



Technical Memo

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Revision of Information:
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		Revised :	December 13, 2023
RANK	3	Issued :	November 20, 2023

Subject: Software Release [V3.20]

Revise Point(s)

To add target serial

Issue No.

HDCM23-042R

Target Models

Model Name / Model Family Name	Model Name / Model Family Name	Model Name / Model Family Name	Model Name / Model Family Name
HDCU3500	HDCU5000	HDCU5500	

[Description]

The updated version for HDCU3500, HDCU5500 and HDCU5000 software is released. (V3.20)

Upgrade the firmware by following the steps below as necessary.

Peripheral devices to be connected are preferred to be upgraded as well, referring the related technical memos.

[Installable Combinations]

To apply the modifications in V3.20, update these peripheral devices as below.

- HDC3100, HDC3200, HDC3500, HDC5500, HDC5000, HDC-F5500
HDC3500V, HDC5500V : V3.41 or later
- HDCE-TX30, HDCE-TX50 : V1.50 or later
- MSU-3000, MSU-3500 : V1.61 or later
- RCP-3500, RCP-3501 : V1.61 or later
- RCP-3100 : V1.60 or later
- MSU-1000, MSU-1500 : V4.10 or later
- RCP-1500, RCP-1501, RCP-1530 : V4.10 or later
- HZC-CSM10 : V1.5.1 or later
- IP Live System Manager (LSM) : V3.0.3 or later

*NDCP connection to IP Live System Manager (earlier than V3.0.3) will NOT be established.

The version of LSM must be V3.0.3 or later.

NDCP connection: Connection that the status of PORT setting in the page of N06<IP LIVE>IP LIVE SYSTEM MANAGER set to "LAN1&LAN2".

Related technical memos

- HDCM23-039
(HDC3100, HDC3170, HDC3200, HDC3500, HDC3500/H, HDC5500, HDC5000, HDC-F5500) [V3.41]
- HDCM23-048 (HDCE-TX30, HDCE-TX50x) [V1.50]
- HDCM23-043 (MSU-3000, MSU-3500) [V1.61]
- HDCM23-044 (RCP-3500, RCP-3501) [V1.61]
- HDCM23-045 (RCP-3100) [V1.60]
- HDCM23-046 (MSU-1000, MSU-1500) [V4.10]
- HDCM23-047 (RCP-1500, RCP-1501, RCP-1530) [V4.10]
- HDCM22-039 (HZC-CSM10) [V1.5.1]
- HDCM22-034
(Device Setting Plug-in Software for LSM of HDCU3100/3170/5000/5500/3500, V2.5.0)
- IPTM21-004 (LSM V3.0 License Guide)
- IPTM21-013 (IP Live System Manager) [V3.0.3]

[Applicable Model]

Model / Destination	Serial number
HDCU3500/L2	~12353 Rev.1
HDCU3500/T1	~30303 Rev.1
HDCU3500/UL1	~102988 Rev.1
HDCU5500/L2	~10879 Rev.1
HDCU5500/T1	~30461 Rev.1
HDCU5500/UL1	~103044 Rev.1
HDCU5000 (CED)	~40034 Rev.1
HDCU5000 (CNB)	~50004 Rev.1
HDCU5000 (J2)	~30198 Rev.1
HDCU5000 (UC5)	~10081 Rev.1

[Change Points]

<New Features>

- Added 3840x2160/59.94P(4x),50P(4x), 3840x2160/59.94P(3x),50P(3x) output when equipped with HKCU-UHF50 (HDCU5000 Option)

*When using the new formats, HDC5500/5000 version must be V3.41 or later.

By connecting HDCU5000 equipped with HKCU-UHF50 to HDC5500 or HDC5000, 4K/4x and 4K/3x SDI signal output is possible. 3840x2160/59.94P(4x),50P(4x), 3840x2160/59.94P(3x),50P(3x) can be selected in CAMERA FORMAT.

- Added 4K HFR Channel Marker (HDCU5500/HDCU5000)

Added 4K HFR Channel Marker to 3840x2160/59.94P(4x),50P(4x), 3840x2160/59.94P(3x),50P(3x), 3840x2160/59.94P(2x),50P(2x) outputs.

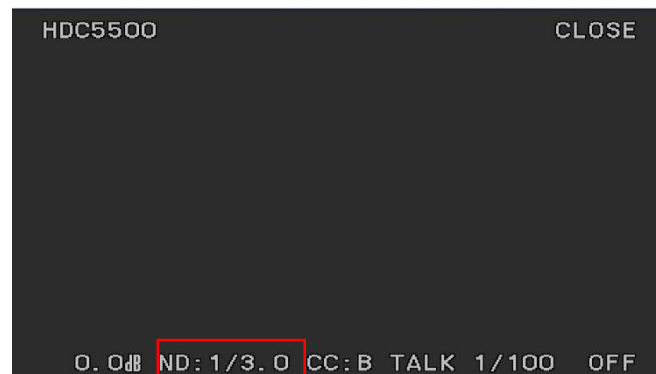
```

<COLOR BAR>                                VO1 TOP
4K/HD  SDR : SDR-LOOK BAR 16:9 (100%)
      HDR : SDR-LOOK BAR 16:9 (100%)
      MF-CB : MODIFY SLOPE: WIDE
SD     SOURCE: SD BAR
      SELECT: SMPTE
BAR-CHARACTER : ON
MOVING SYMBOL : OFF
      TYPE : O      SIZE: SMALL
2SI DIAMOND MARK : OFF
HFR CHANNEL MARK :→ON

```

3. Supports a status display of Variable ND Filter Unit

When connected to a camera equipped with Variable ND Filter Unit, the transmittance of the variable filter will be displayed in the status menu.



4. Enabled to use NETWORK TRUNK function when using UHD(4K/HDR) and HD HFR format (When connected to HDC3500)

Be enabled to use NETWORK TRUNK function when using the Camera Format bellow.

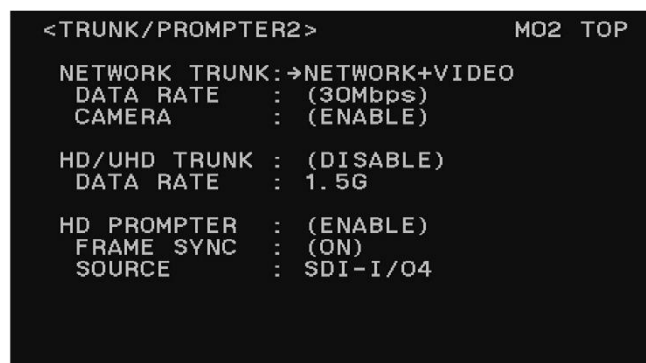
- 4K FORMAT

UHD/59.94P(4K/HDR), UHD/50P(4K/HDR)
UHD/29.97P (4K/HDR), UHD/25P (4K/HDR)
UHD/23.98P (4K/HDR), UHD/24P (4K/HDR)

- HD HFR FORMAT

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

Select “Network + Video” from NETWORK TRUNK section in the page of M02<TRUNK/PROMPTER2>.



NETWORK TRUNK transmission line of approximately 30Mbps is added between Camera and CCU in the above Camera Format.

<Improvements>

1. Supports 10km transmission of Single Mode Fiber when HKCU-SM100 is equipped(When connected to HDC3100/3200/3500)

When operating Single Mode Fiber by equipping HKCU-SM100 to the CAMERA FIBER, Single Mode Fiber transmission is supported up to 10km.

*Return CCU EXTENSION ADAPTOR to NONE when HKCU-SM100 is not equipped.

```

<MISC>                                M10 TOP
OPTICAL SIGNAL BACKUP: DISABLE
CAM POWER SUPPLY MODE: (NORMAL)

CAM POWER SOURCE      : CCU
CCU EXTENSION ADAPTOR:→NONE

60.00Hz               : ENABLE
MASK VIDEO SIGNAL    : GRAY
  
```

```

<MISC>                                M10 TOP
OPTICAL SIGNAL BACKUP: DISABLE
CAM POWER SUPPLY MODE: (NORMAL)

CAM POWER SOURCE      : CCU
CCU EXTENSION ADAPTOR:→HKCU-SM100

60.00Hz               : ENABLE
MASK VIDEO SIGNAL    : GRAY
  
```

<Specification Change>

V04<DOWNCONVERT> has disappeared from the menu.

4K-HD DOWNCONVERT FILTER settings are linked to the camera setting, so set them in the camera's HD DOWNCONVERT FILTER menu.

<Fixed Issues>

1. Fixed an issue that to be "Network is Disconnected" rarely when multiple CCU are connected.
2. Fixed an issue that the output phase is out of sync between 1080/59.94P(6x) IP outputs and 50P(6x) IP outputs. (Applies only HKCU-SFP50 is equipped)
3. Fixed an issue that Multicast Address is changed when CCU File is recalled during 1080/59.94P(6x) or 50P(6x) transmission. (Applies only HKCU-SFP50 is equipped)

[Preparation]

<Update File>

From V3.20, two types of firmware update are possible: the conventional firmware update in the Service mode and a firmware update in UUD(UserUpDate) mode.

[Attention]

When update a firmware in UUD mode, the current version must be updated to V3.10 or later.

File Name : **hdcu5000_v3.20.zip**(Package for Service mode)
 : **hdcu5000_v3.20.pkg**(Package for UUD mode)

*Available on the website “Software Download”.

***hdcu5000_v3.20.pkg** contains all software/PLD files.

Unzip **hdcu5000_v3.20.zip** to get the following files.

hdcu5000_app.pkg	Software file
hdcu5000_updater.pkg	Updater file
hdcu5000_os.pkg	OS file
hdcu5000_sy.pkg	PLD file
hdcu5000_vif.pkg	PLD file
hdcu5000_tx1_high.pkg	PLD file
hdcu5000_tx1_ultra.pkg	PLD file
hdcu5000_tx1_hfr720.pkg	PLD file
hdcu5000_tx2.pkg	PLD file
hdcu5000_net1.pkg	PLD file
hdcu5000_net2.pkg	PLD file
hdcu5000_dpr1.pkg	PLD file
hdcu5000_dpr2.pkg	PLD file
hdcu5000_enc1_xavc.pkg	PLD file
hdcu5000_enc2_rec50.pkg	PLD file
hdcu5000_enc2_rec55.pkg	PLD file

* The website “Software Download” contains all the latest software/PLD files at the time this technical memo was published.

<Others>

- 1 USB flash drive

[Installation procedure]

(1) Service Mode

Refer to MAINTENANCE MANUAL for the conventional firmware update procedure in Service mode.

*Upgrade in the order of OS => APPLICATION => PLD or the forced upgrade.

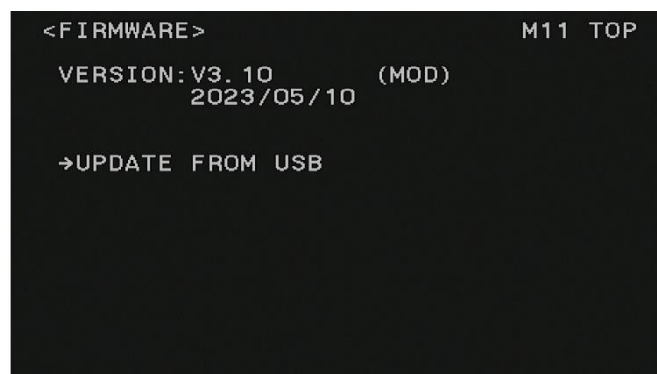
(2) UUD Mode

Place the UUD package file in the top directory of the USB flash drive.

[Attention]

Do NOT place multiple version upgrade files in the top directory. If there are multiple files, it is not possible to update the version.

Execute “UPDATE FROM USB” on <FIRMWARE> page of the MAINTENACE MENU and will start update all software and PLD.



[Check the version after the upgrade]

Make sure the device was successfully updated. On each device, see the listed versions of APPLICATION items in the page of D03<VERSION1>.

APPLICATION	V3.20 (updated)
UPDATER	V3.20 (updated)
OS	V3.20 (updated)
SY	V3.21 (updated)
VIF	V3.21 (updated)
TX1(HIGH)	V3.12
TX1(ULTRA)	V3.20 (updated) (HDCU5000/5500 or when HKCU-FB50 is equipped)
TX1(HFR720)	V3.12
TX2	V3.21 (updated) (HDCU5000/5500 or when HKCU-FB50 is equipped)
NET1	V3.01 (When HKCU-SFP50 is equipped)
NET2	V3.00 (When HKCU-SFP50 is equipped)
DPR1	V3.20 (new) (When HKCU-UHF50 is equipped)
DPR2	V3.20 (new) (When HKCU-UHF50 is equipped)
ENC1	V1.13 (When HKCU-REC50/55 is equipped)
ENC2	V2.00 (When HKCU-REC50/55 is equipped)

[Software History] HDCU3500/HDCU5500/HDCU5000

	V1.03 Initial Release	V1.30 HDCM19-054	V1.31 HDCM19-067	V1.31 HDCM19-071	V1.44 HDCM19-212R2	V1.45 HDCM20-017	V1.50 HDCM20-027R2
APPLICATION	V1.03	V1.30	V1.31	←	V1.44	V1.44	V1.50
UPDATER	V1.00	←	←	←	←	←	←
OS	V1.00	←	←	V1.05	V1.10	←	V1.20
SY	V1.00	←	←	←	V1.20	←	V1.21
VIF	V1.02	V1.10	←	←	V1.28	←	V1.30
TX1(HIGH)	V1.06	V1.10	←	←	V1.23	←	V1.25
TX1(ULTRA)	V1.06	V1.10	←	←	V1.22	←	V1.25
TX2	V1.04	V1.10	←	←	V1.25	←	←
NET1	V2.04	V2.05	←	←	←	←	V2.24
NET2	V2.04	V2.05	←	←	←	←	V2.26
					V1.01 HDCM20-008		
ENC1(XAVC)	-	-	-	-	V1.01	←	←
ENC2(REC55)	-	-	-	-	V1.06	←	←

	V1.60 HDCM20-040	V1.70 HDCM20-051	V1.71 HDCM21-005	V1.80 HDCM21-027R2	V1.82 HDCM21-052R	V1.90 HDCM21-066R	V3.00 HDCM22-025R5
APPLICATION	V1.60	V1.70	V1.71	V1.81	V1.82	V1.90	V3.00
UPDATER	←	←	←	←	←	←	←
OS	←	←	←	V1.80	V1.81	V1.90	←
SY	←	←	V1.22	←	←	←	V3.00
VIF	V1.40	V1.42	←	V1.52	V1.52	V1.60	V3.00
TX1(HIGH)	V1.33	V1.40	←	V1.51	V1.51	V1.62	V1.63
TX1(ULTRA)	V1.33	←	←	V1.51	V1.51	V1.62	V1.63
TX1(HFR720)	-	-	-	V1.51	V1.51	V1.60	V1.63
TX2	←	←	←	V1.50	V1.50	V1.60	←
NET1	←	←	←	←	←	V2.25	V2.26
NET2	←	←	←	V2.27	V2.27	V2.29	←
		V1.12 HDCM20-047				V1.13 HDCM22-001	
ENC1(XAVC)	←	V1.12	←	←	←	V1.13	←
ENC2(REC55)	←	V2.00	←	←	←	←	←
ENC2(REC50)	-	V2.00	←	←	←	←	←

	V3.02 HDCM22-055R2	V3.10 HDCM22-019R	V3.20 HDCM23-042				
APPLICATION	V3.02	V3.10	V3.20				
UPDATER	←	←	V3.20				
OS	←	V3.10	V3.20				
SY	←	←	V3.21				
VIF	←	V3.11	V3.21				
TX1(HIGH)	←	V3.12	←				
TX1(ULTRA)	←	V3.12	V3.20				
TX1(HFR720)	←	V3.12	←				
TX2	←	V3.10	V3.21				
NET1	←	V3.01	←				
NET2	←	V3.00	←				
DPR1	-	-	V3.20				
DPR2	-	-	V3.20				
ENC1(XAVC)	←	←	←				
ENC2(REC55)	←	←	←				
ENC2(REC50)	←	←	←				