SONY

HD COLOR CAMERA

HDC-F950

HD CCD BLOCK ADAPTOR

HKC-T950

INSTALLATION AND MAINTENANCE MANUAL

1st Edition

Serial No. 10001 and Higher: HDC-F950

Serial No. 10001 and Higher: HKC-T950

⚠警告

このマニュアルは，サービス専用です。
お客様が，このマニュアルに記載された設置や保守，点検，修理などを行うと感電や火災，人身事故につながることがあります。
危険をさけるため，サービストレーニングを受けた技術者のみご使用ください。

⚠ WARNING

This manual is intended for qualified service personnel only.
To reduce the risk of electric shock, fire or injury, do not perform any servicing other than that contained in the operating instructions unless you are qualified to do so. Refer all servicing to qualified service personnel.

⚠ WARNUNG

Die Anleitung ist nur für qualifiziertes Fachpersonal bestimmt.
Alle Wartungsarbeiten dürfen nur von qualifiziertem Fachpersonal ausgeführt werden. Um die Gefahr eines elektrischen Schlages, Feuergefahr und Verletzungen zu vermeiden, sind bei Wartungsarbeiten strikt die Angaben in der Anleitung zu befolgen. Andere als die angegeben Wartungsarbeiten dürfen nur von Personen ausgeführt werden, die eine spezielle Befähigung dazu besitzen.

⚠ AVERTISSEMENT

Ce manual est destiné uniquement aux personnes compétentes en charge de l’entretien. Afin de réduire les risques de décharge électrique, d’incendie ou de blessure n’effectuer que les réparations indiquées dans le mode d’emploi à moins d’être qualifié pour en effectuer d’autres. Pour toute réparation faire appel à une personne compétente uniquement.

For HDC-F950

CAUTION

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

For HDC-F950

Laser Diode Properties

Material	: In GaAsp
Wave length	: 1310 nm, 1550 $^{+4.4}_{-7.4}$ nm
Emission duration	: Pulse code modulation
Laser output power	: −8 dBm

For HDC-F950

注意

指定以外の電池に交換すると，破裂する危険があります。
使用済の電池は，説明書に従って処理してください。

CAUTION

Danger of explosion if battery is incorrectly replaced.

Replace only with the same or equivalent type recommended by the manufacturer.
Dispose of used batteries according to the manufacturer's instructions.

Vorsicht!

Explosionsgefahr bei unsachgemäßem Austausch der Batterie.

Ersatz nur durch denselben oder einen vom Hersteller empfohlenen ähnlichen Typ. Entsorgung gebrauchter Batterien nach Angaben des Herstellers.

ATTENTION

Il y a danger d'explosion s'il y a remplacement incorrect de la batterie.

Remplacer uniquement avec une batterie du même type ou d'un type équivalent recommandé par le constructeur.
Mettre au rebut les batteries usagées conformément aux instructions du fabricant.

ADVARSEL!

Lithiumbatteri-Eksplosionsfare ved fejlagtig håndtering.
Udskiftning må kun ske med batteri af samme fabrikat og type.
Levér det brugte batteri tilbage til leverandøren.

ADVARSEL

Lithiumbatteri - Eksplosjonsfare.
Ved utskifting benyttes kun batteri som anbefalt av apparatfabrikanten.
Brukt batteri returneres apparatleverandøren.

VARNING

Explosionsfara vid felaktigt batteribyte.
Använd samma batterityp eller en likvärdig typ som rekommenderas av apparattillverkaren.
Kassera använt batteri enligt gällande föreskrifter.

VAROITUS

Paristo voi räjähtää jos se on virheellisesti asennettu.
Vaihda paristo ainoastaan laitevalmistajan suosittelemaan tyyppiin.
Hävitä käytetty paristo valmistajan ohjeiden mukaisesti.

For the customers in the Netherlands
Voor de klanten in Nederland

Hoe u de batterijen moet verwijderen, leest u in de Onderhoudshandleiding.

Gooi de batterij niet weg maar lever deze in als klein chemisch afval (KCA).

Für Kunden in Deutschland

Entsorgungshinweis: Bitte werfen Sie nur entladene Batterien in die Sammelboxen beim Handel oder den Kommunen. Entladen sind Batterien in der Regel dann, wenn das Gerät abschaltet und signalisiert “Batterie leer” oder nach längerer Gebrauchsdauer der Batterien “nicht mehr einwandfrei funktioniert”. Um sicherzugehen, kleben Sie die Batteriepole z.B. mit einem Klebestreifen ab oder geben Sie die Batterien einzeln in einen Plastikbeutel.

For the customers in the U.S.A. and Canada

RECYCLING LITHIUM-ION BATTERIES

Lithium-Ion batteries are recyclable.
You can help preserve our environment by returning your used rechargeable batteries to the collection and recycling location nearest you.

For more information regarding recycling of rechargeable batteries, call toll free 1-800-822-8837, or visit http://www.rbrc.org/

Caution: Do not handle damaged or leaking Lithium-Ion batteries.

For the customers in Japan

リチウムイオン電池のリサイクルについて

このマークはリチウムイオン電池のリサイクルマークです。

Li-ion

リチウムイオン電池は，リサイクルできます。
不要になったリチウムイオン電池は，金属部にセロハンテープなどの絶縁テープを貼ってリサイクル協力店へお持ちください。

充電式電池の回収・リサイクルおよびリサイクル協力店については社団法人電池工業会ホームページ http://www.baj.or.jp/ を参照して下さい。

Table of Contents

Manual Structure

1. Installation Overview

2. Service Overview

3. Setup Menu

4. File System

Manual Structure

Purpose of this manual

This manual is the installation and maintenance manual of HD Color Camera HDC-F950 and HD CCD Block Adaptor HKC-T950 for HDC-F950.
This manual is intended for use by trained system and service engineers, and is provided information required for the installation and maintenance information .

Related manuals

Besides this installation and maintenance manual, the following manuals are available.

- **HDC-F950 Operation Manual (Supplied with HDC-F950)**
  This manual is necessary for the use and the operation of the HDC-F950.
  Part No. : 3-789-477-XX

- **HKC-T950 Operation Manual (Supplied with HKC-T950)**
  This manual is necessary for the installation and operation of the HKC-T950.
  Part No. : 3-206-420-XX

- **HDC-F950 e-manual (Tentative name) (Available on request)**
  This electronic manual intended for use by trained system and service engineers describes (replacement of main parts, SERVICE menu, electrical alignment, detailed parts list, block diagrams, schematic diagrams, and board layouts.) required for parts-level service of the HDC-F950.
  For obtaining, contact your local Sony Sales Office/Service Center.

- **System Manual (Available on request)**
  This manual is necessary for connection and operation of this unit and other peripheral equipment.
  If this manual is required, please contact to your local Sony Sales Office/Service Center.

- **“Semiconductor Pin Assignments” CD-ROM (Available on request)**
  This “Semiconductor Pin Assignments” CD-ROM allows you to search for semiconductors used in B&P Company equipment.
  Semiconductors that cannot be searched for on this CD-ROM are listed in the maintenance manual for the corresponding unit. The maintenance manual contains a complete list of all semiconductors and their ID Nos., and thus should be used together with the CD-ROM.
  Part number: 9-968-546-XX

Contents

The installation and maintenance manual is organized by following sections.

Section 1 Installation Overview

This section is described about the information that is required to install (switch setting on the board, connection information, and the like.) and when installing this unit.

Section 2 Service Overview

This section is described about the recommended replacing parts, replacing the fuse and the cleaning procedures.

Section 3 Setup Menu

This section is described about the setup menu (TOP menu, OPERATION menu, PAINT menu, MAINTENANCE menu, FILE menu and DIAGNOSIS menu).

Section 4 File System

This section is described about the file system to control data.

Section 1
Installation Overview

1-1. Checking the ROM and Software Version

When connecting the peripheral equipment in the list below to HDC-F950, be sure to check that the ROM and software version on each peripheral device is corresponding to the camera to be connected.
If the ROM and software version is lower than the specified below, be sure to perform ROM replacement and updating the software.
If ROM replacement and updating the software are required, contact your local Sony Sales Office/Service Center.

ROM

Peripheral equipment	Board name	Ref No.	Rom version
MSU-700A/750	CPU-293/CPU-286	IC5, IC6/IC5, IC6	Ver. 1.10 or higher
RCP-720/721	MPU-79	IC10	Ver. 2.73 or higher
RCP-730/731	MPU-79	IC10	Ver. 2.73 or higher
RCP-740/741	MPU-79	IC10	Ver. 2.73 or higher
RCP-700/701	MPU-92	IC6	Ver. 2.73 or higher
RM-B150	CPU-266	IC4	Ver. 1.00 or higher

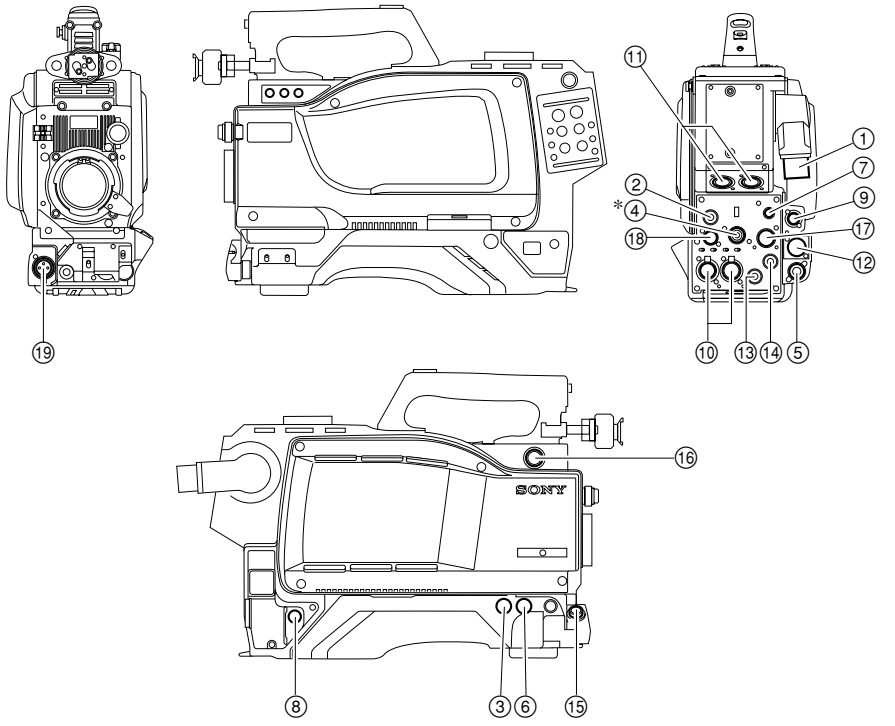
Software

Peripheral equipment	Board name	Software version
RCP-750/751	MPU-123	Ver. 1.01 or higher
RM-B750	MPU-124	Ver. 1.00 or higher

1-2. Connectors and Cables

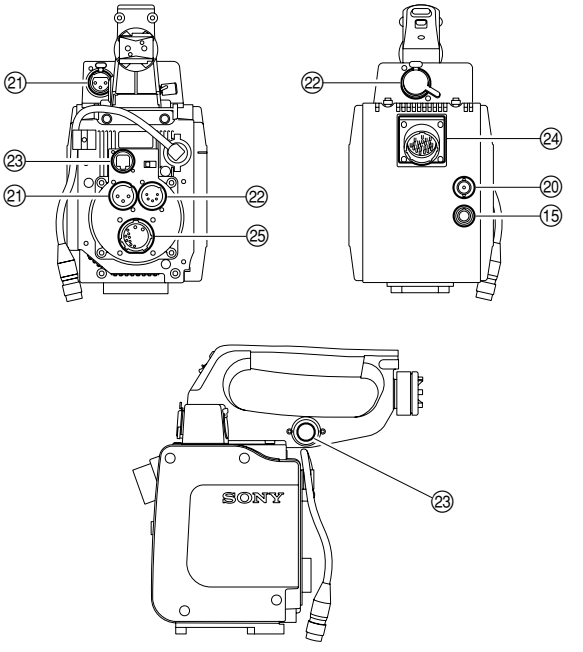
1-2-1. Connector Input/Output Signals

HDC-F950 Connector Layout



∗ : Use ④ connector by selecting PROMPTER OUT, GENLOCK IN and RET IN signals with the switch.
PROMPTER OUT signal become effective when the camera is connected to CCU.
GENLOCK IN and RET IN signals become effective when the camera is used alone.

HKC-T950 Connector Layout



Input/Output Signals

① CCU connector

Based upon BTA S-004A/005A/006A 1.485 Gbps serial

Output Signals

② EARPHONE OUT

EARPHONE mini jack

③ TEST OUT

BNC type 75 Ω, 1.0 V p-p

④ PROMPTER OUT *2

BNC type 75 Ω, 1.0 V p-p

⑤ HD SERIAL RET OUT *1

Based upon BTA-S004A, SMPTE-292M
BNC type 75 Ω, 0.8 V p-p 1.485 Gbps

⑬ HD SERIAL LINK A OUT

Based upon BTA-S004A, SMPTE-372M
BNC type 75 Ω, 0.8 V p-p 1.485 Gbps

⑭ HD SERIAL LINK B OUT

Based upon BTA-S004A, SMPTE-372M
BNC type 75 Ω, 0.8 V p-p 1.485 Gbps

⑳ VIDEO OUT (HKC-T950)

BNC type 75 Ω, 1.0 V p-p

Input Signals

④ GENLOCK IN *2

BNC type 75 Ω, 1.0 V p-p

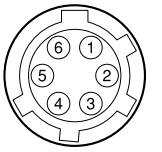
④ RET IN *2

BNC type 75 Ω, 1.0 V p-p

⑥ Not used

∗1 : HD SERIAL RET OUT signal become effective when the camera is connected to CCU.
∗2 : Use this connector by selecting PROMPTER OUT, GENLOCK IN and RET IN signals with the switch on the rear panel of HDC-F950.
PROMPTER OUT signal become effective when the camera is connected to CCU.
GENLOCK IN and RET IN signals become effective when the camera is used alone.

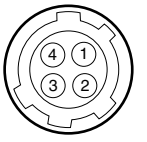
⑦ RET CONTROL (6P FEMALE)



(External view)

No.	Signal	I/O	Specifications
1	INCOM 1 MIC ON/OFF	IN	Zi ≧ 10 kΩ ON : GND OFF : OPEN
2	INCOM 2 MIC ON/OFF	IN	Zi ≧ 10 kΩ ON : GND OFF : OPEN
3	GND	——	
4	NC		No connection
5	RET 1 ON/OFF	IN	Zi ≧ 10 kΩ ON : GND OFF : OPEN
6	RET 2 ON/OFF	IN	Zi ≧ 10 kΩ ON : GND OFF : OPEN

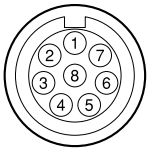
⑧ DC OUT (4P FEMALE)



(External view)

No.	Signal	I/O	Specifications
1	GND	——	GND for POWER
2	NC		No connection
3	NC		No connection
4	UNREG	OUT	+12 V dc 500 mA (max)

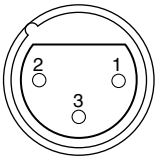
⑨ REMOTE (8P FEMALE)



(External view)

No.	Signal	I/O	Specifications
1	TX (+)		HDC SERIAL DATA
2	TX (–)		
3	RX (+)		HDCU/MSU/RCP/CNU/VCS
4	RX (–)		SERIAL DATA
5	TX GND	——	GND for TX
6	POWER (+)	OUT	+26 V, 200 mA (max)
7	POWER GND	——	GND for POWER (+)
8	VIDEO (X)		75 Ω, 1.0 V p-p
	CHASSIS GND	——	CHASSIS GND

⑩ AUDIO IN CH1/CH2 (3P FEMALE)

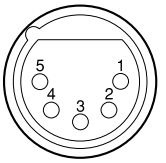


(External view)

No.	Signal	I/O	Specifications
1	AUDIO (G)	——	–60 dBu, –50 dBu, –40 dBu,
2	AUDIO (X)	IN	–30 dBu, –20 dBu, selectable
3	AUDIO (Y)	IN	High impedance, Balanced

(0 dBu = 0.775 Vrms)

⑪ INTERCOM CH1/CH2 (5P FEMALE)

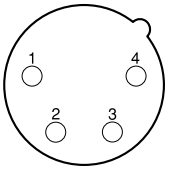


(External view)

No.	Signal	I/O	Specifications
1	INCOM MIC (Y)	IN	–20 dBu (CARBON MIC)
2	INCOM MIC (X)	IN	–60 dBu (DYNAMIC MIC)
3	GND (INCOM/PGM)	——	
4	INCOM RECEIVE	OUT	0 dBu
5	PGM	OUT	0 dBu

(0 dBu = 0.775 Vrms)

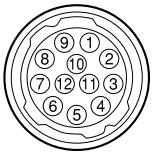
⑫ DC IN (4P MALE)



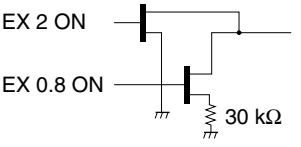
(External view)

No.	Signal	I/O	Specifications
1	GND	——	GND for DC (+)
2	NC		No connection
3	NC		No connection
4	DC (+)	IN	+10.5 to 17 V dc

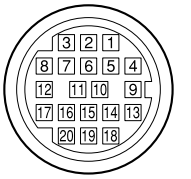
⑮ LENS (12P FEMALE)



(External view)

No.	Signal	I/O	Specifications
1	RET VIDEO ENABLE	IN	ENABLE : 0 V DISABLE : +5 V or OPEN
2	VTR START /STOP	IN	ENABLE : 0 V DISABLE : +5 V or OPEN
3	GND	——	GND for UNREG
4	AUTO SERVO	OUT	AUTO : +5 V MANU : 0 V or OPEN
5	IRIS CONT	OUT	+3.4 V (F16) to +6.2 V (F2.8)
6	UNREG	OUT	+10.5 V to +17 V
7	IRIS POSITION	IN	+3.4 V (F16) to +6.2 V (F2.8)
8	AUTO/MANU	OUT	AUTO IRIS : 0 V MANUAL IRIS : +5 V
9	EXTENDER ON/OFF	IN	EX 2 ON : GND EX 0.8 ON : 30 kΩ to GND OFF : OPEN 
10	ZOOM POSITION	IN	WIDE : 2 V TELE : 7 V
11	FOCUS POSI (/LENS RX)	IN	∞ : 7 V min. : 2 V
12	(LENS TX)	OUT	

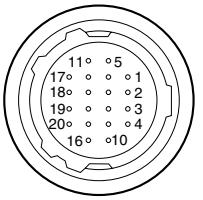
⑯ VF (20P FEMALE)



(External view)

No.	Signal	I/O	Specifications
1	S-DA TA	IN/OUT	TTL level
2	NC		No connection
3	NC		No connection
4	SCK	OUT	TTL level
5	NC		No connection
6	NC		No connection
7	NC		No connection
8	G TALLY	OUT	ON : 5 V OFF : GND
9	NC		No connection
10	Y VIDEO	OUT	1.0 V p-p, Zo = 75 Ω
11	NC		No connection
12	Y VIDEO	OUT	1.0 V p-p, Zo = 75 Ω
13	VIDEO GND	——	GND for VIDEO
14	Pb VIDEO	OUT	±0.35 V p-p, Zo = 75 Ω
15	Pr VIDEO	OUT	±0.35 V p-p, Zo = 75 Ω
16	NC		No connection
17	R TALLY	OUT	ON : 5 V OFF : GND
18	NC		No connection
19	UNREG GND	——	GND for UNREG
20	UNREG	OUT	+10.5 V to +17 V

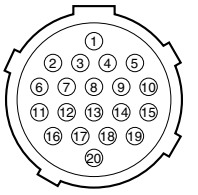
⑰ EXT I/O (20P)



(External view)

No.	Signal	I/O	Specifications
1	Y VIDEO (X)	OUT	1.0 V p-p, Zo = 75 Ω
2	Y VIDEO (G)	——	GND for Y VIDEO
3	PROMPTER (X)	OUT	1.0 V p-p, Zo = 75 Ω
4	PROMPTER (G)	——	GND for PROMPTER
5	Pr VIDEO (X)	OUT	±0.35 V p-p, Zo = 75 Ω
6	Pr VIDEO (G)	——	GND for Pr VIDEO
7	Pb VIDEO (X)	OUT	±0.35 V p-p, Zo = 75 Ω
8	Pb VIDEO (G)	——	GND for Pb VIDEO
9	SDA VF	IN/OUT	TTL level
10	VD	OUT	Negative Pulse, 3.0 V p-p, Low impedance
11	CALL $\overline{ON}$	IN	ON : L (0 v) OFF : H (+3 V)
12	VF POWER OFF	OUT	ON : H (+5 V) OFF : L (0 V)
13	MAIN POWER ON/OFF	OUT	ON : +8 V OFF : GND
14	SCL VF	OUT	TTL level
15	TALLY GND	——	GND for TALLY
16	BACK TALLY	OUT	ON : 5 V OFF : GND
17	PANEL DATA	IN	RX SERIAL DATA
18	PANEL DATA	OUT	TX SERIAL DATA
19	VF UNREG +	OUT	+12 V (+10.5 V to +17.0 V)
20	GND	——	GND for UNREG

⑱ TRACKER (FEMALE)

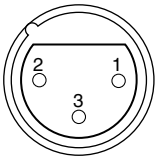


(External view)

No.	Signal	I/O	Specifications
1	TRK R (X)	OUT	TRACKER RECEIVE 0 dBu unbalanced
2	TRK R (G)	——	GND for TRACKER R
3	GND (UNREG/TALLY)	——	GND for UNREG/TALLY
4	R TALLY	OUT	ON : 5 V (Open Collector) OFF : 0 V (Open Collector)
5	TRK PGM (G)	——	GND for PGM
6	UNREG	OUT	+12 V (+10.5 to +17.0 V)
7	TRK T (X)	IN	TRACKER TALK
8	TRK T (Y)	IN	0 dBu /–20 dBu High impedance balanced
9	TRK T (G)	——	GND for TRACKER T
10	TRK PGM (X)	OUT	–20 dBu unbalanced
11	NC		No connection
12	G TALLY	OUT	ON : 5 V (Open Collector) OFF : 0 V (Open Collector)
13	NC		No connection
14	RX_DATA (0)	IN	TRUNK DATA IN, RS232-C
15	RX_DATA (1)	IN	
16	NC		No connection
17	NC		No connection
18	TX_DATA (0)	OUT	TRUNK DATA OUT, RS232-C
19	TX_DATA (1)	OUT	
20	GND	——	

(0 dBu = 0.775 Vrms)

⑲ FRONT MIC (3P FEMALE)



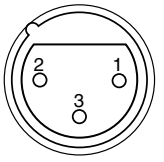
(External view)

No.	Signal	I/O	Specifications
1	CHU MIC (G)	——	–60 dBu, –50 dBu, –40 dBu,
2	CHU MIC (X)	IN	–30 dBu, –20 dBu, selectable
3	CHU MIC (Y)	IN	High impedance, Balanced

(0 dBu = 0.755 Vrms)

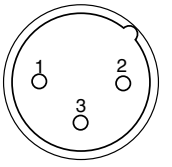
㉑ MIC (HKC-T950)

(3P FEMALE)



(External view)

(3P MALE)



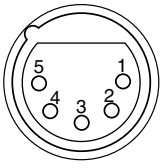
(External view)

No.	Signal	I/O	Specifications
1	AUDIO (G)	——	–60 dBu, –50 dBu, –40 dBu,
2	AUDIO (X)	IN	–30 dBu, –20 dBu, selectable
3	AUDIO (Y)	IN	High impedance, Balanced

(0 dBu = 0.755 Vrms)

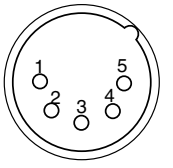
㉒ INCOM (HKC-T950)

(5P FEMALE)



(External view)

(5P MALE)



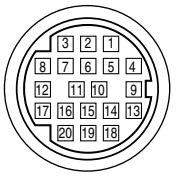
(External view)

No.	Signal	I/O	Specifications
1	INCOM MIC (Y)	IN	–20 dBu (CARBON MIC)
2	INCOM MIC (X)	IN	–60 dBu (DYNAMIC MIC)
3	GND (INCOMPGM)	——	
4	INCOM RECEIVE	OUT	0 dBu
5	PGM	OUT	0 dBu

(0 dBu = 0.755 Vrms)

㉓ VF (HKC-T950)

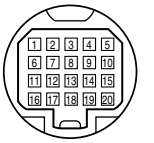
(20P FEMALE)



(External view)

No.	Signal	I/O	Specifications
1	S DATA	IN/OUT	TTL level
2	NC		No connection
3	NC		No connection
4	SCK	OUT	TTL level MANU : 0 V or OPEN
5	NC		No connection
6	NC		No connection
7	NC		No connection
8	G TALLY	OUT	ON : 5 V OFF : GND
9	NC		No connection
10	NC		No connection
11	NC		No connection
12	Y VIDEO	OUT	1.0 V p-p, Zo = 75 Ω
13	VIDEO GND	——	GND for VIDEO
14	NC		No connection
15	NC		No connection
16	NC		No connection
17	R TALLY	OUT	ON : 5 V OFF : GND
18	NC		No connection
19	UNREG GND	——	GND for UNREG
20	UNREG	OUT	+10.5 V to +1.7 V

(20P FEMALE)

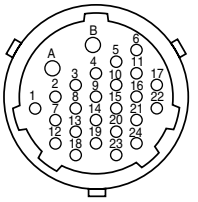


(External view)

No.	Signal	I/O	Specifications
1	S DATA	IN/OUT	TTL level
2	NC		No connection
3	NC		No connection
4	SCK	IN	TTL level MANU : 0 V or OPEN
5	NC		No connection
6	NC		No connection
7	NC		No connection
8	G TALLY	IN	ON : 5 V OFF : GND
9	NC		No connection
10	NC		No connection
11	NC		No connection
12	Y VIDEO	IN	1.0 V p-p, Zi = 75 Ω
13	VIDEO GND	——	GND for VIDEO
14	NC		No connection
15	NC		No connection
16	NC		No connection
17	R TALLY	IN	ON : 5 V OFF : GND
18	NC		No connection
19	NC		No connection
20	NC		No connection

㉔ CAM BODY (HKC-T950)

(26P MALE)

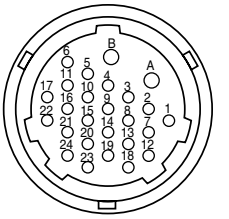


(External view)

No.	Signal	I/O	Specifications
A	UNREG	IN	13 V to 17 V
B	UNREG GND	——	GND for UNREG
1	OHB H	OUT	0.3 V p-p Positive pulse
2	OHB H (G)	——	GND for OHB H
3	G VIDEO (G)	——	GND for G VIDEO
4	G VIDEO (X)	OUT	300 mV p-p, Zo = 75 Ω (100 %)
5	R VIDEO (X)	OUT	300 mV p-p, Zo = 75 Ω (100 %)
6	R VIDEO (G)	——	GND for R VIDEO
7	B VIDEO (X)	OUT	95 mV p-p, Zo = 75 Ω (100 %)
8	B VIDEO (G)	——	GND for B VIDEO
9	MIC (X)	OUT	–60 dBu, –50 dBu, –40 dBu,
10	MIC (Y)	OUT	–30 dBu, –20 dBu, selectable
11	INCOM/MIC GND	——	GND for INCOM/MIC, CHU F, IRIS CONT
12	IRIS CONT	IN	+3.4 V (F16) to +6.2 V (F2.8)
13	CHU F	IN	0.3 V p-p Positive pulse
14	INCOM RECEIVE	IN	0 dBu
15	INCOM MIC (X)	OUT	–20 dBu (CARBON MIC)
16	INCOM MIC (Y)	OUT	–60 dBu (DYNAMIC MIC)
17	CHU H	IN	150 mV p-p Positive pulse
18	VF VIDEO (X)	IN	180 mV p-p, Zi = 75 Ω
19	VF VIDEO (G)	——	GND for VF VIDEO,CHU H
20	PGM	IN	0 dBu
21	RX COMMAND (X)	IN	340 mV p-p
22	RX COMMAND (Y)	IN	
23	TX COMMAND (X)	OUT	
24	TX COMMAND (Y)	OUT	

㉕ OPT HEAD (HKC-T950)

(26P FEMALE)

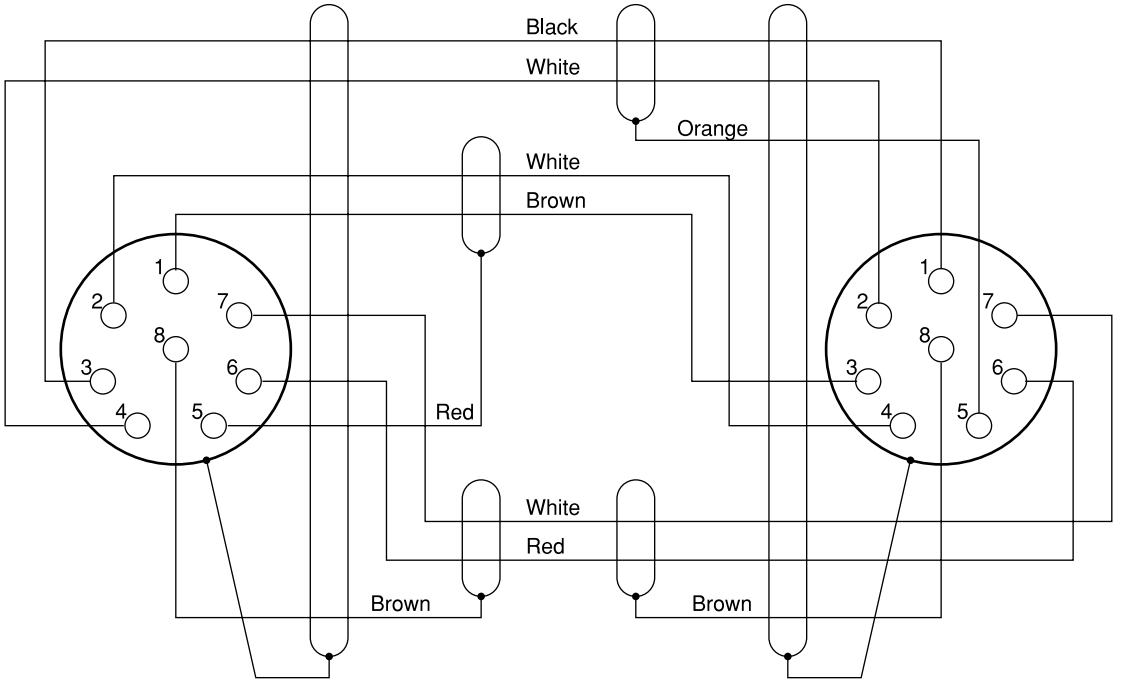


(External view)

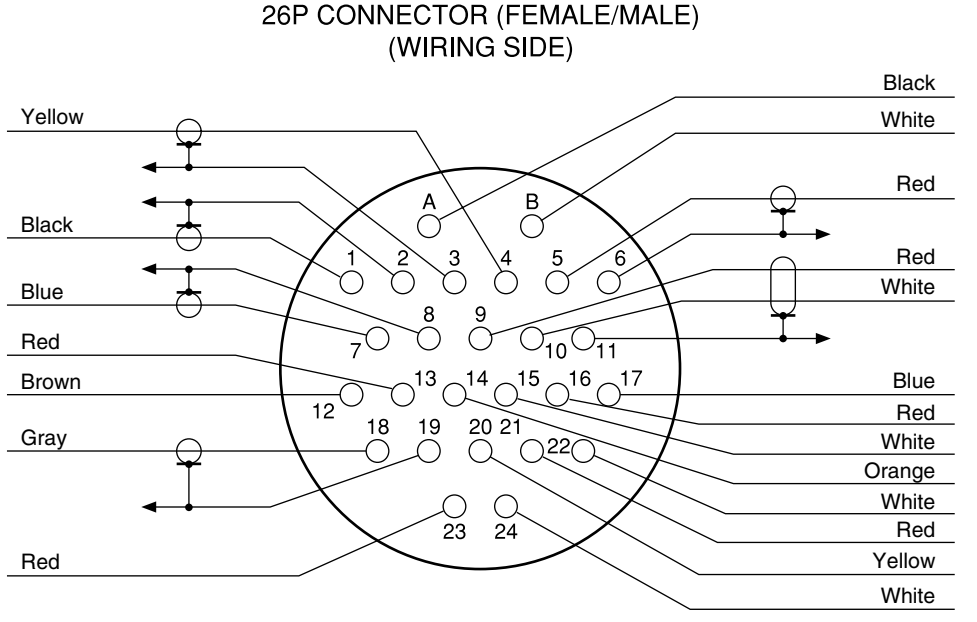
No.	Signal	I/O	Specifications
A	UNREG	OUT	13 V to 17 V
B	UNREG GND	——	GND for UNREG
1	OHB H	IN	0.3 V p-p Positive pulse
2	OHB H (G)	——	GND for OHB H
3	G VIDEO (G)	——	GND for G VIDEO
4	G VIDEO (X)	IN	300 mV p-p, Zi = 75 Ω (100 %)
5	R VIDEO (X)	IN	300 mV p-p, Zi = 75 Ω (100 %)
6	R VIDEO (G)	——	GND for R VIDEO
7	B VIDEO (X)	IN	95 mV p-p, Zi = 75 Ω (100 %)
8	B VIDEO (G)	——	GND for B VIDEO
9	MIC (X)	IN	–60 dBu, –50 dBu, –40 dBu,
10	MIC (Y)	IN	–30 dBu, –20 dBu, selectable
11	INCOM/MIC GND	——	GND for INCOM/MIC, CHU F, IRIS CONT
12	IRIS CONT	OUT	+3.4 V (F16) to +6.2 V (F2.8)
13	CHU F	OUT	0.3 V p-p Positive pulse
14	INCOM RECEIVE	OUT	0 dBu
15	INCOM MIC (X)	IN	–20 dBu (CARBON MIC)
16	INCOM MIC (Y)	IN	–60 dBu (DYNAMIC MIC)
17	CHU H	OUT	150 mV p-p Positive pulse
18	VF VIDEO (X)	OUT	180 mV p-p, Zo = 75 Ω
19	VF VIDEO (G)	——	GND for VF VIDEO, CHU H
20	PGM	OUT	0 dBu
21	RX COMMAND (X)	OUT	340 mV p-p
22	RX COMMAND (Y)	OUT	
23	TX COMMAND (X)	IN	
24	TX COMMAND (Y)	IN	

1-2-2. Wiring Diagrams for Cables

CCA-5 Cable



HDCZ Cable



1-2-3. Connection Connectors/Cables

Connection made with the connector panels during installation or service, should be made with the connectors/complete cable assemblies specified in the following list, or equivalent parts.

Indication	Connection connector/cable
HDC-F950	
CCU	LEMO® FUW. 3K. 93C. TLMC96 ∗4
(HDCU-F950 side)	
CAMERA	LEMO® PUW. 3K. 93C. TLCC96 ∗4
TEST OUT PROMPTER OUT VIDEO OUT (BNC)	1-569-370-12 Plug, BNC
HD SERIAL LINK A/B OUT HD SERIAL RET OUT	1-569-370-12 Plug, BNC or BELDEN8281 Cable or equivalent
AUDIO IN MIC IN (3P FEMALE)	1-508-084-00 XLR, 3P Male or ITT Cannon XLR-3-12C equivalent Cable assembly (supplied with HKC-T950, 0.8 m) 1-823-599-11 ∗3
MIC IN (3P MALE)	1-508-083-00 XLR, 3P, Female or ITT Cannon XLR-3-11C equivalent Cable assembly (supplied with HKC-T950, 0.8 m) 1-823-599-11 ∗3
RET CONTROL (6P FEMALE)	1-560-078-00 Plug, 6P Male or HIROSE HR10-7PA-6P equivalent
DC OUT (4P FEMALE)	1-566-425-11 Plug, 4P Male or HIROSE HR10A-7P-4P equivalent
INTERCOM INCOM (5P FEMALE)	1-508-370-11 XLR, 5P Male or ITT Cannon XLR-5-12C equivalent Cable assembly (supplied with HKC-T950, 0.8 m) 1-823-600-11 ∗3
INCOM (5P MALE)	1-508-363-00 XLR, 5P Female or ITT Cannon XLR-5-11C equivalent Cable assembly (supplied with HKC-T950, 0.8 m) 1-823-600-11 ∗3
CAM BODY	1-564-184-00 Plug, 26P Female or Cable assembly ∗3 HDCZ-A10 (supplied with HKC-T950, 10 m) 1-823-615-11 HDCZ-A25 (option, 25 m) 1-823-616-11 HDCZ-A50 (option, 50 m) 1-823-617-11
OPT HEAD (26P FEMALE)	1-564-183-31 Plug, 26P Male or Cable assembly ∗3 HDCZ-A10 (supplied with HKC-T950, 10 m) 1-823-615-11 HDCZ-A25 (option, 25 m) 1-823-616-11 HDCZ-A50 (option, 50 m) 1-823-617-11
DC IN (4P MALE)	1-508-362-00 XLR, 4P Female or ITT Cannon XLR-4-11C equivalent, or Cable assembly 1-551-577-00 (Supplied with AC-550/550CE)
REMOTE (8P FEMALE)	1-766-848-11 Plug, 8P Male or CCA-5 cable assembly (option) ∗2 CCA-5-10 (10 m) /CCA-5-3 (3 m) or REMOTE cable 1-783-372-11 (supplied with RM-B150, 10 m) ∗1 ∗2
TRACKER (20P FEMALE)	HIROSE HR25-9P-20P equivalent
VF (20P FEMALE)	Cable assembly (supplied with HKC-T950, 0.7 m) 1-792-603-21

∗1: Use of REMOTE cable enables to monitor video signals.
∗2: If using a cable of length different from a standard product, contact your local Sony Sales Office/Service Center.
∗3: Only for HKC-T950.
∗4: Caution in making the optical/electric signal composite cable:
When making the optical/electric signal composite cable used for this camera system, the connection connectors specified in this manual must be used in order to comply with the limits for EMC regulations.

1-2-4. Note in connecting CCU connector

It is recommendable to clean the optical contact portions mentioned below before connecting this unit to the camera control unit.

- CCU connector of this unit
- Camera connector of the camera control unit
- Optical/Electrical cable

It is also necessary to clean the optical contact portions mentioned below before using the HDC-F950 to the large lens adaptor CA-905L.

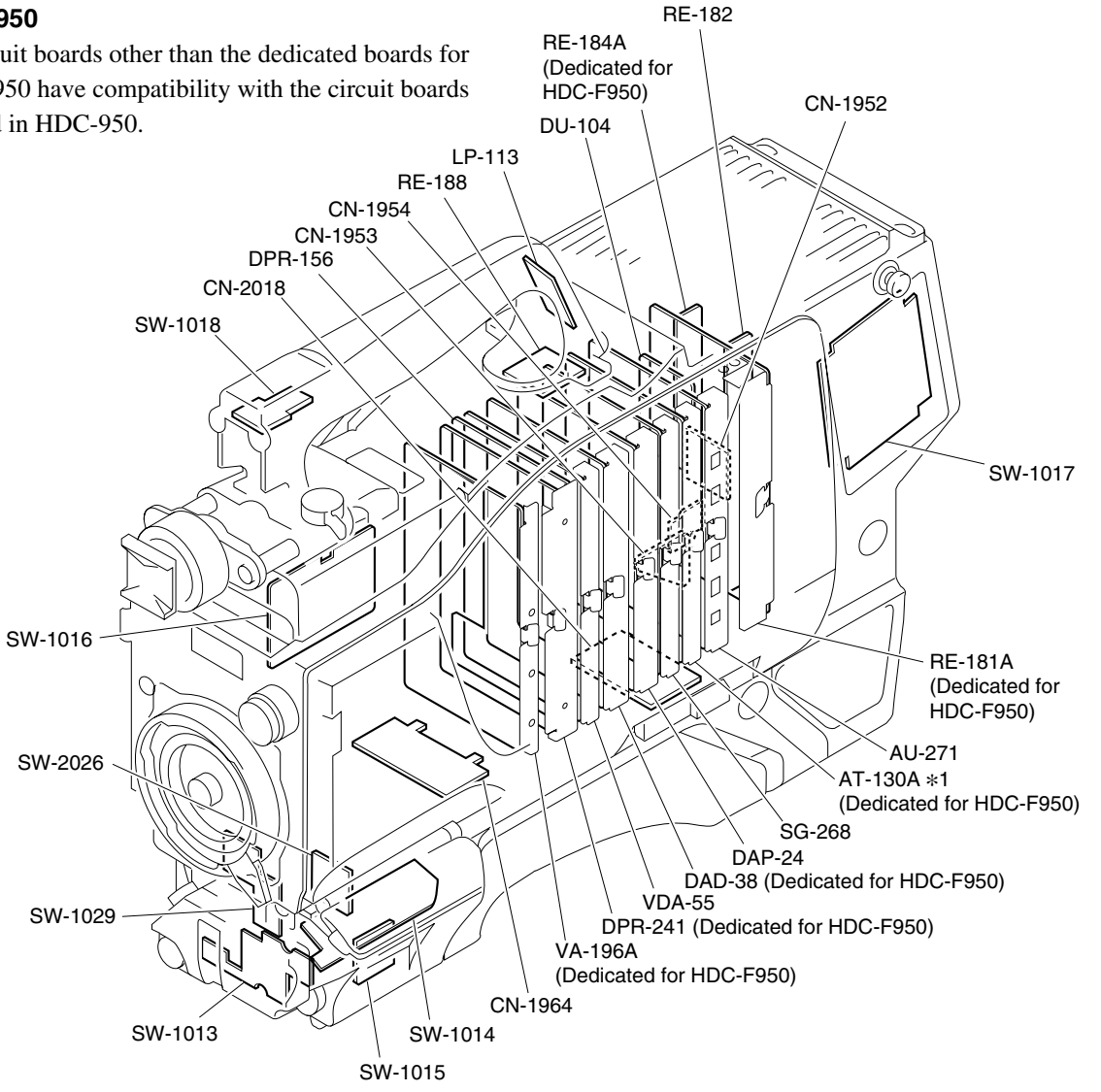
- CA cable of a large lens adaptor
- CCU connector of a large lens adaptor

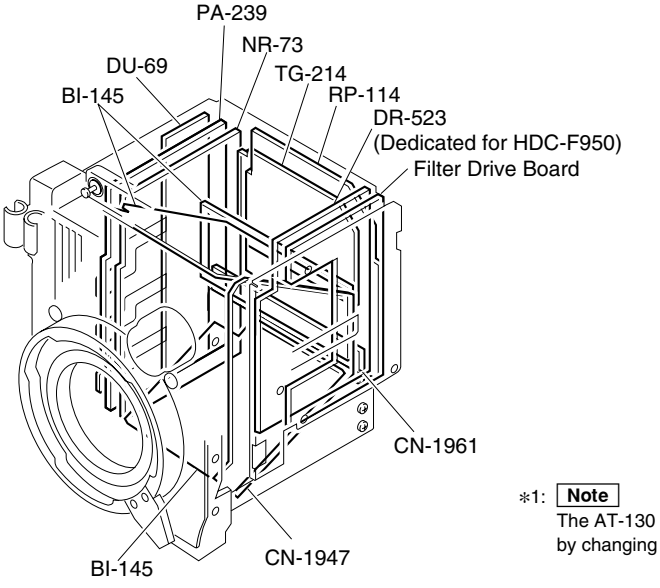
For details on a cleaning method, refer to Section 2-1 “Cleaning of Connector/Cable”.

1-3. Location of Printed Circuit Boards

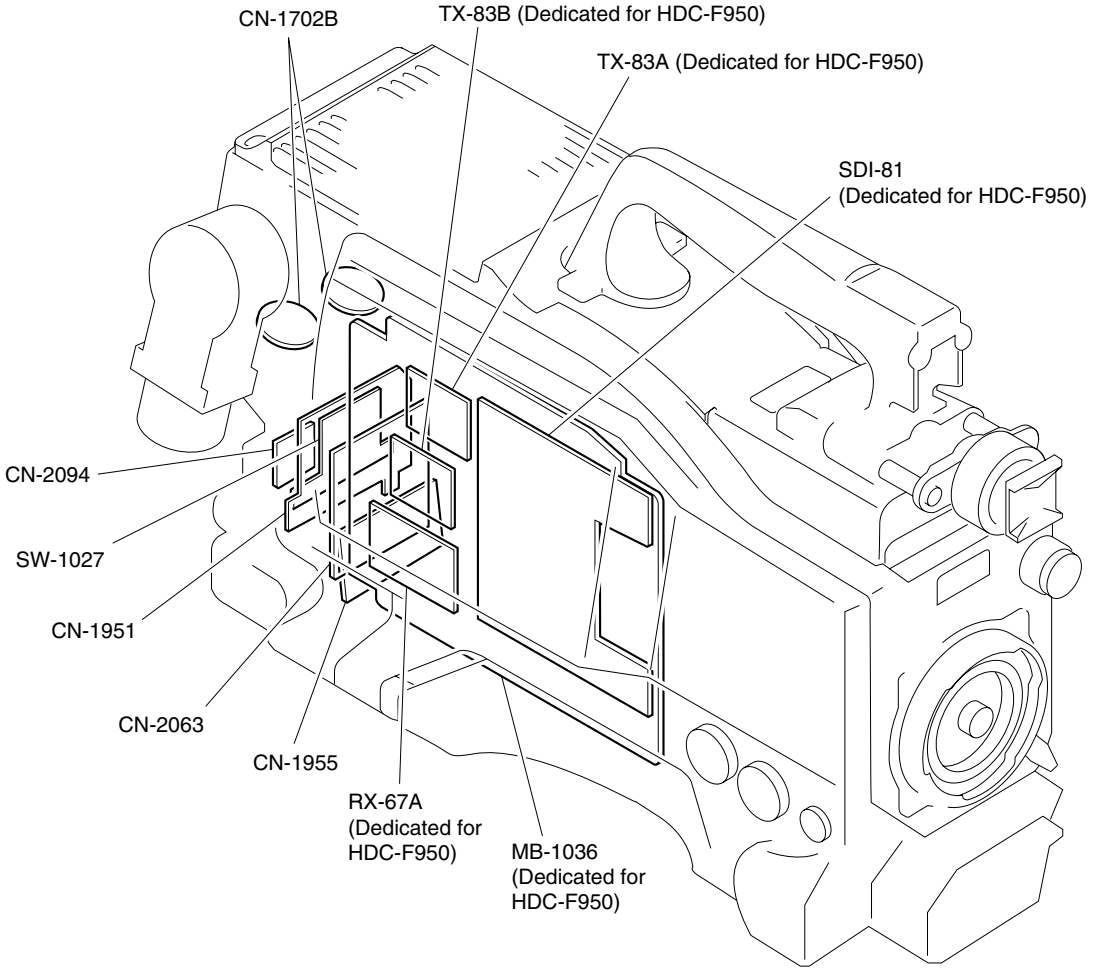
HDC-F950

The circuit boards other than the dedicated boards for HDC-F950 have compatibility with the circuit boards installed in HDC-950.

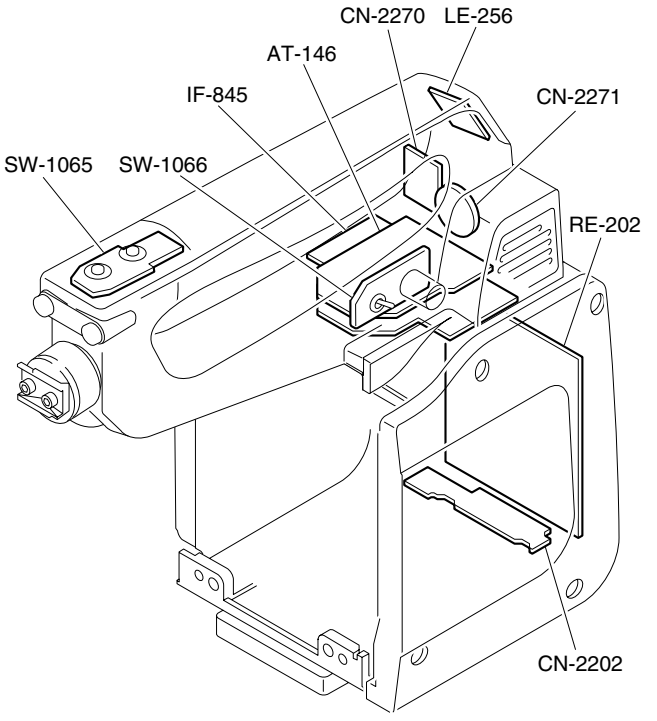


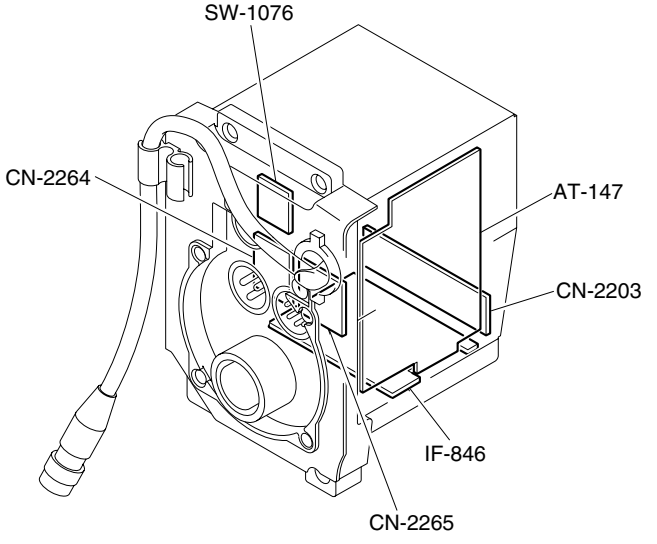


∗1: **Note**
The AT-130 board installed in HDC-950 can be used for HDC-F950 by changing the software.


CN-1702B
TX-83B (Dedicated for HDC-F950)
TX-83A (Dedicated for HDC-F950)
SDI-81
(Dedicated for HDC-F950)
CN-2094
SW-1027
CN-1951
CN-2063
CN-1955
RX-67A
(Dedicated for
HDC-F950)
MB-1036
(Dedicated for
HDC-F950)

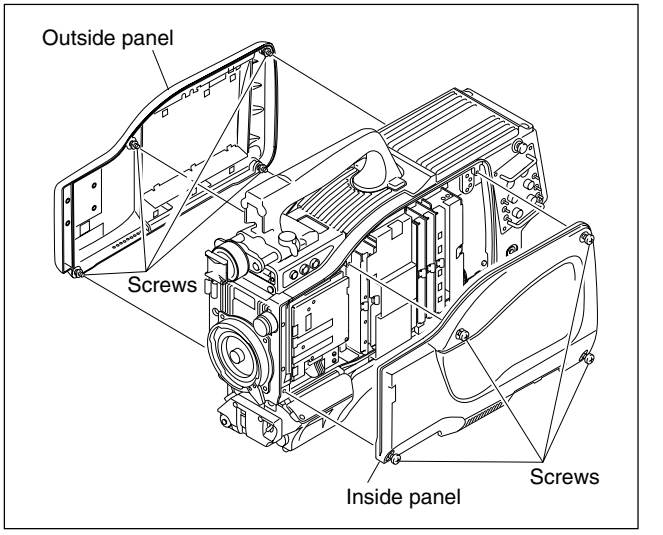
HKC-T950





1-4. Removing/Reinstalling the Side Panel (HDC-F950)

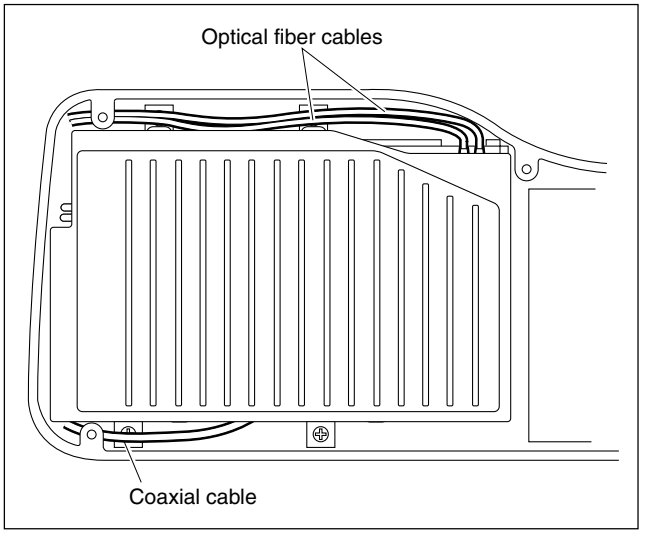
1. Unscrew the eight screws as shown in the figure, then remove the inside panel and outside panel.



2. Reinstall in the reverse order of removal step 1.

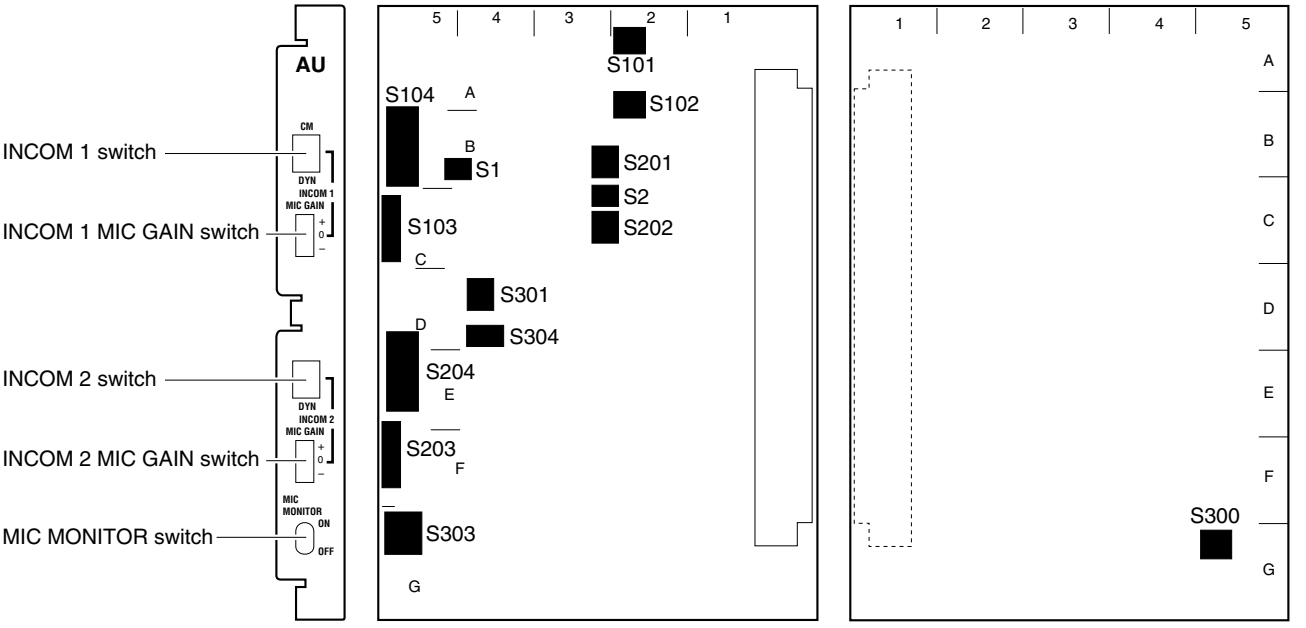
Note

When reattaching the outside panel, be careful not to put the cables shown in the figure between the outside panel and the chassis.



1-5. Switch Setting on the Boards

AU-271 board



AU-271 board (A side)

AU-271 board suffix -13 and higher (B side)

Ref. No.	Name	Contents	Factory Setting
S1-1 *1	TRACKER INCOM2 ON/OFF	Switch ON to mix the TRACKER TALK signal of the Tracker connector to CCU INCOM2 RECEIVE OUT.	OFF
S1-2 *2	Not used	——	——
S2-1 *2	PGM1 INCOM1 RECEIVE MIX ON/OFF	Switch ON to mix the PGM1 signal adjusted the sound volume by the PGM volume control to the INCOM1 RECEIVE signal before the sound volume adjustment.	OFF
S2-2	PGM2 INCOM2 RECEIVE MIX ON/OFF	Switch ON to mix the PGM2 signal adjusted the sound volume by the PGM volume control to the INCOM2 RECEIVE signal before the sound volume adjustment.	OFF
S101-1	PGM1 MUTE ON/OFF	Switch OFF to output the PGM1 signal to the PGM OUT of the INTERCOM1 connector.	OFF
S101-2	PGM2 MUTE ON/OFF	Switch OFF to output the PGM2 signal to the PGM OUT of the INTERCOM1 connector.	ON
S101-3	INCOM1 MUTE ON/OFF	Switch OFF to output the INCOM1 RECEIVE signal to the PGM OUT of the INTERCOM1 connector.	OFF
S101-4	INCOM2 MUTE ON/OFF	Switch OFF to output the INCOM2 RECEIVE signal to the PGM OUT of the INTERCOM1 connector.	ON
S102-1	PGM1 MUTE ON/OFF	Switch OFF to output the PGM1 signal to the INCOM OUT of the INTERCOM1 connector.	OFF
S102-2	PGM2 MUTE ON/OFF	Switch OFF to output the PGM2 signal to the INCOM OUT of the INTERCOM1 connector.	ON
S102-3	INCOM1 MUTE ON/OFF	Switch OFF to output the INCOM1 RECEIVE signal to the INCOM OUT of the INTERCOM1 connector.	OFF
S102-4	INCOM2 MUTE ON/OFF	Switch OFF to output the INCOM2 RECEIVE signal to the INCOM OUT of the INTERCOM1 connector.	ON

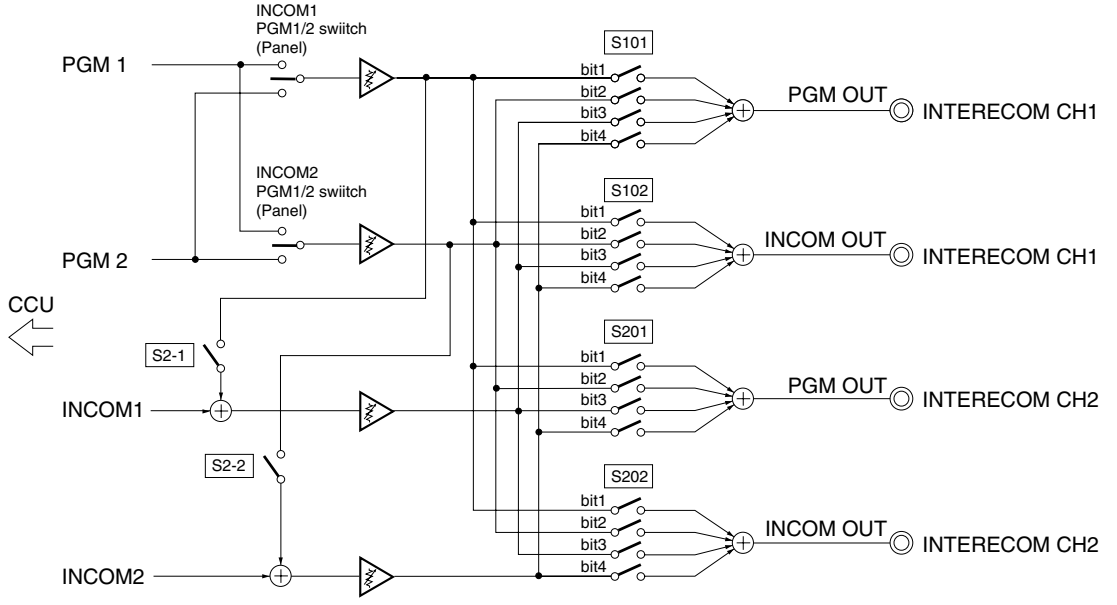
Ref. No.	Name	Contents	Factory Setting
S103	INCOM1 MIC GAIN +/0/–	Select the audio level of INTERCOM1/2 to be sent to CCU. + : +6dB 0 : 0dB – : –6dB	0
S104	INCOM1 MIC TYPE	Select from two options below in accordance with the microphone of the head set connected to the INTERCOM1/2 connector. CM : Carbon microphone DYN : Dynamic microphone	CM
S201-1	PGM1 MUTE ON/OFF	Switch OFF to output the PGM1 signal to the PGM OUT of the INTERCOM2 connector.	ON
S201-2	PGM2 MUTE ON/OFF	Switch OFF to output the PGM2 signal to the PGM OUT of the INTERCOM2 connector.	OFF
S201-3	INCOM1 MUTE ON/OFF	Switch OFF to output the INCOM1 RECEIVE signal to the PGM OUT of the INTERCOM2 connector.	ON
S201-4	INCOM2 MUTE ON/OFF	Switch OFF to output the INCOM2 RECEIVE signal to the PGM OUT of the INTERCOM2 connector.	OFF
S202-1	PGM1 MUTE ON/OFF	Switch OFF to output the PGM1 signal to the INCOM OUT of the INTERCOM2 connector.	ON
S202-2	PGM2 MUTE ON/OFF	Switch OFF to output the PGM2 signal to the INCOM OUT of the INTERCOM2 connector.	OFF
S202-3	INCOM1 MUTE ON/OFF	Switch OFF to output the INCOM1 RECEIVE signal to the INCOM OUT of the INTERCOM2 connector.	ON
S202-4	INCOM2 MUTE ON/OFF	Switch OFF to output the INCOM2 RECEIVE signal to the INCOM OUT of the INTERCOM2 connector.	OFF
S203	INCOM2 MIC GAIN +/0/–	Select the audio level of the INTERCOM1/2 to be sent to CCU. + : +6dB 0 : 0dB – : –6dB	0
S204	INCOM2 MIC TYPE	Select from two options below in accordance with the microphone of the head set connected to the INTERCOM 1/2 connector. CM : Carbon microphone DYN : Dynamic microphone	CM
S300-1 *3	AUDIO1 +12 V OFF/ON	Switch ON to supply +12 V for MIC POWER to the microphone connected the AUDIO IN 1 connector.	OFF
S300-2 *3	AUDIO2 +12 V OFF/ON	Switch ON to supply +12 V for MIC POWER to the microphone connected the AUDIO IN 2 connector.	OFF
S301-1	TRACKER RECEIVE OUT PGM1 MIX	Switch ON to mix the PGM1 signal to the TRACKER RECEIVE OUT of the TRACKER connector.	OFF
S301-2	TRACKER RECEIVE OUT PGM2 MIX	Switch ON to mix the PGM2 signal to the TRACKER RECEIVE OUT of the TRACKER connector.	OFF
S301-3 *1	TRACKER RECEIVE OUT IMCOM2 RECEIVE MIX	Switch ON to mix the INCOM2 RECEIVED signal to the TRACKER RECEIVE OUT of the TRACKER connector.	OFF
S301-4 *1	TRACKER RECEIVE OUT INCOM2 TALK MIX	Switch ON to mix the INCOM2 TALK signal to the TRACKER RECIVE OUT of the TRACKER connector.	OFF
S303	MIC MONITOR ON/OFF	Switch ON to monitor the microphone input signal at the INCOM OUT or EARPHONE OUT.	OFF
S304	TRACKER (T) 0/–20	Select the input level of the TRACKER Connector. 0 : 0dBu –20 : –20dBu (0dBu = 0.775 Vrms)	0

∗1: The Tracker connector communicates to INCOM1 at the standard setting, yet it is communicable to INCOM2 by setting S1-1, S301-1 and S301-4
to ON.

∗2: When setting S2-1 or S2-2 to ON, set bit1 and bit2 of S101, S102, S201 and S202 as shown below to prevent PGM1 and PGM2 signals from being mixed double.

S2-1	S101, 102, 201, 202 bit1
ON	ON

S2-2	S101, 102, 201, 202 bit12
ON	ON

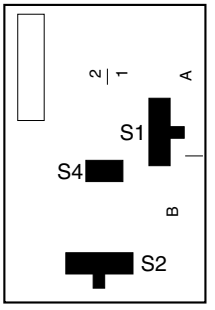


Note

Each bit of S101, S102, S103 and S104 is opened when it is set to “ON” position.
Set to “OFF”position to close the switch.

∗3: AU-271 board suffix -13 and higher.

DU-104 board



DU-104 board (A side)

Reference

The switch setting on this board is valid only when connecting the RTS kit (optional) to the INTERCOM2 connector.

Ref. No.	Name	Contents	Factory Setting
S1	RTS1 RTS 1/NORM/POW	Selects the function of the RTS CH1 side. RTS 1 : RTS CH1 of the RTS kit operates as INCOM1 signal line. NORM : Select NORM except when connecting to the RTS kit. POW : RTS CH1 of the RTS kit operates as the power supply line for the RTS belt pack.	NORM
S2	RTS2 RTS 2/NORM/POW	Selects the function of the RTS CH2 side. RTS 2 : RTS CH2 of the RTS kit operates as INCOM2 signal line. NORM : Select NORM except when connecting to the RTS kit. POW : RTS CH2 of the RTS kit operates as the power supply line for the RTS belt pack.	NORM
S4-1	RTS1 ON/OFF	Switch ON to use the RTS CH1 as the INCOM1 signal line.	OFF
S4-2	RTS2 ON/OFF	Switch ON to use the RTS CH2 as the INCOM2 signal line.	OFF

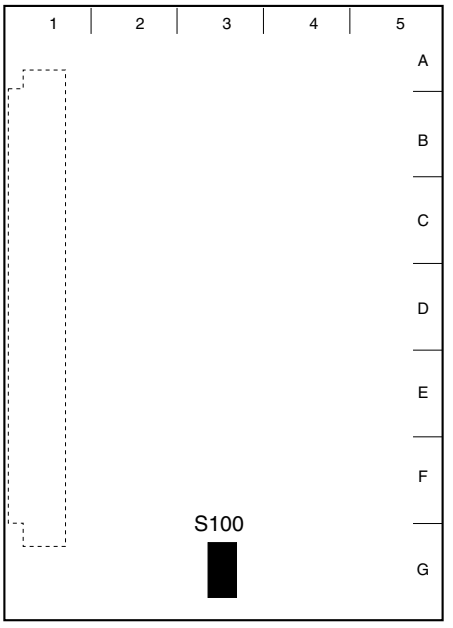
Notes

When not connecting the RTS kit, make the settings same as factory settings.

When S4-1 setting is ON, set S1 to RTS1, S201-1 through S201-4 on the AU-271 board to ON.

When S4-2 setting is ON, set S2 to RTS2, S201- through S201-4 on the AU-271 board to ON.

AT-130A board



AT-130A board (B side)

Note

Never change the setting of the factory use switches.
The state of the factory setting is different with models.

Switch No.	Designation	Description	Factory setting
S100 1 to 4	SETUP MENU Select	Setup menu to be displayed on theviewfinder can be selected. (See the table below)	OFF
S100 5 to 8	——	Factory use	—

Switch Settings

S100-1	S100-2	S100-3	S100-4
OFF	OFF	OFF	OFF
ON	OFF	OFF	OFF
OFF	ON	OFF	OFF
ON	ON	OFF	OFF
OFF	OFF	ON	OFF

Setup Menu

USER	USER MENU CUSTOMIZE	OPERATION	PAINT	MAINTENANCE	FILE	DIAGNOSIS
Yes	Yes	Yes	Yes	Yes	Yes	Yes
Yes	Yes	Yes	Yes	Yes	No	Yes
Yes	Yes	Yes	Yes	No	No	Yes
Yes	Yes	Yes	No	No	No	Yes
Yes	Yes	Yes	No	No	No	No

SDI-81 board

Note

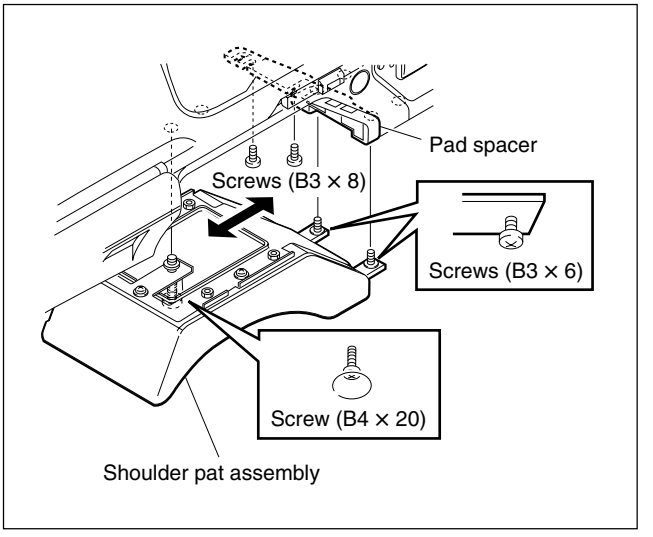
Never touch the factory use switches.

Switch No.	Designation	Description	Factory setting
S401 S501	——	Factory use	—

1-6. Adjusting the Position of the Shoulder Pad (HDC-F950)

The shoulder pad is factory-configured to the more forward position considering the mass of the camera, yet it is adjustable according to the type of the lens by following the procedures below.

1. Remove the three screws shown in the figure and take the shoulder pad out.
2. Remove the two screws to remove the pad spacer.
3. Slide the shoulder pad backward 10 mm and fix it with the three screws.

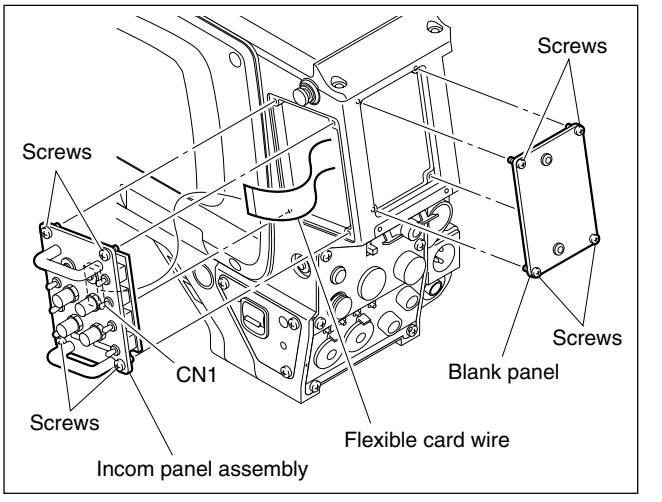


1-7. Installing the Incom Panel Assembly to the Camera Backside (HDC-F950)

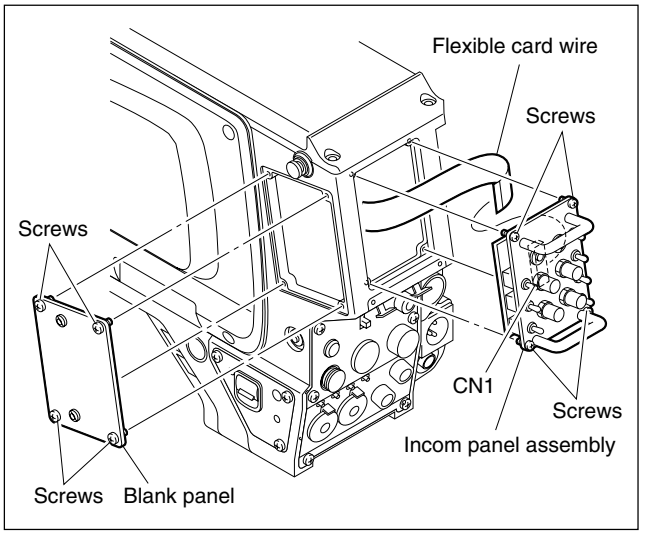
Note

When disconnecting/connecting a flexible card wire, refer to Section 1-10.

1. Unscrew the four screws to the blank panel to remove the blank panel.



2. Unscrew the four screws to the incom panel assembly and disconnect the flexible card wire from the connector CN1 of the SW-1017 board, then remove the incom panel assembly.
3. Pull out the flexible card wire of the backside of the camera and connect the connector CN1 of the SW-1017 board.
4. Exchange the position of the incom panel assembly and blank panel and install both of them with the screws.



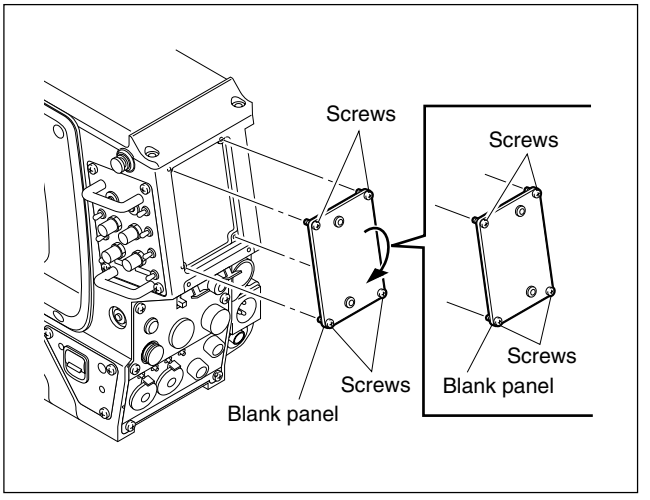
1-8. Installing the Battery Adaptor BKP-L551 (HDC-F950)

This section describes the method of installing the battery adaptor to the right from the standard position.

1. Unscrew the four screws of the blank panel to remove the blank panel.
2. Reattach the blank panel upside down with the four screws.
3. Install the battery adaptor referring to BKP-L551 installation manual.

Note

Use care that attaching the battery adaptor in this way restricts the operation of the CCU connector.



1-9. Notes on Use of the RTS Kit (HDC-F950)

Connecting the RTS Intercom System Kit BKP-7913 (option) to the INTERCOM 2 connector of HDC-F950 allows the INTERCOM 2 connector to work with an RTS intercom system, and be connected to up to two child devices.
When connecting the RTS kit, perform the following setting.

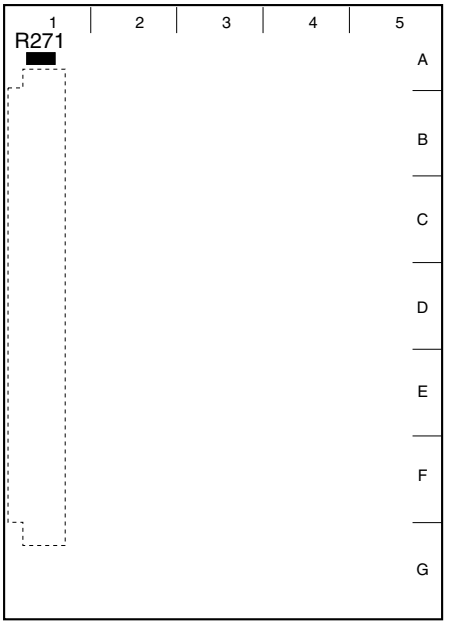
AU-271 board suffix -12

Set the switches on the DU-104 board referring to Section 1-5.

AU-271 board suffix -13 and higher

Mount the following chip conductor to R271 (B side : A-1) on the AU-271 board, and Set the switches on the DU-104 board referring to Section 1-5.

Ref.No.	Name	SONY Part No.
R271	CONDUCTOR, CHIP (1608)	1-216-864-11



AU-271 board suffix -13 and higher
(B side)

1-10. Disconnecting/Reconnecting Flexible Card Wire

Notes

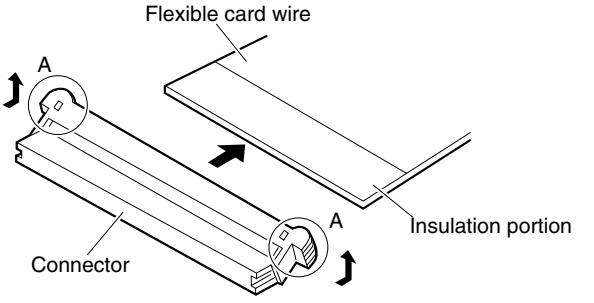
- Be sure to turn off the power when disconnecting and connecting the flexible card wire. To power off, be sure to disconnect the cable connected to the DC IN connector or the battery, in addition to turning off the power switch.
- The holded flexible card wire remarkably shortens the life span. Pay careful attention when handling it.

Disconnecting

Notes

- Do not pull the flexible card wire before unlocking.
- There are a conductive portion (printed side) and insulation portion (white belt) in the flexible card wire. Confirm the direction of the flexible card wire before connecting it.

1. Unlock by shifting portion A of the connector in the direction indicated by the arrow, then pull out the flexible card wire.

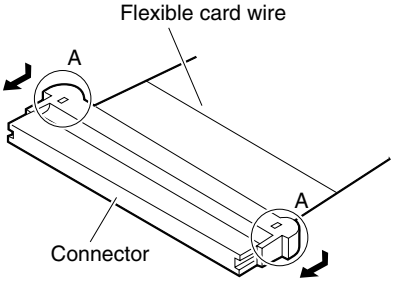


Reconnecting

Notes

- Ensure that no stain or dust adheres on the conductive surface of the flexible card wire.
- Ensure that the connector is unlocked.

1. Insert the flexible card wire firmly as far as it will go.
2. Press in the portion A of the connector in the direction indicated by the arrow to lock the connector. At that time, take care that the flexible card wire is not inclined.



Section 2
Service Overview

2-1. Cleaning of Connector/Cable

It is recommendable to clean the optical contact portions mentioned below before connecting this unit to the camera control unit.
- CCU connector of this unit
- Camera connector of the camera control unit
- Optical/Electrical cable

It is also necessary to clean the optical contact portions mentioned below before using the HDC-F950 to the large lens adaptor CA-905L.
- CA cable of a large lens adaptor
- CCU connector of a large lens adaptor

Follow the procedures below for cleaning.

When the Optical Connector Cleaner (Commercially Available) is Available:

Tools required

- Optical connector cleaner (commercially available)
  Product name: CLETOP®
  14100402 or 14100403 (stick type) or equivalent
  14100402: 2.0 mm
  14100403: 2.0/2.5 mm. The cleaner type having cleaning points at both ends.

Notes

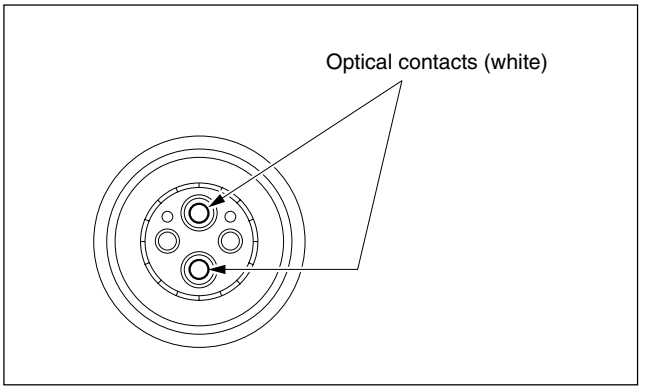
- Alcohol is not necessary during cleaning.
- Number of possible wipes is one cleaning per a piece. Do not reuse it.

Supplier:
NTT-ME Corporation
HIKARI Business Department
Global Solution Headaquarters
Tel: 81-3-5956-9025
Fax: 81-3-5956-9039
e-mail: opt-g@ntt-me.co.jp
URL: http://nttiivs.ntt-me.co.jp/opt-e/

Cleaning procedure

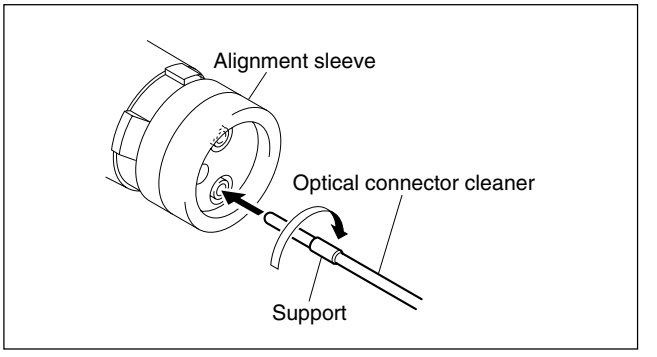
[Male connector]

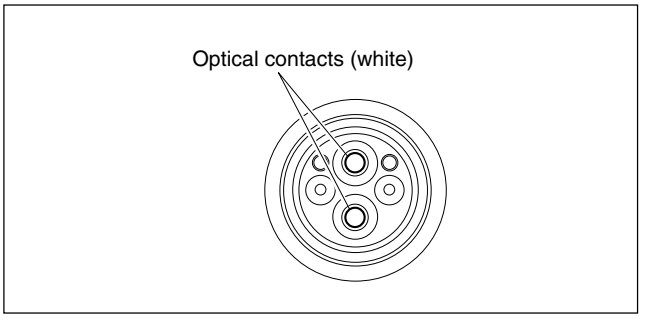
Clean the tip of the white optical contacts using the optical connector cleaner.



[Female connector]

1. Insert the optical connector cleaner straight. Ensure that it is held straight when inserting.
2. Apply sufficient pressure (approximately 600 g to 700 g) to ensure that the optical contact is a little depressed.
3. While pressing the optical connector cleaner against the tip of the optical contact, rotate the optical connector cleaner by 4 to 5 turns clockwise. Holding the optical connector cleaner at around its support facilitates to apply the pressure.





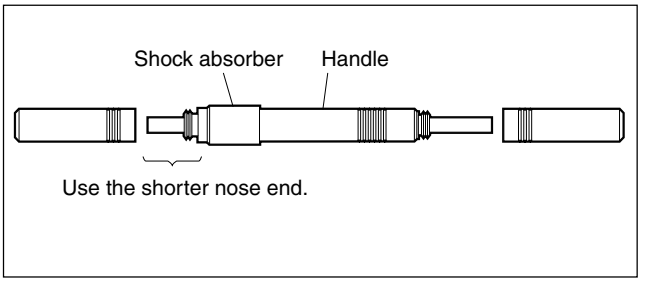
When the Optical Connector Cleaner (Commercially Available) is not Available:

Tools required

- Alignment sleeve remover HC-001
  (for female connector)
  Sony P/N : J-6480-010-A

Note

Insert the shorter nose end when removing/installing the alignment sleeve.
Grasp not the shock absorber portion of the remover but the handle in use.



- Cotton swabs (commercially available)

Note

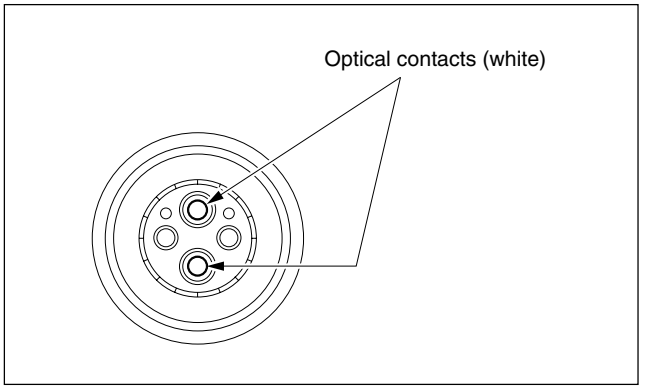
Use a cotton swab whose diameter is about 4 mm.
If a cotton swab whose diameter exceeds 5 mm is used, the cotton swab cannot be inserted into the end of the connector and the tip of the optical contact cannot be cleaned.

- Alcohol (commercially available)

Cleaning

[Male connector]

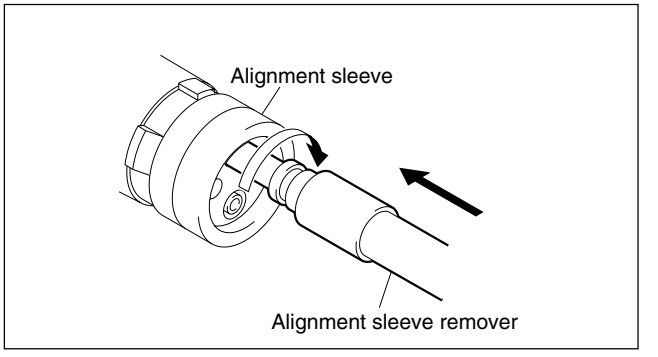
Clean the tip of the white optical contacts by a cotton swab moistened with alcohol.



[Female connector]

The optical contacts for female connector are in an unexposed state. In cleaning, it is necessary to be exposed by removing the alignment sleeve in advance. Proceed as follows.

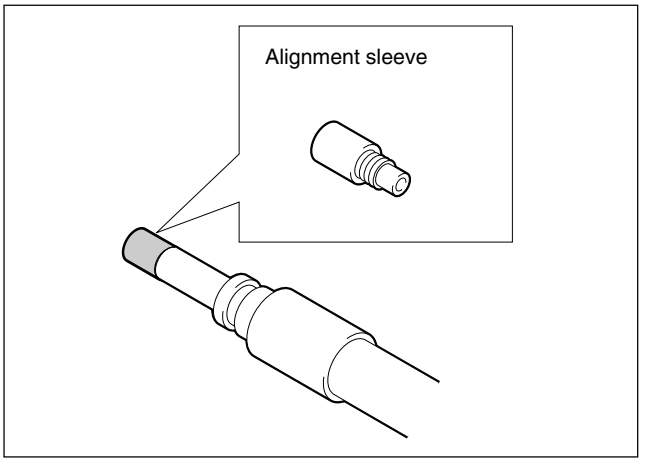
1. Insert the alignment sleeve remover into the alignment sleeve in the straight line and turn it clockwise.



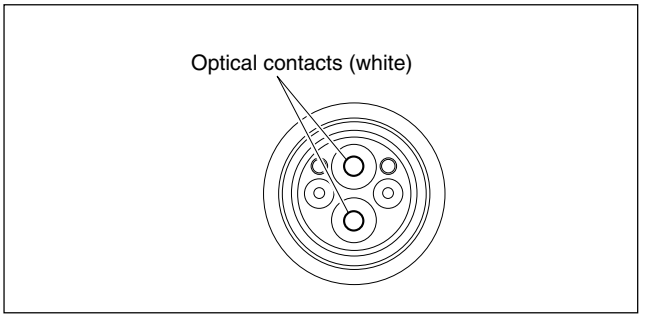
2. When the turn stops, pull out the remover in the straight line forcedly.

Note

The alignment sleeve can be removed/reinstalled with the sleeve itself attached to the tip of the remover. Great care should be taken so as not to lose or damage the alignment sleeve.
(Alignment sleeve: Sony P/N 9-980-074-01)



3. Clean the tip of the white optical contacts by a cotton swab moistened with alcohol.



4. Insert the remover with the alignment sleeve attached to its tip, and push it until it clicks.
5. Rotate the remover counterclockwise to install the alignment sleeve, and extract the remover.

2-2. Cleaning the Vent Portion of the Fan (HDC-F950 only)

A part for preventing from dust is attached in the vent portion of the fan. Clean this component every two or three months. Clogging may cause the temperature increases inside the camera and result in a trouble.

- Top Chassis Cover Assembly
- Fan Grill
- Tail Net

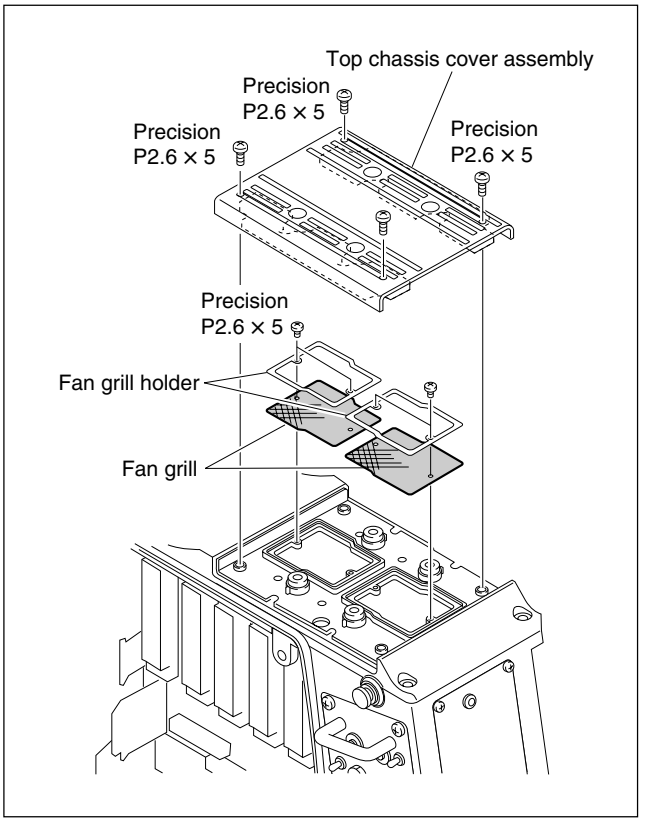
Top Chassis Cover Assembly

(A top cushion is stuck on the backside of the assembly for protecting from dust.)

1. Remove the four screws (precision P2.6 × 5) to remove the tope chassis assembly.
2. Wash manually the top chassis cover assembly with neutral detergent and dry in the shade.

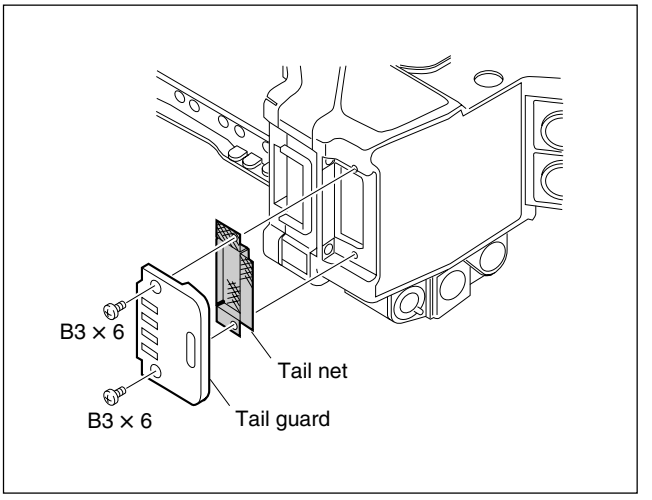
Fan Grill

1. Remove the top chassis cover assembly.
2. Remove the four screws (precision P2.6 × 5) to take out the fan grill holder.
3. Take out the fan grill and remove dust on the fan grills with a vacuum cleaner.



Tail Net

1. Remove the two screws to remove the tail guard.
2. Take out the tail net and remove dust on the tail net with a vacuum cleaner.



2-3. Replacing the Fuse (HDC-F950)

WARNING

The fuse is critical for safely operating. Do exchange with the fuses authorized by the manufacturer, otherwise a fire and electric shock may occur.

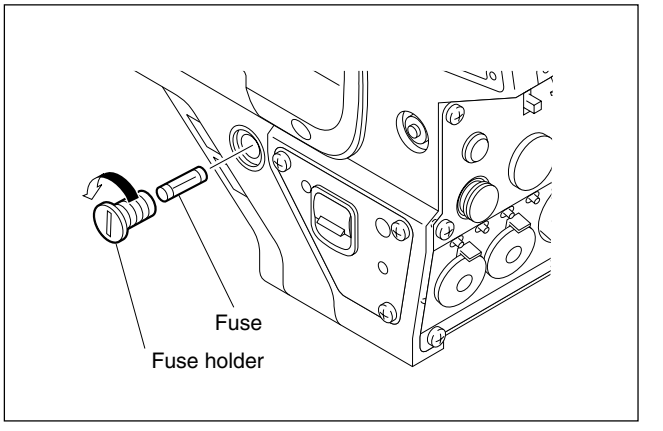
Fuses for protecting from the overcurrent are mounted in the HDC-F950.
When a fuse burns, find out the cause of the overcurrent and solve it before replacing the fuse.

When replacing, be sure to use the specified fuse below.

Description	Part No.
FUSE GLASS 10 A/125 V	⚠ 1-576-048-11

Replacing

1. Remove the fuse holder with a flat blade screwdriver and replace the fuse.

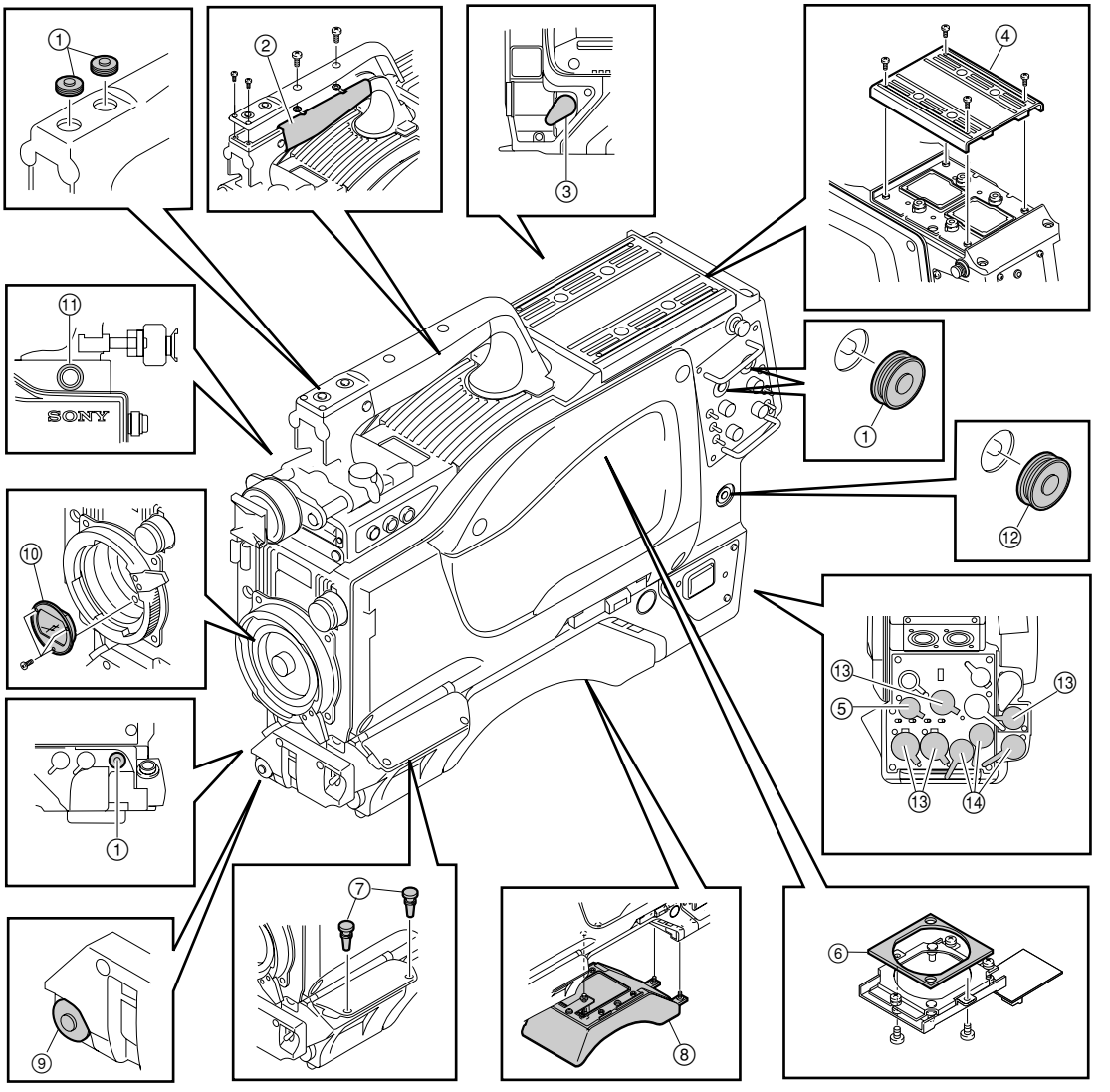


2-4. Recommended Replacing Parts

2-4-1. HDC-F950

Following parts are recommended replacing parts. The optical filter unit may become cloudy with the lapse of time. By such a cloudy optical filter unit, the characteristics of this camera could not fully exploited, therefore replace it if necessary.
Besides, the parts made of rubber used for this camera may become cracked and split with the lapse of time, therefore also replace it if necessary.

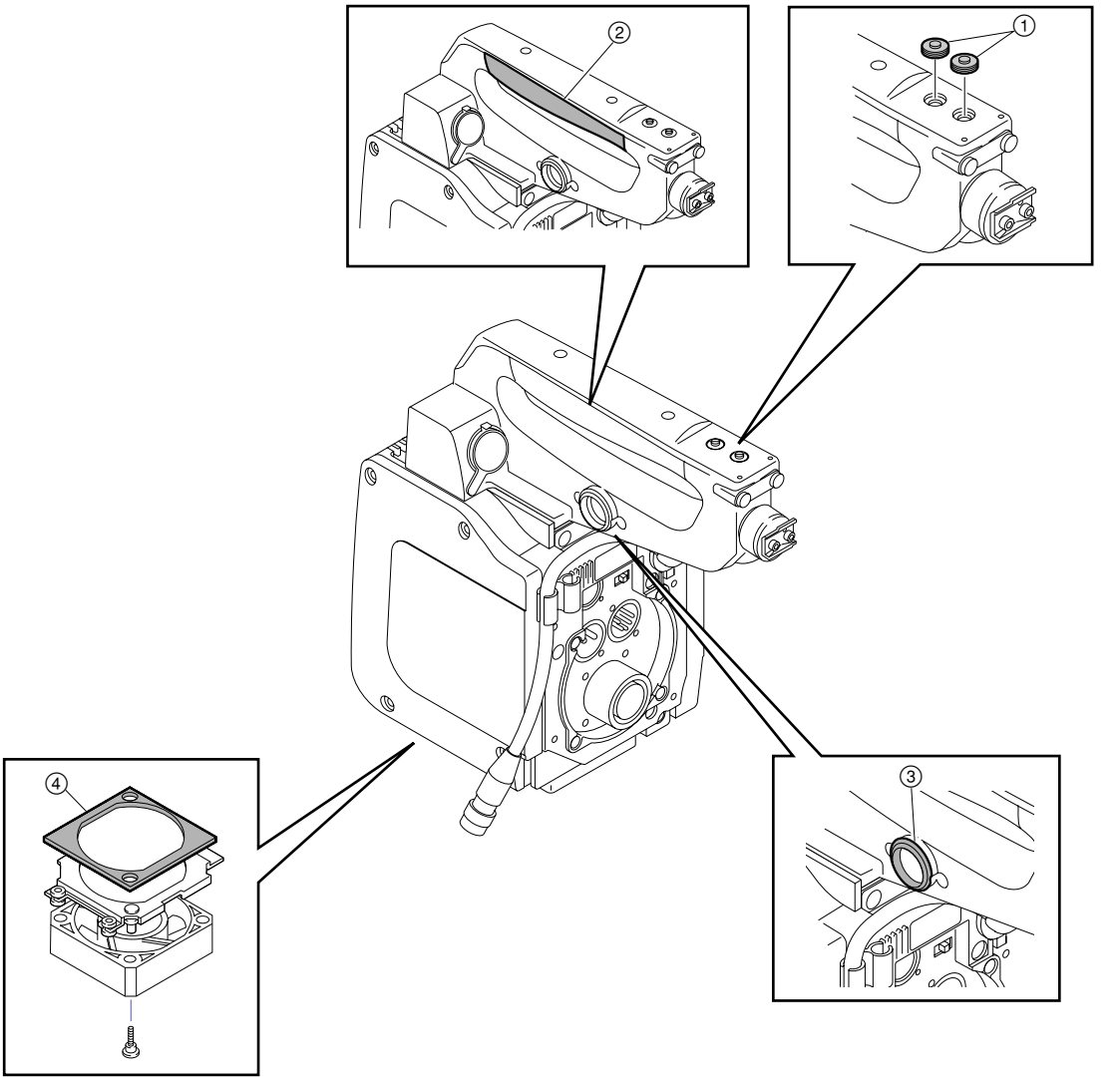
No.	Description	Sony Part No.
①	COVER, SWITCH	3-676-244-0X
②	SHEET, HANDLE	3-626-953-0X
③	RUBBER (EA), DROP PROTECTION	3-724-730-0X
④	CHASSIS COVER ASSY, TOP	X-3605-899-X
⑤	CAP, TRK	3-626-974-0X
⑥	CUSHION, FAN	3-627-210-0X
⑦	BUSHING, RUBBER	3-627-968-0X
⑧	PAD ASSY, SHOULDER	A-8279-359-X
⑨	BUTTON, VTR START	3-679-668-0X
⑩	FILTER UNIT, OPTICAL	1-758-483-11
⑪	PACKING, VF	3-710-024-0X
⑫	COVER, SW	3-676-244-1X
⑬	CAP, CONNECTOR	3-605-338-0X
⑭	CAP, BNC	3-629-980-0X



2-4-2. HKC-T950

Following parts are recommended replacing parts.
Besides, the parts made of rubber used for this adaptor may become cracked and split with the lapse of time, therefore also replace it if necessary.

No	Description	Sony Part No.
①	COVER, SWITCH	3-676-244-0X
②	SHEET, HANDLE	3-626-953-0X
③	PACKING, VF	3-710-024-0X
④	CUSHION, FAN	3-627-210-0X



Section 3
Setup Menu

3-1. Setup Menu

The setup menu is used for selecting various setting values, items displayed on the viewfinder screen, the method of displaying, and adjustments. The menu is displayed on the viewfinder screen. The menu can also be displayed by connecting an external monitor to the TEST OUT connector.

Structure of Setup Menu

The setup menu is composed of the following menus.

- USER menu
- USER MENU CUSTOMIZE menu
- OPERATION menu
- PAINT menu
- MAINTENANCE menu
- FILE menu
- DIAGNOSIS menu

Reference

Beside above menus, the TOP menu is provided for indicating the whole configuration of the menu items.

Selecting the Menu

The menus to be displayed on the viewfinder screen can be selected by the switches on the AT-130A board (S100-1 to S100-4). This unit is set to display all menu at the factory setting.

( ) : Shows the factory setting

Switch Settings				Setup Menu						
S100-1	**S100-2**	**S100-3**	**S100-4**	**USER**	**USER MENU CUSTOMIZE**	**OPERATION**	**PAINT**	**MAINTENANCE**	**FILE**	**DIAGNOSIS**
(OFF)	(OFF)	(OFF)	(OFF)	Yes	Yes	Yes	Yes	Yes	Yes	Yes
ON	OFF	OFF	OFF	Yes	Yes	Yes	Yes	Yes	No	Yes
OFF	ON	OFF	OFF	Yes	Yes	Yes	Yes	No	No	Yes
ON	ON	OFF	OFF	Yes	Yes	Yes	No	No	No	Yes
OFF	OFF	ON	OFF	Yes	Yes	Yes	No	No	No	No

Equipment Required

2-type viewfinder HDVF-20A, 2.7-type viewfinder HDVF-C30W (or black-and-white monitor)
Camera control unit HDCU-F950, or AC adapter AC-550, etc. for supplying the power to the camera.

Switches

DISPLAY switch

ON : Displays characters and messages indicating the settings and operating status of the unit on the viewfinder screen.

OFF : Turns off all the displays on the viewfinder screen.

MENU : Displays the setup menu on the viewfinder screen.

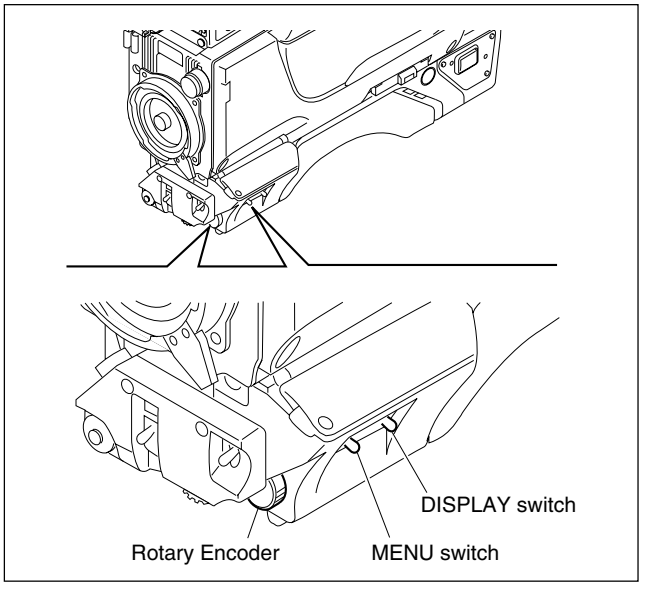
Rotary Encoder

Selects the items displayed on the viewfinder screen and changes settings.

MENU switch

STATUS : Allows you to check the current setting.

CANCEL : Cancels the menu setting mode and returns to the page selection mode or TOP menu.



Basic Operations

1. Displaying the menu
   To display the OPERATION menu, turn the power on and set the DISPLAY switch to “MENU”. (*1)
   To display the other menus, set the DISPLAY switch from “OFF” to “MENU” while pressing the rotary encoder, and obtain the TOP menu screen. Turning the rotary encoder, select the menu to be displayed, and press the rotary encoder.
2. To change pages, set the cursor to the page number and turn the Rotary encoder.
3. To shift the cursor, turn the Rotary encoder. (Pressing the Rotary encoder determins the setting.)
4. To change a setting value, set the cursor to the item to be changed and press the Rotary encoder, then the cursor turns to “?” and the value changes by turning the Rotary encoder.
   (Turning it fast, the value changes greatly, while turning it slowly, the value changes slightly for fine adjustment.) To determine the setting, press the Rotary encoder, and to cancel the change, press the MENU switch toward the “CANCEL” side.
5. By every set of the MENU switch to “CANCEL”, the screen returns to the item selection mode, page selection mode, and then TOP menu (*2).
6. To delete the menu displayed, set the DISPLAY switch to “OFF”.

(*1) : The display screen at the power on is changeable. For change, refer to MENU RESUME item in OTHERS 2 Page of the MAINTENANCE menu.

(*2) : The page selection mode is available, only when the basic operation step1 was performed and the operation started from the TOP menu.

Displaying characters on an external monitor

When you want to display characters including the menu on an external monitor connected to the TEST OUT conector, proceed as follows.

1. Displaying characters. (including the menu)
   While pressing the MENU switch toward the “CANCEL” side, set the DISPLAY switch from “OFF” to “MENU”.
2. To remove the characters/menu from the external monitor.
   While pressing the MENU switch towards the “CANCEL” side, set the DISPLAY switch from “MENU” to “OFF”.

3-2. TOP Menu

The TOP menu is provided for indicating the whole configuration of the menu items.

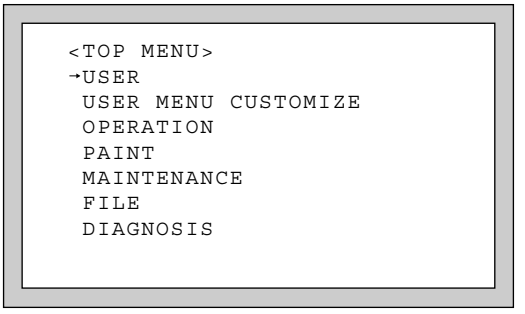
Displaying the TOP menu

Set the DISPLAY switch from “OFF” to “MENU” while pressing the rotary encoder.

Reference

To select the menu to be displayed on the viewfinder, switch setting on the AT-130A board is required.
For details, refer to “Selecting the Menu” in Section 3-1.

TOP MENU

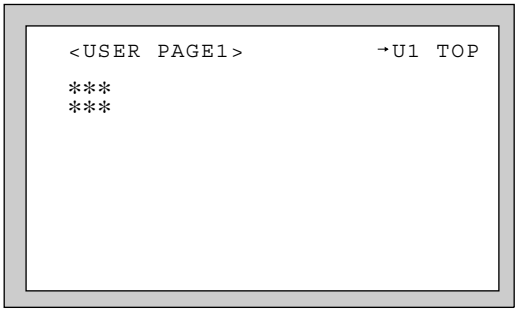


Menu	Description
USER	This menu consists of menu page and item which you set up with USER MENU CUSTOMIZE menu.
USER MENU CUSTOMIZE	This menu is used for adding or deleting the menu page and item that are required for the USER menu to suit operator’s needs depending on application.
OPERATION	This menu consists of VF screen display items to be set by a camera operation. For details, refer to the operation manual supplied with this unit.
PAINT	This menu consists of general paint operation items such as white. For details, refer to the operation manual supplied with this unit.
MAINTENANCE	This menu consists of paint items used less frequently such as shading adjustment and items required for the maintenance of the camera such as system change.
FILE	This menu is used for performing file operations such as saving the reference file.
DIAGNOSIS	This menu describes the self-diagnosis and VTR status, etc.

3-3. USER Menu

This menu consists of menu page and item which you set up with USER MENU CUSTOMIZE menu.
(Maximum 60 pages)
For adding or deleting the menu page and item, refer to “USER MENU CUSTOMIZE” in Section 3-4.

USER MENU

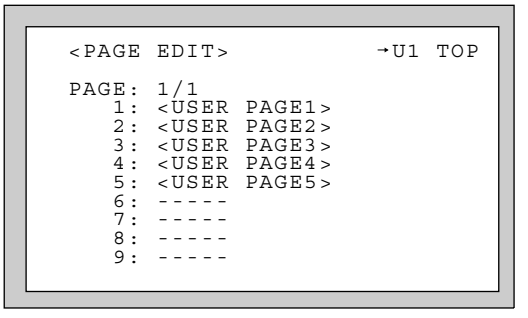


(Display is initial values.)

3-4. USER MENU CUSTOMIZE Menu

This menu is used for adding or deleting the menu page and item that are required for the USER menu to suit operator’s needs depending on application.
For details, refer to the operation manual.

USER MENU CUSTOMIZE MENU



(Display is initial values.)

3-5. OPERATION Menu

The OPERATION menu consists of the items that a camera operator can set when using this camera, such as VF screen display setting.
For details, refer to the operation manual supplied with this unit.

VF DISPLAY page

Item	Setting	Initial values
EX	3S, ON, OFF	ON
ZOOM	3S, ON, OFF	OFF
FOCUS	3S, ON, OFF	OFF
ND	3S, ON, OFF	ON
CC	3S, ON, OFF	ON
IRIS	3S, ON, OFF	ON
WHITE	3S, ON, OFF	OFF
D5600K	3S, ON, OFF	ON
GAIN	3S, ON, OFF	ON
SHUTT	3S, ON, OFF	ON
BATT	3S, ON, OFF	OFF
RETURN	3S, ON, OFF	ON
MESSAG	ALL, AT, WRN, OFF	ALL

'!' IND 1 page

Item	Setting [IND]	[NORMAL]	Initial values [IND]	[NORMAL]
ND	ON, OFF	1, 2, 3, 4, 5	ON	1
CC	ON, OFF	A, B, C, D, E	ON	B
WHITE	ON, OFF	P, A, B	ON	A, B
D5600K	ON, OFF	ON, OFF	ON	OFF
GAIN	ON, OFF	L, M, H	ON	L
SHUTT	ON, OFF	ON, OFF	ON	OFF
FAN	ON, OFF	AUTO1, AUTO2, MIN, MAX	ON	AUTO1
EXT	ON, OFF	ON, OFF	ON	OFF
FORMAT	ON, OFF	23.98PsF 60I/59.94I, 50I, 30PsF/29.97PsF, 25PsF, 24PsF/23.98PsF	ON	59.94I

'!' IND 2 page

Item	Setting [IND]	[NORMAL]	Initial values [IND]	[NORMAL]
CHU OPE	ON, OFF	FORCE CCU, NORMAL	ON	NORMAL
CHU OUT	ON, OFF	4:4:4, 4:2:2	ON	4:4:4
META DATA	ON, OFF	ON, OFF	ON	ON

MARKER page

Item	Setting	Initial values
MARKER	ON, OFF	ON
CENTER [a]	ON, OFF	ON
	1, 2, 3, 4	1
SAFETY ZONE [a]	ON, OFF	ON
	80.0, 90.0, 92.5, 95.0	90.0
EFECT	ON, OFF	OFF
ASPECT MODE [b]	16:9, 15:9, 15:9, 13:9 4:3, VAR H, VAR V, 1035, VISTA1, VISTA2	4:3
MASK [a]	ON, OFF	OFF
	0 to 100	50
VAR WIDTH [b]	0 to 1920 (VAR H) 0 to 1080 (VAR V)	– –
SAFETY [a] [b]	ON, OFF	ON
	80.0, 90.0, 92.5, 95.0	90.0

a) When connecting CA-905L to HDC-F950, setting ON/OFF of this item is disabled. ("[ON], [OFF]" is displayed as well.) To set this item ON or OFF, use the switch located on the rear side of CA-905L.
b) Setting of this item is disabled when connecting CA-905L to HDC-F950 and setting VF SCAN switch of CA905L to 4:3. ("—" is displayed as well.)

GAIN SW page

Item	Setting	Initial values
LOW	–3, 0, 3, 6, 12	0
MIDDLE	–3, 0, 3, 6, 12	6
HIGH	–3, 0, 3, 6, 12	12

ZEBRA/VF DTL page

Item	Setting	Initial values
ZEBRA	ON, OFF	ON
	1, 2, 1 & 2	1
ZEBRA1	58 to 82 %	70 %
ZEBRA2	88 to 112 %	100 %
VF DTL [a]	–99 to 99	0
	ON, OFF	ON

a) When connecting CA-905L to HDC-F950, setting ON/OFF of this item is disabled. ("[ON], [OFF]" is displayed as well.) To set this item ON or OFF, use the switch located on the rear side of CA-905L.

AUTO IRIS page

Item	Setting	Initial values
WINDOW	1, 2, 3, 4, 5, 6	1
OVERRIDE	–99 to 99	0

BATT ALARM page

Item	Setting	Description
DC IN TYPE [c]	LITHIUM, DIGITAL, OTHERS1, OTHERS2, AC ADP	AC ADP
BEFORE END [d]		–
END [d]		–

c) When HKC-T950 is used, select OTHERS1.
d) When HKC-T950 is used, set BEFORE END and END to 13 V.

OTHERS page

Item	Setting	Initial values
D5600K	ON, OFF	OFF
ASSIGNABLE 1	OFF, FAN MAX, EXTENDER	OFF
ASSIGNABLE 2	OFF, FAN MAX	OFF
MIC 1 GAIN	–60, –50, –40, –30, –20	–60
MIC 2 GAIN	–60, –50, –40, –30, –20	–60
LENS VTR S/S [e]	RET2 SW, INCOM1, INCOM2, VTR S/S	RET2 SW
CAM VTR S/S [e]	RET2 SW, INCOM1, INCOM2, VTR S/S	RET2 SW
ZOOM DISP	LEFT, RIGHT	LEFT

e) This setting is valid only when the camera control unit is connected, yet in the camera is used alone, setting is disabled. ("—" is displayed.)

OPERATOR FILE page

Item	Setting
READ (MS → CAM)	∗1
WRITE (CAM → MS)	∗1
PRESET	∗1

∗1 Execute by pressing the rotary encoder.

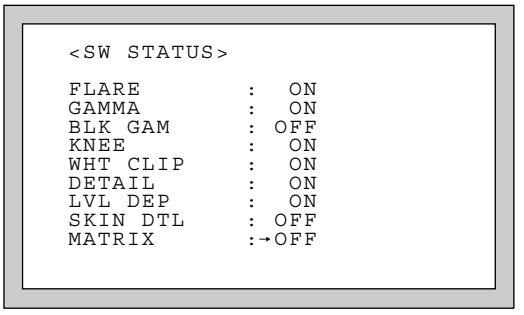
LENS FILE page

Item	Setting	Initial values
FILE	1 to 16	1

3-6. PAINT Menu

The PAINT menu contains overall general paint adjustment items, such as white adjustment.
For details, refer to the operation manual supplied with this unit.

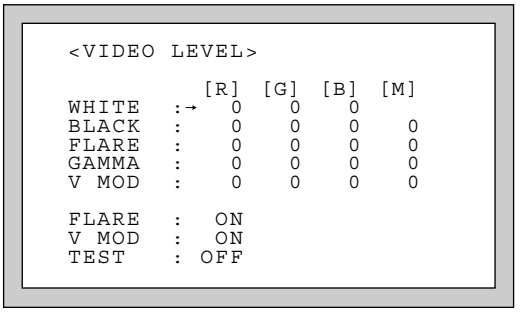
SW STATUS page



(Display is initial values.)

Item	Setting	Description
FLARE	ON, OFF	Sets the flare correction circuit to ON or OFF.
GAMMA	ON, OFF	Sets the gamma correction function to ON or OFF.
BLK GAM	ON, OFF	Sets the black gamma correction function to ON or OFF.
KNEE	ON, OFF	Sets the knee correction circuit to ON or OFF.
WHT CLIP	ON, OFF	Sets the white clip function to ON or OFF.
DETAIL	ON, OFF	Sets the function for attaching the detail signal for improving the resolution to ON or OFF.
LVL DEP	ON, OFF	Sets the level dependence function to ON or OFF.
SKIN DTL	ON, OFF	Sets the skin detail function to ON or OFF.
MATRIX	ON, OFF	Sets the linear matrix correction function to ON or OFF.

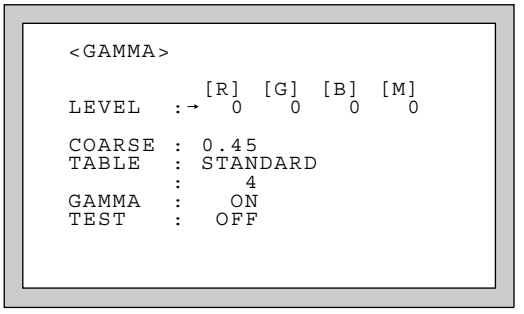
VIDEO LEVEL page



(Display is initial values.)

Item	Setting	Description
WHITE	–99 to 99	Adjusts the white level of R, G, B.
BLACK	–99 to 99	Adjusts the black level of R, G, B and master.
FLARE	–99 to 99	Adjusts the flare level of R, G, B and master.
GAMMA	–99 to 99	Adjusts the gamma correction curve of the R, G, B and master.
V MOD	–99 to 99	Adjusts the V modulation shading of R, G, B and master.
FLARE	ON, OFF	Sets the flare correction circuit to ON or OFF.
V MOD	ON, OFF	Sets the V modulation shading to ON or OFF.
TEST	OFF, 1, 2	Selects the test signal. OFF : Provides no test signals. 1 : Provides the test signal of the sawtooth waveform. 2 : Provides the test signal of the saw tooth waveform of digital output.

GAMMA page



(Display is initial values.)

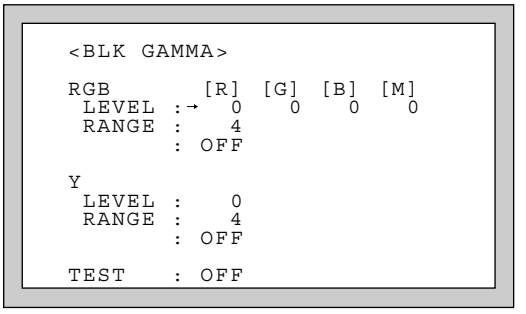
Item	Setting	Description
LEVEL	–99 to 99	Adjusts the gamma correction curve of the R, G, B and master.
COARSE	0.35 to 0.90	Sets the correction curve of the master gamma in 0.05 steps.
TABLE	STANDARD USER*	Selects the gamma table. STANDARD : Select the standard gamma table which comes standard on the unit. USER : Selects the user gamma table. (Selectable from 5 files.)
	1, 2, 3, 4, 5, 6	When STANDARD is selected: 1 : INITIAL GAIN 3.5 (equivalent to ENG camcorder) 2 : INITIAL GAIN 4.0 LOW (equivalent to EFP camera) 3 : INITIAL GAIN 4.0 HIGH (equivalent to EFP camera) 4 : INITIAL GAIN 4.0 (equivalent to SMPT-240M) 5 : INITIAL GAIN 4.5 (equivalent to ITU-709) 6 : INITIAL GAIN 5.0
GAMMA	ON, OFF	Sets the gamma correction function to ON or OFF.
TEST	OFF, 1, 2	Selects the test signal OFF : Provides no test signals. 1 : Provides the test signal of the sawtooth waveform. 2 : Provides the test signal of the sawtooth waveform of digital output.

*: User gamma table is the file that the customers make according to their needs. The gamma or knee may be set to the fixed value forcibly when the file is made. In this case, the both or either of gamma and knee controls shown below become disabled.

Gamma
- GAMMA page of the PAINT menu
  Item : LEVEL, COARSE, GAMMA

Knee
- KNEE page of the PAINT menu
  Item : POINT, SLOPE, KNEE
- External switch
  AUTO KNEE switch

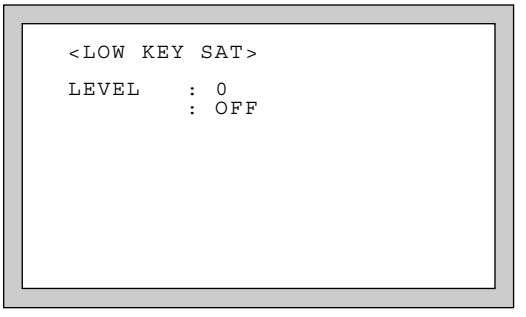
BLK GAMMA page



(Display is initial values.)

Item	Setting	Description
RGB LEVEL	–99 to 99	Adjusts the black gamma of the R, G, B and master.
RGB RANGE	1, 2, 3, 4	Sets the upper limit of the video level which the RGB black gamma affects.
	ON, OFF	Sets the RGB black gamma correction function to ON or OFF.
Y LEVEL	–99 to 99	Adjusts the Y black gamma to adjust the contrast without changing the chroma phase of the dark part.
Y Range	1, 2, 3, 4	Sets the upper limit of the video level which the Y black gamma affects.
	ON, OFF	Sets the Y black gamma correction function to ON or OFF.
TEST	OFF, 1, 2	Selects the test signal. OFF : Provides no test signals. 1 : Provides the test signal of the sawtooth waveform. 2 : Provides the test signal of the sawtooth waveform of digital output.

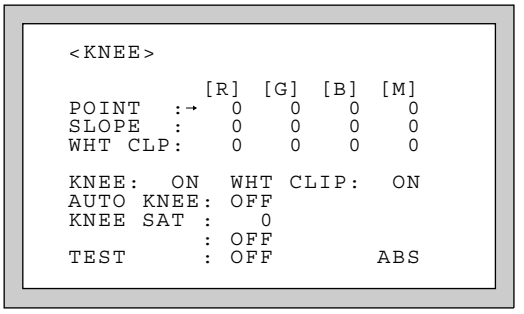
LOW KEY SAT page



(Display is initial values.)

Item	Setting	Description
LEVEL	–99 to 99	Sets the saturation of the dark part.
	ON, OFF	Sets the low key saturation to ON or OFF.

KNEE page

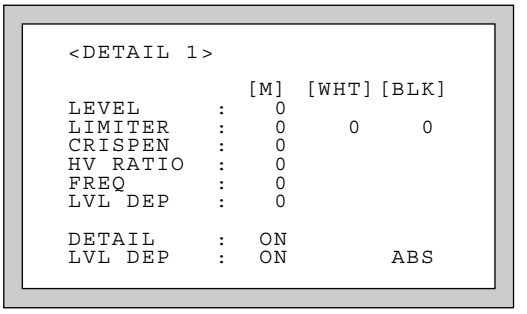


(Display is initial values.)

Item	Setting	Description
POINT R/G/B/M	–99 to 99	Sets the knee point level when the settings of the auto knee function of the R, G, B and master are OFF.
SLOPE R/G/B/M	–99 to 99	Sets the knee slope level when the settings of the auto knee function of the R, G, B and master are OFF.
WHT CLP R/G/B/M	–99 to 99	Sets the white clip level of the R, G, B and master.
KNEE	ON, OFF	Sets the knee correction circuit to ON or OFF.
WHT CLIP	ON, OFF	Sets the white clip function to ON or OFF.
AUTO KNEE	ON, OFF	Sets the auto knee function to ON or OFF.
KNEE SAT	–99 to 99	Sets the knee saturation level.
	ON, OFF	Sets the knee saturation function to ON or OFF.
TEST	OFF, 1, 2	Selects the test signal. OFF : Provides no test signals. 1 : Provides the test signal of the sawtooth waveform. 2 : Provides the test signal of the sawtooth waveform of digital output.
ABS	∗1	Sets the ABS mode to ON or OFF. **To turn on the ABS mode** Press the rotary encoder to display the ABS in reverse video. When the ABS mode setting is ON, display the numbers of KNEE POINT R, G, B and KNEE SLOPE R, G, B in reverse video, and be able to confirm the absolute values. **To turn off the ABS mode** Press the rotary encoder again.

∗1: Execute by pressing the rotary encoder.

DETAIL 1 page

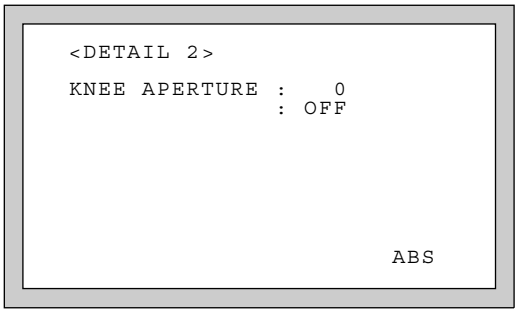


(Display is initial values.)

Item	Setting	Description
LEVEL	–99 to 99	Sets the general level of the detail signal.
LIMITER M/WHT/BLK	–99 to 99	Sets the level for clipping the excessive detail signal.
CRISPEN	–99 to 99	Sets the level for suppressing the noise components contained in the detail signal.
HV RATIO	–99 to 99	Sets the ratio between H detail signal and V detail signal.
FREQ	–99 to 99	Sets the frequency of the H detail signal.
LVL DEP	–99 to 99	Sets the level for suppressing the detail amount in the dark part.
DETAIL	ON, OFF	Sets the function for attaching the detail signal for improving the resolution to ON or OFF.
LVL DEP	ON, OFF	Sets the level depend function to ON or OFF.
ABS	∗1	Sets the ABS mode to ON or OFF. **To turn on the ABS mode** Press the rotary encoder to display the ABS in reverse video. When the ABS mode setting is ON, display the numbers except LIMITER M in reverse video, and be able to confirm the absolute values. **To turn off the ABS mode** Press the rotary encoder again.subject.

∗1: Execute by pressing the rotary encoder.

DETAIL 2 page



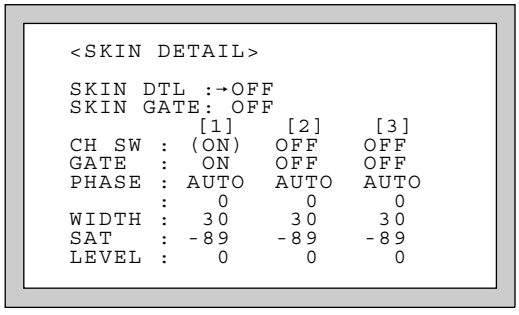
(Display is initial values.)

Item	Setting	Description
KNEE APERTURE	–99 to 99	Sets the knee aperture [a] level.
	ON, OFF	Sets the knee aperture [a] function to ON or OFF.
ABS	∗1	Sets the ABS mode to ON or OFF. **To turn on the ABS mode** Press the rotary encoder to display the ABS in reverse video. When the ABS mode setting is ON, display the number in reverse video, and be able to confirm the absolute values. **To turn off the ABS mode** Press the rotary encoder again.

∗1: Execute by pressing the rotary encoder.

a) This function compensates for decreases by the knee aperture in the detail level at the high luminance level part of the camera subject.

SKIN DETAIL page



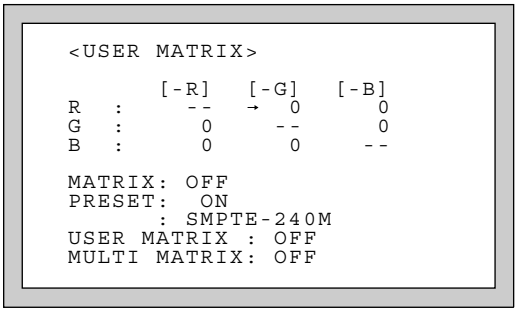
(Display is initial values.)

Item	Setting	Description
SKIN DTL	ON, OFF	When this setting is ON, the setting [1] of the channel 1 is always set ON. Sets the skin detail function to ON or OFF.
SKIN GATE	ON, OFF	Sets the zebra indication of the skin tone detail portion to ON or OFF.
CH SW	ON, OFF	Sets each channel of the skin detail function to ON or OFF. Channel 1 is fixed to ON.
GATE	ON, OFF	Sets each channel of the skin gate function to ON or OFF.
PHASE	AUTO [b]	Set automatically the region of each channel the skin detail function affects.
	0° to 359°	Sets the center phase of the chroma phase the skin tone detail function affects to each channel.
WIDTH	0° to 90°	Adjusts the chroma phase width of the skin tone detail function to each channel.
SAT	–99 to 99	Adjusts the saturation level of the skin tone detail function to each channel.
LEVEL	–99 to 99	Sets the skin tone detail amount to each channel.

b) Method of executing AUTO:

1. Set the cursor to the AUTO and press the rotary encoder, then the square-shaped zebra pattern is displayed on the viewfinder.
2. Set the zebra pattern to the color to be given the effect of the skin tone detail and press the rotary encoder to select the phase.

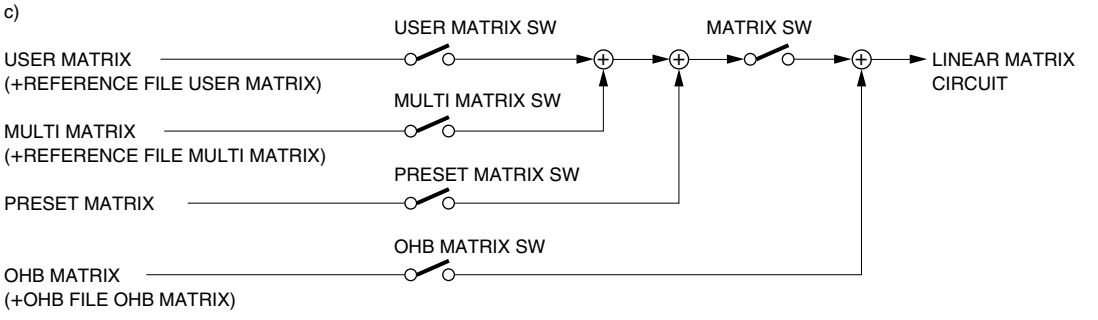
USER MATRIX page



(Display is initial values.)

Item	Setting	Description
R-G, R-B,	–99 to 99	Sets the linear matrix coefficient for each R-G, R-B, G-R, G-B, B-R, and B-G.
G-R, G-B,	–99 to 99	
B-R, B-G,	–99 to 99	
MATRIX c)	ON, OFF	Sets the linear matrix correction function to ON or OFF.
PRESET c)	ON, OFF	Sets the linear matrix correction coefficient set at factory to ON or OFF. (When the MATRIX setting is OFF, this setting is unavailable, "- - -" is displayed showing invalid.)
	SMPTE-240M, ITU-709, SMPTE-WIDE, NTSC, EBU ITU-609	Selects the linear matrix correction coefficient set at factory.
USER MATRIX c)	ON, OFF	Sets the linear matrix correction function set by the user to ON or OFF. (When the MATRIX setting is OFF, this setting is unavailable, "- - -" is displayed showing invalid.)
MULTI MATRIX c)	ON, OFF	Sets the multi matrix correction function to ON or OFF. (When the MATRIX setting is OFF, this setting is unavailable, "- - -" is displayed showing invalid.)

c)



USER MATRIX : Linear matrix that can change R-G and R-B in the conventional camera.
MULTI MATRIX : Linear matrix that divides the chroma phase width of the linear matrix into 16 segments and can adjust each individually.
PRESET MATRIX : Addition of the linear matrix value fixed in the standard specification.
OHB MATRIX : Linear (multi) matrix for matching the color between the cameras.

MULTI MATRIX page

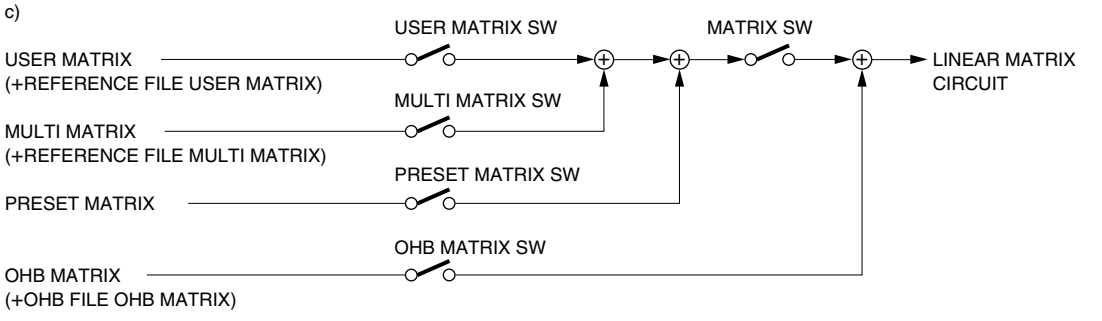
```
<MULTI MATRIX>

PHASE  :→  0
HUE    :   0
SAT    :   0
          ALL CLEAR
          AUTO DET
MATRIX : OFF
PRESET :  ON
       : SMPTE-240M
USER MATRIX : OFF
MULTI MATRIX: OFF
```

(Display is initial values.)

Item	Setting	Description
PHASE	0, 23, 45, 68, 90, 113, 135, 158, 180, 203, 225, 248, 270, 293, 315, 338	Sets the angle that varies the multi matrix correction function. (sixteen-axis mode)
HUE	–99 to 99	Adjusts the color phase the multi matrix correction function affects in every sixteen-axis mode.
SAT	–99 to 99	Adjusts the saturation level the multi matrix correction function affects in every sixteen-axis mode.
ALL CLEAR	∗1	Clears the HUE and SAT values in each phase to 0. (The values in the reference file are not cleared.)
AUTO DET	∗1	Operates the automatic color detection function. Set the cursor to the color of the desired camera subject, and press the rotary encoder.
MATRIX c)	ON, OFF	Sets the liner matrix correction function to ON or OFF.
PRESET c)	ON, OFF	Sets the multi matrix correction coefficient set at the factory to ON or OFF. (When MATRIX setting is OFF, this setting is unavailable, “- - -” is displayed showing invalid.)
	SMPTE-240M, ITU-709, SMPTE-WIDE, NTSC, EBU ITU-609	Selects the multi matrix correction coefficient set at the factory.
USER MATRIX c)	ON, OFF	Sets the multi matrix correction function set by the user to ON or OFF. (When MATRIX setting is OFF, this setting is unavailable, “- - -” is displayed showing invalid.)
MULTI MATRIX c)	ON, OFF	Sets the multi matrix correction function to ON or OFF. (When MATRIX setting is OFF, this setting is unavailable, “- - -” is displayed showing invalid.)

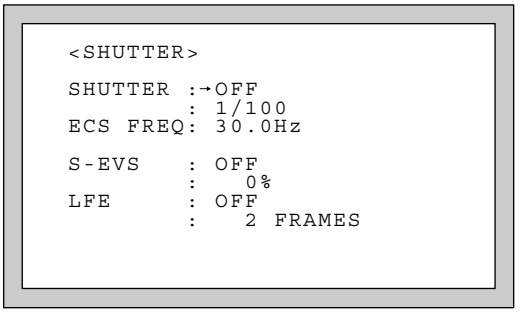
c)



USER MATRIX : Linear matrix that can change R-G and R-B in the conventional camera.
MULTI MATRIX : Linear matrix that divides the chroma phase width of the linear matrix into 16 segments and can adjust each individually.
PRESET MATRIX : Addition of the linear matrix value fixed in the standard specification.
OHB MATRIX : Linear (multi) matrix for matching the color between the cameras.

∗1 Execute by pressing the rotary encoder.

SHUTTER page



(Display is initial values.)

Item	Setting	Description
SHUTTER	ON, OFF	Sets the shutter/ECS mode to ON or OFF.
	Table below [d]	Sets the shutter speed. (The selectable shutter speed varies with each format.)
ECS FREQ	Table below [e]	Sets the ECS frequency. (The selectable ECS frequency variable region varies with each format.)
S-EVS	ON, OFF	Sets the S-EVS mode to ON or OFF.
	0 to 100 %	Sets the S-EVS. (When the format setting 30PsF, 29.97PsF, 25PsF, 24PsF and 23.98PsF, this setting is unavailable. “- - -” is displayed showing invalid.)
LFE	ON, OFF	Sets the LFE (LONG FRAME EXPOSURE) mode to ON or OFF.
	2, 3, 4, 5, 6, 7, 8, 10, 12, 14, 16, 20, 24, 28, 32	Sets the frame accumulated amount of LFE.

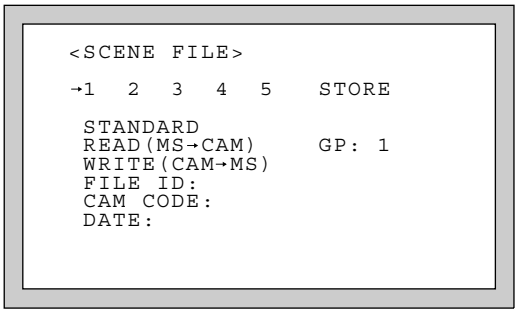
d) Shutter speed setting

Format	Shutter speed
60I/59.94I	1/100, 1/125, 1/250, 1/500, 1/1000, 1/2000
50I	1/60, 1/125, 1/250, 1/500, 1/1000, 1/2000
30PsF/29.97PsF	1/40, 1/50, 1/60, 1/120, 1/125, 1/250, 1/500, 1/1000
25PsF	1/33, 1/50, 1/60, 1/100, 1/125, 1/250, 1/500, 1/1000
24PsF/23.98PsF	1/32, 1/48, 1/50, 1/60, 1/96, 1/125, 1/250, 1/500, 1/1000

e) ECS frequency setting

Format	ECS
60I/59.94I	30.0 to 4300 Hz
50I	25.0 to 4700 Hz
30PsF/29.97PsF	30.0 to 2700 Hz
25PsF	25.0 to 2300 Hz
24PsF/23.98PsF	24.0 to 2200 Hz

SCENE FILE page



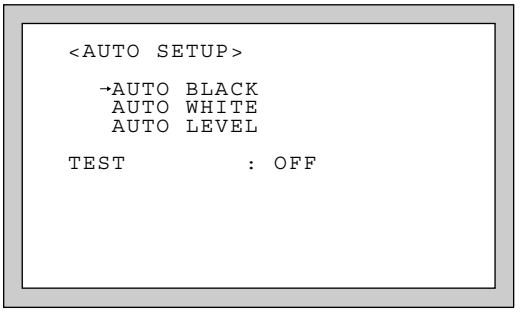
Item	Setting	Description
1, 2, 3, 4, 5		Saves and calls the scene file (the data painted in accordance with the shooting scene.) (Same as the SCENE FILE page in the FILE menu.)
STORE		**How to save** 1. Set "→" to STORE and press the rotary encoder, then "STORE NO?" will blink. 2. Select the file No. (1 to 5) for saving. (If data is already saved, the data will be replaced with new one.) **How to call** Set "→" to the file No. to be called up and press the rotary encoder. During calling up, the number is highlighted, and to cancel the operation, press the rotary encoder during the highlighting.
STANDARD	∗1	Returns the current paint adjustment amount and switch settings to the reference values.
READ (MS → CAM)	∗1	Reads the five scene files corresponding to the group number selected by GP from the memory stick to the memory of the camcorder.
WRITE (CAM → MS)	∗1	Writes the five scene files stored in the memory of the camcorder to the memory stick after being group-numbered by GP.
GP	1 to 20	Used to select the scene file group number when the scene files are saved to the memory stick or read from the memory stick. (Corresponds the five scene files as one pair to each group.)
FILE ID		Writes comments to a scene file to be stored to the memory stick. (Applies for each scene file group.)
CAM CODE		Only displays the model name of the scene file saved in the memory stick.
DATE		Only displays the date when the scene file was created in the memory stick.

∗1: Execute by pressing the rotary encoder.

3-7. MAINTENANCE Menu

This menu consists of paint items used less frequently such as shading adjustment and items required for the camera maintenance such as system change.

AUTO SETUP page

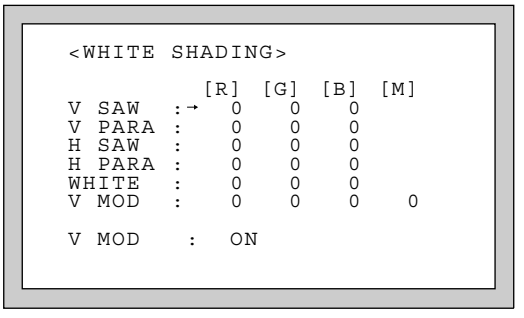


(Display is initial values.)

Item	Setting	Description
AUTO BLACK	∗1	Starts the automatic black balance adjustment. (Pressing the rotary encoder during the execution, the execution is canceled.)
AUTO WHITE	∗1	Starts the automatic white balance adjustment. (Pressing the rotary encoder during the execution, the execution is canceled.)
AUTO LEVEL	∗1	Starts the automatic level adjustment of the camera circuit. (Pressing the rotary encoder during the execution, the execution is canceled.)
TEST	OFF, 1, 2	Selects the test signal. OFF : No test signal is available. 1 : Provides the test signal of the sawtooth wave. 2 : Provides the test signal of the sawtooth wave of digital output.

∗1 Execute by pressing the rotary encoder.

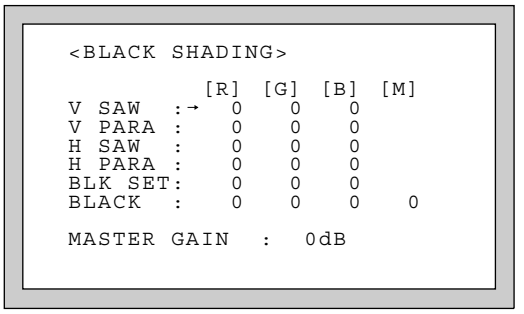
WHITE SHADING page



(Display is initial values.)

Item	Setting	Description
V SAW R/G/B	–99 to 99	Adjusts the white shading V SAW correction amount of the R,G,B master.
V PARA R/G/B	–99 to 99	Adjusts the white shading V PARA correction amount of R,G,B.
H SAW R/G/B	–99 to 99	Adjusts the white shading H SAW correction amount of R,G,B.
H PARA R/G/B	–99 to 99	Adjusts the white shading H PARA correction amount of R,G,B.
WHITE R/G/B	–99 to 99	Adjusts the white level of R,G,B.
V MOD R/G/B	–99 to 99	Adjusts the V modulation shading of R,G,B and master.
V MOD	ON, OFF	Sets the V modulation shading function to ON of OFF.

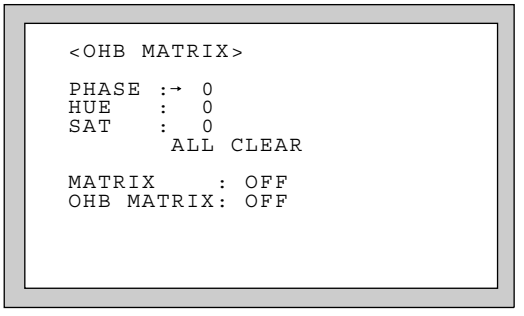
BLACK SHADING page



(Display is initial values.)

Item	Setting	Description
V SAW R/G/B	–99 to 99	Adjusts the black shading V SAW correction amount of the R,G,B master.
V PARA R/G/B	–99 to 99	Adjusts the black shading V PARA correction amount of R,G,B.
H SAW R/G/B	–99 to 99	Adjusts the black shading H SAW correction amount of R,G,B.
H PARA R/G/B	–99 to 99	Adjusts the black shading H PARA correction amount of R,G,B.
BLK SET R/G/B	–99 to 99	Adjusts the black set correction amount of R,G,B.
BLACK R/G/B/M	–99 to 99	Adjusts the black level of the R,G,B and master.
MASTER GAIN	–3, 0, 3, 6, 12 dB	Sets the master gain.

OHB MATRIX page

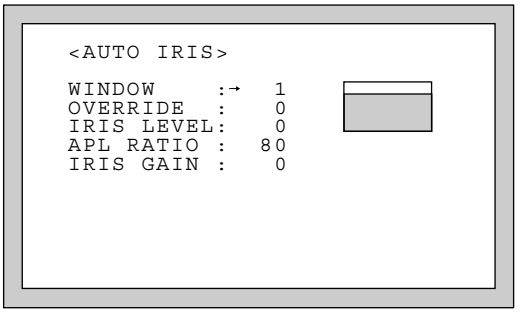


(Display is initial values.)

Item	Setting	Description
PHASE	0, 23, 45, 68, 90, 113, 135, 158, 180, 203, 225, 248, 270, 293, 315, 338	Set the region the OHB matrix correction function affects. (sixteen-axis mode)
HUE	–99 to 99	Adjusts the color phase the OHB matrix correction function affects in every sixteen-axis mode.
SAT	–99 to 99	Adjusts the saturation level the OHB matrix correction function affects in every sixteen-axis mode.
ALL CLEAR	∗1	Clears the HUE and SAT values in each phase to 0. (The values in the OHB file are not cleared.)
MATRIX	ON, OFF	Sets the linear matrix correction function ON or OFF.
OHB MATRIX	ON, OFF	Sets the OHB matrix correction function ON or OFF.

∗1 Execute by pressing the rotary encoder.

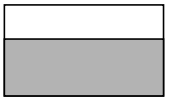
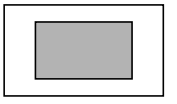
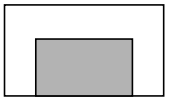
AUTO IRIS page



(Display is initial values.)

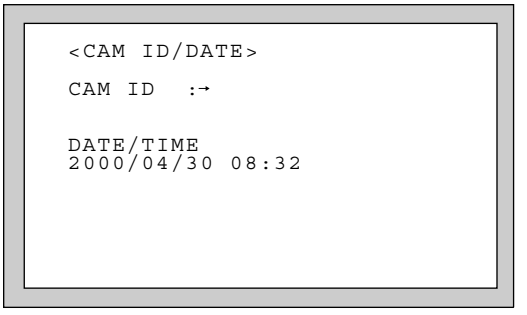
Item	Setting	Description
WINDOW	1, 2, 3, 4, 5, 6	Selects the auto iris window. a)
OVERRIDE	–99 to 99	Sets the reference value of the auto iris level by ±2 focus. –99 (2 iris nearly closed) ↔ 99 (2 iris nearly open)
IRIS LEVEL	–99 to 99	Sets the auto-iris level.
APL RATIO	–99 to 99	Sets the method of detecting the light amount of the auto iris. –99 (Peak light detection) ↔ 99 (Average value detection of whole screen)
IRIS GAIN	–99 to 99	Sets the iris gain.

a)

Setting	1	2	3	4	5	6
VF screen						

indicates the auto iris window frame.

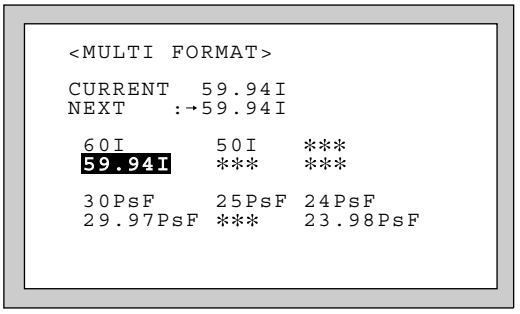
CAM ID/DATE page



(Display is initial values.)

Item	Setting	Description
CAM ID		Sets the camera ID of less 14 characters consisting of alphanumeric, symbols and spaces.
DATE/TIME		Sets the present date and time. **Reference** The way of indicating date is changeable. Refer to DATE TYPE of OTHER2 page in MAINTENANCE menu.

MULTI FORMAT page

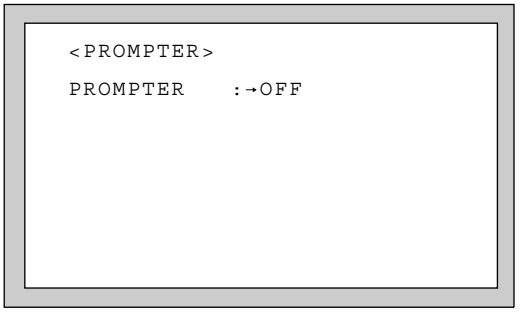


(Display is initial values.)

Item	Setting	Description
CURRENT		Displays the format being currently selected. The currently selected format is highlighted in the line below.
NEXT b)		Selects the format when the power is turned on next time. A turn of the rotary encoder shifts the portion highlighted. Press the rotary encoder for determination. (The highlighted portion does not shift to the ∗∗∗ portion.)

b) This setting is valid only when the camera is used alone. When the camera control unit is connected, the camera control unit setting takes a priority.

PROMPTER page

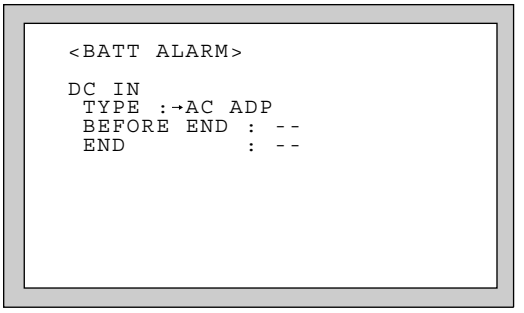


(Display is initial values.)

Item	Setting	Description
PROMPTER C)	ON, OFF	ON : Prompter signal is output at PROMPTER OUT connector OFF : No prompter signal is output

c) This setting is valid only when the camera control unit is connected, yet in the camera is used alone, setting is disabled. ("—" is displayed.)

BATT ALARM page

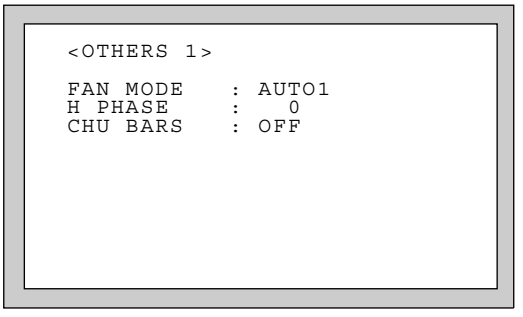


(Display is initial values.)

Item	Setting	Description
DC IN TYPE	LITHIUM, DIGITAL, OTHERS1 d), OTHERS2 d), AC ADP e)	Selects the power running in the DC IN connector. By this setting, the battery alarm voltage indication in accordance with the features of the battery or the power supply becomes possible.
BEFORE END	11.0 to 17.0 V	Sets the alarm voltage indicating that the DC power is wearing out. When the AC ADP is selected, this setting is unavailable "- - -" is displayed showing invalid.
END	11.0 to 17.0 V	Sets the alarm voltage indicating that the DC power has worn out. When the AC ADP is selected, this setting is unavailable "- - -" is displayed showing invalid.

d) These can be selected when using batteries other than LITHIUM, DIGITA L, AC ADP and the power supply.
e) This can be selected when using an AC/DC power supply of AC-550 and so on.

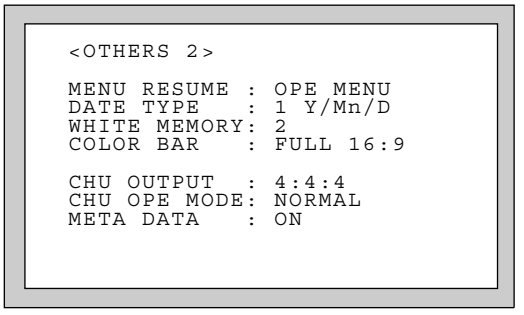
OTHERS1 page



(Display is initial values.)

Item	Setting	Description
FAN MODE	AUTO1, AUTO2, MIN, MAX	Sets the fan mode. AUTO1 : normal mode AUTO2 : silent mode MIN : minimum rotation mode MAX : maximum rotation mode
H PHASE	–3072 to 1023	Adjusts the H phase.
CHU BARS	ON, OFF	Sets the CHU BARS to ON or OFF.

OTHERS2 page



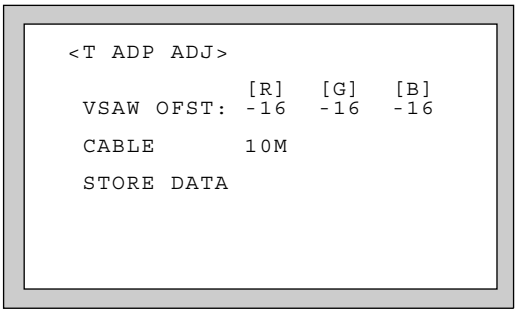
(Display is initial values.)

Item	Setting	Description
MENU RESUME	OPE MENU, OFF, ALL	Sets the menu screen displayed when starting the menu. OPE MENU : Starts to display from the page in the operation menu, which was displayed at powering off of the previous time. OFF : Starts to display from the first page (VF DISPLAY) in the operation menu. ALL : Displays the menu screen, which was displayed at powering off of the previous time. **Note** To display the TOP menu, refer to Section 3-2.
DATE TYPE	1 to 6	Sets the date. 1: Y/Mn/D Year/Month/Date (Month should be showed by the figure.) 2: Mn/D Month/Date (Month should be showed by the figure.) 3: D/M/Y Date/Month/Year 4: D/M Date/Month 5: M/D/Y Month/Date/Year 6: M/D Month/Date
WHITE MEMORY	2, 10	Sets the number of white balance memory. 2: White balance memory can be set to A and B of WHITE BAL switch (total 2). 10: White balance memory can be set to A and B of each CC filter and WHITE BAL switch (total 8).
COLOR BAR	FULL 16 : 9 , SMPTE 16 : 9 , FULL 4 : 3 , SMPTE 4 : 3	Sets the color bar. FULL 16 : 9: 100 % color bar of 16 : 9 SMPTE 16 : 9: 75 % color bar of 16 : 9 FULL 4 : 3: 100 % color bar of 4 : 3 SMPTE 4 : 3: 75 % color bar of 4 : 3
CHU OUTPUT	4 : 4 : 4, 4 : 2 : 2	Sets the HD-SDI output format. f)
CHU OPE MODE	FORCE CCU, NORMAL	Sets the switch operation mode of the camera when the camera control unit (CCU) is connected. FORCE CCU: Once the CCU is connected to the HDC-F950, the operations of the following switches are disabled even if the CCU is disconnected. GAIN, OUTPUT, WHITE BAL, SHUTTER, AUTO W/B BAL NORMAL: When the CCU is connected: The above switches operations are disabled When the CCU is disconnected: The above switches operations are enabled
META DATA	ON, OFF	Sets the meta data output function ON or OFF. **Note** The meta data is output from only the HD SERIAL LINK A OUT connector.

f)

Setting	Output signal	CCU connector	HD SERIAL LINK A OUT connector	HD SERIAL LINK B OUT connector
4 : 4 : 4	4 : 4 : 4 (RGB)	○	○	○
4 : 2 : 2	4 : 2 : 2 (YPbPr)	○	○	×

T ADP ADJ page (Displays ROM Version 1.20 or higher)



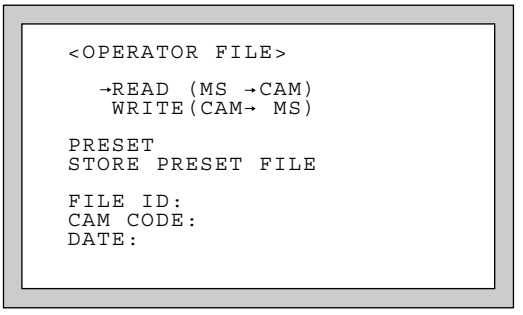
(Display is initial values.)

Item	Setting	Description
VSAW OFST	–50 ~ +50, - - -	Adjusts V SAW correction amount when HKC-T950 is connected. When HKC-T950 is not connected, this setting is disable, “- - -” is displayed showing invalid.
CABLE	10M, 25M, 50M	Displays the cable length being currently connected.
STORE DATA	Execute by pressing the rotary encoder	Stores the adjustment value to cable adaptor.

3-8. FILE Menu

File menu is used to operate the file such as saving the reference file.

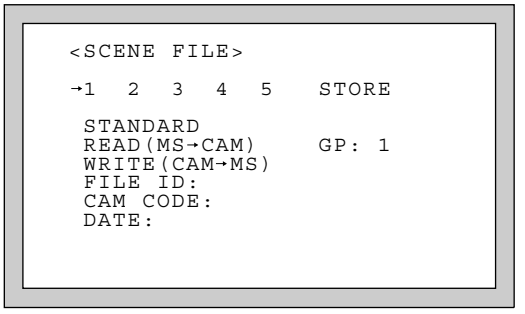
OPERATOR FILE page



Item	Setting	Description
READ (MS → CAM)	∗1	Reads the operator file from the memory stick.
WRITE (CAM → MS)	∗1	Saves the operator file in the memory stick.
RESET	∗1	Reset the operator file items to the preset values.
STORE PRESET FILE	∗1	Register the current setting values in the camera unit as the preset values of the operator file.
FILE ID		Writes comments to a file.
CAM CODE		Displays the camera name of the file created.
DATE		Displays the date when the file was created.

∗1 Execute by pressing the rotary encoder.

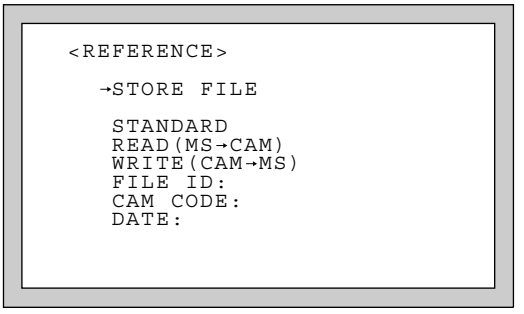
SCENE FILE page



Item	Setting	Description
1, 2, 3, 4, 5		Saves and calls the scene file (the data painted in accordance with the shooting scene.) (Same as the SCENE FILE page in the PAINT menu.)
STORE		**How to save** 1. Set "→" to STORE and press the rotary encoder, then "STORE NO?" will blink. 2. Select the file No. (1 to 5) for saving. (If data is already saved, the data will be replaced with new one.) **How to call** Set "→" to the file No. to be called up and press the rotary encoder. During calling up, the number is highlighted, and to cancel the operation, press the rotary encoder during the highlighting.
STANDARD	∗1	Returns the current paint adjustment amount and switch settings to the reference values.
READ (MS → CAM)	∗1	Reads the five scene files corresponding to the group number selected by GP from the memory stick to the memory of the camcorder.
WRITE (CAM → MS)	∗1	Writes the five scene files stored in the memory of the camcorder to the memory stick after being group-numbered by GP.
GP	1 to 20	Used to select the scene file group number when the scene files are saved to the memory stick or read from the memory stick. (Corresponds the five scene files as one pair to each group.)
FILE ID		Writes comments to a scene file to be stored to the memory stick. (Applies for each scene file group.)
CAM CODE		Only displays the model name of the scene file saved in the memory stick.
DATE		Only displays the date when the scene file was created in the memory stick.

∗1: Execute by pressing the rotary encoder.

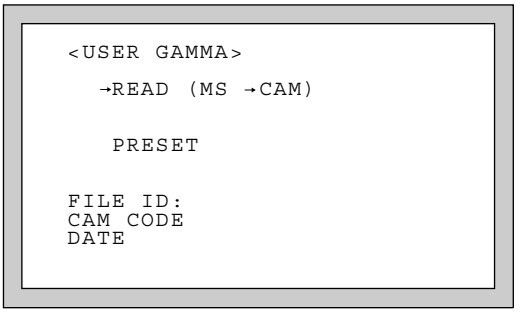
REFERENCE page



Item	Setting	Description
STORE FILE	∗1	Registers the adjustment values of each item as the reference file.
STANDARD	∗1	Returns the data registered in the reference file to the reference value.
READ (MS → CAM)		Reads out reference file from the memory stick to the memory of camera unit.
WRITE (CAM → MS)		Writes reference file stored in the memory of camera unit to the memory stick.
FILE ID		Writes comments to a reference file to be stored to the memory stick.
CAM CODE		Only displays the model name of the reference file saved in the memory stick.
DATE		Only displays the date when the reference file was created in the memory stick.

∗1 Execute by pressing the rotary encoder.

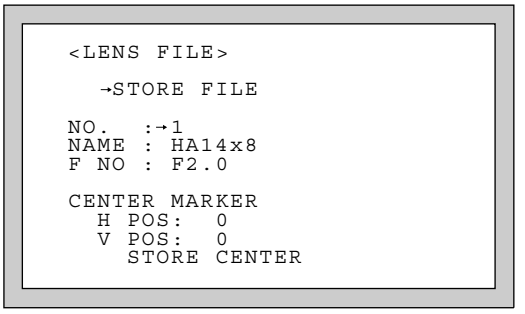
USER GAMMA page



Item	Setting	Description
READ (MS → CAM)	∗1	Reads the user gamma file from the memory stick to the memory of the camcorder.
PRESET	∗1	Resets the user gamma curve data to the preset value.
FILE ID		Only displays the comments of the user gamma file saved in the memory stick.
CAM CODE		Only displays the model name that the user gamma file saved in the memory stick was created.
DATE		Only displays the date when the user gamma file was created in the memory stick.

∗1 Execute by pressing the rotary encoder.

LENS FILE page

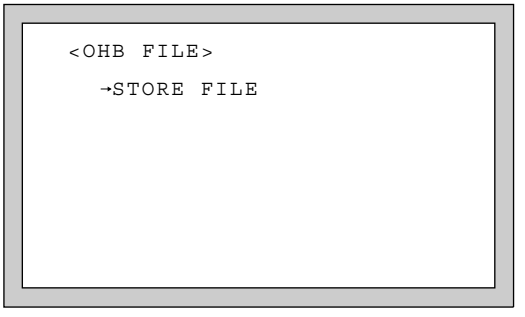


(Display is initial values.)

Item	Setting	Description
STORE FILE	∗1	Registers the adjustment values for each item (exc. the center marker position) as the lens file.
No.	1to 16	Selects the file matching with the mounted lens from the sixteen lens files
NAME		Displays the lens file name in accordance with the No. (1 to 16) selected.
F NO	F1.0 to F3.4	Sets the open edge F value of the lens.
H POS	–20 to 20	Sets the center marker position (Horizontal) 20 (right) ↔ –20 (left)
V POS	–20 to 20	Sets the center marker position (Vertical) 20 (lower) ↔ –20 (upper)
STORE CENTER	∗1	Registers the center marker position in the lens file being selected.

∗1 Execute by pressing the rotary encoder.

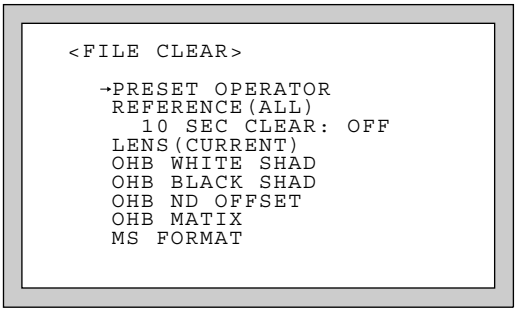
OHB FILE page



Item	Setting	Description
STORE FILE	∗1	Stores the OHB file.

∗1 Execute by pressing the rotary encoder.

FILE CLEAR page



(Display is initial values.)

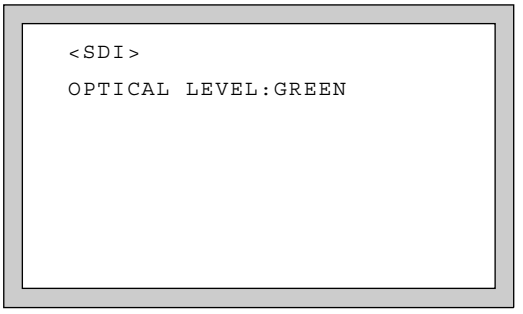
Item	Setting	Description
PRESET OPERATOR	∗1	Returns the preset value of the operator file set by the user to the original value at factory setting.
REFERENCE (ALL)	∗1	Returns each adjustment value registered in the reference file to the original values at factory setting.
10 SEC CLEAR	ON, OFF	Sets ON or OFF the function to clear the reference value by continuing to push the rotary encoder for more than ten seconds with the cursor set to the reference item and "?" blinking. **Note** The setting returns to OFF when the unit is powered off.
LENS (CURRENT)	∗1	Returns the lens file being selected to the original value at factory setting.
OHB WHITE SHAD		Clears the white shading in the OHB file to 0.
OHB BLACK SHAD		Clears the black shading in the OHB file to 0.
OHB ND OFFSET		Clears the ND offset in the OHB file to 0.
OHB MATRIX		Clears the matrix in the OHB file to 0.
MS FORMAT		Formats the memory stick.

∗1 Execute by pressing the rotary encoder.

3-9. DIAGNOSIS Menu

The DIAGNOSIS menu displays the self-diagnosis of every plug-in board and photo-receptive condition of the optical connector, etc.

SDI page

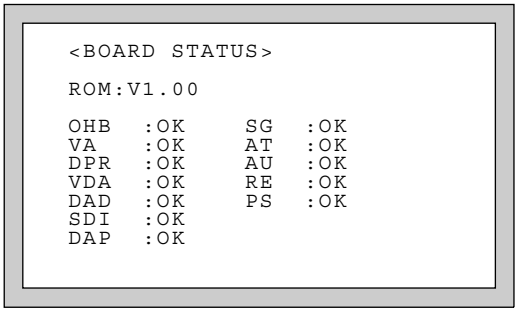


Item	Setting	Description
OPTICAL LEVEL	GREEN, YELLOW, RED, NO SIGNAL –––	Displays a photo-receptive condition of the optical connector GREEN : Normal (−17 dBm* or more) YELLOW : Normal (−17 to −20 dBm*) RED : Abnormal (less than −20 dBm*) NO SIGNAL : Out of sync with HDCU ––– : When the camera is used alone *0 dBm = 1 mW

Note

If “RED” is indicated, be sure to clean the optical connector and optical/electrical cable. If “YELLOW” is indicated, cleaning them is recommended. For details on how to clean, refer to Section 2-1.

BOARD STATUS page



Item	Setting	Description
ROM		Displays the ROM version for IC1/AT-130A board.
OHB	OK, NG	Displays the self-diagnosis status of the CCD block. b)
VA	OK, NG	Displays the self-diagnosis status of the VA board.
DPR	OK, NG	Displays the self-diagnosis status of the DPR board.
VDA	OK, NG	Displays the self-diagnosis status of the VDA board.
DAD	OK, NG	Displays the self-diagnosis status of the DAD board.
SDI	OK, NG	Displays the self-diagnosis status of the SDI board.
DAP	OK, NG	Displays the self-diagnosis status of the DAP board.
SG	OK, NG	Displays the self-diagnosis status of the SG board.
AT	OK, NG	Displays the self-diagnosis status of the AT board.
AU	OK, NG	Displays the self-diagnosis status of the AU board.
RE	OK, NG	Displays the self-diagnosis status of the RE board.
PS a)	OK, NG	Displays the self-diagnosis status of the PS board.

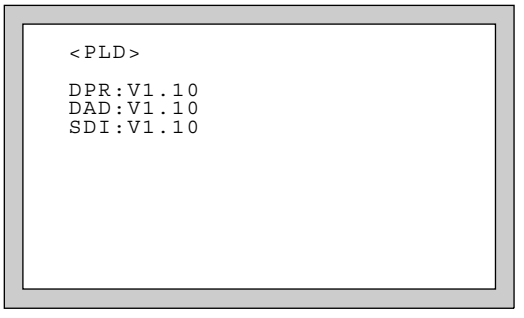
a) This setting is valid only when the camera control unit is connected, yet in the camera is used alone, setting is disabled. ("—" is displayed.)

b) When HKC-T950 is connected, it judges based on status of the connection cable, communication state between the CCD block adaptor and cable adaptor and so on in addition to the diagnosis in the camera that is being used alone.

Note

When "NG" is indicated, contact your local Sony Sales Office.

PLD page



Item	Setting	Description
DPR		Displays the PLD version for IC500/DPR-241 board.
DAD		Displays the PLD version for IC301/DAD-38 board.
SDI		Displays the PLD version for IC701/SDI-81 board.

Section 4
File System

The HDC-F950 is equipped with various file systems for managing data.

4-1. File Structure

The following six types of files are available.

1. **Operator File**
   Stores the items displayed on the viewfinder and switch settings for camera operator. This file is stored in the memory stick, yet the video data (paint data) cannot be stored.
2. **Preset Operator File**
   Stores the standard state of operator file items.
   This file is stored in the camera, yet video data (paint data) cannot be stored.
3. **Scene File**
   Stores the temporary video setting data according to the scene. This file is stored in the camera and memory stick.
4. **Reference File**
   Stores the custom paint data adjusted by the video engineer. This file is stored in the camera and memory stick.
5. **Lens File**
   Used for compensation of the deviation which generates by switching the lens extender from OFF to ON and for compensation of the difference in the characteristics between lenses. This file is stored in the camera.
6. **OHB File**
   Used for adjustment of the CCD block maintenance. This file is stored in the camera.

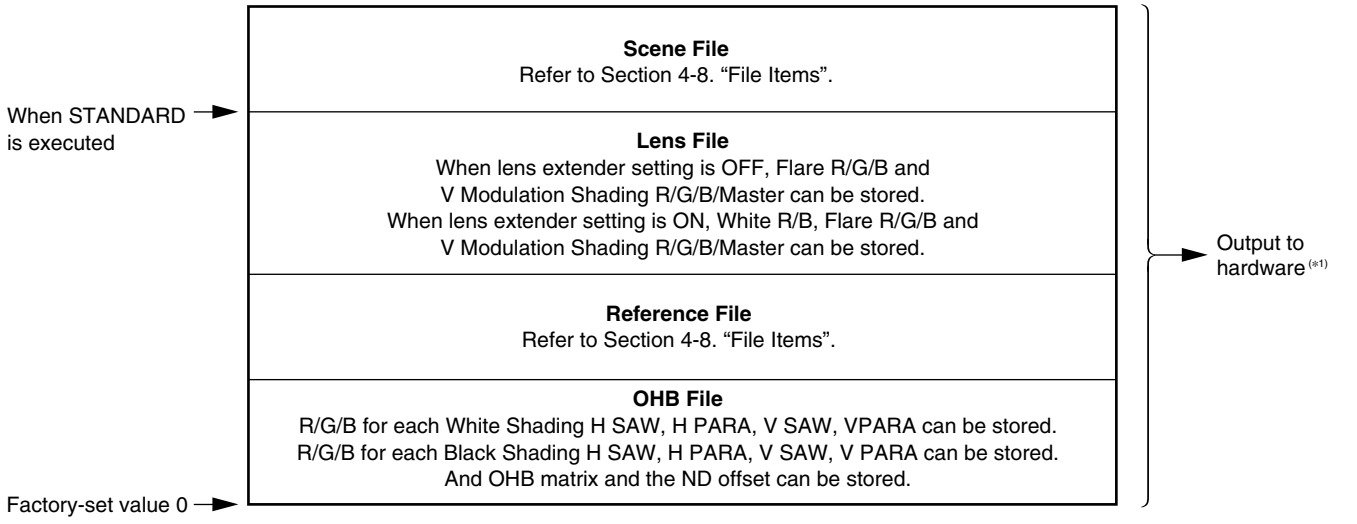


Fig. 4-1. Structure of Paint Related Files

(∗1): The additional data of each file is sent to each circuit on the unit.

4-2. Operator File

Data is stored in the memory stick using the setup menu. As for the items to be stored, refer to Section 4-8,“ File Items”.

Notes

- As for the setup menu, refer to Section 3.
- Operator files stored in the memory stick will not be read when the power is just turned ON. This file will only be read when READ is executed at the setup menu.
- The current operator file data is retained even when the power is turned off by the power switch.
- Before storing the file in the memory stick, make sure that the LOCK switch on the memory stick is in OFF position.

Storing the Operator File in the Memory Stick (Refer to step 1 of Fig. 4-2.)

Set the setup menu as follows, and store the current status in the memory stick.

OPERATION → OPERATOR FILE → WRITE (CAM → MS)

Reading the Operator File from the Memory Stick (Refer to step 2 of Fig. 4-2.)

Set the setup menu as follows.

OPERATION → OPERATOR FILE → READ (MS → CAM)

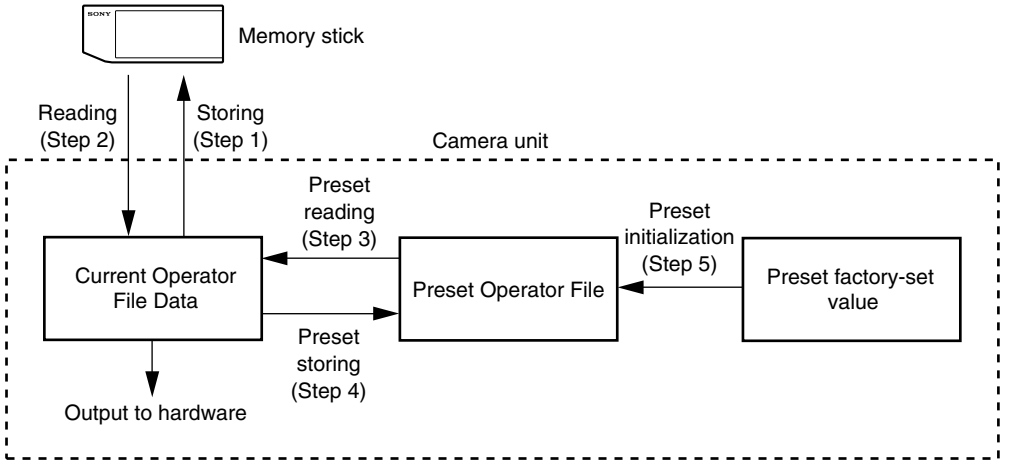


Fig. 4-2. Operating Procedure for Operator Files

4-3. Preset Operator File

The preset operator file is designed to store the standard values of the operator file items. There are two ways of calling the preset operator file; calling from the setup menu or reading at power ON. The items which can be stored on file are the same as Operator File.

Note

As for the setup menu, refer to Section 3.

Calling Using the Setup Menu (Refer to step 3 of Fig. 4-2.)

Set the setup menu as follows.
OPERATION → OPERATOR FILE → PRESET

Calling without Using the Setup Menu (Refer to step 3 of Fig. 4-2.)

Set the WHITE BAL switch to "PRST", and while pushing the AUTO W/B BAL switch to the WHT side, set the POWER switch to ON.

Storing the Preset Values (Refer to step 4 of Fig. 4-2.)

The items of the preset values can be changed using the setup menu.
Set the setup menu as follows.
FILE → OPERATOR FILE → STORE PRESET FILE
Then, current status can be stored in the camera as Preset Operator File.

Initializing the Preset Values (Refer to step 5 of Fig. 4-2.)

Set the setup menu as follows to initialize the changed preset items to the factory-set data.
FILE → FILE CLEAR → PRESET OPERATOR

4-4. Scene File

The scene file is used for storing temporary video adjustment values according to the scene. 5 files can be stored in the camera and the data can be stored a maximum of 20 pairs (100 files) in the memory stick as five files in one pair. The data can be stored using a setting menu or MSU (master setup unit).
Scene files can be copied between cameras using the memory stick.
As for the items to be stored, refer to Section 4-8,“ File Items”.

Notes

- Scene files are files for storing the differences from the reference file. Therefore when the reference file is changed, output of the scene file item corresponding with the item changed in the reference file is also changed.
- As for the setup menu, refer to Section 3.
- Before storing the file in the memory stick, make sure that the LOCK switch on the memory stick is in OFF position.

Storing Using Setup Menu (Refer to step 1 of Fig.4-3.)

(1) Set the setup menu as follows.
PAINT → SCENE FILE → STANDARD
(2) Change the scene file item to the desired value.
(3) Set the setup menu as follows.
PAINT → SCENE FILE → STORE
Select the scene file number to be stored.

Calling Using Setup Menu and Clearing the Call (Refer to step 2 of Fig.4-3.)

Select the scene file number called at the “SCENE FILE” page of the PAINT menu. A file currently being called is shown with its file No. highlighted. Selecting the number again clears the call and resets the state before calling.

Storing with MSU (Refer to step 1 of Fig.4-3.)

(1) Change the scene file item to the desired value.
(2) Press “STORE” of the scene file, and press the STORE number.

Calling with MSU and Clearing the Call (Refer to step 2 of Fig.4-3.)

Press the No. switch of the “SCENE FILE” to call. The switch also lights up. Press again to cancel the call and turn off the switch.

Storing the Scene File to the Memory Stick (Refer to step 1 of Fig. 4-3.)

The scene file group (five scene files) stored in the camera unit is stored to the memory stick.

(1) Set the setup menu as follows, and set the number of the scene file group to be stored.
PAINT → SCENE FILE → GP

(2) Set the setup menu as follows, and write comments to the scene file group to be stored.
PAINT → SCENE FILE → FILE ID

(3) Set the setup menu as follows.
PAINT → SCENE FILE → WRITE (CAM → MS)

Reading the Scene File from the Memory Stick (Refer to step 3 of Fig. 4-3.)

The scene file group (five scene files) stored in the memory stick are read to the memory of camera unit.

(1) Set the setup menu as follows, and select the number of the scene file group to be read.
PAINT → SCENE FILE → GP

(2) Set the setup menu as follows.
PAINT → SCENE FILE → READ (MS → CAM)

Note

When the power is just turned on, the reference files stored in the memory stick will not be read. This file will only be read when READ is executed at the setup menu.

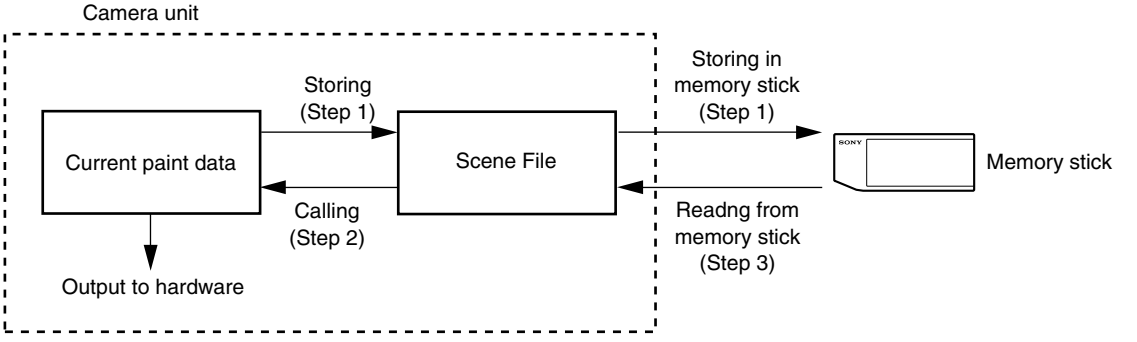


Fig. 4-3. Operating Procedure for Scene Files

4-5. Reference Files

This file can be stored and read using the setup menu or MSU (master setup unit). Only one file can be stored, and will be stored in the camera and memory stick.
As for the items to be stored, refer to Section 4-8,“ File Items”.
For reference files, differential data taking the factory-setting as 0 will be stored. Therefore, initializing the reference file brings the settings to the same status at factory-setting.(*1) Using the setting menu, all items or specified items can be initialized.
Reference files can be copied between cameras using the memory stick.

(∗1) : If lens files or OHB file retains the data, those need to be initialized as well.

Notes

- As for the setup menu, refer to Section 3.
- Before storing the file in the memory stick, make sure that the LOCK switch on the memory stick is in OFF position.

Storing Using the Setup Menu (Refer to step 1 of Fig.4-4.)

Set the setup menu as follows.
FILE → REFERENCE → STORE FILE
The data will be stored in the camera and the numerical data will be displayed as 0. (Excluding some items. Refer to Section 4-8. “File Items”.)

Storing by MSU (Refer to step 1 of Fig.4-4.)

Set the MODE switch to FILE and press REFERENCE and then press REF STORE. The data will be stored in the camera and the numerical data will be displayed as 0. (Excluding some items. Refer to Section 4-8. “File Items”.)

Calling Using the Setup Menu (Refer to step 2 of Fig. 4-4, Fig. 4-1.)

Set the setup menu as follows.
PAINT → SCENE FILE → STANDARD
The temporary paint amount and scene file amount will be cleared and the reference file will be reset to the state stored in.

Calling with MSU (Refer to step 2 of Fig. 4-4.)

Press the “STANDARD” switch to reset the reference file item to the state stored in.

Reading the Reference File from the Memory Stick (Refer to step 3 of Fig. 4-4.)

During the file storing, the reference files which have been stored in the memory stick at the same time are read and the reference files in the camera can also be changed.
Set the setup menu as follows.
FILE → REFERENCE → READ (MS → CAM)
After the data of the memory stick is read to the camera, STANDARD will be executed automatically.

Note

When the power is just turned on, the reference files stored in the memory stick will not be read. This file will only be read when READ is executed at the setup menu.

Storing the Reference File to the Memory Stick (Refer to step 1 of Fig. 4-4.)

The reference file stored to the camera unit is stored in the memory stick.
Set the setup menu as follows.
FILE → REFERENCE → WRITE (CAM → MS)

Initializing All File Items Using the Setup Menu (Refer to step 4 of Fig. 4-4.)

Set the setup menu as follows.
FILE → FILE CLEAR → REFERENCE (ALL)

Initializing Only Specified Items Using the Setup Menu (Refer to step 4 of Fig. 4-4.)

References files for specified items can be initialized using the setup menu.

(1) Set the setup menu as follows.
FILE → FILE CLEAR → 10 SEC CLEAR → ON
(2) Move to the page containing the items to be initialized from the reference files in the setup menu.
(3) Adjust "→" to the item to be initialized using the rotary encoder, and keep pressing the rotary encoder about 10 seconds at "?" state until "REF CLEAR " is displayed. About 3 seconds later, "DATA CLEAR" will be displayed at the bottom most line. The "REF CLEAR" is displayed about 10 seconds later, and the data will be initialized to 0.

Note

The 10 SEC CLEAR function must always be set to OFF when the power is turned ON.

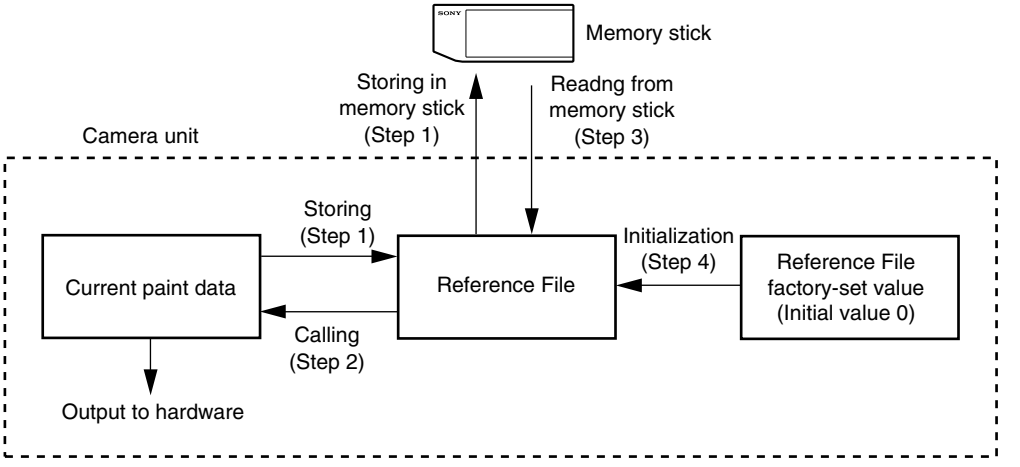


Fig. 4-4. Operating Procedure for Reference Files

4-6. Lens File

The white shading which occurs when the extender is turned on, flare balance, white balance, F value of the open edge of the lens, name, etc. can be stored. Up to 16 files can be stored. The adjustment data can be called by selecting the lens file. This data will be stored in the camera.
As for the items to be stored, refer to Section 4-8,“ File Items”.
The lens file stores the differential data from the reference file.

Notes

- Prior to creating the lens file, perform the necessary adjustments by using the lens normally used to create the reference file.
- As for the setup menu, refer to Section 3.

Adjusting the Lens File

(1) Mount the lens. Select the file with the same name of the lens mounted from the setup menu.
If no file with the same lens name, select “NO OFFSET”.
FILE → LENS FILE → No. → (Select the No.)
(2) Set the lens file name and F value of the open edge of the lens.
(3) With the lens extender set to OFF, adjust V modulation of R/G/B/Master. Shoot the all white pattern, set the iris F4 and zoom position to the center of the ring, and perform the adjustment around 560 mV of 80% video level. Also adjust the flare balance and white balance shooting the grayscale chart.
(4) Store the data in the lens file. Set the setting menus as follows.
FILE → LENS FILE → STORE FILE
(5) Set the extender to ON, adjust the V modulation of R/G/B/Master shooting the all white pattern, and adjust the flare balance and white balance shooting the grayscale chart.
(6) Store the data in the lens file.
(7) If the lens center deviates when the lens extender is switched to ON/OFF, store the center marker under the extender is ON state. Adjust CENTER H POS and CENTER V POS at the LENS FILE page, and execute STORE CENTER.

Note

The center marker will not be stored when the lens file is stored.

Calling the Lens File

Select the lens file set by the setup menu as follows.
OPERATION → LENS FILE

Initializing the Lens File

Set the setup menu as follows.
FILE → FILE CLEAR → LENS (CURRENT)
All data of the lens file being currently selected will be initialized to the factory setting values.

4-7. OHB File

The OHB file is used for storing the maintenance adjustment values of the CCD block and the data will be stored in the camera. The data can be stored using the setup menu or the MSU (master setup unit). The items to be stored are the black shading, white shading, ND offset and OHB matrix.

Note

As for the setup menu, refer to Section 3.

4-7-1. Storing the Black Shading and White Shading

Storing Using the Setup Menu

(1) Execute the setup menu as follows.
FILE → REFERENCE → STANDARD

(2) Change the items to the desired value; H SAW, H PARA, V SAW and V PARA of each R/G/B for each of white shading and black shading.

(3) Set the setup menu as follows.
FILE → OHB FILE → STORE FILE

Storing with MSU

(1) Change the items to the desired value; H SAW, H PARA, V SAW, V PARA of each R/G/B for each of white shading and black shading.

(2) Press “STORE” of the OHB file.

4-7-2. Adjusting the ND Offset

The white balance may be slightly deviated in the ND filters. In such cases, adjust the offset. Taking the ND filter 1 white balance as the reference, the ND offset stores the deviation of the white balance of ND filter 2, 3, 4.

Adjusting the ND Offset

(1) Set the setup menu as follows.
FILE → REFERENCE → STANDARD
(2) Connect the waveform monitor to MONITOR OUT connector of this unit.
(3) Select ND filter 4, and shoot the grayscale chart. Check that the illuminant condition is under that video level is within 560 mV thru. 630 mV. Then note the video level at this time.

Note

Do not adjust the ND offset if the video level is less than 560 mV.

(4) Select 1 by the ND filter knob, and set the iris so that the video level is the same level as the noted video level of Step (2).
(5) Execute the auto white balance.
(6) Select 2 by the ND filter knob, and set the iris to meet the noted video level of Step (2).
(7) Execute the auto white balance.
(8) Select 3 by the ND filter knob, and set the iris to meet the noted video level of Step (2).
(9) Execute the auto white balance.
(10) Select 4 by the ND filter knob, and set the iris to meet the noted video level of Step (2).
(11) Execute the auto white balance.
(12) Store the ND offset.
Execute the setup menu as follows.
FILE → OHB → STORE FILE

Notes

- Adjust precisely to meet the noted video level, otherwise the deviation of the white balance of the ND filter may generate in some cases.
- If the level cannot be adjusted properly using the iris, adjust the level using the shutter/ECS or gain-up.

Calling the ND Offset

When the ND filter is changed, the ND offset will be called automatically.

Initializing the ND Offset

Execute the setup menu as follows.
FILE → FILE CLEAR → OHB ND OFFSET

4-8. File items

OPERATION menu

page	item	OPERATOR	REFERENCE	SCENE	OHB	LENS	STANDARD (*9)	Power is turned ON	Factory set
1	VF DISPLAY	●	–	–	–	–	–	–	(*2)
2	! IND 1	●	–	–	–	–	–	–	(*2)
3	! IND 2	●	–	–	–	–	–	–	(*2)
4	MARKER	●	–	–	–	–	–	–	(*2)
5	GAIN SW L/M/H	●	–	–	–	–	–	–	0/6/12 dB
6	ZEBRA	●	–	–	–	–	–	–	(*2)
	VF DETAIL	●	–	–	–	–	–	–	0
7	AUTO IRIS WINDOW	●	–	–	–	–	–	–	1 (*8)
	OVERRIDE	–	–	–	–	–	–	–	0
8	BATT ALARM	●	–	–	–	–	–	–	(*2)
9	D5600K	–	●	●	–	–	REF	–	OFF
	ASSIGNABLE 1/2	●	–	–	–	–	–	–	OFF
	MIC 1 GAIN	○	–	–	–	–	–	–	–60 dB
	MIC 2 GAIN	○	–	–	–	–	–	–	–60 dB
	LENS VTR S/S	○	–	–	–	–	–	–	RET2
	CAM VTR S/S	○	–	–	–	–	–	–	RET2
	ZOOM DISP	○	–	–	–	–	–	–	LEFT
11	LENS FILE NO.	–	–	–	–	–	–	–	1

PAINT menu

page	item	OPERATOR	REFERENCE	SCENE	OHB	LENS	STANDARD (*9)	Power is turned ON	Factory set
2	WHITE R/B	–	○	○	–	○ (*4)	REF (*7)	–	0
	WHITE G	–	○	○	–	–	REF	–	0
	BLACK R/G/B	–	–	○	–	–	0	–	0
	BLACK MASTER	–	○	○	–	–	REF	–	0
	FLARE R/G/B	–	○	○	–	○	REF	–	0
	FLARE SW	–	ON	●	–	–	ON	–	ON
	V MOD R/G/B	–	–	○	–	–	–	–	0
	V MOD MASTER	–	–	○	–	○	–	–	0
	V MOD SW	–	ON	–	–	–	ON	–	ON
3	GAMMA R/G/B	–	○	○	–	–	REF	–	0
	GAMMA MASTER	–	○	○	–	–	REF	–	0
	GAMMA COARSE	–	●	●	–	–	REF	–	0.45
	GAMMA TABLE	–	●	●	–	–	REF	–	STANDARD4
	GAMMA SW	–	ON	●	–	–	ON	–	ON
4	BLK GAMMA R/G/B	–	○	○	–	–	REF	–	0
	BLK GAMMA MASTER	–	○	○	–	–	REF	–	0
	BLK GAMMA RGB RANGE	–	●	●	–	–	REF	–	4
	BLK GAMMA RGB SW	–	●	●	–	–	REF	–	OFF
	BLK GAMMA Y	–	○	○	–	–	REF	–	0
	BLK GAMMA Y RANGE	–	●	●	–	–	REF	–	4
	BLK GAMMA Y SW	–	●	●	–	–	REF	–	OFF
5	LOW KEY SAT	–	○	○	–	–	REF	–	0
	LOW KEY SAT SW	–	●	●	–	–	REF	–	OFF
6	KNEE POINT R/G/B	–	○	○	–	–	REF	–	0
	KNEE POINT MASTER	–	○	○	–	–	REF	–	0
	KNEE SLOPE R/G/B	–	○	○	–	–	REF	–	0
	KNEE SLOPE MASTER	–	○	○	–	–	REF	–	0
	KNEE SW	–	●	●	–	–	REF	–	ON
	WHITE CLIP R/G/B	–	○	○	–	–	REF	–	0
	WHITE CLIP MASTER	–	○	○	–	–	REF	–	0
	WHITE CLIP SW	–	ON	●	–	–	REF	ON	ON
	KNEE SAT LEVEL	–	○	○	–	–	REF	–	0
	KNEE SAT SW	–	●	●	–	–	REF	–	OFF

page	item	OPERATOR	REFERENCE	SCENE	OHB	LENS	STANDARD (*9)	Power is turned ON	Factory set
7	DETAIL LEVEL	–	○	○	–	–	REF	–	0
	DETAIL SW	–	ON	●	–	–	REF	–	ON
	DETAIL WHITE LIMITER	–	○	○	–	–	REF	–	0
	DETAIL BLACK LIMITER	–	○	○	–	–	REF	–	0
	DETAIL LIMITER MASTER	–	○	○	–	–	REF	–	0
	DETAIL CRISPEN	–	○	○	–	–	REF	–	0
	DETAIL H/V RATIO	–	○	○	–	–	REF	–	0
	DETAIL H FREQ	–	○	○	–	–	REF	–	0
	DETAIL LEVEL DEPEND	–	○	○	–	–	REF	–	0
	DETAIL LEVEL DEP SW	–	●	●	–	–	REF	–	ON
8	KNEE APERTURE	–	○	○	–	–	REF	–	0
	KNEE APT SW	–	●	●	–	–	REF	–	OFF
9	SKIN DETAIL LEVEL	–	○	○	–	–	REF	–	0
	SKIN DETAIL PHASE 1/2/3	–	◎	◎	–	–	REF	–	0°
	SKIN DETAIL WIDTH 1/2/3	–	◎	◎	–	–	REF	–	30°
	SKIN DETAIL SAT 1/2/3	–	◎	◎	–	–	REF	–	–89
	SKIN DETAIL CH–1 SW	–	ON	●	–	–	ON	–	ON
	SKIN DETAIL CH–2,3 SW	–	●	●	–	–	REF	–	OFF
	SKIN DETAIL GATE SW	–	–	–	–	–	–	OFF	OFF
	SKIN DETAIL GATE 1 SW	–	ON (*1)	–	–	–	ON	–	ON
	SKIN DETAIL GATE 2/3 SW	–	OFF (*1)	–	–	–	OFF	–	OFF
10	USER MATRIX	–	◎	◎	–	–	REF	–	0
	USER MATRIX SW	–	●	●	–	–	REF	–	OFF
	PRESET MATRIX SEL	–	●	●	–	–	REF	–	SMPTE-240M
	PRESET MATRIX SW	–	●	●	–	–	REF	–	OFF
	MATRIX SW	–	●	●	–	–	REF	–	OFF
11	MULTI MATRIX PHASE	–	–	–	–	–	–	–	0
	MULTI MATRIX HUE	–	◎	◎	–	–	REF	–	0
	MULTI MATRIX SAT	–	◎	◎	–	–	REF	–	0
	MULTI MATRIX SW	–	●	●	–	–	REF	–	OFF
12	SHUTTER SEL	–	●	●	–	–	REF	– (*5)	1/100
	SHUTTER SW	–	–	●	–	–	–	– (*5)	OFF
	ECS SW	–	●	●	–	–	REF	–	OFF
	ECS FREQ	–	◎	◎	–	–	REF	–	30.0 Hz
	S–EVS (%)	–	◎	◎	–	–	REF	–	0
	S–EVS SW	–	●	●	–	–	REF	–	OFF
	LFE SW	–	–	–	–	–	–	–	OFF
	LFE	–	–	–	–	–	–	–	2
	TEST 1	–	–	–	–	–	–	–	OFF
	TEST 2	–	–	–	–	–	–	–	OFF

MAINTENANCE menu

page	item	OPERATOR	REFERENCE	SCENE	OHB	LENS	STANDARD (*9)	Power is turned ON	Factory set
2	WHITE SHADING VSAW R/G/B	–	–	–	○	–	OHB	–	0
	WHITE SHADING VPARA R/G/B	–	–	–	○	–	OHB	–	0
	WHITE SHADING HSAW R/G/B	–	–	–	○	–	OHB	–	0
	WHITE SHADING HPARA R/G/B	–	–	–	○	–	OHB	–	0
3	BLACK SHADING VSAW R/G/B	–	–	–	○	–	OHB	–	0
	BLACK SHADING VPARA R/G/B	–	–	–	○	–	OHB	–	0
	BLACK SHADING HSAW R/G/B	–	–	–	○	–	OHB	–	0
	BLACK SHADING HPARA R/G/B	–	–	–	○	–	OHB	–	0
	BLACK SET R/G/B	–	–	–	–	–	–	–	0
	MASTER GAIN	–	●	●	–	–	REF	– (*5)	0 dB
4	OHB MULTI MATRIX PHASE	–	–	–	–	–	–	–	0
	OHB MULTI MATRIX HUE	–	–	–	○	–	OHB	–	0
	OHB MULTI MATRIX SAT	–	–	–	○	–	OHB	–	0
	OHB MATRIX SW	–	–	–	–	–	–	–	OFF
5	AUTO IRIS LEVEL	–	◎	◎	–	–	REF	–	0
	AUTO IRIS APL RATIO	–	◎	–	–	–	REF	–	80
	AUTO IRIS GAIN	–	◎	–	–	–	REF	–	0
6	CAMERA ID	–	–	–	–	–	–	–	–
7	MULTI FORMAT	–	–	–	–	–	–	–	59.94 I
8	PROMPTOR	–	–	–	–	–	–	–	OFF
10	BATT ALARM	–	–	–	–	–	–	–	(*2)
11	FAN MODE	–	●	●	–	–	REF	–	AUTO1
	H PHASE	–	–	–	–	–	–	–	0
	CHU BARS	–	–	–	–	–	–	–	OFF
12	MENU RESUME	–	–	–	–	–	–	–	OPE MENU
	DATE TYPE	–	–	–	–	–	–	–	Y/Mn/D
	WHITE MEMORY	–	–	–	–	–	–	–	10
	COLOR BAR	–	–	–	–	–	–	–	FULL 16 : 9
	CHU OUTPUT	–	–	–	–	–	–	–	4 : 4 : 4
	CHU OPE MODE	–	–	–	–	–	–	–	NORMAL
	META DATA	–	–	–	–	–	–	–	ON
13	VSAW OFST R/G/B (*10)	–	–	–	(*11)	–	–	–	10 m : –8 25 m : –16 50 m : –32
	TEST 1	–	–	–	–	–	–	–	OFF
	TEST 2	–	–	–	–	–	–	–	OFF

FILE menu

page	item	OPERATOR	REFERENCE	SCENE	OHB	LENS	STANDARD (*9)	Power is turned ON	Factory set
4	LENS FILE NAME	–	–	–	–	●	–	–	1
	LENS FILE IRIS F NO.	–	–	–	–	●	–	–	F2.0
	LENS FILE CENTER MARKER H	–	–	–	–	●	–	–	0
	LENS FILE CENTER MARKER V	–	–	–	–	●	–	–	0
6	REFERENCE 10 SEC CLEAR	–	–	–	–	–	–	OFF	OFF

External switches

item	OPERATOR	REFERENCE	SCENE	OHB	LENS	STANDARD (*9)	Power is turned ON	Factory set
ND FILTER	–	–	●	–	–	–	–	ND1
ND OFFSET	–	–	–	○	–	–	–	0
CC FILTER	–	–	●	–	–	–	–	CCB
AUTO KNEE	–	●	●	–	–	REF	– (*5)	OFF
CHU COLOR BAR	–	–	–	–	–	–	– (*5)	OFF
WHITE MEMORY PRESET A, B	–	–	–	–	–	–	– (*6)	B

Others

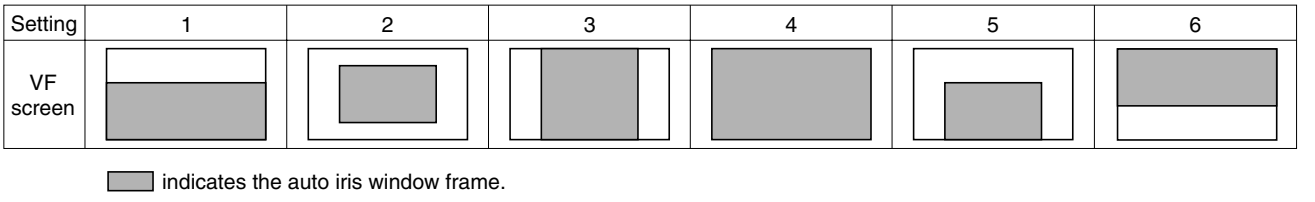
item	OPERATOR	REFERENCE	SCENE	OHB	LENS	STANDARD (*9)	Power is turned ON	Factory set
AUTO IRIS	–	–	●	–	–	–	ON (*3)	ON
IRIS CLOSE	–	–	–	–	–	–	OFF (*3)	OFF

MSU connected only

item	OPERATOR	REFERENCE	SCENE	OHB	LENS	STANDARD (*9)	Power is turned ON	Factory set
V DTL CREATION MODE	–	●	●	–	–	REF	–	Y
V DTL CONTROL MODE	–	●	–	–	–	REF	–	H/V
KNEE MAX	–	OFF	●	–	–	OFF	OFF	OFF
AUTO KNEE POINT	–	●	–	–	–	REF	–	0
WHITE SETUP MODE	–	–	–	–	–	–	–	AWB

◎ shows an analog item which will not be indicated as 0 after being stored.
○ shows an analog item which will be indicated as 0 after being stored.
● shows a switch which will be stored in the select item.
REF returns the status to the one when stored in the reference file.
OHB returns the status to the one when stored in the OHB file.
If mentioned as ON or OFF, the values will be same as ON or OFF.
If mentioned as −, the value does not change.

(∗1): In SKIN DETAIL GATE 1/2/3, one among 1, 2 and 3 is to be set ON.
(∗2): Refer to Section 4,“ Setup Menu”.
(∗3): Only when using standalone
(∗4): WHITE value stored is used when the extender ON.
(∗5): The state depends on the one of the external switch when the standalone state.
(∗6): When connecting to the MSU (master setup unit), the memory enters the temporally released state. As PRESET brings WHITE R/G/B to 0, regardless of the factory setting value of 3200K, if changing WHITE R/G/B and performing REFERENCE STORE, the specified value is recalled as PRESET.
(∗7): When WHITE SETUP MODE setting is ABW, the value when selecting AWB is returned and when selecting AUTO LEVEL, 0 is returned.
(∗8):



(∗9): Shows items to be called when STANDARD is executed, that is the reference file is called.
(∗10): These items can be set only when HKC-T950 is connected.
(*11): Saved in the cable adaptor of HKC-T950.

HKC-T950 (SY)
HDC-F950 (UCJ) J, E
3-836-715-01

Sony Corporation
B&P Company

Printed in Japan
2004. 2 08