	
External Clock Regained Switch to External?	Synchronization with an external clock became possible again.	
Folder Copy failed	Copying failed.	
Folder Delete failed.	Deletion of the folder failed.	
Folder Load failed.	Loading of the folder failed.	
Input Volume Locked Input Volume is locked	The input volume is locked to prevent accidental operation.	
Last loaded project has no folders. Please make new folder.	The most recently loaded project does not have any folders. Create a new folder.	
Last loaded Project cannot be found. Please select a project.	The last selected project cannot be found. Select a different project.	
Last loaded folder cannot be found. Please select a folder.	The last selected folder cannot be found. Select a folder.	
Load selected project? "PPPPPPPP"	Confirm that you want to load the selected project.	pppppppp = name of project to load
Load selected Folder? "SSSSSSSS"	Confirm that you want to load the selected folder.	ssssssss = name of scene to load
Load selected Take? "TTTTTTTT"	Confirm that you want to load the selected take.	tttttttt = name of take to load
Loading Project...	The project is loading.	
Loading Folder...	The folder is loading.	
Loading Take...	The take is loading.	
Make new folder? "SSSSSSSS"	Confirm that you want you want to make a new folder.	ssssssss = folder name
Make Folder failed	Creation of the folder failed.	
Making Folder...	The folder is being created.	
Mark Point set	The mark has been created.	
New Folder Name must not start with "@"	The folder name is not allowed. A folder name must not start with the "@" mark.	
No Call Point	The call point does not exist.	
No Mark Point	The mark point does not exist.	You tried to skip marks before the Mark point was accorded. This disappears automatically after 2 seconds.
No Tracks Armed for Record	The record function is not ON for any tracks.	
Operation failed.	The operation could not be completed for some reason.	
Operation failed. Internal File / Folder limit reached.	The maximum number of files and folders that can be created has been reached, so the operation could not be completed.	
Operation failed. Cannot find this ***, Please Rebuild.	The selected project/folder/take could not be found, so the operation could not be completed. Rebuild the selected item.	*** = project, folder or take

Message	Details and responses	Remarks
Operation failed. Internal File / Folder limit reached.	The maximum number of files or folders has been reached, so you cannot create a new folder.	
Operation failed. Path Name is too long.	The path name has more characters than allowed, so the operation could not be completed.	This message appears when making a scene or recording results in a file path name of more than 255 characters. This can occur if you give projects and scenes long names using a computer.
Play Error.	An error occurred during playback.	
Play Error Buffer underrun	Data reading could not keep up during playback.	
PPPPPPPP FOLDERS : n Fs : f TIMECODE : t	This shows project information	pppppppp = project name n: number of folders f: sampling frequency t: type of timecode frame
Project Delete failed.	Deletion of the project failed.	
Project Load failed.	Loading of the project failed.	
Project Rename failed	Changing the name of the project failed.	
Project save failed.	An error occurred while saving the project, and saving failed. Use the CLOSE button to close the pop-up window. The FAT file system might be broken. Format the CF card or use a different one. Formatting will erase all data on the card.	
Project Screen is not available while Recording	The "Project" screen cannot be changed during recording.	
Project Screen is not available in Jog Mode	The "Project" screen cannot be changed when in jog mode.	
Reading Media...	The media is being read.	
Reading Data...	Data is being read.	
Rebuild all Projects?	Confirm that you want to rebuild all projects.	
Rebuild current Project?	Confirm that you want to rebuild the current project.	
Rebuild current Folder?	Confirm that you want to rebuild the current folder.	
Rebuild failed	Rebuilding failed.	
Rebuild selected Project?	Confirm that you want to rebuild the selected project.	
Rebuild selected Folder?	Confirm that you want to rebuild the selected folder.	
Rebuilding All...	All projects are being rebuilt.	
Rebuilding project...	The project is being rebuilt.	
Rebuilding folder...	The folder is being rebuilt.	
RECORD Error	An error occurred during recording.	
RECORD Error Buffer overflow	The buffer became full during recording, and writing to the card was too late.	
RECORD stopped. Media Full.	The CF card ran out of space, so recording stopped	
Renaming Project ""PPPPPP"" to ""nnnnnn""	The project is being renamed.	pppppp = old project name nnnnnn = new project name
Renumber marks?	Confirm that you want to remember the marks	
Screen Locked Touch Panel Locked Out	The touch panel has been locked to prevent misoperation.	
Screen Locked LCD Section Locked	The LCD section has been locked to prevent misoperation.	

12 – Messages

Message	Details and responses	Remarks
Selected take is in another project. Load that project and selected Take?	The selected take belongs to a different project.	
<pre> ssssssss TAKES : n Fs : f TOTAL SIZE : u TOTAL TIME : t </pre>	Folder information display	ssssssss = folder name n: number of takes f: sampling frequency u: space used t: total time of all takes
Starting USB	USB mode is being enabled.	
Take Delete failed.	Deletion of the take failed.	
TAKE limit back to full. Change to Sub Folder?	If Mono File Place is set to SubFolder, the limit to the number of takes is restored to the maximum.	
TAKE limit reduced. Change to Folder?	If Mono File Place is set to Folder, the limit to the number of takes is reduced.	
Take Load failed.	Loading of the take failed.	
There is no project. Please create a project.	There is no project so the recording cannot be made. Please make a project.	
There is no folder Please make a folder.	There is no folder so the recording cannot be made. Please make a folder.	
This name already exists.	A project, scene or take that has the same name already exists.	
Transport Locked Transport Section locked	The transport keys have been locked to prevent misoperation.	
<pre> tttttttt date fs/bit/FileMode/NumOfTracks SIZE: u LENGTH: *h**m**s**f START T/C: *h**m**s** </pre>	Take information display	tttttttt = take name date: year/month/day hour: minutes fs: sampling frequency bit: bit rate FileMode: MONO or POLY NumOfTracks: number of tracks u: space used
<pre> tttttttt START T/C: **h**m**s**f FRAME TYPE: **F </pre>	Take information display	tttttttt = take name START T/C: Timecode time at the beginning of the file FRAME TYPE: Frame type
Writing System File...	Recording information is being written when recording has stopped.	

General

Recording media

CompactFlash (CF) card

File system

FAT32

File format

BWF (Monophonic, Polyphonic)

Number of channels

8 channels (44.1/48/88.2/96 kHz)

8 channels + stereo mix (44.1/48 kHz)

4 channels (176.4/192 kHz)

Quantization bit rate

16/24

Sampling frequency

44.1/47.952/48/48.048/88.2/96/176.4/192 kHz
(47.952/48.048: 48 kHz \pm 0.1% pull-down/pull-up)

Reference clock

Internal, Word In, Video In, Digital In (AES 1-8 IN, AES A-BIN, ADAT 1-8 IN)

Time code frame rate

23.976, 24, 25, 29.97DF, 29.97NDF, 30DF, 30NDF

Limiter

Attack time: 3 msec

Release time: 300 msec

Threshold: -5 dBFS

Ratio: 32:1

Input and output

Analog audio input and output connectors

The error for nominal and maximum levels is ± 1 dB for all input and output jacks except the **PHONES** jack.

ANALOG INPUT (1-8)

Connector: 25-pin D-sub

Input impedance: 10 k Ω

Nominal input level:

- When reference level is -9 dB: +6 dBu (1.55 Vrms)
- When reference level is not -9 dB: +4 dBu (1.23 Vrms)

Maximum input level (selectable): +15 dBu (4.36 Vrms), +18 dBu (6.16 Vrms), +20 dBu (7.75 Vrms), +22 dBu (9.76 Vrms), +24 dBu (12.28 Vrms)

ANALOG INPUT (L/A, R/B)

Connector: XLR-3-31 (1: GND, 2: HOT, 3: COLD)

Input impedance: 10 k Ω

Nominal input level:

- When reference level is -9 dB: +6 dBu (1.55 Vrms)
- When reference level is not -9 dB: +4 dBu (1.23 Vrms)

Maximum input level (selectable): +15 dBu (4.36 Vrms), +18 dBu (6.16 Vrms), +20 dBu (7.75 Vrms), +22 dBu (9.76 Vrms), +24 dBu (12.28 Vrms)

ANALOG OUTPUT (1-8)

Connector: 25-pin D-sub

Output impedance: 100 Ω

Nominal output level:

- When reference level is -9 dB: +6 dBu (1.55 Vrms)
- When reference level is not -9 dB: +4 dBu (1.23 Vrms)

Maximum output level (selectable): +15 dBu (4.36 Vrms), +18 dBu (6.16 Vrms), +20 dBu (7.75 Vrms), +22 dBu (9.76 Vrms), +24 dBu (12.28 Vrms)

ANALOG OUTPUT (A/B)

Connector: XLR-3-32 (1: GND, 2: HOT, 3: COLD) output impedance: 100 Ω

Nominal output level:

- When reference level is -9 dB: +6 dBu (1.55 Vrms)
- When reference level is not -9 dB: +4 dBu (1.23 Vrms)

Maximum output level (selectable): +15 dBu (4.36 Vrms), +18 dBu (6.16 Vrms), +20 dBu (7.75 Vrms), +22 dBu (9.76 Vrms), +24 dBu (12.28 Vrms)

PHONES

Connector: standard 6.3-mm (1/4") stereo jack

Maximum output level: 45 mW + 45 mW or more (THD+N 0.1% or less, into 32 Ω)

Digital audio input and output connectors

DIGITAL IN/OUT (AES/EBU)

Connector: D-Sub 25-pin

Minimum input voltage: 2 Vp-p

Maximum input voltage: 7 Vp-p

Output voltage: 2–5 Vp-p

Format: AES3-2003/IEC60958-4 (AES/EBU)

DIGITAL I/O (ADAT)

Connector: optical

Format: ADAT

DIGITAL INPUT A-B

Connector: XLR-3-31

Maximum/minimum input signal voltage amplitude: 2–7 Vp-p/110 Ω

13 – Specifications

Format: AES3-2003 (AES/EBU)

DIGITAL OUTPUT L-R

Connector: XLR-3-32

Output voltage: 2–5 V_{p-p}/110 Ω

Format: AES3-2003 (AES/EBU)

Control input and output connectors

RS-422

Connector: D-sub9-pin

RS-232C

Connector: D-sub9-pin

PARALLEL

Connector: D-sub25-pin

CASCADE IN

Connector: BNC

Input voltage: 5V TTL equivalent

Input impedance: 75Ω ±10% Allowable frequency deviation of external synchronization: ± 100 ppm

CASCADE OUT

Connector: BNC

Output voltage: 5V TTL equivalent

Output impedance: 75Ω ±10%

Sampling frequency: 44.1/47.952/48/48.048/88.2/96/176.4/192 kHz (47.952/48.048 kHz: 48 kHz 0.1% pull down/0.1% pull up)

TIME CODE IN

Connector: BNC

Input voltage: 0.5 - 5 V_{p-p}

Input impedance: 20 kΩ

TIME CODE OUT

Connector: BNC

Output voltage: 2 V_{p-p}

Output impedance: 600Ω

WORD/VIDEO IN

Connector: BNC

Input voltage: 5V TTL equivalent

Input impedance: 75Ω ±10%

Allowable frequency deviation of external synchronization: ± 100 ppm

Includes switch for enabling termination

WORD/VIDEO THRU/OUT

Connector: BNC

Output voltage: 5V TTL equivalent

Output impedance: 75 Ω ±10%

Sampling frequency (when using WORD): 44.1/47.952/48/48.048/88.2/96/176.4/192 kHz (47.952/48.048: 48 kHz ± 0.1% pull-down/pull-up)

OUT/THRU switch included (OUT is only for WORD OUT)

ETHERNET

Connector: RJ45

Keyboard

Connector: Mini-DIN (PS/2)

USB

Connector: USB A-type 4-pin

Protocol: USB2.0 HIGH SPEED (480 Mbps)

Audio performance

Frequency response

ANALOG INPUT → ANALOG OUTPUT:

20 Hz - 20 kHz	±0.5 dB (Fs = ALL)
at 40 kHz	+0.5 dB/-2 dB (Fs = 88.2/96 kHz)
at 80 kHz	+0.5 dB/-5 dB (Fs = 176.4/192 kHz)

Distortion

ANALOG INPUT → ANALOG OUTPUT: 0.005% or less
(Reference level: When -20 dB, +23 dBu input, 1 kHz, AES-17LFP)

S/N ratio

ANALOG INPUT → ANALOG OUTPUT: 100 dB or more
(22 kHz LPF A-weighted)

Other specifications

Power

AC 100-240 V, 50-60 Hz

Power consumption

26 W

External dimensions (W x H x D)

482.7 x 88 x 284.4 mm/

19 x 3.465 x 11.2 in.

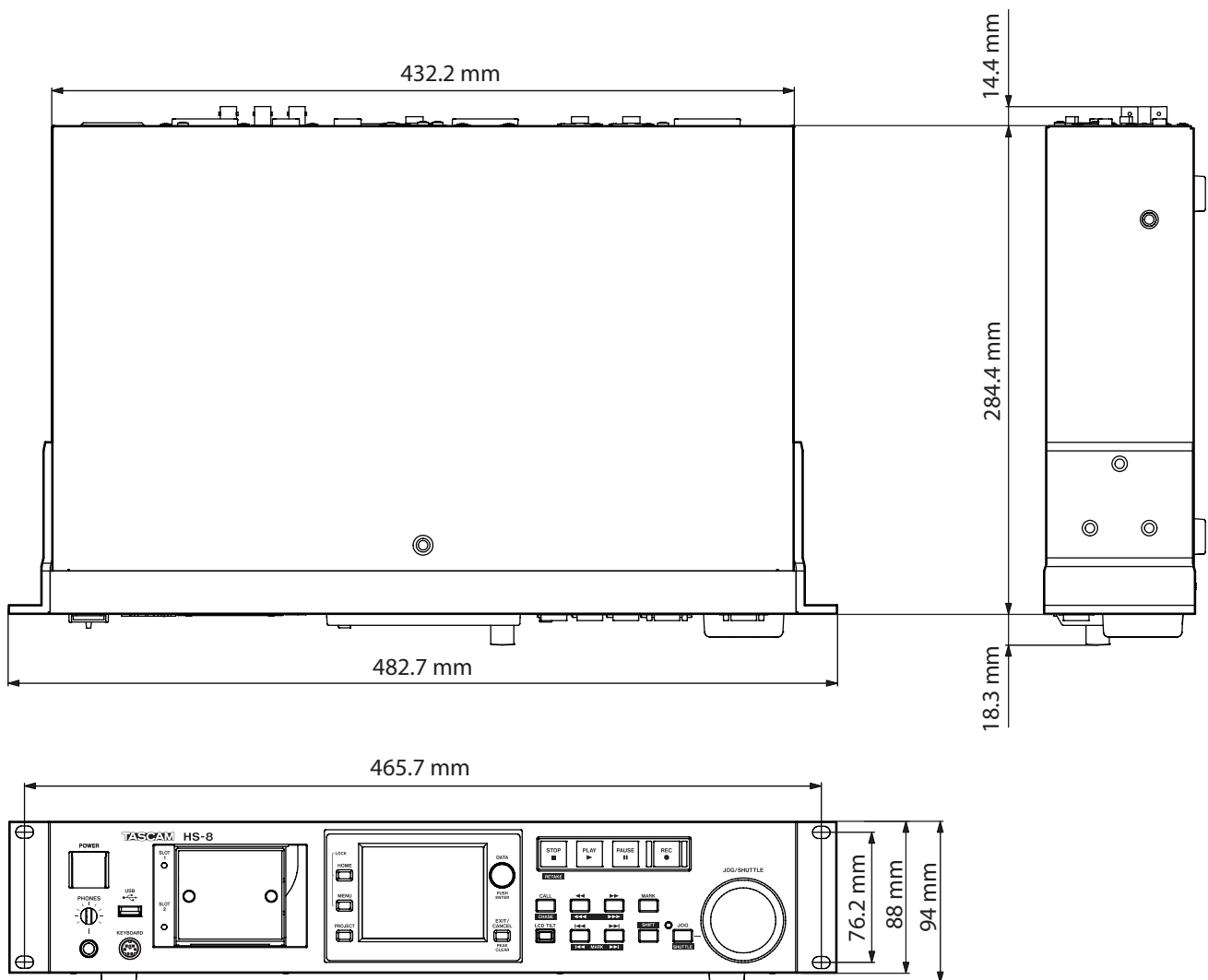
Weight

4.8 kg/10.58 lb

Operating temperature range

5–35°C/41–95°F

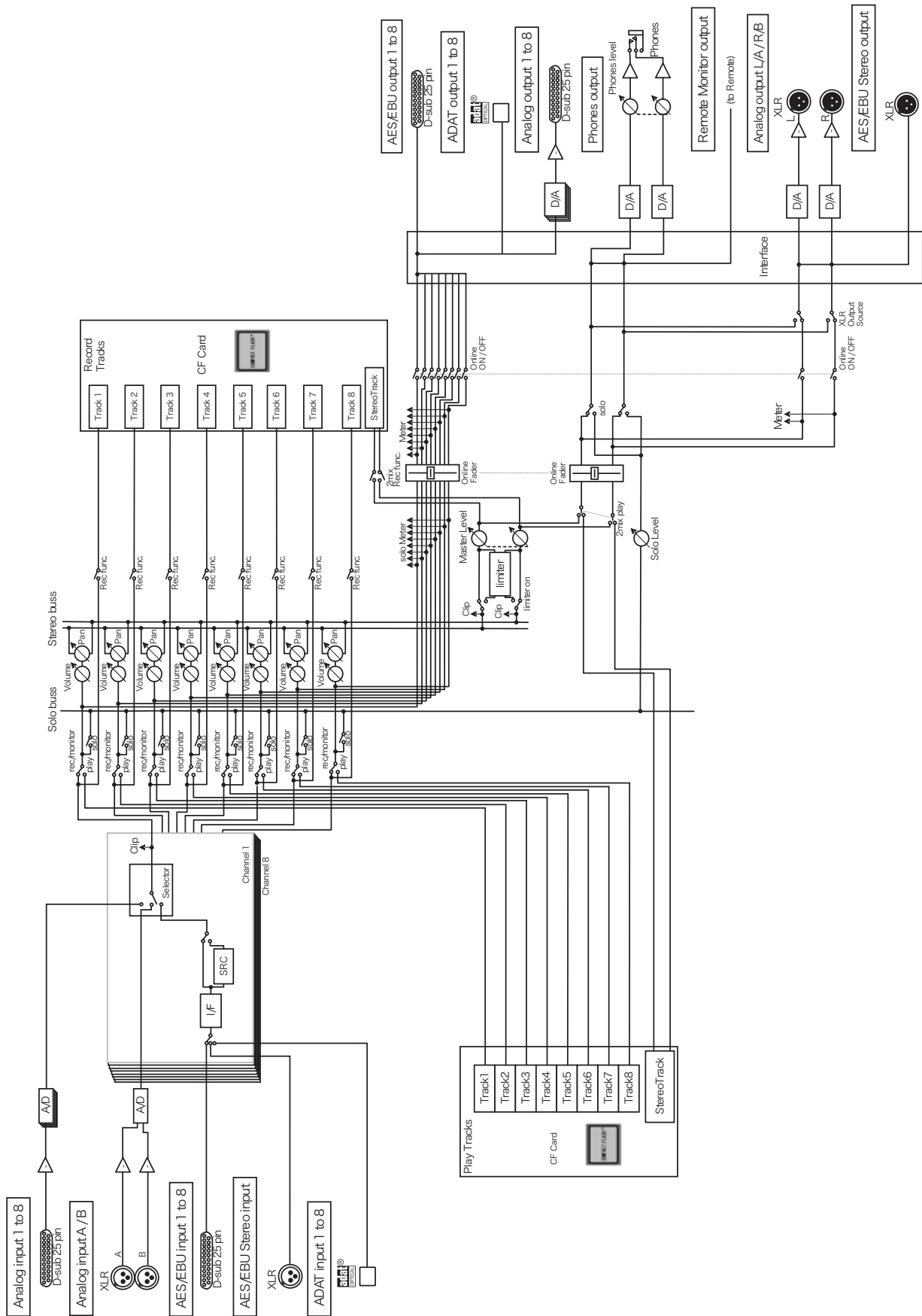
Dimensional drawings



- Illustrations in this manual may differ in part from the actual product.
- Specifications and the external appearance may be changed without notification to improve the product.

13 – Specifications

Block diagram



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HS-8