**[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

1. **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 |

1. **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.

1. **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\_allpackeage.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\_v4.60.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]**

|  |  |
| --- | --- |
|  | V1.0Initial 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 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | V2.0HDCM14-026 | V2.1HDCM14-054 | V2.15HDCM14-069 | V2.16 HDCM14-083 | V2.21HDVM14-086 |
| 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 | V3.01HDCM15-063 | V3.10 HDCM15-075 | V3.10HDCM15-075R | V3.11HDCM16-010 |
| 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 | V3.31HDCM16-079 | V3.41 (Rev1)HDCM17-034R | V3.50HDCM17-064 |
| 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 | ← |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | V4.02HDCM17-077R2 | V4.11HDCM18-052 | V4.21HDCM18-073R | V4.22HDCM19-055 | V4.22HDCM19-201 |
| 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 | ← | ← | ← | ← | ← |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | V4.30HDCM20-021 | V4.40HDCM20-057 | V4.50HDCM21-033 | V4.60HDCM22-005 |
| 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 | ← | ← | ← | ← |