TASCAM

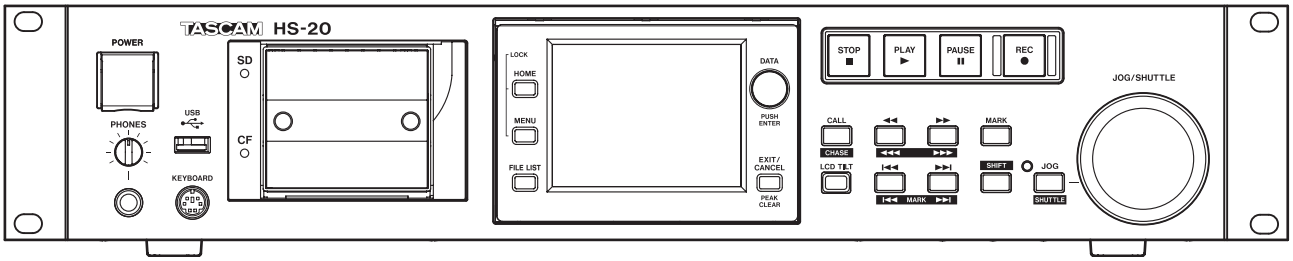
D01235620A

HS-20

2 Channel Audio Recorder

OWNER'S MANUAL

МУЗЦЕНТР
МУЗЫКАЛЬНОЕ ОБОРУДОВАНИЕ
https://muzcentre.ru/



IMPORTANT SAFETY PRECAUTIONS

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.

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.

For Canada

THIS CLASS A DIGITAL APPARATUS COMPLIES WITH CANADIAN ICES-003.

CET APPAREIL NUMERIQUE DE LA CLASSE A EST CONFORME A LA NORME NMB-003 DU CANADA.

In North America use only on 120V supply.

CE Marking Information

a) Applicable electromagnetic environment: E4

b) The average half-cycle r.m.s. inrush current

1. On initial switch-on : 4.6 Arms
2. After a supply interruption of 5s : 3.6 Arms

DECLARATION OF CONFORMITY

We, TEAC EUROPE GmbH. Bahnstrasse 12, 65205 Wiesbaden-Erbenheim, Germany declare in own responsibility, the TEAC product described in this manual is in compliance with the corresponding technical standards.

For the customers in Europe

WARNING
This is a Class A product. In a domestic environment, this product may cause radio interference in which case the user may be required to take adequate measures.

Pour les utilisateurs en Europe

AVERTISSEMENT
Il s'agit d'un produit de Classe A. Dans un environnement domestique, cet appareil peut provoquer des interférences radio, dans ce cas l'utilisateur peut être amené à prendre des mesures appropriées.

Für Kunden in Europa

Warnung
Dies ist eine Einrichtung, welche die Funk-Entstörung nach Klasse A besitzt. Diese Einrichtung kann im Wohnbereich Funkstörungen versursachen; in diesem Fall kann vom Betrieber verlang werden, angemessene Maßnahmen durchzuführen und dafür aufzukommen.

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.

- The apparatus draws nominal non-operating power from the AC outlet with its POWER or STANDBY/ON switch not in the ON position.
- The mains plug is used as the disconnect device, the disconnect device shall remain readily operable.
- 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.
- If you are experiencing problems with this product, contact TEAC for a service eferral. Do not use the product until it has been repaired.

CAUTION

- 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 should be located close enough to the AC outlet so that you can easily grasp the power cord plug at any time.
- 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.

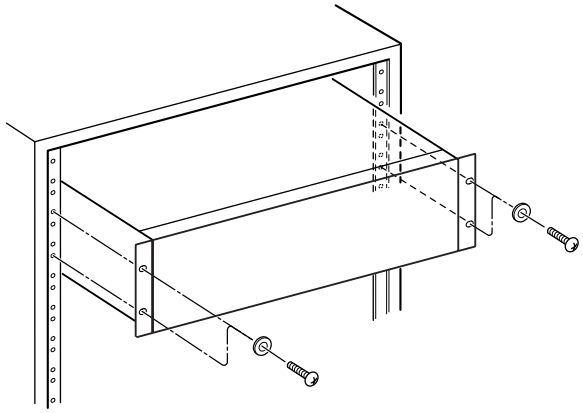
WARNING

- 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.

■ 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.***

■ For European Customers

Disposal of electrical and electronic equipment

(a) All electrical and electronic equipment should be disposed of separately from the municipal waste stream via designated collection facilities appointed by the government or the local authorities.

(b) By disposing of the electrical and electronic equipment correctly, you will help save valuable resources and prevent any potential negative effects on human health and the environment.

(c) Improper disposal of waste equipment can have serious effects on the environment and human health as a result of the presence of hazardous substances in electrical and electronic equipment.

(d) The crossed out wheeled dust bin symbol indicates that electrical and electronic equipment must be collected and disposed of separately from household waste.

(e) The return and collection systems are available to the end users. For more detailed information about disposal of old electrical and electronic equipment, please contact your city office, waste disposal service or the shop where you purchased the equipment.

■ For China

“仅适用于海拔2000m以下地区安全使用”

“仅适用于非热带气候条件下安全使用”

产品有毒有害物质或元素的名称及含量

机种：HS-20		有毒有害物质或元素					
	品名	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr6+)	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有量均在 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）

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1 – Introduction

Thank you very much for purchasing the TASCAM HS-20 Two-Channel Audio Recorder.

Before connecting and using this unit, please take time to read this manual thoroughly to ensure you understand how to properly set it up and connect it, as well as the operation of its many useful and convenient functions. After you have finished reading this manual, please keep it in a safe place for future reference.

You can also download the Owner's Manual from the TEAC Global Site (http://teac-global.com/).

Features

- Uses SD cards and CF cards as recording media (supports ultra DMA)
- Mirror recording possible using two cards in dual slots
- Two-track simultaneous recording at resolutions up to 192kHz/24-bit
- Three operation modes including timeline, take and playlist
- Timeline mode is similar to a tape recorder and allows recording and playback based on a timeline
- Take mode allows playback in take units and flash starting
- Playlist mode allows takes to be added to playlists and played in order or flash started
- File formats: BWF (Broadcast Wave Format)
WAV (Waveform Audio Format)
- Flash starting is possible using a remote control (TASCAM RC-HS20PD or RC-SS20 sold separately)
- Flash starting is also possible using parallel control or a keyboard
- Auto cue, auto ready and incremental play functions
- AES31 editing information can be read and written in timeline mode
- Playlist mode function supports reading and writing of JPPA flash start playlist files
- JOG/SHUTTLE functions
- Color TFT touch panel with a graphical user interface enables intuitive operation
- Balanced analog XLR inputs and outputs
- Unbalanced analog RCA inputs and outputs
- XLR AES/EBU digital inputs and outputs
- Coaxial S/PDIF digital inputs and outputs
- Headphones output
- BNC timecode input and output possible using optional SY-2
- BNC video reference (NTSC/PAL black burst and HDTV Tri-level signals) and word clock input, output and thru
- USB flash drives can be connected to copy files
- LAN (gigabit Ethernet) function allows file transfer and remote control over a network
- Parallel remote control supported
- RS-232C serial remote control supported
- RS-422 serial remote control (based on 9-pin serial protocol) supported using optional SY-2
- Mounting in a rack possible (2U)
- Can be used with TASCAM HS Editor
- SNTP function allows time to be set using an NTP server
- Recorded files can be automatically transmitted over a network to designated servers
- Automatic playback, recording and file transfer possible in time mode using the timer event list
- When SD cards and CF cards are inserted, folders necessary for recording and playback are created automatically

Included items

This product includes the following items.

Take care when opening the package not to damage the items.

Keep the packing materials for transportation in the future.

Please contact TEAC if any of these items are missing or have been damaged during transportation.

- Main unit ..... × 1
- Power cord ..... × 1
- Rackmount screw kit ..... × 1
- Security screws ..... × 3
- Owner's Manual
(this document including warranty at back) ..... × 1

Conventions used in this manual

The following conventions are used in this manual.

- When we refer to keys, connectors and other parts of this unit and other equipment, we use a bold font like this: **MENU** key.
- "CompactFlash card" is sometimes 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.
- SDHC logo is a trademark of SD-3C, LLC.

- Other company names, product names and logos in this document are 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 5º - 35º C (41º- 95º 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
  - Dusty places
- 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

Use a dry soft cloth to wipe the unit clean. Do not wipe with chemical cleaning cloths, thinner, alcohol or other chemical agents.

Doing so could damage the surface or cause discoloration.

Cleaning the display

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 will damage the surface of the LCD. Do not use benzene, thinner, manicure remover, alcohol or similar substances.

About USB flash drives, SD cards and CF cards

This unit uses SD cards and CF cards for recording and playback.

In addition, you can connect USB flash drives and use them to back up data from SD/CF cards and to save files to them.

A list of USB flash drives, SD cards and CF cards that have been confirmed to work with this unit can be found on the TEAC Global Site (http://teac-global.com/).

Precautions for use

USB flash drives, SD cards and CF cards are delicate media. In order to avoid damaging a flash drive or card, please follow these precautions when handling them.

- Do not leave them in extremely hot or cold places.
- Do not leave them in extremely humid places.
- Do not let them get wet.
- Do not put things on top of them or twist them.
- Do not hit them.
- Do not connect or disconnect USB flash drives, SD cards and CF cards when they are being accessed, including during recording, playback and data transfer.
- Always cover their connectors when transporting them. Do not leave connectors exposed.

Note about confirmed media

This unit uses SD cards and CF cards for recording and playback and USB flash drives to back up data from SD/CF cards and to save files to them.

We recommend using genuine TASCAM CF cards, but you can also use commercially-available CF cards.

Micro drives cannot be used with this unit.

Moreover, older SD/CF cards as well as some newer SD/CF cards use slow memory components and internal buffers with low capacity. Use of such SD/CF cards could affect the recording performance of this unit.

Moreover, some older USB flash drives use slow memory components or internal buffers with low capacity.

Use of such USB flash drives could increase the amount of time necessary for reading and writing data.

Please refer to the list of USB flash drives, SD cards and CF cards that have been confirmed to work with this unit on the TEAC Global Site (http://teac-global.com/).

SD card write protection

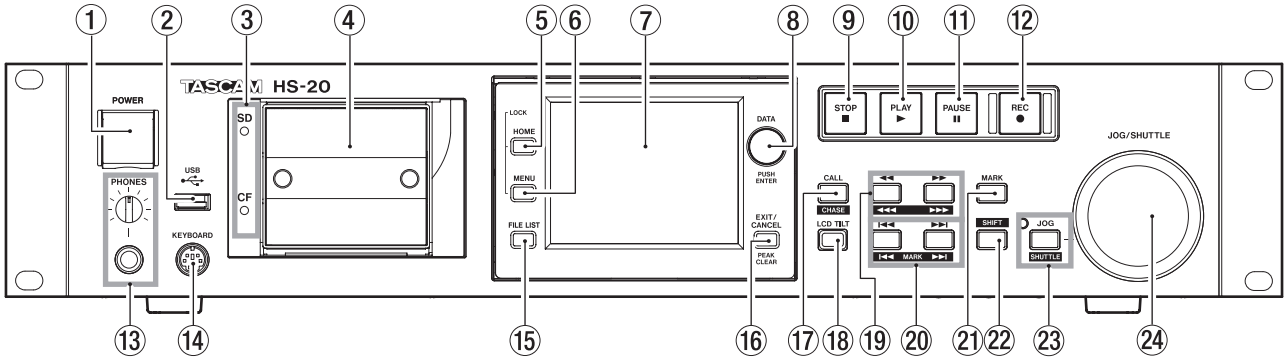
In order to improve operational performance, this unit writes track information to the media. Since track information cannot be written to write-protected SD cards, performance will be affected, including requiring more time to write to the media.

About formats

Always format SD and CF cards with this unit before using them in it. Media formatted by this unit will be optimized to improve performance with it.

If media that has been formatted by a computer or another device is used with this unit, its operation might be affected.

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**
By connecting a USB flash drive, for example, you can back up data from SD/CF cards and save files to them.

By connecting a USB keyboard, you can input folder names, for example.

By default, the unit is set to use Japanese keyboards, which have a different layout from US keyboards.

To use a US keyboard, change the setting on the PREFERENCES page of the SYSTEM SETUP screen. (See "PREFERENCES page" on page 91.)

NOTE

Do not disconnect a USB flash drive when using it to copy files.

You can connect and disconnect a USB flash drive at all other times.

You can connect and disconnect USB keyboards at any time.

This unit is not compatible with USB hubs and other devices with USB hub functions.

③ **SD/CF card indicators**
The indicator for the currently selected card slot lights.

When recording, copying or transferring files by FTP, it blinks rapidly.

When no card is inserted in the current slot, it blinks slowly.

CAUTION

Do not remove a card from the slot when its indicator (SD card or CF card) is blinking rapidly.

④ **SD/CF card slots**
Insert and remove SD cards and CF cards here. (See "Inserting and removing SD and CF cards" on page 21.)

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 "Lock function" on page 24.)

Turn the **DATA** dial when pressing and holding the **HOME** key to adjust the brightness of the color display, the **PAUSE**, **REC** and **PLAY** keys and the **JOG [SHUTTLE]**, and **SD** and **CF** indicators.

Push and turn the **DATA** dial while pressing and holding the **HOME** key to adjust the brightness of only 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 "Lock function" on page 24.)

⑦ **Color display**
This 3.5-inch TFT color display has a 320 x 240 resolution.

It shows various types of information and is used for numerous operations.

⑧ **DATA dial**
Turn to use as a **DATA** dial and press to use as an **ENTER** key. When setting parameter values, press while turning to change them in large increments (coarse mode).

When the take mode Home Screen is open and neither the Flash Page knob nor the NEXT TAKE NAME screen number section are selected, turn this to select the take.

When a pop-up window is open, this works as the OK or CLOSE button.

Turn the **DATA** dial when pressing and holding the **HOME** key to adjust the brightness of the color display, the **PAUSE**, **REC** and **PLAY** keys and the **JOG [SHUTTLE]**, and **SD** and **CF** indicators.

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

⑨ **STOP key**
Press to stop recording or playback.

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.

In timeline mode, press the **PLAY** key while pressing and holding the **REC** key to start recording from that point. 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.

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

⑫ **REC key/indicator**
When a recordable 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.

In timeline mode, press the **PLAY** key while pressing and holding the **REC** key to start recording from that point. Both the **PLAY** and **REC** keys light during recording.

⑬ **PHONES knob/jack**
Connect stereo headphones to this standard stereo phone jack.

This jack outputs the signal from the internal monitoring mixer.

Use the **PHONES** knob to adjust the headphones output level.

CAUTION

Before connecting headphones, minimize the volume with the* PHONES *knob. Failure to do so might cause sudden loud noises, which could harm your hearing or result in other trouble.

⑭ **KEYBOARD connector**
Connect an IBM PC-compatible keyboard with a PS/2 interface here.

You can use it to input the names of folders, for example.

By default, the unit is set to use Japanese keyboards, which have a different layout from US keyboards. To use a US keyboard, change the setting on the PREFERENCES page of the SYSTEM SETUP screen. ("PREFERENCES page" on page 91.)

⑮ **FILE LIST key**
Touch to open the FILE LIST screen. (See "FILE LIST screen overview" on page 30.)

⑯ **EXIT/CANCEL [PEAK CLEAR] key**
Press to cancel input or item selection.

When a pull-up or pull-down menu is open, press to close it.

On the Home Screen, when no pull-up/pull-down menu is open, this key functions as a reset button for peak hold marks shown on the level meters

When the MENU screen or FILE LIST 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.

⑰ **CALL [CHASE] key**
Press to locate to and pause playback at the call point, which is where playback last started from playback standby.

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

⑱ **LCD TILT button**
Press this button to unlock the color display.

To adjust the angle of the color display, press this button to unlock it and pull the bottom of the display outward.

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

⑲ **◄◄ [◄◄◄] and ►► [►►►] (search) keys**
Press one of these keys to search.

◄◄ [◄◄◄] key: search backward

►► [►►►] key: search forward

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

⑳ **I◄◄ / ►►I [MARK I◄◄ / ►►I] (skip) keys**
Use these keys to skip between regions, takes and entries.

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

㉑ **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 timeline/take is 99. (See "Mark functions" on page 105.)

㉒ **SHIFT key**
When stopped/in playback standby/during playback:

- Press the I◄◄ key while pressing and holding this key to move to the previous mark, and resume the same playback state.
- Press the ►►I key while pressing and holding this key to move to the next mark, and resume the same playback state.
- Press the ◄◄ [◄◄◄] or ►► [►►►] 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 **CALL [CHASE]** key while pressing and holding this key to turn timecode synchronization ON/OFF.

㉓ **JOG [SHUTTLE] key and indicator**
Press to enable use of the JOG/SHUTTLE functions.

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.

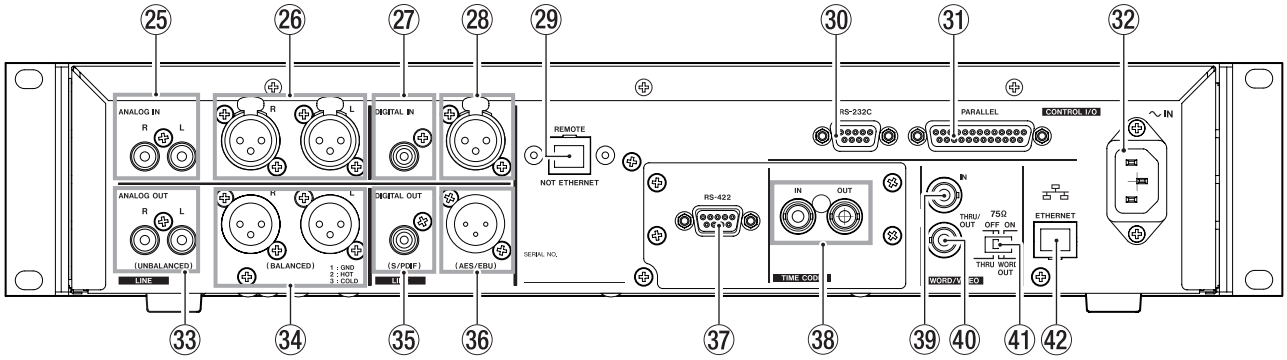
Press this key again to disable either mode.

㉔ **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.

Rear panel



㉕ **ANALOG IN L/R (UNBALANCED) connectors**
These RCA pin jacks are analog unbalanced inputs (L/R)

The rated input level is –10dBV.

㉖ **ANALOG IN L/R (BALANCED) connectors**
These XLR connectors are balanced analog inputs (L/R)

The rated input level is +4dBu. (1: GND, 2: HOT, 3: COLD)

㉗ **DIGITAL IN (S/PDIF) connector**
This connector is an unbalanced input for digital audio in IEC60958-3(S/PDIF) and AES3-2003/IEC60958-4 (AES/EBU) formats.

Sampling frequencies of 88.2 kHz and 96 kHz are transmitted at double speed, and 176.4 kHz and 192 kHz are at quadruple speed.

This unit is equipped with a sampling rate converter which supports 32 kHz to 192 kHz.

㉘ **DIGITAL IN (AES/EBU) connector**
This connector is an XLR balanced input for digital audio in AES3-2003 / IEC60958-4 (AES/EBU) and IEC60958-3 (S/PDIF) format.

Sampling frequencies of 88.2 kHz and 96 kHz are transmitted at double speed, and 176.4 kHz and 192 kHz are at quadruple speed.

This unit is equipped with a sampling rate converter which supports 32 kHz to 192 kHz.

㉙ **REMOTE connector**
Connect a TASCAM RC-HS20PD remote control (sold separately) here.

NOTE

A protective cover is attached to this connector when shipped from the factory. Remove the cover to use the connector.

CAUTION

This is not an Ethernet connector (LAN, etc.). Never connect this to a network using an Ethernet cable.

Doing so could damage this unit or equipment in the network.

㉚ **RS-232C connector**
This is a 9-pin D-sub connector for RS-232C serial control.

Connect an external controller, for example, here.

NOTE

It cannot be used at the same time as the* RS-422 *connector. (See "RS–232C page" on page 85.)

㉛ **PARALLEL connector**
This is a 25-pin D-sub connector for parallel control.

Connect a TASCAM RC-SS20 or another external controller here.

㉜ **AC IN connector**
Connect the included power cord here.

㉝ **ANALOG OUT L/R (UNBALANCED) connectors**
These RCA pin jacks are analog unbalanced outputs (L/R).

Their rated output level is –10 dBV.

㉞ **ANALOG OUT L/R (BALANCED) connectors**
These XLR connectors are balanced analog outputs (L/R).

Their rated output level is +6 dBu when Digital Ref. Level is set to –9dBFs and +4dBu in other cases. (1: GND, 2: HOT, 3: COLD)

㉟ **DIGITAL OUT (S/PDIF) connector**
This connector is an unbalanced output for digital audio in IEC60958-3(S/PDIF) format.

Sampling frequencies of 88.2 kHz and 96 kHz are transmitted at double speed, and 176.4 kHz and 192 kHz are at quadruple speed.

㊱ **DIGITAL OUT (AES/EBU) connectors**
This connector is an XLR balanced output for digital audio in AES3-2003/IEC60958-4 (AES/EBU) format.

Sampling frequencies of 88.2 kHz and 96 kHz are transmitted at double speed, and 176.4 kHz and 192 kHz are at quadruple speed.

㊲ **RS-422 connector (attached to optional SY-2 board)**
This is a 9-pin D-sub connector for RS-422 serial control. Connect an external controller, for example, here.

NOTE

This cannot be used at the same time as the* RS-232C *connector. (See "RS–422 page" on page 86.)

㊳ **TIME CODE IN/OUT connectors (attached to optional SY-2 board)**
These BNC connectors are for SMPTE timecode input and output.

㊴ **WORD/VIDEO IN connector**
This BNC connector is for input of word clock and video reference signals. Use this to input a word clock signal (44.1 kHz, 48 kHz, 88.2 kHz, 96 kHz, 176.4 kHz or 192 kHz) or a video reference signal (NTSC/PAL black burst or HDTV Tri-Level).

Use the switch to set whether or not to terminate with 75Ω.

㊵ **WORD/VIDEO THRU/WORD OUT connector**

This BNC connector is for output of word clock thru/out and video reference thru signals.

Use this to output a word clock signal (thru, 44.1 kHz, 48 kHz, 88.2 kHz, 96 kHz, 176.4 kHz or 192 kHz) or a video reference signal (IN connector signal thru only).

Use the THRU/WORD OUT switch to set the signal output.

㊶ **75Ω OFF/ON and THRU/WORD OUT switch**
Use this switch to make the following settings.

- Whether or not the **WORD/VIDEO IN** connector has a terminator (75Ω)
- The WORD/VIDEO output THRU/OUT setting (OUT is only for WORD)

㊷ **ETHERNET connector**
Use this Ethernet connector to connect to a network for file transfer and to control this unit from an external source.

PARALLEL connector

The **PARALLEL** connector on the rear panel allows external control of this unit. (A TASCAM RC-SS20 can also be connected.)

The pin assignments are as follows.

Pin No.	Normal	RC-SS20 PonMode	I/O
1	GND	GND	
2	PLAY	FLASH 1	I
3	STOP	FLASH 2	I
4	RECORD	FLASH 3	I
5	SKIP FWD	FLASH 4	I
6	SKIP BWD	FLASH 5	I
7	(Reserved)	STOP	I
8	FADER_START	FADER_START	I
9	(Reserved)	(Reserved)	O
10	TALLY_PAUSE	TALLY_PAUSE	O
11	TALLY_RECORD	RESERVED	O
12	TALLY_STOP	TALLY_STOP	O
13	TALLY_PLAY	TALLY_PLAY	O
14	REMOTE_SELECT, H or Open	REMOTE_SELECT, L	I
15	PAUSE	FLASH 6	I
16	(Reserved)	FLASH 7	I
17	AUX1, FF	FLASH 8	I
18	AUX2, REW	FLASH 9	I
19	AUX3, MARK	FLASH 10	I
20	(Reserved)	FLASH_PAGE	I
21	(Reserved)	(Reserved)	O
22	TALLY_SD	TALLY_SD[1]	O
23	(Reserved)	(Reserved)	O
24	TALLY_CF	TALLY_CF[2]	O
25	+5V[3]	+5V[3]	

I: Command input for transport control
Internal circuit, +5V pull-up
Triggers from a low input level of 50 msec or more

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

1For RC-SS20, assigned to CF indicator

2For RC-SS20, assigned to CD indicator

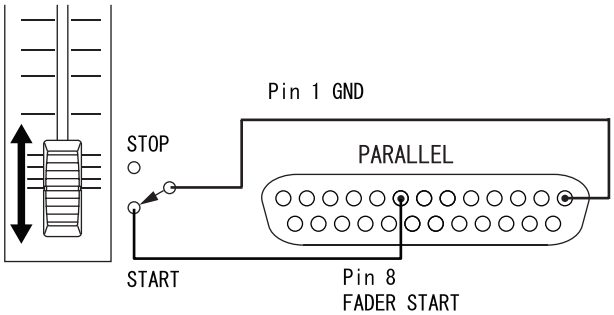
3+5V: maximum supplied current is 50 mA

When REMOTE Select (pin 14) is set to high, it can be used as an ordinary parallel controller.

When set to low, flash start mode is enabled.
In addition, depending on the high/low setting of the Flash Page (pin 20), the key assignments are as follows.

Pin 14	Pin 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 unit.



For information about the assignment of AUX 1–3 (pins 17–19) functions, see "PARALLEL page" on page 85.

NOTE

When controlling this unit with an external device that is connected to the* PARALLEL *connector, if the unit is stopped, you can start recording immediately by simultaneously inputing PLAY and RECORD signals. In addition, by simultaneously inputting PLAY and RECORD signals during playback in timeline mode, you can start overwrite recording.

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.

Make settings related to communication on the RS–232C page of the REMOTE SETUP screen. (See "RS–232C page" on page 85.)

NOTE

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

RS-422 connector (attached to optional SY-2 board)

The optional SY-2 board is equipped with an **RS-422** connector.

You can control this unit remotely by installing an SY-2 board in this unit and connecting the **RS-422** connector to a controller or editor compatible with the SONY P2 protocol (RS-422).

Make settings related to operation on the REMOTE SETUP screen RS–422 page. (See "RS–422 page" on page 86.)

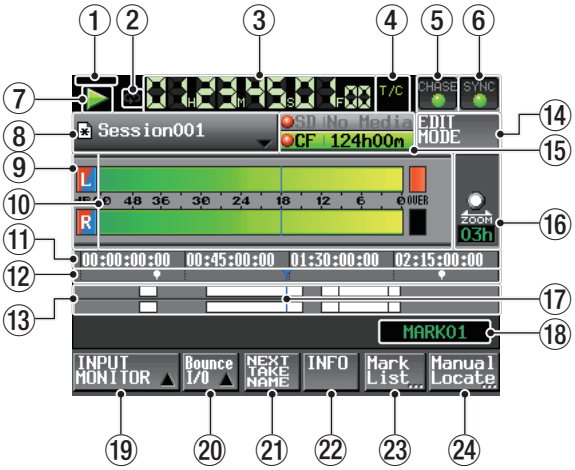
NOTE

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

Home Screen

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

In timeline mode



① **NTP server time synchronization status**
If an error occurs during synchronization with an NTP server, an error icon will blink like this: NTP ⇄ NTP .

② **Repeat status**

When repeat playback is on, the icon lights green.
When repeat playback is off, the icon appears unlit.

③ **Time counter (button)**
The time displayed is the elapsed time or the timecode time.
Touch this area to change the time display mode.

④ **Time mode (button)**
This icon shows the current time display mode.
Touch this area to change the time display mode.

ABS — The time elapsed from the beginning of the timeline is shown.

T/C — The timecode for the timeline is shown.

⑤ **Timecode status button/indicator**

TC — When accurate timecode is input and recognized correctly, the TC indicator appears green.

TC — When timecode is not recognized correctly, the TC indicator appears unlit.

This shows the status when operation is synchronized to timecode.

CHASE — The CHASE indicator appears green only when operation is synchronized with external timecode or the built-in timecode generator (selectable).

CHASE ⇄ CHASE — The CHASE indicator blinks when not operating with timecode synchronization and when synchronization is lost during synchronized operation.

Touch this area to open the SYNC T/C screen. (See "Sync and timecode settings (SYNC T/C)" on page 81.)

⑥ **Audio synchronization status button/indicator**

SYNC — When synchronized to a Master clock, the SYNC indicator appears green.

SYNC ⇄ SYNC — The SYNC indicator blinks when not synchronized to a Master clock.

Touch this area to open the SYNC T/C screen. (See "Sync and timecode settings (SYNC T/C)" on page 81.)

⑦ **Transport status indicator**
This icon shows the current transport status.

- Playing back or jogging playback (forward)
- Jogging playback (reverse)
- Playback standby
- Stopped
- Searching backward
- Searching forward
- Searching backward (high-speed)
- Searching forward (high-speed)
- x32 — The number shown when searching backward (shuttle operation) changes with the current speed: x2, x4, x8, x16, x32.
- x32 — The number shown when searching forward (shuttle operation) changes with the current speed: x2, x4, x8, x16, x32.
- Recording
- Recording standby

Touch this area to open the PLAY SETUP screen.

⑧ **AES31 File name (button)**
This shows the current active AES31 file name (AES31 editing information file).

A * appears when the timeline has not been saved after editing (including the addition and removal of folder editing marks)

Touch this area to open a pull-down menu.

START TIME EDIT button

This opens the START TIME screen where you can set the timeline mode starting time. This can only be selected when stopped.

REBUILD button

This rebuilds if files have been deleted or modified using FTP.

This can only be selected when stopped.

SAVE button

Save the contents of the timeline.

This can only be selected when stopped.

SAVE AS button

This name and saves the content of the timeline.

This can only be selected when stopped.

(See "Saving AES31 editing information" on page 42.)

CREATE AES31 button

This opens the AES31 NAME screen where you can create new AES31 files.

This can only be selected when stopped.

(See "Creating new AES31 editing information" on page 43.)

IMPORT ALL TAKES button

This imports all takes in the current folder.

This can only be selected when stopped. (See "Importing all takes" on page 43.)

⑨ **Input monitoring indicators**

The indicators at the left end of the level meters show the status of input monitoring. The indicator background colors show the input monitoring status.

	Playlist Mode	Timeline mode Take mode
MON OFF	L	L
MON ON		L

⑩ **Level meters**

The input signal levels are shown when input monitoring is on, during recording standby and when recording.

Each channel also has an overload indicator at its right end that appears red when the input overloads.

During playback, track playback levels are shown when input monitoring is 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 gray and one of the following messages appears.

Message	Meaning
D-IN NO SIGNAL	No input signal
D-IN UNLOCK	Input signal is not synchronized with system
D-IN NOT AUDIO	Cbit information of input signal is not audio
D-IN Cbit ERROR	Other Cbit information of input signal differs from actual operation mode

D–IN NO SIGNAL shown

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

- Metering point
- Peak hold time
- Release time
- Overload indicator peak level
- Reference level line display on/off

⑪ **Time display area**

This area shows 4 equal divisions of the timeline for the set time display mode.

This area scrolls horizontally to correspond with the time counter.

⑫ **Mark display area**

Timeline marks appear here.

This area scrolls horizontally to correspond with the time counter.

IN mark

OUT mark

Other types of marks

⑬ **Track display area**

This shows the track regions.

The left track is on the top and the right track is on the bottom.

Region fade-ins, fade-outs and cross-fades are shown in light blue.

The status of each region is shown by color as shown below.

Normal	White	
Being recorded	Red	
Fade-in Fade-out Cross-fade area	Light blue	
Selected region	Medium blue	
Selected silent part	Dark blue	

This area scrolls horizontally along with the time counter.

⑭ **EDIT MODE button**

Touch this to turn editing mode on/off. In this mode you can divide, erase, and trim regions, for example. (See "Editing the timeline" on page 45.)

⑮ **Recording media info button**

This shows which of the card slots is being used and its remaining recording time.

The background color is green during playback and red while recording.

If there is no media in the card slot, No Media appears on a light gray background.

If the card has no folders, "No Project"appears. When an unformatted card is inserted, UNFORMAT appears.

When a card is inserted in the card slot that is not being used for recording, UNMOUNT appears. When recording stops, this will change to its ordinary appearance.

If the total number of entries, including files and subfolders, inside a folder exceeds about 20,000, recording becomes impossible and "Rec Limit" appears. For details, see “Recording operation limitations” on page 29.

Press this area to open the MEDIA SELECT screen. (See “Card selection” on page 26.)

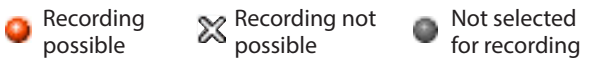
Media status indicators

These indicators show whether media recording is possible, not possible or not selected for recording.

The status will be displayed in timeline and take modes.

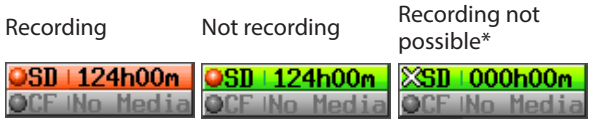
(Status is not displayed in playlist mode.)

- Indicators



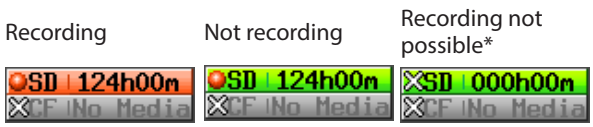
- Remaining media button examples

1 REC MODE set to Single



2 REC MODE set to Mirror

3 REC MODE set to Mirror when mirroring not possible*



*See “Setting button appearance” on page 77 for more information about when recording is not possible or mirroring is not possible.

⑯ **Zoom rate**

This shows the track area zoom ratio and the amount of time displayed.

Turn the **DATA** dial to the right to zoom in (reduce the amount of time displayed) and turn it to the left to zoom out (increase the amount of time displayed).

⑰ **Timeline cursor**

This cursor shows the position of recording or playback. It is always shown in the middle of the screen.

⑱ **Mark name**

This is the name of the mark at the current time or the nearest preceding mark.

Touch this part while a mark name other than the auto mark is shown to open the mark name editing screen.

⑲ **INPUT MONITOR button**

Touch this button to open a pull-up menu where you can turn input monitoring ON/OFF.

When ON, sound input through the assigned input connector is always output from this unit.

⑳ **BOUNCE I/O button**

Touch this button to open a pull-up menu for bouncing.

Bounce button

Touch this button to bounce. In the following circumstances, this button appears gray and cannot be used.

- When both starting (IN) and ending (OUT) points have not been set
- During playback or recording

SET IN button

Touch to set the current position as the bounce starting (IN) point.

SET OUT button

Touch to set the current position as the bounce ending (OUT) point.

CLEAR button

Touch to discard the currently set bounce starting (IN) and ending (OUT) points.

For details about this button, see “Bouncing” on page 55.

㉑ **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 or files recorded in the future.

- **First half of take names**

The first half of the take name can be set to either the User Word, Folder Name or Date/Time.

(Default: DATE/TIME)

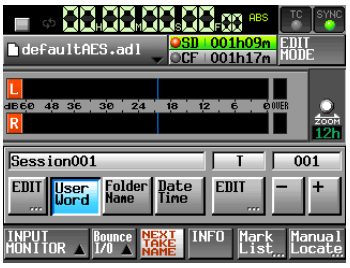
CAUTION

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

- **User Word mode button**

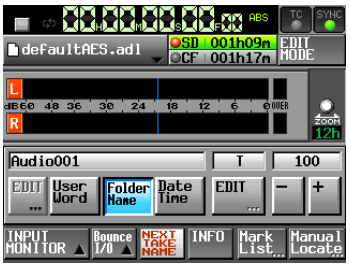
Use the user word for the first half of the take name.

Touch the EDIT button to open the screen where you can change the user word. (This works the same as the screen for editing the names of folders in the root folder.)



- **Folder Name mode button**

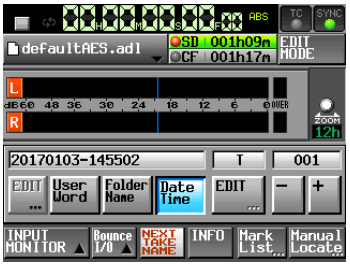
  Use the folder name as the first half of the take name.



- **Date/Time mode button**

  Use the date/time for the first half of the take name. (The format is "yyyymmdd-hhmmss".)

  Example: If it was created at 3:10:20 PM on July 1, 2014, the first half of the take name will be "20140701-151020".



- **Second half of take names**

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

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

  - The current folder is not loaded.
  - The selected card is unavailable
  - When the numerical part of the file name of the current take is 999

CAUTION

- *The Next Take Name setting is saved to the SC/CF card. If you change cards, the setting on that card will be used.*

  (Even when using a card created on another HS series unit, the setting will change when you change the folder.)
- *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.)

NOTE

If the first half of the take name or the letter in the second half is different, a take that has the same three-digit number in the second half can be created.

㉒ **INFO button**

Touch this button to open an information display that shows the file name of the region at the timeline cursor and the current unit settings beneath the track display area.

The upper section shows the file name of the region at the timeline cursor.

The lower section shows the current sampling frequency, recording bit length and frame type settings.

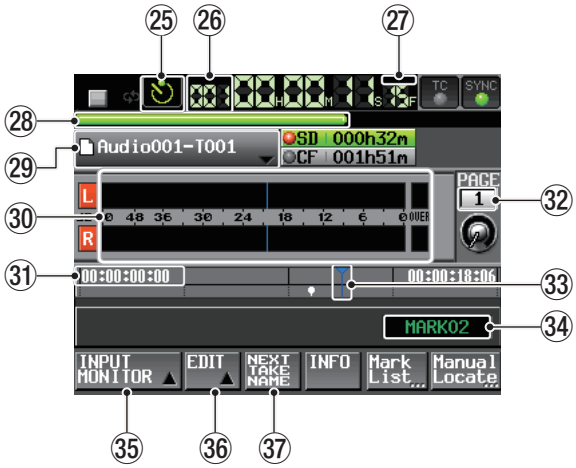
㉓ **Mark List button**

Touch this button to open the mark list. (See "Mark list screen" on page 105.)

㉔ **Manual Locate button**

Touch this button to open the MANUAL LOCATE screen. (See "Manual locate function" on page 108.)

In take and playlist modes



In take mode

NOTE

When in playlist mode, the INPUT MONITOR, EDIT and NEXT TAKE NAME buttons are not shown.

㉕ **Timer event function status button**

This shows timer event function status. (Take mode only)

: Timer event function on

: Timer event function off

: Timer event has been edited, but not saved

Press this button to open the TIMER EVENT LIST screen. (See "TIMER EVENT LIST screen" on page 99.)

㉖ **Take/entry number**
The number of the currently selected take or entry is shown.

In recording standby, the file name of the take to be recorded next will be shown. Take numbers are assigned in the order that they are recorded within a folder.

㉗ **Time mode button**
This icon shows the current time display mode.

Touch this area to change the time display mode.

Mode	Details
	The elapsed time from the beginning of the take is shown.
REMAIN	Unless recording, the time remaining until the end of the take is shown. When recording, the time remaining until the maximum file size is shown.
TOTAL	The elapsed time from the beginning of the folder is shown.
T.REM TOTAL REMAIN	Unless recording, the time remaining until the end of the folder is shown. When recording, the remaining recordable time on the currently selected card using the current recording settings is shown.
T/C	The timecode time of the file being recorded or played is shown.

㉘ **Time bar**
This shows the current playback position. The appearance depends on the time display mode.

Mode	Details	Bar display
	The current playback position relative to the length of the take or entry is shown.	Elongates from left end to right end
REMAIN		Shortens from left end to right end
TOTAL	The current playback position relative to the length of all the takes in the folder or the entire playlist is shown. (White vertical lines show the boundaries between takes and entries.)	Elongates from left end to right end
T.REM TOTAL REMAIN		Shortens from left end to right end
T/C		Elongates from left end to right end

NOTE

A red progress bar that extends from the left end to the right end with a frequency of approximately five seconds is shown during recording.

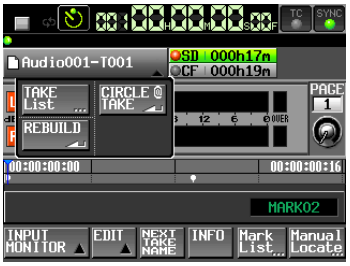
㉙ **Take/entry name button**
This shows the name and icon of the currently active take or entry.

In recording standby, the file name of the take to be recorded next will be shown.

When in playlist mode, a "*" appears in the icon if the playlist has not been saved after editing (including the addition and removal of entries).

Touch this area to open a pull-down menu.

In take mode



TAKE List button

This opens the take selection screen (TAKE screen). On the take selection screen displayed by using this button, the folder selection screen will not open even if you press the folder name display area.

(See "FILE LIST screen overview" on page 30.)

CIRCLE @ TAKE button

Touch this to add or remove "@" at the beginning of the current take name.

(See "Deleting a take" on page 60.)

REBUILD button

This rebuilds if files have been deleted or modified using FTP.

In playlist mode

ASSIGN FILE button

This shows the ASSIGN screen where you can assign files. (See "ASSIGN File screen" on page 69.)

ENTRY LIST button

This shows the entry list (ENTRY) screen. (See "ENTRY list screen" on page 68.)

ADJUST ENTRY button

This opens the ADJUST ENTRY *** screen where you can edit an entry.

(See "Editing entry titles" on page 71, "Editing the playback starting and ending points" on page 72, "Editing the playback starting time" on page 73 and "Editing fade-in/fade-out length and level" on page 74.)

REBUILD button

This rebuilds if files have been deleted or modified using FTP.

SAVE button

This saves the current playlist. This can only be selected when stopped.

(See "Saving playlists" on page 75.)

SAVE AS button

This adds a name to the current playlist and saves it. This can only be selected when stopped.

(See "Saving playlists" on page 75.)

CREATE PLAYLIST button

This opens the PLAYLIST NAME screen where you can create a new playlist.

(See "Creating a new playlist" on page 65.)

㉚ **Level meters**
These are the same as on the Home Screen in timeline mode.

㉛ **Time display area**
The appearance depends on the time display mode.

Mode	Left end	Right end
	00:00:00:00	Total take or entry length
REMAIN	Total take or entry length	00:00:00:00
TOTAL	00:00:00:00	Total folder or playlist length
T.REM / TOTAL REMAIN	Total folder or playlist length	00:00:00:00
T/C	Starting time of folder or playlist	Ending time of folder or playlist

When recording and in recording standby, however, the time bar and division lines are not shown.

㉜ **Flash Page number and knob**
This shows the Flash Page number. Touch this area to enable selection (yellow background), and turn the **DATA** dial to change the page number (turn right to increase and turn left to decrease).

㉝ **Current time cursor**
This cursor shows the playback position. This scrolls horizontally in correspondence with the time counter.

It is not shown when recording (take mode only).

㉞ **Mark name**
This is the name of the mark at the current time or the nearest preceding mark.

Touch this part while a mark name other than the auto mark is shown to open the mark name editing screen.

㉟ **INPUT MONITOR button**
These are the same as on the Home Screen in timeline mode.

㊱ **EDIT button**
Touch this button to open a pull-up menu for take editing.

㊲ **NEXT TAKE NAME button**
These are the same as on the Home Screen in timeline mode.

Flash start screen

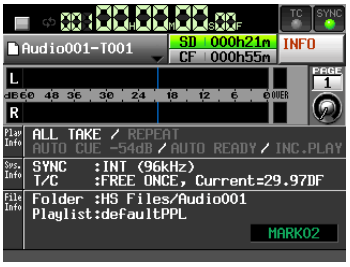
1. Press the **HOME** key when the Home Screen is already open to open the flash start screen.

2. Use the **DATA** dial to select the page that contains the takes or entries that you want to play after touching and highlighting (yellow background) the operation/display knob on the flash page.

NOTE

The flash start screen has five pages (PAGE 1–5) that can each show 20 takes.

3. Touch a take or entry button that has a flash start indicator lit orange on the display to use flash start playback. Flash starting is also possible using a connected PS/2 keyboard and devices connected to this unit's remote connectors (**REMOTE**, **RS-232C** and **PARALLEL**).
4. Touch the INFO button to open the information screen. The contents of this screen are the same as the information screen that opens by pressing the INFO button when the Home Screen is open.



Inserting and removing SD and CF cards

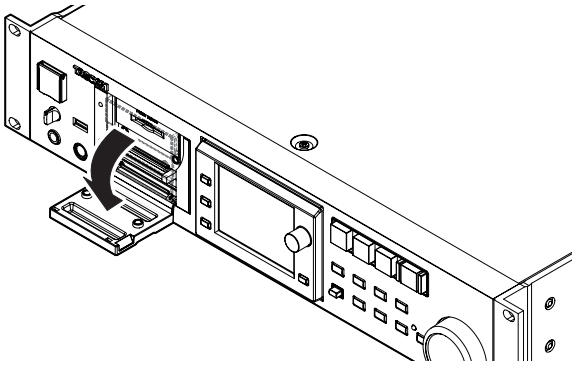
Inserting SD/CF cards

Insert an SD/CF card into the SD card slot or CF card slot on the front of the unit in order to use it for recording and playback.

NOTE

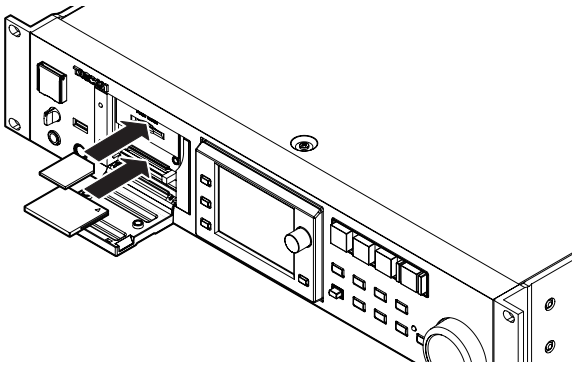
SD/CF cards can be inserted whether the unit is ON or OFF.

1. Pull the card slot cover forward to open it.

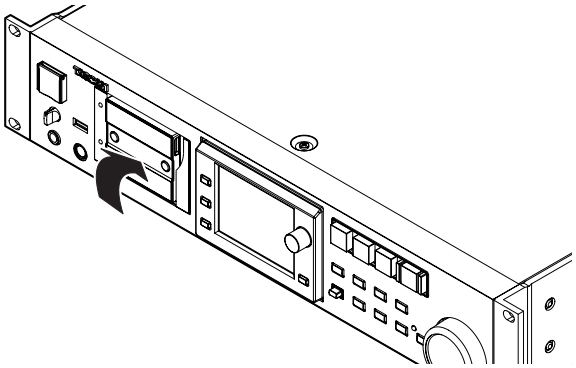


2. Insert the SD/CF card with the correct orientation.

   With the labeled side up, insert the end with the connector completely.



3. Close the cover.



NOTE

If you cannot close the cover of the card slot, remove the SD/CF card and then reinsert the card.

If using a CF card, remove the CF card, press the square button to the right of the slot and then reinsert the card.

Removing SD/CF cards

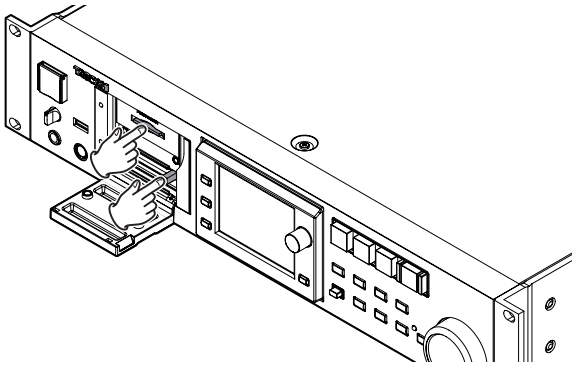
Turn the unit OFF or stop operations before removing an SD/CF card.

CAUTION

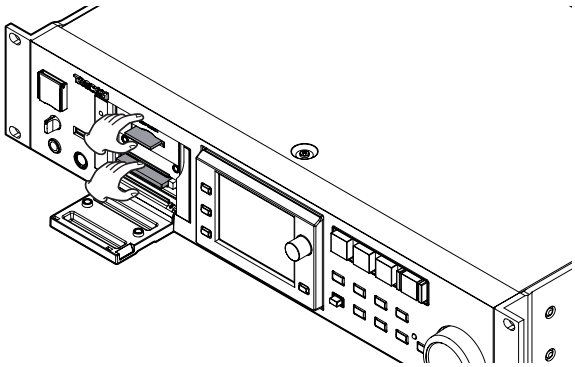
Never remove an SD/CF card during recording, playback or any other operation that accesses the card. Doing so could, for example, cause recording errors, loss of recorded data, and sudden loud noises to be output through monitoring equipment, which could result in damaged equipment and hearing loss.

1. Pull the card slot cover forward to open it.
2. If using an SD card, press the card into the slot slightly and release it to bring the card out.

   If using a CF card, press the square button to the right of the CF card slot to bring the button out. Press the square button in again to partially eject the CF card.



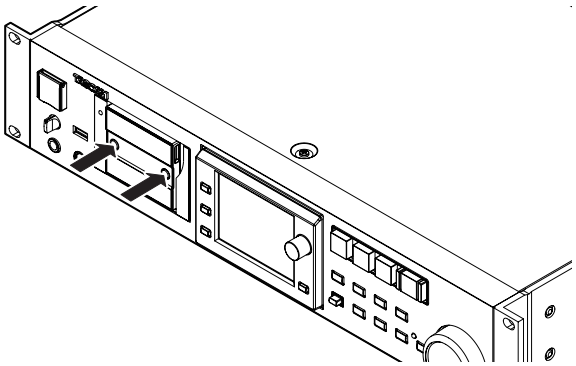
3. Pull the SD/CF card out by hand.



Security screws

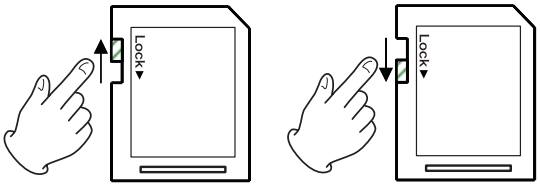
The included security screws can be used to lock the CF card slot covers.

Use a Phillips head screwdriver to install or remove the screws.



Protect switch for SD cards

SD cards have write-protection switches.



Writable Not writable

If you slide the protection switch to the "LOCK" position, you cannot record or edit files on it. Unlock the write-protection if you want to record or delete files on it, for example.

CAUTION

The unit will check all audio files on a write-protected SD card every time the device is switched. As a result, it takes longer to switch the device. Editing the timeline is not possible, either.

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.

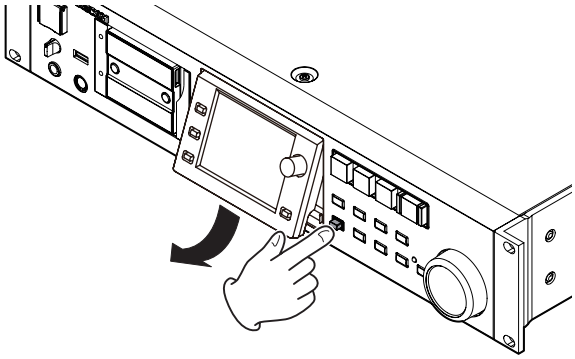
Pull the bottom of the display until you hear a clicking sound.

To restore it to its flat position, push the **LCD TILT** button again to unlock the display, and push the bottom of the display.

Push the bottom of the display until you hear a clicking sound.

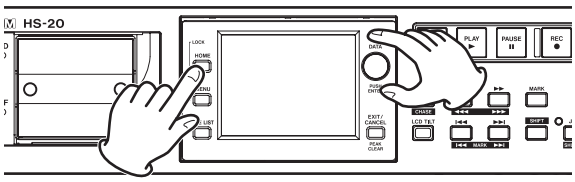
CAUTION

Do not push the display screen itself.



Adjusting 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]**, **SD** and **CF** indicators. Push and turn the **DATA** dial while pressing and holding the **HOME** key to adjust only the brightness of the color display.



Cautions related to display use

- 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 touch screen is made of film and glass. Do not apply 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.

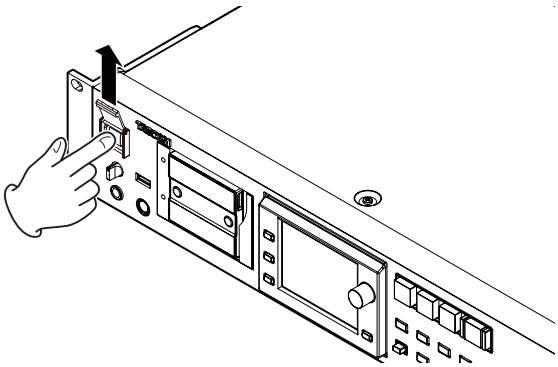
- Do not apply a commercially-available screen protection film to the display. Doing so could prevent normal operation.
- Gently wipe the display with a soft dry cloth that does not shed dust (e.g. a cleaning cloth). Avoid wiping with a stiff cloth or rubbing with force. Doing so could damage the surface 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 and press the **POWER** switch.



Start-Up Screen

Home Screen

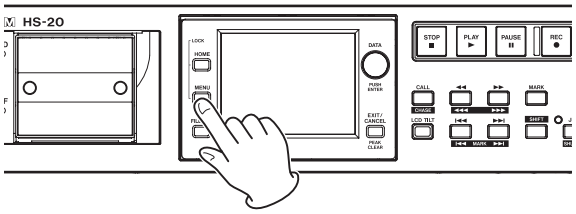
To turn the power OFF, push the **POWER** switch on the front panel again.

CAUTION

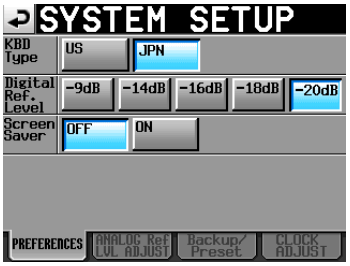
Never turn the power OFF during recording, playback, or any other operation that accesses an SD or CF card. Doing so could, for example, cause recording errors, loss of recorded DATA, and sudden loud noises to be output through monitoring equipment, which could result in damaged equipment and hearing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

Setting the time of the built-in clock

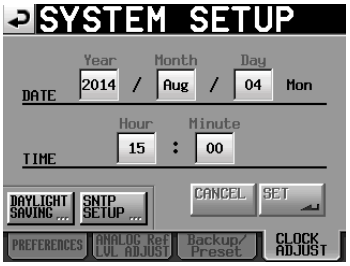
1. Press the **MENU** key on the front panel to open the MENU screen.



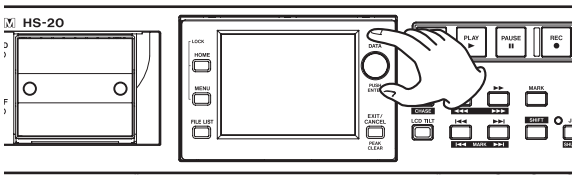
2. Touch the SYSTEM SETUP button to open the SYSTEM SETUP screen.



3. Touch the CLOCK ADJUST tab to open the CLOCK ADJUST 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.



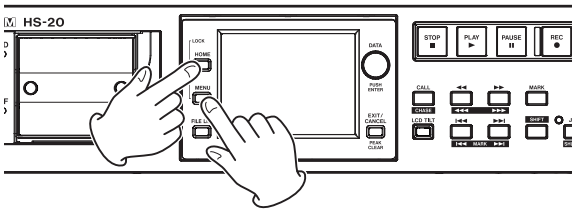
5. Touch the SET button or push the **DATA** dial to confirm the setting.

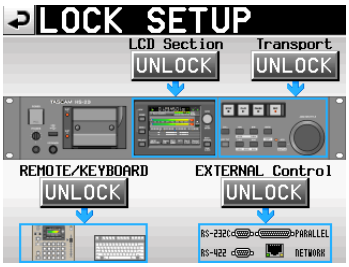
NOTE

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

Lock function

Press the **MENU** key while pressing and holding the **HOME** key on the front of the unit to open the LOCK SETUP screen. On this screen you can turn on/off the lock function that disables operation from the front panel and external devices.

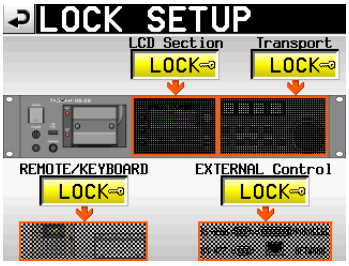




The front panel is divided into two sections, which can be locked and unlocked separately.

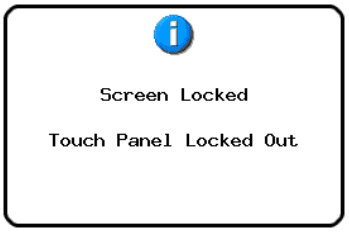
Types of external devices are also divided into two categories, which can be locked and unlocked separately.

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



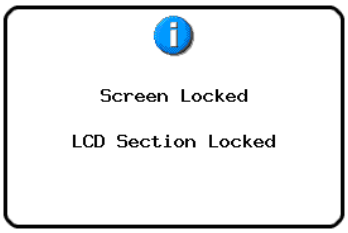
Locked on LOCK SETUP screen

- When the LCD section is set to LOCK:
  - If the display is touched, the following pop-up message appears when the display panel is locked.



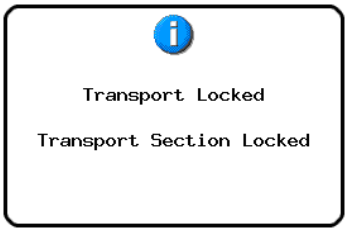
Display panel locked

- If one of the keys around the display is pressed, the following pop-up message appears when the display keys are locked.



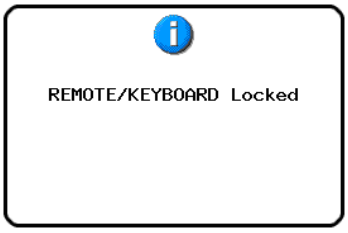
Display keys locked

- When Transport is set to LOCK, if one of the transport keys is pressed, the following pop-up message appears.



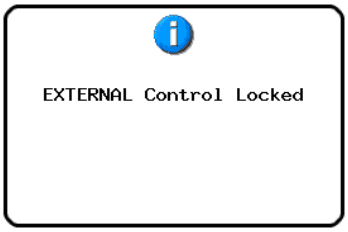
Transport locked

- When REMOTE/KEYBOARD is set to LOCK, if a remote control or keyboard connected to a remote connector is used, the following pop-up message appears.



Remote/Keyboard locked

- When EXTERNAL CONTROL is set to LOCK, if an operation is attempted using RS-232C, RS-422, PARALLEL or NETWORK control, the following pop-up message appears.



External control locked

Recording times

This table below shows the total amount of recording time (in hours and minutes) possible on SD/CF cards of various capacities for each recording format.

File recording format	Card capacity		
	8 GB	16 GB	32 GB
16-bit, 44.1kHz	12:34	25:10	50:21
16-bit, 48kHz	11:32	23:07	46:16
24-bit, 44.1kHz	8:22	16:46	33:34
24-bit, 48kHz	7:41	15:24	30:50
24-bit, 88.2kHz	4:11	8:23	16:47
24-bit, 96kHz	3:50	7:42	15:25
24-bit, 176.4kHz	2:05	4:11	8:23
24-bit, 192kHz	1:55	3:51	7:42

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

4 – Basic operation

In this chapter, we explain the basic operation procedures that are the same in each operation mode.

The display on this unit functions as a touchscreen.

Operate the unit using its keys, switches and touchscreen display buttons.

On every screen except the Home Screen, a button appears at the top left. Touch this button to return to the previous screen.

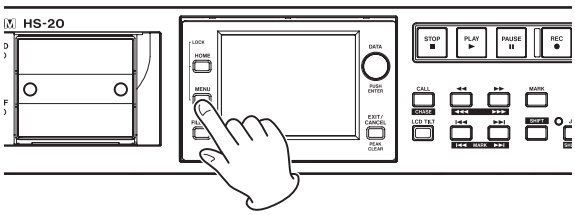
NOTE

You can also return to the previous screen by pressing the **EXIT/CANCEL [PEAK CLEAR]** *key.*

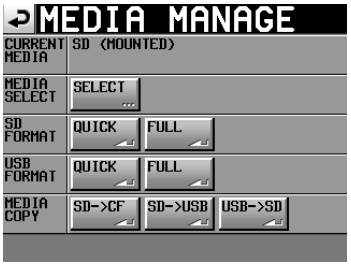
SD/CF card preparation

Card selection

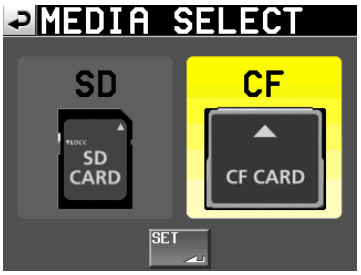
1. Press the **MENU** key on the front panel to open the MENU screen.



2. Touch the MEDIA MANAGE button to open the MEDIA MANAGE screen.



3 Touch the SELECT button from the MEDIA SELECT item to open the MEDIA SELECT screen.



NOTE

You can also open the MEDIA SELECT screen by touching the recording media info button on the Home screen.

4 Touch the button for the card that you want to use to select it.

The background of the selected card appears yellow.

5 Touch the SET button to return to the MEDIA MANAGE screen.

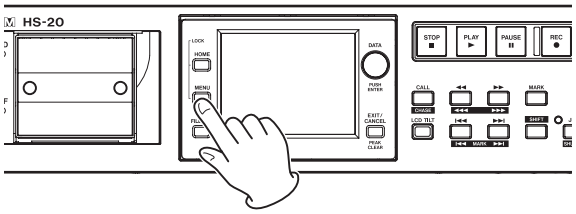
6. If you also want to format the card now, follow the procedure starting with step 3 in "Formatting SD/CF cards" next.

Formatting SD/CF cards

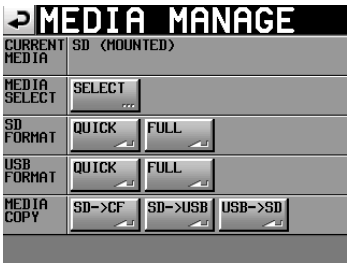
CAUTION

- *Formatting an SD/CF card erases all the data on it.*
- *Always format SD and CF cards with this unit before using them in it. If an SD/CF card that has been formatted by another device or PC is used, operation might be affected.*

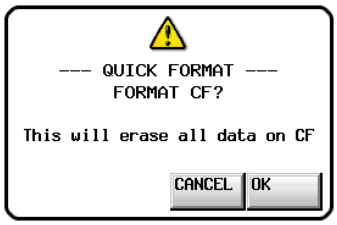
1 Press the **MENU** key on the front panel to open the MENU screen.



2 Touch the MEDIA MANAGE button to open the MEDIA MANAGE screen.



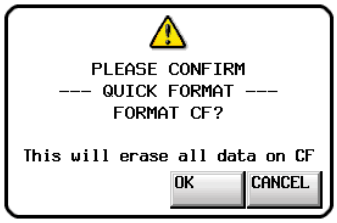
3 Touch the QUICK button next to the SD FORMAT or CF FORMAT item, the following message appears on the pop-up window.



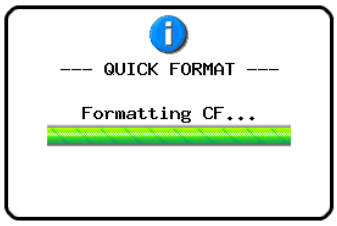
NOTE

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

4. Click the OK button in the pop-up window. A reconfirmation pop-up window appears.



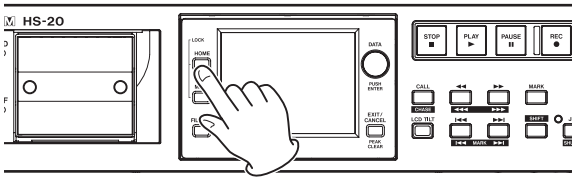
5. Click the OK button in the pop-up window.
   During formatting, the following pop-up message appears.

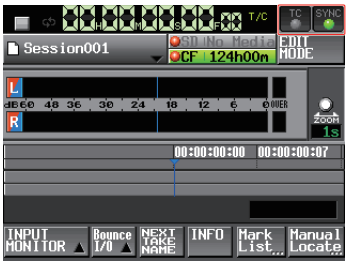


When formatting ends, the Home Screen opens.

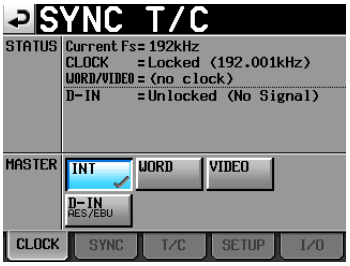
Setting the master clock

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.



NOTE

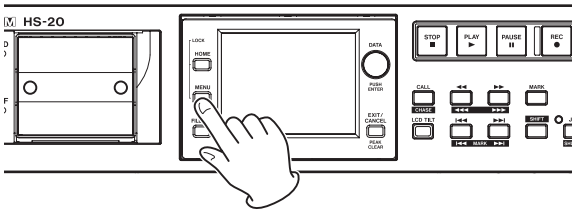
You can also open the SYNC T/C screen by touching the SYNC T/C button on the MENU screen.

3 Select the master clock that you want to use from the MASTER item. (See "Sync and timecode settings (SYNC T/C)" on page 81.)

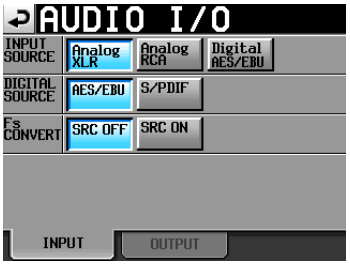
Setting inputs and outputs

Setting the inputs

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



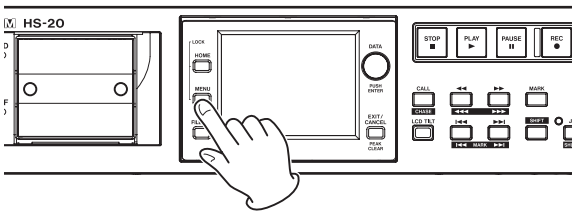
2. Touch the AUDIO I/O button to open the AUDIO I/O screen.



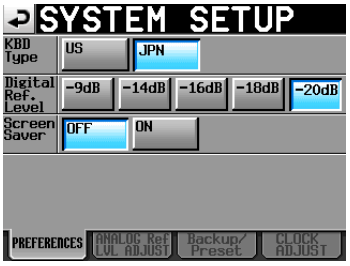
On the INPUT page, make settings for input source. For details, see "INPUT page" on page 90.

Setting reference levels

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.



On the PREFERENCES page, set the digital reference level (Digital Ref. Level).

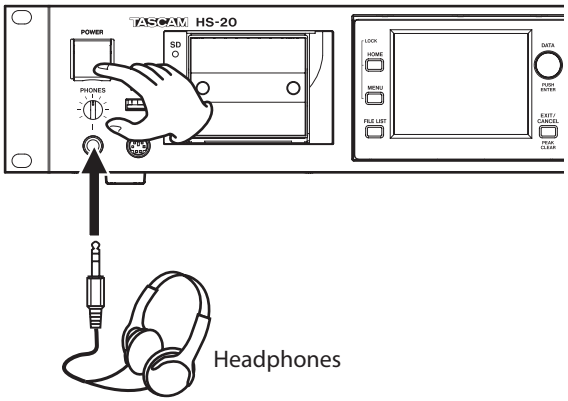
(You can also select the type of keyboard.)

For details, see "PREFERENCES page" on page 91.

Connecting headphones

Connect headphones to the **PHONES** jack on the front panel.

Keep the headphones knob turned all the way to the left (volume minimized) when connecting headphones.



CAUTION

Before connecting headphones, turn the **PHONES** *knob to the minimum volume. Failure to do so might cause sudden loud noises, which could harm your hearing or result in other trouble.*

Recording operation limitations

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

- **When the total number of items in one folder exceeds about 20000**

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

- **When recording/editing is repeated in timeline mode and the available memory runs short**

  Repeating recording/editing may greatly consume memory to manage regions or editing history. In this case, recording cannot be performed, and the following pop-up message appears:

In this case, the remaining recording time indicator for the currently selected card on the Home Screen shows Rec Limit.

CAUTION

The total number of items inside one folder includes files and folders not created by this unit.

Management files, system files and other files and folders that are not ordinarily visible are also included in the total.

Explanation of folder structure

This unit manages audio files in audio folders.

Each SD/CF card has an "HS Files" folder that holds audio folders that contain audio files (which are called "takes") in groups.

Folder structure

The folder structure is as shown below.

You can check the SD/CF card folder and file structure by accessing it from a computer using a card reader, for example.

Be aware, however, if you change or erase files inside a folder, or change any names, the unit might not be able to play the contents of that folder.

NOTE

Other management files and folders are also created.

File names

The format used in naming files is as follows.

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

```
ROOT
├── HS Files
│   ├── Audio001
│   │   ├── defaultAES.adl[1]
│   │   ├── Audio001-T001.wav
│   │   ├── Audio001-T002.wav
│   │   │   :
│   │   ├── Audio001.adl
│   │   └── _playlists
│   │       ├── defaultPPL.ppl[2]
│   │       ├── Playlist01.ppl
│   │       ├── Playlist02.ppl
│   │       │   :
│   │       ├── exportedPPLFile.ppl
│   │       │   :
│   │       │   :
│   │       ├── PPLFileforImport.ppl
│   │       │   :
│   │       │   :
```

[1]This AES31 file is automatically created

[2]This PPL file is automatically created

File formats

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

File formats:	BWF/WAV*
Sampling frequencies:	44.1/48/88.2/96/176.4/192 kHz
Quantization bit depth:	16/24 bits
Number of tracks:	2

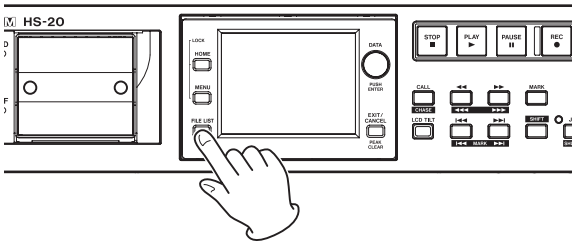
*This unit cannot record ordinary WAV files.
(It can only play them.)

FILE LIST screen overview

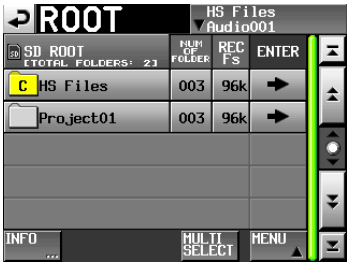
Press the **FILE LIST** key on the front of the unit to open the AES31 file selection, take selection or playlist selection screen according to the operation mode.

When one of these screens is open, press the **FILE LIST** key to open the audio folder selection screen.

When the audio folder selection screen is open, press the **FILE LIST** key to open the root folder selection screen.



Root folder selection screen



- **Directory display**

  The current directory level and number of subfolders within the root folder are shown.

  (In the example above, the root directory of the SD card contains two folders.)

- **NUM OF FOLDER column**

  Shows the total number of folders in the root directory.

- **Fs**

  Shows the sampling frequency setting used when recording for each folder. The sampling frequency values are abbreviated as follows.

Sampling frequencies:	Fs abbreviation
44.1kHz	44k
47.952 kHz (48 kHz –0.1% pull-down)*	48k–
48.048 kHz (48 kHz +0.1% pull-up)*	48k+
88.2kHz	88k
176.4kHz	176k

  *This unit is not compatible with 47.952/48.048kHz recording/playback. When loaded, "Unsupported Fs." appears in a pop-up and recording and playback are disabled.

- **ENTER button**

  Touch the ➡ button for the current folder (the letter "C" appears in the C icon, which is also highlighted yellow) to view its contents.

  If you touch the ➡ button for any folder other than the current folder, a pop-up window will appear confirming that you want to load that folder. Touch the OK button to show the contents of that folder after it completes loading.

- **Folder Name button**

Touch to select the corresponding folder. The letter "C" appears in the C icon, which is also highlighted yellow, for the currently loaded folder.

- **INFO button**

  Touch this button when a folder is selected to open a pop-up window with information about that file.

  If no folder is selected, press this button to show information about the entire card.

- **MULTI SELECT button**

  Use this to enable the selection of multiple folders.

- **MENU button**

  Touch to open a pull-up menu where you can select LOAD, REBUILD, EDIT NAME and DELETE.

- **Scroll buttons**

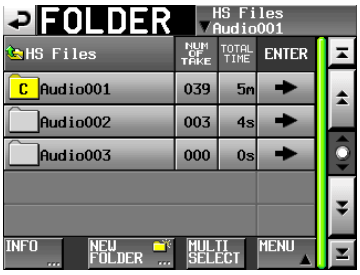
  Use these buttons to scroll to the beginning or end of the folder list or scroll one page (five lines) forward or backward. You can also scroll through the folder list one line at a time using the **DATA** dial.

- **Folder name at the top right of display**

  Touch this to open a screen according to mode as follows.

Timeline mode	Opens the AES31 file selection screen for the current folder.
Take mode	Opens the take selection screen for the current folder
Playlist Mode	Opens the playlist selection screen for the current folder

Folder selection screen



- **Folder display**

  This shows the current folder.

  Touch this area to show the root folder selection screen.

- **NUM OF TAKE (timeline and take modes)**

  This shows the number of takes in the folder.

- **TOTAL TIME (timeline and take modes)**

  This shows the total time of the takes in the folder.

- **NUM OF PLAYLISTS (playlist mode)**

  This shows the number of playlists in the folder.

- **ENTER button**

  Touch the ➡ button for the current folder (the letter "C" appears in the C icon, which is also highlighted yellow) to view its contents.

  If you touch the ➡ button for any folder other than the current folder, a pop-up window will appear confirming that you want to load that folder. Touch the OK button to show the contents of that folder.

- **Folder Name button**

  Touch to select the corresponding folder. The letter "C" appears in the C icon, which is also highlighted yellow, for the currently loaded folder.

- **INFO button**

  Touch this button when a folder is selected to open a pop-up window with information about that file.

  If no folder is selected, press this button to show information about the folders in the currently selected root folder.

- **NEW FOLDER button**

  This shows the screen for creating a new folder.

- **MULTI SELECT button**

  Use this to enable the selection of multiple folders.

- **MENU button**

  Touch to open a pull-up menu where you can select LOAD, REBUILD, EXPORT 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 folder list one line at a time using the **DATA** dial.

- **Folder name at the top right of screen**

  Touch to open the following screen according to mode.

Timeline mode	Opens the AES31 file selection screen for the current folder.
Take mode	Opens the take selection screen for the current folder
Playlist Mode	Opens the playlist selection screen for the current folder

AES31 file selection screen

The AES31 file selection screen is only shown when the operation mode is timeline mode.

- **Folder name column**

  This shows the current folder name.

  Touch this area to open the folder selection screen.

- **LOAD column**

  Touch the ➡ button for the corresponding AES31 file to import its editing information.

- **AES31 file name buttons**

  Touch to select the corresponding AES31 file.

- **INFO button**

  Touch this button when an AES31 file is selected to open a pop-up window with information about the selected file.

  Press this button when no AES31 file is selected to show information about the current folder.

- **CREATE AES31 button**

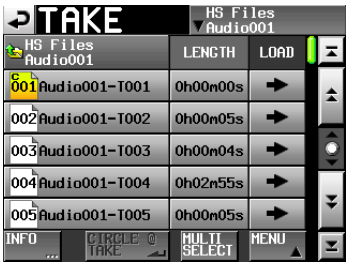
  This shows the screen for creating a new AES31 file.

- **MENU button**

  This shows a pull-up menu for selecting LOAD, EDIT NAME and DELETE.

Take selection screen

The take selection screen is only shown when the operation mode is take mode.



- **Folder name column**

  This shows the current folder name.

  Touch this area to open the folder selection screen.

  Note, however, the folder selection screen cannot be opened from a take selection screen that was opened by touching the TAKE LIST button in the pull-down menu that appears when you touch a take name button on the Home Screen.

- **LENGTH column**

  This shows the take length (time).

- **ENTER column**

  Press a take's ➡ button to load that take.

- **Take name buttons**

  Touch to select a take.

  The letter "C" appears in the 001 icon, which is also highlighted yellow, for the currently loaded take.

- **INFO button**

  When a take is selected, touch this button to open an information pop-up for that take.

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

- **CIRCLE @ TAKE button**

  Touch this button when a take is selected to add an "@" to the beginning of that take's name. If that take already has "@" at its beginning, touch this to remove it.

- **MULTI SELECT button**

  Touch to enable the selection of multiple takes.

- **MENU button**

  This shows a pull-up menu for selecting LOAD, REBUILD, EDIT TC, EXPORT, DELETE, SORT, MOVE and EDIT NAME.

- **Scroll buttons**

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

Playlist selection screen

The playlist selection screen is only shown when the operation mode is playlist mode.

- **Folder name column**

  This shows the current folder name.

  Touch this area to open the folder selection screen.

- **LOAD column**

  Touch the ➡ button to open a pop-up to confirm that you want to load that playlist.

- **Playlist name buttons**

  Touch to select a playlist.

  The letter "C" appears in the icon, which is also highlighted yellow, for the currently loaded playlist.

- **INFO button**

  Touch this button to open a pop-up window that shows information about the playlist that is currently selected.

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

- **CREATE PLAYLIST button**

  This shows the screen for creating a new playlist.

- **MENU button**

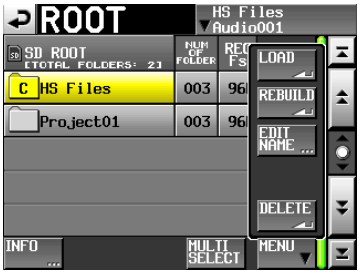
  Touch to open a pull-up menu where you can select LOAD, EDIT NAME and DELETE.

- **Scroll buttons**

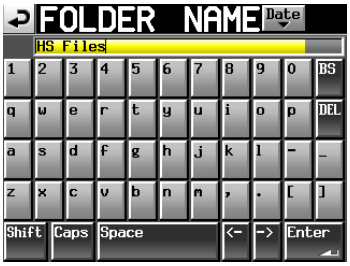
  Use these buttons to scroll to the beginning or end of the playlist or scroll one page (five lines) forward or backward. You can also scroll through the playlist one line at a time using the **DATA** dial.

Editing the name of a folder in the root directory

1. Select the folder with the name that you want to edit on the root folder selection screen. The selected folder name is highlighted in yellow.
2. Touch the MENU button on the root folder selection screen to open the pull-up menu.



3 Touch the EDIT NAME button on the pull-up menu to open the FOLDER NAME screen.



NOTE

When multiple folders are selected, the EDIT NAME button (to edit folder names) cannot be selected in the pull-up menu.

CAUTION

Name input screens such as the FOLDER NAME screen cannot show any characters other than alphanumeric characters and symbols.

If any characters other than alphanumeric characters and symbols are contained in the name, such characters will be deleted when a name input screen such as the FOLDER NAME screen is opened.

- **Date button**

  Touch this button to change the folder name to the date and time from the unit's clock in a "yyyy–mm–dd" format.

  If the same folder name already exists, an underscore (_) followed by a number that has not been used is added.

NOTE

After pressing the Date button to change the name to the date, you can further edit the name on this screen.

- **Folder name display area**

  The input folder name is shown.

  The maximum number of characters allowed is indicated by a yellow background.

- **Character buttons**

  Use to input the file 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.

- **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 Folder NAME screen is open, you can also use an external keyboard to input names.

4. Touch the Enter button on the FOLDER NAME screen or press the **DATA** dial to confirm the folder name.

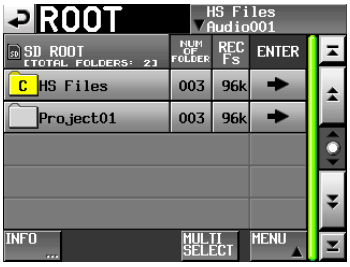
Character input limitation

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

Loading a folder in the root directory

1. Press the **FILE LIST** key on the front of the unit to open the AES31 file selection, take selection or playlist selection screen.

   Then, press the **FILE LIST** key again twice to open the root folder selection screen.



2. Select the folder in the root directory that you want to load.
3. Touch the MENU button on the root folder selection screen to open the pull-up menu.
4. Touch the LOAD button in the pull-up menu.

NOTE

When multiple folders are selected, the LOAD (folder loading) item cannot be selected.

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

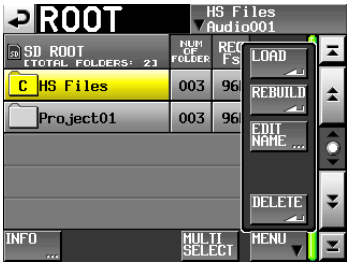
After loading completes, the Home Screen opens.

Rebuilding folders in the root directory

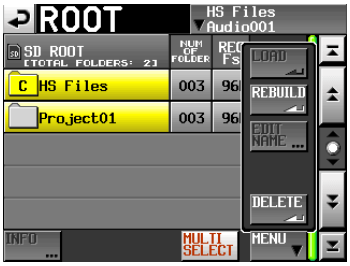
Rebuilding should be performed whenever an inconsistency occurs between the unit's management files and the audio files, for example, after a file has been deleted via FTP.

1. Press the **FILE LIST** key on the front of the unit to open the AES31 file selection, take selection or playlist selection screen. Then, press the **FILE LIST** key again twice to open the root folder selection screen.
2. Select the folder that you want to rebuild.

   You can touch the MULTI SELECT button on the root folder selection screen to allow the selection of multiple folders.
3. Touch the MENU button on the root folder selection screen to open the pull-up menu.

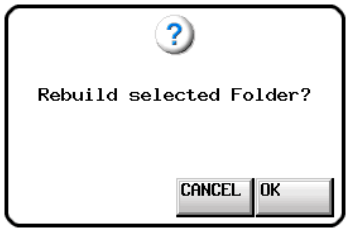


One folder selected



Multiple folders selected

4. Touch the REBUILD button in the pull-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

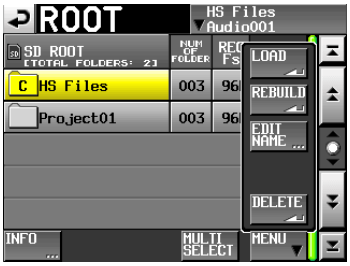
If you select REBUILD when no folder has been selected on the root folder selection screen, the entire selected card is rebuilt.

Deleting a folder in the root directory

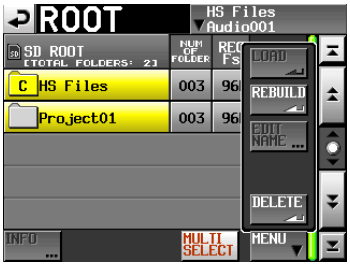
1. Press the **FILE LIST** key on the front of the unit to open the AES31 file selection, take selection or playlist selection screen.

   Then, press the **FILE LIST** key again twice to open the root folder selection screen.
2. Select the folder that you want to delete.

   You can touch the MULTI SELECT button on the root folder selection screen to allow the selection of multiple folders.
3. Touch the MENU button on the root folder selection screen to open the pull-up menu.



One folder selected



Multiple folders selected

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

During deletion, a progress bar is displayed on the pop-up window.

When deletion completes, the pop-up disappears.

CAUTION

When you delete a folder in the root directory, all folders, timeline data, takes and playlists in that folder are also deleted.

Folder operations

Creating new folders

1. Press the **FILE LIST** key on the front of the unit to open the AES31 file selection, take selection or playlist selection screen. Then, press the **FILE LIST** key again to open the folder selection screen.

2 Touch the NEW FOLDER button on the pull-up menu to open the NEW FOLDER screen where you can input the folder name.

Input the folder name.

See "Editing the name of a folder in the root directory" on page 33 for the input method.

CAUTION

- *You cannot change folder names later.*
- *You cannot use the "@" symbol at the beginning of a folder name.*

3. Touch the Enter button on the FOLDER NAME screen or press the **DATA** dial.

4 Touch the OK button or press the **DATA** dial when the confirmation message appears on the pop-up window to create a new folder with the input name.

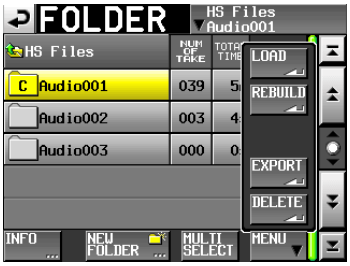
NOTE

- *If the input folder name already exists, "This name already exists" appears in a pop-up window. Touch the CLOSE button to return to the FOLDER NAME screen, and enter a different name.*
- *Immediately after a new folder is created, it becomes the current folder (loaded folder).*

  The letter "C" appears in the icon to the left of the name of the current folder on the folder selection screen.

Loading a folder

1. Press the **FILE LIST** key on the front of the unit to open the AES31 file selection, take selection or playlist selection screen. Then, press the **FILE LIST** key again to open the folder selection screen.
2. Press the ➡ button next to the folder that contains the folder you want to load.
3. Select the folder that you want to load.
4. Touch the MENU button on the folder selection screen to open the pull-up menu.



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

After loading completes, the Home Screen opens.

NOTE

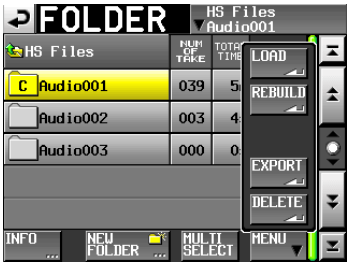
The letter "C" appears in the icon to the left of the name of the current folder (loaded folder) on the folder selection screen.

Rebuilding folders

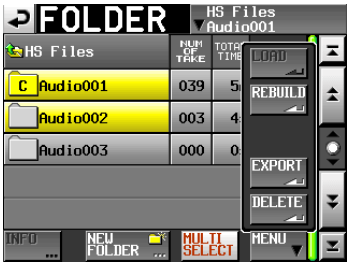
Rebuilding should be performed whenever an inconsistency occurs between the unit's management files and the audio files, for example, after a file has been deleted via FTP.

1. Press the **FILE LIST** key on the front of the unit to open the AES31 file selection, take selection or playlist selection screen. Then, press the **FILE LIST** key again to open the folder selection screen.
2. Select the folder that you want to rebuild.

   Touch the MULTI SELECT button to enable the selection of multiple folders.
3. Touch the MENU button on the folder selection screen to open the pull-up menu.

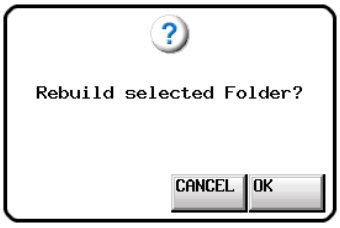


One folder selected



Multiple folders selected

4. Touch the REBUILD button in the pull-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

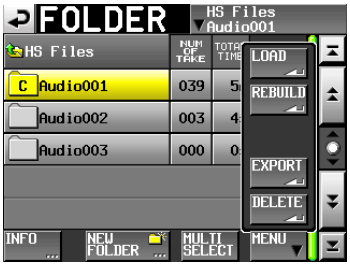
You can also rebuild a folder from that folder's take selection screen.

Exporting a folder

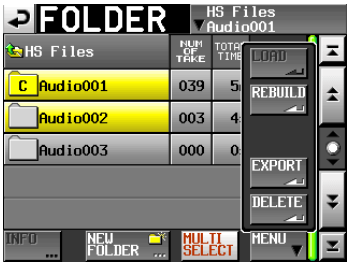
You can export from the selected medium to an unselected medium (two media are necessary). When you export a folder, the same directory structure is created at the export destination.

1. Press the **FILE LIST** key on the front of the unit to open the AES31 file selection, take selection or playlist selection screen. Then, press the **FILE LIST** key again to open the folder selection screen.
2. Select the folder that you want to export.

   Touch the MULTI SELECT button to enable the selection of multiple folders.
3. Touch the MENU button on the folder selection screen to open the pull-up menu.

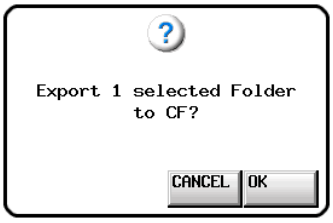


One folder selected



Multiple folders selected

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



During export, a progress status pop-up appears.

When export completes, the pop-up disappears.

CAUTION

If a folder with the same name already exists on the destination media, a confirmation message will appear in a pop-up window.

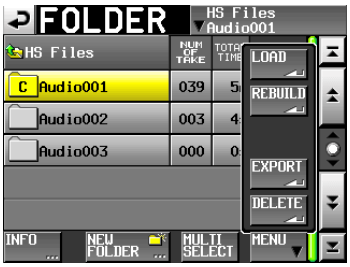
Touch the OK button or the **DATA** *dial to export the folder after deleting the folder on the export destination.*

Deleting a folder

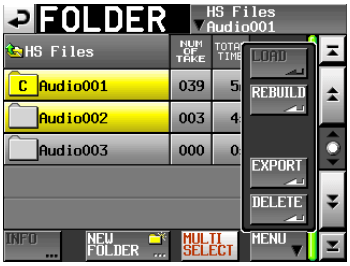
1. Press the **FILE LIST** key on the front of the unit to open the AES31 file selection, take selection or playlist selection screen. Then, press the **FILE LIST** key again to open the folder selection screen.

2. Press the ➡ button next to the folder that contains the folder you want to delete.
3. Select the folder that you want to delete.

   Touch the MULTI SELECT button to enable the selection of multiple folders.
4. Touch the MENU button on the folder selection screen to open the pull-up menu.



One folder selected



Multiple folders selected

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

During deletion, a progress bar is displayed in a pop-up window.

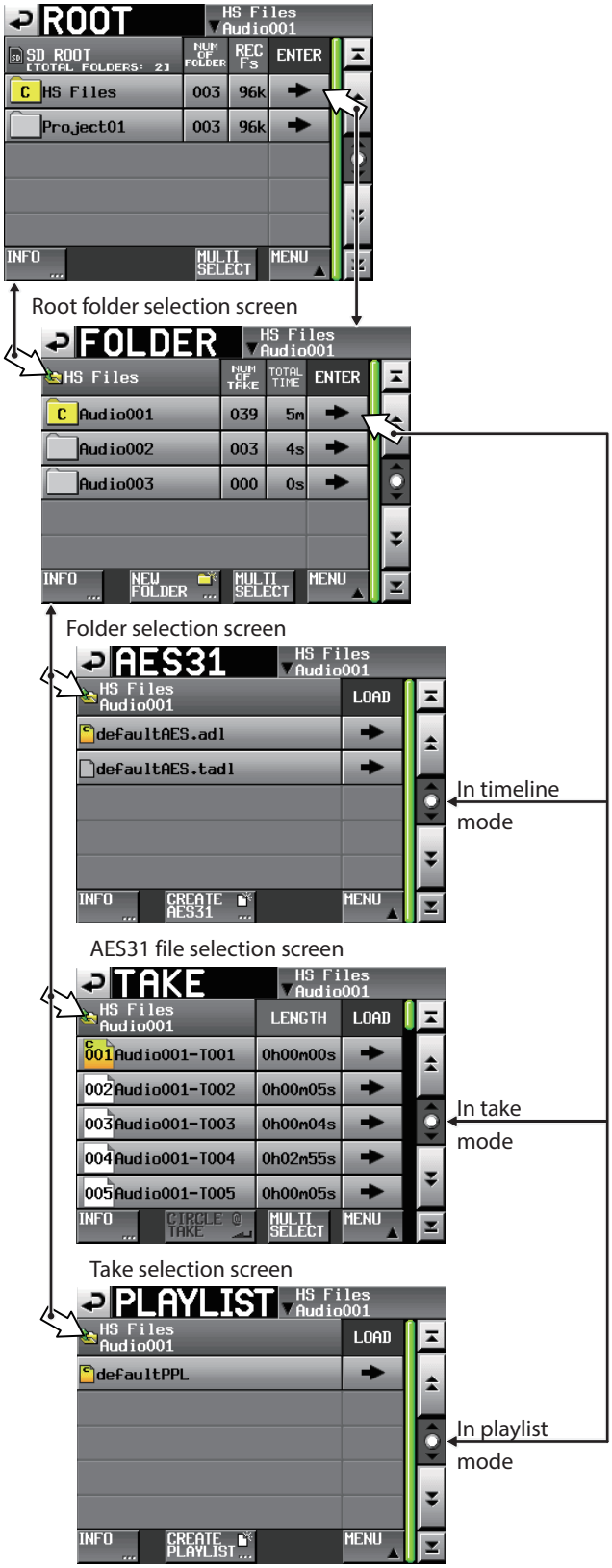
When deleting is complete, the pop-up window will disappear.

CAUTION

When you delete a folder, all timeline data, takes and playlists in that folder are also deleted.

Moving between file list screens

Press the ENTER button or a folder name button on a file list screen (root folder selection screen, folder selection screen, AES31 file selection screen, take selection screen, playlist selection screen) to open a different screen as shown below.



6 – Overview of operation modes

This unit has the following three operation modes.

- **Timeline mode**

  This mode provides a timeline-based working environment similar to using a tape recorder. In timeline mode, two tracks can be recorded and played back. Marks can also be edited.

- **Take mode**

  This mode uses takes (files) as recording and playback units.

  Two tracks can be recorded and one or two tracks can played back. Marks can also be edited.

- **Playlist Mode**

  This mode provides a playlist playback function.

  One or two tracks can be played using playlist playback.

Timeline mode functions

The following functions can be used in timeline mode.

- Simultaneous recording and playback of up to two channels is possible at all compatible sampling frequencies.
- Mirror recording function utilizing dual slots.
- Recording and playback with timecode synchronization is possible. (The optional SY-2 board is required.)
- A single file can be created from a designated time interval in a timeline using the bounce function.
- Marks can be set, managed, edited and used for playback.
- Compatibility with the AES31 file standard allows import and exchange of data with other devices.

NOTE

Since the AES31 file standard does not support sampling frequencies of 176.4kHz and 192kHz, editing information for those settings is created and saved in an original format based on AES31.

In timeline mode, playback units are called "regions," and their extent is shown in the track area of the Home Screen.

Take mode functions

The following functions can be used in take mode.

- Simultaneous recording and playback of up to two channels is possible at all compatible sampling frequencies.
- Auto cue, auto ready and incremental play functions are available.
- Using a TASCAM RC-HS20PD or other remote controller, flash start playback is possible (five pages of 20 keys each).
- Marks can be set, managed, edited and used for playback.
- Automatic playback, recording and file transfer are possible using the timer event list.

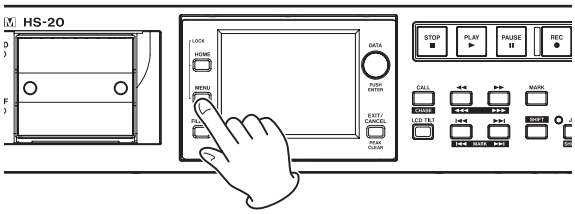
Playlist mode functions

The following functions can be used in playlist mode.

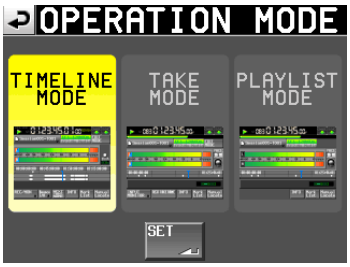
- Playlists can be edited and managed.
- Auto cue, auto ready and incremental play functions are available.
- Compatibility with JPPA flash start standards enable the exchange of playlists with other devices.
- Playback of up to two channels is possible for all compatible sampling frequencies.
- Using a TASCAM RC-HS20PD or other remote controller, flash start playback is possible (five pages of 20 keys each).

Selecting the operation mode

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



2. Touch the OPERATION MODE button to open the OPERATION MODE screen.



3. Touch the button for the mode that you want to use to select it.

   The button for the selected mode appears yellow.

   TIMELINE MODE

   Timeline mode

   TAKE MODE

   Take mode

   PLAYLIST MODE

   Playlist mode

4. Touch the SET button to enable the selected mode and return to the Home Screen.

In this chapter, we explain how to use the timeline mode. To use this unit in timeline mode, set the unit's operation mode to TIMELINE MODE. (See "Selecting the operation mode" on page 38.)

Please refer to "4–Basic operation" when reading this chapter.

Preparing to record

Basic preparations

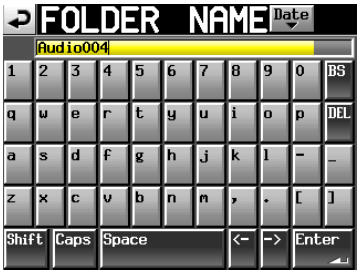
Refer to "4 – Basic operation" on page 26 and make the basic preparations for recording.

Creating new folders

Create new folders as necessary.

1. Press the **FILE LIST** key on the front of the unit to open the AES31 file selection screen. Then, press the **FILE LIST** key again to open the folder selection screen.

2. Touch the NEW FOLDER button to open the FOLDER NAME page.



Follow the procedures "Editing the name of a folder in the root directory" on page 33 to input the folder name.

NOTE

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

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

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

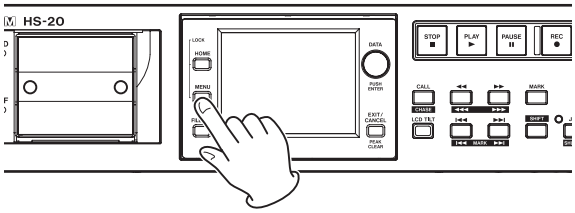
For details about folder operations, see "Folder operations" on page 35.

NOTE

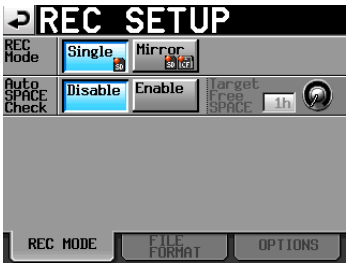
If you want to record with a timeline that has a sampling frequency different from the current one, follow the procedures in "Creating new AES31 editing information" on page 43 and create an AES31 editing information file for the desired sampling frequency.

Recording mode settings

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



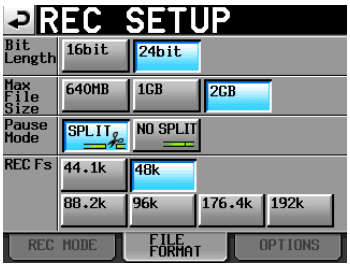
2. Touch the REC SETUP button to open the REC SETUP screen.



On the REC MODE page, you can select the recording mode. The background color for the selected mode is light blue. For more details, see "REC MODE page" on page 77.

Setting the file format

Touch the FILE FORMAT tab on the REC SETUP screen to open the following screen.



On the FILE FORMAT page, set bit-length, maximum file size, how files are treated when recording is paused, and the recording sampling frequency. The selected items have a light blue background.

For details, see "FILE FORMAT page" on page 79.

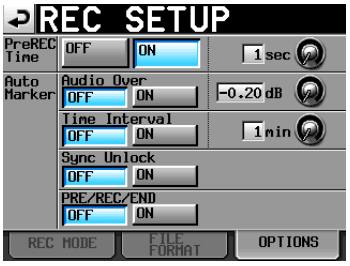
NOTE

In timeline mode, the recording sampling frequency cannot be changed on this page.

If you want to record with a timeline that has a sampling frequency different from the current one, follow the procedures in "Creating new AES31 editing information" on page 43 and create an AES31 editing information file for the desired sampling frequency.

Other recording settings

Touch the OPTIONS tab of the REC SETUP screen to open the following screen.



On the OPTIONS page, you can set the pre-recording time and the use of auto marks. For details, see "OPTIONS page" on page 80.

Recording in timeline mode

Locate to the recording start position

Use the ◀◀ [◀◀◀] and ▶▶ [▶▶▶] keys, jump to a mark or use the manual locate function to locate to the time where you want to start recording.

When timecode synchronization is ON, recording will occur at the input timecode, so locating as described above is not necessary.

Record

When the unit is stopped, press the **REC** key to put the unit into recording standby. At this time, the icon indicates this transport status.

In recording standby, press the **PLAY** key to start recording at the located point (current point). When synchronized to timecode, recording starts at the time input by timecode at the moment that the **PLAY** key is pressed.

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

When the elapsed time (ABS time) from the beginning of the timeline reaches 23:59:59:MM (MM is the maximum number of frames), "RECORD stopped. ABS time is over 24h" appears in a pop-up message and recording stops.

NOTE

When stopped, pressing the* PLAY *key while pressing and holding the* REC *key will also start recording.

Overwriting a recording

During playback, pressing the **PLAY** key while pressing and holding the **REC** key will start recording from that point.

NOTE

Recording can also be controlled using parallel control.

CAUTION

When in recording standby, the parallel control signals output are high for TALLY_RECORD and low for TALLY_PAUSE.

When in recording standby, the* REC *and* PAUSE *keys on the front panel will be lit.

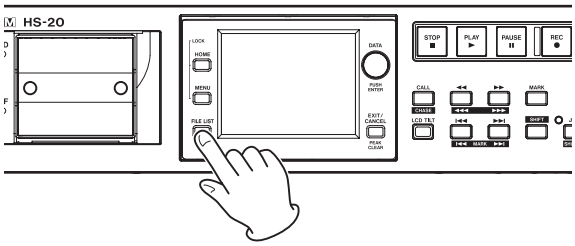
Stopping recording

To stop recording, press the **STOP** key.

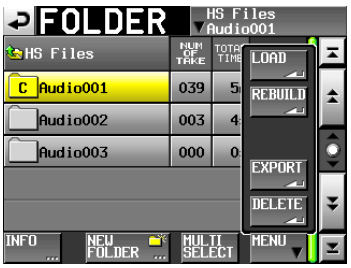
Playback in timeline mode

Selecting a folder

1. Press the **FILE LIST** key on the front of the unit to open the AES31 file selection screen. Then, press the **FILE LIST** key again to open the folder selection screen.



2. Touch a folder name button to select the folder you want to play.
3. Touch the MENU button to open a pull-up menu and touch the LOAD button.



The "Load selected folder?" pop-up appears.

4. Touch the OK button.
   When loading completes, the Home Screen opens.

Setting input monitoring

Turn input monitoring off during playback.

If input monitoring is on, sound from the input connectors will be output through all the output connectors of this unit.

1. Touch the INPUT MONITOR button on the Home Screen to open a pull-up with the input monitoring ON/OFF button.

2. If input monitoring is on (ON button blue), touch the OFF button to turn it off (OFF button blue).

Locate to the playback start position

Use the ◀◀ [◀◀◀] and ▶▶ [▶▶▶] keys, jump to a mark or use the manual locate function to locate to the time where you want to start playback When timecode synchronization is on, playback will occur at the input timecode, so locating as described above is not necessary.

Playback control in timeline mode

Press the **PLAY** key to start playback.

Press the **PAUSE** key to start playback standby.

Press the **PLAY** key to end playback standby.

Press the **STOP** key to stop playback.

Press the **|◀◀ [MARK |◀◀]** key or **▶▶| [MARK ▶▶|]** key to skip to the start of another region.

Press and hold the ◀◀ [◀◀◀] key or ▶▶ [▶▶▶] key to search backward or forward.

Press the **|◀◀ [MARK |◀◀]** or **▶▶| [MARK ▶▶|]** key while pressing and holding the **SHIFT** key to move between marks.

Press and hold the ◀◀ [◀◀◀] key or ▶▶ [▶▶▶] key while pressing and holding the **SHIFT** key to search at high-speed.

While pressing and holding the **STOP** key, press the **|◀◀ [MARK |◀◀]** or **▶▶| [MARK ▶▶|]** key to skip to the beginning of the first region recorded or the end of the last region. (This only works with the front panel keys.)

NOTE

Playback can also be controlled through the PARALLEL port.

Using the call function in timeline mode

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

Reading, saving and creating AES31 editing information

Loading AES31 editing information

You can load AES31 editing information in the current folder to the timeline.

The file path is as follows when you view a card on a computer.

{drive name of card}:\{HS files}\{folder name}\{AES31 editing information}

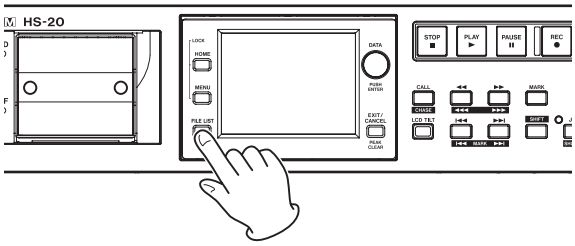
NOTE

You cannot load an AES31 editing information file from a folder other than the current folder.

NOTE

Since the AES31 file standard does not support sampling frequencies of 176.4kHz and 192kHz, editing information for those settings is created and saved in an original format based on AES31.

1. Press the **FILE LIST** key on the front of the unit to open the AES31 file selection screen.



2. If AES31 editing files are found in the folder, they appear in the list.

TIP

- *If you touch the INFO button after selecting a file by touching the filename area, the date and time last changed and the file size of that file are shown.*
- *The letter "C" appears in the icon for the currently loaded AES31 file.*

4. Press the ➡ button next to the AES31 editing information that you want to load.
5. Touch the OK button or press the **DATA** dial when a confirmation pop-up message appears.

When loading AES31 editing information, a progress status pop-up appears.

When loading completes, the pop-up window disappears and the Home screen is opened.

The loaded contents replace the contents of the timeline.

Saving AES31 editing information

You can save the current timeline as an AES31 file. The saved file is created in the current folder.

CAUTION

When you edit the timeline, save the AES31 editing information as necessary. If you do not save it, the changes will be deleted if other AES31 editing information is loaded, the card is removed or the unit is turned off.

If you have not saved the information after editing, a "*" mark will be shown on the AES31 file name button.

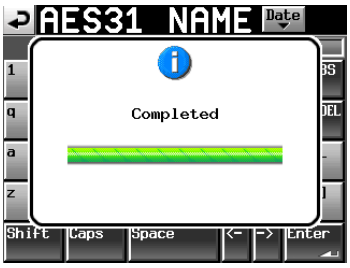
If you load other AES31 editing information when a "*" is shown, create new AES31 editing information, or change the operation mode, a pop-up message asking if you want to save the current AES31 editing information will appear.

1. Press the **HOME** key to open the Home Screen.
2. Touch the AES31 file name button on the Home Screen to open the pull-down menu.

3. When you touch the SAVE button on the pull-down menu, the information will be saved on the selected card.

   While saving, the progress status will be shown in the pop-up window.

   When saving is complete, the pop-up window will disappear.



Attaching a name to and saving AES31 editing information

You can attach a name and save the current timeline as an AES31 file.

The file saved will be created in the current folder.

1. Press the **HOME** key on the front panel to open the Home screen.
2. Touch the AES31 file name button on the Home Screen to open the pull-down menu.

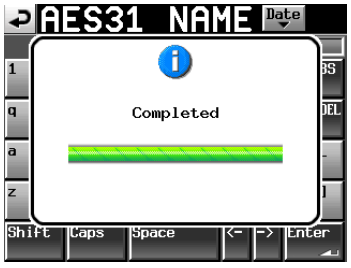
3. Touch the SAVE AS button on the pull-up menu to open the AES31 NAME screen where you can input the AES31 editing file name.

   Input the file name. Follow the procedures "Editing the name of a folder in the root directory" on page 33.

4. Touch the Enter button on the AES31 NAME screen or press the **DATA** dial to save the input name.

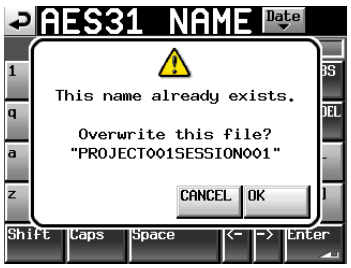
   While the file is being created, a progress status pop-up appears.

   When file creation completes, the pop-up disappears.



NOTE

If a file with the same name already exists, a pop-up window opens to confirm whether you want to overwrite that file or not. Touch the OK button to overwrite that file, or touch the CANCEL button to return to the AES31 NAME screen.



Creating new AES31 editing information

You can create a new AES31 file in the current folder (loaded folder).

1. Press the **HOME** key on the front of the unit to open the Home screen.
2. Touch the AES31 file name button on the Home Screen to open the pull-down menu.

3. Touch the CREATE AES31 button on the pull-down menu to open theCREATE AES31 screen.

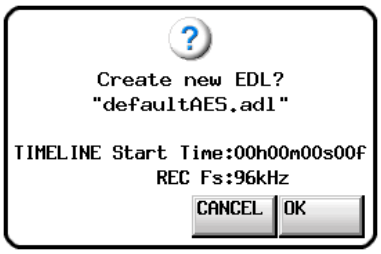
NOTE

You can also create a new AES31 file by touching the CREATE AES31 button on the AES31 file selection screen.

4. Touch the AES31 NAME button on the pull-up menu to open the AES31 NAME screen where you can enter an AES31 file name.

   To input the AES31 file name follow the procedures "Editing the name of a folder in the root directory" on page 33.

5. Touch the Enter button or press the **DATA** dial to return to the CREATE AES31 screen.
6. If necessary, set the timeline starting time and sampling frequency.
7. When you have finished making settings, touch the CREATE AES31 button.
8. Touch the OK button or press the **DATA** dial when the confirmation message appears on the pop-up window to create a new AES31 editing information file with the input name.



NOTE

If the entered file name already exists, "This name already exists" appears in a pop-up window. Touch the CLOSE button to return to the CREATE AES31 screen, and enter another name.

Importing all takes

NOTE

Each take is imported to the timeline at its set timecode. If the timecode time is not set, the take is imported to 00 h 00 m 00 s 00 f.

The current timeline is cleared and the AES31 editing information for all takes in the current folder that have the same sampling frequency are imported.

1. Press the **HOME** key on the front of the unit to open the Home screen.
2. Touch the AES31 file name button on the Home Screen to open the pull-down menu.

3. Touch the IMPORT ALL TAKES button on the pull-down menu item.
4. A confirmation message will appear on the pop-up window.

Touch the OK button or press the **DATA** dial to clear the current timeline and import all the takes from the current folder.

Touch the CANCEL button to return to the Home Screen.

Editing AES31 file names

1. Press the **FILE LIST** key on the front of the unit to open the AES31 file selection screen.
2. Select the AES31 file that you want to rename.

   The background color of the selected AES31 file name will become yellow.

3. Touch the MENU button to open the pull-up menu.
4. Touch the EDIT NAME button on the pull-up menu to open the AES31 NAME screen where you can enter the AES31 file name.

   Follow the procedures "Editing the name of a folder in the root directory" on page 33.

NOTE

If the loaded AES31 file is selected, you cannot select the EDIT NAME button on the pull-up menu.

5. Touch the Enter button or press the **DATA** dial on the AES31 NAME screen.

NOTE

If the entered file name already exists, "This name already exists" appears in a pop-up window. Touch the CLOSE button to return to the AES31 NAME screen, and enter another name.

Deleting AES31 files

1. Press the **FILE LIST** key on the front of the unit to open the AES31 file selection screen.
2. Select the AES31 file that you want to delete.

   The background color of the selected AES31 file name will become yellow.

3. Touch the MENU button to open the pull-up menu.

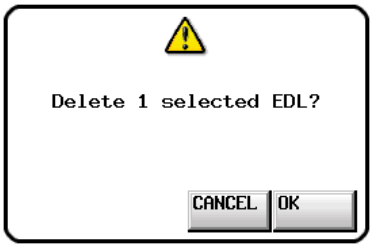
4. Touch the DELETE button on the pull-up menu.

NOTE

If the loaded AES31 file is selected, you cannot select the DELETE button on the pull-up menu.

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

   When deletion completes, the pop-up disappears.



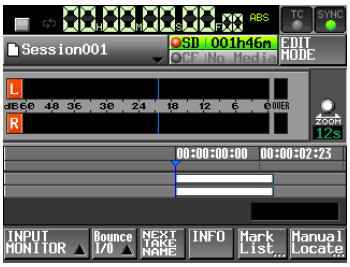
Editing the timeline

You can cut, erase and divide regions, for example.

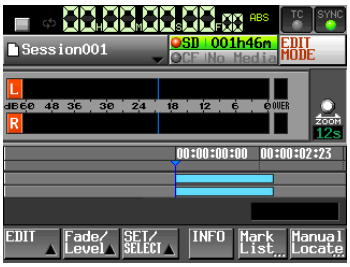
The basic procedures for editing are as follows.

See the explanation of each function for detailed procedures.

1. Press the **HOME** key on the front of the unit to open the Home screen.



2. Touch the EDIT MODE button to enter edit mode.



The EDIT MODE button becomes white with red lettering, and the REC/MON, Bounce I/O and NEXT TAKE NAME buttons disappear and are replaced with the EDIT, Fade/ Level and SET/SELECT buttons.

3. Touch the EDIT button to open the pull-up menu.

The pull-up menu has buttons used for editing, including nine editing buttons (Copy, Cut, Erase, Divide, Insert, Insert File, Insert Mute, Paste and Paste File) and UNDO and REDO buttons.

CAUTION

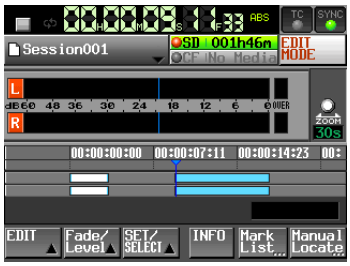
If you do not save the AES31 editing information after changing it, all changes will be cleared when you load another folder or AES31 editing information file, remove a card or turn off the unit's power, for example.

NOTE

Repeated recordings or editing may greatly consume the memory used in managing regions or editing history. In this case, "Cannot Edit. System limit reached." appears in a pop-up message

Selecting the range to copy/cut/delete

- When the editing start and finish points are set, the range between the points is selected.
- When the editing start and finish points are not set, the entire region at the time cursor is selected.



Editing start and stop points not set

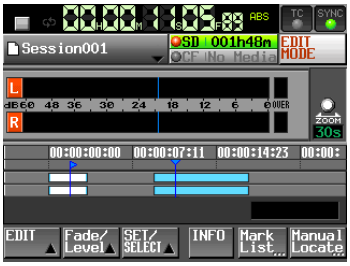
- When the timeline cursor is on the borderline between regions, the region to the right will be edited. If the region to the right is muted, it will not be selected.

Setting the editing start point

1. Press the **HOME** key on the front of the unit to open the Home screen.
2. Touch the EDIT MODE button to enter edit mode.
3. Use the ◄◄ and ►► keys, for example, to locate the timeline cursor at the position (time) where you want to start editing.
4. Touch the SET/SELECT button to open the pull-up menu.

5. Touch the SET IN button on the pull-up menu to set the editing start point (IN point)

   The IN mark (▶) appears at the current position in the mark display area.



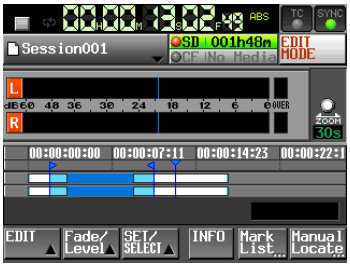
Setting the editing end point

6 Use the ◄◄ and ►► keys, for example, to locate the timeline cursor at the position (time) where you want to end editing.

7. Touch the SET/SELECT button to open the pull-up menu.

8. Touch the SET OUT button on the pull-up menu to set the editing end point (OUT point).

   The OUT mark ( ) appears at the current position in the mark display area.



   The range between the IN mark ( ) and OUT mark ( ) will be edited, and is shown in light blue.

Clearing the editing start/end points

1. Touch the SET/SELECT button to open the pull-up menu.

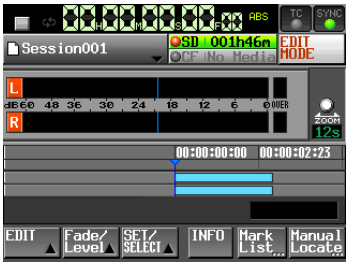
2. Touch the CLEAR button on the pull-up menu. When a confirmation pop-up window is displayed, touch the OK button or press the **DATA** dial.

   The current IN and OUT points are deleted, and the IN mark ( ) and OUT mark ( ) disappear from the mark area.

Selecting a complete region for editing

1. Press the **HOME** key on the front of the unit to open the Home screen.

2. Touch the EDIT MODE button to enter edit mode.



3. Move the timeline cursor to the region to be edited.

4. Touch the SET/SELECT button to open the pull-up menu.

5. Touch the SELECT Region button on the pull-up menu to select the entire region at the timeline cursor. The beginning of the region is set to the edit start (IN) point and the end of the region is set to the edit end (OUT) point.

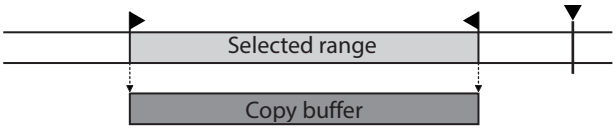
   The IN ( ) mark and OUT mark ( ) are shown at the beginning and end of the region in the mark area. The range between the marks will be edited and is shown in light blue.

Copying the data in the selection (Copy)

You can copy the selection.

NOTE

- *The copied data will be saved in the copy buffer.*
- *When the whole fade (in/out) area is included, the fade information will also be retained.*



1. Press the **HOME** key on the front of the unit to open the Home screen.
2. Touch the EDIT MODE button to enter edit mode.
3. Move the timeline cursor to the selection to copy.
4. Touch the SET/SELECT button and select the range that you want to copy using the SET IN, SET OUT and SELECT Region buttons on the pull-up menu.

5. Touch the EDIT button to open the pull-up menu.

6. Touch the Copy button on the pull-up menu. When copying is complete, the Home Screen will open after a pop-up window is shown.

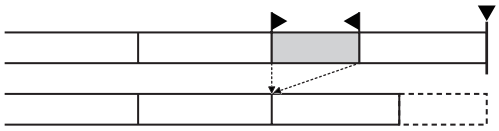
In this case, the EDIT pull-up menu will remain open.

Cutting the data in the selection (Cut)

You can erase the selection and move the following data forward.

NOTE

- *The data cut is saved in the copy buffer.*
- *When the whole fade (in/out) area is included, the fade information will also be retained.*
- *When the IN point or OUT point is within a region, the part outside of the selection will become a new region.*
- *When the IN point or OUT point is set within a fade-in or fade-out, the fade information will be cleared.*



1. Press the **HOME** key on the front of the unit to open the Home screen.
2. Touch the EDIT MODE button to enter edit mode.
3. Move the timeline cursor to the area you want to cut.
4. Touch the SET/SELECT button and select the range that you want to cut using the SET IN, SET OUT and SELECT Region buttons on the pull-up menu.

5. Touch the EDIT button to open the pull-up menu.

6. Touch the Cut button on the pull-up menu. When cutting is complete, the Home Screen will open after a pop-up window is shown.

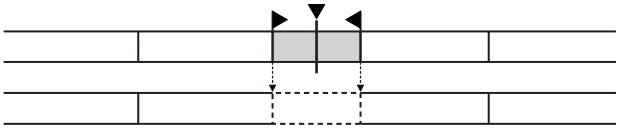
In this case, the EDIT pull-up menu will remain open.

Erasing the data in the selection (Erase)

You can erase the selection to make an interval silent. The positions of the following regions will remain unchanged.

NOTE

- *The erased data is saved in the copy buffer.*
- *When the whole fade (in/out) area is included, the fade information will also be retained.*
- *When the IN point or OUT point is within a region, the part outside of the selection will become a new region.*
- *When the IN point or OUT point is set within a fade-in or fade-out, the fade information will be cleared.*



1. Press the **HOME** key on the front of the unit to open the Home screen.
2. Touch the EDIT MODE button to enter edit mode.
3 Move the timeline cursor to the selection to erase.
4. Touch the SET/SELECT button and select the range that you want to erase using the SET IN, SET OUT and SELECT Region buttons on the pull-up menu.

5. Touch the EDIT button to open the pull-up menu.

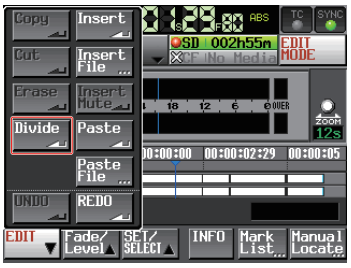
6. Touch the Erase button on the pull-up menu. When erasing is complete, the Home Screen will open after a pop-up window is shown.

In this case, the EDIT pull-up menu will remain open.

Dividing the data at the set position (Divide)

You can divide the region at the position of the timeline cursor.

1. Press the **HOME** key on the front of the unit to open the Home screen.
2. Touch the EDIT MODE button to enter edit mode.
3. Move the timeline cursor to the time where you want to divide the region.
4. Touch the EDIT button to open the pull-up menu.



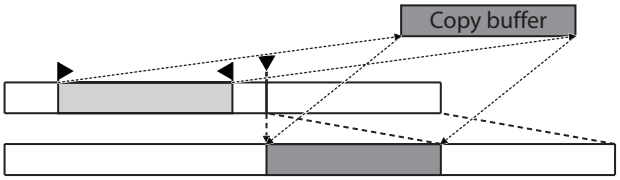
5. Touch the Divide button on the pull-up menu. When dividing is complete, the Home Screen will open after a pop-up window is shown.

In this case, the EDIT pull-up menu will remain open.

Inserting the data of the copy buffer at the set position (Insert)

NOTE

- *All regions following the insertion point will move backward by the time of the data inserted.*
- *When inserting into a region, three regions will be created: the part of the region that was before the timeline cursor, the content of the copy buffer, and the part of the region that was after the timeline cursor.*
- *If the set position is located in a fade-in or fade-out, that fade information will be cleared.*



1. Press the **HOME** key on the front of the unit to open the Home screen.
2. Touch the EDIT MODE button to enter edit mode.
3. Move the timeline cursor to the position where you want to insert data.
4. Touch the EDIT button to open the pull-up menu.

Touch the Insert button on the pull-up menu.

NOTE

The Insert button is available only when the copy buffer contains data.

5. When insertion is complete, the Home Screen will open after a pop-up window is shown.

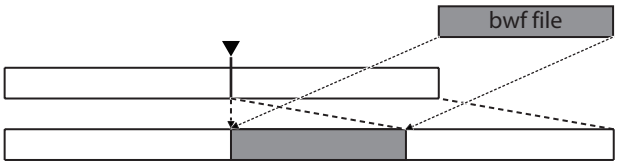
In this case, the EDIT pull-up menu will remain open.

Inserting a selected file into the set position (Insert File)

You can insert the entire contents of a 2-channel BWF/WAV file at the set position.

NOTE

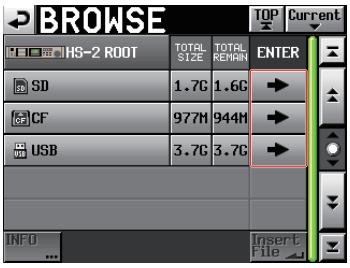
- *All regions following the insertion point will move backward by the time of the file inserted.*
- *When inserting into a region, three regions will be created: the part of the region that was before the timeline cursor, the content of the copy buffer, and the part of the region that was after the timeline cursor.*
- *If the set position is located in a fade-in or fade-out, that fade information will be cleared.*



1. Press the **HOME** key on the front of the unit to open the Home screen.
2. Touch the EDIT MODE button to enter edit mode.
3. Move the timeline cursor to the position where you want to insert a file.
4. Touch the EDIT button to open the pull-up menu.

Touch the Insert File button on the pull-up menu to open the BROWSE screen.

5. Touch the ➡ button for the media containing the file to insert on the BROWSE screen.

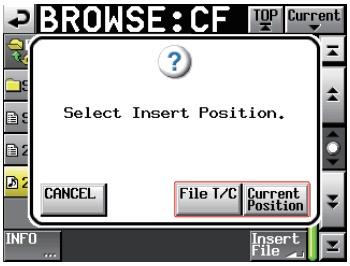


NOTE

If the top page of the BROWSE screen is not displayed, touch TOP on the screen. The media selection screen appears.

6. Select a file to insert on the BROWSE screen, and touch the Insert File button.

7. When the pop-up window to select the insertion point opens, touch either the Current Position or File T/C button to start insertion.



Then, select the CANCEL button to return to the BROWSE screen.

NOTE

If the selected file contains no timecode information when the File T/C button is touched, the file will be inserted at 00 h 00 m 00 s 00 f.

NOTE

If you select a file from other than the current folder, the file is copied to the current folder and then inserted.

A "Cannot Copy." pop-up window appears when a file with the same name exists in the current folder.

To change the file with the same file name, touch the RENAME button, or touch the CANCEL button to cancel.

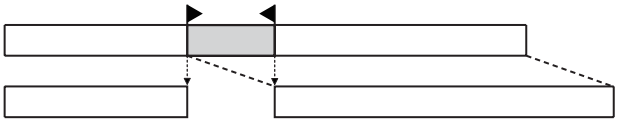
8 When insertion is complete, the Home Screen will open after a pop-up window is shown and the EDIT pull-up menu is closed.

Inserting silence at the set position (Insert Mute)

You can insert silence at the set position.

NOTE

- *All regions following the IN point will move backward.*
- *When inserting into a region, two regions will be created: before the timeline cursor and after the timeline cursor.*
- *When the set position is located in a fade-in or fade-out, the fade information will be cleared.*



1. Press the **HOME** key on the front of the unit to open the Home screen.
2. Touch the EDIT MODE button to enter edit mode.
3 Touch the SET/SELECT button and select the region where you want to insert silence using the SET IN, SET OUT and SELECT Region buttons on the pull-up menu.

5. Touch the EDIT button to open the pull-up menu.

6. Touch the Insert Mute button on the pull-up menu. When mute insertion is complete, the Home Screen will open after a pop-up window is shown.

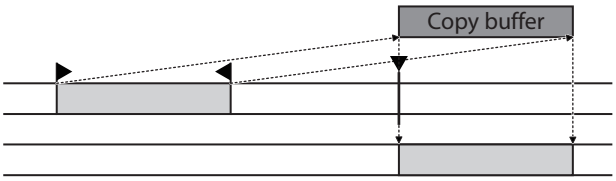
In this case, the EDIT pull-up menu will remain open.

Pasting the copy buffer data at the set position (Paste)

You can paste copied data at the set position.

NOTE

When the set position is located in a fade-in or fade-out, the fade information will be cleared.



1. Press the **HOME** key on the front of the unit to open the Home screen.
2. Touch the EDIT MODE button to enter edit mode.
3. Move the timeline cursor to the position where you want to paste the copy buffer.
4. Touch the EDIT button to open the pull-up menu.

Touch the Paste button on the pull-up menu.

NOTE

The Paste button appears white and is available only when the copy buffer contains data.

5. When pasting is complete, the Home Screen will open after a pop-up window is shown.

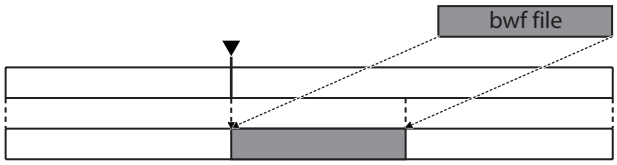
In this case, the EDIT pull-up menu will remain open.

Pasting the data of a selected file into the set position (Paste File)

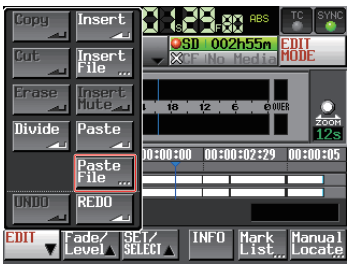
You can paste an entire 2-channel BWF/WAV file into the set position.

NOTE

When the set position is located in a fade-in or fade-out, the fade information will be cleared.

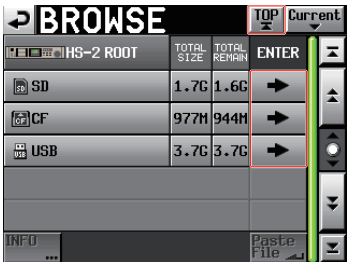


1. Press the **HOME** key on the front of the unit to open the Home screen.
2. Touch the EDIT MODE button to enter edit mode.
3. Move the timeline cursor to the position where you want to paste file data.
4. Touch the EDIT button to open the pull-up menu.



Touch the Paste File button on the pull-up menu to open the BROWSE screen.

5. Touch the ➡ button next to the media containing the file you want to paste on the BROWSE screen.

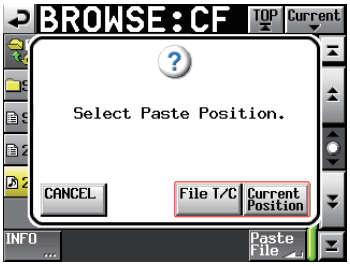


NOTE

If the top page of the BROWSE screen is not displayed, touch TOP on the screen. The media selection screen appears.

6. Select the file to paste on the BROWSE screen, and touch the Paste File button.

7. When the pop-up window to set the pasting position opens, touch either the Current Position or File T/C button to start pasting.



Then, select the CANCEL button to return to the BROWSE screen.

NOTE

If the selected file contains no timecode information when the File T/C button is touched, the file will be inserted at 00 h 00 m 00 s 00 f.

NOTE

If you select a file from other than the current folder, the file is copied to the current folder and then pasted.

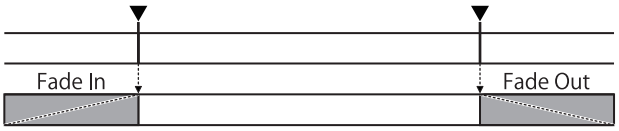
A "Cannot Copy." pop-up window appears when a file with the same name exists in the current folder.

To change the file with the same file name, touch the RENAME button, or touch the CANCEL button to cancel.

8. When pasting is complete, the Home Screen will open after a pop-up window is shown and the EDIT pull-up menu is closed.

Setting fades for the designated region (Fade IN/FadeOut)

You can set a fade in and a fade out for a selected region.



NOTE

The fade-in/fade-out ranges are indicated in light blue.

1. Press the **HOME** key on the front of the unit to open the Home screen.
2. Touch the EDIT MODE button to enter edit mode.
3. Move the timeline cursor to where you want the fade in to end or the fade out to begin in the region.
4. Touch the Fade/Level button to open the pull-up menu.

- To set a fade in, touch the Fade IN button.
- To set a fade out, touch the FadeOut button.

5. When fade-in/fade-out setting is complete, the Home Screen will open after a pop-up window is shown.

In this case, the Fade/Level pull-up menu will remain open.

Removing set fades (Remove Fade IN/ Remove FadeOut)

1. Press the **HOME** key on the front of the unit to open the Home screen.
2. Touch the EDIT MODE button to enter edit mode.
3. Move the timeline cursor to the region where you want to remove fade-in/out.
4. Touch the Fade/Level button to open the pull-up menu.

- To remove the fade-in, touch the Remove Fade IN button.
- To remove the fade out, touch the Remove FadeOut button.

5. When fade removal is complete, the Home Screen will open after a pop-up window is shown.

In this case, the Fade/Level pull-up menu will remain open.

Setting the playback level in the selected region (Level)

You can set the playback level for a region (after fade-in and before fade-out).

1. Press the **HOME** key on the front of the unit to open the Home screen.
2. Touch the EDIT MODE button to enter edit mode.
3. Move the timeline cursor to the region where you want to change the playback level.
4. Touch the Fade/Level button to open the pull-up menu.

5. Touch the Level button on the pull-up menu.

   The region at the timeline cursor is indicated in yellow, and will be affected by the Level setting.

6 When the level knob is displayed above the Level button, use the **DATA** dial to set playback level.

   Setting range

   –∞, –120dB to +10.0dB

7. Touch the Level button again to hide the level knob. (The set playback level will be saved.)

Undoing the previous edit (UNDO)

You can undo the previous timeline edit.

1. Press the **HOME** key on the front of the unit to open the Home screen.
2. Touch the EDIT MODE button to enter edit mode.
3. Touch the EDIT button to open the pull-up menu.

4. Touch the UNDO button on the pull-up menu. After the edit is undone, the Home Screen will open after a pop-up window is shown.

In this case, the EDIT pull-up menu will remain open.

NOTE

- *The UNDO button on the Fade/Level pull-up menu can also be used to undo an edit.*
- *If no editing has been conducted, the UNDO button is disabled. The UNDO button appears with white letters when it is possible to undo an edit.*
- *The timeline mode can store up to 10 of the most recent recording/editing operations. You can undo and redo editing within this editing history range .*

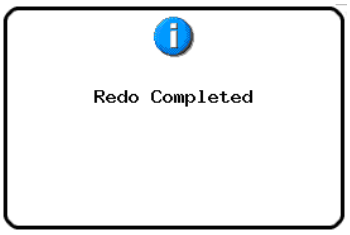
  However, when the frequency of editing or the number of regions increases, the number of operations that can be stored might decrease to less than 10.
- *The timeline mode editing history will be erased by the following actions.*
  - *Turning off the unit*
  - *Loading a folder*
  - *Loading AES31 editing information*
  - *Changing the operation mode*

Redoing an edit (REDO)

After undoing an edit, you can redo it.

1. Press the **HOME** key on the front of the unit to open the Home screen.
2. Touch the EDIT MODE button to enter edit mode.
3. Touch the EDIT button to open the pull-up menu.

4. Touch the REDO button on the pull-up menu. When the edit is redone, the Home Screen will open after a pop-up window is shown.



In this case, the EDIT pull-up menu will remain open.

NOTE

- *The REDO button on the Fade/Level pull-up menu can also be used to redo an edit.*
- *If no edit has been undone, the REDO button is disabled. The REDO button appears with white letters when it is possible to redo an edit.*
- *The timeline mode can store up to 10 of the most recent recording/editing operations. You can undo and redo editing within this editing history range .*
- *However, when the frequency of editing or the number of regions increases, the number of operations that can be stored might decrease to less than 10.*
- *The timeline mode editing history will be erased by the following actions.*
  - *Turning off the unit*
  - *Loading a folder*
  - *Loading AES31 editing information*
  - *Changing the operation mode*

Bouncing

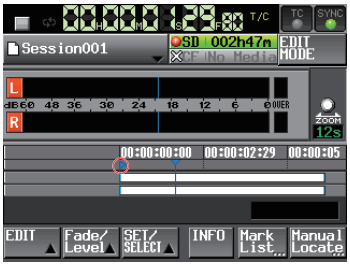
You can output part of a region or an interval that crosses multiple regions as a single take.

Setting the bounce starting point

1. Touch the **HOME** key to open the Home Screen.
2. Use the ◄◄ and ►► keys, for example, to locate the timeline cursor to the bounce starting point (time).
3. Touch the Bounce I/O button to open a pull-up menu.

4. Touch the SET IN button on the pull-up menu to set the bounce starting point (IN point).

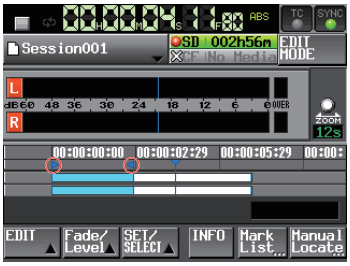
   The IN mark (▶) appears at the current position in the mark display area.



Setting the bounce ending point

5. Use the ◄◄ and ►► keys, for example, to locate the timeline cursor at the bounce ending position (time).
6. Touch the Bounce I/O button to open a pull-up menu.
7. Touch the SET OUT button on the pull-up menu to set the bounce ending point (OUT point).

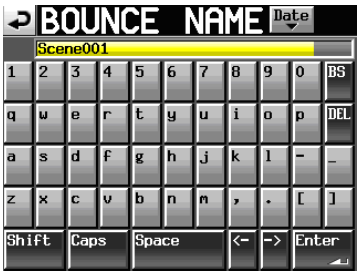
   The OUT mark (◀) appears at the current position in the mark display area.



The range between the IN mark (▶) and OUT mark (◀) will be edited, and is shown in light blue.

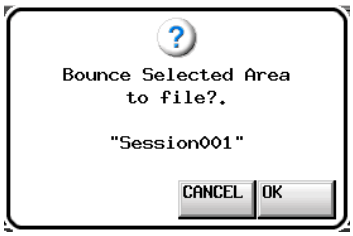
Bouncing the interval

8. Touch the Bounce I/O button to open a pull-up menu.
9. Touch the BOUNCE button on the pull-up menu to open the BOUNCE NAME screen where you can input the bounce file name.



Input the file name. Follow the procedures in "Editing the name of a folder in the root directory" on page 33.

10. Touch the Enter button. When a confirmation message pop-up appears, touch the OK button or press the **DATA** dial.



While the file is being created, a progress status pop-up appears.

When file creation completes, the pop-up disappears.

NOTE

You can cancel a bounce by pressing the CANCEL button while the progress pop-up window is open.

Clearing the bounce starting and ending points

11. Touch the Bounce I/O button to open the pull-up menu.
12. Touch the CLEAR button on the pull-up menu. When a confirmation pop-up window appears, touch the OK button or press the **DATA** dial.

    The current IN and OUT points are deleted, and the IN mark (▶) and OUT mark (◀) disappear from the mark area.

8 – Take mode

In this chapter, we explain how to use the take mode. To use this unit in take mode, set the unit's operation mode to TAKE MODE. (See "Selecting the operation mode" on page 38.)

Refer to "4 – Basic operation" on page 26 also when reading this chapter.

Preparing to record

Basic preparations

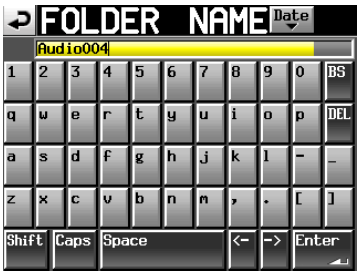
Refer to "4 – Basic operation" on page 26 and make the basic preparations for recording.

Creating new folders

Create new folders as necessary. You do not need to create a new folder if you plan to record into an existing one.

1. Press the **FILE LIST** key on the front of the unit to open the take selection screen. Then, press the **FILE LIST** key again to open the folder selection screen.

2 Touch the NEW FOLDER button on the pull-up menu to open the NEW FOLDER screen where you can input the folder name.



Follow the procedures "Editing the name of a folder in the root directory" on page 33 to input the folder name.

NOTE

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

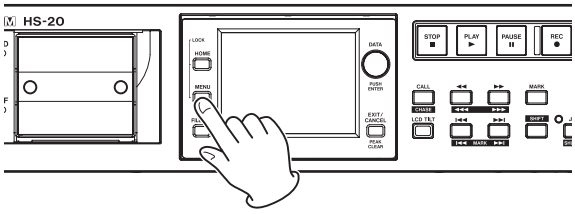
3. Touch the Enter button or press the **DATA** dial.
4. Touch the OK button or press the **DATA** dial when the confirmation pop-up message appears.

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

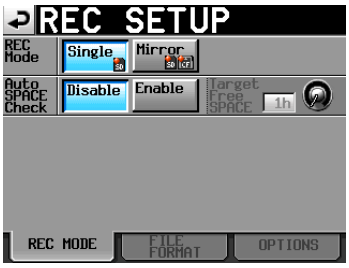
   For details about folder operations, see "Folder operations" on page 35.

Recording mode settings

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



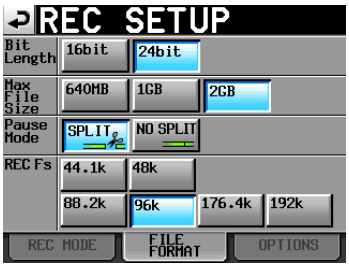
2. Touch the REC SETUP button to open the REC SETUP screen.



On the REC MODE page, you can select the recording mode. The background color for the selected mode is light blue. For details, see "REC MODE page" on page 77

Setting the file format

Touch the FILE FORMAT tab on the REC SETUP screen to open the following screen.

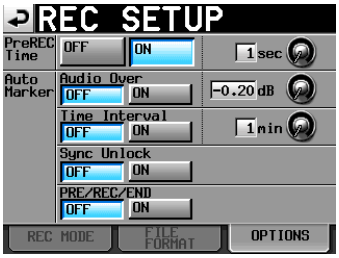


On the FILE FORMAT page, set bit-length, maximum file size, how files are treated when recording is paused, and the recording sampling frequency. The selected items have a light blue background.

For details, see "FILE FORMAT page" on page 79.

Other recording settings

Touch the OPTIONS tab of the REC SETUP screen to open the following screen.



On the OPTIONS page, you can set the pre-recording time and the use of auto marks. For details, see "OPTIONS page" on page 80.

Recording in take mode

Starting recording

When the unit is stopped, press the **REC** key to put the unit into recording standby. At this time, the icon indicates this transport status.

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.

NOTE

When stopped, pressing the **PLAY** *key while pressing and holding the* **REC** *key will also start recording.*

NOTE

Recording can also be controlled using parallel control.

In take mode, even if you press the **PLAY** *key while holding the* **REC** *key during playback, you cannot overwrite a recording.*

CAUTION

When in recording standby, the parallel control signals output are high for TALLY_RECORD and low for TALLY_PAUSE.

When in recording standby, the **REC** *and* **PAUSE** *keys on the front panel will be lit.*

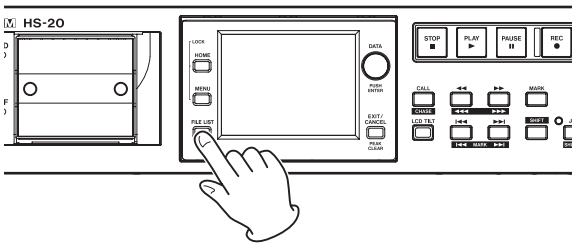
Stopping recording

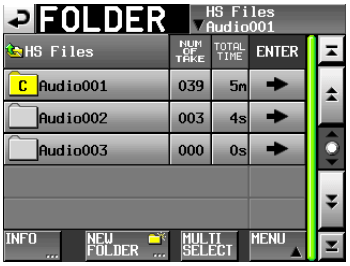
To stop recording, press the **STOP** key.

Playback in take mode

Selecting a folder/take

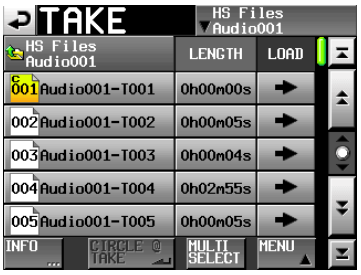
1. Press the **FILE LIST** key on the front of the unit to open the take selection screen. Then, press the **FILE LIST** key again to open the folder selection screen.





2. Touch the ➡ button for the folder that contains the take you want to load to open the take selection screen.

   If it is not the current folder, a pop-up window appears confirming that you want to load it. Touch the OK button.



NOTE

To load a take from the current folder, instead of steps 1–4, touch the folder name button at the top right of the FILE LIST screen or touch the take name button on the Home Screen, and touch the TAKE List button in the pull-down menu to open the take selection screen for the current folder.

3. Select the take that you want to load.

4. Touch the MENU button in the take selection screen to open the pull-up menu.

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

After loading completes, the Home Screen opens and playback will be paused at the start of the loaded take.

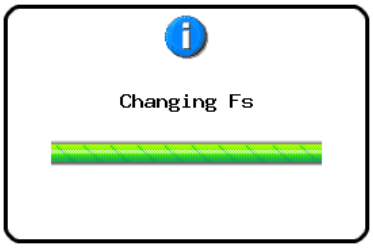
NOTE

You can also press the ➡ button for a take to load it.

In this case, no pop-up window appears, and the take selection screen remains open after loading (the Home screen does not reopen.)

CAUTION

If the recording sampling frequency setting and the playback file sampling frequency are different, the following pop-up will appear while the unit switches to the playback file sampling frequency.



Setting input monitoring

Turn input monitoring off during playback.

If input monitoring is on, sound from the input connectors will be output through all the output connectors of this unit.

1. Touch the INPUT MONITOR button on the Home Screen to open a pull-up with the input monitoring ON/OFF buttons.

2. If input monitoring is on (ON button blue), touch the OFF button to turn it off (OFF button blue).

Playback control in take mode

Press the **PLAY** key to start playback.

Press the **PAUSE** key to start playback standby.

Press the **PLAY** key to end recording standby.

Press the **STOP** key to stop playback.

Press the ⏮ [**MARK** ⏮] key or / ⏭ [**MARK** ⏭] key to switch takes.

Press and hold the ◀◀ [◀◀◀] key or ▶▶ [▶▶▶] key to search backward or forward.

Press the ⏮ [**MARK** ⏮] or ⏭ [**MARK** ⏭] key while pressing and holding the **SHIFT** key to move between marks.

Press and hold the ◀◀ [◀◀◀] key or ▶▶ [▶▶▶] key while pressing and holding the **SHIFT** 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 80.)*
- *Playback functions can also be controlled through through the* **PARALLEL** *connectors.*

Using the call function in playlist mode

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

Using the flash start function in take mode

Using a TASCAM RC-HS20PD (sold separately) or other remote controller, flash start playback is possible.

For details, see "Flash start function" on page 109.

Take operations

Multiple takes can be made in audio folders.

For details about folder operations, see "5 – FILE LIST" on page 30.

The following take operations are available.

- **Editing take start times**
- **Exporting takes**
- **Uploading takes to an FTP server**
- **Deleting takes**
- **Sorting takes**
- **Changing the order of takes**
- **Editing take names**
- **Dividing takes (Divide)**
- **Combining takes (Combine)**
- **Undoing the previous edit (UNDO)**
- **Redoing an undone edit (REDO)**

Editing take start times

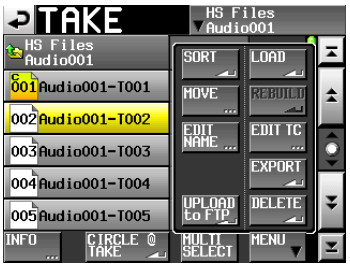
1. Press the **FILE LIST** key on the front of the unit to open the take selection screen. Then, press the **FILE LIST** key again to open the folder selection screen.
2. Touch the ➡ button for the folder that contains the take you want to edit to open the take selection screen.

   If it is not the current folder, a pop-up window appears confirming that you want to load it. Touch the OK button.

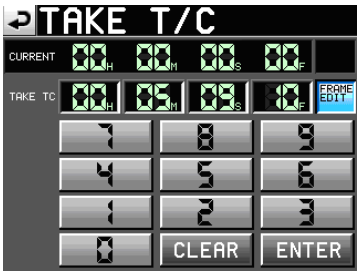
NOTE

To load a take from the current folder, instead of steps 2–3, touch the folder name button at the top right of the FILE LIST screen or touch the take name button on the Home Screen. Then, touch the TAKE List button in the pull-down menu to open the take selection screen for the current folder.

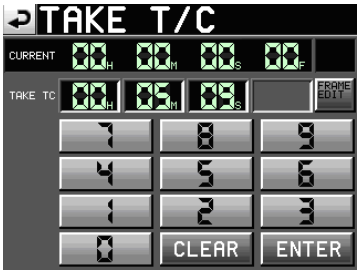
3. Select the take for which you want to edit the start time.
4. Touch the MENU button in the take selection screen to open the pull-up menu.



5. Touch the EDIT TC button in the pull-up menu to open the TAKE TC screen.
6. On the TAKE T/C screen, use the FRAME EDIT button to set whether or not to input the frame value.



FRAME EDIT on



FRAME EDIT off

7. Use the number buttons to input the take start time.
   - If you begin input without selecting a unit, input will start from the smallest one.
   - To input a specific unit, touch it to make its background yellow, and 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.
8. Touch the ENTER button to confirm the setting.

TIP

This can also be input using a connected keyboard.

Press the keyboard's ESC key to clear all the values.

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

Exporting takes

You can export takes to the current folder on a different media device.

1. Select the take you want to export on the take selection screen.
2. Touch the MENU button on the take selection screen to open the pull-up menu.

3. Touch the EXPORT button on the pull-up menu to open the following pop-up window. Touch the OK button or press the **DATA** dial to export the selected take.

   Touch the CANCEL button on the pop-up window to return to the take list screen.

NOTE

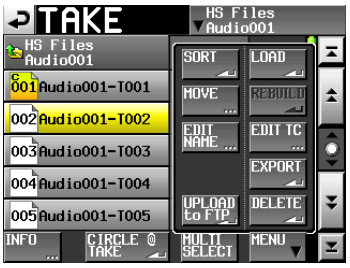
- *If the target destination is empty (does not have a current folder), the same folder structure as the source folder is created there automatically during the export.*
- *If the target destination contains a file with the same name, a pop-up window stating "Selected Take Already exist in Export destination." appears and exporting does not occur.*
- *When the total size of the EXPORT file exceeds the free space in the export destination, a pop-up window stating "Cannot EXPORT. Not enough space on xxx"* is shown before the export starts, and exporting does not occur.*

  *xxx: SD/CF card(export destination media name)

Uploading takes to an FTP server

This unit can upload takes to a designated folder on the FTP server set on the FTP page of the REMOTE SETUP screen.

1. Select a take you want to upload on the take selection screen.
2. Touch the MENU button on the take selection screen to open the pull-up menu.



3. Touch the UPLOAD to FTP button on the pull-up menu to open a confirmation pop-up window. Touch the OK button or press the **DATA** dial to upload the selected take.

   Touch the CANCEL button on the pop-up window to return to the take list screen.

NOTE

The file icon for a take that has been successfully uploaded is shown like this: 001.

The file icon for a take that has failed to upload is shown like this: 001.

Deleting a take

1. Select the take that you want to delete on the take selection screen.
2. Touch the MENU button on the take selection screen to open the pull-up menu.

Take selection screen with pull-up menu open

3. Touch the DELETE button on the pull-up menu.
4. Touch the OK button or press the **DATA** dial when the confirmation message is displayed on the pop-up window.

Confirmation message screen

5 Touch the OK button or press the **DATA** dial when the reconfirmation message is displayed on the pop-up window.

Reconfirmation message screen

During deletion, a progress bar is shown in a pop-up window.

When deleting completes, the pop-up window will disappear.

CAUTION

You can delete a take already in use in the timeline mode or playlist mode.

If you delete such a folder/file, an error pop-up appears when you attempt to play the corresponding region/entry.

Sorting takes

You can sort the order of take playback by name.

1. Touch the MENU button on the take selection screen to open the pull-up menu.

Take selection screen with pull-up menu open

2. Touch the SORT button on the pull-up menu to open a confirmation pop-up window.

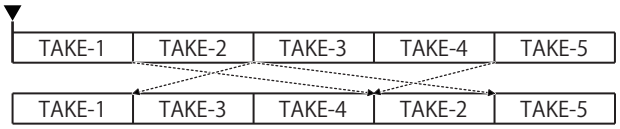
Confirmation message screen

3. Touch the OK button or press the **ENTER** key on the pop-up window to sort the order of take playback by name.

   Touch the CANCEL button to return to the take selection screen.

Changing the order of takes

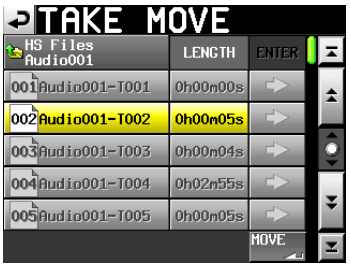
You can move a take to change the playback order.



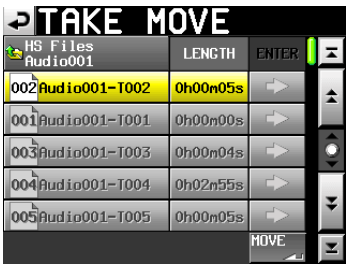
1. Select a take you want to move on the take selection screen.
2. Touch the MENU button on the take selection screen to open the pull-up menu.

Take selection screen with pull-up menu open

3. Touch the MOVE button on the pull-up menu to open the TAKE MOVE screen.



4. Use the **DATA** dial and scroll buttons to move the selected take.



5. Touch the MOVE button or press the **ENTER** key to move the take to the order shown.

   Touch the ↩ button at the upper left of the screen or press the **EXIT/CANCEL** key to return to the take selection screen without moving the take.

Editing take names

1. Select the take with the name you want to edit on the take selection screen.
2. Touch the MENU button on the take selection screen to open the pull-up menu.

Take selection screen with pull-up menu open

3. Touch the EDIT NAME button on the pull-up menu to open the TAKE NAME screen.

TAKE NAME Screen

NOTE

When you have selected multiple takes, you cannot select the EDIT NAME button on the pull-up menu.

4. Input the take name. Follow the procedures "Editing the name of a folder in the root directory" on page 33.

5 Touch the Enter button on the TAKE NAME screen or the **DATA** dial to confirm the take name and return to the take selection screen.

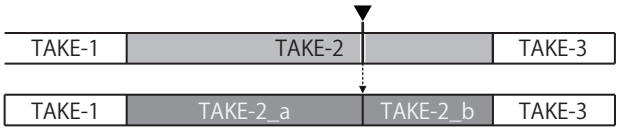
CAUTION

It is possible to edit the name of a take already in use in timeline or playlist mode.

If you edit the name of such a take, an error pop-up appears when you attempt to play the corresponding region/entry.

Dividing a take

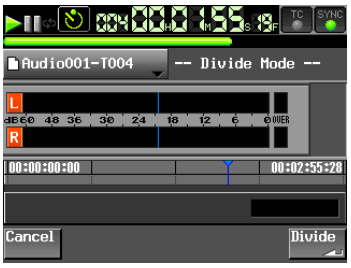
You can divide a take into two at a specified position.



1. Press the **HOME** key on the front of the unit to open the Home screen.
2. Move the timeline cursor to the position where you want to divide.
3. Touch the EDIT button to open the pull-up menu.

Touch the Divide button on the pull-up menu.

4. When "-- Divide Mode --" appears, scrub playback mode will become active. Use the following methods to set the exact division position.
   - Turn the **JOG/SHUTTLE** dial
   - Press the ◀◀ or ▶▶ key (moves one sample at a time)
   - Press the ◀◀ [◀◀◀] or ▶▶ [▶▶▶] key while pressing and holding the **SHIFT** key (moves in 1ms intervals)
   - Press the ⏮ [**MARK** ⏮] or ⏭ [**MARK** ⏭] key while pressing and holding the **SHIFT** key (moves to the next mark point)



When the position is determined, touch the Divide button at the lower-left of the screen. To cancel dividing, touch the CANCEL button at the lower left of the screen, or press the **STOP** or **EXIT/CANCEL** key.

If the file name given after division already exists and a take cannot be divided, the "Cannot Divide." message appears.

5. When dividing is complete, the Home Screen will open after a pop-up window is shown.

NOTE

- *The take names are given after division as follows.*
  First half: <Take name before division>_a
  Second half: <Take name before division>_b
- *The first half and second half will be played in order.*
- *The second half will become the current take.*
- *Takes that followed the current take before division will follow the second half.*
- *The total number of takes increases by one after division.*
- *If a mark point existed at the division point, it will be set as the beginning of the second half.*

NOTE

Example:

Take list: Scene001-T001 before division

Take list: Scene001-T001 after division

CAUTION

It is possible to divide a take already in use in timeline or playlist mode.

If you divide such a take, an error pop-up will appear if you try to play the corresponding region/entry.

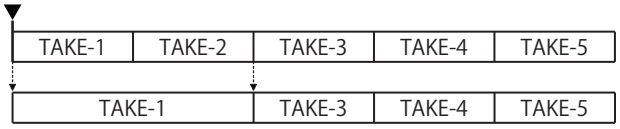
Combining takes

You can combine a specified take with another one.

NOTE

You cannot combine takes in the following cases.

- *The bit lengths, the numbers of channels or the sampling frequencies are different.*
- *The file size after combining the takes exceeds the Max File Size shown on the REC SETUP/FILE FORMAT screens.*
- *The open capacity of the media is less than the file size of the second take to be combined.*

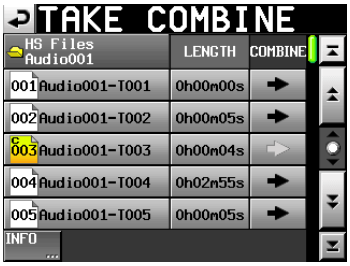


1. Press the **HOME** key on the front of the unit to open the Home screen.
2. Set the take that will be the first half of the combined take as the current take.
3. Touch the EDIT button to open the pull-up menu.

Touch the Combine button on the pull-up menu.

4. When the take selection screen opens, touch the ➡ button of the take to be combined with the current take.

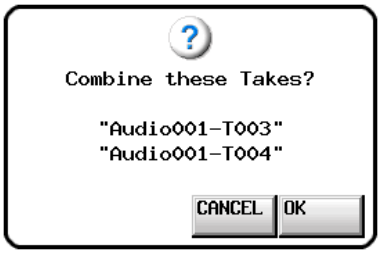
   (The yellow icon indicates the first take to be used in the combination, which was as selected in step 3.)



5. A confirmation message appears, and an interval of 4-seconds in total before and after the take combination point will be played repeatedly.

   Touch the OK button or press the **ENTER** key to combine the takes.

   Touch the CANCEL button or press the **EXIT/CANCEL** key to stop the repeat playback and reopen the take selection screen.



6. While combining, a progress bar is shown in the pop-up window.

   When combining is complete, the pop-up window will disappear.

NOTE

- *The file name of the first take is used for the combined take.*
- *The timecode information from the first take is used in the combined take.*
- *If the combined number of mark points of the takes exceeds 100, the 101st and subsequent ones will be lost. These mark points cannot be recovered with UNDO.*

CAUTION

It is possible to combine takes that are already in use in timeline or playlist mode.

If you combine such takes, an error pop-up appears when you attempt to play the corresponding region/entry.

Undoing the previous take edit (UNDO)

You can undo the previous take edit.

1. Press the **HOME** key on the front of the unit to open the Home screen.
2. Touch the EDIT button to open the pull-up menu.

Touch the UNDO button on the pull-up menu.

3. When the edit is undone, the Home Screen will open after a pop-up window is shown.

In this case, the EDIT pull-up menu will remain open.

NOTE

- *If no editing has been conducted, the UNDO button is disabled. The UNDO button appears with white letters when it is possible to undo an edit.*
- *The take mode edit history will be erased by the following actions.*
  - *Turning this unit off*
  - *Loading a folder*
  - *Changing the operation mode*
  - *Recording*

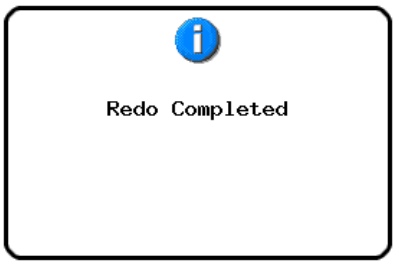
Redoing the previously undone take edit (REDO)

After undoing an edit, you can redo it.

1. Press the **HOME** key on the front of the unit to open the Home screen.
2. Touch the EDIT button to open the pull-up menu.

Touch the REDO button on the pull-up menu.

3. When the edit is redone, the Home Screen will open after a pop-up window is shown.



In this case, the EDIT pull-up menu will remain open.

NOTE

- *If no edit has been undone, the REDO button is disabled. The REDO button appears with white letters when it is possible to redo an edit.*
- *The take mode edit history will be erased by the following actions.*
  - *Turning this unit off*
  - *Loading a folder*
  - *Changing the operation mode*
  - *Recording*

In this chapter, we explain how to use the playlist mode. To use this unit in playlist mode, set the unit's operation mode to PLAYLIST MODE. (See "Selecting the operation mode" on page 38.)

Please refer to "4 – Basic operation" on page 26 when reading this chapter.

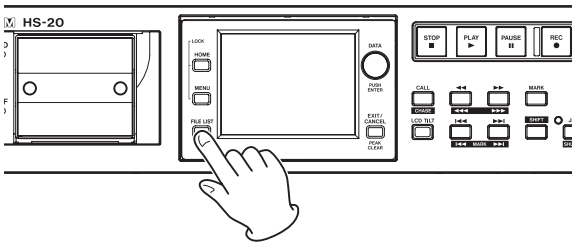
Playlist operations

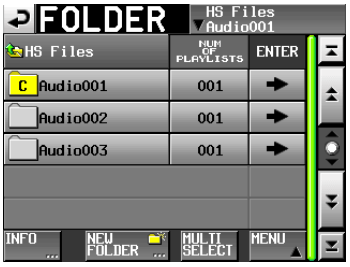
Loading a folder

Takes/files can only be added to the playlist from the currently loaded folder. When takes/files that are in other folders are added to a playlist they are copied to the current folder. Load a folder first.

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

Then, press the **FILE LIST** key again to open the folder selection screen.

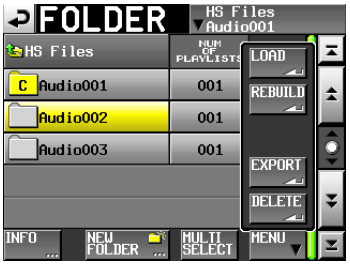




2. Touch a folder name button to select a folder.

Its background appears yellow.

3. Touch the MENU button on the folder selection screen to open the pull-up menu.



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

NOTE

You can also press the ➡ button for a folder to load it. If it is not the current folder, a pop-up window appears confirming that you want to load it. Touch the OK button.

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

When loading completes, the last loaded playlist (or a playlist created by default for a new folder) is automatically loaded and the Home Screen reopens.

Creating a new playlist

You can create a playlist (JPPA PPL file) in the folder of the current folder.

The file path is as follows when you view a card on your computer.

{Card drive name}:\{HS Files}\{folder name}\{_playlists}\{Playlist file}

1. Press the **FILE LIST** key on the front of the unit to open the playlist selection screen.

NOTE

When you create a folder, one JPPA PPL file is created automatically.

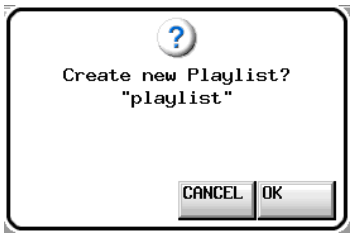
2. Touch the CREATE PLAYLIST button to open the PLAYLIST NAME screen.

Enter the playlist name.

To enter the playlist name, follow the procedures "Editing the name of a folder in the root directory" on page 33.

3. Touch the Enter button or press the **DATA** dial.

4. When a confirmation message pop-up appears, touch the OK button or press the **DATA** dial to confirm the playlist name.



While the playlist is being created, a progress status pop-up appears.

When playlist creation completes, the pop-up disappears.

NOTE

- *Immediately after a new playlist is created, it becomes the current playlist (currently loaded playlist).*
- *A new playlist can also be created by touching the CREATE PLAYLIST button on the pull-down menu that appears when an entry name button is touched on the Home Screen.*
- *"C" (current) appears inside the icon of the currently loaded playlist.*

Changing a playlist name later

You can change playlist names later.

1. Press the **FILE LIST** key on the front of the unit to open the playlist selection screen.
2. Select the playlist with the name that you want to change. The background of the selected playlist name appears yellow.
3. Touch the MENU button to open a pull-up menu.

4. Touch the EDIT NAME button in the pull-up menu to open the PLAYLIST NAME screen.

NOTE

The EDIT NAME button in the pull-up menu cannot be selected if the loaded playlist is selected.

5. Input the playlist name. Follow the procedures "Editing the name of a folder in the root directory" on page 33.
6. Touch the Enter button on the PLAYLIST NAME screen or press the **DATA** dial to confirm the playlist name and return to the playlist selection screen.

Loading playlists

You can load a playlist (JPPA PPL file) that is in the current folder.

The file path is as follows when you view a card on a computer.

{Card drive name}:\{HS Files}\{folder name}\{_playlists}\{Playlist file}

NOTE

You cannot load a playlist file that is not in the current folder.

1. Press the **FILE LIST** key on the front of the unit to open the playlist selection screen.
2. Select the playlist that you want to load.
3. Touch the MENU button on the Playlist selection screen to open a pull-up menu.

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

NOTE

You can also load a playlist by touching its ➡ button.

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

After loading completes, the Home Screen opens.

Deleting a playlist

1. Press the **FILE LIST** key on the front of the unit to open the playlist selection screen.
2. Select the playlist that you want to delete.
3. Touch the MENU button on the Playlist selection screen to open a pull-up menu.
4. Touch the DELETE button in the pull-up menu.

NOTE

If you have selected the currently loaded playlist, you cannot select the DELETE button on the pull-up menu.

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

During deletion, a progress bar is displayed in a pop-up window.

When deletion completes, the pop-up disappears.

Editing a playlist (adding, clearing and editing entries)

A playback unit in a playlist is called an "entry".

A maximum of 100 entries can be added to a playlist.

Only takes (files) in the folder in which the playlist was created can be added as entries.

When a take (file) that is in another folder is added to a playlist, it is copied to the folder where the playlist was made.

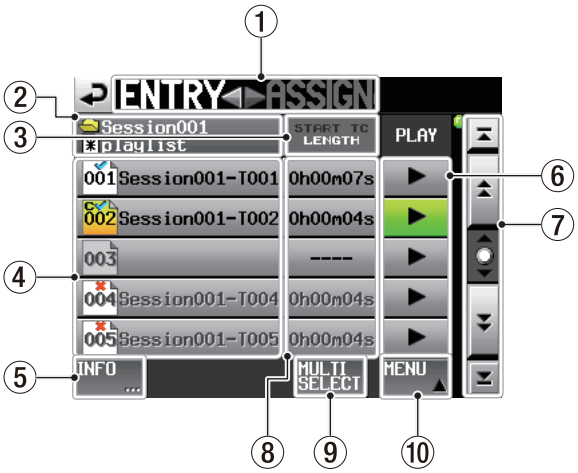
Even during playback of a playlist, entries can be added to or removed from it. Their names can also be changed.

The entry that is currently playing, however, cannot be changed.

Use the ENTRY list and ASSIGN file screens to edit playlists.

ENTRY list screen

To open this screen, touch a take or entry name button on the Home Screen to open a pull-down menu and touch the ENTRY LIST button, or touch the ENTRY ◀ part of the ENTRY ◀ ▶ ASSIGN button on the ASSIGN file screen.



① **ENTRY ◀ ▶ ASSIGN button**
Switches between the ENTRY list and ASSIGN file screens.

Touch the ▶ ASSIGN part to open the ASSIGN file screen.

② **Playlist name display**
This shows the current playlist name.

✱ is shown if editing has been performed without saving.

③ **START TC/LENGTH button**
Touch this area to switch between showing the starting time (START TC) and the length (LENGTH) in the START TC/LENGTH column. The one shown in white is currently displayed.

④ **Entry name button**
Touch to select the corresponding entry.

Touch this button to open the take list on the right side.

When this list is open, you can touch a take name button to assign that take to the selected entry name button.

Take list open

The entry number appears inside the 001 icon.

The playlist verification status also appears inside the 001 icon. If the format of the file is different or the file does not exist, its name appears in gray.

002	Currently loaded entry
001	Entry is okay
004	Entry is a format that cannot be played back
005	File added for entry has been deleted via FTP or on the BROWSE screen
003	No entry

⑤ **INFO button**
When an entry is selected, press this button to open an information pop-up for that entry.

When an entry is not selected, press this button to show information about the current playlist.

⑥ **PLAY buttons**
Touch to play the corresponding entry. These turn green during playback of the corresponding entries. Touch one during playback to stop playback of the corresponding entry.

⑦ **Scroll buttons**
Use these buttons to scroll to the beginning or end of the entry list, or to scroll one page (five lines) forward or backward. You can also scroll through the entry list one line at a time using the **DATA** dial.

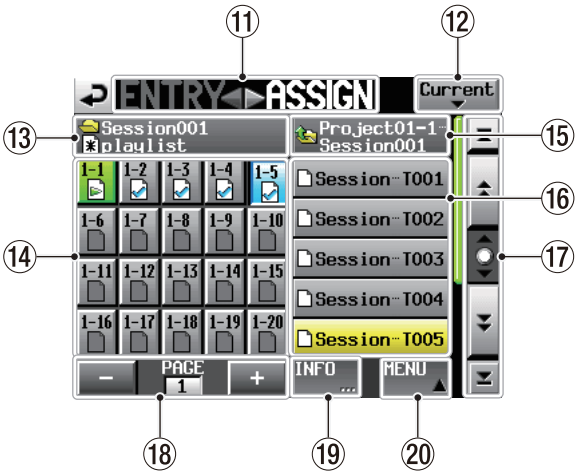
⑧ **START TC/LENGTH column**
This shows the entry starting time or entry length (time). The START TC/LENGTH button item shown in white is currently shown.

⑨ **MULTI SELECT button**
Touch to enable the selection of multiple entries.

⑩ **MENU button**
Touch to open a pull-up menu where you can select REBUILD, CLEAR, ADJUST, SAVE and SAVE AS.

ASSIGN File screen

To open this screen, touch a take or entry name button on the Home Screen to open a pull-down menu and touch the ASSIGN FILE button, or touch the ▶ ASSIGN part of the ENTRY ◀ ▶ ASSIGN button on the ASSIGN file screen.



⑪ **ENTRY ◀ ▶ ASSIGN button**
Switches between the ENTRY list and ASSIGN file screens.

Touch the ENTRY ▶ part to open the ENTRY list screen.

⑫ **Current button**
Touch this button to open the take name list of the current folder.

⑬ **Folder name/playlist name**
This shows the names of the current folder and playlist.
✱ is shown if editing has been performed without saving.

⑭ **Key assign list/buttons**
These buttons are for entry assignments.

The flash page number and flash key number are shown separated by a "–".

The playlist verification status also appears inside the icon.

The icon for the currently playing entry is and its button is highlighted in green.

- Entry currently being played back
- Entry is okay
- Entry is a format that cannot be played back
- File added for entry has been deleted via FTP or on the BROWSE screen
- No entry

After touching one of these buttons, touch a take name button to assign that take to that button.

⑮ **Current folder name button**
This shows the name of the folder that is shown in the current take list display area.

Touch this button to show the folder list in the take list display area.

⑯ **Take name list/buttons**
This is a list of the takes in the current folder.

After touching a key assign button, touch a take name button to assign that take to that key assign button.

If you touch the current folder name button when the name of a folder in the root folder is shown in it, a list of the folders in the root folder will be shown.

Touch the button of the folder that you want to load to open the list of takes in that folder.

⑰ **Scroll buttons**
Use these buttons to scroll to the beginning or end of the take list or folder list, or to scroll one page (five lines) forward or backward. You can also scroll through the take list one line at a time using the **DATA** dial.

⑱ **Page display and selection buttons**
The current key assign button page is shown.

Touch the + or – button to change the page.

⑲ **INFO button**
When a key assign button is selected, touch this button to open an information pop-up for that key assign button.

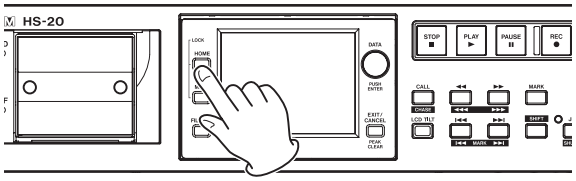
When a take is selected, touch this button to open an information pop-up for that take.

When nothing is selected, touch this button to show information about the current playlist.

⑳ **MENU button**
Touch to open a pull-up menu where you can select REBUILD, CLEAR, ADJUST, SAVE, and SAVE AS.

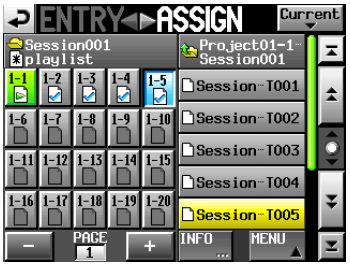
Assigning a take to an entry

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



2 Touch a file name or title name button to open a pull-down menu and touch the ASSIGN FILE button.

Touch the ▶ ASSIGN part to open the ASSIGN file screen.



On the left side are the buttons that can receive assignments, and on the right side is the list of takes that can be assigned.

NOTE

You can also touch the ▶ ASSIGN button on the ENTRY List screen to open the ASSIGN File screen.

3. First, select the key assign button of the take that you want to assign.
4. Use the + and – buttons to open the page where you want to assign a file.
5. In the key assign button list on the left, select the one to which you want to assign a take. The selected button appears light blue.

NOTE

If you select a button that already has an entry assigned to it, the corresponding take appears yellow in the take list.

6. Touch a take name in the take list to assign that take to that button. When a take is assigned to a button, the button's icon changes from (no assignment) to .

NOTE

- *Only takes in the folder where the playlist is can be added to the playlist.*
- *If the take that you want to add does not appear, use the scroll buttons or* **DATA** *dial to scroll through the list until the take appears and then touch its name.*

TIP

If the take that you want to add is in a different folder, touch the current folder name button to open the folder list. Then, touch the name of the folder that contains the take that you want to add to open that folder's take name list.

7. Repeat steps 3–6 as necessary.
8. After you have completed making assignments, save the playlist as necessary.

   To save a playlist, touch the MENU button on the ASSIGN file or ENTRY list screen to open a pull-up menu. Touch the SAVE button. You can also touch a file name or title name button on the Home Screen to open a pull-down menu and touch the SAVE button.

   For details about saving, see "Saving playlists" on page 75.

TIP

You can also assign a take to an entry with a similar procedure on the Entry List screen.

CAUTION

If you do not save the playlist, all changes will be lost when another playlist is loaded, the card is removed or the unit's power is turned off.

Entry number page allocation

The playlist entry numbers are allocated as follows.

Page number	Entry number
1	1-20
2	21-40
3	41-60
4	61-80
5	81-100

Clearing entry assignments

1. Press the **HOME** key on the front of the unit to open the Home screen.
2. Touch the ENTRY LIST button on the pull-down menu that is opened by touching a file name or title name button.

   This opens the ENTRY list screen.

3. Select the entry with the assignment that you want to clear. Its background is highlighted in yellow and the take list is shown on the right side.

   When you select an entry to which a take has been assigned, the background of that take on the take list is highlighted in yellow.

NOTE

You can clear entry assignments by touching the take name button highlighted in yellow.

4. Touch the MENU button on the Entry List screen to open a pull-up menu.

5 Touch the CLEAR button in the pull-up menu to clear the entry.

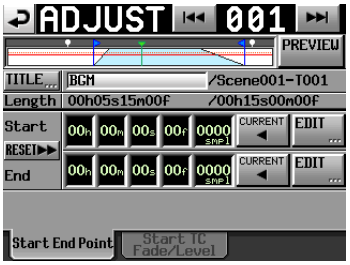
NOTE

On the ASSIGN file screen, when a button on the left is selected, you can clear its entry by touching the take name that appears yellow in the take list on the right side or by touching the MENU button and then touching the CLEAR button on the pull-up menu.

Editing entry titles

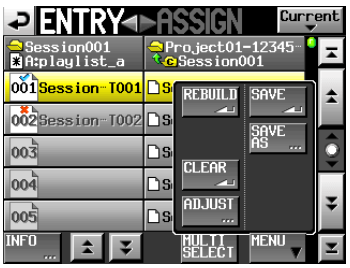
1. Press the **HOME** key on the front of the unit to open the Home screen.
2. Touch the ADJUST ENTRY button on the pull-down menu that is opened by touching a file or title name button.

   The ADJUST ### screen opens. ("###" is the entry number.)



NOTE

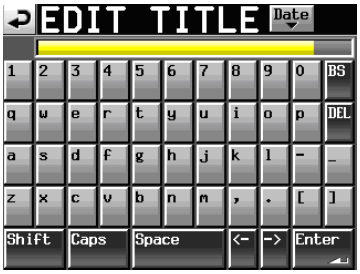
You can also open this screen by touching the MENU button and then touching the ADJUST button in the pull-up menu when a take is selected on the ENTRY list screen or one of the key assign buttons on the left is selected on the ASSIGN file screen.



ENTRY List Screen

ASSIGN File Screen

3. The title of the selected entry shown next to the TITLE button. Touch the TITLE button to open the EDIT TITLE screen where you can change the title of the entry.



   Input the title name. Follow the procedures "Editing the name of a folder in the root directory" on page 33.

4. Touch the Enter button on the EDIT TITLE screen or press the **DATA** dial to change the entry title.

Editing the playback starting and ending points

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

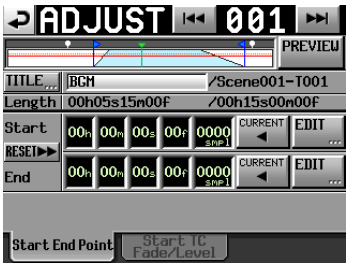
2. Touch the ADJUST ENTRY button on the pull-down menu that is displayed by touching a file or title name button.

   The ADJUST ### screen opens. ("###" is the entry number.)

NOTE

You can also open this screen by touching the MENU button and then touching the ADJUST button on the pull-up menu when a take is selected on the ENTRY list screen or one of the key assign buttons on the left is selected on the ASSIGN file screen.

3 This opens the Start End Point page.



4. When you touch a time display unit, its background will appear yellow and its cursor will start blinking.

   You can change the Start/End points using the **DATA** dial when a time display unit has been selected.

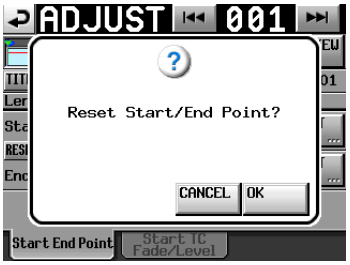
   Changing the selected unit past its natural limit will increment or decrement the next higher unit.

5. You can select the unit according to the resolution you want to change.

   To change it with frame precision, select the frame unit. To change it with sample accuracy, select the sample unit.

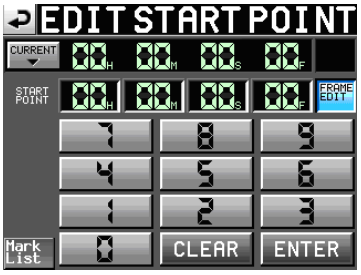
NOTE

- *Touch the CURRENT button to capture the current playback position as the Start/End point.*
- *Touch the RESET button to display a pop-up window confirming that you want to reset the Start/End point to the beginning/ending time of the file. Touch the OK button on the pop-up window to reset the Start/End point to the beginning/ending time of the file.*



Editing the playback Start/End point using the number buttons and mark list screen

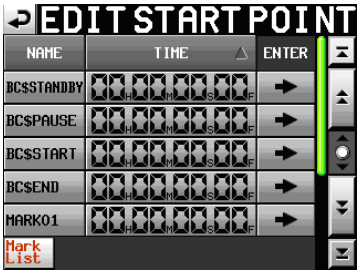
1. Touch the EDIT button to open the EDIT START POINT or EDIT END POINT screen.



   Use the FRAME EDIT button on the EDIT START/END POINT screen to set whether or not you will edit the frame value.

2. Use the number buttons to input the playback Start/End point.

   - If you begin input without selecting a unit, input will start from the smallest one.
   - To input a specific unit, touch it to make its background yellow, and then use the number buttons or the **DATA** dial to enter two digits at a time.
   - Touch the CURRENT ▼ button to copy the current playback position to the input value.
   - Touch the SET MAX ▲ button to set the end time on the file as the input value.
   - Touch the CLEAR button to clear all input values.
   - Touch the Mark List button to open the mark list screen where you can copy the time from a designated mark.



   On this screen, touch the ➡ button of a mark to copy its time to the playback Start/End point and return to the ADJUST ### screen.

NOTE

When you change the playback Start/End time, the set values will be adjusted automatically so that the length of playback is longer than the total lengths of the fade-in and fade-out.

3. Touch the ENTER button to confirm the setting.

TIP

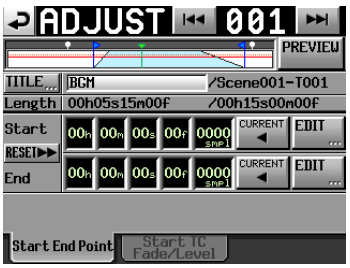
- *You can also use the* **PLAY** *key and other transport keys while listening to the audio to find the location, and then touch the CURRENT ▼ button to input that value here.*
- *You can also use a connected keyboard to edit values on the EDIT START POINT and EDIT END POINT screens.*

  Press the keyboard's ESC key to clear all the values.

Editing the playback starting time

1. Press the **HOME** key on the front panel to open the Home screen.
2. Touch the ADJUST ENTRY button on the pull-down menu that is opened by touching the file name button or the title name button.

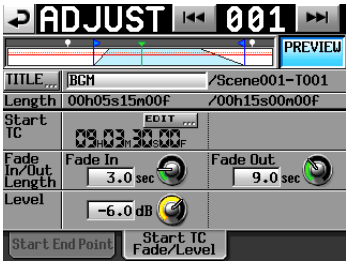
   The ADJUST ### screen opens. ("###" is the entry number.)



NOTE

You can also open this screen by touching the MENU button and then touching the ADJUST button on the pull-up menu when a take is selected on the ENTRY list screen or one of the key assign buttons on the left is selected on the ASSIGN file screen.

3. Touch the Start TC Fade/Level tab to open the screen shown below.



4. Touch the EDIT button to open the EDIT START TC screen, and use the number buttons to change the Start TC.
5. The value shown next to the Start TC item is the playback starting time for the selected entry. Touch the EDIT button for the START TC item to open the EDIT START T/C screen where you can change the playback starting time.

   Use the FRAME EDIT button on the EDIT START T/C screen to set whether or not you will edit the frame value.

6. Use the number buttons to input the entry playback start time.
   - If you begin input without selecting a unit, input will start from the smallest one.
   - To input a specific unit, touch it to make its background yellow, and then use the number buttons or the **DATA** dial to enter two digits at a time.
   - Touch the CURRENT ▼ button to copy the current timecode time to the input value.
   - Touch the CLEAR button to erase all entered values.
7. Touch the ENTER button to confirm the setting.

TIP

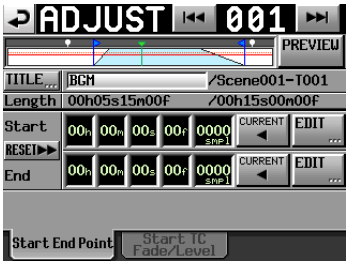
- ***You can also use the* PLAY *key and other transport keys while listening to the audio to find the location, and then touch the CURRENT ▼ button to input that value here.***
- ***This can also be input using a connected keyboard.***

  Press the keyboard's ESC key to clear all the values.

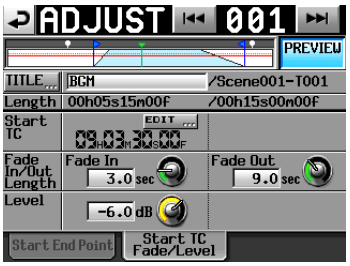
Editing fade-in/fade-out length and level

1. Press the **HOME** key on the front panel to open the Home screen.
2. Touch the ADJUST ENTRY button on the pull-down menu that is opened by touching a file or title name button.

   The ADJUST ### screen opens. ("###" is the entry number.)



3. Touch the Start TC Fade/Level tab to open the screen shown below.



4. Select the Fade In, Fade Out or Level knob and use the **DATA** dial to set the value.

   Ranges

   - Fade In/Out Length: 0 – 30 seconds
     (0.1 second per step or 1.0 second per step when the dial is pressed and rotated)
   - Level: –∞ to +10dB

NOTE

- ***After the length of a fade is changed, the value will be automatically adjusted to a value that will fit within the playback Start/End time interval.***
- ***The playback level is shown by a solid red line.***
- ***The reference level (0 dB) is shown by a dotted orange line.***

Rehearsal playback

You can use the transport controls for rehearsal playback while on the ADJUST ENTRY screen.

- The operation is the same as during normal transport operation except that the ⏮ and ⏭ keys are used to jump to the entry's file beginning, Start Point, End Point and file end.
- If you change the Start Point or Fade In Length, the playback position will move to the Start Point. If you change it during playback, playback will continue after jumping to the new playback position.
- If you change the End Point or Fade Out Length, the playback position will move as follows. If you change it during playback, playback will continue after jumping to the new playback position.

	When PREVIEW off	When PREVIEW on
When changing End Point	Two seconds before End Point	Two seconds before Fade Out starts
When changing Fade Out Length	Two seconds before Fade Out starts	Two seconds before Fade Out starts

- Touch the PREVIEW button to change the contents of the rehearsal playback.

Rehearsal playback when PREVIEW is off

- The original audio is played back without fade in/out or level adjustments applied.
- You can move out of the Start/End Point range.
- When the End Point is reached during playback, playback jumps back to the Start Point and stops.

  Press the **PLAY** key to start playback from the Start Point.

  Use the ⏮ key, ⏭ key, **SHIFT** + ⏭ key and the **JOG/SHUTTLE** dial to move playback to after the End Point.

Rehearsal playback when PREVIEW is on

- Only the interval between the Start Point and the End Point is played back.

  Locating to a point outside of that range is not possible.
- The audio is played back with fade in/out and level adjustments applied.

Saving playlists

The current playlist is saved in the current folder (loaded folder) as a JPPA PPL file.

CAUTION

After editing a playlist, save it as necessary. If you do not save a playlist after editing, all changes will be lost when, for example, you load another playlist, remove the selected card, or turn off the unit.

An "*" appears in the file name or title name button when editing has occurred that has not been saved yet. When an "*" is shown, a pop-up message asking if you want to save the playlist will appear when you try to do something that would clear the edits, including when loading another playlist, creating a new playlist and changing the operation mode.

1. Press the **HOME** key on the front of the unit to open the Home screen.
2. Touch a file name or title name button to open a pull-down menu and touch the SAVE button to start saving the playlist.

3. Press to start saving.

   While saving, a progress status pop-up appears.

   When saving completes, the pop-up disappears.

NOTE

You can also save a playlist by touching the MENU button on the ASSIGN file or ENTRY list screen to open a pull-up menu and touching the SAVE button.

ENTRY list screen

ASSIGN File Screen

Naming a playlist and saving it

On the ENTRY List or ASSIGN File screen, after touching the MENU button to open the pull-up, if you touch the SAVE AS button instead of the SAVE button, you can name the playlist before saving it.

1. Press the **HOME** key on the front of the unit to open the Home screen.
2. Touch a file name or title name button to open a pull-down menu and touch the SAVE AS button.

The PLAYLIST NAME screen where you can input new playlist names opens.

3. Input the playlist name. Follow the procedures "Editing the name of a folder in the root directory" on page 33.
4. Touch the Enter button on the PLAYLIST NAME screen or press the **DATA** dial to save the playlist with this name.

   While the file is being created, a progress status pop-up appears.

   When file creation completes, the pop-up disappears.

NOTE

When a file with the input name already exists, a pop-up window to confirm whether you want to overwrite the file is displayed.

Touch the OK button to overwrite that file, or touch the CANCEL button to return to the PLAYLIST NAME screen.

Touch the OK button to overwrite that file, or touch the CANCEL button to return to the PLAYLIST NAME screen.

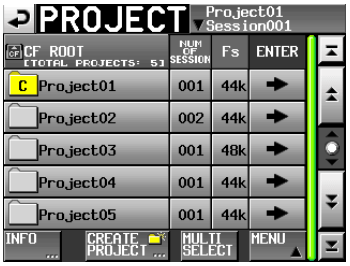
TIP

You can also name and save a playlist by touching the MENU button on the ASSIGN file or ENTRY list screen to open a pull-up menu, and touch the SAVE AS button.

Playback in playlist mode

Selecting a playlist

1. Press the **FILE LIST** key on the front of the unit to open the playlist selection screen.



2. Touch the name of the playlist that you want to play to select it. Its background becomes yellow.
3. Touch the MENU button on the Playlist selection screen to open a pull-up menu.

Playlist selection screen pull-up

4. Touch the LOAD button in the pull-up menu to load the playlist. A confirmation pop-up window will appear.

Touch the OK button or press the **DATA** dial. When loading completes, the Home Screen opens.

NOTE

On the playlist selection screen, instead of touching the MENU button followed by the LOAD button in the pull-up menu, you can also touch the ➡ button for the playlist that you want to play to load it.

The same pop-up message as above appears. Touch the OK button or press the **DATA** *dial.*

Playback control in playlist mode

Press the **PLAY** key to start playback.

Press the **PAUSE** key to start playback standby.

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

Press the **STOP** key to stop playback.

Press the ⏮ [**MARK** ⏮] key or ⏭ [**MARK** ⏭] key to switch entries.

Press and hold the ◀◀ [◀◀◀] key or ▶▶ [▶▶▶] key to search backward or forward.

Press the ⏮ [**MARK** ⏮] or ⏭ [**MARK** ⏭] key while pressing and holding the **SHIFT** key to move between marks.

Press and hold the ◀◀ [◀◀◀] key or ▶▶ [▶▶▶] key while pressing and holding the **SHIFT** key to search at high-speed.

NOTE

- *On the PLAY SETUP screen, you can set whether only the currently selected entry is played or whether all the entries within the current playlist are played. You can also enable and disable repeat playback. (See "Playback settings (PLAY SETUP)" on page 80.)*
- *Playback can also be controlled through the PARALLEL port.*

Using the call function in playlist mode

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

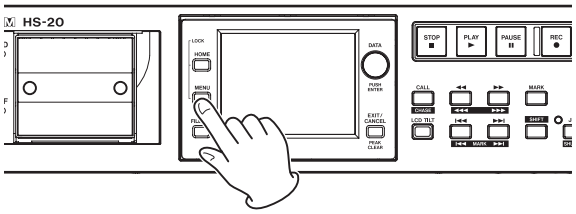
Using the flash start function in playlist mode

Using a TASCAM RC-HS20PD (sold separately) or other remote controller, flash start playback is possible.

For details, see "Flash start function" on page 109.

Menu screen

Press the **MENU** key on the front of the unit to open the MENU screen shown below.



- REC SETUP button
  Make recording settings.
- PLAY SETUP button
  Make playback settings.
- SYNC T/C button
  Make synchronization and timecode settings.
- REMOTE SETUP button
  Make external remote controller settings.
- AUDIO I/O button
  Make settings related to the input and output of audio signals.
- METER SETUP button
  Make level meter settings.
- SYSTEM SETUP button
  Make system settings.
- VERSION INFO button
  View the system version.
- BROWSE button
  View and perform operations on folders and files on SD cards, CF cards and USB flash drives.
- MEDIA MANAGE button
  Perform operations on media
- TIMER EVENT LIST button
  Add new events to the timer event list and edit and delete existing events.
- OPERATION MODE button
  Set the operation mode.

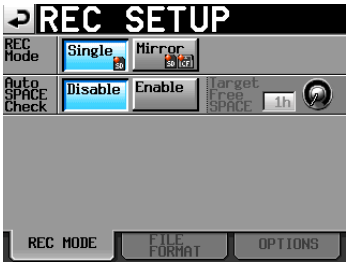
Recording settings (REC SETUP)

The REC SETUP screen has three tabbed pages: REC MODE, FILE FORMAT and OPTIONS.

Touch the tabs at the bottom of the screen to open the corresponding page.

REC MODE page

Make settings related to the recording mode.



REC MODE

- Single (default): Recording on only the selected media (current media).
- Mirror: Recording on two media simultaneously.

■ Setting button appearance

REC mode setting	Button appearance
Single	
Mirror	
Mirror (when Mirror recording is not possible*1 or unavailable*2)	

*1 Conditions that make mirror recording impossible

- Insufficient remaining space on the current media.
- The currently selected media is not loaded.
- The CF card set as current media is not compatible. (PIO mode)
- The current media is not in a compatible format. (Not FAT16 or FAT32.)
- A take numbered 999 already exists on one medium with a name that matches the setting on the NEXT TAKE NAME screen (opened from the Home Screen). ("----" is shown for the "NEXT TAKE NAME" number.)
- The total number of entries (total number of files and folders) in the current folders of both media exceeds the system limitation.
  Repeat recording and editing in timeline mode has occurred, so not enough capacity for managing regions and edit history is available to record.
  (RecLimit is shown on the media remaining space button.)

*2 Conditions that make mirror recording unavailable

- Remaining space on the mirror media is insufficient. (If the remaining space on the current media is exhausted, mirror recording is also impossible.1)

- The mirror paired media is not present
  (If the current media is not present, mirror recording is also impossible.1)
- The CF card not set as the current media is not compatible. (PIO mode)
  (If the current media is not compatible, mirror recording is also impossible.1)
- The non-current media is not in a compatible format. (Not FAT16 or FAT32.) (If the format of the current media is not compatible, mirror recording is also impossible.1)
- The CF card is not compatible with UDMA.
- One or both of the media has not been formatted by this unit.
  (The media has not been formatted with the cluster size recommended for this unit.)
- The recording sampling frequency is set to 88.2, 96, 176.4 or 192 kHz.
  If any of these conditions apply, mirror recording is not possible and recording will occur only on the current media.

NOTE

- ***When set to Mirror, the same folder as the current folder of the current media will be created on the other media.***

  If you start recording with Mirror set, takes with the same name will be recorded in the matching folders on both media.
- ***When set to Mirror, no recording will be possible if the current media cannot be recorded to, even if the non-current media has space available.***
- ***In Mirror recording mode, if the time counter display mode is TOTAL REMAIN, the recordable time for the media with less remaining space is shown.***

  If either media runs out of space during mirror recording, the recordable time for the media that continues recording will be shown.

■ Various messages

- If the REC Mode setting is changed to Mirror when Mirror is unavailable, the following messages are shown.

1 One of the media cannot be recorded to

2 The CF card is not compatible with UDMA

3 One of the media has not been formatted by this unit

- If recording starts with Mirror unavailable, the following messages are shown.

1 If the reason that Mirror is unavailable is anything other than 2 and 3 below

2 The CF card is not compatible with UDMA

3 The CF card has not been formatted on this unit

- If the space on either of the media runs out or an error occurs during recording with Mirror set, recording to the media with no space remaining or to the media on which an error has occurred will stop. Recording of the current file to the other media will also stop, but recording will continue as the next take in a new file.

  Then, the message and media remaining space buttons will be shown as follows.

1 If either of the media has run out of space

Media remaining space buttons

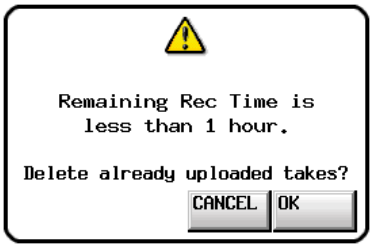
2 If a recording error has occurred with either of the media

Media remaining space buttons

■ Auto SPACE Check

You can set Target Free SPACE to a minimum time that will be used to provide a warning when the amount of remaining media space changes, for example, when recording stops, the recording sampling frequency is changed or a download completes.

If the remaining recordable time becomes less than the set time, the following pop-up window appears.



The following pop-up window appears.

Touch the OK button. Touch the OK button again when the confirmation pop-up message appears to delete all files that have already been uploaded to an FTP server.

If there are no uploaded files, the following pop-up window appears:

"There are no uploaded takes to delete."

The following pop-up window appears.

Press the CANCEL button to open a pop-up confirmation window.

Setting buttons: Disable (default), Enable

Target Free SPACE

Setting range (in hours): 1h (default) to 24h

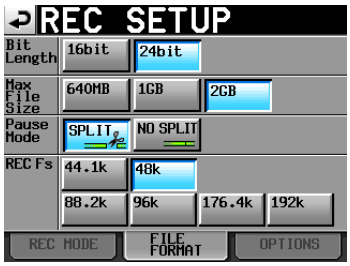
NOTE

Even if you delete files, it is possible that the time set for the Target Free SPACE might not be made available for recording with this function.

In this case, delete unneeded files manually.

FILE FORMAT page

Make settings related to the file format on this page.



Bit Length

Set the quantization bit rate for recording files using the following buttons.

Setting buttons: 16bit (default), 24bit

Max File Size

Set the maximum size for recording files using the following buttons.

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

Pause Mode

Set whether or not to divide files when a recording is paused using the following buttons.

Setting buttons: SPLIT (default), NO SPLIT

REC Fs

This shows the file recording sampling frequency.

Setting buttons: 44.1k, 48k (default), 88.2k, 96k, 176.4k, 192k

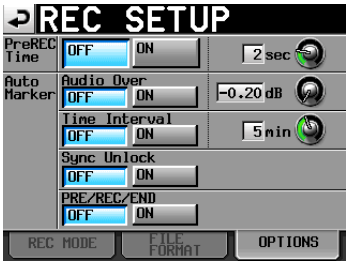
NOTE

In timeline mode, the recording sampling frequency cannot be changed on this page.

If you want to record with a timeline that has a sampling frequency different from the current one, follow the procedures in "Creating new AES31 editing information" on page 43 and create an AES31 editing information file for the desired sampling frequency.

OPTIONS page

Make settings related to the pre-recording and auto marks on this page.



PreREC Time

Turn this function ON or OFF and set the length of pre-recording time.

(Default: 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 to be recorded before recording is started manually.

To set the pre-recording time, touch the knob, and adjust the value using the **DATA** dial.

Setting range: 1–5 seconds (default: 2 seconds)

Auto mark

Make settings related to auto marks.

- **Audio Over:**

  Use this to add markers when the set audio level is exceeded.

  Use this to add markers when the set level is exceeded.

  Turn this function ON or OFF and set the detection level.

  (Default: OFF)

  To set the detection level, touch the knob, and adjust the value using the **DATA** dial.

Setting values:	–0.20 dB (default), –0.17 dB, –0.13 dB, –0.10 dB, –0.06 dB, –0.03 dB.
Range:	-0.10 dB to -0.06 dB (default: -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: OFF)

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

- **Sync Unlock:**

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

- **PRE/REC/END:**

  Marks can be added automatically at the pre-record start, recording start and recording end points. Turn this function ON or OFF.

  (Default: 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.)

NOTE

The PRE/REC/END auto marks are only added to takes in take mode. They do not appear on the timeline in timeline mode.

NOTE

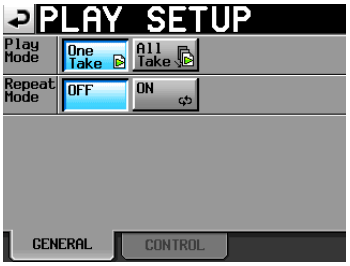
After an Audio Over or Sync Unlock auto mark has been placed, the same type of mark will not be repeated until at least 10 seconds has passed.

Playback settings (PLAY SETUP)

Make playback settings on this screen.

GENERAL page

Make various settings related to the playback mode on this page.



Play Mode

Set how the playback of takes and entries is handled using the following buttons. This setting affects all modes except timeline mode.

One Take button: (default)	Only the currently selected take or entry is played back.
All Take button:	All the takes in the currently loaded folder or all the entries in the playlist are played back.

Repeat Mode

Turn repeat playback ON and OFF (default). (Default: OFF)

CONTROL page

Make various settings related to the playback functions on this page.

Auto Cue

Turn the auto cue function ON or OFF (default).

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. When Play Mode is set to One Take and no sound is detected before the end of the take, the unit stops at the start of the take. When Play Mode is set to All Take and no sound is detected before the end of the take, the unit tries to detect audio in the next take.

This setting affects all modes except timeline mode.

To set the auto cue start point detection level, touch the knob area and use the **DATA** dial to change the value.

Setting values: –72dB, –66dB, –60dB, –54dB (default), –48dB, –42dB, –36dB, –30dB, –24dB

LEVEL: –6dB, –12dB, –24dB, –48dB

Auto Ready

Turn the auto ready function ON or OFF (default).

If auto ready is ON, when playback of a take completes the unit automatically pauses at the beginning of the next take.

This setting affects all modes except timeline mode.

Inc. Play

Turn the incremental play function ON or OFF (default).

When incremental play is ON, press the **PLAY** key during playback to move to the beginning of the next take and continue playing.

Press the **STOP** key during playback to put the unit in playback standby at the beginning of the next take.

This setting affects all modes except timeline mode.

PLAY Inhibit Time

This sets a time interval during which playback of the same take (entry) cannot be restarted.

The following keys and commands are disabled (excluding flash start keys/commands for other takes/entries) for the duration of this setting: **PLAY** key on the front of the unit, the **PLAY** key, flash start keys and fader start function of the TASCAM RC-HS20PD remote control (sold separately), and play and flash start commands from external control (RS-232C, RS-422, parallel, keyboard).

Setting range: 0 (default) – 1000 msec (100 msec intervals), Inf (during playback the affected keys are disabled)

NOTE

When the PLAY Inhibit Time item is set to Inf, the incremental play function is automatically set to OFF and cannot be switched to ON.

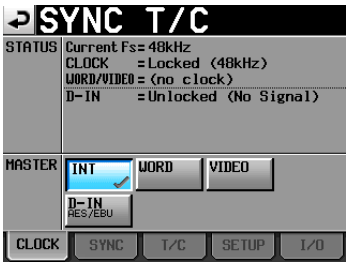
Sync and timecode settings (SYNC T/C)

Make various settings related to audio synchronization and timecode on this page.

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 on this page.



STATUS

Current Fs

This shows the current sampling frequency.

CLOCK

This shows the clock synchronization status.

WORD/VIDEO

This shows WORD, VIDEO or TriLevel if a synchronization signal is detected at the input.

D-IN

This shows the digital input signal status as follows.

Digital input signal status	Indicator
Locked	Locked (xx.xxx kHz)
When sampling rate conversion is on	Locked (xx.xxx kHz FsCnv)
Unlocked	Unlocked (xx.xxx kHz)
No signal	Unlocked (no signal)
No audio signal present	Not Audio
Other Cbit information differs from the actual operation mode	Unmatched Cbit

MASTER

Use the buttons to select the master clock to use.

INT button (default):

Use this unit's internal clock.

WORD button:

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

VIDEO button:

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

D-IN button:

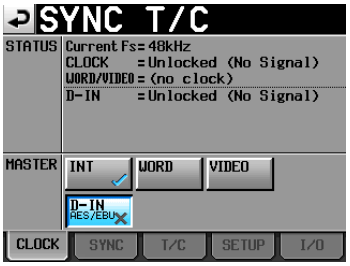
Synchronize with the clock of the digital signal selected as the input for DIGITAL IN.

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

On the second line of the button, the digital input signal selected is shown.

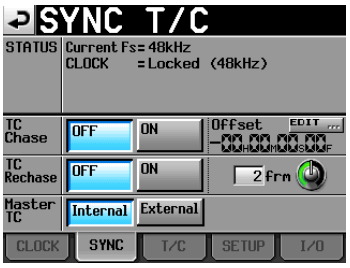
NOTE

- *A ✓ 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, the ✓ mark appears on the INT button to show that it has become the active clock, and the ✕ mark appears on the button of the selected external clock that was lost.*



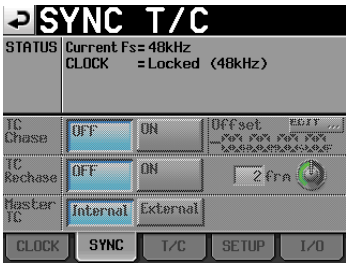
SYNC page

Make settings related to synchronization on this page.



NOTE

If an optional SY-2 has not been installed, the items will be shaded and cannot be set.



STATUS

Shows the current sampling frequency and clock synchronization status.

TC Chase

Use to turn playback synchronized with timecode ON or OFF (default).

Set it to ON when you want to match the timing of this unit's audio with a timecode master device (audio recorder, video or built-in timecode generator).

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

NOTE

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

TC Rechase

When ON, this function re-synchronizes when synchronization with timecode becomes inaccurate during playback. (Default: OFF)

When set to OFF, after synchronizing once, input timecode is ignored and the unit operates in free run mode.

When set to ON, set the amount of inaccuracy that triggers rechasing. To set the time, touch the knob, and adjust the value using the **DATA** dial.

Select a value in frames of 1/3, 1, 2 (default), 5 or 10.

Master TC

Set whether the unit synchronizes with the built-in timecode generator or with timecode input from another device.

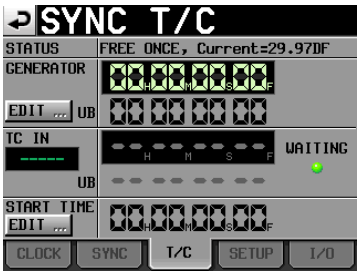
Internal button: Synchronize with the built-in generator.

External button (default): Synchronize with timecode input from another device.

T/C page

Make settings related to timecode on this page.

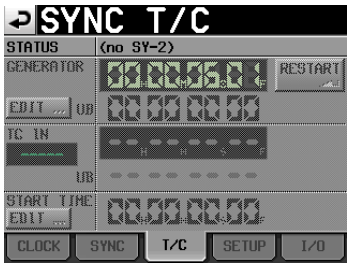
Set to free run



Set to jam sync (and free once)

NOTE

If an optional SY-2 has not been installed, the items will be shaded and cannot be set.



STATUS

This shows the timecode generator mode of the unit and the current timecode frame type.

GENERATOR

The top line shows the current timecode generator time.

The bottom line shows the user bits (UB).

Touch the GENERATOR item EDIT button or the user bits (UB) display area to open the T/C USER BITS screen.

When the timecode generator is in free run mode, touch the RESTART button to reset the timecode of the timecode generator to the start time.

TC IN

The top line shows the time of the input timecode and the frame type. The bottom line shows the user bits (UB) of the input timecode.

In FREE RUN mode, touch the CAPTURE button to capture the current timecode and set it as the timecode of the timecode generator.

If the timecode generator mode is FREE ONCE or JAM SYNC, the capture status (WAITING) indicator lights green when waiting for timecode, and it turns off after timecode is captured.

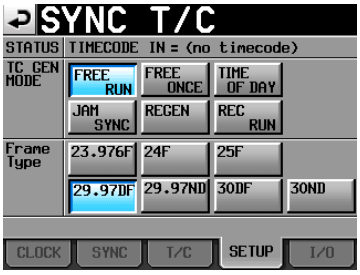
START TIME

When you touch the GENERATOR item RESTART button, the time when the timecode 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 timecode generator on this page.



STATUS

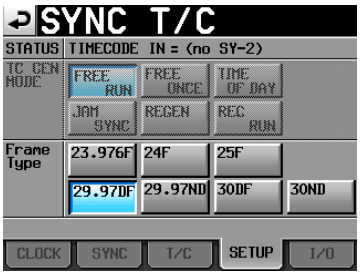
Set the current timecode frame type.

TC GEN MODE

Use theses buttons to set the timecode generator mode.

NOTE

If an optional SY-2 has not been installed, the items will be shaded and cannot be set.



FREE RUN button:

The timecode generator runs on its own.

FREE ONCE button (default):

After the input timecode is captured once, the unit starts free run mode.

TIME OF DAY button:

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 button:

When timecode is input, the unit synchronizes to it. If timecode input is interrupted, the unit enters free run mode.

REGEN button:

The unit synchronizes to the input timecode.

REC RUN button:

The timecode generator only functions during recording. At all other times, the timecode generator stops.

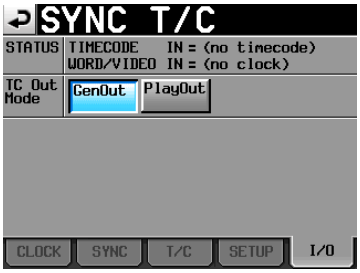
Frame Type

Use to set the timecode frame type.

Setting buttons: 23.976F, 24F, 25F, 29.97DF (default), 29.97ND, 30DF, 30ND

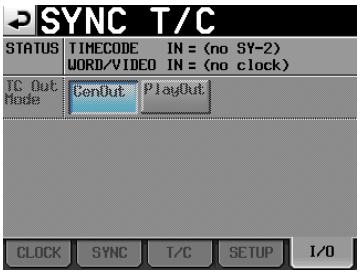
I/O page

View the synchronization signal status and set timecode output on this page.



NOTE

If an optional SY-2 has not been installed, the items will be shaded and cannot be set.



STATUS

This shows the status of synchronization signals.

TIMECODE IN:

When timecode is input, the timecode frame rate is shown.

WORD/VIDEO IN:

This shows WORD, VIDEO or TriLevel if a synchronization signal is detected at the input.

TC Out Mode

Use these buttons to set the timecode output mode.

GenOut button:

Timecode is output from the internal timecode generator.

PlayOut button (default):

In timeline mode, the timecode time for playback and recording is output. During playback in take and playlist modes, the timecode recorded in the file is output.

Remote settings (REMOTE SETUP)

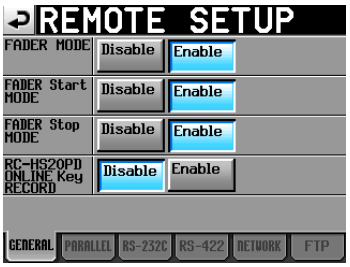
Make settings for the PARALLEL, RS-232C, RS-422, NETWORK and FTP connectors on this screen.

The REMOTE SETUP screen has 6 pages: GENERAL, PARALLEL, RS-232C, RS-422, NETWORK and FTP.

Touch the tabs at the bottom of the screen to open the corresponding page.

GENERAL page

Make the external remote controller settings on this page.



FADER MODE

Allows the fader on an external TASCAM RC-HS20PD remote controller (sold separately) to be enabled or disabled. When set to Disable, the internal fader is fixed at 0 dB.

Setting buttons: Disable, Enable (default)

FADER Start MODE

Set whether or not fader starting, which allows you to start playback by raising the fader from ∞ when in playback standby, is enabled when the fader start function of an external TASCAM RC-HS20PD remote controller (sold separately), for example, is on.

Setting buttons: Disable, Enable (default)

FADER Stop MODE

Set whether or not fader stopping, which allows you to put playback into standby by lowering the fader to ∞ during playback standby, is enabled when the fader start function of an external TASCAM RC-HS20PD remote controller (sold separately), for example, is on.

Setting buttons: Disable, Enable (default)

NOTE

If both the FADER Start MODE and FADER Stop MODE items are set to Disable, the fader start function of the external TASCAM RC-HS20PD remote controller (sold separately) will be turned off automatically, and the FADER START indicator will turn off. In this state, if you touch the Fader Start key on the TASCAM RC-HS20PD remote controller, a "Cannot Change Now. Fixed in current mode" warning appears in a pop-up window.

RC-HS20PD ONLINE KEY RECORD

This sets whether or not the ONLINE key of a TASCAM RC-HS20PD remote controller (sold separately) can be used for recording operations.

Setting buttons: Disable (default), Enable

NOTE

When this is set to "Enable"

- *Press the RC-HS20PD ONLINE key when stopped to put the unit into recording standby. The RC-HS20PD ONLINE key lights when in recording standby.*
- *In recording standby, press the RC-HS20PD PLAY key to start recording.*

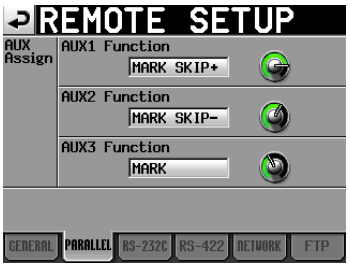
- *When recording, press the RC-HS20PD PAUSE key to enter recording standby.*
- *When recording, press the RC-HS20PD STOP key to stop recording. The RC-HS20PD ONLINE key becomes unlit when recording is stopped.*

When this is set to "Disable"

- *Use of the RC-HS20PD ONLINE key will be ignored.*
- *In recording standby, pressing the RC-HS20PD PLAY key will not start recording.*
- *When recording, pressing the RC-HS20PD PAUSE key will not put the unit into recording standby.*

PARALLEL page

Set the AUX 1-3 functions of the **PARALLEL** connector on this page.



AUX Assign

Touch a knob to select it, making the background yellow, and turn the **DATA** dial to set the function.

The functions that can be selected include F.FWD, REW, MARK, MARK SKIP–, MARK SKIP+,and CALL.

- **AUX1 Function:**

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

- **AUX2 Function:**

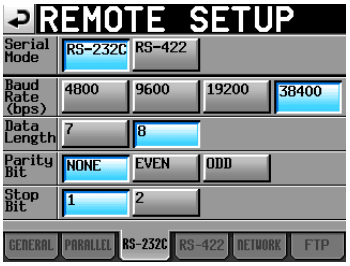
  Set the function of **PARALLEL** connector pin 18 (AUX2) (default: MARK SKIP–).

- **AUX3 Function:**

  Set the function of **PARALLEL** connector pin 19 (AUX3) (default: MARK).

RS–232C page

Make RS-232C serial control transmission settings on this page.



Serial Mode

Set the serial connection mode with the following buttons.

Setting buttons: RS-232C (Default), RS-422

NOTE

- *Only the connector selected with this setting will function. The* **RS-232C** *and* **RS-422** *connectors cannot both be used at the same time.*
- *This setting is synchronized with the Serial Mode item on the RS-422 page.*
- *If an optional SY-2 has not been installed, this cannot be set to RS-422.*

Baud Rate (bps)

Set the transmission speed (baud rate) with these buttons.

Setting buttons (bps): 4800, 9600, 19200 and 38400 (default)

DATA Length

Set the DATA length in bits with these buttons.

Setting buttons (bits): 7 or 8 (default)

Parity Bit

Set whether or not there is a parity bit with these buttons.

Setting buttons: NONE (default), EVEN and ODD.

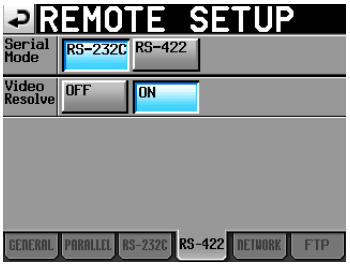
Stop Bit

Set the stop bit with these buttons.

Setting buttons (bits) 1 (default) and 2

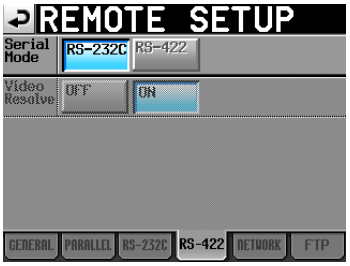
RS–422 page

Make RS-422 serial control transmission settings on this page.



NOTE

If an optional SY-2 has not been installed, the items will be shaded and cannot be set.



Serial Mode

Set the serial connection mode with the following buttons.

Setting buttons: RS-232C (Default), RS-422

NOTE

- *Only the connector selected with this setting will function. The* **RS-232C** *and* **RS-422** *connectors cannot both be used at the same time.*
- *This setting is synchronized with the Serial Mode item on the RS-232C page.*
- *If an optional SY-2 has not been installed, this cannot be set to RS-422.*

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 timecode frames with video signal frame edges) or it is independent from the frame clock.

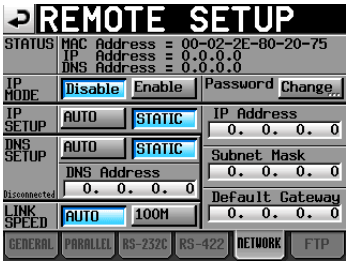
This must be turned ON to accurately control this unit from a video editor.

ON (default): timecode frame edges synchronized with video signal frame edges

OFF: Independent from video frame clock

NETWORK page

Make settings related to NETWORK communication on this page.



STATUS

Shows the MAC Address of this unit and the current IP Address.

Password

Press the Change button to open the CHANGE PASSWORD screen.

IP MODE

Use these buttons to enable or disable network functions.

Setting buttons: Disable (default), Enable

IP SETUP

Use this section to set the IP Address, Subnet Mask and Default Gateway.

AUTO:	The IP Address, Subnet Mask and Default Gateway are set automatically. Use this setting when a DHCP server exists on the network.
STATIC: (default value)	Set the IP Address, Subnet Mask and Default Gateway manually.

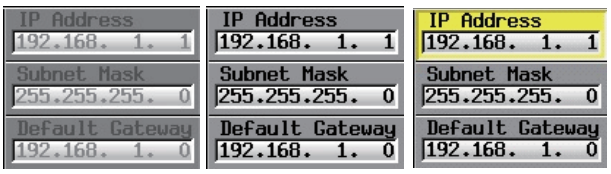
IP Address/Subnet Mask/Default Gateway

When IP SETUP is set to STATIC, the IP Address, Subnet Mask and Default Gateway are shown here.

Touch an area to open a corresponding setting screen.

Default: 0. 0. 0. 0.

Depending on the IP SETUP setting, the appearance of this area will change as follows:



When setting AUTO | When setting STATIC | When touching

DNS SETUP

Set the DNS server IP address so that the IP address can be looked up by server name.

AUTO:	The DNS server IP Address is set automatically. Use this setting when a DHCP server that can return a DNS server IP address exists on the network.
STATIC: (default value)	Set the DNS server IP Address manually.

DNS Address

When DNS setup is set to STATIC, this shows the DNS server IP address. Touch it to open a setting screen.

Default: 0. 0. 0. 0.

Depending on the DNS SETUP setting, the appearance of this area will change as follows.

When setting AUTO | When setting STATIC | When touching

LINK SPEED

Set the network connection speed.

- AUTO (default): Connects using a link speed adapted automatically to the connection environment.
- 100M: Operates with a fixed link speed of 100 Mbps

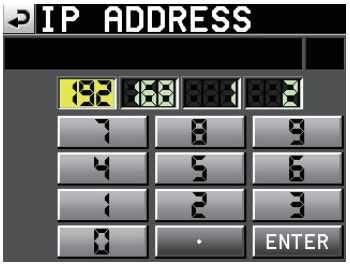
Changing the IP Address, Subnet Mask, Default Gateway and DNS Address settings

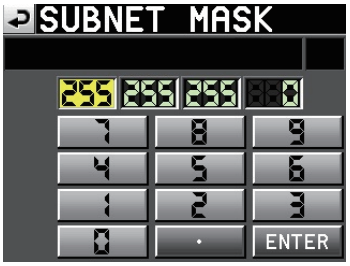
Touch the applicable area on the NETWORK page of the REMOTE SETUP screen to open the corresponding setting screen.

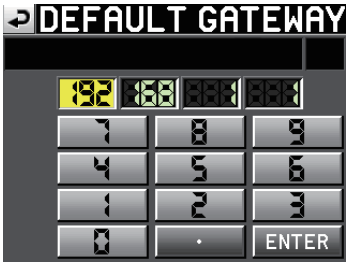
- Numbers are three digits.
  (For those of two digits or less, you do not need to input 0 first.)
- The first digits are selected when the screen opens.
- If you touch the number button for the first number after entering selection mode, only that number will be input. After this, other numbers can be input like on a calculator.
- Touch the dot (.) button to move the selection to the next number.

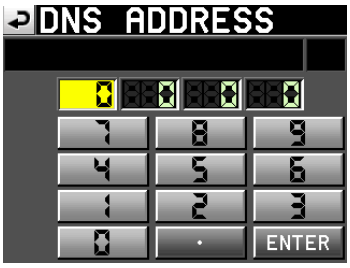
Example:

Shown on screen	192.	168.	1.	1	
Input 1234	234.	168.	1.	1	(The first "1" is pushed out.)
Input " . "	234	168.	1.	1	





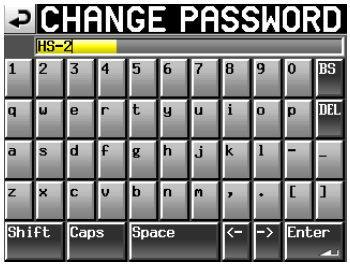




Changing the password setting

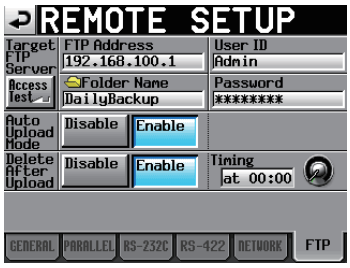
Touch the Change button located near Password on the NETWORK page of the REMOTE SETUP screen to open the CHANGE PASSWORD screen where you can set the password.

Up to nine characters can be entered.



FTP page

Make settings related to the FTP client function.



Target FTP Server

Set the FTP server to be connected.

Touch it to open a setting screen.

- **FTP Address:**
  Set the address of the FTP server to be connected.
- **Folder Name**
  Set the default folder for uploading to the FTP server and downloading from FTP.
- **User ID**
  Set the user ID used to connect to the FTP server.
- **Password**
  Set the password used to connect to the FTP server.
- **Access Test**
  Touch this button to test the connection with the set FTP server. A pop-up message with the result will be shown.

Auto Upload Mode

Set whether or not files that have completed recording are automatically uploaded to the FTP server.

- Disable (default): Files will not upload automatically.
- Enable: Files will upload automatically.

Delete After Upload

Set whether or not files that have been uploaded are automatically deleted.

- Disable (default): Uploaded files will not be deleted automatically.
- Enable: Uploaded files will be deleted automatically.

Timing

Set the time when uploaded files will be automatically deleted

Soon (default), at 00:00 – at 23:30 (in 30 minute increments)

NOTE

When set to Soon, files will be deleted soon after they complete uploading.

With all other settings, the files will be deleted at the set time.

Network functions (FTP server/telnet/VNC)

■ FTP (File Transfer Protocol) server

Use an FTP client application to transfer files between this unit and a computer. Connect with this unit and log in like other FTP servers.

Connect with this unit and log in to view "A:", "B:" and "C:" in the root directory. These correspond to the SD card, CF card and USB flash drive, respectively.

If there is no media loaded, the contents of the corresponding directory (A, B or C) will not be shown.

NOTE

- ***Use an FTP application which is compatible with Unicode if you want to display Japanese characters.***
- ***Be sure to set the maximum simultaneous transfer number of the FTP client application to "1" for best network performance.***
- ***Consult with TASCAM Customer Support for details on FTP client applications that have been tested with this unit.***

● Settings necessary to connect via FTP

The settings necessary to connect by FTP with this unit are as follows.

IP Address: The IP Address of this unit is shown on the NETWORK page of the REMOTE SETUP screen.

Port number: 21

User name: "HS-20"

Uppercase and lowercase letters are distinguished. (You cannot change this)

Password: The default password is "HS-20".

Uppercase and lowercase letters are distinguished.

You can change the password with the Password [Change…] button on the NETWORK page of the REMOTE SETUP screen.

NOTE

- ***If the EXTERNAL Control on the LOCK SETUP screen is set as LOCK, you cannot connect via FTP.***
- ***If the External LOCK setting is enable when an FTP connection is active, that FTP connection will be disconnected.***
- ***If you change the setting on the NETWORK page of the REMOTE SETUP screen when there is an FTP connection, it will be disconnected.***

● File operations using an FTP client application

1. Reading files from this unit.
   Reading files from this unit is always possible.
2. Adding new files to this unit
   Adding new files to this unit is always possible.

   If a BWF file or WAV file is added to the current folder during recording, it will be displayed in the list in the order of already existing files, recorded files and added files.
3. Overwriting existing files on this unit
   Overwriting the current take is possible only when stopped.

   Takes that are being used on the ADJUST ENTRY screen of the playlist mode cannot be overwritten. Overwriting other existing files is always possible.

   However, if the Play Mode is set to All Take on the GENERAL page of the PLAY SETUP screen during playback, overwriting the take that follows the current take might not be possible depending on the timing.

CAUTION

If you overwrite a take assigned as a playlist entry in playlist mode, a "?" mark is shown on the applicable entry icon on the ENTRY list or file ASSIGN screen, and the entry will no longer be playable. To play the overwritten file assign it to the entry again.

CAUTION

If the size, number of channels, bit length or sampling frequency of the new audio file is different from the overwritten file, it might not be compatible with the existing timeline or playlist.

If you attempt to start play back with such a mismatch, the following error message might appear.

Perform the following to resolve the mismatch and avoid the error message.

Timeline mode:	Delete the applicable region
Take mode:	Delete the applicable take from the card.
Playlist Mode:	Assign the overwritten file on the entry again.

CAUTION

Do not overwrite an existing audio file with a file with a different sampling frequency. Doing so could make it impossible to resolve the mismatch.

4. Deleting files on this unit
   Deleting the current take is possible only when playback is stopped.
   Files other than the current take may always be deleted.
   However, since inconsistencies will occur between the unit's management files and audio files you need to use the REBUILD function after deleting a file.

- After deleting a file (while stopped if during playback/recording) use the REBUILD function when the following REBUILD confirmation message appears.

- If you do not rebuild, the following message might appear because of the inconsistencies between the unit's management files and audio files.

- When rebuilding is necessary, a V mark is shown on the following buttons.
  Touch the REBUILD button on a menu to rebuild.
  - File name buttons on the HOME screen
  - FILE LIST screen MENU button
  - REBUILD button on various menus

5. Adding new folders to this unit.
   Adding a new folder to this unit is always possible.
6. Deleting folders on this unit
   Deleting the current folder is possible only when playback is stopped.
   Deleting other folders is always possible.
7. Changing the names of files and folders on this unit
   The names of files and folders on this unit can never be changed.

NOTE

FTP transfer with USB flash drives is only supported when the unit is stopped. Do not edit, load folders, skip or otherwise operate the unit.

■ Remote control (Telnet)

This unit enables you to utilize remote control over the Ethernet using Telnet via port 23.

● Settings necessary for Telnet connection

The setting values necessary to connect Telnet with this unit are as follows:

IP Address: The IP Address of this unit is shown on the NETWORK page of the REMOTE SETUP screen.

Port number: 23

Password: The default password is “HS-20”.

Uppercase and lowercase letters are distinguished.

You can change the password with the Password [Change…] button on the NETWORK page of the REMOTE SETUP screen.

● Connecting this unit with Telnet

1. Press the computer enter key after connecting to this unit with Telnet using the above IP address and port number.
2. Enter the above password and press the enter key when Enter Password appears on the Telnet console.
3. When you have successfully logged in, "Login Successful" appears on the Telnet console. Enter “exit” and press the Enter key to disconnect Telnet.

NOTE

- ***Only one Telnet connection is possible.***
- ***If EXTERNAL Control on the LOCK SETUP screen is set to LOCK, you cannot make Telnet connections.***
  An active Telnet connection will be canceled if this is set to LOCK.
- ***An active Telnet connection will be canceled if you change the settings on the NETWORK page on the REMOTE SETUP screen.***
- ***Please consult with TASCAM Customer Support for the Telnet command protocol of this unit.***

■ VNC (Virtual Network Computing)

You can operate the system from a computer by using a VNC viewer application to display the screen shown on this unit’s LCD.

You can operate the unit as follows using a mouse in a VNC viewer application.

Mouse left click: Functions in the same way as touching the LCD of this unit.

Mouse wheel click: Functions in the same way as the **ENTER** key of this unit.

Mouse wheel scroll: Functions in the same way as the **DATA** dial of this unit.

Mouse wheel press and scroll: Functions to make coarse adjustments in the same way as when you press and turn the **DATA** dial of this unit (coarse mode).

You can perform the following operations using the computer keyboard when the VNC viewer application is active.

F1 to F12 keys:	Functions in the same way as an external keyboard connected with this unit. See "List of keyboard operations" in "Operation using a computer keyboard" of "12 – Other functions" in this manual.
HOME key:	Functions in the same way as the **HOME** key of this unit and opens the HOME screen. Press the End key while holding the **HOME** key to open the LOCK SETUP screen.
End key:	Functions in the same way as the **MENU** key of this unit and opens the MENU screen. Press the End key while holding the **HOME** key to open the LOCK SETUP screen.
PageDown:	Functions in the same way as the **FILE LIST** key of this unit and opens the FILE LISTscreen.
Cursor ↑ key:	Functions in the same way as turning the **DATA** dial of this unit clockwise.
Cursor ↓ key:	Functions in the same way as turning the **DATA** dial of this unit counterclockwise.
Character input keys:	Use to input characters when this unit shows a keyboard screen.

● Settings necessary for VNC connection

The settings necessary to connect a VNC viewer application to this unit are as follows.

IP Address: The IP Address of this unit is shown on the NETWORK page of the REMOTE SETUP screen.

Password: The default password is "HS-20".

Uppercase and lowercase letters are distinguished.

You can change the password with the Password [Change…] button on the NETWORK page of the REMOTE SETUP screen.

NOTE

- ***Only one active VNC connection is possible.***
- ***If EXTERNAL Control on the LOCK SETUP screen is set to LOCK, viewing in the VNC viewer application is possible, but mouse and keyboard operations will be ignored.***
- ***If you change any setting on the NETWORK page of the REMOTE SETUP screen while a VNC connection is active, it will be disconnected.***
- ***Please consult with TASCAM Customer Support for information about VNC viewer applications that have been tested with this unit.***
- ***VNC viewer application display and operation will not be smooth when files are being transferred by FTP, or at high system sampling frequencies (88.2kHz/96kHz/176.4kHz/192kHz).***

Audio Signal Input and Output settings (AUDIO I/O)

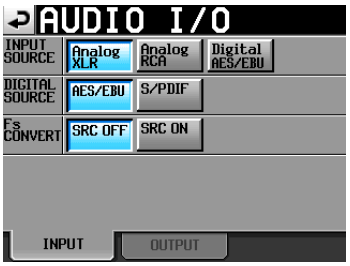
Change audio signal input and output settings on this screen.

The AUDIO I/O screen has two pages: INPUT and OUTPUT.

Touch the tabs at the bottom of the screen to open the corresponding page.

INPUT page

Make input settings on this page.



INPUT SOURCE

You can set the input source. Select analog XLR input, analog RCA input or digital input.

Setting buttons: Analog XLR (default), Analog RCA, Digital X ("X" is either AES/EBU or S/PDIF)

DIGITAL SOURCE

You can select the digital input source.

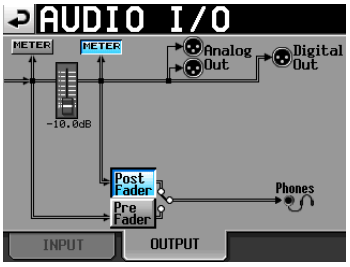
Setting buttons: AES/EBU (default), S/DIF

Fs CONVERT

Turn the sampling frequency converter ON or OFF (default) for each pair of inputs.

OUTPUT page

This shows the output settings and signal routes.



METER buttons

Use these buttons to set whether the meter shows the position before or after the fader.

Touch the button on the left to show the level before the fader or touch the button on the right to show the level after the fader on the meter.

Post/Pre Fader buttons

Use these buttons to set whether the headphone output is from before or after the fader.

Pre Fader button:

Signals before the fader are output for headphones.

Post Fader button (default):

Signals after the fader are output for headphones.

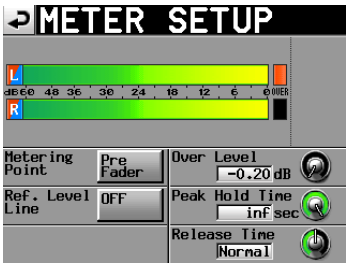
Fader

When an RC-HS20PD is connected, the RC-HS20PD fader level is shown.

If one is not connected, this value is fixed at 0dB.

Level meter settings (METER SETUP)

Make level meter settings on this screen.



Metering Point

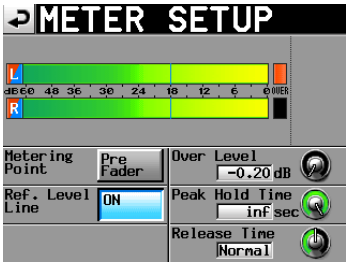
Set whether the meters show the signal before or after the faders.

Meters show the signal before the faders (default).

Meters show the signal after the faders. In this case, the button appears light blue.

Ref. Level Line

Touch to turn the reference level line that appears on the level meter ON (default) or OFF. (Default: ON)



Reference level line display ON

Over Level

Use this to set the level at which the overload indicator lights. The peak indication level is this amount below the maximum level (full scale).

Touch this knob and use the **DATA** dial to adjust the level.

Settings: –0.20 dB (default), –0.17 dB, –0.13 dB, –0.10 dB, –0.06 dB, –0.03 dB.

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

Peak Hold Time

Use this to set the peak hold time.

Touch this knob and use the **DATA** dial to adjust the time.

Settings: 0 sec, 1 sec, 2 sec (default) and inf (hold forever).

Release Time

Use this to set the release time.

Touch this knob and use the **DATA** dial to adjust the time.

Settings: Slow, Normal (default) and Fast

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)

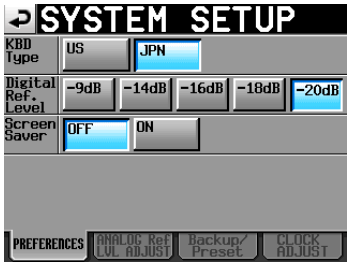
Make system settings on this screen.

The SYSTEM SETUP screen has 4 pages: PREFERENCES, ANALOG Ref LVL ADJUST and Backup/Preset 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 for English-language keyboards or JPN for Japanese keyboards.

Setting buttons: US, JPN (default)

Digital Ref. Level

Set the reference level for digital inputs and outputs to a number of decibels below the maximum level (full scale).

Setting buttons: –9dB, –14dB, –16dB, –18dB, –20dB (default)

Screen Saver

The screen saver function can be set to turn the display off if none of the following operations occur for 10 minutes.

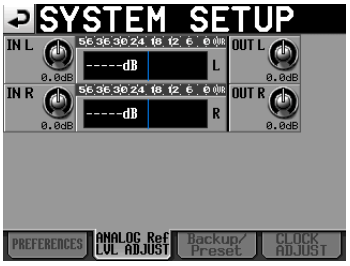
After the display turns off, any of the following operations will cause the display to turn on and light with the set brightness.

- Touch panel operation
- Front panel key use
- Media connection

Setting buttons: OFF (default.), ON

ANALOG Ref LVL ADJUST page

Use these to adjust the analog input and output reference levels of each channel.



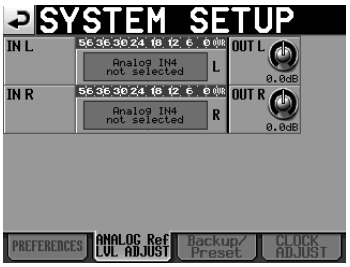
Use "IN x" to adjust the analog input level, and use "OUT x" to adjust the analog output level ("x" is L or R).

Touch a knob to select it, making the background yellow, and turn the **DATA** dial to set the level.

Turn the **DATA** dial to change it in 0.1dB increments, or press and turn it to change it in 1dB increments. The values appear beneath each knob.

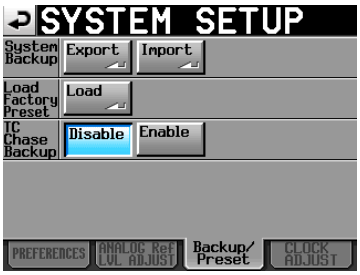
Range: –6dB to +6dB (default value: 0dB)

If an analog input has not been set, a knob will not be shown and "Analog IN not selected" will appear in the meter area.



System setting backup and preset functions

You can import/export system files and load factory settings using the Backup/Preset page of the SYSTEM SETUP screen.



System Backup

- You can write System Backup data to the selected card using the Export button.
- You can read System Backup data on the selected card using the Import button and write it to the built-in memory.
  If there are no System Backup files, a pop-up window indicating that the import cannot be performed is shown.

Load Factory Preset

Touch the Load button to load Factory Preset data (the setting values when shipped from the factory).

TC Chase Backup

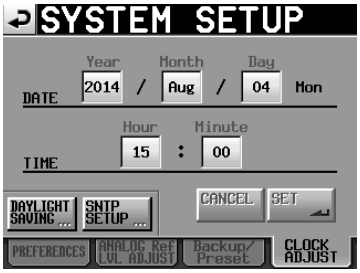
Use to set whether or not the TC Chase setting is backed up.

Setting buttons

- Disable (default): The TC Chase setting is not backed up. Every time the unit is turned on, TC Chase will be set to OFF.
- Enable: The TC Chase setting is backed up. The TC Chase setting in use before the unit was turned off will be restored when it is turned on

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 24.)

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.

DAYLIGHT SAVING button

Touch to open the DAYLIGHT SAVING TIME SETUP page.

SNTP SETUP button

Touch to open the SNTP SETUP screen.

DAYLIGHT SAVING TIME SETUP screen

Use this screen to set the internal clock to use daylight saving time during the set period.

Daylight Saving Mode

Set whether or not the HS-20 follows Daylight Saving Time changes.

- Disable (default): The HS-20 does not follow DST changes.
- Enable: The HS-20 follows DST changes.

	Explanation	Values	START default	END default
Month	Sets the start and end months for Daylight Saving Time.	Jan, Feb, Mar, Apr, May, Jun, Jul, Aug, Sep, Oct, Nov, Dec	Mar	Nov
Week	Sets the start and end week for Daylight Saving Time	1st, 2nd, 3rd, 4th, 5th, Last	2nd	1st
Day of Week	Sets the start and end day for Daylight Saving Time	Sun, Mon, Tue, Wed, Thu, Fri, Sat	Sun	Sun
Time	Sets the start and end hour for Daylight Saving Time	00:00-24:00 (01:00/step)	02:00	02:00

To make the above settings, touch a knob to select it, making the background of the parameter yellow, and turn the **DATA** dial to set it.

NOTE

This screen shows the local time setting, not Coordinated Universal Time (UTC).

Offset Time

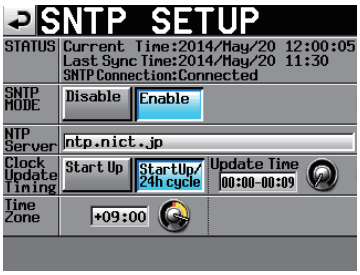
This is the amount of time that the clock is advanced during daylight saving time.

Setting buttons: 30min, 60min

Default: 60min

SNTP SETUP screen

Use the screen to set the SNTP function that allows the unit to automatically synchronize the date and time with an Internet time server.



STATUS

This shows the current status of the system in regards to SNTP.

- Current Time: This shows the current date and time used by the unit.
- Last Sync Time: This shows the time the unit last synchronized with an NTP server.
- SNTP Connection: This shows the status of connection with an NTP server.

Message	Meaning
Successful update	Time updated successfully
Successful update with skew	Delay occurred but time was updated
Starting Up	The connection is starting up
Accessing Server	Connecting to server
Disabled	SNTP function is disabled
Waiting for Network	Waiting to establish network connection
Server Name not found	The server name could not be found from a DNS server
Server Name found	The server name was found from a DNS server
Server connection failed	There was no response from the server
Server refusing connections	The server responded, but it is refusing additional connections, so choosing a different SNTP server would be good.

SNTP MODE

- Disable (default): The SNTP function is not used.
- Enable: The SNTP function is used.

NOTE

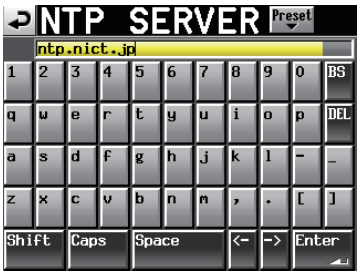
To use the SNTP function, you must make the following NTP Server setting and DNS server setting on the NETWORK page of the REMOTE SETUP screen.

NTP Server

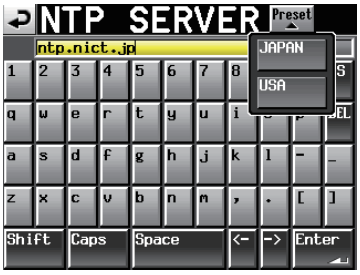
Shows the NTP server name (32 characters or less)

- Default: ntp.nict.jp

Touch this area to open the NTP SERVER name input screen shown below.



Touch the Preset button at the top right of the NTP SERVER name input screen to open a pull-down menu that contains options to input pre-selected NTP server names for Japan and the USA.



Clock Update Timing

Set the timing with which the internal clock retrieves the time information from the NTP server and updates its time.

Start Up:	The internal clock retrieves the time information from the NTP server and updates its time when the unit starts up.
StartUp /24h cycle: (default)	The internal clock retrieves the time information from the NTP server and updates its time when the unit starts up and at the set Update Time in a 24-hour cycle.

Update Time

This sets the time at which the unit retrieves the time information from the NTP server if "Clock Update Timing" is set to "StartUp/24h cycle".

Touch a knob to select it, making the background of the parameter yellow, and turn the **DATA** dial to set it.

Setting range: 00:00–00:09 to 23:00–23:09 (01:00/step)

Default: "00:00 - 00:09"

NOTE

- ***Since SNTP server access might be busier at the top of each hour, this unit will access the SMTP server at a random time during the first nine minutes of the hour.***
- ***We recommend setting this to a time band when no events have been set using the timer event function.***

Time Zone

Use this to set the time offset from Coordinated Universal Time (UTC).

Touch a knob to select it, making the background of the parameter yellow, and turn the **DATA** dial to set it.

Setting range: –12:00 to +14:00 (00:15/step)

Default: +09:00

NOTE

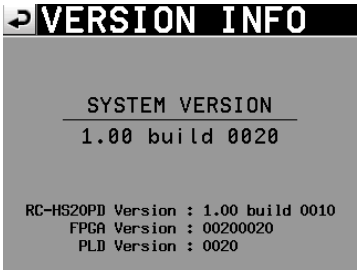
- ***Set this to +9:00 for Japan standard Time (JST).***
- ***For the United States, use the following settings.***

Time Zone	Setting
Pacific Standard Time (PST)	–08:00
Mountain Standard Time (MST)	–07:00
Central Standard Time (CST)	–06:00
Eastern Standard Time (EST)	–05:00

Version information (VERSION INFO)

This page shows the unit's SYSTEM version.

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



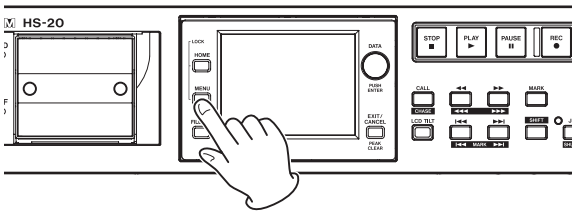
Viewing and working with folders and files (BROWSE)

This section describes how to work with folders and files on SD cards, CF cards, USB flash drives and FTP servers.

- **Displaying a folder/file**
- **Displaying folder/file information**
- **Deleting a folder/file**
- **Copying a folder/file**

Displaying a folder/file

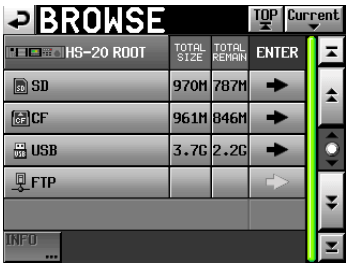
1 Press the **MENU** key on the front panel to open the MENU screen.



2 Touch the BROWSE button to open the BROWSE screen.

The media selection screen appears the first time.

The content of the last displayed media/folder appears the second time and later.

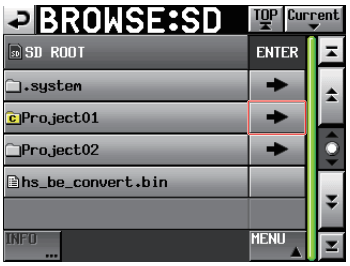


SD card

NOTE

- *Touch the TOP button to return to the media selection screen.*
- *Touch the Current button to move to the current folder in the current media.*
- *The C icon appears with a "C" and is highlighted yellow for the current folder in the current media.*

3. Touch the ➡ button to move to the media/folder to see its content.



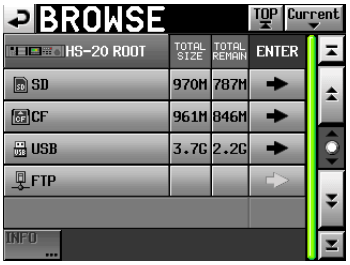
"Project01" folder

4. To move to a subfolder, touch the ➡ button by the folder's name.

5. To move up one folder, touch the media name/folder name button shown at the upper left of the screen.

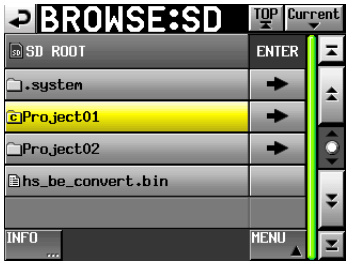
Displaying folder/file information

1 Move to the media/folder containing the folder/file for which you want to view its information.



SD card

2. Select a folder/file.



"Project01" folder

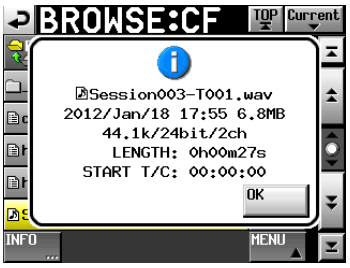
The selected folder/file is highlighted in yellow.

3 Touch the INFO button to show information about the selected folder/file in a pop-up.

- If a folder is selected, the creation date and time are displayed.

- If a file other than BWF/WAV is selected, the update date and time and file size are displayed.

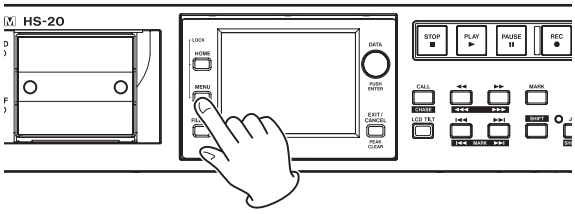
- If a BWF/WAV file is selected, the following information is displayed.



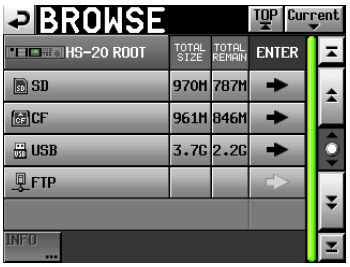
- File update date and time
- File size
- Sampling frequency
- Bit length/number of channels
- Length/START T/C

Copying a folder/file

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

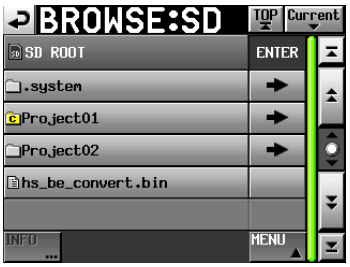


2 Touch the BROWSE button to open the BROWSE screen.



SD card

3. Move to the media/folder containing a folder/file that you want to copy.



"Project01" folder

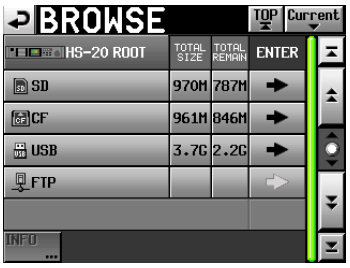
Select a folder/file to copy.

The selected folder/file is highlighted yellow.

4. Touch the MENU button to open the pull-up menu.

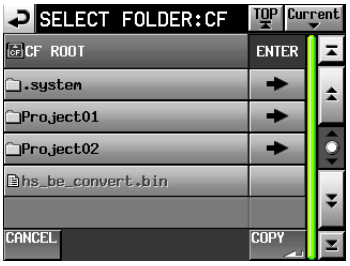
5. Touch the COPY button on the pull-up menu to change to the copy destination folder selection screen.
6. Move to the copy destination folder.

- The media selection screen appears for the first copy. Touch the ➡ button for the media containing the copy destination folder.



First time media selection screen

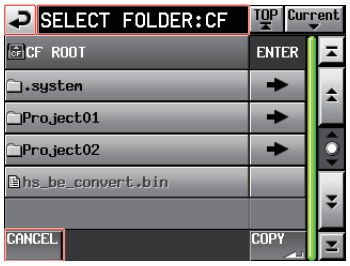
- The last displayed copy destination folder selection screen appears the second time or later.



CF card selected previously

NOTE

- *While the copy destination is being selected, the BROWSE screen title changes to "SELECT FOLDER" and blinks.*
- *If the CANCEL button or ↩ button is touched while selecting a copy destination, the BROWSE screen reappears.*



7. Touch the COPY button to display a confirmation message in a pop-up window. If there are no problems, touch the OK button or press the **ENTER** key to copy.

To cancel copying or change the copy destination, touch the CANCEL button.

NOTE

If the folder/file name already exists in the copy destination, "Cannot Copy Folder" or "Cannot Copy File" appears in a pop-up window.

To change the folder/file name, touch the RENAME button.

For how to enter a name, see "Editing the name of a folder in the root directory" on page 33.

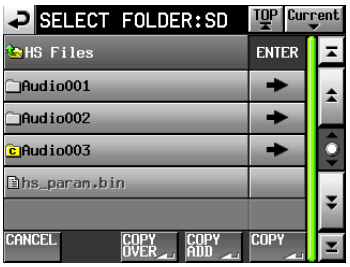
To cancel copying, touch the CANCEL button.

8. A pop-up window appears during copying. When copying is complete, the pop-up window disappears and the BROWSE screen reopens.

NOTE

- *If you copy an FTP server folder, only the files in the first level of that folder will be copied.*

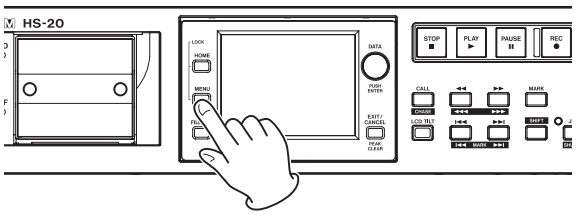
  Be aware that if there are files inside subfolders in the selected folder, they will not be copied.
- *If a folder on an FTP server is selected as the copy source or copy destination, the following screen will appear.*



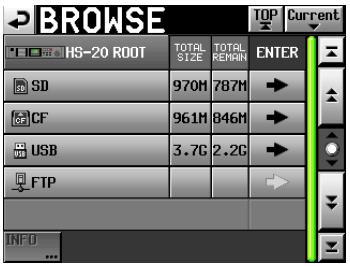
- *If the folder/file name already exists in the copy destination, when you press the COPY button, a RENAME confirmation will occur.*
- *If the folder name already exists in the copy destination, when you press the COPY ADD button, only the files in the folder will be copied. If a file with the same name already exists, it will not be copied.*
- *If the folder/file name already exists in the copy destination, when you press the COPY OVER button, all the files will be overwritten when copying.*

Deleting a folder/file

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

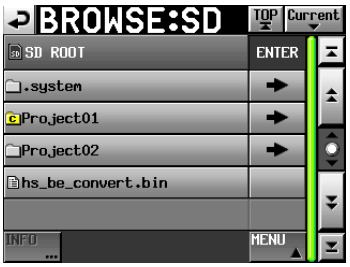


2. Touch the BROWSE button to open the BROWSE screen.



SD card

3. Move to the media/folder containing a folder/file to delete.



"Project01" folder

Select a folder/file to delete.

The selected folder/file is highlighted in yellow.

4. Touch the MENU button to open the pull-up menu.

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

7. When a reconfirmation message appears in a pop-up window, touch the OK button or press the **DATA** dial to delete.

To cancel deleting, touch the CANCEL button.

8. A pop-up window appears during deletion.

When deletion is complete, the pop-up window disappears and the BROWSE screen reopens.

CAUTION

You even can delete a folder, file or management file already in use in timeline or playlist mode.

If you delete such a folder/file, an error pop-up appears when you attempt to play the corresponding region/entry.

NOTE

If an audio file of the current folder is deleted, a rebuild confirmation message appears in the pop-up window. Execute the rebuild. If the rebuild is not executed, a "Play Error" pop-up message will appear because the management and audio files will not match.

When rebuilding is necessary, a B mark appears on the following buttons.

Touch the REBUILD button on a menu to rebuild.

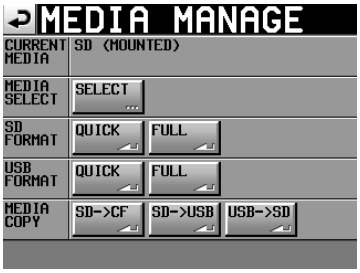
- *File name buttons on the HOME screen*
- *FILE LIST screen MENU button*
- *REBUILD button on each menu*

Managing media (MEDIA MANAGE)

You can manage SD cards, CF cards and USB flash drives with this unit.

CAUTION

If you use any of the FORMAT or COPY commands, all data on the subject media will be erased. Use these commands only if you are absolutely certain that you want to erase the media.



CURRENT MEDIA

This shows the currently selected media name and its status.

MEDIA SELECT

This shows the MEDIA SELECT screen.

On this screen, you can select the media to use for recording and playback.

FORMAT

Use to format the selected media.

QUICK button:	This only formats the media management information.
FULL button:	This formats the entire media.

USB FORMAT

Use to format a USB flash drive.

QUICK button:	This only formats the management information of the USB flash drive.
FULL button:	Initialize the entire USB flash drive device

MEDIA COPY

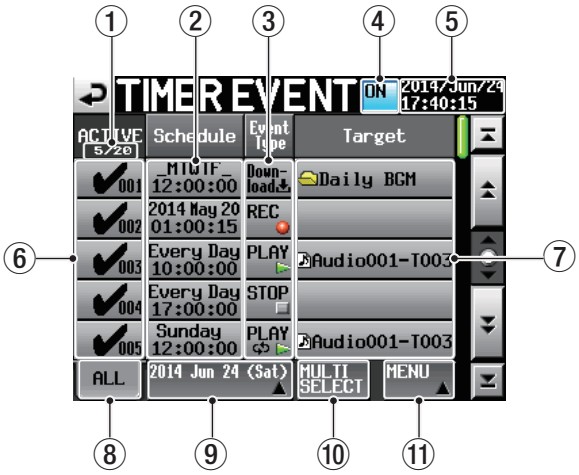
This copies the media contents.

SD → CF/CF → SD	This copies all contents from the selected card to the unselected card.
SD → USB/CF → USB	This copies all contents from the selected card to the USB flash drive.
USB → SD/USB → CF	This copies all contents from the USB flash drive to the selected card.

TIMER EVENT LIST screen

View and set timer events, which can be used to automatically execute the following operations at set times, on this screen.

Event type	Function
PLAY	Playback
PLAY	Repeat playback
REC	Record
STOP	Stop
Down-load	Download (from an FTP server)
Delete &DL	Delete and download (After all audio files in the current folder are deleted, the unit will download from the FTP server.)



① **Active indicator**
This shows the number of active events/total events.

② **Schedule button**
This shows event execution date and time information.

- Top line: This shows the date or days of the week set for the event.

  If set for every day, this will be shown in this format: "2014 *** 1".

  If four or more days of the week are set, only the first letter of the day will be shown (SMTWTFS).

  Example: Monday to Friday would be shown as "_MTWTF_".

- Bottom line: This shows the time that the event is scheduled.

③ **Event Type button**
This shows the event type.

See the Event Type/Function list above for the meanings of the icons.

④ **Timer event function switch (ON/OFF)**
This button turns the timer event function on/off.

Touch this button to turn it ON/OFF.

⑤ **Current date and time**
This shows the current date and time of the built-in clock.

⑥ **Event on/off switches**
Use these buttons to turn individual events on/off.

An event is on when its button has a check mark.

⑦ **Target button**
This shows the file/folder that will be affected by the event.

This shows the name of the file that will be played for a playback/repeat playback event.

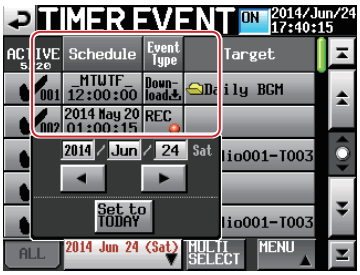
This shows the name of the file/folder that will be used for download/delete & download events.

⑧ **ALL button**
Touch this button to make it active and show all set events.

⑨ **Display filter button**

- Touch this button to make it active and show only events for the shown date.
- Touch this button to open a date selection pull-up menu. When the pull-up menu is open, touch this again to close it.

Display filter pull up menu



Date setting area

2014 / Jun / 24	Touch these to highlight them yellow. When highlighted, you can use the **DATA** dial to adjust them.
◀	Touch this button to switch to the previous day. Touch this button to switch to the previous day.
▶	Touch this button to switch to the next day. Touch this button to switch to the next day.
Set to TODAY	Touch this button to switch to today's date.

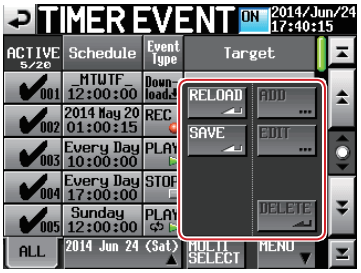
⑩ **MULTI SELECT button**
Press this button to activate a mode that allows the selection of multiple events.

⑪ **MENU button**

- Touch this button to open a pull-up menu.
- When the pull-up menu is open, touch this again to close it.

  If a timer event has been edited, but not saved, a V icon will appear on this button.

MENU button pull-up menu.



RELOAD button

Discard all changes and reload the timer event information file.

SAVE button

Save the timer event information file to the media.

If a timer event has been edited, but not saved, a V icon will appear on this button.

ADD button

Open the Timer Event Setup screen where you can edit a new timer event.

EDIT button

Open the Timer Event Setup screen where you can edit the selected timer event.

DELETE button

Touch this button to delete the selected timer event.

NOTE

- *Timer event functions are enabled only when in take mode.*
- *A maximum of 100 events can be registered and executed.*
- *For example, if 20 events that are each repeated 10 times are registered, the total number of executed events would be 200 (10 x 20). In order to keep the number of executed events at 100 or less, only the first 10 events would be executed. The latter 10 events would not be executed.*
- *Events are automatically sorted by their starting time.*
- *If there are two events at the same time, only the event registered later in a list will be enabled.*
- *Recording/repeat playback timer events will continue until a stop timer event.*
- *If the time of a recording/playback/repeat playback timer event arrives during recording, recording will continue.*
- *If the time of a recording/playback/repeat playback timer event arrives during playback, that event will be executed.*
- *If the time of a download timer event arrives during recording/playback, recording/playback will continue uninterrupted and the download event will be executed.*
- *If the time of a recording/playback/repeat playback timer event arrives during downloading, downloading will continue uninterrupted and that event will be executed.*
- *If a file downloaded by a download timer event has the same name as a file in the current folder, it will overwrite that file.*
- *If the time of a delete & download timer event arrives during recording/playback, recording/playback will continue*

uninterrupted and the download will be executed, but deletion will not be executed.

- *During downloading, the SD/CF card indicator blinks.*
- *The timer event information file will be read automatically when a folder is loaded.*
- *If the timer event information file (HS_EventList.tlist) is overwritten an FTP or Browse function, the timer event information file will automatically be read again.*

CAUTION

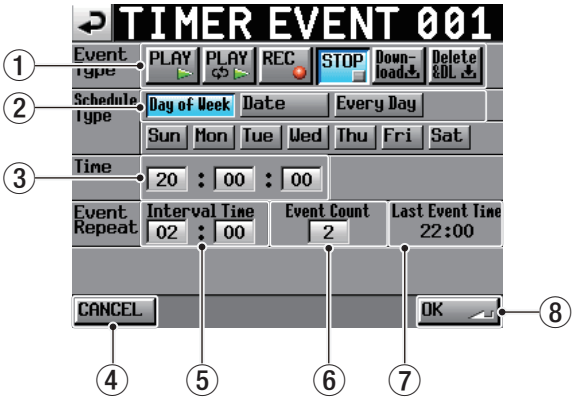
If you do not save, all timer event changes will be lost when a folder is loaded, the card is removed or the unit is turned off.

TIMER EVENT SETUP screen

Use this screen to edit the settings of a specific event.

Common settings

For recording and stop events, only the common settings are shown and can be set.



① **Event Type buttons**
Use these buttons to set the event type.

- Playback: **PLAY (►)**
- Repeat playback: **PLAY (► ⟲)**
- Record: **REC (●)**
- Stop: **STOP (■)**
- Download: **Down-load (⬇)**
  (Download from the FTP server)
- Download after deleting: **Delete&DL (⬇)**
  (After all audio files in the current folder are deleted, the unit will download from the FTP server.)

② **Schedule Type buttons**
Use these buttons to set the schedule type of the event.

③ **Time fields**
Use these to set the event execution time (hour, minute and second).

Touch these to highlight them yellow. When highlighted, you can use the **DATA** dial to adjust them.

④ **CANCEL button**
Touch this to discard all changes and return to the TIMER EVENT LIST screen.

⑤ **Event Repeat (Interval Time) fields**
Use these to set the the interval between repeat event execution (hours and minutes).

Touch these to highlight them yellow. When highlighted, you can use the **DATA** dial to adjust them.

⑥ **Event Repeat (Event Count) field**
Use this to set the the number of times the event is repeated (1–100).

(If set to "1" the event will not repeat.)

Touch these to highlight them yellow. When highlighted, you can use the **DATA** dial to adjust them.

⑦ **Event Repeat (Last Event Time) display.**
This shows the last time that the repeated event will be executed.

⑧ **OK button**
Touch this to confirm all changes and return to the TIMER EVENT LIST screen.

NOTE

Repeat event setting example

To make an event repeat on the hour from 10:00 to 19:00, make the following settings.

Time	10:00
Event Repeat: Interval Time	01:00
Event Repeat: Event Count	10

Schedule type screen

- Day

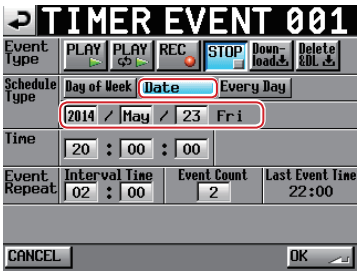
  On the TIMER EVENT SETUP screen, select the Day of Week button to enable setting specific days of the week (for weekly repetition).

  The day of week buttons allow each day to be turned ON/OFF separately.

- Date

  On the TIMER EVENT SETUP screen, select the Date button to enable setting a specific date for event execution.

  Touch the event date areas to highlight them yellow. When highlighted, you can use the **DATA** dial to adjust them.



NOTE

*The month area can also be set to all months by selecting "***" which appears between "Dec" and "Jan" in order.*

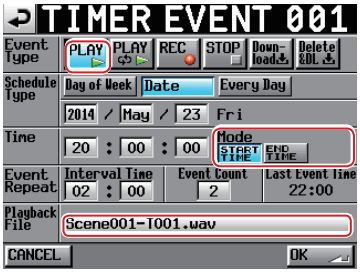
- Daily

  On the TIMER EVENT SETUP screen, select the Every Day button to set the event to be executed every day.

Playback/repeat playback event screen

- Playback event screen

  On the TIMER EVENT SETUP screen, touch the PLAY (►) button to open the following screen.



Mode (time)

START TIME button: Set an event that starts playback of the playback file at the set time.

END TIME button: Set an event that completes playback of the playback file at the set time.

NOTE

The starting time of an event registered using END TIME will be calculated with a time of zero if the playback file does not exist in the current folder.

However, if a file is added through downloading, for example, the file time will be applied.

Playback File

Touch this area to open the playback file selection screen.

- Repeat playback event screen

  On the TIMER EVENT SETUP screen, touch the PLAY (⊂⊃ ►) button to open the following screen.

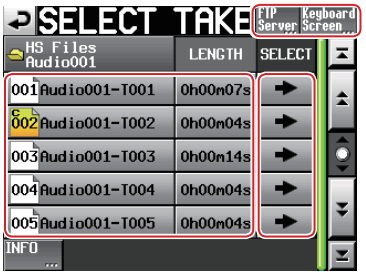
The only difference with the playback event screen is that there is no Mode section. The Time is always the start time.

Playback file selection screen

On the playback events/repeat playback screen, touch the Playback File button to open one of the following three file selection screens.

SELECT TAKE screen

Select a file for playback from media loaded in the unit on this screen.



FTP Server/Keyboard Screen selection buttons

FTP Server button:	Press this button to open the FTP Server BROWSE screen.
Keyboard Screen button:	Press this button when paused to open the INPUT PLAYBACK FILE screen.

Playback files

Shows the playable files contained by the current folder.

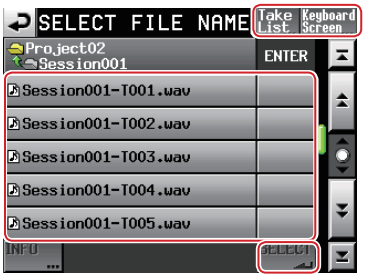
SELECT buttons

Touch a SELECT (➡) button on the SELECT TAKE screen to set the corresponding file on the left side of this screen as the playback file, and return to the Timer Event Setup screen

FTP Server BROWSE screen

On this screen, you can select files on an FTP server by name.

On this screen, you can set file names that have not yet been downloaded to the media in the unit.



Take List/Keyboard Screen selection buttons

Take List button:	Touch this to switch to the SELECT TAKE screen.
Keyboard Screen button:	Press this button when paused to open the INPUT PLAYBACK FILE screen.

File name list

This shows files on the FTP server.

Touch a file name to select it and highlight it yellow.

SELECT button

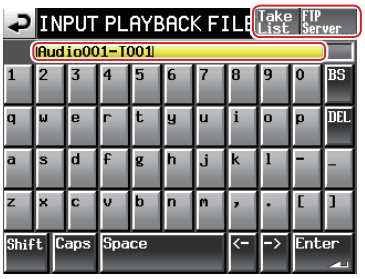
When a filename is selected, touch the SELECT (↵) button to set the selected file as the playback file, and return to the Timer Event Setup screen

NOTE

On this screen, you can set Japanese names for files that have not yet been downloaded to the media in the unit.

INPUT PLAYBACK FILE screen

On the screen, you can input the characters of playback file names.



Take List/FTP Server selection buttons

Take List button:	Touch this to switch to the SELECT TAKE screen.
FTP Server button:	Press this button to open the FTP Server BROWSE screen.

Playback file input

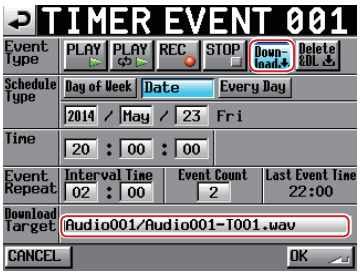
- Touch the ENTER button to set the input file name as the playback file name and return to the Timer Event screen.
- Even if ".wav"is not input, ".wav" will be automatically added to the file name.
- If the filename exceeds the screen width, use the arrow (<-/->) keys to move the cursor and scroll the name left and right. When the left or right end is not being displayed, "…" appears at that end.

Download event/Delete & download event screens

- Download event screen

  Use this screen to download set folders/files from the FTP server.

  On the TIMER EVENT SETUP screen, touch the Down-load (⬇) button to open the following screen.



- Delete & download event screen

  After all audio files in the current folder are deleted, the unit will download set folders/files from the FTP server.

  On the TIMER EVENT SETUP screen, touch the Delete&DL (⬇) button to open the following screen.

Download Target

This shows the path of the file/folder that will be downloaded.

Touch this area to open the SELECT DOWNLOAD TARGET screen.

NOTE

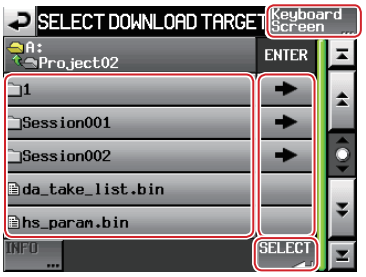
The download server is the server set on the FTP page of the REMOTE SETUP screen.

SELECT DOWNLOAD TARGET screen

On the Download event/Delete & download event screen touch the Download Target path to open one of the following two download selection screens

FTP Server BROWSE screen

On this screen, you can select the path of a file/folder on the FTP server.



Path name input screen button

Keyboard Screen button: Touch this to switch to the path name input screen.

File/folder to be downloaded

This shows the names of files/folders on the FTP server.

Touch a file/folder name to select it and highlight it yellow.

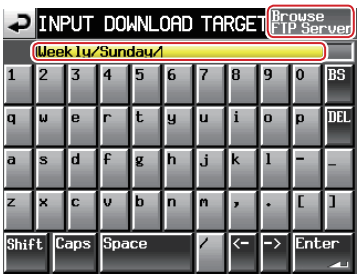
SELECT button

When a file/folder name is selected, touch the SELECT (↵) button to set the selected file/folder path as the file/folder to be downloaded, and return to the Timer Event Setup screen.

If you press the SELECT (↵) button without selecting anything, the currently shown folder path will be set for download, and the Timer Event Setup screen will reopen

Path name input screen

On this screen, you can input the characters of path names for download.



Browse FTP Server selection button

Browse FTP Server button: Press this button to open the FTP Server BROWSE screen.

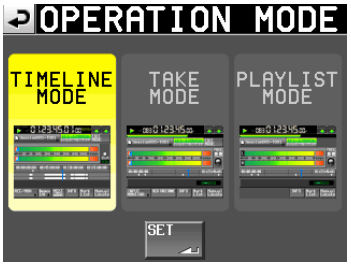
Input of path name for file/folder to be downloaded

- To designate a folder, input a slash (/) at the end
- If the path name exceeds the screen width, use the arrow (<-/->) keys to move the cursor and scroll the path left and right. When the left or right end is not being displayed, "…" appears at that end.
- The "/" button only appears when inputting FTP path names.

  When shifted, it becomes the **":"** input button.

Operation mode selection (OPERATION MODE)

Set the unit's operation mode on this page.



After selecting an operation mode, touch the SET button to switch to it and return to the Home Screen.

TIMELINE MODE

The timeline mode becomes active and the Home Screen reopens.

TAKE MODE

The take mode becomes active and the Home Screen reopens.

PLAYLIST MODE

The playlist mode becomes active and the Home Screen reopens.

Mark functions

Adding marks

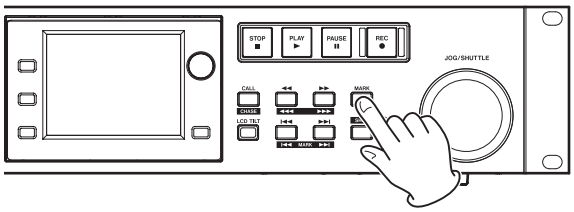
Use the following methods to create marks.

One timeline mode or one take can have a maximum of 99 marks, including automatically-created marks.

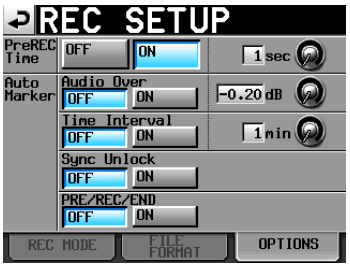
- **Push the MARK key on the front panel.**

  Press the **MARK** key to add a mark at that playback/recording time. In timeline mode, marks are only added to the timeline. They are not added to files.

  Mark names are in the format "MARK XX".



- **Use the auto mark function**



When the auto mark function is ON, marks can be added when prerecording starts, recording starts and ends, when audio overs occur, at regular time intervals and when synchronization errors occur. (See "OPTIONS page" on page 80.)

In timeline mode, marks are added to the timeline and file itself.

Marks are named according to how they were made as follows.

When auto mark made	Mark name
At audio over	OVER xx
At time interval	TIME xx
At synchronization error	UNLK xx

CAUTION

The following auto marks are only added to the file (take), and will not appear in the timeline in timeline mode.

When auto mark made	Mark name
Recording start point	REC xx
Recording end point	END xx
Pre-recording start point	PRE xx

NOTE

- *Audio Overs occur 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 triggered using parallel control, a mark is added in the same manner as if the* **MARK** *key had been pushed.*
- *When an Audio Over or Synchronization Error auto mark is added, another event of the same type will not cause a mark to be added until at least 10 seconds have passed.*

Using keys to locate to marks

Press the ⏮ [**MARK** ⏮] or ⏭ [**MARK** ⏭] 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 buttons

Touch to sort by mark name in descending or ascending order.

When the mark names are sorted in ascending order, the △ icon appears inside the NAME button. When in descending order, the ▽ icon appears inside this button.

TIME buttons

Touch to sort marks by time in descending or ascending order.

When they are sorted by time in ascending order, the △ icon appears inside the TIME button. When in descending order, the ▽ 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.

EDIT NAME button

Touch this button to open the MARK NAME screen where you can edit the name of the selected mark.

EDIT TIME button

Touch this button to open the MARK EDIT screen where you can edit the position of the selected mark.

MULTI SELECT button

Use this to enable the selection of multiple marks.

DELETE button

Touch this button to erase the selected mark.

Scroll buttons

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

Locating to marks

Touch a button to locate to the corresponding mark.

Viewing mark information

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

This screen 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.

Mark list information 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 prerecording) marks that are created during recording.

Deleting marks

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

MARK LIST screen

2. Touch the DELETE button on the MARK LIST screen.

3. Another pop-up window appears to reconfirm.
   Touch the OK button or press the **DATA** dial to delete the mark.

Deleting a mark using the MARK LIST screen

NOTE

On the mark list information screen, you can delete marks or types of marks by selecting them and touching the DELETE button.

When you do this, a "Delete all marks of this type?" confirmation pop-up appears. Touch the OK button or press the **DATA** *dial to delete all the marks of the same type.*

Mark list information screen

Deleting marks using the mark list information screen

Editing mark positions

You can change the position (time) of marks added using the MARK list (marks named "MARKXX").

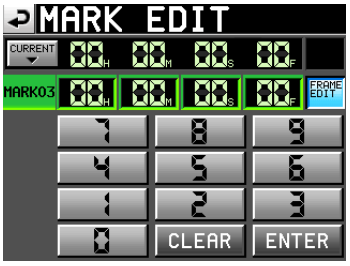
NOTE

Automatically placed marks cannot be edited.

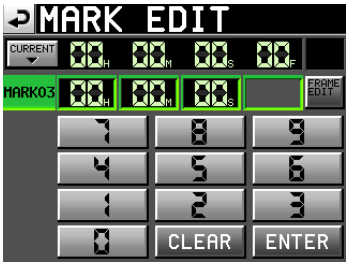
1. Select the mark that you want to edit on the MARK LIST screen.

2. Touch the EDIT TIME button to open the MARK EDIT screen.

   Touch the FRAME EDIT button to set whether or not the frame value can be edited.



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.

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

   - If you begin input without selecting a digit, input will start from the smallest one.
   - To input a specific digit, touch it to make its background yellow, then use the number buttons or the **DATA** dial to enter two digits at a time.
   - Touch the CURRENT ▼ button to copy the current playback position to the input value.
   - Touch the CLEAR button to clear all input values.

TIP

This can also be input using a connected keyboard.

Press the keyboard's Enter key to confirm a setting and its ESC key to clear all the values.

Editing mark names

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

2. Touch the EDIT NAME button to open the MARK NAME screen.

Follow the same procedures as "Editing the name of a folder in the root directory" on page 33.

NOTE

You can also open the MARK NAME screen by touching the mark name area on the Home Screen.

However, since the names of automatic marks cannot be edited, the MARK NAME screen will not open for them.

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 as follows.

ABS: Input an actual time and locate to it.

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

–: Input an amount of time to go backward from the current time.

Input the time using the number buttons.

You can also select a number field in the LOCATE area and use the **DATA** dial to adjust the time.

Touch the LOCATE button to locate to that new time and return to the Home Screen.

Touch the CLEAR button to clear all input values.

TIP

This can also be input using a connected keyboard.

Press the keyboard's Enter key to confirm a setting and its ESC key to clear all the values.

Flash start function

Use the flash start function to instantly start playback of takes that you have designated in advance.

A maximum of 100 takes can be started instantly using a keyboard or devices connected to this unit's remote connectors (**REMOTE** and **PARALLEL**).

1. In take mode, select the folder that you want to play back. (See "Loading a folder" on page 65.)

   When in playlist mode, select a playlist. (See "Loading playlists" on page 67.)
2. Use the **DATA** dial to select the page that contains the takes or entries that you want to play after touching and highlighting in yellow the operation/display knob on the flash page on the Home Screen.

   The first 100 numbered takes or files in the selected folder or playlist can be played back using flash starting.

Page number	Take/entry number
1	1-20
2	21-40
3	41-60
4	61-80
5	81-100

3. Touch the flash start key to immediately play the take or entry corresponding to the key.

NOTE

If you flash start a file with a different sampling frequency, the start of playback will be delayed while the sampling frequency is being changed.

In order to use flash starting in take mode, you should have only files with the same sampling frequency (REC Fs) in a folder.

In order to use flash starting in playlist mode, you should have only files with the same sampling frequency (REC Fs) in the playlist.

Operation using a computer keyboard

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

Setting the keyboard type

Set the type of keyboard connected on the PREFERENCES page of the SYSTEM SETUP screen.

Set the type of keyboard connected on the PREFERENCES page of the SYSTEM SETUP screen. (See "PREFERENCES page" on page 91.)

Use the keyboard to input names

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

- Names of folders in root directory(see "Editing the name of a folder in the root directory" on page 33.)
- Folder names (See "Creating new folders" on page 39.)
- Take names (See "Editing take names" on page 61.)
- First half of the next take name
- Letter in the second half of the next take name

You can also use it to enter numbers for the following items.

- Editing the T/C USER BITS
- Editing the START TIME
- Editing marks(See "Editing mark positions" on page 107 and "Editing mark names" on page 107.)
- Inputting manual locate points(See "Manual locate function" on page 108.)
- Editing timecode offset(See "SYNC page" on page 82.)
- Playlist name(See "Creating a new playlist" on page 65 and "Saving playlists" on page 75.)
- Names of AES31 files(See "Creating new AES31 editing information" on page 43.)
- Playlist entry titles(See "Editing entry titles" on page 71.)
- Bounce file names(See "Bouncing" on page 55.)

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 input them directly.

Moving the cursor:

Use the ← / → keys.

Use the **HOME**/↑ key to move the cursor to the beginning.

Use the END/↓ key to move the cursor to the end.

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.

CAUTION

- ***The following symbols and punctuation marks cannot be used in names.***

  \ / : * ? " < > |
- ***Japanese kana cannot be used.***
- ***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.

Key	Operation
F1 key	Same as ⏮ key
F2 key	Same as ⏭ key
F3 key	Same as **CALL** key
F4 key	Same as **STOP** key
F5 key	Same as **PLAY** key
F6 key	Same as **PAUSE** key
F7 key	Turn auto cue ON/OFF
F8 key	Same as **REC** key
F9 key	Turn auto ready ON/OFF
F10 key	Turn repeat mode ON/OFF
F11 key	Change play mode
F12 key	—
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

13 – Operation with timecode synchronization

In this chapter, we explain playback synchronized with timecode, which is possible with an optional SY-2 installed.

For recording and playback, this unit can be synchronized with SMPTE timecode input through the TIMECODE IN connector on the SY-2 installed in the rear panel or with its built-in timecode generator ("master timecode" hereafter).

Timecode synchronization differs according to the operation mode.

Playback synchronized with timecode

Timeline mode

In timeline mode, playback can be synchronized with the master timecode.

When playing back with timecode synchronization, when playback starts, it synchronizes with the master timecode.

Take mode

This mode does not support playback synchronization with timecode.

Playlist Mode

This mode does not support playback synchronization with timecode.

Basic operation

1. In timeline mode, load the folder that you want to use for recording or playback.
2. Either of the following operations will enable synchronized playback or recording.
   - 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.
     The TC indicator on the Home Screen will change to the CHASE indicator.
3. Press the **PLAY** key to start timecode synchronized playback or the **PLAY** and RECORD keys to start timecode synchronized recording. The CHASE indicator on the Home Screen appears green.
4. Press the **STOP** key during recording or playback with timecode synchronization to stop recording/playback. The CHASE indicator on the Home Screen blinks when stopped.
5 To resume recording or playback with timecode synchronization, repeat steps 3 and 4.
6. Either of the following operations will turn synchronization off.
   - 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. The CHASE indicator on the Home Screen is replaced with the TC indicator.

Timecode offset

You can set an offset for master timecode synchronization.

By doing so, you can synchronize to master timecode for playback with a set time difference (see "SYNC page" on page 82).

Rechase

This unit continues to monitor master timecode even after synchronized playback starts. Should the playback time of this unit and the master 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 82).

Recording synchronized with timecode

Timeline mode

In timeline mode, recording can be synchronized with master timecode.

When recording with timecode synchronization, master timecode is captured the instant that recording starts, and recording starts from that time (timecode time) on the timeline.

Take mode

Chase and rechase are not possible.

The timecode from the built-in timecode generator is captured at the beginning of recording as the file starting time.

Playlist Mode

In playlist mode, recording is not possible regardless of timecode synchronization status.

CAUTION

During synchronized recording, this unit only synchronizes to master timecode once at the start of recording. There is no rechase function as there is with synchronized playback.

14 – Loading files recorded on another device

This unit can import and play audio files that meet the following requirements.

In addition, files created by other TASCAM HS series units can be played back as is if they meet the following conditions:

File format:	BWF/WAV
Sampling frequency:	44.1/48/88.2/96/176.4/192kHz
Quantization bit depth:	16/24 bits
Number of tracks:	2 or less

CAUTION

If you play a file with a different sampling frequency, the sampling frequency of the unit will be changed automatically. This will take about 1 to 3 seconds, so we recommend preparing files with the same sampling frequency whenever possible.

Preparation before importing

Use this unit to format media that will be used for the first time with it. Media formatted by this unit will be optimized to improve performance with it.

If media that has been formatted by a computer or another device is used with this unit, its operation might be affected.

1. Insert the media into the corresponding card slot of the unit.
2. To format media, follow the procedures in "Formatting SD/CF cards" on page 27.
3. After confirming that the indicator for the slot with the media is not blinking rapidly, eject the media.

NOTE

When you format media with this unit,"HS Files" and "Audio001" folders will be created automatically in the root directory.

4. Insert that media into the media slot of a computer, for example.

   If this media was formatted by this unit, it will be recognized by the computer as a drive named "HS-20".

   In this example, "HS-20" is used as the drive name.
5. Copy audio files that you want to import into the "Audio001" folder inside the "HS Files" folder, which is on the HS-20.

CAUTION

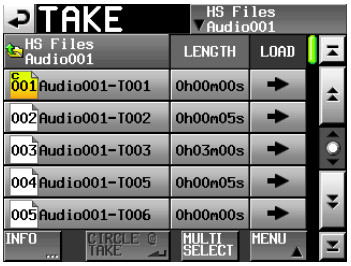
Do not eject the media while data is being written to it. Doing so could damage data on the media and even make the data unreadable.

For details, please see the manuals for your computer, card reader or other device being used for this purpose.

6. After writing is complete, remove the media from the media slot of the computer or other device.

Using imported files on this unit

1. Insert the media with the copied files into this unit's card slot.
2. Press the **FILE LIST** key on the front of the unit to open the take selection screen. Confirm that the audio files written to the HS Files/Audio001 folder are recognized as takes.



3. You can play a file by assigning it to the timeline using the timeline mode editing function, by playing it in take mode, or by adding it to a playlist and playing it back in playlist mode.

   See "7 – Timeline mode" on page 39 for the timeline mode editing function, see "Recording in take mode" on page 57 for details about take mode playback and see "9 – Playlist mode" on page 65 for details about playlist mode.

15 – Troubleshooting

If you are having trouble with the operation of this unit, please try the following before seeking repair.
If these measures do not solve the problem, please contact the store where you bought the unit or TEAC customer support.

■ The unit will not turn on.

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

■ Media is not recognized.

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

■ The unit controls do not function.

- Is the panel lock function ON?

■ Playback is not possible.

- Confirm that the audio file's sampling frequency (44.1/48/88.2/96/176.4/192kHz) and quantization bit rate (16/24) are compatible.

■ There is no sound.

- Reconfirm the connections of your monitoring system. Check the amplifier volume.
- When using a TASCAM RC-HS20PD remote controller (sold separately), confirm that the fader is not lowered.
- If you cannot hear the input signal, turn input monitoring ON.
- If you cannot hear the playback sound, turn input monitoring OFF.

■ Recording is not possible.

- If you are using an external device, check the connection again.
- Adjust the recording levels.
- If the media does not have sufficient space, erase unneeded data to increase the amount of available space or change the media.
- 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/directories, is too large, change the recording folder.

■ Setting changes are not remembered.

- This unit backs up settings whenever the media selection is changed, a 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 none of the cables have problems.

■ 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 folder.

- Confirm that a folder with the same name does not already exist.
- If the amount of space remaining on the media is insufficient, a new folder cannot be created. Erase unneeded data, and then create a new folder.

16 – Messages

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

Messages with contents that vary depending on the situation are placed at the beginning of the list. The subsequent messages are listed in alphabetical order.

Message	Meaning and response	Note
MM "vvvvvvvv" NUM OF FOLDERS: p USED SIZE: u FREE SIZE: f TOTAL SIZE: t	This shows information about the media.	MM: SD or CF vvvvvvvv: volume level p: number of folders u: capacity used f: unused capacity t: total capacity of media
MM DEVICE ERROR	The media cannot be recognized.	MM: SD, CF, or USB flash drive
MM Format failed	An error occurred during formatting, and formatting could not be completed.	MM: SD, CF, or USB flash drive
MM has no folders. Please create a folder.	The media does not have any folders.	MM: SD or CF
MM is not available	There is no media.	MM: SD, CF, or USB flash drive
MM is not usable	You cannot copy.	MM: SD, CF, or USB flash drive
MM MEDIUM ERROR	The unit failed to read the media.	MM: SD, CF, or USB flash drive
MM not recommended format for Recording/Playing. Format this card?	Since the media was not formatted in this unit, proper recording and playback operations cannot be guaranteed, so it should be formatted.	MM: SD or CF This appears when the card is formatted with a cluster size that is smaller than the standard of this unit.
MM Read Error	An error occurred when reading the card.	MM: SD, CF, or USB flash drive
MM to MM' Copy failed.	Copying all of one media to the other was not possible.	MM: SD, CF, or USB flash drive MM': SD, CF, or USB flash drive
MM unrecognized format Please Format this card.	This media has been formatted in a format other than FAT. Format it for use with this unit.	MM: SD, CF, or USB flash drive
MM unsupported type	This media does not meet the specifications required by the system, so it cannot be used.	MM: SD, CF, or USB flash drive
MM Write Error	An error occurred when writing to the card.	MM: SD, CF, or USB flash drive
Copy N selected folder(s) to MM?	Export the selected folder(s).	N: number selected MM: SD or CF
Copy N selected Take(s) to MM?.	Export the selected take(s).	N: number selected MM: SD or CF
"nnn": "eeeeeee" "tttttttt" fs/bit/FileMode/NumOfTracks Entry LENGTH: *h**m**s**f START T/C: hh:mm:ss.ff	This shows entry information	nnn: entry number eeeeeeee: entry name tttttttt take name fs: sampling frequency bit: bit rate FileMode: MONO or POLY NumOfTracks: number of tracks Entry LENGTH: length of entry START T/C: entry start timecode time
nnn : NNNNNNNN cannot be found	The take with the shown number and name cannot be found.	nnn: take number NNNNNNNN: take name
"pppppppp" folder: n Fs: f TIMECODE: t	Shows information about folders in the root directory	pppppppp: folders in root ffffffff: folder name f: recording sampling frequency t: timecode frame type
"ssssssss" TAKES: n Fs: f TOTAL SIZE: u TOTAL TIME: t	Shows information about folder	ssssssss: folder name n: number of takes f: recording sampling frequency u: space used t: total time of all takes

Message	Meaning and response	Note
"tttttttt" date fs/bit/FileMode/NumOfTracks SIZE: u LENGTH: *h**m**s**f	Shows take information	tttttttt: take name date: year/month/day hour: minute fs: sampling frequency bit: bit rate FileMode: MONO or POLY NumOfTracks: number of tracks u: space used
"tttttttt" START T/C: **: **: **. ** END T/C: **: **: **. ** FRAME TYPE: ** F	Shows take information	tttttttt: take name START T/C: file start timecode time END T/C: file end timecode time FRAME TYPE: frame type
<AES31 ADL Info> “ffffffff” Size: **MB yyyy/mm/dd hh: mm	AES31 editing file information	ffffffff: editing information file name
Bounce Selected Area to file? “ffffffff”	The selected area will be bounced to a file.	ffffffff: file name
Canceled	The operation was canceled.	
Cannot add timer event. Timer event limit reached.	The limit has been reached, so no more timer events can be added.	
Timer event limit reached."	The limit has been reached, so no more timer events can be added.	**: Playing, Chasing TC or Recording
Cannot Change Now Fixed in current Fs.	With the current sampling frequency, settings cannot be changed.	
Cannot Change Now Fixed in current mode.	In the current mode, settings are fixed and cannot be changed.	
Cannot Change Now Inc.Play cannot set to ON while Play Inhibit Time is Inf.	Since the Play Inhibit Time item is set to Inf, the Inc.Play item cannot be turned ON.	
Cannot Copy. "tttttttt" already exist in current folder.	When assigning a take from another folder to an entry, that take is copied to the current folder. In this case, a file with the same name as the copied take already exists in the current folder. RENAME button: change the name and copy the file CANCEL button: do not copy	tttttttt: the name of the take to be copied
Cannot Copy File. “ffffffff” already exist in Destination.	Cannot copy as the selected file already exists in the copy destination.	ffffffff: file name
Cannot Copy Folder. “ffffffff” already exist in Destination.	Cannot copy as the selected folder already exists in the copy destination.	ffffffff: folder name
Cannot Copy for Insert. “ffffffff” already exist in current folder.	Cannot copy for inserting because the selected file already exists in the current folder.	ffffffff: file name
Cannot Copy for Paste. “ffffffff” already exist in current folder.	Cannot copy for pasting because the selected file already exists in the current folder.	ffffffff: file name
Cannot Copy. Source folder and Destination folder is same.	Cannot copy as the source and destination folders are the same.	
Cannot Copy. Destination folder is sub-folder of source folder.	Cannot copy because the destination folder is a sub folder of the source folder.	
Cannot create more than 100 folders	The maximum number of folders that can be created has already been reached, so a new folder 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 folder. Media Full.	The media does not have enough space, so you cannot create a new folder.	

Message	Meaning and response	Note
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 execute bounce. Media Full.	The media does not have enough space, so you cannot bounce.	
Cannot execute bounce. Bounce file size is over 2GB.	The resulting file size after the bounce would exceed 2 GB, so bouncing is not possible.	
Cannot execute combine. "aaaaaaaa" "bbbbbbbb" These property are not matched.	Cannot combine as the properties of the two takes are different.	aaaaaaa: first take to be combined bbbbbbb: second take to be combined
Cannot execute combine. Combine file size is over MMM.	Cannot combine as the file size will exceed the Max File Size indicated in the Format page on the REC SETUP screen.	MMM: 640MB, 1GB, or 2GB
Cannot execute combine. Media Full.	The media does not have enough space, so you cannot combine.	
Cannot execute. File property is not matched to current setting.	Cannot execute as the file properties are not the same as those of the current setting.	
Cannot execute. Media Full.	The media does not have enough space, so you cannot complete the operation.	
Cannot Export. Not enough space on MM	There is not enough available space on the export destination media.	MM: SD or CF
Cannot Export. Folder already exists on MM. Overwrite folder?	A folder with the same name already exists in the export destination. Do you want to overwrite that folder?	MM: SD or CF
Cannot Export. Selected Take already exist in Export destination.	Cannot export as the selected take already exists in the export destination.	
Cannot increment Take. Interval is too short. Or Media almost full	The interval was less than 4 seconds or the media does not have enough space, so starting recording of the next take is not possible.	
Cannot increment Take. System limit reached, Please make new folder.	The total number of items in the folder, including files and folders/directories, is too large, so starting recording of the next take is not possible.	
Cannot make more than 1000 folders.	The maximum number of folders that can be created has already been reached, so a new folder cannot be created.	
Cannot make new folder. Media Full.	The media does not have enough space, so you cannot create a new folder.	
Cannot RECORD. (Internal state error)	Something is preventing recording.	
Cannot RECORD. ABS time is over 24h	The timeline mode's ABS time exceeds 24 hours so recording cannot be started.	
Cannot RECORD. Media Full.	The media does not have enough space, so you cannot start recording.	
Cannot RECORD System limit reached. Please make new folder.	The total number of items in the folder, including files and folders/directories, is too large, so starting recording is not possible.	
Cannot RECORD. Take limit reached. Please change to another folder	Since the maximum number of recordable takes or maximum take number has been reached, recording is not possible. Change the folder.	
Cannot set Mark point. Mark limit reached.	You cannot create more than 99 marks.	
Cannot turn Fs convert On. D–In is already Master Clock.	You tried to turn the sampling rate converter on for the digital input that is already selected as the master clock.	

Message	Meaning and response	Note
Cannot use Bridge file because it is illegal.	Cannot use the bridge file because it is not correct.	
CF Media Full. SD: Still RECORDING. CF: Stopped.	Recording to CF has stopped because the CF does not have enough space. Recording to SD is continuing.	Occurs when REC Mode is set to Mirror.
CF not recommended for Recording/Playing. (not UltraDMA)	This media does not meet the specifications required by the system, so using it for recording/playback is not recommended.	
CF Record error. SD: Still RECORDING. CF: Stopped.	Recording to CF has stopped because an error occurred. Recording to SD is continuing.	Occurs when REC Mode is set to Mirror.
Changing Fs ...	Changing the sampling frequency	
Clear Current EDL and Import All Takes?	Clear the current AES31 editing information and import all the takes.	
Clear In/Out Point?	Clear IN and OUT points.	
Combine these Takes? "aaaaaaaa" "bbbbbbbb"	Combine the two takes.	aaaaaaa: first take to be combined bbbbbbb: second take to be combined
Completed	The operation has completed.	
Copy MM to MM'? This will erase all data on CFn'.	Confirms that you want to copy all of MM to MM'	MM: SD, CF, or USB flash drive MM': SD, CF, or USB flash drive
Copy selected Folder? "nnnnnnnn"	Copy the selected folder.	nnnnnnnn: name of folder to be copied
Copy selected File? "nnnnnnnn"	Copy the selected file.	nnnnnnnn: name of file to be copied
Copy selected Take?	Copy the selected take.	n: number of selected takes ("Take" changes to "Takes" if "n" is 2 or more)
Copying Folder ...	The folder is being copied.	
Copying File ...	The file is being copied.	
Copying Take ...	The take is being copied.	"Take" changes to "Takes" when multiple takes are copied.
Create EDL failed	Failed to create an AES31 editing information file.	
Create new EDL? "eeeeeeee" TIMELINE Start Time: **h**m**s**f REC Fs: **kHz	Create a new AES31 editing information file.	eeeeeeee: name of AES31 editing information file
Create new Playlist? "pppppppp"	Confirm that you want to create a new playlist.	pppppppp: playlist name
Creating EDL ...	The AES31 editing information file 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 Event(s)?	Delete the selected event(s).	N: number of selected events
Delete N selected marks?	Delete the selected marks.	N: number of marks
Delete N selected folder?	Delete the selected folder.	N: number selected
Delete N selected take?	Delete the selected takes.	N: number selected
Delete selected EDL?	Delete the selected AES31 editing information file.	
Delete selected playlist?	Delete the selected playlist.	
Delete this Folder?	Delete the selected folder.	
Delete this File?	Delete the selected file.	
Deleting EDL ...	The AES31 editing information file is being deleted.	
Deleting Event(s) ...	Events are being deleted.	
Deleting Playlist ...	The playlist is being deleted.	
Deleting Folder ...	The folder is being deleted.	
Deleting File ...	The file is being deleted.	
Deleting Take ...	The take is being deleted.	
Deleting Uploaded File ...	The uploaded file is being deleted.	

Message	Meaning and response	Note	
Digital Input Error (eeeeeeee)	An error occurred with the digital input selected for the input signal.	"eeeeeeee" is one of the following	
		Unlocked:	not synchronized with system
		no signal:	no signal being input
		not audio:	Cbit information of input signal is not audio
		unmatched Cbit	other input signal Cbit information is different from actual operation mode
Digital Input Error (eeeeeeee)	An error occurred with the digital input selected for the input signal.	"eeeeeeee" is one of the following	
		Unlocked:	not synchronized with system
		no signal:	no signal being input
		not audio:	Cbit information of input signal is not audio
		unmatched Cbit	other input signal Cbit information is different from actual operation mode
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.		
Directory contents changed. REBUILD required. REBUILD now?	The directory needs to be rebuilt as the content has been changed.		
Directory contents changed via FTP. REBUILD required. REBUILD now?	The directory needs to be rebuilt as the content has been changed via FTP.		
Edit Completed	The editing operation has completed.		
EDL Load completed but there are some wrong regions.	Loading AES31 editing information has completed, but there are some incorrect regions.		
--- error --- INFO WRITING	An error occurred while writing information.		
Export System Backup Data to MM?"	Export system backup data to the media.	MM: SD or CF	
Exporting folder(s)...	A folder is being exported		
Exporting Take(s) ...	The takes are being exported.		
External Clock Lost, Switched to Internal	Synchronization with an external clock was disrupted, so the unit switched to the internal clock.		
External Clock Regained Switch to External?	Synchronization with an external clock became possible again.		
EXTERNAL Control Locked	External control connectors are locked to prevent misoperation.		
Folder Copy Failed.	Failed to copy the folder.		
File Copy Failed.	Failed to copy the file.		
File List Screen is not available in Jog Mode	The File List selection screen cannot be opened when in jog mode.		
File List Screen is not available while Recording	The File List screen cannot be opened when recording.		
Folder Export failed	Failed to export the folder.		
FTP Connection Test.	An FTP connection test is being conducted.		
FTP Transfer Started.	Press to start FTP transfer.		
--- FORMAT --- Completed	Formatting has completed.		

Message	Meaning and response	Note
--- FULL FORMAT --- FORMAT MM? This will erase all DATA on card	Full formatting will be performed.	MM: SD, CF, or USB flash drive
--- FULL FORMAT --- Formatting MM ...	Full formatting is occurring.	MM: SD, CF, or USB flash drive
Import All System Backup Data from MM?	Import all system backup data from the media.	MM: SD or CF
Initializing ...	The unit is initializing.	
Load Factory Preset?	Load the factory settings.	
Load selected folder? "ssssssss"	Load the selected folder.	nnnnnnnn: name of a folder to load
Load selected take? "tttttttt"	Load the selected take.	tttttttt: name of take to load
Loading File ...	The file is being loaded.	
Loading Playlist ...	The selected playlist is loading.	
Loading Folder …	The folder is being loaded.	
Loading Take ...	The selected take is loading.	
Loading Timer Event List …	The timer event list is being loaded.	
Make new Folder? "ssssssss"	Confirm that you want to create a new folder.	ssssssss: folder name
Make Playlist failed	Failed to create a playlist.	
Make folder failed	Failed to create a folder.	
Making Playlist …	A playlist is being created.	
Making Folder …	A folder is being created.	
Mark Point set	A mark has been created.	
Mirror REC is not available. (MM is not available)	Mirror recording is not available because the media cannot be used.	Occurs when REC Mode is set to Mirror. MM: SD or CF
Mirror REC is not available. CF not recommended type for Recording. (not UltraDMA)	Mirroring is not available because the card does not meet the specifications required by the system so correct recording cannot be guaranteed.	Occurs when REC Mode is set to Mirror.
Mirror REC is not available. MM formatting not optimal for Recording.	Mirroring is not available because the media has not been formatted on this unit so correct recording cannot be guaranteed. Format the media on this unit before use.	Occurs when REC Mode is set to Mirror. MM: SD or CF
Network Control Locked	Network control has been locked to prevent misoperation.	
New Folder Name must not start with "@"	That folder name is not allowed. You cannot use the "@" symbol at the beginning of a folder name.	
No Call Point	There is no call point. (Nothing has been played back since loading this folder or take.)	
No Mark Point	There are no mark points.	You tried to skip to a mark before one was added. This disappears automatically after 2 seconds.
Now Working ... Do not remove Media.	An operation is in process, so do not remove the media.	
Operation failed.	The operation could not be completed for some reason.	
Operation failed. Cannot find this ***. Please Rebuild.	The selected folder/take could not be found, so the operation could not be completed. Rebuild the selected item.	***: Folder or take name
Operation failed. Internal File/Folder limit reached.	The maximum number of folders that can be created has been reached, so the operation could not be completed.	
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 folder (NEW FOLDER) or recording would result in a file path name of more than 255 characters because the lengths of folder names have been increased using a computer.
Operation Failed. Unmatched Fs.	The sampling frequency does not match.	

Message	Meaning and response	Note
Play Error Buffer underrun	Data reading could not keep up during playback.	
Play Error.	An error occurred during playback.	
Play Error. nnn: NNNNNNNN	A playback error occurred with the take of the displayed number and name.	nnn: take number NNNNNNNN: take name
Playlist Import completed but there are some wrong entries.	Importing a playlist has completed, but there are some incorrect entries.	
<PlayList Info> "ppppp" Size: **MB yyyy/mm/dd hh: mm	This shows playlist information.	pppppppp: playlist name
Playlist Load completed but there are some wrong entries.	Loading a playlist has completed, but there are some incorrect entries.	
PLEASE CONFIRM --- FULL FORMAT --- FORMAT MM? This will erase all DATA on card	Reconfirms that you want to full format the media	MM: SD, CF, or USB flash drive
PLEASE CONFIRM --- QUICK FORMAT --- FORMAT MM? This will erase all DATA on card	Reconfirms that you want to quick format the media	MM: SD, CF, or USB flash drive
PLEASE CONFIRM Copy MM to MM'? This will erase all DATA on MM'.	Reconfirms that you want to copy all of MM to MM'	MM: SD, CF, or USB flash drive MM': SD, CF, or USB flash drive
PLEASE CONFIRM Delete this File? "nnnnnnnn"	Reconfirms that you want to delete the selected file	nnnnnnnn: name of a file to delete
PLEASE CONFIRM Delete this Folder? "nnnnnnnn"	Reconfirms that you want to delete the selected folder	nnnnnnnn: name of a folder to delete
PLEASE CONFIRM Delete N selected take?	Reconfirms that you want to delete the selected takes	N: number selected
PLEASE CONFIRM Export System Backup Data to MM?	Reconfirms that you want to export system backup data to the media.	MM: SD or CF
PLEASE CONFIRM Import All System Backup Data from MM?	Reconfirms that you want to import all system backup data from the media.	MM: SD or CF
PLEASE CONFIRM Load Factory Preset?	Reconfirms that you want to load the factory settings.	
PLEASE CONFIRM Remaining Rec Time is less than N hour(s). Delete already uploaded takes?	Reconfirm. The available recording time is less than N hours. Delete the already uploaded takes.	N: set Auto SPACE Check remaining time
--- QUICK FORMAT --- FORMAT MM? This will erase all DATA on card	Quick formatting will be performed.	MM: SD, CF, or USB flash drive
--- QUICK FORMAT --- Formatting MM ...	Quick formatting is occurring.	MM: SD, CF, or USB flash drive
Reading DATA ...	DATA is being read.	
Reading Media ...	The media is being read.	
Rebuild all folders?	This will rebuild all folders.	
Rebuild changed Directory?	This will rebuild the changed directory.	This message appears when you operate a file on this unit via FTP or on the BROWSE screen, and then touch the REBUILD button with the B mark.

Message	Meaning and response	Note
Rebuild current folder and changed Directory?	This will rebuild the current folder and changed directory.	This message appears when you operate a file on this unit via FTP or on the BROWSE screen, and then touch the REBUILD button with the B mark.
Rebuild current folder?	This will rebuild the current folder.	
Rebuild failed	Rebuilding failed.	
Rebuild selected folder and changed Directory?	This will rebuild the selected folder and changed directory.	This message appears when you operate a file on this unit via FTP or on the BROWSE screen, and then touch the REBUILD button with the B mark.
Rebuild selected folder?	This will rebuild the selected folder.	
Rebuilding All folder …	All folders are being rebuilt.	
Rebuilding folder …	The folder is being rebuilt.	
RECORD Error	An error occurred during recording.	
RECORD Error Buffer overflow	The recording buffer became full during recording, and writing to the media could not keep up. .	
RECORD stopped. ABS time is over 24h.	The timeline mode's ABS time exceeded 24 hours so recording stopped.	
RECORD stopped. Media Full.	The media ran out of space, so recording stopped.	
Redo Completed	Redoing an edit has completed.	
Reload Timer Event List?	The timer event list will be reloaded.	
Remaining Rec Time is less than N hour(s). Delete already uploaded takes?	The available recording time is less than N hours. Delete the already uploaded takes.	N: Auto SPACE Check set remaining time
REMOTE/KEYBOARD Locked	The remote and keyboard connectors have been locked to prevent misoperation.	
Renaming folder "pppppp" to "nnnnnn"	The folder is being renamed.	ffffffff: old folder name ffffffff: new folder name
Save changes in Current EDL "sssssssss"	Is it okay to save changes to the current timeline?	sssssssss: name of AES31 editing information file
Save changes in Current Playlist "llllllll"	Save changes to the current playlist.	llllllll: playlist name
Save changes in Timer Event List?	Save changes to the timer event list .	
Save Failed.	Saving the file failed.	
Saving File ... Do not remove MM	The file is being saved. Do not remove the media.	MM: SD or CF
Screen Locked LCD Section Locked	LCD section controls have been locked to prevent misoperation.	
Screen Locked Touch Panel Locked Out	The touch screen has been locked to prevent misoperation.	
SD Card Locked	The LOCK switch on the SD card has been engaged.	
SD Card Locked Cannot Record/Edit	Cannot record or edit as the SD card has been locked.	This message appears when a locked SD card is inserted.
SD Media Full. SD: Stopped. CF: still RECORDING.	Recording to SD has stopped because the SD does not have enough space. Recording to CF is continuing.	Occurs when REC Mode is set to Mirror.
SD Record Error. SD: Stopped. CF: still RECORDING.	Recording to SD has stopped because an error occurred. Recording to CF is continuing.	Occurs when REC Mode is set to Mirror.
Select Insert Position [File T/C][Current Position]	Select a position where you want to insert a file between the file T/C position and current position.	
Select Paste Position [File T/C][Current Position]	Select a position where you want to paste a file between the file T/C position and current position.	
Sort all takes?	Sort all the takes.	
Take Copy failed.	Failed to copy the take.	
Take Delete failed.	Failed to delete the take.	

16 – Messages

Message	Meaning and response	Note
Take Export failed.	Failed to export the take.	
Take Load failed.	Loading of the take failed.	
There is no Entry.	The playlist does not have any entries, so playback is not possible. Select a playlist with entries or add entries to the current one.	
There is no folders. Please make a folder.	There is no folder so the recording cannot be made. Make a folder.	
There is no Take.	There is no take, so playback is not possible. Select a folder with takes.	
There are no uploaded takes to delete.	There are no already uploaded takes to delete.	
Timer Event List Screen is available only in Take mode.	The timer event list screen can only be viewed in take mode.	
This file was converted to BWF format.	The file format was converted to BWF.	This message appears when the Start timecode in the WAV file was edited.
This name already exists.	Another folder or take already has that name.	
This name already exists. Overwrite this file? "nnnnnnnn"	The same name already exists. Do you want to overwrite it?	nnnnnnnn: file name
Transport Locked Transport Section Locked	The transport keys have been locked to prevent misoperation.	
Undo Completed	Undoing an edit has completed.	
Unsupported File (too many tracks)	You tried to play a file with an unsupported number of tracks. Or, you tried to add such a file to a playlist	
Unsupported Fs	The sampling frequency of the file that you tried to add to a playlist is not supported.	
Upload N selected take(s) to FTP server?	This will upload the selected takes to the FTP server.	n: number of takes
Writing System File ...	Recording information is being written when recording has stopped.	

Audio resolution

■ Recording media

SD/SDHC cards
CompactFlash (CF) cards

■ File system

FAT32 (4 GB or more)
FAT16 (2 GB or less)

■ File formats

BWF (Broadcast Wave Format)
WAV (Waveform Audio File Format)

■ Number of channels

2 channels

■ Quantization bit depths

16-bit, 24-bit

■ Sampling frequencies

44.1/48/88.2/96/176.4/192 kHz

■ Clock reference types

INTERNAL, WORD IN, VIDEO IN, DIGITAL IN

■ Timecode frame rates

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

Inputs and outputs

Analog audio inputs and outputs

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

■ ANALOG IN L/R (BALANCED)

Connectors: XLR–3–31 (1: GND, 2: HOT, 3: COLD)
Input impedance: 4.3 kΩ
Nominal input level:
+4 dBu (1.23 Vrms) ±1 dB
(+6 dBu when maximum input level is set to +15 dBu)
(+6 dBu when Digital Ref. Level is set to –9 dB)
Maximum input level (selectable):

+15 dBu	(4.36 Vrms)	(D.Ref: –9 dBFS, A.Input: +6 dBu)
+18 dBu	(6.16 Vrms)	(D.Ref: –14 dBFS, A.Input: +4 dBu)
+20 dBu	(7.75 Vrms)	(D.Ref: –16 dBFS, A.Input: +4 dBu)
+22 dBu	(9.76 Vrms)	(D.Ref: –18 dBFS, A.Input: +4 dBu)
+24 dBu	(12.3 Vrms)	(D.Ref: –20 dBFS, A.Input: +4 dBu)

D. Ref: Digital Ref. Level setting
A. Input: Analog Input Ref. Level

■ ANALOG IN L/R (UNBALANCED)

Connectors: RCA pin jacks
Input impedance: 3.9 kΩ
Nominal input level: –10 dBV (0.316 Vrms) ±1 dB
Maximum input level: +6 dBV (2.0 Vrms) ±1 dB

■ ANALOG OUT L/R (BALANCED)

Connectors: XLR–3–32 (1: GND, 2: HOT, 3: COLD)
Output impedance: 100 Ω or less
Nominal output level:
+4 dBu (1.23 Vrms) ±1 dB
(+6 dBu when Digital Ref. Level is set to –9 dB)
Maximum output level (selectable):

+15 dBu	(4.36 Vrms)	(D.Ref: –9 dBFS, A.Output: +6 dBu)
+18 dBu	(6.16 Vrms)	(D.Ref: –14 dBFS, A.Output: +4 dBu)
+20 dBu	(7.75 Vrms)	(D.Ref: –16 dBFS, A.Output: +4 dBu)
+22 dBu	(9.76 Vrms)	(D.Ref: –18 dBFS, A.Output: +4 dBu)
+24 dBu	(12.3 Vrms)	(D.Ref: –20 dBFS, A.Output: +4 dBu)

D. Ref: Digital Ref. Level setting
A.Output: Analog Out Ref. Level setting

■ ANALOG OUT L/R (UNBALANCED)

Connectors: RCA pin jacks
Output impedance: 100 Ω or less
Nominal input level: –10 dBV (0.32 Vrms) ±1 dB
Maximum input level: +6 dBV (2.0 Vrms) ±1 dB

■ PHONES jack

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 inputs and outputs

■ DIGITAL IN (S/PDIF)

Connector: RCA pin jack
Input signal voltage amplitude: 200 mVp-p to 600 mVp-p/75 Ω
Input impedance: 75 Ω
Formats: AES3-2003/IEC60958-4 (AES/EBU)
IEC60958-3 (S/PDIF)
Supported sampling frequencies:
44.1/48/88.2/96/176.4/192 kHz (Single/Double/Quad)
When SRC is ON, the receivable range is 32–192 kHz.

■ DIGITAL IN (AES/EBU)

Connector: XLR–3–31
Input signal voltage range: 200 mVp–p to 10 Vp–p/110 Ω
Input impedance 110 Ω ±20%
Formats: AES3-2003/IEC60958-4 (AES/EBU)
IEC60958-3 (S/PDIF)
Supported sampling frequencies:
44.1/48/88.2/96/176.4/192kHz (Single/Double/Quad)
When SRC is ON, the receivable range is 32–192 kHz.

■ DIGITAL OUT (S/PDIF)

Connector: RCA pin jack
Output voltage: 0.5 Vpp ±20%/75 Ω
Input impedance: 75 Ω
Format: IEC60958-3 (S/PDIF)
Supported sampling frequencies:
44.1/48/88.2/96/176.4/192 kHz (Single/Double/Quad)

■ DIGITAL OUT (AES/EBU)

Connector: XLR–3–32
Output voltage: 2–5 Vp–p/110 Ω
Output impedance: 110 Ω ±20%
Format: IEC60958–4 (AES3–2003, AES/EBU)
Supported sampling frequencies:
44.1/48/88.2/96/176.4/192 kHz (Single/Double/Quad)

Control input/output ratings

■ RS–422 (attached with optional SY-2 board)

Connector: D–sub 9-pin (female, inch specification)

■ RS–232C

Connector: D–sub 9-pin (female, inch specification)

■ PARALLEL

Connector: D–sub 25-pin (female, inch specification)

■ TIMECODE IN (attached with optional SY-2 board)

Connector: BNC
Signal voltage amplitude: 0.5–5 Vp–p
Input impedance 10 kΩ
Format: SMPTE 12M–1999 compliant

■ TIMECODE OUT (attached with optional SY-2 board)

Connector: BNC
Signal voltage amplitude: 2 Vp–p
Output impedance: 600 Ω
Format: SMPTE 12M–1999 compliant

■ WORD/VIDEO IN

Connector: BNC
Input voltage: 5V TTL equivalent (WORD IN)
Signal voltage amplitude: 1 Vp–p (VIDEO IN)
Input impedance: 75 Ω ±10%
Allowable frequency deviation of external synchronization: ±100 ppm
Includes switch for enabling termination
Input frequencies (WORD):
44.1/48/88.2/96/176.4/192 kHz
Input signal (VIDEO):
24/25/29.97/30 Frame
(NTSC/PAL Black burst, HDTV Tri–Level)

■ WORD/VIDEO THRU/OUT

Connector: BNC
Signal voltage amplitude: 5V TTL equivalent
Output impedance: 75 Ω ±10%
Output frequency (WORD):
44.1/48/88.2/96/176.4/192 kHz
Frequency stability ±10 ppm or less (Ta = 20° C)
OUT/THRU switch included (OUT is only for WORD OUT)

■ ETHERNET

Connector: RJ45
Compatibility: 100BASE-TX, 1000BASE-T

■ KEYBOARD

Connector: Mini-DIN (PS/2)

■ USB

Connector: USB A-type 4-pin
Protocol: USB 2.0 HIGH SPEED (480 Mbps) compliant

■ REMOTE

Connector: RJ45
Supply voltage: 13 V
Signal: LVDS serial

Audio performance

Frequency response

ANALOG IN to ANALOG OUT:

- 20 Hz – 20 kHz: ±0.5 dB
  (Fs = 44.1/48 kHz, JEITA) (recording and playback)
- 20 Hz – 40 kHz: +0.5 dB/–2 dB
  (Fs = 88.2/96 kHz, JEITA) (recording and playback)
- 20 Hz – 80 kHz: +0.5 dB/–5 dB
  (Fs = 176.4/192 kHz, JEITA) (recording and playback)

Distortion

ANALOG IN to ANALOG OUT: 0.005% or less (JEITA) (recording and playback)

S/N ratio

ANALOG IN to ANALOG OUT: 100 dB or more (JEITA) (recording and playback)

General

Power

AC 100-240 V, 50–60 Hz

Power consumption

22 W

Dimensions (W × H × D)

482.6 x 94 x 314.1 mm (including protrusions)

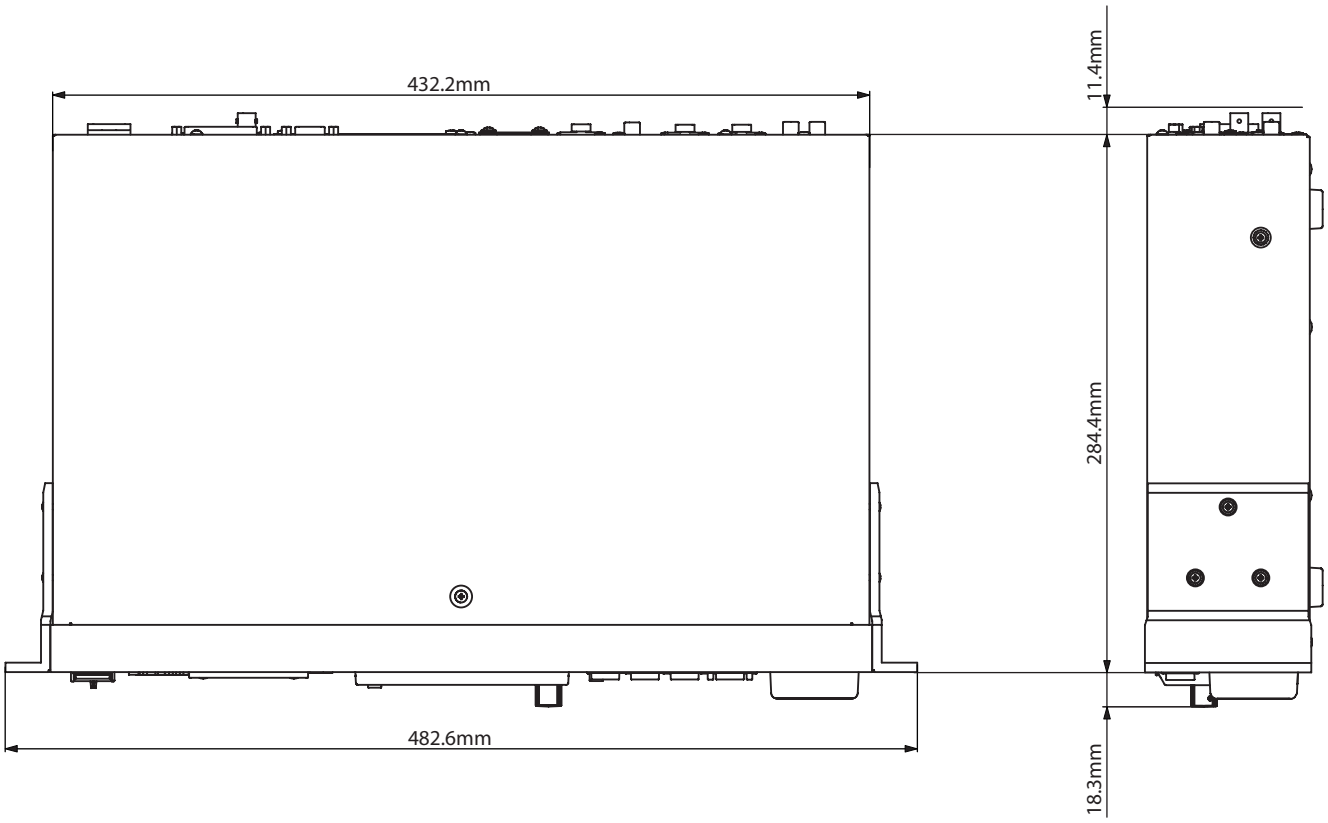
Weight

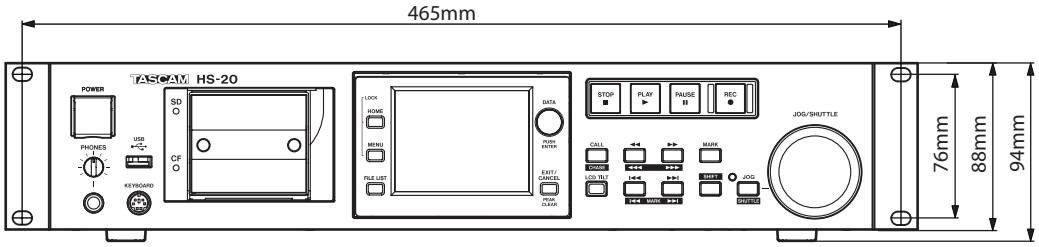
4.7 kg

Operating temperature range

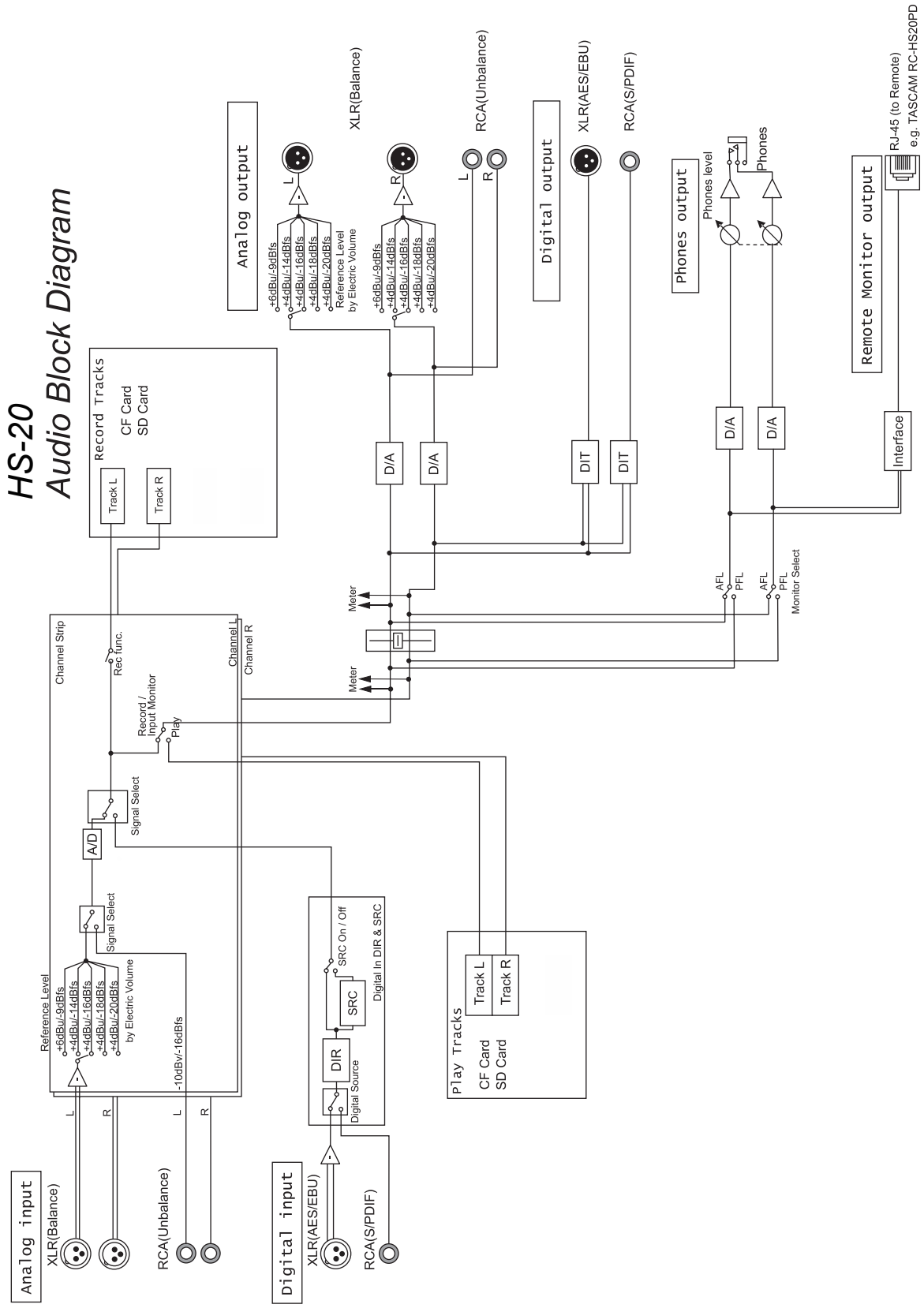
5–35ºC

Dimensional drawings





Block diagram



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