**[Description]**

The latest software and PLD of the HDCU3500/HDCU5500/HDCU5000 is released. (V1.90)

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 V1.90, 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

HDCM21-063 (HDC3100, 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 |
| HDCU3500/L2 |  |
| HDCU3500/T1 |  |
| HDCU3500/UL1 |  |
| HDCU5500/L2 |  |
| HDCU5500/T1 |  |
| HDCU5500/UL1 |  |
| HDCU5000 (CED) |  |
| HDCU5000 (CNB) |  |
| HDCU5000 (J2) |  |
| HDCU5000 (UC5) |  |

**[Change Point]**

< New Function >

1. **Support S-Gamut3/S-Gamut3.Cine**

テキスト

自動的に生成された説明テキスト

自動的に生成された説明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.

|  |  |  |  |
| --- | --- | --- | --- |
|  | 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 |

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.

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

1. **Added 60.00P format**

テキスト

自動的に生成された説明If 60.00Hz is set to ENABLE in <MISC> M10 page of the CCU menu, 60.00Hz format can be selected for CAMERA FORMAT.

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.

1. **Support CCU Assign**

Added support for CCU Assign function.

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

1. **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)

1. **Added IP format below 30P**

When HKCU-SFP50 option is installed in HDCU3500/HDCU5500/HDCU5000, added support for IP output when using CAMERA FORMAT below.

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

When set to CAMERA FORMAT: ULTRA, 3840x2160/29.97P

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

1. When set to CAMERA FORMAT: HIGH, UHD/23.98P(4K/HDR),1080/23.98P(4K/HDR)

When set to CAMERA FORMAT: ULTRA, 3840x2160/23.98P

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

1. When set to CAMERA FORMAT: 1080/29.97PsF

Added IP OUTPUT FORMAT: 1080/29.97PsF

1. When set to CAMERA FORMAT: 1080/23.98PsF

Added IP OUTPUT FORMAT: 1080/23.98PsF

1. When set to CAMERA FORMAT: HIGH, UHD/25P(4K/HDR), 1080/25P(4K/HDR)

When set to CAMERA FORMAT: ULTRA, 3840x2160/25P

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

1. When set to CAMERA FORMAT: HIGH, UHD/24P(4K/HDR), 1080/24P(4K/HDR)

When set to CAMERA FORMAT: ULTRA, 3840x2160/24P

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

1. When set to CAMERA FORMAT: 1080/25PsF

Added IP OUTPUT FORMAT: 1080/25PsF

1. 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 V1.90 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

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.

テキスト

自動的に生成された説明

1. **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

テキスト

中程度の精度で自動的に生成された説明

1. **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: **hdcu5000\_v1.90.zip**

\* Obtain it from Software Download site.

The files below can be obtained by extracting **hdcu5000\_v1.90.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.

< 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.

**[Confirmation after Upgrading]**

Confirm the versions in the APPLICATION item of the menu of HDCU5000/5500/3500,

DIAGNOSIS - <VERSION1> (D03) page.

APPLICATION **V1.90 (Change item)**

UPDATER V1.00

OS **V1.90 (Change item)**

SY V1.22

VIF **V1.60 (Change item)**

TX1(HIGH) **V1.62 (Change item)**

TX1(ULTRA) **V1.62 (Change item)** (Display only when installing HDCU5000/5500, HKCU-FB50)

TX1(HFR720) **V1.60 (Change item)**

TX2 **V1.60 (Change item)** (Display only when installing HDCU5000/5500, HKCU-FB50)

NET1 **V2.25 (Change item)** (Display only when installing HKCU-SFP50)

NET2 **V2.29 (Change item)** (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)

**[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 | V1.82  HDCM21-052 | V1.90  HDCM21-066 |
| APPLICATION | V1.60 | V1.70 | V1.71 | **~~V1.80~~ V1.81** | **V1.82** | **V1.90** |
| UPDATER | ← | ← | ← | ← | ← | ← |
| OS | ← | ← | ← | **V1.80** | **V1.81** | **V1.90** |
| SY | ← | ← | V1.22 | ← | ← | ← |
| VIF | V1.40 | V1.42 | ← | V1.52 | V1.52 | **V1.60** |
| TX1(HIGH) | V1.33 | V1.40 | ← | V1.51 | V1.51 | **V1.62** |
| TX1(ULTRA) | V1.33 | ← | ← | V1.51 | V1.51 | **V1.62** |
| TX1(HFR720) | - | - | - | V1.51 | V1.51 | **V1.60** |
| TX2 | ← | ← | ← | V1.50 | V1.50 | **V1.60** |
| NET1 | ← | ← | ← | ← | ← | **V2.25** |
| NET2 | ← | ← | ← | V2.27 | V2.27 | **V2.29** |
|  | ← | ← | ← | ← | ← | ← |
| ENC1(XAVC) | ← | ← | ← | ← | ← | ← |
| ENC2(REC55) | ← | ← | ← | ← | ← | ← |