



Technical Memo

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Revision of Information:

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RANK 3

Revised :

Issued : December 15, 2021

Subject: Software release [V2.90]

Revise Point(s)

Issue No.HDCM21-065

Target Models / Destination

Model Name	Dest	Model Name	Dest	Model Name	Dest	Model Name	Dest
HDCU-3170	SYL	HDCU3100	SY3	HDCU3100	SYL		

[Description]

The latest software and PLD of the HDCU3100/HDCU3170 is released. (V2.90)

Upgrade the software/PLD as necessary.

Upgrade the firmware in accordance with the procedure below.

Upgrade the peripheral units by referring to the related technical memo.

[Installable Combinations]

If want to use the functions added in this V2.90, upgrade the following peripherals.

HDC3100, HDC3500, HDC5500, HDC5000	: V3.00 or higher
HDCE-TX30, HDCE-RX30	: V1.13 or higher
MSU-3000, MSU-3500	: V1.30 or higher
RCP-3500, RCP-3501	: V1.30 or higher
RCP-3100	: V1.30 or higher
MSU-1000, MSU-1500	: V3.80 or higher
RCP-1500, RCP-1501, RCP-1530	: V3.80 or higher

Related technical memo

HDCM21-067 (Add FAN when use HFR Format)
 HDCM21-063 (HDC3100, HDC3170, HDC3500, HDC3500/H, HDC5500, HDC5000)
 HDCM21-050 (HDCE-TX30, HDCE-RX30)
 HDCM21-054 (MSU-3000, MSU-3500)
 HDCM21-053 (RCP-3500, RCP-3501)
 HDCM21-057 (RCP-3100)
 HDCM21-056 (MSU-1000, MSU-1500)
 HDCM21-055 (RCP-1500, RCP-1501, RCP-1530)
 HDCM20-042 (Device Setting Plug-in Software for IP Live System Manager (LSM) of
 HDCU3100/3170/5000/5500/3500, V2.4.1)

[Applicable Serial Number]

Model/Destination	Serial Number
HDCU3100/L3	
HDCU3100/T1	
HDCU3170/UF	
HDCU3170/UK	

[Change Point]

< New Function >

1. Added HFR format (only HDCU3100)

If connect to the camera with HZC-QFR50 or HZC-HFR50 installed, the following formats are added.

1) When connecting between HDC3500 and HDCU3100 with FIBER CAMERA CABLE

* When S01 <CAMERA I/F> CABLE TYPE is set to FIBER CAMERA CABLE, 1080/59.94P(4x), 1080/59.94P(3x), 1080/59.94P(2x), 1080/50P(4x), 1080/50P(3x), 1080/50P(2x) are added.

* When S05 <MULTI FORMAT> CCU VIDEO CONVERT is set to ENABLE, 720/59.94P(4x), 720/59.94P(3x), 720/59.94P(2x), 720/50P(4x), 720/50P(3x), 720/50P(2x) are added.

2) When connecting between HDC3500 and HDCU3100 with HKCU-SM50 option installed with SINGLE MODE FIBER

* When S01 <CAMERA I/F> CABLE TYPE is set to SINGLE MODE FIBER, 1080/59.94P(4x), 1080/59.94P(3x), 1080/59.94P(2x), 1080/50P(4x), 1080/50P(3x), 1080/50P(2x) are added.

* When S05 <MULTI FORMAT> CCU VIDEO CONVERT is set to ENABLE, 720/59.94P(4x), 720/59.94P(3x), 720/59.94P(2x), 720/50P(4x), 720/50P(3x), 720/50P(2x) are added.

3) When HKCU-SFP30 option is installed in HDCU3100, the following formats are added as IP output.

1080/59.94P(4x), 1080/59.94P(3x), 1080/59.94P(2x), 1080/50P(4x), 1080/50P(3x), 1080/50P(2x)

* When S05 <MULTI FORMAT> CCU VIDEO CONVERT is set to ENABLE, 720/59.94P(4x), 720/59.94P(3x), 720/59.94P(2x), 720/50P(4x), 720/50P(3x), 720/50P(2x) are added.

* Notice: When using HFR format with HDCU3100 installed with HKCU-UHD30 and HKCU-SFP30, it is necessary to install rear FAN separately. Refer to INSTALLATION MANUAL 1st Edition (Revised 3) in HDCU3100 for installation of rear FAN and required parts.

2. Support S-Gamut3/S-Gamut3.Cine

S-Gamut3 and S-Gamut3.Cine can be set when HDR MODE is set to CINEMA.

```

<HDR>                                S06 TOP
HDR MODE                             : CINEMA
SDR GAIN                             : -----
(HDR CONTRAST                         : ----)
(HDR TARGET WHITE                     : ----)
HDR BLACK OFFSET                      : -----
HDR BLACK COMPRESSION                : ---

HDR OETF                              : (S-Log3)
HDR LOOK                             : (---)
HDR COLOR SPACE                       : →S-Gamut3
4K COLOR SPACE                       : (S-Gamut3)
  
```

```

<HDR>                                S06 TOP
HDR MODE                             : CINEMA
SDR GAIN                             : -----
(HDR CONTRAST                         : ----)
(HDR TARGET WHITE                     : ----)
HDR BLACK OFFSET                      : -----
HDR BLACK COMPRESSION                : ---

HDR OETF                              : (S-Log3)
HDR LOOK                             : (---)
HDR COLOR SPACE                       : →S-Gamut3.Cine
4K COLOR SPACE                       : (S-Gamut3.Cine)
  
```

The controllable items of PAINT item at the time of CINEMA setting are as follows.

	Display on the panel	Reflection in SDR output	Reflection in CINEMA output
Gain	Yes		
White	Yes		
ColorTemp	Yes		
Detail	No	No	No
4K Detail	No	No	No
HD Detail	No	No	No
SkinDetail	No	No	No
Saturation	No	No	No
Matrix	No	No	No
OHB Matrix	No	No	No
Low Key Saturation	No	No	No
Knee	Yes	Yes	No

AutoKnee	No	No	No
Knee Saturation	Yes	Yes	No
BlackGamma	No	No	No
Gamma	Yes	Yes	No
(SDR)UserGamma	Yes	Yes	No
White Clip	No	No	No
Black	Yes	Yes	No
Flare	Yes		
V Mod Saw	Yes		
BlackShading	Yes		
WhiteShading	Yes		
SDR GAIN	Yes (0.0dB Fixed representation)	No	No
HDR BlackOffset	No	No	No
HDR Knee	No	No	No
HDR WhiteClip	No	No	No
HDR BlackClip	No	No	No
HDR BlackCompression	No	No	No
HDR UserGamma	No	No	No
HDR TargetWhite	No	No	No

3. Support HDR User Gamma

Added a function that can reflect HDR User Gamma Table created by RAW Viewer application.

Refer to HDCM21-054 of MSU-3000/MSU-3500.

Note: The camera requires Software option HZC-UG50 to use this function.

4. Added 60.00P format

If 60.00Hz is set to ENABLE in <MISC> M10 page of the CCU menu, 60.00Hz format can be selected for CAMERA FORMAT.

```

<MISC>                                M10 TOP
OPTICAL SIGNAL BACKUP: DISABLE
CAM POWER SUPPLY MODE: (NORMAL)
CAM POWER SOURCE      : CCU
60.00Hz                : →ENABLE
  
```

Note: When using the 60.00Hz format, input 1080/60.00i for the Reference signal. If input NTSC or PAL to the Reference signal, do not input NTSC or PAL as it cannot be synchronized.

5. Support CCU Assign

Added support for CCU Assign function.

Refer to HDCM21-054 of MSU-3000/MSU-3500.

6. Added Skin Detail Zoom Link function

When connecting to HDC3500, Skin Detail Zoom Link can be used for the following formats.

UHD/59.94P(4K/HDR), UHD/29.97P(4K/HDR), UHD/23.98P(4K/HDR), UHD/50P(4K/HDR),

UHD/25P(4K/HDR), UHD/24P(4K/HDR), UHD/60P(4K/HDR), UHD/30P(4K/HDR),

1080/59.94P(4x), 1080/59.94P(3x), 1080/59.94P(2x), 1080/50P(4x), 1080/50P(3x), 1080/50P(2x)

7. Added IP format below 30P

When HKCU-SFP30 option is installed in HDCU3100, added support for IP output when using CAMERA FORMAT below.

- 1) When set to CAMERA FORMAT: UHD/29.97P(4K/HDR), 1080/29.97P(4K/HDR)

Added IP OUTPUT FORMAT: 3840x2160/29.97PsF/SQD, 3840x2160/29.97P/6G, 1080/29.97PsF

- 2) When set to CAMERA FORMAT: UHD/23.98P(4K/HDR), 1080/23.98P(4K/HDR)

Added IP OUTPUT FORMAT: 3840x2160/23.98PsF/SQD, 3840x2160/23.98P/6G, 1080/23.98PsF

- 3) When set to CAMERA FORMAT: 1080/29.97PsF

Added IP OUTPUT FORMAT: 1080/29.97PsF

- 4) When set to CAMERA FORMAT: 1080/23.98PsF

Added IP OUTPUT FORMAT: 1080/23.98PsF

- 5) When set to CAMERA FORMAT: UHD/25P(4K/HDR), 1080/25P(4K/HDR)

Added IP OUTPUT FORMAT: 3840x2160/25PsF/SQD, 3840x2160/25P/6G, 1080/25PsF

- 6) When set to CAMERA FORMAT: UHD/24P(4K/HDR), 1080/24P(4K/HDR)

Added IP OUTPUT FORMAT: 3840x2160/24PsF/SQD, 3840x2160/24P/6G, 1080/24PsF

- 7) When set to CAMERA FORMAT: 1080/25PsF

Added IP OUTPUT FORMAT: 1080/25PsF

- 8) When set to CAMERA FORMAT: 1080/24PsF

Added IP OUTPUT FORMAT: 1080/24PsF

< Specification change >

Add authentication password of Web menu

For enhanced security from V2.90 or higher, it is necessary to set an authentication password when accessing Web menu for the first time.

Password setting procedure

- 1) Input IP address of this CCU in the Web browser.

* If set PORT of <IP ADDRESS> in NETWORK menu to LAN-COM in the setting menu of this CCU, IP address and subnet mask of this CCU are displayed on the menu screen.

* When DISP/MENU lever of front panel is pushed up to the DISP side for 3 seconds, IP address and subnet mask are displayed on the CCU No. display.

2) Input your username and password.

Input the username (admin) and the password set in the pop-up displayed by Web browser. If the password has not been set, the password setting screen is displayed.

* Notes: As a security measure, if authentication fails multiple times, this CCU deny access from that PC for a while. This state is cleared after 5 minutes. The password can be reset by step <WEB MENU> -> RESET PASSWORD in the NETWORK menu of this CCU.

<Improvement>

1. Added the function to display HDR Target White in the menu

Display HDR Target White (how many nit the brightness white of 100nit in SDR is in HDR)

* Added HDR Target White to CCU menu

* Added 26 HDR White Target to SR Live Metadata

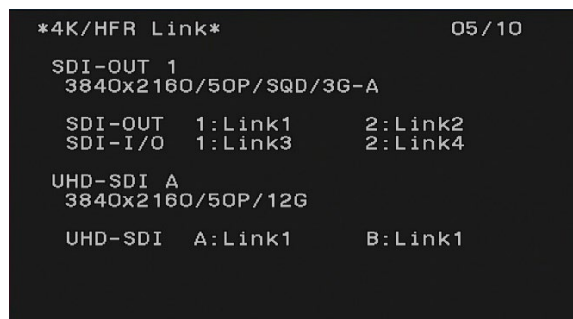
2. Added the function to set HDR Black Compression in the menu

Set whether to decrease the low-brightness area with respect to HDR output.



3. Added output link display at the time of HFR output to the status display screen

The following is an example for camera format 3840x2160/50P



4. Warning display on panel when the format between CAM and CCU does not match format

It is possible to display mismatch information on panel.

< Correction >

1. Fix the symptom that rarely fails the transfer of the HDR-SDR conversion parameter in LIVE HDR mode.
2. Fix the symptom that IP OUT4 may not be displayed on page 1 of OUTPUT FORMAT IP in CCU menu.

[Preparation]

< Data for update >

File name: hdcu3100_v2.90.zip

* Obtain it from Software Download site.

The files below can be obtained by extracting hdcu3100_v2.90.zip.

hdcu3100_app.pkg	Software file
hdcu3100_updater.pkg	Updater file
hdcu3100_os.pkg	OS file
hdcu3100_sy.pkg	PLD file
hdcu3100_vif.pkg	PLD file
hdcu3100_dpr.pkg	PLD file
hdcu3100_dpr_hfr.pkg	PLD file
hdcu3100_net1.pkg	PLD file
hdcu3100_net2.pkg	PLD file
hdcu3100_dm1.pkg	PLD file
hdcu3100_dm2.pkg	PLD file

* All latest software/PLD files as of this technical memo are supplied from the Software Download site.

< Others >

USB memory 1 piece

[Upgrading Procedure]

Use the USB memory for upgrading. Refer to the MAINTENANCE MANUAL for the procedure.

* Upgrade in the order of OS -> APPLICATION -> PLD or forced upgrading.

* First upgrade OS and APPLICATION to V2.90 or higher and then upgrade for newly added DPR(HFR).

[Confirmation after Upgrading]

Confirm the versions in the APPLICATION item of the menu of HDCU3100/3170,

DIAGNOSIS - <VERSION1> (D03) page.

APPLICATION	V2.90 (Change item)
OS	V2.90 (Change item)
UPDATER	V1.00
SY	V2.30 (Change item)
VIF	V2.42 (Change item)
DPR	V1.41 (Change item) (Display only when installing HKCU-UHD30)
DPR(HFR)	V1.40 (Change item) (Display only when installing HKCU-UHD30)
NET1	V2.25 (Change item) (Display only when installing HKCU-SFP30)
NET2	V2.29 (Change item) (Display only when installing HKCU-SFP30)
DM1	V1.00 (Display only HDCU3170)
DM2	V2.13 (Change item) (Display only HDCU3170)

[Software History] HDCU3100/HDCU3170

	V1.03 HDCU3100 Initial release	V1.04 HDCM18-019	V1.10 HDCM18-022	V1.11 HDCM18-042	V2.05 HDCM18-050 HDCU3170 Initial release	V2.10 HDCM19-004	V2.23 HDCM19-013
APPLICATION	V1.03	V1.04	V1.10	V1.11	V2.05	V2.10	V2.23
OS	V1.00	←	V1.11	←	V2.01	←	V2.20
UPDATER	V1.00	←	←	←	V1.00	←	←
SY	V1.00	←	V1.10	←	V2.00	←	V2.20
VIF	V1.00	←	V1.10	←	V2.01	V2.15	V2.22
DPR	-	-	-	-	-	-	V1.18
NET1	-	-	V1.00	←	←	←	V2.04
NET2	-	-	V1.00	←	←	←	V2.04
DM1	-	-	-	-	V1.00	←	←
DM2	-	-	-	-	V1.04	V2.11	←

	V2.44 HDCM19-213	V2.45 HDCM20-016	V2.50 HDCM20-026	V2.60 HDCM20-039	V2.61 HDCM21-004	V2.80 HDCM21-028	V2.82 HDCM21-051
APPLICATION	V2.44	V2.45	V2.50	V2.60	V2.61	V2.80V2.81	V2.82
OS	V2.30	←	V2.40	←	←	V2.80	V2.81
UPDATER	←	←	←	←	←	←	←
SY	V2.21	←	V2.22	←	V2.23←	←	←
VIF	V2.23	←	←	V2.31	←	←	←
DPR	V1.20	←	←	V1.33	←	←	←
NET1	V2.05	←	V2.24	←	←	←	←
NET2	V2.05	←	V2.26	←	←	←	←
DM1	←	←	←	←	←	←	←
DM2	←	←	←	←	←	←	←

	V2.90 HDCM21-065						
APPLICATION	V2.90						
OS	V2.90						
UPDATER	←						
SY	V2.30						
VIF	V2.42						
DPR	V1.41						
DPR(HFR)	V1.40						
NET1	V2.25						
NET2	V2.29						
DM1	←						
DM2	V2.13						