

For Customer in China

根据中华人民共和国信息产业部第39号令《电子信息产品污染控制管理办法》及标准中要求的“有毒有害物质或元素名称及含量”等信息，本产品相关信息请参考以下链接：
<http://pro.sony.com.cn>



SONY[®]

PORTABLE MEMORY RECORDER

SR-R4

CONTROL PANEL

SRK-CP1

出版日期：2012年12月

SR-R4
(SY)
4-412-781-06 (1)

Sony Corporation

<http://www.sony.net/>
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SRMASTER SRMemory

OPERATION MANUAL
1st Edition (Revised 5)

English



4412781060

Before operating the unit, please read this manual thoroughly and retain it for future reference.

WARNING

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

To avoid electrical shock, do not open the cabinet. Refer servicing to qualified personnel only.

Do not install the appliance in a confined space, such as book case or built-in cabinet.

IMPORTANT

The nameplate is located on the bottom of the left side.

WARNING

Excessive sound pressure from earphones and headphones can cause hearing loss. In order to use this product safely, avoid prolonged listening at excessive sound pressure levels.



Caution

Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

CLASS 1 LASER PRODUCT
LASERKLASSE 1 PRODUKT
LUOKAN 1 LASERLAITE
KLASS 1 LASERAPPARAT

This HD Portable Memory Recorder is classified as a CLASS 1 LASER PRODUCT.

Laser Diode Properties

Wavelength: 850 nm
Emission duration: Pulse modulation
Laser output power: 4 mW/channel (max)
Standard: IEC60825-1 (2007)

Egenskaber for laserdioder

Bølgelængde: 850 nm
Strålingsvarighed: Pulsmodulering
Afgivet lasereffekt: 4 mW/kanal (maks.)
Standard: IEC60825-1 (2007)

Laserdiod - Egenskaber

Våglängd: 850 nm
Strålningsvaraktighet: Pulsmodulation
Lasereffekt: 4 mW/kanal (max)
Standard: IEC60825-1 (2007)

Egenskaper for laserdioder

Bølgelengde: 850 nm
Strålingsvarighet: Pulsmodulasjon
Utgangseffekt for laser: 4 mW / kanal (maks.)
Standard: IEC60825-1 (2007)

VAROITUS!

LAITTEEN KÄYTTÄMINEN MUULLA KUIN TÄSSÄ KÄYTTÖOHJEESSA MAINITULLA TAVALLA SAATTAA ALTISTAA KÄYTTÄJÄN TURVALLISUUSLUOKAN 1 YLITTÄVÄLLE NÄKYMÄTTÖMÄLLE LASERSÄTEILYLLE.

WARNING

OM APPARATEN ANVÄNDS PÅ ANNAT SÄTT ÄN I DENNA BRUKSANVISNING SPECIFICERATS, KAN ANVÄNDAREN UTSÄTTAS FÖR OSYNLIG LASERSTRÅLNING, SOM ÖVERSKRIDER GRÄNSEN FÖR LASERKLASS 1.

Caution

The use of optical instruments with this product will increase eye hazard.

For the customers in the U.S.A.

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.

You are cautioned that any changes or modifications not expressly approved in this manual could void your authority to operate this equipment.

All interface cables used to connect peripherals must be shielded in order to comply with the limits for a digital device pursuant to Subpart B of Part 15 of FCC Rules.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

For the customers in Canada

This Class A digital apparatus complies with Canadian ICES-003.

For the customers in Europe

This product with the CE marking complies with the EMC Directive issued by the Commission of the European Community. Compliance with this directive implies conformity to the following European standards:

- EN55103-1 : Electromagnetic Interference (Emission)
- EN55103-2 : Electromagnetic Susceptibility (Immunity)

This product is intended for use in the following Electromagnetic Environments: E1 (residential), E2 (commercial and light

industrial), E3 (urban outdoors), E4 (controlled EMC environment, ex. TV studio).

For the customers in Europe

The manufacturer of this product is Sony Corporation, 1-7-1 Konan, Minato-ku, Tokyo, 108-0075 Japan. The Authorized Representative for EMC and product safety is Sony Deutschland GmbH, Hedelfinger Strasse 61, 70327 Stuttgart, Germany. For any service or guarantee matters please refer to the addresses given in separate service or guarantee documents.

注意

用户不得自行更换电池，应交由合格维修人员进行。如果电池更换不当会有爆炸危险。只能用同样类型或等效类型的电池来更换。

【电池使用安全须知】

- 不得将电池充电。
- 不得将电池投入火中，加热、分解或改造。
- 应使用指定种类的电池。
- 应使用推荐期限内的电池。
- 应按极性正确安装电池。
- 应及时取出耗尽电池。
- 不得将电池新旧混用。
- 不得将电池弃于水、海水，或弄湿。
- 不得将电池放在小孩容易触及的地方。
- 严禁直接焊接电池。
- 应正确安装电池以防止电池短路。

For the State of California, USA only

Perchlorate Material - special handling may apply, See www.dtsc.ca.gov/hazardouswaste/perchlorate
Perchlorate Material : Lithium battery contains perchlorate.

For the customers in Taiwan only



廢電池請回收

Avant d'utiliser l'appareil, veuillez lire attentivement ce manuel et le conserver pour future référence.

AVERTISSEMENT

Afin de réduire les risques d'incendie ou d'électrocution, ne pas exposer cet appareil à la pluie ou à l'humidité.

Afin d'écartier tout risque d'électrocution, garder le coffret fermé. Ne confier l'entretien de l'appareil qu'à un personnel qualifié.

Ne pas installer l'appareil dans un endroit confiné, par exemple une bibliothèque ou un placard encastré.

IMPORTANT

La plaque signalétique se situe sous le panneau de gauche.

AVERTISSEMENT

Une pression acoustique excessive en provenance des écouteurs ou du casque peut provoquer une baisse de l'acuité auditive.

Pour utiliser ce produit en toute sécurité, évitez l'écoute prolongée à des pressions sonores excessives.

CAUTION	CLASS 3B VISIBLE AND INVISIBLE LASER RADIATION WHEN OPEN. AVOID EXPOSURE TO THE BEAM.
ATTENTION	CLASS 3B RAYONNEMENT LASER VISIBLE ET INVISIBLE EN CAS D'OUVERTURE. EXPOSITION DANGEREUSE AU FASCICUL.
VORSICHT	KLASSE 3B SICHTBARE UND UNSICHTBARE LASERSTRAHLUNG, WENN ABDECKUNG GEÖFFNET. NICHT DEM STRAHL AUSSETZEN.
ADVARSEL	KLASSE 3B SYNLIG OG USYNLIG LASERSTRÅLING VED ÅBNING. UNDSÅ UDSÆTTELSE FOR STRÅLING.
ADVARSEL	KLASSE 3B SYNLIG OG USYNLIG LASERSTRÅLING NÄR DEKSEL ÅPNAS. UNNSÅ UTSÆTTELSE FOR STRÅLEN.
VARNING	KLASS 3B SYNLIIG OCH OSYNLIIG LASERSTRÅLING NÄR DENNA DEL ÄR ÖPPNAD. STRÅLEN ÄR FARLIG.
VARO!	KUUSI 3B NÄKYVÄ JA NÄKYMÄTÖN AVAATTAESSA OLET ALLITNA LASERSÄTELYLLÄ. ÄLÄ KATSO SÄTEESIEN.
注意	打开时有3B类可见及不可见激光辐射 避免光束照射

4-408-128-01

CLASS 1 LASER PRODUCT
LASER KLASSE 1 PRODUKT
LUOKAN 1 LASERLAITE
KLASS 1 LASERAPPARAT

Enregistreur mémoire portable HD est classée comme PRODUIT LASER DE CLASSE 1.

Pour les clients au Canada

Cet appareil numérique de la classe A est conforme à la norme NMB-003 du Canada.

Pour les clients en Europe

Ce produit portant la marque CE est conforme à la Directive sur la compatibilité électromagnétique (EMC) émise par la Commission de la Communauté européenne.

La conformité à cette directive implique la conformité aux normes européennes suivantes :

- EN55103-1 : Interférences électromagnétiques (émission)
- EN55103-2 : Sensibilité électromagnétique (immunité)

Ce produit est prévu pour être utilisé dans les environnements électromagnétiques suivants : E1 (résidentiel), E2 (commercial et industrie légère), E3 (urbain extérieur) et E4 (environnement EMC contrôlé, ex. studio de télévision).

Pour les clients en Europe

Le fabricant de ce produit est Sony Corporation, 1-7-1 Konan, Minato-ku, Tokyo, 108-0075 Japon.

Le représentant autorisé pour EMC et la sécurité des produits est Sony Deutschland GmbH, Hedelfinger Strasse 61, 70327 Stuttgart, Allemagne. Pour toute question concernant le service ou la garantie, veuillez consulter les adresses indiquées dans les documents de service ou de garantie séparés.

Bitte lesen Sie dieses Handbuch vor der Benutzung des Geräts sorgfältig durch und bewahren Sie es zum späteren Nachschlagen auf.

WARNUNG

Um die Gefahr von Bränden oder elektrischen Schlägen zu verringern, darf dieses Gerät nicht Regen oder Feuchtigkeit ausgesetzt werden.

Um einen elektrischen Schlag zu vermeiden, darf das Gehäuse nicht geöffnet werden. Überlassen Sie Wartungsarbeiten stets nur qualifiziertem Fachpersonal.

Das Gerät nicht an Orten aufstellen, z.B. in Bücherregalen oder Einbauschränken, wo keine ausreichende Belüftung gewährleistet ist.

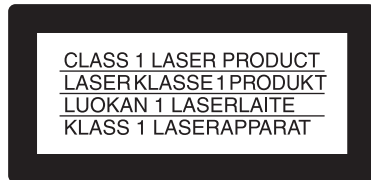
WICHTIG

Das Namensschild befindet sich auf der Unterseite der linken Wand.

WARNUNG

Zu hoher Schalldruck von Ohrhörern und Kopfhörern kann Gehörschäden verursachen.

Um dieses Produkt sicher zu verwenden, vermeiden Sie längeres Hören bei sehr hohen Schalldruckpegeln.



Dieser Tragbarer HD-Speicherrecorder ist als LASERPRODUKT DER KLASSE 1 eingestuft.

Daten der Laserdiode

Wellenlänge: 850 nm

Emissionsdauer: Pulsmodulation

Laser-Ausgangsleistung: 4 mW/Kanal (max.)

Standard: IEC60825-1 (2007)

Für Kunden in Europa

Dieses Produkt besitzt die CE-Kennzeichnung und erfüllt die EMV-Richtlinie der EG-Kommission.

Angewandte Normen:

- EN55103-1: Elektromagnetische Verträglichkeit (Störaussendung)
- EN55103-2: Elektromagnetische Verträglichkeit (Störfestigkeit)

Für die folgenden elektromagnetischen Umgebungen: E1 (Wohnbereich), E2 (kommerzieller und in beschränktem Maße industrieller Bereich), E3 (Stadtbereich im Freien) und E4 (kontrollierter EMV-Bereich, z.B. Fernsehstudio).

Für Kunden in Europa

Der Hersteller dieses Produkts ist Sony Corporation, 1-7-1 Konan, Minato-ku, Tokyo, 108-0075 Japan.

Der autorisierte Repräsentant für EMV und Produktsicherheit ist Sony Deutschland GmbH, Hedelfinger Strasse 61, 70327 Stuttgart, Deutschland. Bei jeglichen Angelegenheiten in Bezug auf Kundendienst oder Garantie wenden Sie sich bitte an die in den separaten Kundendienst- oder Garantiedokumenten aufgeführten Anschriften.

Table of Contents

Chapter 1 : Overview

Features.....	9
System Configuration Example.....	9
Names of Parts.....	10
Overall View	10
Left Side View.....	10
Rear and Right Side View.....	11
Control Panel (SRK-CPI, Option).....	12
Display.....	13

Chapter 2 : Preparation

Work Flow	15
Mount Control Panel on Unit	15
Connect F65.....	17
Mount Control Panel on the F65	19
Attach the Battery Pack	20
Turn Power On	21
Insert SRMemory Card	22
Formatting an SRMemory Card (File System Format)	23

Chapter 3 : Basic Menu Operations

Buttons Used for Menu Operations	24
Serve for Selecting a Menu	24
Locking the Controls.....	25
Signal Format Settings	26
Selecting the Signal Format	26
Display Settings	27
Using the Backlight.....	27
Using the Screen Saver.....	27

Date Settings	27
---------------------	----

Chapter 4 : Recording and Playback

Recording Preparations and Operations	28
Setting the Audio Signals	28
Setting the Recording Levels.....	29
Setting the Time Code and User Bits	30
Recording	33

Playback Preparations and Operations	34
Making Settings Related to Audio Monitor Signals.....	34
Adjusting Playback Audio Levels	34
Selecting the Time Data to Display During Playback	34
Playback	34
Jog Mode	35
Shuttle Mode	35
Standby Off Mode	35

How to Use the Recording and Playback Operation Buttons.....	36
---	----

Cuing Files	38
MARK IN Function.....	38
Cuing via Time Code Entry (IN Points).....	38

FILE LIST Operations	39
Displaying a File List	39
Performing File Operations	41
Changing the File Display Order	41
Displaying and Opening MARK IN Points.....	42

SR Motion	43
SR Motion Operation Flow	47
Select FPS Function	47

File Naming System 50

When the Camera ID is
Changed..... 79

Chapter 5 : Menu Details

TC Setup Menu 52
AUDIO Setup Menu 55
SYSTEM Setup Menu 57

About “Memory Stick” Media..... 79

**MPEG-4 VISUAL PATENT
PORTFOLIO LICENSE..... 81**

Index 82

**SR-R4 Supported Formats and
Maximum Recording Times
(Approximate) 84**

Appendix

Maintenance and Inspections..... 64

Note About the CAMERA
Connector 64
Cleaning the CAMERA
Connector 64

Specifications 65

General 65
Video 65
Audio 65
Input/Output Connectors 66
Supplied Accessories..... 66
Optional Accessories..... 66

Error Messages and Warning

Messages 67
About Error Messages 67
About Warning Messages 68

Warning System 71

Troubleshooting 73

About Recording/Playback

Formats..... 76

Lip Sync Correction..... 77

Video Signal Delay Durations in
Relation to Audio Inputs..... 77

**Automatic File Name Configuration in
Response to Changes in SRMemory**

Cards and Settings..... 78
During Normal Operation 78
When an SRMemory Card with
Different Camera ID and Reel
Number Information is
Inserted..... 78

Chapter 1 Overview

Features

The SR-R4 is a portable memory recorder of the SRMASTER series, featuring an F65 dockable CAMERA port and using the newly developed SRMemory card for the recording media.

SRMASTER and SRMemory are trademarks of Sony Corporation.

F65RAW / F65RAW-HFR / HD SStP recording

Supports F65RAW and HD SStP recording. F65RAW-HFR recording is also supported. There is 16-channel (uncompressed, 24-bit, 48 kHz) support for audio.

F65 dockable operation

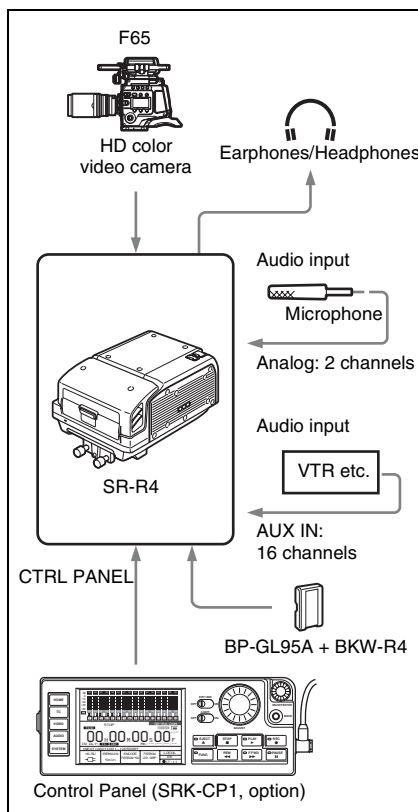
Supports dockable operation in combination with the F65.

SR Motion

The SR Motion function is incorporated as standard, enabling recordings with slow and quick motion effects while maintaining high image quality. Up to 120 frames are supported for F65RAW-HFR recording.

System Configuration Example

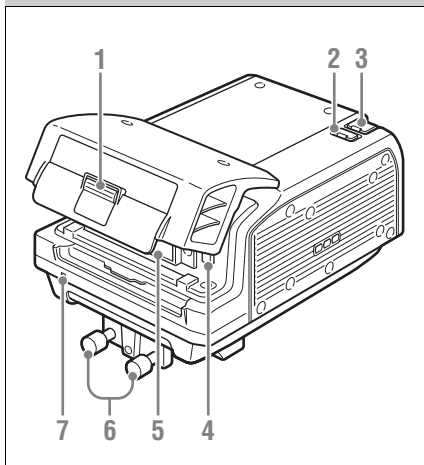
The following figure shows a system configured around the SR-R4.



Names of Parts

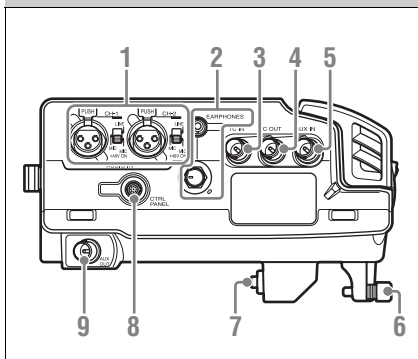
For detailed information on functions and usage, see the pages indicated in brackets.

Overall View



1. **Lid open/close button** (page 22)
2. **Tally indicator** (page 22)
Lights up during recording.
Flashes as a warning indication when an error or problem has occurred.
3. **POWER (power supply) indicator** (page 21)
Lights up in green when power to the unit is on.
4. **EJECT button** (page 23)
5. **SRMemory card slot** (page 22)
6. **Docking screws** (page 18)
7. **LID LOCK indicator** (page 22)
Lights up in orange when an SRMemory card is mounted.

Left Side View



1. **AUDIO INPUT CH-1, CH-2 (analog audio input channel 1, 2) connectors (3-pin XLR, female) and input selection switches**

Set the input selection switches as follows, depending on the type and level of the input audio.

LINE: For line input

MIC: For microphone input

MIC +48V ON: For input from microphones with external power supply

2. **EARPHONES jack (stereo mini jack) and LEVEL knob**

Adjusts the audio level.

A warning/alarm tone is also output via this jack when an error is detected.

3. **TC IN (time code input) connector (BNC)**

Connect to the time code output connector of an external device such as a time code generator or VTR. Use this connector when locking the internal time code generator to external time code.

4. **TC OUT (time code output) connector (BNC)**

Connect to the time code input connector of an external device such as a time code reader or VTR. Signal is supplied according to setting made from TC Setup menu, OTHERS >TC OUT. (see page 54)

5. **AUX IN (HD SDI embedded audio input) connector (BNC) (page 55)**

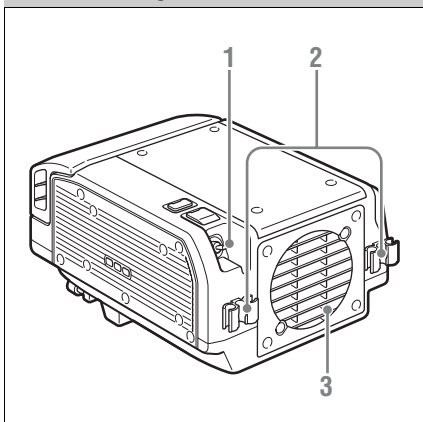
Accepts audio input in up to 16 channels.

Note

When using the AUX IN connector, an HD SDI signal that is synchronized with the F65 docked to the unit must be input.

6. Docking screws (*page 18*)
7. CAMERA connector (*page 17*)
8. CTRL PANEL (Control Panel) connector (*page 16*)
9. AUX OUT connector (for future use)

Rear and Right Side View



1. Power switch (*page 21*)

Setting the switch to the I side turns power on, and setting the switch to the ⏏ side turns power off.

2. Cable clamp (*page 16*)

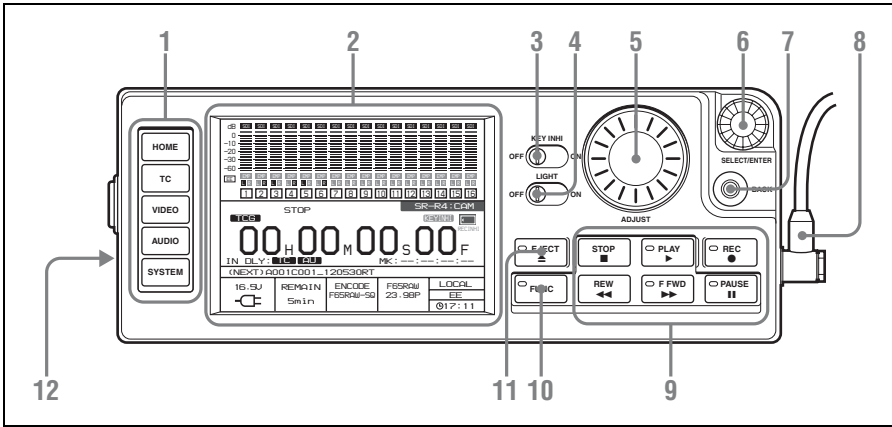
3. Fan

Note

Do not block the ventilation openings. Otherwise internal heat buildup can lead to a risk of fire and damage to the unit.

Control Panel (SRK-CP1, Option)

For information on how to use the control panel, see “Basic Menu Operations” (page 24).



1. Menu selection buttons (page 24)

For information on menu items, see “Menu Details” (page 52).

2. Display (page 13)

3. KEY INHI (key inhibit) switch (page 25)

4. LIGHT switch (page 27)

Setting this switch to ON turns the backlight on.

5. ADJUST knob

Serves to adjust audio levels etc. This is also used during jog/shuttle mode operations.

For details on jog/shuttle mode, see “Jog Mode” (page 35), “Shuttle Mode” (page 35).

6. SELECT/ENTER dial (page 24)

Serves to make menu selections etc. Rotate the dial to move the cursor and press the dial to change and confirm settings.

7. BACK button (page 24)

When a menu is displayed, you can press this button to back up one level in the menu structure.

8. Control panel connection cable (page 16)

9. Record/Play buttons (page 33, 34, 36)

Use these buttons to play recordings and files.

The functions of the buttons change when they are pressed together with the FUNC button.

10. FUNC (Function) button (page 36)

Holding down this button changes the operation of the Record/Play buttons.

11. EJECT button and indicator (page 23)

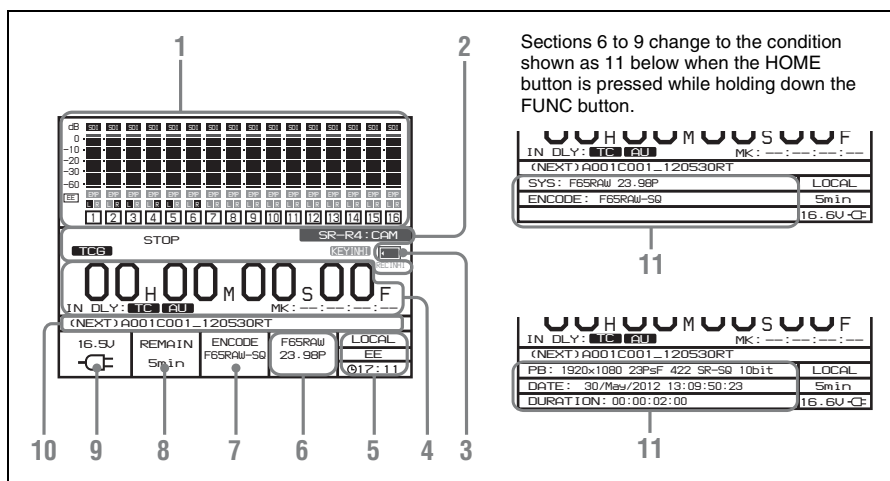
12. “Memory Stick” slot (page 79)

Note on faulty pixels on the LCD panel

The LCD panel fitted to this unit is manufactured with high precision technology, giving a functioning pixel ratio of at least 99.99%. Thus a very small proportion of pixels maybe “stuck”, either always off (black), always on (red, green, or blue), or flashing. In addition, over a long period of use, because of the physical characteristics of the liquid crystal display, such “stuck” pixels may appear spontaneously. These problems are not a malfunction. Note that any such problems have no effect on recorded data.

Display

The condition shown below is called the HOME screen in this manual.



1. Audio level meters

Show the recording level in recording and E-E mode. During playback, the meters show the playback level.

The top row indicates the audio input signal that is being recorded.

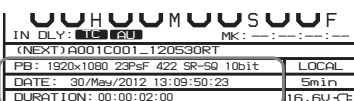
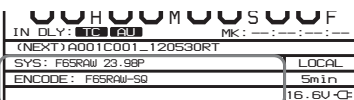
The numbers 1 to 16 in the bottom row indicate the track number of the file.

2. Operation status and warning indicator

Shows the operation status of the unit as well as various warning indications.

SR-R4: CAM	When the F65 is connected, "CAM" is also displayed.
TCR/TCG/ UBR/UBG/ TM1/TM2	Time data type.
LTC/VITC	Time code is being shown.
DF/NDF	System is in DF (drop-frame) or NDF (non-drop frame) mode. (see page 53)
EXT-LK	Time code is locked to external time code. When the power is turned off, the display disappears.
KEY INHI	KEY INHI switch is ON. (see page 25)
PROTECT	The write protect switch on the SRMemory card is set to write protect.

Sections 6 to 9 change to the condition shown as 11 below when the HOME button is pressed while holding down the FUNC button.



REC INHI Recording inhibit is enabled with the REC INHI setting of the SYSTEM Setup menu. (see page 61)

FS LOCK The file system of the SRMemory card is locked. (see page 63)

3. SRMemory card icon indications



Mounting/mounted
An SRMemory card is inserted and the lid is locked.



Unmounting/UNMOUNT state
The EJECT button has been pressed and the unit is transitioning to the state in which you can remove the SRMemory card./The lid lock has been released and the SRMemory card can be removed.



There is no SRMemory card in the unit. (off)

4. Time data indication

Shows the time data for the current position in the file.

If recording cannot start on the F65, the time data will blink as a warning.

5. Status indication

Shows the control mode of the unit (LOCAL), power mode (EE), and current time.

Top row	Shows LOCAL always.
Middle row	Shows EE always.
Bottom row	Shows the current time.

6. Signal format indication

Shows the format of the signal being recorded.

7. Encoding format indication (page 76)

Shows the encoding and bit rate settings used for recording.

8. SRMemory card remaining capacity indication

Shows the remaining space on the SRMemory card calculated as remaining time, using the current recording settings.

When the remaining time is less than 2 minutes, the indication flashes.

Two rows will be displayed for Select FPS format.

Top row TC: Remaining capacity displayed as a progressing time code.

Bottom row REC: Remaining recording time at the current fps.

9. Power supply voltage indication (page 21)

Shows the power supply voltage as measured by the unit.

This display may differ from that of the F65.

10. Recording/playback file name indication

A recording/playback file name and the number of files are always displayed. Marks that are attached to files indicating file lock, flags, and converted playback are also displayed.

When the next recording file is prepared, “(NEXT)” appears followed by the next file name. (see page 78)

You can have the background color change according to the operation mode (red for recording and green for playback).

For details on this setting, see “MODE COLOR” (page 60).

11. Signal format indication (page 26)

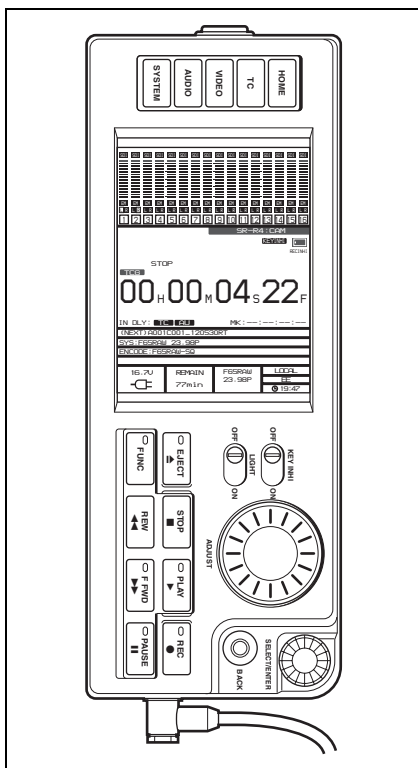
When the FUNC and HOME buttons are pressed simultaneously, the signal formats are displayed from top to bottom in system, encoding, or in playback file output, recording date, duration sequence.

To switch display to portrait mode

Press the HOME button while holding down the FUNC and BACK buttons to switch the display to portrait mode (rotate display 90° to the left).

To return to landscape mode, press the HOME button again while holding down the FUNC and BACK buttons.

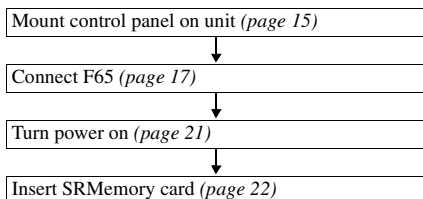
You can also change the setting in the SYSTEM Setup menu >LCD >LCD MODE menu. (see page 60)



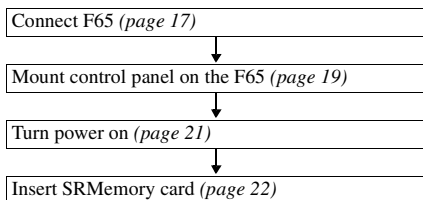
Work Flow

The steps that are required before starting to use the SR-R4 are listed below.

When mounting Control Panel (SRK-CP1, Option) on the unit



When mounting Control Panel (SRK-CP1, Option) on the F65



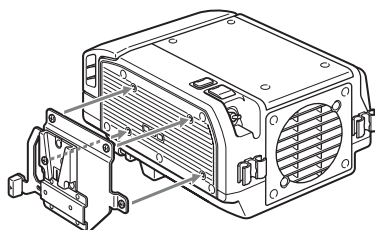
Tip

A Phillips (cross head) screwdriver is required for mounting the control panel.

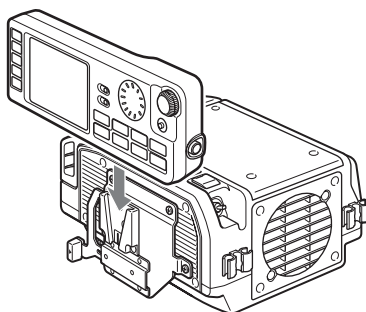
Mount Control Panel on Unit

Attach the CP bracket supplied with the Control Panel (SRK-CP1, Option) to the unit, and connect the unit and the control panel with the control panel cable.

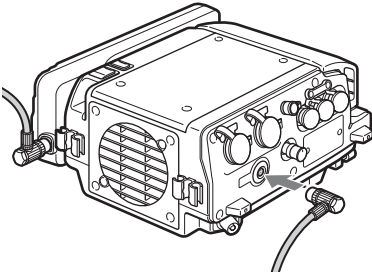
- 1 Attach the CP bracket supplied with the control panel to the right side of the unit.



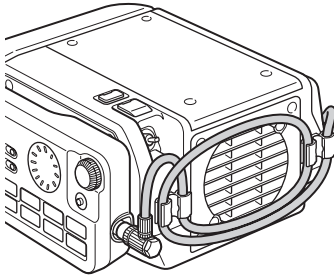
- 2 Slide the control panel into the CP bracket.



- 3 Use the supplied control panel cable to connect the unit and the control panel.**



- 4 Use the cable clamp as shown, to fix the cable.**



Notes

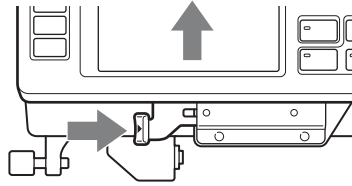
- Do not cross the cord below the clamps.
- Make sure that the bottom of the cord does not extend beyond the bottom of the SR-R4.
- If the SR-R4 cannot be docked on the F65, refer to the above and check the cord bundle again.

Note

Always turn off the power supply for the unit before disconnecting the control panel cable and removing the control panel.

To remove the control panel

Grasp the underside of the CP bracket and push it in the ► direction to release the lock. Then slide the control panel out.



Connect F65

The unit mounts onto the rear of the F65.

Tips

- When mounting the unit, first mount the F65 on a tripod and secure it such that it does not move.

For details of mounting on a tripod, refer to the Operation Manual for the F65.

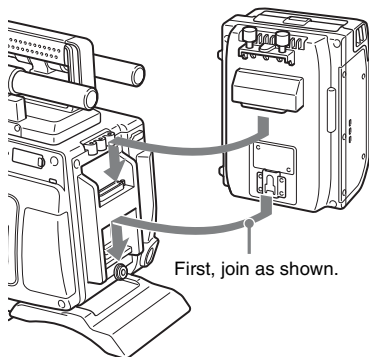
- When mounting the unit, do so in an environment relatively free from dust, etc.

1 Remove the connector cap from the CAMERA connector of the unit.

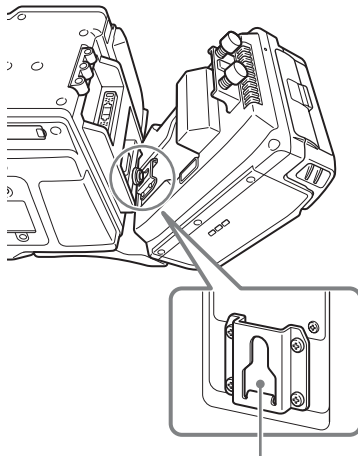
Tip

Store the connector cap in a safe location so that you do not lose it.

2 Align and connect the CAMERA connector of the unit with the F65 connector.

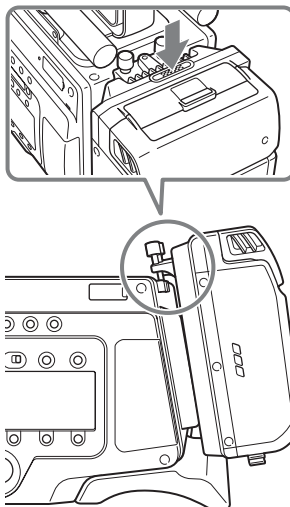


- ① Align the base of the unit with the base of the F65 as shown in the diagram.



Couple the unit in the orientation shown.

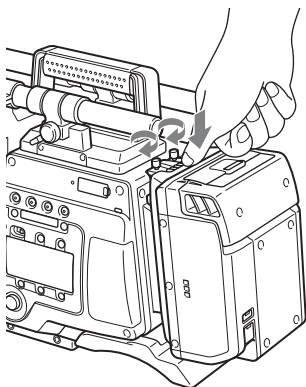
- ② Align the CAMERA connector of the unit with the F65 dock connector, and push the unit down.



- 3** Press down firmly on the point shown in the diagram, and fasten the docking screws.

Note

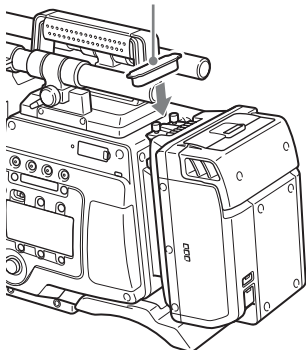
Do not push down on the lid.



Tip

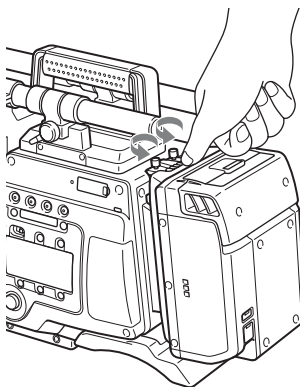
You can leave the connector cap, which was removed from the CAMERA connector, attached to the docking screws.

Connector cap

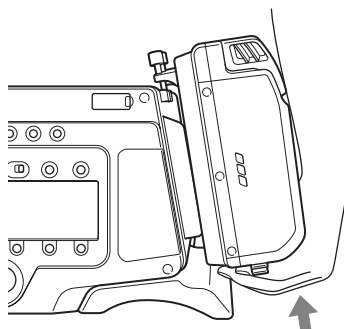


Removing the Unit from the F65

- 1** Press down firmly on the point shown in the diagram, and loosen the docking screws.



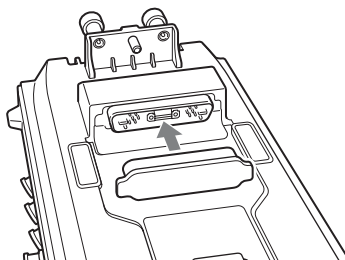
- 2** Remove the unit by lifting it. When lifting, hold the unit as close as possible to the F65 and pull it up.



Note

Do not push on the ventilation openings.

- 3** Attach the connector cap to the CAMERA connector of the unit.

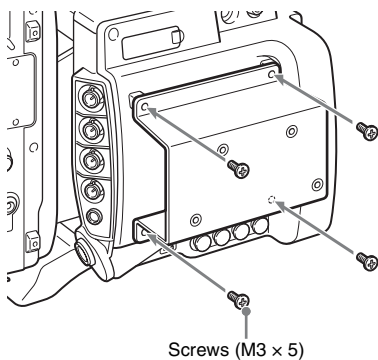


Mount Control Panel on the F65

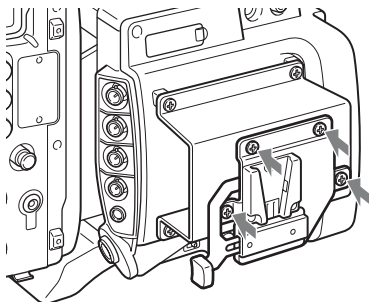
Attach the Control Panel (SRK-CP1, Option) to the F65, and connect the unit and the control panel with the control panel cable.

- 1 Attach the outside bracket supplied with the control panel to the side of the F65, and fasten using the 4 supplied screws (M3 × 5).**

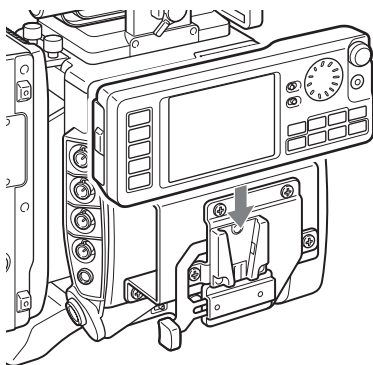
There are 2 types of outside bracket. Attach the larger outside bracket to an F65 with a mechanical shutter or the smaller outside bracket to an F65 without a mechanical shutter.



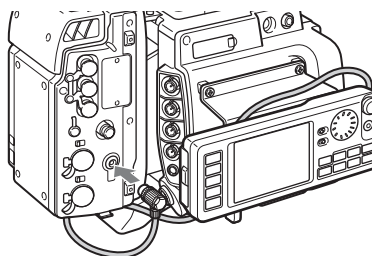
- 2 Attach the CP Bracket to the outside bracket.**



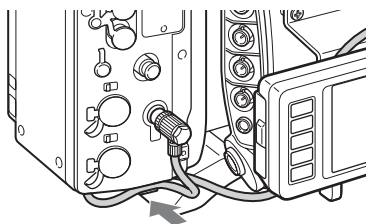
- 3 Slide the control panel into the CP bracket.**



- 4 Use the supplied control panel cable to connect the unit and the control panel.**



- 5 Use the cable clamp as shown to fix the cable.**

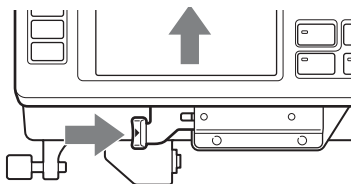


Note

Always turn off the power supply for the unit before disconnecting the control panel cable and removing the control panel.

To remove the control panel

Grasp the underside of the CP bracket and push it in the ► direction to release the lock. Then slide the control panel out.



Attach the Battery Pack

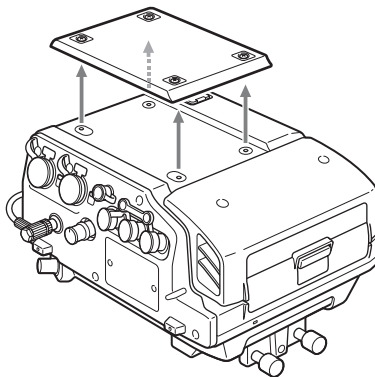
To attach the battery pack, the following options must be installed using the BKP spacer supplied with the unit.

- BKP-L551 battery pack adapter (power supply for accessories)
- BKW-R4 battery pack adapter (power supply for the F65)

Note

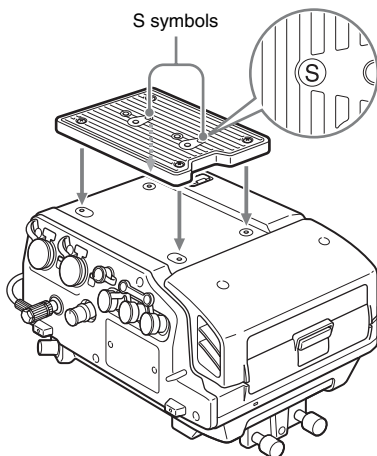
Power cannot be supplied directly to the unit from the battery pack.

1 Remove the top cover of the unit.



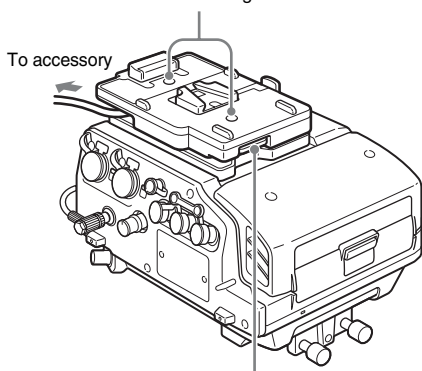
2 Attach the supplied BKP spacer.

The S symbol must face up.



3 Attach the BKP-L551 using the screw holes labeled with an S symbol, and fasten.

BKP-L551 fastening L screws



BKP-L551 fastening L wrench

Turn Power On

To power up the unit

1 Press the power switch on the SR-R4 on the I side.

2 Set the F65 POWER OFF/ON switch to ON.

The power comes on together with the F65 and the POWER indicator lights up in green.

To power down the unit

1 Set the F65 POWER OFF/ON switch to OFF.

The power is turned off together with the F65 and the POWER indicator goes out.

Note

To prevent the risk of data corruption, do not interrupt the F65 DC IN power supply while the SR-R4 is turned on.

Tip

If power switch is turned off while an SRMemory card is mounted, the unit will not power down immediately, to protect the data on the card. The SRMemory card will be unmounted first, and then the unit powers down.

Checking the power/voltage

The indication at the bottom left of the control panel display serves to verify the battery status or the voltage of the external power supply.

However, this indication is not based on the actual connection condition but on the setting made under SYSTEM Setup > BATTERY > DCIN TYPE. (see page 62)

Set DCIN TYPE to match the power supply used by the F65.

Tips

- When signal format is shown, the indication appears at bottom right.

- The voltage shown is the actual voltage used by the unit (this may be lower than the input voltage and the F65 DC IN connector).

When a battery pack is selected

The battery symbol is shown.

16.5V



- When fully charged, all seven segments are lit. As the battery pack discharges, the segments go out from left to right.
- When the battery pack is almost exhausted (NEAR END), the voltage indication and the tally indicator start to flash, and an intermittent warning tone sounds in the earphones.
- When the battery pack is completely exhausted (END), the corresponding warning indication lights, the tally indicator starts to flash at a higher rate, and the earphones warning tone sounds continuously.

Tip

The BATTERY option in the SYSTEM Setup menu allows you to set the battery voltages which trigger the NEAR END and END warnings. (see page 62)

When AC power is selected

The connector symbol is shown.

16.5V



Insert SRMemory Card

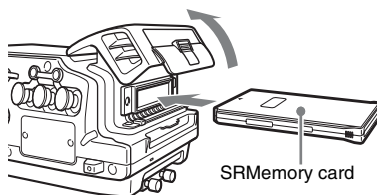
Supported SRMemory cards

For details on SRMemory cards supported by the unit, see “SR-R4 Supported Formats and Maximum Recording Times (Approximate)” (page 84).

To insert the SRMemory card

- 1 **Press the lid open/close button to open the lid of the SRMemory card slot and insert the SRMemory card.**

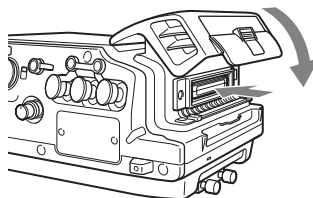
Take care to insert the SRMemory card with the correct orientation.



Tip

If the LID LOCK indicator is lit in orange, showing that the lid is locked, press the EJECT button on the control panel to unmount the card first, and then open the lid.

- 2 **Push the SRMemory card all the way in and close the lid.**



The SRMemory card is mounted, and the LID LOCK indicator lights up in orange. Verify that no error message is shown on the control panel display.

Tip

When closing the lid, make sure to close it all the way until it will go no further.

If a message prompting you to salvage or format the SRMemory card appears on the display

This indicates that the previous recording did not complete normally.

For information on what to do in this case, see “Salvaging SRMemory cards for which recording did not complete properly” (page 73) in the “Troubleshooting” section.

To remove the SRMemory card

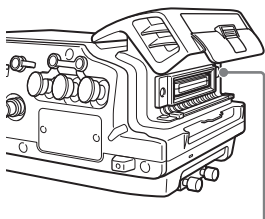
1 Press the EJECT button on the control panel while power to the unit is on or turn the power to the unit off.

The files in the SRMemory card are closed automatically, the SRMemory card is unmounted, and the lock of the lid is released.

During the unmount procedure, the indicator of the EJECT button on the control panel is lit. The tally indicator also flashes during this time.

2 Press the lid open/close button to open the lid.

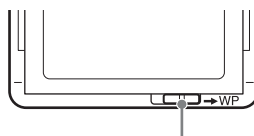
3 Press the EJECT button on the right side of the slot to remove the SRMemory card.



Pressing this button causes the SRMemory card to pop out.

Write-protecting the card

In order to prevent inadvertent erasure of recorded content, you can slide the write-protect switch to “WP.”



Write-protect switch Slide fully to the right.

When the card is inserted in the SR-R4 in this condition, the indication “REC INHI” appears, and recording is not possible.

To re-enable recording on this card, return the write-protect switch to the original condition.

Formatting an SRMemory Card (File System Format)

SRMemory cards are sold already formatted, so you can use a newly purchased SRMemory card right away.

To format an SRMemory card on which data were recorded, proceed as follows.

Note

Formatting will erase all files and data on the SRMemory card.

For details on menu operation, see “Basic Menu Operations” (page 24).

1 Press the SYSTEM button.

The SYSTEM Setup menu appears.

2 Select and confirm “SRMemory” → select and confirm “FORMAT” → move the cursor to [OK] and confirm while pressing the FUNC button.

The file system formatting process starts. When the process is finished, the indication “Completed” is shown.

3 Return to the HOME screen. (see page 25)

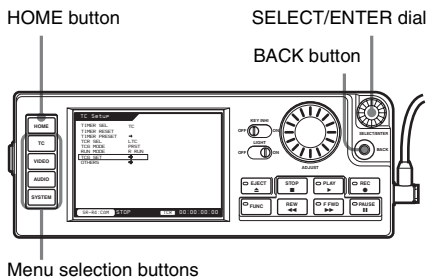
The menu system of the SR-R4 consists of the following four menus.

Menu	Overview
TC Setup	Serves for making time code settings.
AUDIO Setup	Serves for making audio signal related settings.
SYSTEM Setup	Serves for making system settings.

For details on menu items, see “Menu Details” (page 52).

The menu is operated with the control panel.

Buttons Used for Menu Operations



Serve for Selecting a Menu

Selecting a menu

Press the respective menu selection button.

TC: Brings up the TC Setup menu.

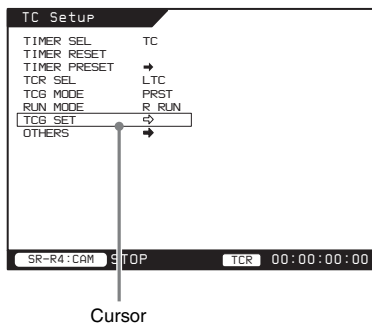
AUDIO: Brings up the AUDIO Setup menu.

SYSTEM: Brings up the SYSTEM Setup menu.

Selecting and making settings within a menu

Example: TC Setup menu

- 1 Rotate the **SELECT/ENTER** dial to move the cursor to the target item, and press the **SELECT/ENTER** dial.

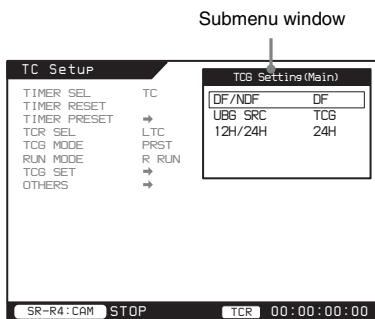


Cursor

A submenu for the selected item appears, and the cursor moves to the submenu.

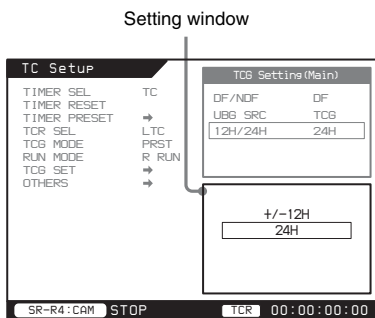
If the selected item is a command, the command is executed.

- 2 Rotate the SELECT/ENTER dial to move the cursor to the target item, and press the SELECT/ENTER dial.



A setting window appears, and the cursor moves to the setting window.

- 3 Rotate the SELECT/ENTER dial to select the desired setting, and press the SELECT/ENTER dial to accept the setting.



To return to an upper level

Press the BACK button.

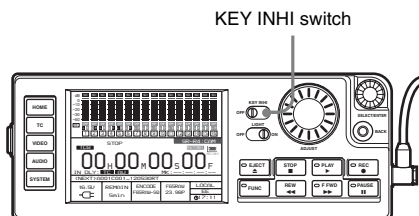
To return to the HOME screen

Press the HOME button or press the BACK button repeatedly.

Locking the Controls

To prevent operation errors or an inadvertent change in settings, the controls of the unit can be locked.

Access the SYSTEM Setup menu and set KEY INHI to "ALL" (see page 61), and then slide the KEY INHI switch to ON.



ON: All controls of the unit are inactive.

OFF: During recording, the STOP and PAUSE keys are active, and all other controls are inactive. (When not recording, all controls of the unit are inactive.)

Tip

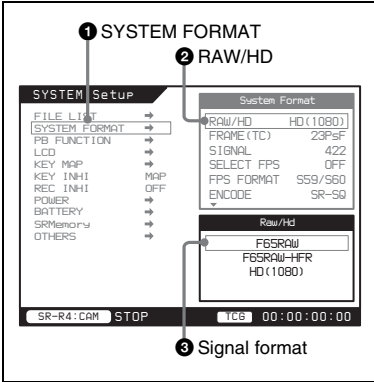
When KEY INHI in the SYSTEM Setup menu is set to "Map", the "KEYMAP" settings apply. (see page 61)

Signal Format Settings

Selecting the Signal Format

Making “SYSTEM FORMAT” settings

- 1 Press the **SYSTEM** button.
The SYSTEM Setup menu appears.
- 2 **1** Select “**SYSTEM FORMAT**”, and confirm → **2** select “**RAW/HD**”, and confirm → **3** select the format to use, and confirm.



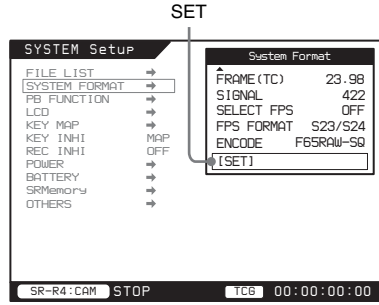
Return to submenu window.

- 3 Make settings for **FRAME(TC)**, **SIGNAL**, **SELECT FPS**, **FPS FORMAT**, and **ENC MODE** in the same way.

Note

Setting items that are disabled due to the configurations of upper level items will be displayed in gray.

In addition, setting items for which invalid values are selected will be displayed in orange. Change the values for such items.



- 4 After settings are complete, select **SET**.
The settings complete message is shown, and the HOME screen appears again.

Note

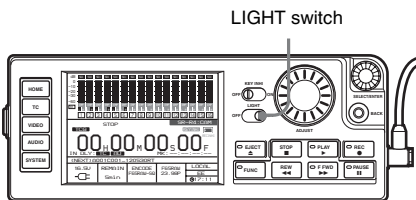
If you changed “RAW/HD” in **2** of step 2, “POWER ON/OFF F65” appears. Turn the power switch on the F65 off and then on again.

Display Settings

You can make settings for backlight use in dark locations, screen saver, etc.

Using the Backlight

Setting the LIGHT switch to ON turns the backlight on.



Adjusting the backlight brightness

Access the SYSTEM Setup menu and select LCD > BRIGHT (see page 60). The Backlight Brightness window appears, letting you adjust the setting.

Turning the backlight off after a period of inactivity

Access the SYSTEM Setup and select LCD > LIGHT OFF (see page 60). The Backlight Off Timer window appears, letting you adjust the backlight activation duration. The setting range is 5 seconds to 5 minutes. To disable automatic backlight deactivation, select "Disable."

Default setting: Disable

Using the Screen Saver

Access the SYSTEM Setup menu and select LCD > SAVER (see page 60). The Screen Saver window appears, letting you adjust the wait interval until the screen saver is activated. The setting range is 1 minute to 1 hour. To disable the screen saver, select "Disable."

Default setting: Disable

Date Settings

Display the System menu and select OTHERS > SET DATE menu to set the date and time of the unit.

To set the date and time (OTHERS > SET DATE menu)

- 1 Display the System menu, and then select and confirm "OTHERS" → select and confirm "SET DATE."
- 2 Set the year, month, day, local time, and UTC (Coordinated Universal Time) offset (e.g., +9:00 for Japan), and then select and confirm [SET].

Note

Time information is recorded to SRMemory cards in UTC format and is displayed using the offset value as its base.

Recording Preparations and Operations

Before recording, make the following preparations.

Recording preparations

Preparation	Operation	Reference
Set the date and time for the unit.	OTHERS >SET DATE in the SYSTEM Setup menu	page 27
Select the format signals to record.	SYSTEM FORMAT in the SYSTEM Setup menu	page 26
Select the audio signals to record.	INPUT SEL in the AUDIO Setup menu	page 28
Set the audio signals to monitor.	PHONE SEL in the AUDIO Setup menu	page 29
Set the display range of the audio level meters.	METER TYPE in the AUDIO Setup menu	page 30
Set the recording levels.	REC LEVEL in the AUDIO Setup menu	page 30
Adjust the levels of audio signals output via the EARPHONES jack.	Rotate the LEVEL knob of the EARPHONES jack.	page 10
Cancel record inhibit if the system is set to record inhibit mode.	REC INHI in the SYSTEM Setup menu	page 33
Select the time data to display.	TIMER SEL in the TC Setup menu	page 30

Preparation	Operation	Reference
Set time code generator operation in accordance with the time code and user bits to record.	RUN MODE, and TCG MODE in the TC Setup menu	page 31

Configure the other related menu settings as necessary.

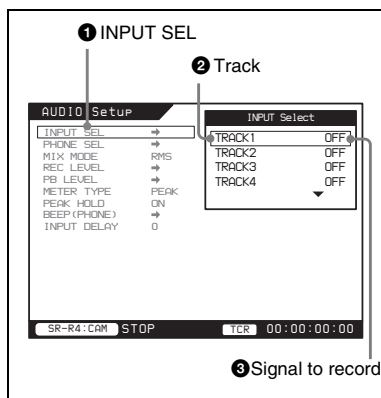
Setting the Audio Signals

Use the AUDIO Setup menu to make settings related to audio signals. Press the AUDIO button to display the AUDIO Setup menu.

To select the audio signals to record

Select the audio signal to record for each track.

- 1 Display the AUDIO Setup menu and then ① select and confirm “INPUT SEL” → ② select and confirm the track (TRACK1 to TRACK16) → ③ select and confirm the signal to record.



ANA1 to ANA2: Analog signals input via the AUDIO INPUT CH-1 and CH-2 connectors.

OFF: Does not record a signal (silence).

AUX 1 to AUX 16: Digital audio signals of the SDI signal input via the AUX connector.

- 2 Set the signal to record for each of the other tracks in the same way.

To set the audio signals to monitor

Set the audio monitor signal to output from the EARPHONES jack for each channel.

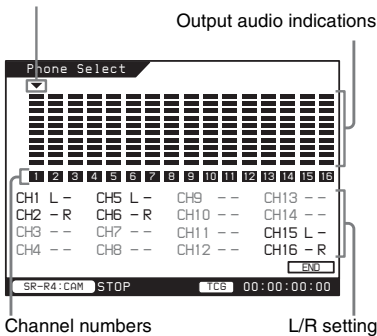
- 1 Display the AUDIO Setup menu and then select and confirm “PHONE SEL.”

The Phone Select screen appears.

- 2 **1** Select and confirm the channel number (1 to 16) → **2** press the SELECT/ENTER dial to select the channel L/R setting.

Each press of the SELECT/ENTER button changes the channel L/R setting in the order of “-L” → “-R” → “LR” → “- - .”

Move the cursor to and select this



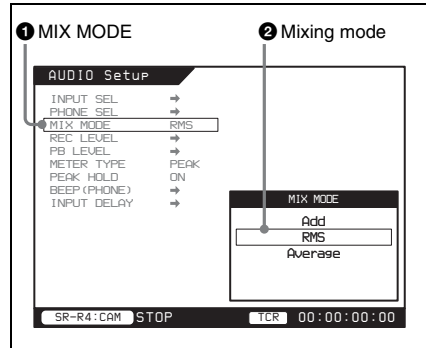
Set “- -” if you do not want to output the audio signal of the selected channel from the EARPHONES jack, and “LR” if you want to output the audio signal via both the left and right.

- 3 Set each of the other channels in the same way.
- 4 When you have finished making the settings, move the cursor to and confirm “END.”

To set the mixing mode for audio signals

Display the AUDIO Setup menu and then

- 1 select and confirm “MIX MODE”
- 2 select and confirm the mixing mode.



ADD: Simple addition
RMS: Geometric mean
Average: Simple average

Setting the Recording Levels

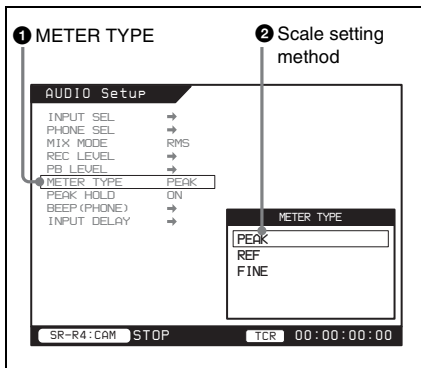
Use the AUDIO Setup menu to make settings related to the recording levels. Press the AUDIO button to display the AUDIO Setup menu.

The recording levels can be checked with the audio level meters displayed in the display on the control panel. The audio level meter indications automatically switch between the recording levels for during recording and the playback levels for during playback.

To set the display range of the audio level meters

Display the AUDIO Setup menu and then

- ➊ select and confirm “METER TYPE”
- ➋ select and confirm the scale setting method.



Full Peak: Displays 0 dBFS as the peak value.

Full Ref: Displays the reference level (+4 dBu) as 0 dB.

Fine: Displays a scale with 0.25 dB steps and the reference level at the center.

To set the recording levels

The recording level can be set for each channel.

Note

The recording levels cannot be set during playback.

- ➊ **Display the AUDIO Setup menu and then select and confirm “REC LEVEL.”**
The Rec Level screen appears.
- ➋ **Select and confirm the channel number (1 to 16).**
When a channel is selected, the current recording level is indicated by a hexadecimal number. “UNI” is indicated for a channel whose recording level has not been changed.
- ➌ **Move the cursor to and confirm “VAR”**
→ **use the ADJUST knob to set and confirm the recording level.**
Rotate the knob clockwise to increase the level, and counterclockwise to decrease the level.

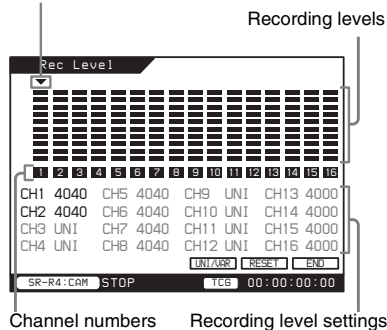
To reset the setting

Rotate the SELECT/ENTER dial to move the cursor to RESET, and then press the dial.

When you want to change the setting

Move the cursor to and confirm “UNL.”

Move the cursor to and select this



- ➍ **Set the recording level of each of the other channels in the same way.**
- ➎ **When you have finished making the settings, move the cursor to and confirm “END.”**

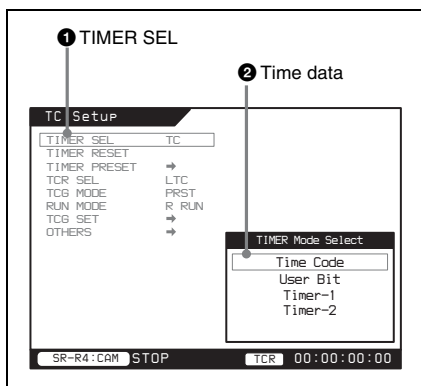
Setting the Time Code and User Bits

Use the TC Setup menu to make settings related to the time code signals.

Press the TC button to display the TC Setup menu.

To select the time data to display

Display the TC Setup menu and then ➊ select and confirm “TIMER SEL” → ➋ select and confirm the time data you want to display.



TC: Displays the time code.

UBIT: Displays the user bits.

TM1/TM2: Displays the timer value of Timer 1 or Timer 2.

To select the time code to record

The time code can be selected in the following menu.

Menu item	Time code
TCG MODE	
PRST	An arbitrary time code can be set. (R RUN/F RUN and DF/NDF can be set to an arbitrary value in the menu.)
RGN	In accordance with the time code input via the TC IN connector.

To select the user bits to record

The user bits can be selected in the following menu.

Menu item	User bits	
TCG SET		
> UBG SOURCE		
TCG	PRST	Arbitrary user bits can be set. (TIMER PRESET > TCG UBIT)
	RGN	In accordance with the user bit value of the time code input via the TC IN connector.
INT	—	Arbitrary user bits can be set regardless of the setting of TCG MODE. (TIMER PRESET > TCG UBIT)

To record the time code

The following methods are available for recording the time code.

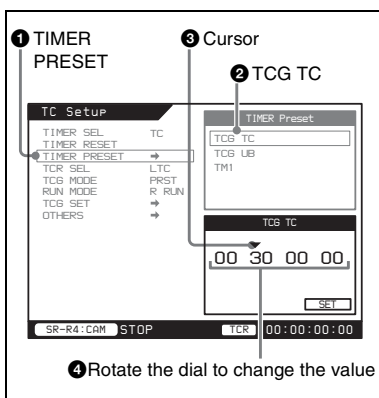
- Set the initial value and record the time code.
- Externally synchronize the internal time code generator.

To set the initial value and record the time code

Set an arbitrary initial value and then record the output of the internal time code generator.

- 1 **Display the TC Setup menu and then**
 - 1 **select and confirm “TIMER PRESET”** →
 - 2 **select and confirm “TCG TC”** →
 - 3 **move the cursor to and confirm the digit of the value you want to change** →
 - 4 **rotate the SELECT/ENTER dial to change the value and then confirm the value.**

Set the other digits as necessary.



- 2 **When you have finished making the settings, move the cursor to and confirm “SET.”**

If “RUN MODE” is set to “F RUN,” the time code starts advancing immediately.

To set all digits to 0

Select and confirm TC Setup > TIMER RESET to return all values to 0.

To externally synchronize the internal time code generator

Record the output of the internal time code generator synchronized to the time code of an external input.

Use the following method to synchronize the time code generators of multiple recorders.

Display the TC Setup menu and then set “TCG MODE” to “RGN.”

For details, see “To select the time code to record” (page 31).

Note

External synchronization is not possible in Select FPS format. During Select FPS, set “TCG MODE” to “PRST.” However, two units can be synchronized only when 120 fps is configured for the F65RAW-HFR format.

For details, see “To synchronize the time codes of two units at 120 fps” (page 33).

To synchronize the time codes of two SR-R4 units

As an alternative to connecting a time code generator to the TC IN connectors of two SR-R4 units to perform synchronization, you can have the first SR-R4 unit operate as a time code generator and synchronize the second SR-R4 unit.

- 1 **Synchronize the two F65 units using Genlock In.**

For details, refer to the operation manual for the F65.

- 2 **Connect the TC OUT connector of the first SR-R4 unit to the TC IN connector of the second SR-R4 unit using a BNC cable.**

- 3 **Set the two units to the same format.**

- 4 **On the first SR-R4 unit, configure the following items in the TC Setup menu.**

- TCG MODE: PRST [Preset]
- RUN MODE: F RUN [Free Run]
- OTHERS > TC OUT: TCG [NoDelay]

- 5 **On the second SR-R4 unit, configure the following item in the TC Setup menu.**

- TCG MODE: RGN [Regene]

Note

Synchronization is not possible in Select FPS format. During Select FPS, set “TCG MODE” to “PRST.”

However, two units can be synchronized only when 120 fps is configured for the F65RAW-HFR format.

For details, see “To synchronize the time codes of two units at 120 fps” (page 33).

To synchronize the time codes of two units at 120 fps

By configuring the following settings in addition to the conditions described in the previous “To synchronize the time codes of two SR-R4 units” section, you can synchronize the time codes of two F65 and SR-R4 sets at 120 fps.

- 1 **Set the format to F65RAW-HFR S119 or S120.**
- 2 **Set the fps to 120 fps.**

Notes

- The time code of the first R4 unit progresses rapidly and the second unit synchronizes with it. Synchronization from an external device is not possible.
- Synchronization at 1 fps to 119 fps is not possible.
- Although you can change the fps while recording is stopped, changing from 119 fps to 120 fps or 120 fps to 119 fps, for example, will cause the image to distort for an instant.

To record the user bits

By setting user bits, you can record up to eight hexadecimal digits of information (date, time, etc.).

To set an arbitrary value and then record user bits

- 1 **Set the TC Setup menu.**
To set arbitrary user bits regardless of the setting of “TCG MODE,” set TCG SET > UBG SOURCE to “INT.” If “TCG MODE” is set to “PRST,” TCG SET(MAIN) > UBG SOURCE can be set to any value.
For details, see “To select the time code to record” (page 31).
- 2 **Set the user bits using the same procedure as “To set the initial value and record the time code” (page 32).**

Tip

As with the time code, all digits can be returned to 0 with “TIMER RESET.”

Recording

- 1 **Check that the REC INHI indicator is off and then insert an SRMemory card.**
Before you insert the SRMemory card, check that its write-protect switch is not set to “WP.”

For details, see “To insert the SRMemory card” (page 22) and “Write-protecting the card” (page 23).

When the REC INHI indicator is lit
Record inhibit is set.

- Set SYSTEM Setup > REC INHI to “OFF.” (*see page 61*)
- Check that FS LOCK for the SRMemory card is not locked. (*see page 63*)
- Check that the write-protect switch for the SRMemory card is not in the WP position.

- 2 **Press the PLAY button while holding down the REC button.**
Recording starts, and “REC LOCK” appears.

Note

If recording cannot start on the F65, the time data indication (*see page 13*) on the unit will blink.

- 3 **Press the STOP button to stop recording.**

Playback Preparations and Operations

Making Settings Related to Audio Monitor Signals

The AUDIO Setup menu allows you to make various settings related to audio monitor signals for playback. The setting procedures are the same as for recording.

For details, see “Setting the Audio Signals” (page 28) and “AUDIO Setup Menu” (page 55).

To adjust the level of audio output via the EARPHONES jack

Rotate the LEVEL knob.

Adjusting Playback Audio Levels

The playback audio level can be set for each channel in “PB LEVEL” of the AUDIO Setup menu.

The setting procedure is the same as in steps 2 and 3 of “To set the recording levels” (page 30).

Note

The playback audio level cannot be adjusted during recording.

To set the display range of the audio level meters

See “To set the display range of the audio level meters” (page 30) for during recording.

Selecting the Time Data to Display During Playback

Display the TC Setup menu and then select the time data you want to display in “TIMER SEL.”

TC: LTC or VITC

Select which one is displayed in “TCR SEL” in the TC Setup menu.

UBIT: Displays the user bits for the time code selected in “TCR SEL” in the TC Setup menu.

TM1/TM2: The values counted in accordance with the playback frames.

(With TM2, the beginning of the file is 0 and the value cannot be reset.)

Playback

1 Insert the SRMemory card to play back.

For details, see “To insert the SRMemory card” (page 22).

2 Press the PLAY button.

Playback starts and the PLAY LOCK indication lights up.

Note

If the DIAGNOSIS indicator on the F65 is a color other than green, do not perform recording or playback.

3 Press the STOP button when you want to stop playback.

To play back files continuously

Display the SYSTEM Setup menu, and set PB FUNCTION >PB CONTINUE to “LIST.”

The files will be played in order according to the FILE LIST >SORT setting of the SYSTEM Setup menu.

To play back files seamlessly

Display the SYSTEM Setup menu, set PB FUNCTION >PB CONTINUE to “LIST,” and then set PB FUNCTION >SEAMLESS to “LIST.”

The files will be played in order with smooth transitions (i.e., without freeze frames) between each file.

Notes

- Files with frequency formats that differ from the system format cannot be played back.
- Audio data and metadata will not be output for files with durations of 10 frames or less (20 frames or less if the frame frequency is 50P or higher).
- Files will be forcibly closed when you change the SEAMLESS setting or FILE SORT setting.
- When this function is used in conjunction with repeat playback, the image will freeze for an instant during the transition between the last and first files in the list.
- The SEAMLESS setting is disabled during Select FPS format.

Jog Mode

Performs variable speed playback according to the speed at which the ADJUST knob is turned.

1 Press the PAUSE button in the HOME screen during playback to enter the PLAY PAUSE state.

You can also perform this during shuttle playback.

2 Turn the ADJUST knob.

Jog playback is performed according to the speed at which the knob is turned.

Shuttle Mode

Performs variable speed playback according to the position of the ADJUST knob and the speed at which it is turned.

1 Press the PAUSE button during playback to enter the PLAY PAUSE state.

You can also perform this during jog playback.

2 Turn the ADJUST knob while pressing the FUNC button.

Shuttle playback is performed according to the position of the knob and the speed at which it is turned.

The playback state will remain in shuttle mode even if you release the FUNC button and the ADJUST knob.

Standby Off Mode

During the REC PAUSE or STOP state, if you press the STOP button while holding down the FUNC button or if the duration specified with the SYSTEM >POWER >STBY OFF setting elapses, the unit will enter Standby Off mode. (Under the “Disable” default setting, the unit does not enter Standby Off mode.)

The status indication will change as follows when the unit enters Standby Off mode: “REC PAUSE” → “REC PAUSE*” or “STOP” → “STBY OFF” During Standby Off mode, the files on the SRMemory card will be closed, the SRMemory card will be unmounted, and the unit will consume less power.

- By pressing the REC button during the REC PAUSE* state, you can exit the power saving mode and enter the REC PAUSE state. In addition, you can press the PAUSE button to enable mounting and recording start.
- By pressing the STOP button during the STBY OFF state, you can perform mounting again and enter the STOP state.
- The lid lock function will be released in Standby Off mode, as less power is consumed in this mode. If you eject an SRMemory card in the REC PAUSE* or STBY OFF state, the unit will switch to the STOP state.

Note

As starting recording or playback from Standby Off mode requires a mounting operation, there will be a delay before the operation starts. Before starting recording or playback, perform Standby On operations as necessary.

How to Use the Recording and Playback Operation Buttons

Button	Function when pressed alone	Function when pressed with FUNC button
STOP button	<p>Stops the recording and playback operation.</p> <p>If pressed during Standby Off mode, the unit enters STOP (Standby On) mode.</p> <p>If pressed during MEDIA IN, the SRMemory card will be unmounted and the unit enters the STOP state.</p> <p>Tip</p> <p>You can quickly switch Select FPS ON/OFF by pressing the ENTER button while holding down the STOP button.</p>	<p>If pressed during the STOP or REC PAUSE state, the unit enters Standby Off mode.</p>
PLAY button and indicator	<p>Starts playback. (The indicator is lit during playback.)</p> <p>To start recording, press this button while holding down the REC button. (The indicator blinks if the recording and playback operations are not locked.)</p>	<p>The immediately preceding recording plays and enters the REC PAUSE state (REC REVIEW).</p>
REC button and indicator	<p>To start recording, press the PLAY button while holding down this button. (The indicator is lit during recording.)</p> <p>If pressed during Standby Off mode while recording is stopped, the unit enters STOP (Standby On) mode.</p> <p>If you press this button during playback or during a search, the system enters E-E mode ¹⁾ and you can monitor the E-E signal ²⁾ output from the F65.</p> <p>If you press this button during recording, a MARK IN point will be set in the file being recorded.</p>	<p>Sets a MARK IN point in the file being recorded or played.</p>

Button	Function when pressed alone	Function when pressed with FUNC button
REW button and indicator (PREV)	<p>Moves to the beginning of the current file.</p> <p>If this button is pressed when at the beginning of the file, moves to the beginning of the previous file.</p> <p>If this button is pressed while a file in the STOP state is not currently open, moves to the beginning of the LAST REC FILE.</p> <p>Tip</p> <p>The SYSTEM Setup menu >PB FUNCTION >NEXT/PREV setting determines whether MARK IN points are included in this function. (<i>see page 60</i>)</p>	<p>Executes a reverse direction search.³⁾</p> <p>With each press, the search speed changes in the order of x2 → x5 → x8 → x16 → x32 → x2 ...</p> <p>If this button is pressed after a search is interrupted by another operation, a search is performed at the last speed used during the previous search.</p>
F FWD button and indicator (NEXT)	<p>Moves to the beginning of the next file.</p> <p>If this button is pressed during the STOP state, moves to the last frame of the LAST REC FILE.</p> <p>To move to the last frame of the currently playing file, press this button while holding down the PLAY button.</p> <p>Tip</p> <p>The SYSTEM Setup menu >PB FUNCTION >NEXT/PREV setting determines whether MARK IN points are included in this function. (<i>see page 60</i>)</p>	<p>Executes a forward direction search.</p> <p>With each press, the search speed changes in the order of x2 → x5 → x8 → x16 → x32 → x2 ...</p> <p>If this button is pressed after a search is interrupted by another operation, a search is performed at the last speed used during the previous search.</p>
PAUSE button and indicator	<p>Pauses recording/playback. (The indicator flashes during pause.)</p> <p>Pressing this button again resumes recording/playback.</p>	<p>Cues up to IN points if IN points are set. If a last MARK IN point is set, opens the MARK IN point. (<i>see page 38</i>)</p>

1) E-E mode:

The state in which E-E signals can be monitored. This mode is used to, for example, check the input signal before recording.

2) E-E (electric to electric) signal:

A signal which passes solely through internal circuitry, and not through pathways in which SRMemory card takes place.

3) To perform precise search direction or search speed operations, use shuttle mode. (*see page 35*)

Cuing Files

By setting a MARK IN point during recording or playback, you can immediately cue up to that point again later.

You can also cue up to a point by entering a time code (IN point).

MARK IN Function

You can set a MARK IN point using the control panel during recording or playback.

Tips

- A MARK IN point is active until the SRMemory card is removed or until an IN point is entered.
- Up to three MARK IN points can be set in each file. If you set additional points, the previous points will be discarded starting with the oldest.
- The point setting may be off by one frame for F65RAW-HFR recorded files.

To set a MARK IN point

While the HOME screen is displayed on the control panel during recording or playback, press the REC button while holding down the FUNC button. (You can simply press the REC button during recording.)

Information on MARK IN points is displayed in the time data indication of the HOME screen as follows.

- If a valid MARK IN point was set and is currently active, “MK:XX:XX:XX” is displayed.
- If an invalid MARK IN point was set and an IN point has not been set, “MK: --:--:--” is displayed.

Tip

If a MARK IN point is set while an IN point was already set, the IN point will be discarded.

To open a MARK IN point

Opening the current MARK IN point

Display the HOME screen, and while a valid MARK IN point set and active, press the PAUSE button while holding down the FUNC button.

The file opens at the currently active MARK IN point.

The state in which the file is opened is determined by the “AFTER CUE” setting of “PB FUNCTION” in the SYSTEM Setup menu.

Opening a MARK IN point from the File list window

You can view MARK IN points set in each file and open them from the File list window.

For details, see “Displaying and Opening MARK IN Points” (page 42).

To remove a MARK IN point

You can remove MARK IN points set in a file using FILE LIST operations. (*see page 42*)

Cuing via Time Code Entry (IN Points)

You can enter a time code to cue up in the currently playing file.

Tips

- If multiple points that correspond with the entered time code exist in the file or a corresponding point does not exist, cuing will fail.
- An IN point is active until the SRMemory card is removed or until MARK IN points are set.

To enter an IN point

Enter the time code in “IN POINT” under “PB FUNCTION” of the SYSTEM Setup menu. Information on the IN point is displayed in the time data indication of the HOME screen as follows.

- If a valid IN point is set, “IN:XX:XX:XX” is displayed.
- If a valid MARK IN point or IN point is not set, “MK: --:--:--” is displayed.

Tip

If an IN point is entered while an active MARK IN point is set, the MARK IN point will be discarded.

To move to an IN point

- 1 Open the file in which you want to move to an IN point.
- 2 Display the HOME screen, and while a valid IN point is entered, press the PAUSE button while holding down the FUNC button.

The open file will be cued up to the IN point. If the matching point in the time code is found, that point will be cued up in the PLAY PAUSE state.

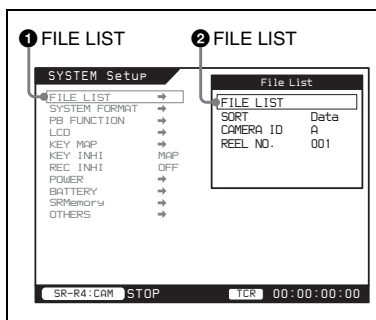
Cue-up will not occur if it is not found.

FILE LIST Operations

“FILE LIST” in the SYSTEM Setup menu allows you to perform operations such as displaying a list of the files recorded to the SRMemory card, displaying detailed information, performing file operations (deleting and renaming), and playing back files.

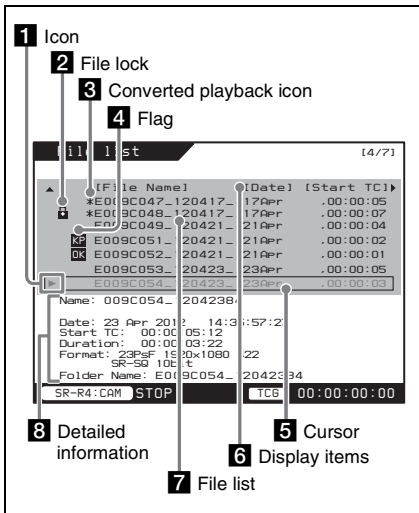
Displaying a File List

- 1 Display the SYSTEM Setup menu and then ① select and confirm “FILE LIST” → ② select and confirm “FILE LIST.”



The File list window appears.

Displayed information



1 Icons

An icon indicates the current file state.

White: Stopped

Green: Playing

Red: Recording

2 File lock

Indicates that a file is locked.

3 Converted playback icon

Indicates a file for which converted playback will be performed due to a difference between the file format and the current system format.

Note

Converted playback will not be performed for F65RAW and F65RAW-HFR files.

4 Flag

Indicates that a file is flagged (OK / NG / KP (keep)).

5 Cursor

Used for selecting files.

6 Display items

Displays the items displayed in the file list. You can turn the SELECT/ENTER dial while holding down the FUNC button to change the display items.

7 File list

A list of files recorded to the SRMemory card is displayed.

The files that cannot currently be played by the system are displayed in gray.

The icon of a file that is recording is displayed in red, and the icon of a file that is playing is displayed in green (current file).

8 Detailed information

The detailed information for the file at the cursor position is displayed.

File Name: File name

Date: Recording date and time

Start TC: The time code of the starting frame of the file.

Duration: Number of frames in file

Format: Recording data format type

Folder Name: Folder name

Display when the SRMemory card contains no files



Display during recording

When recording starts, a new file with a red icon to indicate recording is in progress is added to the list. When recording stops, the icon turns white (current file).

To select a file to play back

If you use the SELECT/ENTER dial to select and confirm the file you want to play back, the icon moves, the file opens.

To flag (OK/NG/KP) a file

Select the file you want to flag with the SELECT/ENTER dial, and then press the BACK button while holding down the FUNC button.

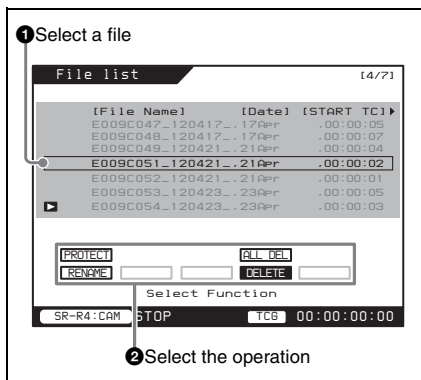
The file is flagged in the following order, and an icon appears.

OK → NG → KP (keep) → none

Performing File Operations

Files can be renamed and deleted.

- 1 Select a file and then press the SELECT/ENTER dial while holding down the FUNC button to confirm the selection →
- 2 select and confirm the desired operation.



RENAME: Renames the file.

DELETE: Deletes the file.

PROTECT: Changes the file protection setting.

ALL DEL: Deletes all files.

To rename a file

Select and confirm RENAME to display the file rename screen.

Rename the file and then move the cursor to and confirm [END] to apply the file name.

To cancel the change

Press the BACK button to return to the File list screen.

To delete a file

Select and confirm DELETE to display the confirmation screen.

Select [OK] and then press the SELECT/ENTER dial while holding down the FUNC button to confirm the selection and delete the file.

You can select ALL DEL and perform the same operation to delete all the files.

To cancel the deletion, select and confirm [CANCEL] or press the BACK button to return to the file list.

Note

Locked files cannot be deleted.

To lock a file

You can lock individual files to prevent accidental deletion.

Select and confirm PROTECT to display the confirmation screen.

When you select [OK] and then press the SELECT/ENTER dial while holding down the FUNC button, the file is locked and a lock icon appears.

Locked files cannot be deleted.

To unlock a file, select the locked file and perform the procedure for locking a file.

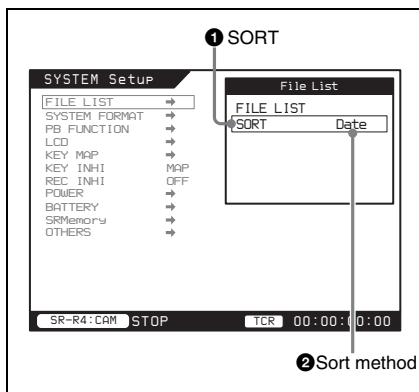
Note

If you format an SRMemory card that contains locked files, the locked files will also be deleted. Locking a file does not guarantee total prevention of file loss.

Changing the File Display Order

The display order of files in the file list can be changed.

- 1 Select and confirm [SORT] →
- 2 select and confirm the sort method.



DATE: Displays the files in date order.

NAME: Displays the files in file name order.

DURATION: Displays the files in recording time order.

Selections marked with an asterisk (*) indicate reverse order.

To change the signal format of the system according to the file playback format

To properly play back files that cannot be played in the current system format (i.e., files displayed in gray or files for which the converted playback icon appear), the system settings must be changed according to the files.

You can quickly change the system settings as follows.

1 Select the file, and press the SELECT/ENTER dial while holding down the STOP button.

The SYSTEM Setup menu opens with the state of each item matching the format of the file.

Note

If you selected a file for which playback is not supported on this unit, the menu will not open.

2 Verify the format that will be set, and select and confirm “OK.”

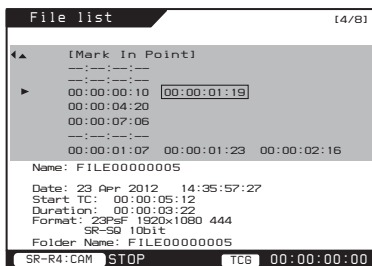
The format is changed.

Displaying and Opening MARK IN Points

You can view MARK IN points and open them from the File list window.

To display MARK IN points

- 1 Open the File list window.
- 2 Turn the ADJUST knob while holding down the FUNC button to move to the “Mark In Point” display.



Notes

- In the “Mark In Point” display, use the ADJUST knob to move up and down through files, and the SELECT/ENTER dial to move left and right through MARK IN points.
- The MARK IN points will be displayed in the order in which they were set. If three points are set in a single file, the oldest points will be deleted when subsequent points are set.

To open a MARK IN point

- 1 Turn the ADJUST knob to select the corresponding file.
- 2 Turn the SELECT/ENTER dial to select the MARK IN point, and press the SELECT/ENTER dial to confirm. The MARK IN point opens.

To delete MARK IN points

- 1 Turn the ADJUST knob to select the corresponding file.
- 2 Turn the SELECT/ENTER dial to select the MARK IN point, and press the SELECT/ENTER dial while holding down the FUNC button.
- 3 Select and confirm “OK” in the confirmation screen.

Tip

You can also delete MARK IN points during recording or playback.

SR Motion

SR Motion is a function that allows you to obtain slow and quick motion effects by setting different values for the number of frames at shooting time and the number of frames in the recorded material (number of frames at playback time and target frame frequency). After shooting, you can confirm (review) the motion effects on location by changing the SYSTEM FORMAT setting. Since only the required number of frames is recorded, no format conversion is needed.

SR Motion has the following functions.

Function	Features	Reference
Select FPS	Provides slow and quick motion effects.	page 47

Notes

- Audio is not recorded with SR Motion.
- SR Motion cannot synchronize TC, even if TCG MODE is set to “Regen.”
- The signal formats supported by the SR Motion function have some restrictions. (see page 76)
- When using the SR Motion function, be sure to check the version of the F65 docked to the unit. For details on versions, contact a Sony service representative.

What is the target frame frequency?

Normally, the frame frequency of recorded material (timecode) is determined before shooting (for example, it is usually set to 24 Hz for movies, and 29.97 Hz or 25 Hz for TV programming) and then the recorded material is played back at that frame frequency after shooting. In SR Motion, the pre-determined number of frames of recorded material per second is called the “target frame frequency.”

SR Motion enables motion effects to be achieved by appropriately setting three variables: the “target frame frequency,” the “system frequency” at shooting time, and the “number of frames shot” at shooting time.

Slow or quick motion effects can be obtained by recording with a system frequency or number of frames set to a value that is different from the target frame frequency. On the other hand, normal speed video can be obtained by recording with the number of frames set to the same value as the target frame frequency.

Typical examples of using SR Motion

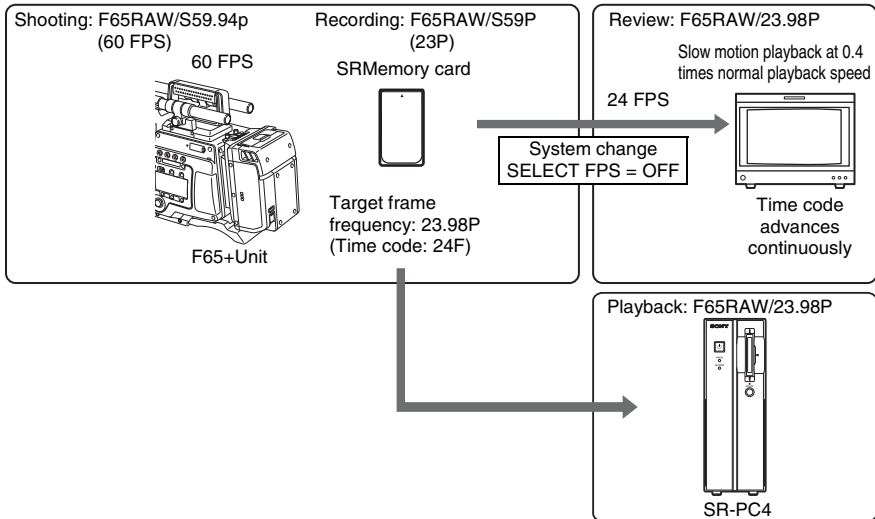
Slow motion example

The following example illustrates shooting and recording with the Select FPS function at the system frequency of 59.94p, and playback at the system frequency of 23.98P.

When video shot and recorded at 60 frames per second (FPS) is played back at 24 FPS, it is

played back in slow motion at $24/60 = 0.4$ times normal playback speed.

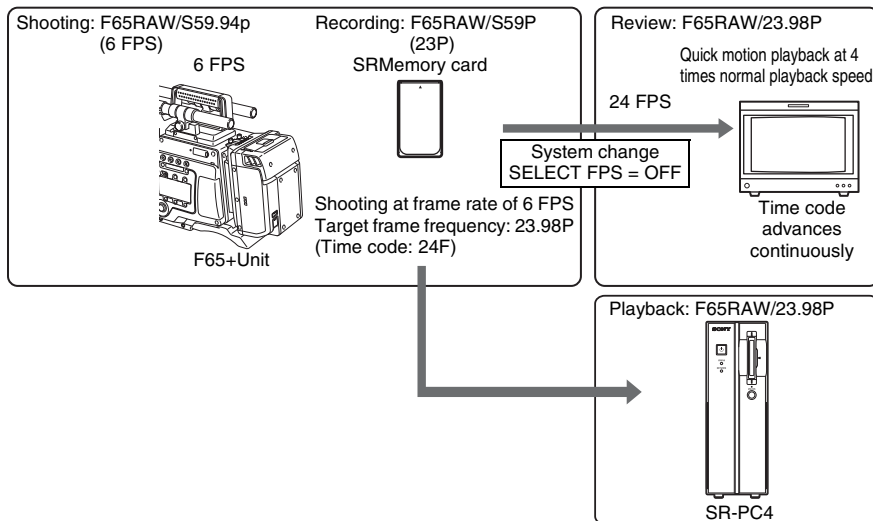
If you set the format for recording in accordance with the target frame frequency (system frequency at playback), the time code can continuously advance during playback. Playback of the recorded file in F65RAW/23.98P format is possible.



Quick motion example

The following example shows shooting and recording at a system frequency of 59.94P and a frame rate of 6 FPS, and playback at a system frequency of 23.98P.

When video recorded at 6 FPS (recording only the valid frame images at a frame rate of 6 FPS when shooting) is played back at 24 FPS, it is played back in quick motion at $24/6 = 4$ times normal playback speed. Playback of the recorded file in F65RAW/23.98P format is possible.



Relation between the target frame frequency and number of frames

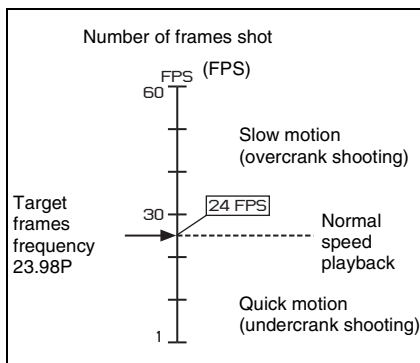
To obtain the desired slow and quick motion effects, it is necessary to set the appropriate number of shooting frames in accordance with the target frame frequency. To obtain quick motion effects, shoot with undercranking. To obtain slow motion effects, shoot with overcranking.

Example: When the target frame frequency is 23.98P

To obtain quick motion effects: Set shooting frames to 1 to 23 FPS.

To obtain slow motion effects: Set shooting frames to 25 to 60 FPS.

Setting shooting frames to 60 FPS results in playback in slow motion at 0.4 times normal playback speed.



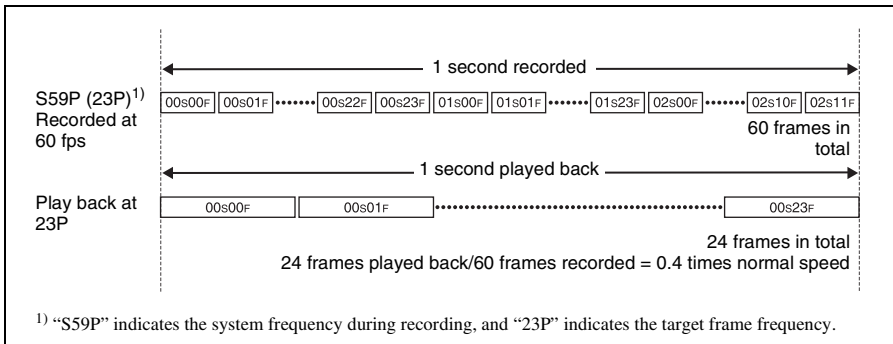
Relation between the target frame frequency and time code

When the system frequency is 23.98 Hz, the time code normally advances from 0 to 23 frames, and this becomes the time code of the recorded material (target frame frequency). If the rate at which the time code advances is not consistent within the recorded material, a time code discontinuity occurs at playback time. For this reason, set the target frame frequency at recording time to the same value as the time code at playback time.

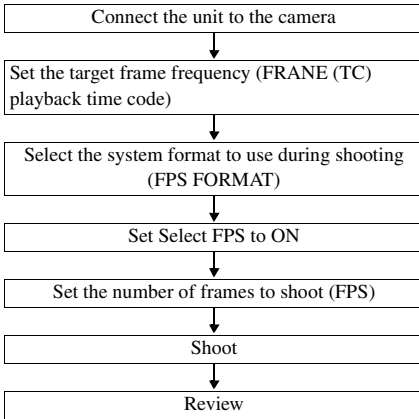
In SR Motion shooting, it is possible to set the target frame frequency and the system frequency at recording time to different values. For example, if recording is performed with the shooting frames set to 60 FPS, the target frame frequency set to 23.98 Hz, and the system frequency set to 59.94 Hz, then 60 frames per second of video are recorded, but the time code does not advance from 0 to 59 frames and instead

advances from the 0 to 23 frames of the target frame frequency. If 1 second is recorded with these settings beginning from the 00 second 00 frame, the time code advances quickly from the second 00 frames 00 to 23 and then continues to advance as second 01 frames 00 to 23, and finally as second 02 frames 00 to 11, at which point a total of 60 frames have been recorded (see the following figure).

If a file recorded in this way is played back when the system frequency is set to 23.98 Hz (played at a target frame frequency of 23.98P), the video is played back in slow motion at $24/60 = 0.4$ times normal speed. However, the time code advances by 1 second in the space of 1 second. Even if there are portions with different numbers of shooting frames on the same card, the playback time code is continuous and no inconsistency occurs.



SR Motion Operation Flow



Select FPS Function

Select FPS is a function that allows you to obtain slow/quick motion effects by connecting the unit to the F65, adjusting the number of frames, and then shooting.

The number of frames recorded in 1 second is indicated as FPS (frames per second).

The number of frames can be set in 1-FPS increments within the range of 1 to 60 FPS (1 to 120 FPS for F65RAW-HFR).

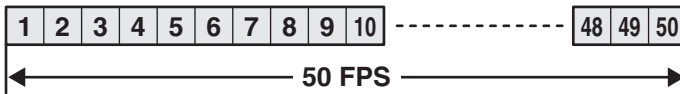
Relation between the number of frames shot and number of playback frames (Basic concept of Select FPS)

To obtain the desired slow or quick motion effects using the Select FPS function, it is necessary to set the appropriate number of frames to shoot. If you shoot using the S59P (23P) format and with the number of frames shot set to 50 FPS, transfer from the F65 to the unit is at 60P for the signal of 50 frames (50 FPS) from the F65, so the

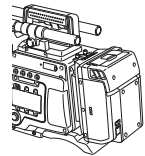
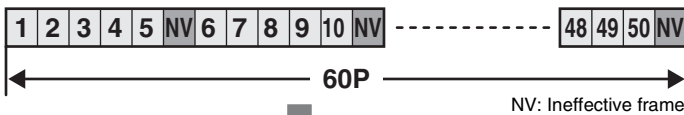
transferred data is padded with frames (ineffective frames) in which no signal is recorded. This unit extracts and stores only effective frames and records them to an SRMemory card. When the recorded file is played back at 24P, a slow motion effect of 0.48 times normal playback speed is obtained.

Format: S59P (23P) SELECT FPS = ON
Number of frames shot: 50 FPS

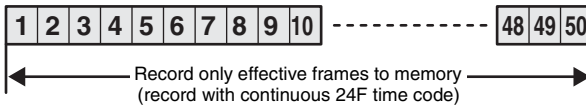
Shooting at 50 FPS



Transfer at 60P



F65+Unit

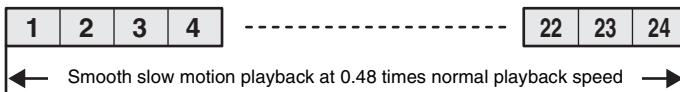


SRMemory card

Converted to 23.98P when SELECT FPS is set to "OFF."

Playback: 24P

Playback at 24P



Using the Select FPS function

1 Connect the unit to the F65.

For details on the connection settings, refer to the operation manual supplied with the F65.

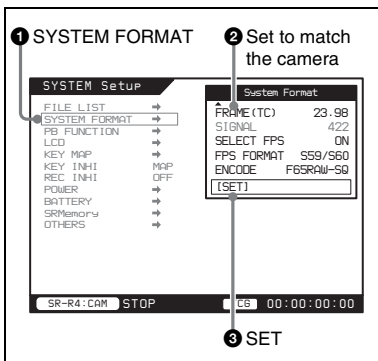
2 Make the system settings.

Select the target frame frequency and recording format.

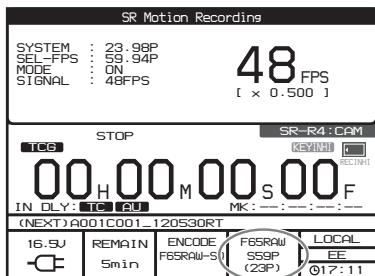
Setting example: When setting the target frame frequency to 24P (23.98P) and recording format to F65RAW SQ

Display the SYSTEM Setup menu and then

- ① select and confirm SYSTEM FORMAT
- ② set the format to match the system format of the camera as shown below → ③
- move the cursor to and confirm [SET].



The formats of the unit and camera are switched, and “S59P(23P)” is displayed on the display (for about 30 seconds).



“S59P” indicates that SR Motion is enabled (SELECT FPS is set to “ON”) and that the FPS FORMAT (system frequency during recording) is set to 59.94P. “(23P)” indicates

that the target frame frequency is set to 23.98P.

To make the time code continuous

Make the following settings in the TC Setup menu. (see page 32)

RUN MODE: R RUN (Rec Run)

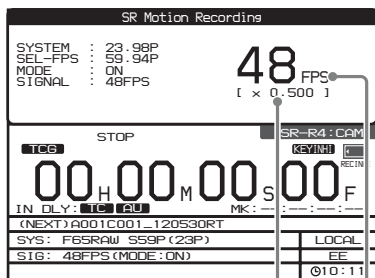
TCG MODE: PRST (Preset)

3 Set the number of frames to shoot.

If the system is set to Select FPS, the “SR Motion Recording” window appears in the audio level meter area.

Turn the SELECT/ENTER dial to specify the number of shooting frames.

If you press the HOME button while holding down the FUNC button in this state, the signal format display at the bottom of the screen changes to the SR Motion display, allowing you to check the number of frames to shoot.



Playback speed

Specified number of frames (FPS)

You can also set the number of frames to shoot from the camera. For details, refer to the operation manual supplied with the F65.

4 Start shooting.

- ① Set the number of frames to be shot by the camera (FPS value).
- ② Start recording.
- ③ Stop recording.

5 Review.

- ① To play back with the target frame frequency at 23.98P, set Select FPS to “OFF” in the SYSTEM > FORMAT menu.
- ② Press the SET button to switch the format of the F65 and the unit.
- ③ Load the recording file from the file list and press the PLAY button to start playback.

You can check the slow or quick motion shooting effect at the target frame frequency of 23.98P. The time code advances from 0 to 23 frames per second. You can also perform simple playback without checking the motion effects.

To perform simple playback without checking the motion effects

Press the PLAY button after shooting to play the last recorded file.

Simple playback allows you to check recorded video in fewer steps than normal playback.

However, it does not allow you to check the slow or quick motion effects.

Every fourth frame will be played back during F65RAW-HFR S119P/S120 playback. Jog playback and MARK IN will also occur for every fourth frame.

To turn Select FPS on/off quickly

In the HOME screen, press the SELECT/ENTER dial while holding down the STOP button.

The SYSTEM Setup menu will open with the changed Select FPS status.

File Naming System

The files created during recording will be named using the following naming system.

Example:

D003C004 120325E5
① ② ③ ④ ⑤

① Camera ID

The camera ID configured in “CAMERA ID” under “FILE LIST” of the SYSTEM Setup menu.

② Reel number

The reel number configured in “REEL NO.” under “FILE LIST” of the SYSTEM Setup menu. If you change only the camera ID setting, the reel number will be changed to “001.”

③ Shot Number

A sequentially assigned shot number starting with “001.” If the shot number reaches “999,” the letter at the front of the number changes to the next letter in the alphabet. For example, “C999” will be followed by “D001.”

④ Date

The shooting date (year, month, day) of the file.

⑤ Random characters

A random pair of characters (0 to 9, A to Z).

Tips

- If a file that was recorded in “CAMERA” mode exists on the inserted SRMemory card, subsequent file names will continue from the existing files.

Example: If the “B002C003_XXXXXXXX” exists on the SRMemory card

The next file that is created will be named

“B002C004_XXXXXXXX.” In this case, the camera ID setting for the control panel will change to “B” and the reel number setting will change to “002.”

“(NEXT) file name” also blinks in the operation status and warning indicator if the camera ID and reel number differ from those of the control panel.

- If a blank SRMemory card is inserted, the reel number will increase by one from the last recorded file.

Example: If recording is performed on a blank card after recording up to “D001CXXX_XXXXXXXX” on the previously inserted card

The next recorded file will be named
“D002C001_XXXXXXXX.”

When you display the system, encoding, or file name on the HOME screen while recording is paused, the name of the file that will be created next will flash on the screen.

- If you change the control panel settings, those settings will be applied.

Example: If you change the camera ID and reel number settings from the control panel for an SRMemory card containing files up to “E003CXXX_XXXXXXXX”

If you change the camera ID to “F” and the reel number to “001,” the next recorded file will be named “F001CXXX_XXXXXXXX.” If you change only the camera ID setting, the reel number will change to “001.”

Chapter 5 Menu Details

- The settings displayed in bold are the factory default settings.
- The settings enclosed in [] are the settings as displayed in the settings windows.

TC Setup Menu

Setting Item	Settings
TIMER SEL	Selects the type of time data to display on the display. TC [Time Code] : Displays the time code: Displays the time code. UBIT [User Bit]: Displays the user bits. TM1 [TIMER1]: Displays the file playback position in Hours:Minutes:Seconds:Frames format. TM2 [TIMER2]: Displays the playback position in Hours:Minutes:Seconds:Frames format and treats the beginning of the file as 0. <ul style="list-style-type: none">• TIMER RESET/PRESET are not available.
TIMER RESET	Resets the internal time code generator, and the time data becomes “00:00:00:00” (time code) or “00 00 00 00” (user bits). Notes <ul style="list-style-type: none">• The values read by the time code reader cannot be reset.• Time data cannot be reset when the time code generator is locked to external time codes or to values read by the time code reader.
TIMER PRESET	Selects the type of time data to preset to an arbitrary value. TCG TC: Time code generated by the time code generator TCG UBIT: User bits generated by the time code generator TM1: TM1 signal count value
TCR SEL	Selects the type of playback time code/user bits. LTC [LTC] : Reads the LTC. VITC [VITC] : Reads the VITC.

Setting Item		Settings
TCG MODE		<p>Selects the time code to which the internal time code generator synchronizes.</p> <p>PRST [Preset]: Allows you to use the “TIMER PRESET” setting item to preset the initial value of the time code generated by the internal time code generator.</p> <p>RGN [Regen]: Synchronizes the time code generator to the time code value input via the TC IN connector (regenerate).</p> <p>Note</p> <p>External synchronization is not possible in Select FPS format. Use the “PRST” setting (<i>see page 32</i>).</p>
RUN MODE		<p>Selects the run mode of the internal time code generator.</p> <p>F RUN [Free Run]: Advances the time code while the power is on.</p> <p>R RUN [Rec Run]: Advances the time code only during recording.</p>
TCG SET Time code generator settings related to the main time code	DF/NDF (Valid only when the frame frequency of this system is 29.97 Hz.)	<p>Sets the frame count mode.</p> <p>DF [Drop Frm]: Drop frame mode</p> <p>NDF [Non Drop Frm]: Non-drop frame mode</p> <p>Note</p> <p>This settings is valid only when TCG MODE is set to “PRST”</p>
	UBG SOURCE	<p>Selects the source time code of user bits.</p> <p>TCG [TCG Source]: Same source time code as that of the time code generator</p> <p>INT [Internal]: Time code generated by the time code generator. Arbitrary user bits can be set regardless of the setting of TCG (<i>see page 33</i>).</p>
	12H/24H	<p>Selects the TIMER display mode.</p> <p>12H [+/-12H]: 12-hour display mode</p> <p>24H [24H]: 24-hour display mode</p> <p>Note</p> <p>When +/-12H display is selected, the tens digit of the hours value is dropped for values less than 10.</p>

Setting Item	Settings
OTHERS Other settings related to the main time code	<p>TC OUT</p> <p>Selects the time code to output from the TC OUT connector.</p> <p>AUTO [Auto]: During playback, the time code read by the internal time code reader. During recording or when in E-E mode, the time code generated by the time code generator.</p> <p>TCG [TCG]: The time code generated by the time code generator.</p> <p>THRU [Through]: Outputs the time code input to the TC IN connector as is.</p> <p>TCG [No Delay]: Outputs the time code generated by the time code generator without delay. Use this setting to specify the unit's time code generator as the master generator to which other equipment is synchronized.</p>
RT REC	<p>Specifies whether to record the current time to the user bits (<i>see page 30</i>).</p> <p>OFF [Off]: Does not record the time.</p> <p>VITC[VITC UB]: Records the time to VITC user bits.</p> <p>V+L[VITCUB+LTC UB]: Records the time to both VITC and LTC user bits.</p> <p>LTC[LTC UB]: Records the time to LTC user bits.</p>
RT SET	Sets the current time.
RT SRC	<p>Selects the method in which the current time is recorded to the user bits.</p> <p>RTC [RTC]: Records the current time configured in the RT REC and RT SET settings. (Select this under normal circumstances.)</p> <p>DATE [DATE]: Records the current time of the unit's internal clock (i.e., the time displayed on the control panel and the status indication). Continuity for frames is not guaranteed with this method.</p>
TC Delay	<p>Sets the phase difference between the LTC input from the TC IN connector and the time code generator.</p> <p>0 [NO Delay]: Same timing</p> <p>+1F [+1F Delay]: The generator is delayed by one frame.</p> <p>+2F [+2F Delay]: The generator is delayed by two frames.</p> <p>+3F [+3F Delay]: The generator is delayed by three frames.</p> <p>+4F [+4F Delay]: The generator is delayed by four frames.</p> <p>+5F [+5F Delay]: The generator is delayed by five frames.</p>

AUDIO Setup Menu

Setting Item	Settings
INPUT SEL Selection of input signals	TRACK1 Selects the signal to assign to track 1. ANA1 [Analog CH1] to ANA2 [Analog CH2], OFF AUX1 [AUX CH1] to AUX16 [AUX CH16]
	TRACK2 Selects the signal to assign to track 2. Same settings as TRACK1 (ANA2)
	TRACK3 Selects the signal to assign to track 3. Same settings as TRACK1 (OFF)
	TRACK4 Selects the signal to assign to track 4. Same settings as TRACK1 (OFF)
	TRACK5 Selects the signal to assign to track 5. Same settings as TRACK1 (OFF)
	TRACK6 Selects the signal to assign to track 6. Same settings as TRACK1 (OFF)
	TRACK7 Selects the signal to assign to track 7. Same settings as TRACK1 (OFF)
	TRACK8 Selects the signal to assign to track 8. Same settings as TRACK1 (OFF)
	TRACK9 Selects the signal to assign to track 9. Same settings as TRACK1 (OFF)
	TRACK10 Selects the signal to assign to track 10. Same settings as TRACK1 (OFF)
	TRACK11 Selects the signal to assign to track 11. Same settings as TRACK1 (OFF)
	TRACK12 Selects the signal to assign to track 12. Same settings as TRACK1 (OFF)
	TRACK13 Selects the signal to assign to track 13. Same settings as TRACK1 (OFF)
	TRACK14 Selects the signal to assign to track 14. Same settings as TRACK1 (OFF)
	TRACK15 Selects the signal to assign to track 15. Same settings as TRACK1 (OFF)
	TRACK16 Selects the signal to assign to track 16. Same settings as TRACK1 (OFF)
PHONE SEL	Selects the audio to output to the EARPHONES jack.
MIX MODE	Selects the method of mixing the digital audio signals output to the EARPHONES jack. ADD [Add]: Simple addition RMS [RMS]: Geometric mean AVG [Average]: Simple average
REC LEVEL	Adjusts the recording level (see page 30). (This adjustment is not possible during playback.)
PB LEVEL	Adjusts the playback level (see page 34). (This adjustment is not possible during recording.)

Setting Item		Settings
METER TYPE		Sets the display range of the audio level meters. PEAK [Full Peak]: Displays 0 dBFS as the peak value. REF [Full Ref]: Displays the reference level (+4 dBu) as 0 dB. FINE [Fine]: Displays a scale with 0.25 dB steps and -20 dB at the center.
PEAK HOLD		Sets whether or not to use the peak hold function. ON [On]: Uses the function. OFF [Off]: Does not use the function.
BEEP (PHONE) Sets the volume of the beep tone.	ALARM	Sets whether or not to output alarm tones. OFF [Off]: Does not output alarm tones. HIGH [High]: Outputs high-level alarm tones. LOW [Low]: Outputs low-level alarm tones.
	WARN	Sets whether or not to output warning tones. OFF [Off]: Does not output warning tones. HIGH [High]: Outputs high-level warning tones. LOW [Low]: Outputs low-level warning tones.
INPUT DELAY Recording audio signal phase setting	ANALOG	Sets whether or not to add a delay to the ANALOG audio input. OFF [OFF]: Does not add delay. ON [ON]: Adds delay.
	AUX IN	Sets whether or not to add a delay to the AUX IN audio input. OFF [OFF]: Does not add delay. ON [ON]: Adds delay.
	INPUT DELAY	Sets the delay length for items set to be delayed. 0 [NO DELAY]: Does not add delay. +1 [+1F Delay]: Records the audio signal with a delay of 1 frame (use this when the camera video signal is delayed by one frame). +2 [+2F Delay]: Records the audio signal with a delay of 2 frames (use this when the camera video signal is delayed by two frames). +3 [+3F Delay]: Records the audio signal with a delay of 3 frames (use this when the camera video signal is delayed by three frames). +4 [+4F Delay]: Records the audio signal with a delay of 4 frames (use this when the camera video signal is delayed by four frames). +5 [+5F Delay]: Records the audio signal with a delay of 5 frames (use this when the camera video signal is delayed by five frames).

SYSTEM Setup Menu

Setting Item		Settings
FILE LIST	FILE LIST	Displays a list of recording files and allows recording files to be selected and file operations to be performed. <i>For details, see "FILE LIST Operations" (page 39).</i>
	SORT	Sorts the files in the FILE LIST screen. DATE: Date order NAME: Name order DURATION: Order of file recording length
	CAMERA ID	Sets the camera ID for when saving using CAMERA format file names. A to Z Note Depending on the SRMemory card inserted in the unit, the "CAMERA ID" setting may change automatically. <i>For details, see "File Naming System" (page 50).</i>
	REEL NO.	Sets the reel number for when saving using CAMERA format file names. [001]-999 Note Depending on the SRMemory card inserted in the unit, the "REEL NO." setting may change automatically. <i>For details, see "File Naming System" (page 50)</i>

Setting Item	Settings
SYSTEM FORMAT RAW/HD Settings of signal formats	Sets the recording mode. After selecting and confirming [SET] to change this setting, you must restart the F65 as instructed in the message that appears. F65RAW : Records in F65RAW format. F65RAW-HFR: Records in F65RAW-HFR format. HD (1080): Records in HD format.
FRAME(TC)	When “SELECT FPS” is set to “OFF,” this sets the operation frame frequency. When “SELECT FPS” is set to “ON,” this sets the target frame frequency (i.e., the playback frame frequency of the created file). (In this case, the operation frame frequency is configured in the “FPS FORMAT” setting.) 23P/PsF [23.98P/PsF] : Frame frequency of 23.976 Hz 24P/PsF [24P/PsF]: Frame frequency of 24 Hz 25P/PsF [25P/PsF]: Frame frequency of 25 Hz (field frequency of 50 Hz) 29P/PsF [29.97P/PsF]: Frame frequency of 29.97 Hz (field frequency of 59.94 Hz) 50P [50P]: Frame frequency of 50 Hz 59P [59P]: Frame frequency of 59.94 Hz <i>For details, see “Using the Select FPS function” (page 49).</i>
SIGNAL	Sets the sampling format for HD recording. 422 [422]: 4:2:2 (Y/Cb/Cr) 444 [444] : 4:4:4 (R/G/B) <i>For details, see “About Recording/Playback Formats” (page 76).</i>
SELECT FPS	Selects the operation mode for the Select FPS function. OFF [Off] : Disables the Select FPS function. ON [On]: Enables the Select FPS function, and sets the number of frames (FPS). <i>For details, see “SR Motion” (page 43).</i>
FPS FORMAT	Selects the system format (operation frame frequency) during Select FPS operation. S59/S60 [S59.94/S60] S119P/S120 [S119P/S120] <i>For details, see “SR Motion” (page 43)</i>
ENCODE	Sets the video recording format and recording rate. F65RAW-Lite F65RAW-SQ SR-HQ SR-SQ SR-Lite <i>For details, see “About Recording/Playback Formats” (page 76)</i>

Setting Item	Settings
PB FUNCTION	IN POINT Specifies time codes for setting the time data (IN points) used for cuing. When an IN point is set, the IN point is displayed in “IN:XX:XX:XX:XX” format in the time data indication of the HOME screen. <i>For details on cuing using IN points, see “Cuing via Time Code Entry (IN Points)” (page 38).</i>
PB CONTINUE	Specifies whether to enable continuous playback of files. OFF [Off]: Disables continuous playback of files (i.e., performs single file playback). LIST [List]: Plays back files continuously according to the sort sequence in the “FILE LIST.”
SEAMLESS	Sets whether to play back files seamlessly when “PB CONTINUE” is set to “List.” OFF [Off]: Disables seamless playback. The image will freeze for an instant during transitions between files. LIST [List]: Enables seamless playback.
	<p>Tips</p> <ul style="list-style-type: none"> Files with frequency formats that differ from the system format cannot be played back. Audio data and metadata will be omitted for files with playback durations of 10 frames or less. Files will be forcibly closed when you change the SEAMLESS setting or FILE SORT setting. When this function is used in conjunction with repeat playback, the image will freeze for an instant during the transition between the last and first files in the list. When Select FPS is set to ON, SEAMLESS will function as if it is set OFF.
REPEAT	Specifies whether to enable repeat playback. OFF [Off]: Disables repeat playback. ON [On]: Enables repeat playback.
	<p>Tip</p> <p>The range for repeat playback is determined by the “PB CONTINUE” setting.</p>
REC REVIEW	During REC PAUSE, this specifies the REC REVIEW playback range for when the ASSIGN button is pressed on the F65 or when the PLAY button is pressed on the control panel while holding down the FUNC button. ALL [All]: Plays back the last recorded file from beginning to end. 5SEC [5sec]: Plays back the last 5 seconds of the last recorded file.
AFTER CUE	Selects the operation performed when a file is opened via NEXT/PREV or the FILE LIST. PAUSE [Play Pause]: Opens the file in the PLAY PAUSE state. PLAY [Play]: Opens the file in the PLAY state.

Setting Item		Settings
PB FUNCTION	EOF ACTION	Selects the operation that is performed when FILE END occurs during file playback. PAUSE [Play Pause]: The unit enters the Play Pause state. STOP [Stop]: The unit enters the Stop state.
	NEXT/PREV	Specifies whether to include MARK IN points as destinations for NEXT/PREV operations using the FFWD/REW button. T+MK [FileTop+MarkIn]: Includes MARK IN points. Top [FileTop]: Excludes MARK IN points.
LCD Settings of display backlight	LIGHT OFF	Sets whether or not to turn the backlight off after a set time. DIS [Disable]: Does not turn the backlight off. 5sec [5sec]: Turns the backlight off after 5 seconds. 10sec [10sec]: Turns the backlight off after 10 seconds. 30sec [30sec]: Turns the backlight off after 30 seconds. 1min [1min]: Turns the backlight off after 1 minute. 3min [3min]: Turns the backlight off after 3 minutes. 5min [5min]: Turns the backlight off after 5 minutes.
	BRIGHT	Sets the backlight brightness. 0 to 31 (20)
	LCD MODE	Switches between horizontal and vertical display for the LCD. HORIZ [Horizontal]: Horizontal display. VERT [Vertical]: Vertical display. Tip You can also perform switching by pressing the FUNC + BACK + HOME buttons. (<i>see page 14</i>)
	MODE COLOR	Sets whether to change the background color of the HOME screen's file name indication red during recording and green during playback. OFF [Off]: Disables change. ON [On]: Enables change.
	SAVER	Sets whether or not to use the screensaver after a set time. DIS [Disable]: Does not use the screensaver. 1min [1min]: Starts the screensaver after 1 minute. 3min [3min]: Starts the screensaver after 3 minutes. 5min [5min]: Starts the screensaver after 5 minutes. 10min [10min]: Starts the screensaver after 10 minutes. 20min [20min]: Starts the screensaver after 20 minutes. 30min [30min]: Starts the screensaver after 30 minutes. 1hour [1hour]: Starts the screensaver after 1 hour.
	SAVER MSG	Sets the text information for the screensaver.

Setting Item		Settings
KEYMAP Settings of keymap	EJECT	DIS [Disable] : Disables the button/knob function.
	EJECT button function	ENA [Enable]: Enables the button/knob function.
	STOP	
	STOP button function	
	PLAY	
	PLAY button function	
	REC	
	REC button function	
	REW	
	REW button function	
	FFWD	
	FFWD button function	
	PAUSE	
	PAUSE button function	
JOG		
Jog function using ADJUST knob		
FILE LIST OPE		
File opening function in File list window		
KEY INHI	ALL [ALL]: Locks all.	
Settings to inhibit button operation	MAP [MAP] : Locks only the buttons that are set to “Disable” in the KEYMAP settings.	
REC INHI	OFF [Off] : Does not prohibit recording.	
Settings of recording inhibit mode	ON [On]: Prohibits recording.	

Setting Item	Settings
POWER Settings to reduce power consumption	POWER LED Controls the POWER indicator. ON [On]: Lit normally LOW [Low]: Dimly lit OFF [Off]: Not lit
	TALLY LED Controls the tally lamp. ON [On]: Lit normally LOW [Low]: Dimly lit OFF [Off]: Not lit
	LID LED Controls the LID LOCK indicator. ON [On]: Lights normally. LOW [Low]: Lights slightly darker. OFF [Off]: Does not light.
	STBY OFF Specifies the duration before entering power saving mode (Standby Off) after entering the STOP or REC PAUSE state (Standby Off Timer). 30sec [30sec]: Enters power saving mode after 30 seconds. 1min [1min]: Enters power saving mode after 1 minute. 2min [2min]: Enters power saving mode after 2 minutes. 5min [5min]: Enters power saving mode after 5 minutes. 10min [10min]: Enters power saving mode after 10 minutes. 20min [20min]: Enters power saving mode after 20 minutes. 40min [40min]: Enters power saving mode after 40 minutes. 60min [60min]: Enters power saving mode after 60 minutes. DIS [Disable]: Does not enter power saving mode.
BATTERY Settings related to the remaining battery power indication	DCIN TYPE Selects the type of battery to be connected to the F65. AC [AC Adapter]: AC adapter Li-ion [Li-ion Battery]: Lithium ion battery BP-GL [BP-GL Battery]: BP-GL95 OTH1 [Others 1] OTH2 [Others 2]
	Near END (DCIN) Sets the threshold voltage at which to show a near-end (almost exhausted)/warning indication for the battery selected for the previous item "DCIN TYPE." 11.0 to 15.0 (11.9 V)
	END (DCIN) Sets the threshold voltage at which to show an end (exhausted)/warning indication for the battery selected for the item "DCIN TYPE." 11.0 to 12.0 (11.0 V)

Setting Item		Settings
SRMemory SRMemory related settings	INFO DISP	Displays SRMemory card information.
	FS LOCK	Lock setting for the SRMemory card to disable file recording/deletion. When the write-protect switch is WP, this setting cannot be configured. LOCK: Locked. UNLOCK: Unlocked.
	FORMAT	Formats the SRMemory card. When the write-protect switch is WP, formatting cannot be performed.
		Note Formatting will erase all data recorded on the SRMemory card.
OTHERS	SOFT VERSION	Displays the version of each software installed on the unit.
	HOURS METER	Display various count values using the digital hours meter (total since the start of use of the unit, or total during a certain period). SYSTEM: System operation time LID LOCK: Number of lock plunger operations
	SET DATE	Sets the date and time of the unit. <i>For details, see "Date Settings" (page 27).</i>

Maintenance and Inspections

Note About the CAMERA Connector

Transmission errors may occur if there is any dust or other matter adhering to the face of the optical cable connector.

Always put on the connector cap when not using the CAMERA connector.

Cleaning the CAMERA Connector

If the CAMERA connector is dirty, there is increased risk of transmission error between the unit and the F65. If the F65 DOCK indicator turns on yellow or red, clean the connector using the following procedure.

For details about the DOCK indicator, refer to the Operation Manual for the F65.

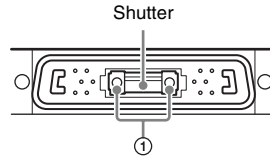
The following items are required to clean the CAMERA connector.

- Recommended cotton swabs
 - HUBY-340, BB-012
 - Cotton swabs for cleaning optical fibers (commercially available)
- Pure alcohol (99.5% or higher)

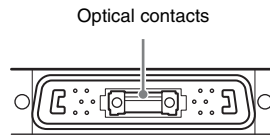
1 Remove the unit from the F65.

If the unit is not mounted on the F65, remove the CAMERA connector cap.

- 2 Press point ① on the CAMERA connector using your finger or other object to open the protective shutter and expose the optical contacts.



- 3 Once the shutter opening jig is attached, open the shutter and check that you can see the optical contacts.



- 4 Dip an optical fiber cleaning swab in alcohol and gently wipe the whole optical contacts area about five times.

Notes

- Always use alcohol only in well-ventilated areas away from heat or flame.
- Wiping firmly may damage the optical fiber contacts.

- 5 Release the connector's shutter, and connect the unit to the F65.

If not connecting the F65, reattach the connector cap.

Specifications

General

Recording format

F65RAW, F65RAW-HFR, HD SStP

Power supply

11 to 17 V DC

Power consumption

37 W (F65RAW 23P recording)

Operating temperature

0 °C to 40 °C (32 °F to 104 °F)

Storage temperature

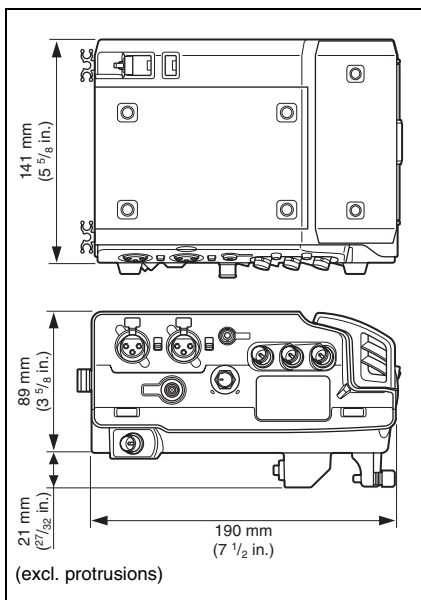
-20 °C to +60 °C (-4 °F to +140 °F)

Operating relative humidity

10% to 95% (no condensation)

Mass

1.8 kg (3 lb. 15 oz.) (excl. SRMemory card and control panel)



Video

F65RAW format, F65RAW-HFR format

HD SStP 4:2:2 format

Sampling frequency

Y: 74.25 MHz

Cb/Cr: 37.125 MHz

Quantization

10 bits

Compression

MPEG4 SStP

HD SStP 4:4:4 format

Sampling frequency

RGB: 74.25 MHz

Quantization

10 bits/12 bits

Compression

MPEG4 SStP

Audio

Digital audio signal format (channels 1 to 16)

Sampling frequency

48 kHz (synchronized with video)

Quantization

24 bits

Headroom

20 dB

Analog audio input

A/D quantization

24 bits

Reference input level

LINE: +4 dBu

MIC: -34 dBV

Frequency response

20 Hz to 20 kHz +0.5 dB/-1.0 dB

(at reference level)

Dynamic range

More than 100 dB (1 kHz)

Distortion

Less than 0.05% (1 kHz, at reference level)

Crosstalk

Less than -80 dB (1 kHz, between any two channels)

Input/Output Connectors

Input connectors

- AUDIO INPUT CH-1, CH-2
3-pin XLR, female (2), LINE/MIC/
MIC +48 V
- TC IN
BNC (1)
0.5 V_{p-p} to 18 V_{p-p}, 10 k Ω
SMPTE linear time code compliant
- AUX IN
BNC (1)
HD SDI embedded audio (1.485 Gbps)
(SMPTE-292M compliant)

Output connectors

- TC OUT
BNC (1)
1.0 V_{p-p} (1 k Ω)
SMPTE linear time code compliant
- EARPHONES
stereo mini jack (1)
- AUX OUT (for future expansion)

Input/Output Connectors

- CAMERA connector
D-sub optical combination connector (1)
- CTRL PANEL
Control panel connector (1)

Supplied Accessories

- BKP spacer (1)
Operation Manual (this document) (1)

Optional Accessories

- Control Panel
SRK-CP1
- SRMemory card
SR-256S15/256S55 (256 GB)
SR-512S25/512S55 (512 GB)
SR-1TS25/1TS55 (1 TB)
- Battery pack adapter
BKP-L551
BKW-R4

Notes

- Always make a test recording, and verify that it was recorded successfully.
SONY WILL NOT BE LIABLE FOR DAMAGES OF ANY KIND INCLUDING, BUT NOT LIMITED TO, COMPENSATION OR REIMBURSEMENT ON ACCOUNT OF FAILURE OF THIS UNIT OR ITS RECORDING MEDIA, EXTERNAL STORAGE SYSTEMS OR ANY OTHER MEDIA OR STORAGE SYSTEMS TO RECORD CONTENT OF ANY TYPE.
- Always verify that the unit is operating properly before use. SONY WILL NOT BE LIABLE FOR DAMAGES OF ANY KIND INCLUDING, BUT NOT LIMITED TO, COMPENSATION OR REIMBURSEMENT ON ACCOUNT OF THE LOSS OF PRESENT OR PROSPECTIVE PROFITS DUE TO FAILURE OF THIS UNIT, EITHER DURING THE WARRANTY PERIOD OR AFTER EXPIRATION OF THE WARRANTY, OR FOR ANY OTHER REASON WHATSOEVER.

Design and specifications are subject to change without notice.

Error Messages and Warning Messages

About Error Messages

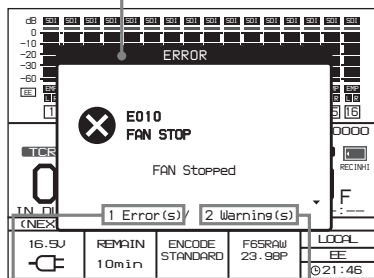
When the system stops operating incorrectly because of an internal error, a warning tone sounds and a popup window appears in the display of the control panel with an error message.

Tip

Only one message is displayed at one time, even if multiple errors occur. The number of current errors appears at the bottom of the popup window. Be sure to check the messages for all errors.

Example:

Popup window displaying error message "E010: FAN STOP" (fan stopped)



Indicates that there is one current error message.

Indicates that there are two current warnings (see page 68).

To view the other messages, rotate the SELECT/ENTER dial on the control panel.

When an error message appears

Eliminate the cause of the error, and power the system off and on again.

If the same error message appears again when the system is powered on, contact a Sony service representative.

To close the error message popup window

Press the HOME button or the BACK button. The error code is shown in the operation status and warnings section of the HOME screen (see page 13) and at the bottom left of each Setup menu screen (model name display) until the cause of the error is removed.

Error messages

Refer to the Maintenance Manual for more detailed information about the content of error messages, and about errors not listed here.

Code	Message	Meaning
E003	SY NVRAM ERROR	Detected an FRAM (HOURS METER and TC related information) checksum error.
E00B	SY-AU I/F ERROR	Detected a communication error between the audio circuit and system CPU.
E00E	SY-CP I/F ERROR	Detected a communication error between the system CPU and CP CPU.
E00F	PM STATUS ERROR	Detected an internal status mismatch.
E010	FAN STOP	Detected a cooling fan failure.
E013	DC IN OVERLOAD	Detected an overcurrent condition in the power supply input stage.
E014	DC VOLTAGE DOWN	The power supply voltage dropped below the rated value.
E017	ILLEGAL SHUTDOWN	The power was previously turned off without proper unmounting (i.e., ejecting) of the current card.
E018	BOARD TEMP NG	The temperature within the unit exceeds the rated value.
E01B	DUPLICATE FILES	Detected a file name duplication.
E031	ENCODER FAIL	The encoder has detected a recording error.
E032	DEC ERROR	The decoder has detected a recording file error.

Code	Message	Meaning
E050	MEDIA IF ERROR	Cannot communicate with the SRMemory card.
E051	UNMOUNT ERROR	An interface error occurred when ejecting the SRMemory card.
E052	MOUNT ERROR	An interface error occurred when connecting the SRMemory card to the system.
E053	FILE SYSTEM ERR	Detected an SRMemory card file system error.
E055	VIRTUAL VOL CARD	Detected a card that was formatted in Virtual Volume mode.
E056	SALVAGE PROCESS	Cannot salvage the SRMemory card.
E057	MEDIA FORMAT	Cannot format the SRMemory card file system.
E058	AV WRITE ERROR	Detected an audio/video recording error due to interface or memory problem.
E059	AV READ ERROR	Detected an audio/video playback error due to interface or memory problem.
E05A	WRITE FAIL OW	Detected an access error when recording an AV file to the SRMemory card. Proper recording is not possible. The power may have been turned off before unmounting of the card was complete.
E05B	CANNOT REC MEDIA	Detected an error in the unrecorded areas of the SRMemory card.
E05F	WP OFF TO MOUNT	The write-protect switch on the SRMemory card is set to WP. Write back for the most recent file system is not possible.
E070	CAM NO INPUT	There is no optical input from the F65 or the input is below required levels.

About Warning Messages

If an error is detected, a warning message code appears in the operation status and warnings section of the HOME screen (see page 13) and at the bottom left of each Setup menu screen (model name display).

To check the content of warning messages

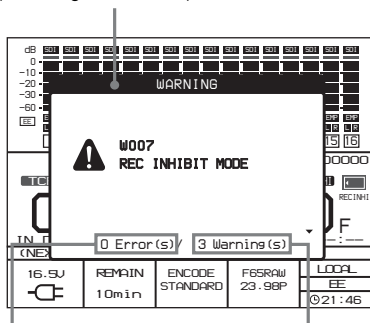
Press the SELECT/ENTER dial on the control panel. A popup window appears to display messages for the current warnings.

Tip

Only one message is displayed at one time, even if multiple warnings occur. The number of current errors and warnings appears at the bottom of the popup window. Be sure to check the messages for all errors and warnings.

Example:

Popup window displaying warning message "W007: REC INHIBIT MODE" (recording inhibit mode)



Indicates that there are no current error messages (see page 67).

Indicates that there are three current warnings.

To view the other messages, rotate the SELECT/ENTER dial on the control panel.

When a warning message appears

Take any action that may be needed to eliminate the cause of the warning.

Warning messages

Code	Message	Meaning
W001	PB FREQ MISMATCH	There is a mismatch between the configured system frequency and the frequency information recorded on the playback file.
W002	PB FMT MISMATCH	There is a mismatch between the configured system format and the format information recorded on the playback file.
W003	CANNOT REC REV	The last recorded file cannot be played back.
W007	REC INHIBIT MODE	Unit is in a non-record mode or SYSTEM settings are being configured.
W009	TEMPERATURE LOW	The temperature within the unit has fallen below the rated value. Warm-up the unit.
W00C	CP MISSING	Cannot detect a signal from the control panel.
W00D	DC VOLTAGE LOW	Detected a drop in the supply voltage.
W00E	BOARD TEMP HIGH	The temperature inside the unit is too high.
W010	MEDIA FULL	Cannot record because the SRMemory card is full.
W011	TOO MANY FILES	The number of files on the SRMemory card exceeds the maximum value.
W012	COND3 BAD	Cannot record due to insufficient bad memory swap area on the SRMemory card.
W013	LID OPEN	The SRMemory card insertion slot lid is open.
W017	MEDIA REMOVED	Detected an SRMemory card connection failure.
W018	MARK IN FULL	Previous MARK IN data was overwritten due to the limit on the number of MARK IN points for a single file being exceeded.

Code	Message	Meaning
W019	ILLEGAL FILENAME	A file name containing prohibited characters was received. Rename the file.
W01A	TASK STUCK	Transmission for a portion of a multitask may have failed.
W01F	PLAYER MODE	Recording is not possible in the current state.
W022	AUDIO PLL UNLOCK	The audio clock is not locked to the reference video signal.
W024	INTERNAL FRM NG	Internal Frm interruption could not be processed properly.
W02F	LOST LOCK	Detected a loss of lock synchronization during recording or playback.
W039	NO AUX INPUT	No input on the AUX IN connector.
W03B	AUX IN UNLOCK	“AUX IN” is selected in the AUDIO menu, but the input signal of the AUX IN connector and the video signal input to the unit is not locked.
W03D	ENCODER NG	Encoder initialization failed.
W03E	ENC WARNING	Recording malfunction (encoder error).
W03F	DEC WARNING	Cannot playback data from SRMemory card (decoder error).
W050	WP SW ON	The SRMemory card write-protect switch is set to WP.
W051	FS LOCKED	The SRMemory card is set to FS LOCK in the SYSTEM menu.
W054	CONDITION NG	Detected an SRMemory card access error.
W055	PB NOT READY	Not ready for playback. Playback the file again.
W057	REC TRIGGER MODE	A prohibited command was executed from the control panel while REC TRIGGER is not set to OFF.
W070	CAM ERROR	An error occurred in the camera. Check the settings on the camera display.

Code	Message	Meaning
W071	CAM WARNING	A warning occurred in the camera. Check the settings on the camera display.
W072	CAM NOT READY	Recording cannot start due to problems with the camera.
W073	CAM ID MISMATCH	The CAM ID setting in the FILE NAME menu and the card information do not match.
W074	CAM FMT MISMATCH	The camera and the format settings do not match.
W076	CAM VOL LOW	The camera supply voltage is too low.
W077	CAM MISSING	Cannot detect a signal from the camera.
W078	CAM OPT CARE	The received optical level from the CAMERA connector is low. Clean the connector.
W079	CAM OPT NG	The received optical level from the CAMERA connector is extremely low. Clean the connector.
W07C	CAM CRC NG	Detected a CRC error in the received optical signal data from the CAMERA connector.
W07E	REC RATE OVER	The SRMemory card cannot record in the current format. Use a faster SRMemory card.
W07F	CAM UNLOCK	The input video signal from the CAMERA connector is not locked with the unit.

Warning System

When an error is detected immediately after the system is powered on, or during operation, the display and the tally indicator (*see page 10*) provide a warning indication.

In addition, warning and alarm tones are output from the EARPHONES jack.

Note

Warning tones are only output if the BEEP (PHONE) > WARN (*see page 56*) setting in the AUDIO Setup menu is HIGH or LOW.

Warning tones	Alarm tones	Tally indicator	Description	SR-R4 operation	Countermeasures
●●●●●●●●●● : 1 beeps/second	●●●●●●●●●● : 1 beeps/second	* : 1 flashes/ second	An error as indicated by warning message has occurred. (Excluding “Servo lock lost during recording” below)	Operation continues.	Check the warning message, and resolve the condition.
●● ●● ●● ●● : 4 beeps/second	●● ●● ●● ●● : 4 beeps/second	⊗⊗⊗ : 4 flashes/ second			
●●●●●●●●●●●●●●●● : Continuous tone	●●●●●●●●●●●●●●●● : Continuous tone	⊗⊗⊗ : second			
—	—	—	Servo lock lost during recording	Recording continues, but results may invalid.	Check the input signal.
—	—	⊗⊗⊗ ^{b)}	An error occurred.	Operation continues or stops, depending on the type of error.	Check the error message, and resolve the condition. Alternatively, contact a Sony service representative.
—	●●●●●●●●●● ^{a)}	*	SRMemory card is almost full.	Operation continues.	Prepare to replace SRMemory card.
—	●●●●●●●●●●●●●●●●	⊗⊗⊗	SRMemory card is full.	Recording stops.	Replace SRMemory Card or delete unneeded files.
—	●●●●●●●●●● ^{a)}	*	Battery is almost empty. ^{c)}	Operation continues.	Replace battery.
—	●●●●●●●●●●●●●●●●	⊗⊗⊗	Battery is empty. ^{c)}	Operation stops.	Replace battery.

a) Output only during recording.
 b) Flashes during recording.
 c) You can use the battery level/external power indication on the display to check the state of the battery. (*see page 14, 22*)

Appendix

Warning tones	Alarm tones	Tally indicator	Description	SR-R4 operation	Countermeasures
●●●●●●●●●● : 1 beeps/second	●●●●●●●●●● : 1 beeps/second	* : 1 flashes/ second			
●●●●●●●●●● : 4 beeps/second	●●●●●●●●●● : 4 beeps/second	⋄ : 4 flashes/ second			
Continuous tone	Continuous tone				
—	●●●●●●●●●●	*	SRMemory processing (i.e., salvaging, formatting, file removal, unmounting) is in progress.	Recording, playback, and other operations are not possible.	Perform recording, playback, or other operations after the processing is complete.
—	●●●●●●●●●●	*	Processing for turning off the power is in progress (i.e., unmounting in progress).	The power cannot be turned off.	Do not turn off the power switch until the processing is complete.

a) Output only during recording.

b) Flashes during recording.

c) You can use the battery level/external power indication on the display to check the state of the battery.
(see page 14, 22)

Troubleshooting

Salvaging SRMemory cards for which recording did not complete properly

After recording to an SRMemory card is complete, press the EJECT button to safely remove the card, or turn off the unit with the power switch. Should the power cord be disconnected while recording is in progress, the recording operation will not complete properly. In such cases, the file system will not be updated and as a result, video and audio data recorded in real time will not be recognized as files and the content of recorded files will be damaged. The unit incorporates a salvage function that is designed to minimize data loss for such SRMemory cards. The salvage function restores files based on factors such as the maker information recorded on the SRMemory card. The salvaging process can take as little as a few seconds or up to 60 minutes, depending on the conditions at the time recording was interrupted.

Notes

- The salvage function is intended to salvage as much recorded material as possible in the event of an unforeseen accident, but it does not guarantee 100% restoration of data.
- This function will not restore data recorded immediately preceding the recording interruption.
- The amount of data loss is as follows:
 - F65RAW mode: About 2 seconds of data
 - SR-SQ mode: About 4 seconds of data
 - SR-Lite mode: About 8 seconds of data
- Whenever you insert an SRMemory card that requires salvaging or turn on the unit with such a card inserted, a popup message asking whether you want to perform salvaging will appear.
- Recording and playback are disabled for SRMemory cards that require salvaging.
- When you format an SRMemory card, the memory card will be ready for use immediately. However, any previously recorded data will be lost.

To restore files via salvaging

1. **Insert the SRMemory card for which recording did not complete properly into the SRMemory card slot.**

A warning message and a message asking whether you want to perform salvaging or formatting appears on the display.

Notes

- If REC inhibit is set to “ON” in the SYSTEM menu, set it to “OFF.”
- After you start the salvaging process, the process cannot be stopped. Be sure that you have enough time/power to wait for the process to complete before starting.

2. **Select and confirm “Salvage.”**

The salvaging process starts, and the “Please wait” message appears.

The message closes automatically when the process is complete.

If files are not restored after salvaging

If an SRMemory card cannot be restored even after salvaging, you can format the SRMemory card to make the card usable again.

1. **Insert the SRMemory card that could not be salvaged.**

A warning message and a message asking whether you want to perform salvaging or formatting appears on the display.

2. **Select and confirm “Format.”**

The formatting process starts, and the “Please wait” message appears.

The message closes automatically when the process is complete.

Video

Problem	Cause	Countermeasures
Picture is gray.	The format of the input signal is different from the system format.	The picture is gray when an input signal format is different from the system signal format. Set to the same format as the F65.
	The input signal is unstable.	The picture changes to gray when the input signal is unstable or interrupted.
	The HFR PB format is configured.	Change the playback to a REC format.
Picture break-up.	The input signal is unstable.	Supply a correct input signal.
	The monitor does not support the format.	Some older monitors support only the 59.94/60 frequencies. Use a monitor with specifications supporting the format.
	The input signal of F65 Genlock IN is not matched to the system frequency.	Input a signal with 1.000/1.000 and 1.000/1.001 that match the system.
	The frequency exceeds the monitor scanning frequency.	If the monitor is a BVM-F24, 25PsF and 29.97PsF cannot be displayed with ×3 scanning, resulting in picture breakup. Use ×2 or ×1 scanning. For 59.94i and 50i, use ASD scanning.
Movement stops, or is jerky.	Monitor is not operating properly.	Check the monitor settings. Try turning it off and on again.

Audio

Problem	Cause	Countermeasures
No sound.	Level meter indication is flashing, and input is disabled.	Set up input device correctly to supply an AUX audio signal.
	Mode was switched.	To prevent noise and damage to audio monitor equipment, audio is muted off when switching modes.
	Non Audio setting.	No audio is output when Non Audio mode is selected. A white box in the meter display indicates “Non Audio.”
	Volume is turned down.	When there is no sound from the headphones, even though the meters are moving, check whether the volume is set to an appropriate level.
	You are performing recording or playback in Select FPS mode.	Audio cannot be recorded or played back in Select FPS mode.
Noise is present.	Playback at wrong frequency.	Noise occurs when the playback frequency is different from the recorded frequency, because of the difference in the number of audio samples. Switch the playback format to match the recorded frequency.
No analog audio input.	Electret condenser microphone is not powered.	Change the setting to +48 V ON (except for internal battery powered microphone).
“NO AUX INPUT” is displayed.	No HD SDI signal is being supplied on the AUX IN connector.	Input the correct HD SDI signal. Input the HD SDI signal synchronized with the Genlock IN or the SDI OUT of the F65.

Other

Problem	Cause	Countermeasures
Power goes off.	The current limiter of the power source was activated.	Adjust the limiter, taking into account the inrush current when powering on and when switching modes. Take the current of the accessories and mechanical shutter of the F65 into account as well.
Cannot record.	SRMemory card is write-protected.	Return the write-protect switch to the original position.
Power to other equipment does not come on.	Power switch of other equipment is not on.	Turn power switch of other equipment on.

About Recording/Playback Formats

When Select FPS is ON

Select FPS setting	Signal	FPS Format (system frame frequency)	Frame (TC) (target frame frequency)	ENCODE				
				F65RAW-SQ/Lite	F65RAW-HFR	SR-HQ 12 bit	SR-SQ	SR-Lite
ON	F65RAW	S60	24/25	○	—	—	—	—
		S59	23/29	○	—	—	—	—
	F65RAW-HFR*1	S120	24/25	—	○*1	—	—	—
		S119	23/29	—	○*1	—	—	—
	HD 1920×1080 4:4:4	S60	24/25	—	—	○	○	—
		S59	23/29	—	—	○	○	—
	HD 1920×1080 4:2:2	S60	24/25	—	—	—	○	○
		S59	23/29	—	—	—	○	○

○: Supported —: Not supported *1: Recording /RecReview only

When Select FPS is OFF

Select FPS setting	Signal	Frame (TC) (target frame frequency)	ENCODE				
			F65RAW-SQ/Lite	F65RAW-HFR	SR-HQ 12 bit	SR-SQ	SR-Lite
OFF	F65RAW	23.98	○	—	—	—	—
		24	○	—	—	—	—
		25	○	—	—	—	—
		29.97	○	—	—	—	—
		50	○	—	—	—	—
		59.94	○	—	—	—	—
	F65RAW-HFR*2	23.98	—	○*2	—	—	—
		24	—	○*2	—	—	—
		25	—	○*2	—	—	—
		29.97	—	○*2	—	—	—
	HD 1920×1080 4:4:4	23.98	—	—	○	○	—
		24	—	—	○	○	—
		25	—	—	○	○	—
		29.97	—	—	○	○	—
	HD 1920×1080 4:2:2	23.98	—	—	—	○	○
		24	—	—	—	○	○
		25	—	—	—	○	○
		29.97	—	—	—	○	○
		50	—	—	—	○	○
	59.94	—	—	—	○	○	

○: Supported —: Not supported *2: Playback only

Lip Sync Correction

Depending on the system format and the system configuration, you may need to correct the amount of delay in the audio input signal in relation to the amount of delay in the video signal from the camera (lip sync correction).

If the time code is input via the TC IN connector, be sure to correct the time code similarly.

For formats that record audio (i.e., formats other than Select FPS), the delay duration for the camera in relation to the audio input is 0.5 to 1 frame, as shown in the following. Therefore, this unit's factory default setting for the input delay duration of the audio signal or time code is 1 frame. If necessary, you can change the delay duration in 1-frame increments.

Video Signal Delay Durations in Relation to Audio Inputs

The delay durations for the video signal from the F65 to the unit are as follows.

	Unit: Frames							
F65-RAW	23P	24P	25P	29P	50P	59P	S59P	S119P
Delay duration	0.5	0.5	0.5	0.5	1	1	2	2

	Unit: Frames						
HD	23P	24P	25P	29P	50P	59P	S59P
Delay duration	0.5	0.5	0.5	0.5	1	1	1

- The delay setting for the recorded audio signal can be configured with "INPUT DELAY" in the AUDIO Setup menu (*see page 56*).
- The delay setting for the recorded time code can be configured with "TC Delay" under "OTHERS" in the TC Setup menu (*see page 54*).

Automatic File Name Configuration in Response to Changes in SRMemory Cards and Settings

Depending on the condition of the SRMemory card that is inserted in the unit or whether the camera ID is changed, the name of the next recorded file will be automatically configured. This section describes common examples of when file names are automatically configured.

Tip

The name of the file currently in operation can be checked by pressing the HOME button while holding down the FUNC button and changing the HOME screen display.

For details, see "Display" (page 13).

During Normal Operation

This section describes the file names that are used when you configure the camera ID and reel number settings, record on a blank SRMemory card, and then record on another blank SRMemory card.

1 Configure the camera ID and reel number in the "FILE LIST" of the SYSTEM Setup menu as follows.

Camera ID: D

Reel number: 001

2 Insert a blank SRMemory card into the unit.

"D001C001_XXXXXXXX" blinks under "FILENAME (NEXT)" in the HOME screen to indicate the next file that will be recorded.

3 Record.

When you record, the FILENAME display will stop blinking and display steadily. "FILENAME (NEXT)" will change to "D001C002," "D001C003," etc. in sequence.

4 Remove the SRMemory card, and insert another blank SRMemory card (i.e., a recently formatted card or a card on which all the files were deleted (ALL DEL)).

The reel number automatically changes to "002," and "D002C001_XXXXXXXX" blinks under "FILENAME (NEXT)."

5 Record.

When you record, the FILENAME display will stop blinking and display steadily. "FILENAME (NEXT)" will change to "D002C002," "D002C003," etc. in sequence.

Note

The camera ID and reel number settings in the "FILE LIST" of the SYSTEM Setup menu do not change when the SRMemory card is inserted. The settings change when recording is performed.

When an SRMemory Card with Different Camera ID and Reel Number Information is Inserted

This section describes the file names that are used when you switch to and record on an SRMemory card that contains files with different camera ID and reel number information from the camera ID and reel number settings configured on the unit.

1 Insert the SRMemory card with different camera ID and reel number information into the unit.

An SRMemory card that contains a file named "G003C006_XXXXXXXX" is used in this example.

"G003C007_XXXXXXXX" blinks under "FILENAME (NEXT)" in the HOME screen to indicate the next file that will be recorded.

2 Record.

When you record, the FILENAME display will stop blinking and display steadily. "FILENAME (NEXT)" will change to "G003C008," "G003C009," etc. in sequence.

Note

The camera ID and reel number settings in the "FILE LIST" of the SYSTEM Setup menu do not change when the SRMemory card is inserted. The settings change when recording is performed.

When the Camera ID is Changed

This section describes the file names that are used when you change the camera ID setting in the SYSTEM Setup menu.

1 Change the "CAMERA ID" setting to "F" in the "FILE LIST" of the SYSTEM Setup menu.

When you change the camera ID setting, the "REEL NO." setting will change to "001."

2 Record.

If the SRMemory card did not contain a file named "F001XXXX_XXXXXXXX," the files will be named in sequence starting with "F001C001."

Tip

If you change the settings to the camera ID and reel number of a file that exists on the SRMemory card, the file that is recorded next will continue from the existing information.

For example, if a file named "F001C005_XXXXXXXX" exists on the SRMemory card, the name of the file recorded next will be "F001C006_XXXXXXXX."

About "Memory Stick" Media

The unit supports the storing and recalling of the following data on a "Memory Stick."

Supported "Memory Stick" types

The SR-R4 supports "Memory Stick" media up to 128 MB capacity, and "Memory Stick PRO" media up to 8 GB capacity.

Note on data read/write speed

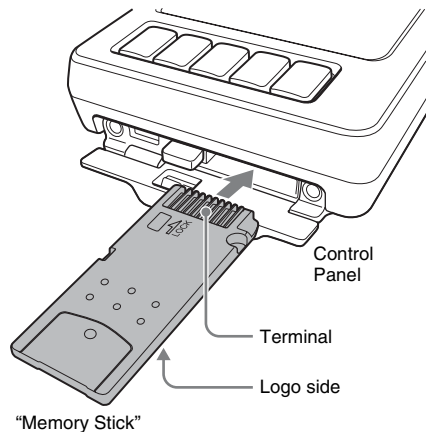
Data read/write speed may vary depending on the combination of the "Memory Stick" and "Memory Stick"-compliant product you use.

Note

"Memory Stick Duo" media and "Memory Stick PRO Duo" media cannot be used as is in the SR-R4. In order to use these "Memory Stick" types, a separately available "Memory Stick Duo" adapter is required. If a "Memory Stick Duo" or "Memory Stick PRO Duo" is forced into the unit without an adapter, it may not be possible to retrieve the media.

Inserting a "Memory Stick"

Insert the "Memory Stick" into "Memory Stick" slot on the control panel with the logo side facing down and the terminal facing up. Push the "Memory Stick" all the way in.



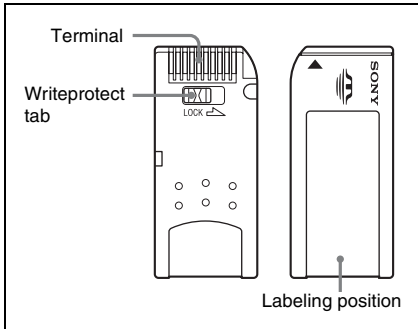
Note

Double-check that the “Memory Stick” is oriented correctly before pushing it in. If you feel a resistance, the “Memory Stick” may be upside down, or reversed. Do not force the “Memory Stick” in.

Removing the “Memory Stick”

Verify that the eject button indicator is not lit or flashing, and press the button.

About “Memory Stick”




- When you set the “Memory Stick” erasure prevention switch to “LOCK,” data cannot be recorded, edited, or erased.
- Data may be damaged if:
 - You remove the “Memory Stick” or turn off the unit while it is reading or writing data.
 - You use the “Memory Stick” in a location subject to the effects of static electricity or electric noise.
- We recommend that you make a backup copy of important data that you record on the “Memory Stick.”

When the “Memory Stick” access indicator is lit or flashing

Data is being read from or written to the “Memory Stick” at this time. Do not shake the product or subject it to shock. Also do not turn power off or remove the “Memory Stick.” Doing so may damage the data.

Precautions

- Do not attach anything other than the supplied label to the “Memory Stick” labeling position.
- Attach the label so that it does not stick out beyond the labeling position.
- Carry and store the “Memory Stick” in its case.
- Do not touch the connector of the “Memory Stick” with anything, including your finger or metallic objects.
- Do not strike, bend, or drop the “Memory Stick.”
- Do not disassemble or modify the “Memory Stick.”
- Do not allow the “Memory Stick” to get wet.
- Do not use or store the “Memory Stick” in a location that is:
 - Extremely hot, such as in a car parked in the sun
 - Under direct sunlight
 - Very humid or subject to corrosive substances
- To prevent data loss, make backups of data frequently. In no event will Sony be liable for any loss of data.
- Unauthorized recording may be contrary to the provisions of copyright law. When material such as images or data that is subject to copyright is recorded on a “Memory Stick”, the material may only be used in accordance with copyright laws.

- “Memory Stick” and  are trademarks of Sony Corporation.
- “Memory Stick Duo” and **MEMORY STICK DUO** are trademarks of Sony Corporation.
- “Memory Stick PRO” and **MEMORY STICK PRO** are trademarks of Sony Corporation.
- “Memory Stick PRO Duo” and **MEMORY STICK PRO DUO** are trademarks of Sony Corporation.

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Index

A

- Accessories supplied 66
- ADJUST knob 12
- Adjusting playback audio levels 34
- AUDIO INPUT CH-1, CH-2 connectors 10
- AUDIO INPUT CH-1, CH-2 input selection switches 10
- Audio level meters 13
- Audio monitor signal settings 34
- AUDIO Setup menu 55
- AUX IN connector 10

B

- Backlight 27
- BATTERY 62
- BEEP (PHONE) 56

C

- CTRL PANEL connector 11
- Cuing 38

D

- Date and time 27
- Date settings 27
- Displaying 68

E

- EARPHONES jack 10
- EJECT button 10, 12
- Encoding format indication 14
- Error messages 67

F

- FILE LIST 39, 57
- File list 39
- File system format 23
- FORMAT 58

I

- INPUT SEL 55

K

- KEY INHI 61
- KEY INHI switch 12
- KEYMAP 61

L

- LCD 60
- LEVEL knob 10
- LID LOCK indicator 10
- Lid open/close button 10
- LIGHT switch 12

M

- Menu 24, 52
 - AUDIO Setup menu 55
 - operation 24
 - SYSTEM Setup menu 57
 - TC Setup menu 52
- Menu selection buttons 12
- METER TYPE 56
- MIX MODE 55

O

- Optional accessories 66
- OTHERS 54, 63

P

- PB LEVEL 55
- PEAK HOLD 56
- PHONE SEL 55
- Playback 34
- Playback preparations 34
- POWER 62
- POWER (power supply) indicator 10

R

- REC INHI 61
- REC LEVEL 55
- Recording 33

Recording and playback operation buttons
12, 36
Recording preparations 28
Recording/playback formats 76
RUN MODE 53

S

Salvaging 73
Screen saver 27
Select FPS function 47
Setting the audio signals 28
Setting the recording levels 29
Signal format indication 14
Signal format settings 26
Specifications 65
SR Motion 43
SRMemory card 22
 insert 22
 remove 23
SRMemory card remaining capacity
 indication 14
SRMemory card slot 10
SYSTEM Setup menu 57

T

Tally indicator 10
TC IN connector 10
TC OUT connector 10
TC Setup menu 52
TCG MODE 53
TCG SET 53
TCR SEL 52
Time code 30
Time data 34
TIMER PRESET 52
TIMER RESET 52
TIMER SEL 52
Troubleshooting 73

U

User bits 30

W

Warning system 71

SR-R4 Supported Formats and Maximum Recording Times¹⁾ (Approximate)

Unit: min

RAW/HD	Color space/ bit depth	Encode	Frame rate	SRMemory card						
				SR-256S15 1.5 Gbps 256 GB	SR-512S25 2.5 Gbps 512 GB	SR-ITS25 2.5 Gbps 1 TB	SR-256S55 5.5 Gbps 256 GB	SR-512S55 5.5 Gbps 512 GB	SR-ITS55 5.5 Gbps 1 TB	
F65RAW	F65RAW-Lite ²⁾		23.98p/24p	25	51	102	25	51	102	
			25p	24	49	98	24	49	98	
			29.97p	20	40	81	20	40	81	
			50p	-	-	-	12	24	49	
			59.94p/S59.94p/S60p ²⁾	-	-	-	10	20	41	
	F65RAW-SQ	Linear 16 bit		23.98p/24p	-	30	60	15	30	60
				25p	-	29	58	14	29	58
				29.97p	-	24	48	12	24	48
				50p	-	-	-	7	14	29
				59.94p/S59.94p/S60p ²⁾	-	-	-	6	12	24
F65RAW-HFR			S119.88p/S120p ²⁾	-	-	-	6	12	24	
				-	-	-	6	12	24	

¹⁾ The recording time varies depending on recording conditions.

²⁾ Recording times for Select FPS format are based on recording at maximum fps.
 Example: The recording times at 120 fps are indicated for S119p (23p). You can record for 6 minutes with a 256 GB card, and the time code will progress 30 minutes at 5x speed during this time.

RAW/HD	Color space/ bit depth	Encode	Frame rate	SRMemory card							
				SR-256S15	SR-512S25	SR-ITS25	SR-256S55	SR-512S55	SR-ITS55		
				1.5 Gbps 256 GB	2.5 Gbps 512 GB	2.5 Gbps 1 TB	5.5 Gbps 256 GB	5.5 Gbps 512 GB	5.5 Gbps 1 TB		
HD SSP	4:2:2 10 bit	SR-Lite	23.98PsF/24PsF	142	285	571	142	285	571	285	571
			25PsF	136	273	548	136	273	548	273	548
			29.97PsF	114	228	457	114	228	457	228	457
			50p	72	144	289	72	144	289	144	289
			59.94p/S59.94p/S60p ²⁾	57	114	228	57	114	228	114	228
			23.98PsF/24PsF	77	155	311	77	155	311	155	311
			25PsF	74	149	298	74	149	298	149	298
			29.97PsF	62	124	248	62	124	248	124	248
			50p	38	76	153	38	76	153	76	153
			59.94p/S59.94p/S60p ²⁾	31	63	128	31	63	128	63	128
SR-SQ	4:4:4 10 bit	SR-SQ	23.98PsF/24PsF	77	155	311	77	155	311	155	311
			25PsF	74	149	298	74	149	298	149	298
			29.97PsF	62	124	248	62	124	248	124	248
			S59.94p/S60p ²⁾	31	62	124	31	62	124	62	124
			23.98PsF/24PsF	39	79	160	39	79	160	79	160
			25PsF	38	76	153	38	76	153	76	153
SR-HQ	4:4:4 12 bit	SR-HQ	29.97PsF	31	63	128	31	63	128	63	128
			S59.94p/S60p ²⁾	-	31	63	15	31	63	31	63

1) The recording time varies depending on recording conditions.

2) Recording times for Select FPS format are based on recording at maximum fps.
 Example: The recording times at 120 fps are indicated for S119p (23p). You can record for 6 minutes with a 256 GB card, and the time code will progress 30 minutes at 5x speed during this time.

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