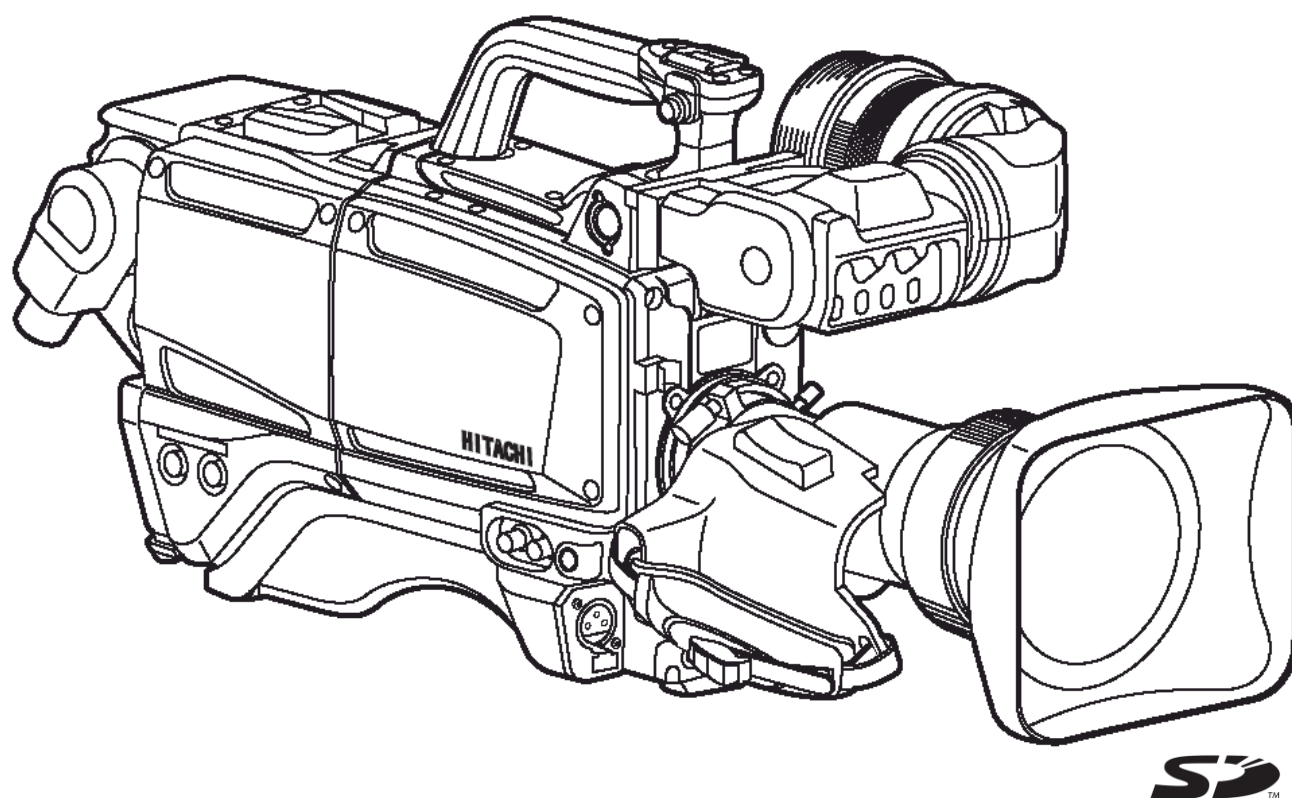


HITACHI

HDTV COLOR CAMERA
SK-HD1300
OPERATING INSTRUCTIONS



Please read these operating instructions carefully for proper operation and keep them for future reference.

Hitachi Kokusai Electric Inc.

Changes

The color camera SK-HD1300 added new functions and improved the image quality.

- **High Dynamic Range (HDR)**

Extends the gradation for the width of the brightness like a sunshine and shade of the picture with HDR monitor.

- **Knee Saturation**

The effect of knee saturation has been further improved.

- **Skin Tone Detail**

3ch skin tone detail.

The effect of skin tone detail has been further improved.

- **Multi format output (*1)**

Various signal output formats are available from the camera head when on stand-alone operation.
1080p, 1080i, 720p, 29.97PsF (59.94Hz), 23.98PsF (59.94Hz) and 25PsF (50Hz)

- **Optical level display**

Optical level is displayed in view finder CHECK screen.

- **Return embedded audio (*1)**

Two channels audio signals embedded on any SDI return inputs: RET.A1~A4 and RET.B1~B2 can be brought out from camera adaptor HD-SDI2 output with return video.

- **Tracker (*1)**

INCOM2 can talk to INCOM1 as Tracker.

- **Hundle switch (option)**

A RET button and an INCOM TALK button can be mounted instead of the accessory shoe.

These new functions are available with the following version or later version.

CPU version: V1.20 or later version.

VIDEO version: V1.200 or later version

Note

(*1) Need camera control unit CU-HD1300 (CPU software V1.20 and FPGA software V1.200 or later version) and camera adaptor CA-HF1300 (FPGA software version: V1.200 or later version).

High Dynamic Range (HDR)

Menu

TOP MENU → COLOR MENU → GAMMA1 → GAMMA2

GAMMA2 menu

```

■ GAMMA      2 : <    SCENE 0
U. GAMMA TBL : 1 (90%)
ULTRA GAMMA : OFF

HDR          : OFF
HDR SELECT   : HLG600

BLK STR LEV  : 0
BLK STRETCH  : OFF

INITIALIZE :
    
```

Item	Setting	Initial setting	Description
U.GAMMA TBL	1(90%), 2(85%), 3(80%), 4(75%), 5(70%), 6(65%), 7(50%)	1(90%)	Select ultra gamma curve
ULTRA GAMMA	ON, OFF	OFF	ultra gamma ON and OFF
HDR	ON, OFF	OFF	HDR ON and OFF
HDR SELECT	HLG600, HLG1200, HPQ	HLG600	Select HDR mode
BLK STR LEV	0 to 11	0	Select gamma curve value from table
BLK STRETCH	ON, OFF	OFF	Black Stretch ON and OFF
INITIALIZE	—	—	Press the MENU SEL buttons to initialize GAMMA2 menu items.

Note

When using the HDR function, a monitor corresponding to HDR is needed.
Select the monitor's HDR mode to match with the camera HDR SELECT.

HDR SELECT	Monitor setting
HLG600	ARIB STD-B67 or HLG
HLG1200	
HPQ	SMPTE ST 2084 or PQ

Knee Saturation

Menu

TOP MENU → COLOR MENU → KNEE/CLIP1 → KNEE/CLIP2

KNEE/CLIP2 menu

```

■ KNEE/CLIP 2 : < SCENE 0
KNEE SAT      : OFF
POINT         : 0
SLOPE         : 0
MODE          : NAM
KNEE          : ON

WHITE CLIP    : -16
WHITE CLIP    : ON

INITIALIZE    :
    
```

Item	Setting	Initial setting	Description
KNEE SAT	ON,OFF	OFF	Knee Saturation function ON and OFF.
POINT	-128 to 127	0	Adjust Knee Saturation point.
SLOPE	-128 to 127	0	Adjust Knee Saturation slope.
MODE	NAM, Y	NAM	Select Knee Saturation mode.
WHITE CLIP	-128 to 127	-16	Adjust White Clip level.
WHITE CLIP	ON,OFF	ON	White Clip function ON and OFF.
INITIALIZE	—	—	Press the MENU SEL buttons to initialize this menu items.

Note

Very bright portion of high light scene is reduced color saturation and changed hue. This Knee Saturation compensates this effect and makes more natural color reproduction.

Skin Tone Detail

Menu

TOP MENU → DETAIL MENU → SKIN DTL1 / SKIN DTL2 / SKIN DTL3

SKIN DTL menu

```

■SKIN DTL 1:> SCENE 0

CH1. A. PHASE: PUSH > 1 SEC
S. DTL LEVEL: -128
    PHASE: 114
    WIDTH: 100
    THRESHOLD: -96
SKIN DTL1 : OFF
    GATE1 : OFF
    DETAIL: OFF

INITIALIZE :
    
```

Item	Setting	Initial setting	Description
CH1 A.PHASE	-	-	Set CH1 skin tone detail phase *1
S.DTL LEVEL	-128 to 127	-128	Adjust CH1 skin tone detail level
PHASE	0 to 359	114	Set & adjust CH1 skin tone detail phase.
WIDTH	-128 to 127	-100	Range setting of the CH1 skin tone phase
THRESHOLD	-128 to 127	-96	Threshold level for Skin tone Detail set
SKIN DTL1	ON, OFF	OFF	CH1 skin tone detail ON and OFF
SKIN GATE1	ON, OFF	OFF	CH1 skin tone gate ON and OFF
SKIN DETAIL	ON, OFF	OFF	All channel skin tone detail ON and OFF
INITIALIZE	-	-	Press the MENU SEL buttons to initialize SKIN DTL 1 menu items.

```

■SKIN DTL 2:> SCENE 0

CH2. A. PHASE: PUSH > 1 SEC
S. DTL LEVEL: -128
    PHASE: 114
    WIDTH: -100
    THRESHOLD: -96
SKIN DTL2 : OFF
    GATE2 : OFF
    DETAIL: OFF

INITIALIZE :
    
```

Item	Setting	Initial setting	Description
CH2 A.PHASE	-	-	Set CH2 skin tone detail phase *1
S.DTL LEVEL	-128 to 127	-128	Adjust CH2 skin tone detail level
PHASE	0 to 359	114	Set & adjust CH2 skin tone detail phase.
WIDTH	-128 to 127	-100	Range setting of the CH2 skin tone phase
THRESHOLD	-128 to 127	-96	Threshold level for CH2 skin tone detail set
SKIN DTL2	ON, OFF	OFF	CH2 skin tone detail ON and OFF
SKIN GATE2	ON, OFF	OFF	CH2 skin tone gate ON and OFF
SKIN DETAIL	ON, OFF	OFF	All channel skin tone detail ON and OFF
INITIALIZE	-	-	Press the MENU SEL buttons to initialize SKIN DTL 2 menu items.

```

■SKIN DTL 3:> SCENE 0

CH3. A. PHASE: PUSH > 1 SEC
S. DTL LEVEL: -128
    PHASE: 114
    WIDTH: -100
    THRESHOLD: -96
SKIN DTL3 : OFF
    GATE3 : OFF
    DETAIL: OFF

INITIALIZE :
    
```

Item	Setting	Initial setting	Description
CH3 A.PHASE	-	-	Set CH3 skin tone detail phase *1
S.DTL LEVEL	-128 to 127	-128	Adjust CH3 skin tone detail level
PHASE	0 to 359	114	Set & adjust CH3 skin tone detail phase.
WIDTH	-128 to 127	-100	Range setting of the CH3 skin tone phase
THRESHOLD	-128 to 127	-96	Threshold level for Skin tone Detail set
SKIN DTL3	ON, OFF	OFF	CH3 skin tone detail ON and OFF
SKIN GATE3	ON, OFF	OFF	CH3 skin tone gate ON and OFF
SKIN DETAIL	ON, OFF	OFF	All channel skin tone detail ON and OFF
INITIALIZE	-	-	Press the MENU SEL buttons to initialize SKIN DTL 3 menu items.

Multi format output

Menu

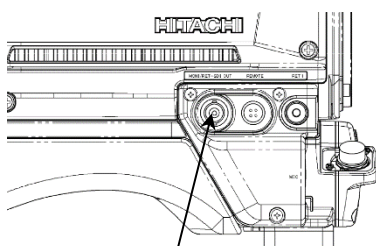
TOP MENU → OTHERS MENU → SDI OUTPUT

SDI OUTPUT menu

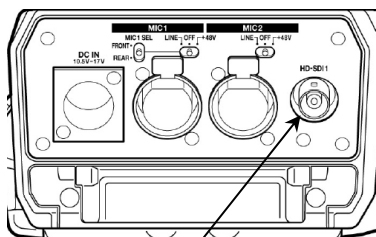
```

■ SDI OUTPUT : <
SK HD-SDI : MONITOR
MON FORMAT : 1080i
MON CHAR : ON
CA HD SDI1 : 1080i
CA HD SDI2 : 1080i

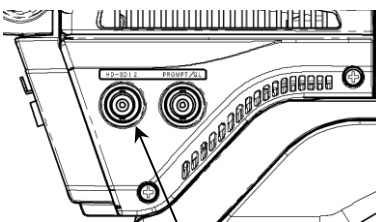
PsF MODE : 23.98PsF
RET A/B SEL : B
    
```



SK HD-SDI connector



CA HD-SDI1 connector



CA HD-SDI2 connector

Item	Setting	Initial setting	Description
SK HD-SDI	MONITOR, VF, RET	MONITOR	MON/RET output setting
MON FORMAT	1080p, 1080i, 720p, 1080PsF	1080i	MON/RET output setting
MON CHAR	ON, OFF	ON	Adds character on MON OUT
CA HD-SDI1	1080p, 1080i, 720p, 1080PsF	1080i	Sets HD-SDI1 format.
CA HD-SDI2	1080p, 1080i, 720p, 1080PsF	1080i	Sets HD-SDI2 format
PsF MODE	[59.94Hz mode] 23.98PsF, 29.97PsF [50Hz mode] 25PsF	[59.94Hz mode] 23.98PsF [50Hz mode] 25PsF	Sets PsF(Segmented Frame) frequency, when setting SK HD-SDI or CA HD-SDI1/2 to 1080PsF
RET A/B SEL	A, B	A	Selects from RET A and RET B. The return signal selected by RET SW in the CA is output when setting RET A. The return signal selected in CCU menu is output when setting RET B

Note

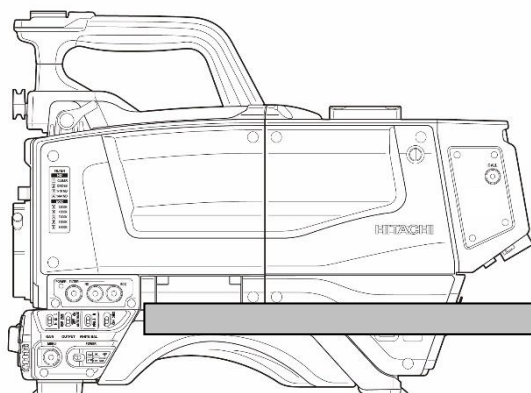
CU-HF1300F has only HD-SDI1 and HD-SDI2. RET B of HD-SDI2 can be selected only when connecting CU-HF1300FT or CU-HD1300F.

CX-HD1300 has three outputs of HD-SDI. HD-SDI2 can be selected RET only when connecting CU-HD1300T.

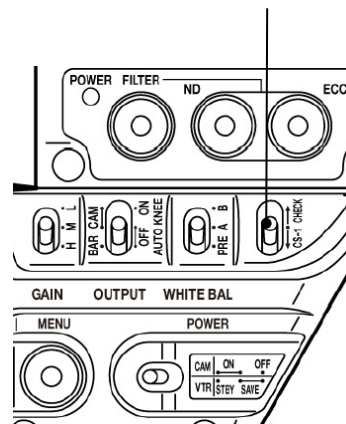
Optical level display

CHECK SCREEN

```
CS-1 SW      : ZEBRA  
CA CS SW     : -----  
LENS VTR     : TALK  
HANDLE 1:RET-1 2:TALK  
INCOM SW     : INCOM1  
VIDEO CTEMP  : 4300K  
CAM OPT LEV  : [■■■■]  
CCU OPT LEV  : [■■■■]
```



CS-1/CHECK switch



Return embedded audio

Menu

TOP MENU → OTHERS MENU → INCOM1 / INCOM2

INCOM1 menu

■ INCOM1	: <
INCOM	: L+R
PGM1	: L+R
PGM2	: L+R
EMB1	: ---
EMB2	: ---
SIDE TONE	: 64
EMB VOLUME	: 64

NTSC area type

■ INCOM1	: <
PROD	: L+R
ENG	: L+R
PGM1	: L+R
PGM2	: L+R
EMB1	: ---
EMB2	: ---
TRACKER	: L+R
SIDE TONE	: 64
EMB VOLUME	: 64

PAL area type

Item	Setting	Initial setting	Description
INCOM (*)	-, L, R, L+R	L+R	INCOM is assigned to a headset.
PROD (*)	-, L, R, L+R	L+R	PROD is assigned to a headset.
ENG (*)	-, L, R, L+R	L+R	ENG is assigned to a headset.
PGM1	-, L, R, L+R	L+R	PGM1 is assigned to a headset.
PGM2	-, L, R, L+R	L+R	PGM2 is assigned to a headset.
EMB1	-, L, R, L+R	—	EMB1 is assigned to a headset.
EMB2	-, L, R, L+R	—	EMB2 is assigned to a headset.
TRACKER (*)	-, L, R, L+R	L	TRACKER is assigned to a headset.
SIDE TONE	0 to 127	64	Adjust side tone level.
EMB VOLUME	0 to 127	64	Adjust embedded volume level.

Note

INCOM is only NTSC area type.

PROD is only PAL area type.

ENG is only PAL area type.

TRACKER is only PAL area type.

INCOM2 menu

■ INCOM2	: <
INCOM	: L+R
PGM1	: L+R
PGM2	: L+R
EMB1	: ---
EMB2	: ---
SIDE TONE	: 64
EMB VOLUME	: 64

NTSC area type

■ INCOM2	: <
PROD	: L+R
ENG	: L+R
PGM1	: L+R
PGM2	: L+R
EMB1	: ---
EMB2	: ---
SIDE TONE	: 64
EMB VOLUME	: 64

PAL area type

Item	Setting	Initial setting	Description
INCOM (*)	-, L, R, L+R	L+R	INCOM is assigned to a headset.
PROD (*)	-, L, R, L+R	L+R	PROD is assigned to a headset.
ENG (*)	-, L, R, L+R	L+R	ENG is assigned to a headset.
PGM1	-, L, R, L+R	L+R	PGM1 is assigned to a headset.
PGM2	-, L, R, L+R	L+R	PGM2 is assigned to a headset.
EMB1	-, L, R, L+R	—	EMB1 is assigned to a headset.
EMB2	-, L, R, L+R	—	EMB2 is assigned to a headset.
SIDE TONE	0 to 127	64	Adjust side tone level.
EMB VOLUME	0 to 127	64	Adjust embedded volume level.

Note

INCOM is only NTSC area type.

PROD is only PAL area type.

ENG is only PAL area type.

Tracker

Menu

TOP MENU → OTHERS MENU → CA TRACKER

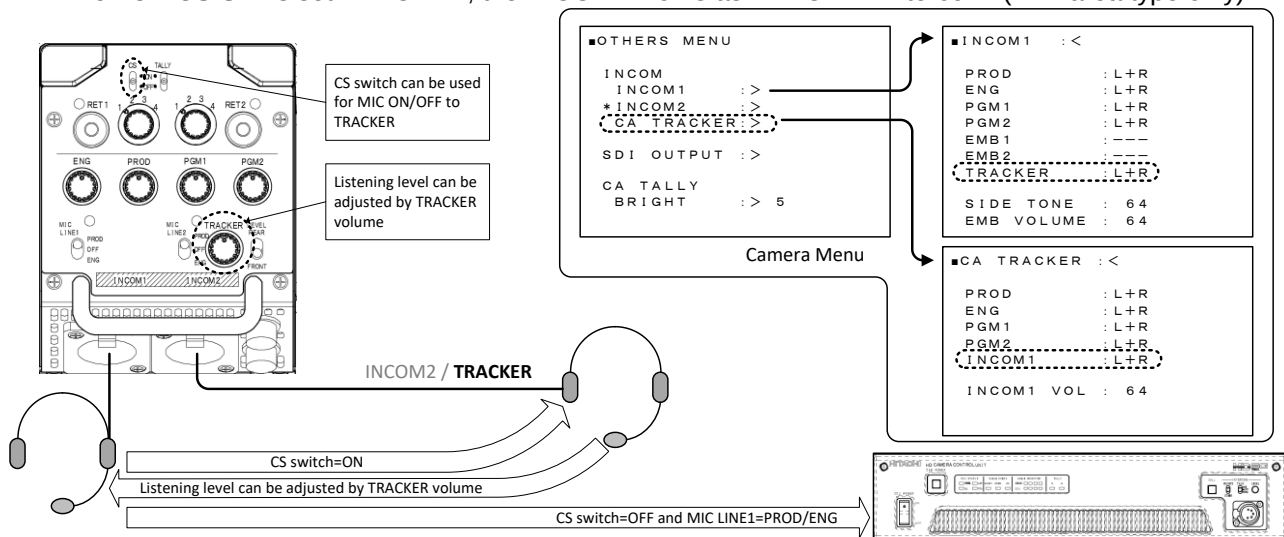
CA TRACKER menu

■ CA TRACKER : <	
PROD	: L+R
ENG	: L+R
PGM1	: L+R
PGM2	: L+R
INCOM1	: L+R
INCOM1 VOL : 64	

Item	Setting	Initial setting	Description
PROD	-, L, R, L+R	L+R	INCOM is assigned to a headset.
ENG	-, L, R, L+R	L+R	PROD is assigned to a headset.
PGM1	-, L, R, L+R	L+R	PGM1 is assigned to a headset.
PGM2	-, L, R, L+R	L+R	PGM2 is assigned to a headset.
INCOM1	-, L, R, L+R	L+R	INCOM1 is assigned to a headset.
INCOM1 VOL	0 to 127	64	Adjust intercom1 volume level.

Note

When CA-CS SW is set TRACKER, the INCOM2 works as TRACKER intercom. (PAL area type only)



Hundle switch (option)

Menu

TOP MENU → CUSTOM SW MENU

CUSTOM SW MENU (main menu)

```

■CUSTOM SW MENU

CS-1 SW      : ZEBRA
CA-CS SW     : -----
LENS VTR SW  : TALK
HANDLE 1 SW  : RET-1
HANDLE 2 SW  : ENG
INCOM SW     : INCOM1
INCOM HEAR   : CA REAR
    
```

NTSC area type

```

■CUSTOM SW MENU

CS-1 SW      : ZEBRA
CA-CS SW     : -----
LENS VTR SW  : TALK
HANDLE 1 SW  : RET-1
HANDLE 2 SW  : ENG
INCOM SW     : INCOM1
FRONT INCOM  : ENG
    
```

PAL area type

Item	Setting	Initial setting	Description
CS-1 SW	ZEBRA, MARKER, VF-DTL, QUICK FOCUS, FAW D.EXTENDER VF ZOOM	ZEBRA	Set CS-1 switch
CA-CS SW	-----, VF-DTL, MARKER1, MARKER2 D.EXTENDER VF ZOOM RETURN MIX TRACKER	-----	Set CS switch on the CA.
LENS VTR SW	RET-2, ENG, PD	ENG	Set VTR switch in the Lens.
HANDLE1 SW (*)	OFF, RET-1, RET-2 ENG, PD	RET-1	Set Handle 1switch.
HANDLE2 SW (*)	OFF, RET-1, RET-2 ENG, PD	ENG	Set Handle 2switch.
INCOM SW	INCOM1 INCOM2 INCOM1+2	INCOM1	
INCOM HEAR (*)	CA REAR, PD+ENG	CA REAR	
FRONT INCOM (*)	ENG, PD	ENG	

Note

HANLDE1 SW, and HANDLE2 SW are the function for HANDLE SWITCH option.

A RET button and an INCOM TALK button can be mounted instead of the accessory shoe.

