



## Technical Memo

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**RANK** 2

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**Revised :** August 04, 2021

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**Issued :** June 30, 2021

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**Subject:** Software Release [V1.81]

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**Revise Point(s)**

Ember+ bug fix, Subject correction

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**Issue No.**

HDCM21-027R2

**Target Models / Destination**

Model Name	Dest
HDCU3500	SY3
HDCU5000	J2

Model Name	Dest
HDCU3500	SYL
HDCU5000	UC5

Model Name	Dest
HDCU5000	CED
HDCU5500	SY3

Model Name	Dest
HDCU5000	CNB
HDCU5500	SYL

## [Description]

The latest software and PLD of the HDCU3500/HDCU5500/HDCU5000 is released.

(V1.71 -> ~~V1.80~~V1.81) ※Rev2

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

## [Installable Combinations]

If want to use the functions added in this ~~V1.80~~V1.81 ※Rev2, upgrade the following peripherals.

HDC3100, HDC3500, HDC5500, HDC5000	: V2.80 or higher
HDCE-TX30, HDCE-RX30	: V1.11 or higher
MSU-1000, MSU-1500	: V3.70 or higher
RCP-1500, RCP-1501, RCP-1530	: V3.70 or higher
MSU-3000, MSU-3500	: V1.21 or higher
RCP-3500, RCP-3501	: V1.20 or higher

Related technical memo

HDCM21-029 (HDC3100, HDC3500, HDC3500/H, HDC5500, HDC5000)

HDCM21-019 (HDCE-TX30, HDCE-RX30)

HDCM21-022 (MSU-1000, MSU-1500)

HDCM21-023 (RCP-1500, RCP-1501, RCP-1530)

HDCM21-024 (MSU-3000, MSU-3500)

HDCM21-025 (RCP-3500, RCP-3501)

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
HDCU3500/L2	~10826
HDCU3500/T1	~30113
HDCU3500/UL1	~101173
HDCU5500/L2	~10382
HDCU5500/T1	~30194
HDCU5500/UL1	~101113
HDCU5000 (CED)	~40026
HDCU5000 (CNB)	~50002
HDCU5000 (J2)	~30106
HDCU5000 (UC5)	~10033

## [Change Point]

<New Function>

- Added 720P HFR format

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

- When connecting between HDC3500 and HDCU3500/HDCU5500 with FIBER CAMERA CABLE, set as follows.

S01 <CAMERA I/F> CABLE TYPE: FIBER CAMERA CABLE

S05 <MULTI FORMAT> CCU VIDEO CONVERT: 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 HDCU3500/HDCU5500/HDCU5000 with HKCU-SM50 option installed with SINGLE MODE FIBER, set as follows.
- S01 <CAMERA I/F> CABLE TYPE: SINGLE MODE FIBER、
- S05 <MULTI FORMAT> CCU VIDEO CONVERT: 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-SFP50 option is installed in HDCU3500/HDCU5500/HDCU5000, the following formats are added as IP output. When inserting the optical module of 25Gbps into HKCU-SFP50 and setting ST 2110 HFR in N06 <IP LIVE> 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.

Table 1. Assignment of output terminals when HD HFR is operating

HFR				UHD SDI				SDI OUT		SDI IO	
				A/E <sup>*1</sup>	B/F <sup>*1</sup>	C/G <sup>*1</sup>	D/H <sup>*1</sup>	1	2	1	2
HD	2x	12G	1080P	Link 1/2/(1/2)	Link 1/2/(1/2)	Link 1/2/(1/2)	Link 1/2/(1/2)				
			1080I	Link 1/2/(1/2)	Link 1/2/(1/2)	Link 1/2/(1/2)	Link 1/2/(1/2)				
			720P	Link 1/2/(1/2)	Link 1/2/(1/2)	Link 1/2/(1/2)	Link 1/2/(1/2)				
		3G-A/B	1080P	Link 1	Link 2	Link 1	Link 2	Link 1	Link 2	Link 1	Link 2
		3G-B	1080I	Link 1/2	Link 1/2	Link 1/2	Link 1/2	--	--	--	--
			720P	Link 1/2	Link 1/2	Link 1/2	Link 1/2	Link 1/2	Link 1/2	Link 1/2	Link 1/2
	1.5G	1080I	720P	Link 1	Link 2	Link 1	Link 2	--	--	--	--
			720P	Link 1	Link 2	Link 1	Link 2	Link 1	Link 2	Link 1	Link 2
	3x	12G	1080P	Link 1/2/3/(2)	Link 1/2/3/(2)	Link 1/2/3/(2)	Link 1/2/3/(2)				
			1080I	Link 1/2/3/(2)	Link 1/2/3/(2)	Link 1/2/3/(2)	Link 1/2/3/(2)				
			720P	Link 1/2/3/(2)	Link 1/2/3/(2)	Link 1/2/3/(2)	Link 1/2/3/(2)				
		3G-A/B	1080P	Link 1	Link 2	Link 3	(Link 2)	Link 1	Link 2	Link 3	(Link 2)
		1.5G	1080I	Link 1	Link 2	Link 3	(Link 2)	--	--	--	--
			720P	Link 1	Link 2	Link 3	(Link 2)	Link 1	Link 2	Link 3	(Link 2)
4x	12G	1080P	1080P	Link 1/2/3/4	Link 1/2/3/4	Link 1/2/3/4	Link 1/2/3/4				
			1080I	Link 1/2/3/4	Link 1/2/3/4	Link 1/2/3/4	Link 1/2/3/4				
			720P	Link 1/2/3/4	Link 1/2/3/4	Link 1/2/3/4	Link 1/2/3/4				
		3G-A/B	1080P	Link 1	Link 2	Link 3	Link 4	Link 1	Link 2	Link 3	Link 4
		3G-B	1080I	Link 1/2	Link 3/4	Link 1/2	Link 3/4	--	--	--	--
			720P	Link 1/2	Link 3/4	Link 1/2	Link 3/4	Link 1/2	Link 3/4	Link 1/2	Link 3/4
	1.5G	1080I	720P	Link 1	Link 2	Link 3	Link 4	--	--	--	--
			720P	Link 1	Link 2	Link 3	Link 4	Link 1	Link 2	Link 3	Link 4

\*1 E, F, G and H can be set only with HDCU5000 installed HKCU-SDI50.

## 2. Added 2019 to the version of PAYLOAD ID

The version 2019 version of PAYLOAD ID has been added in accordance with the following standards that have been updated.

Compliant with SMPTE ST292-1: 2018, SMPTE ST372: 2017, SMPTE ST425-1: 2017, SMPTE ST425-3: 2019, SMPTE ST425-5: 2019, SMPTE ST2081-10: 2018 and SMPTE ST2082-10: 2018.

The standard setting for VIDEO PAYLOAD ID in M07 <SDI ANCILLARY DATA> is LATEST (2019). If the connection destination does not support the latest standard and malfunctions, it is possible to adjust the setting value of PAYLOAD ID to the past standard by returning the age of VIDEO PAYLOAD ID.

## &lt;Correction&gt;

1. Improved communication stability when a delay occurs in the control line of camera.
2. NMOS connection improvement (only when HKCU-SFP50 installed)
  - Fixed the problem that the color gamut of HDR and the information of OETF are not reflected in NMOS SDP.
  - Added a function to change the device name displayed in NMOS RDS.
  - Added a mode (Resume Mode) that automatically starts transmission when the device is restarted because there are other companies' RDS that do not instruct resending when the device is restarted.
  - Added the ability to manually set DNS server and domain
3. Corrected Meta data packet in the IP transmission system to improve transmission/receive errors with other devices. (only when HKCU-SFP50 installed)
4. Functional modification of Ember+ ※Rev2

**[Preparation]**

## &lt;Data for update&gt;

File name: hdcu5000\_~~v1.80~~v1.81.zip ※Rev2

\*Obtain it from Software Download site.

The files below can be obtained by extracting hdcu5000\_v1.80.zip.

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

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

## &lt;Others&gt;

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.

For newly added TX1(HFR720), upgrade after upgrading OS and APPLICATION to V1.80 or higher.

### [Confirmation after Upgrading]

- Confirm the versions in the APPLICATION item of the menu of HDCU3500/5500/5000, DIAGNOSIS - <VERSION1> (D03) page.
 

APPLICATION	<del>V1.80</del> <b>V1.81 (Change item)※Rev2</b>
UPDATER	V1.00
OS	<b>V1.80 (Change item)</b>
SY	V1.22
VIF	<b>V1.52 (Change item)</b>
TX1(HIGH)	<b>V1.51 (Change item)</b>
TX1(ULTRA)	<b>V1.51 (Change item)</b> (Display only when using HDCU5000/HDCU5500, HDCU3500 with installing HKCU-FB50)
TX1(HFR720)	<b>V1.51 (New)</b>
TX2	<b>V1.50 (Change item)</b> (Display only when using HDCU5000/HDCU5500, HDCU3500 with installing HKCU-FB50)
NET1	V2.24 (Display only when installing HKCU-SFP50)
NET2	<b>V2.27 (Change item)</b> (Display only when installing HKCU-SFP50)
ENC1	V1.01 (Display only when installing HKCU-REC50/55)
ENC2	V1.06 (Display only when installing HKCU-REC50/55)
- After checking the version of TX1(HFR720), make the following settings and check that the output video of 720P(4x) is displayed. (Only HDCU3500/HDCU5000, HDCU5500 + HKCU-SM50)
  - S01 <CAMERA I/F> FIBER TRANSMIT RATE: HIGH
  - S05 <MULTI FORMAT> CAMERA FORMAT: 1080/59.94P(4x)
  - S06 <HDR> HDR MODE: OFF
  - S05 <MULTI FORMAT> CCU VIDEO CONVERT: ENABLE
  - S07 <OUTPUT FORMAT1> SDI-OUT1: 720/59.94P(4x)

### [Software History] HDCU3500/HDCU5500/HDCU5000

	V1.03 Initial release	V1.30 HDCM19-054	V1.31 HDCM19-067	V1.31 HDCM19-071	V1.44 HDCM19-212	V1.45 HDCM20-017	V1.50 HDCM20-027
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 HDCM20-051	V1.80 HDCM21-027
APPLICATION	V1.60	V1.70	V1.71	<del>V1.80</del> <b>V1.81※Rev2</b>
UPDATER	←	←	←	←
OS	←	←	←	V1.80
SY	←	←	V1.22	←
VIF	V1.40	V1.42	←	V1.52
TX1(HIGH)	V1.33	V1.40	←	V1.51
TX1(ULTRA)	V1.33	←	←	V1.51
TX1(HFR720)	-	-	-	V1.51
TX2	←	←	←	V1.50
NET1	←	←	←	←
NET2	←	←	←	V2.27
	←	←	←	←

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ENC1(XAVC)	←	←	←	←
ENC2(REC55)	←	←	←	←