



Technical Memo

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Revision of Information:

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RANK 3

Revised :

Issued : March 08, 2022

Subject: Software Release [V4.60]

Revise Point(s)

Issue No.HDCM22-005

Target Models / Destination

Model Name	Dest
BPU4000	SY3

Model Name	Dest
BPU4000	SYL

Model Name	Dest

Model Name	Dest

[Description]

The updated version of BPU4000 is released. (V4.60)

Upgrade the software/PLD as necessary.

When upgrading, refer to the related technical memo for peripheral units as well, and upgrade as necessary.

[Recommended software versions]

HDC4300	: V1.90 or higher
HDC-P43	: V1.90 or higher
HDCU2000/2500	: V3.50 or higher
MSU-1000/1500, RCP-1500/1501/1503	: V3.80 or higher
MSU-3000/3500, RCP-3500/3501	: V1.30 or higher
RCP-3100	: V1.00 or higher
HDCU3100	: V2.90 or higher
HDCU3500	: V1.90 or higher
F65	: V4.01 or higher
PMW-F55	: V9.20 or higher
CA4000	: V2.51 or higher

(Related technical memo)

HDCM22-002 (HDC4300 Software release [V1.90])
 HDCM22-003 (HDC-P43 Software release [V1.90])
 HDCM21-055 (RCP-1500/1501/1530 Software release [V3.80])
 HDCM21-056 (MSU-1000/1500 Software release [V3.80])
 HDCM21-054 (MSU-3000/3500 Software release [V1.30])
 HDCM21-053 (RCP-3500/3501 Software release [V1.30])
 HDCM21-021 (HDCU2000 Series Software release [V3.50])
 HDCM21-065 (HDCU3100 Software release [V2.90])
 HDCM21-066 (HDCU3500 Software release [V1.90])
 HDCM14-041 (F65 Software Release [V4.00 => V4.01])
 PMWM18-111 (PMW-F55 Software Release [V9.10 => V9.20])
 HDCM16-075 (CA4000 Software Release [V2.40 => V2.51])

[Applicable Serial Number]

Model/Destination	Serial Number
BPU4000 SYL	0010001~
BPU4000 SY3	0030001~

[Change Point]

< New Function >

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 BPU menu

* Added 26 HDR White Target to SR Live Metadata

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

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

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

There are differences in functions from the HDC3000/5000 series due to differences in hardware.

	Display on the panel	Reflection in SDR output	Reflection in CINEMA output
Gain	YES		
White	YES		
Color Temp	YES		
Detail	YES	YES	NO
4K Detail	YES	YES	NO
HD Detail	YES	YES	NO
Skin Detail	YES	YES	NO
Saturation	YES	YES	NO
Matrix	YES	YES	NO
OHB Matrix	YES	YES	NO
Low Key Saturation	YES	YES	NO
Knee	YES	YES	NO
Auto Knee	YES	YES	NO
Knee Saturation	YES	YES	NO
Black Gamma	YES	YES	NO
Gamma	YES	YES	NO
(SDR)User Gamma	YES	YES	NO
White Clip	YES	YES	NO
Black	YES	YES	NO
Flare	YES		
V Mod Saw	YES		
Black Shading	YES		
White Shading	YES		
SDR GAIN	YES (0.0dB Fixed representation)	YES	NO
HDR Black Offset	NO	NO	NO
HDR Knee	NO	NO	NO
HDR White Clip	NO	NO	NO
HDR Black Clip	NO	NO	NO
HDR Black Compression	NO	NO	NO
HDR User Gamma	NO	NO	NO
Tone control	NO	NO	NO
HDR Target White	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.

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

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

[Preparation]

< Data for update >

File name: bpu4000_v4.60.zip

bpu4000_v4.60_allpackage.zip

* Obtain it from Software Download site.

* Software/PLD files of upgrade target by this technical memo are included in bpu4000_v4.60.zip.

* All software/PLD files are included in bpu4000_v4.60_allpackage.zip.

The files below can be obtained by extracting bpu4000_v4.60.zip and bpu4000_v4.60_allpackage.zip.

Package Name	Package File Name	Type
bpu4000_v4.60_allpackage.zip	bpu4000_app.pkg	Software file
	bpu4000_os.pkg	OS file
	bpu4000_4kpost.pkg	PLD file
	bpu4000_2kpost.pkg	PLD file
	bpu4000_sdp.pkg	PLD file
	bpu4000_updater.pkg	Updater file
	bpu4000_sy.pkg	PLD file
	bpu4000_tx.pkg	PLD file
	bpu4000_dec.pkg	PLD file
	bpu4000_dec_f65.pkg	PLD file
	bpu4000_dec_f65_2x.pkg	PLD file
	bpu4000_dec_hdc4300.pkg	PLD file
	bpu4000_dpr.pkg	PLD file
	bpu4000_dpr_f65_2x.pkg	PLD file
	bpu4000_dpr_hco.pkg	PLD file
	bpu4000_dpr_sub.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 SERVICE MANUAL for the procedure.

Note: When the version of the unit is lower than V3.00, upgrade the software to V3.00 first with bpu4000_app.pkg. Then, upgrade the other devices. (Some PLD update data cannot be installed if the software version is lower than V3.00.)

[Confirmation after Upgrading]

Confirm the versions in the CAMERA APP and each PLD item of the menu of BPU4000, SERVICE - <SOFTWARE PACKAGE> (S01) page and <PLD PACKAGE> (S02) page.

CAMERA APP	V4.60
OS	V1.04
SY	V2.00
DEC	V2.11
DEC(F65)	V2.01
DEC(F65 2X)	V2.10
DEC(HDC4300)	V3.41
DPR	V2.21
DPR(HCO)	V2.00
DPR(F65 2X)	V2.20
DPR(SUB)	V1.10(*1)
4K-POST	V3.35
2K-POST	V3.32
SDP	V3.22
TX	V3.20

*1 When DPR-392 board is mounted

[Precaution on Downgrading]

In the unlikely event that the downgrading of the software is needed, be sure to select “PMW-F55” in <CHU MODE> page of CONFIGURATION menu in advance before downgrading. If do not perform this procedure, the video cannot be output correctly.

[Supplement]

* There is a limitation below by combining with CNU-700.

When CCU Format is 4K and 4K DTL of the Detail selection of RCP/MSU is not selected, the adjusted data for the camera is not reflected to the DATA page of CNU-700.

KNEE, APT, DTL LEVEL, DTL LIMITER, DTL CRISP

[Software History]

	V1.0 Initial release
CAMERA APP	V1.04
OS	V1.00
SY	V1.01
DEC	V1.00
DPR	V1.00
DPR(HCO)	V1.00
DPR(FACT)	V1.00
4K-POST	V1.00
2K-POST	V1.00
SDP	V1.00
TX	V1.00

	V2.0 HDCM14-026	V2.1 HDCM14-054	V2.15 HDCM14-069	V2.16 HDCM14-083	V2.21 HDVM14-086
CAMERA APP	V2.02	V2.14	V2.15	V2.16	V2.21
OS	V1.00	←	←	←	←
SY	V2.00	←	←	←	←
DEC	V2.00	V2.10	←	←	←
DEC(F65)	V2.00	←	←	←	←
DEC(F65 2X)	V2.00	V2.10	←	←	←
DPR	V2.00	V2.10	←	←	←
DPR(HCO)	V2.00	←	←	←	←
DPR(F65 2X)	V2.00	V2.10	←	←	←
4K-POST	V2.01	V2.11	←	←	←
2K-POST	V2.00	V2.11	←	←	←
SDP	V2.00	←	←	←	←
TX	V2.00	V2.01	←	←	←

	V3.00 HDCM15-029	V3.01 HDCM15-063	V3.10 HDCM15-075	V3.10 HDCM15-075R	V3.11 HDCM16-010
CAMERA APP	V3.00	V3.01	V3.10	←	V3.11
OS	V1.01	←	←	←	←
SY	V2.00	←	←	←	←
DEC	V2.10	←	←	V2.11	←
DEC(F65)	V2.00	←	←	V2.01	←
DEC(F65 2X)	V2.10	←	←	←	←
DEC(HDC4300)	V3.02	←	V3.22	←	←
DPR	V2.10	←	←	←	←
DPR(HCO)	V2.00	←	←	←	←
DPR(F65 2X)	V2.10	←	←	V2.11	←
4K-POST	V3.04	←	V3.07	←	←
2K-POST	V3.02	←	V3.03	←	←
SDP	V3.00	←	←	←	V3.10
TX	V2.01	←	V3.00	←	←

Note) When connecting HDC4300 with BPU4000 V3.10 or higher, V1.03 or lower of HDC4300 cannot be connected.

	V3.20 HDCM16-036	V3.31 HDCM16-079	V3.41 (Rev1) HDCM17-034R	V3.50 HDCM17-064
CAMERA APP	V3.20	V3.31	V3.41	V3.50
OS	←	←	←	←
SY	←	←	←	←
DEC	←	←	←	←
DEC(F65)	←	←	←	←
DEC(F65 2X)	←	←	←	←
DEC(HDC4300)	←	←	←	←
DPR	←	←	←	←
DPR(HCO)	←	←	←	←
DPR(F65 2X)	←	←	←	←
4K-POST	←	V3.11	V3.12	←
2K-POST	←	←	V3.04	←
SDP	←	V3.11	V3.12	←
TX	←	V3.11	V3.20	←

	V4.02 HDCM17-077R2	V4.11 HDCM18-052	V4.21 HDCM18-073R	V4.22 HDCM19-055	V4.22 HDCM19-201
CAMERA APP	V4.02	V4.11	V4.21	V4.22	←
OS	←	←	←	←	←
SY	←	←	←	←	←
DEC	←	←	←	←	←
DEC(F65)	←	←	←	←	←
DEC(F65 2X)	←	←	←	←	←
DEC(HDC4300)	←	V3.30	V3.40	←	V3.41
DPR	←	←	V2.20	←	←
DPR(HCO)	←	←	←	←	←
DPR(F65 2X)	←	V2.20	←	←	←
DPR(SUB)	—	V1.00	V1.10	←	←
4K-POST	V3.20	←	←	←	←
2K-POST	V3.21	←	←	←	←
SDP	V3.21	←	←	←	←
TX	←	←	←	←	←

	V4.30 HDCM20-021	V4.40 HDCM20-057	V4.50 HDCM21-033	V4.60 HDCM22-005
CAMERA APP	V4.30	V4.40	V4.50	V4.60
OS	←	V1.02	V1.03	V1.04
SY	←	←	←	←
DEC	←	←	←	←
DEC(F65)	←	←	←	←
DEC(F65 2X)	←	←	←	←
DEC(HDC4300)	←	←	←	←
DPR	V2.21	←	←	←
DPR(HCO)	←	←	←	←
DPR(F65 2X)	←	←	←	←
DPR(SUB)	←	←	←	←
4K-POST	V3.31	←	←	V3.35
2K-POST	V3.30	←	←	V3.32
SDP	V3.22	←	←	←
TX	←	←	←	←