

## Firmware Version 1.3.1 for Video Display DP-V2421

### Details of changes made to the firmware

Firmware Version 1.3.1 incorporates the following fix:

1. Fixes a phenomenon in which the reference display may restart when the F3 function key is pressed.

Firmware Version 1.3.1 is for the DP-V2421 4K Reference Display running Firmware Version 1.3. If the Reference Display's firmware is already version 1.3.1, it is not necessary to update the firmware

Please note that Firmware Version 1.3.1 includes all the enhancements available in Firmware Version 1.3. The details of Firmware Version 1.3 are as follows.

1. 2-picture or 4-picture display\*<sup>1</sup> of 12G/6G-SDI 4K video signals and 3G/HD-SDI 2K video signals can now be performed with a single display.
2. The audio level meter of multiple terminals can now be simultaneously displayed\*<sup>2</sup> in 2-picture or 4-picture display mode.
3. "Wave Form Monitor" and "Vector Scope" can now be simultaneously displayed within the screen.
4. The video display position can now be adjusted using "Top", "Middle" and "Center" in 2-picture or 4-picture display mode.
5. Waveform monitors of HDR video and SDR video can now be simultaneously displayed and the waveform monitors after LUT conversion can now be displayed in "Compare View" mode.
6. SDR video picture quality settings (contrast adjustment, color temperature, gain adjustment) have been added in HDR/SDR comparison display mode.
7. Four different LUTs can be viewed simultaneously in QuadView display mode.
8. Display picture quality settings are automatically detected and switched by Transfer Characteristics (PQ/HLG/SDR), Bit Depth, and ICtCp of the Payload ID.
9. The picture quality and channel settings of multiple displays connected via a LAN can now be switched simultaneously.
10. Settings can now be exported and imported between multiple different models when connected to the same LAN.
11. Warning display is available for input signal errors such as no signal or unsupported signal and for incorrect 2-Sample Interleave signal connection order.
12. Warning display is available for SDI signal CRC errors.
13. When inputting 8K video (2-Sample Interleave signal) with four 12G-SDI cables, it is now possible to sequentially switch and display the video of each input terminal at regular intervals, and to display a warning when the video signal of a non-displayed terminal is incorrect.
14. A setting has been added that switches terminal order sorting ON and OFF according to the Payload ID when inputting a 2-Sample Interleave/3G-SDI Dual Link signal.
15. "Luminance Graph" display (which uses gradations to express the brightness distribution within the maximum brightness) and "HDR/SDR Ratio Graph" display (which expresses the brightness ratio of HDR areas and SDR areas) have been added to the "Frame Luminance Monitor".
16. The peak and average brightness values and time codes obtained by the "Frame Luminance Monitor" can now be output to USB memory.
17. The brightness signal histogram of the input video can now be displayed. In addition, the

HDR/SDR ratio and the peak and average brightness can be displayed. The HDR signal area can be colored with the same color as that used for "False Color", and areas that are in the HDR range or higher can be colored with a warning color.

18. "False Color" display and operability have been improved, by adding HDR area and SDR area brightness boundary settings and enabling color-coding of SDR areas using two different colors.
19. A function has been added that automatically sets the HLG signal system gamma according to the contrast value.
20. The display size settings "Large", "Middle" and "Small" have been added to the "Wave Form Monitor".
21. The display size settings "Large", "Middle" and "Small" and the target setting "75+100%" have been added to the "Vector Scope". In addition, a function has been added that changes the target frame to the BT.2020 position during BT.2020 YCbCr signal input.
22. A function has been added that displays a function list when the jog dial is pressed or moved (up/down/left/right or rotated) while the OSD is hidden. In addition, a function can be selected from the function list and the detailed setting screen for that function can be displayed or the function can be executed by pressing or moving the jog dial to the right.
23. A function that adjusts the OSD brightness has been added.
24. A function that adjusts the brightness has been added to the "Audio Level Meter".
25. Display settings such as picture mode display have been added to the "Banner".
26. A function of "Half" has been added to the "Separator".
27. A function has been added that allows the 2-picture display of the entire image and the enlarged image to be viewed simultaneously during zoom display.
28. A function that creates a HDR/SDR comparison file has been added to the "Screen Capture".
29. A function that performs Wi-Fi connection by the access point method has been added.
30. Functions that perform operations such as LUT import and setting import/export via the Internet during remote control by Wi-Fi or LAN connection have been added.
31. The "x1.8" setting has been added to the "Anamorphic".
32. Some TSL ver5.0 Unicode (Japanese/Chinese, etc.) can now be displayed in "In Monitor Display".
33. Some setting defaults have been changed, such as the function button defaults and the User4 mode "DCI PQ D65", etc.

\*1: Some display restrictions apply depending on the input video resolution, frame rate, and transmission method, etc.

\*2: 2 or 4 channels can be displayed for each terminal in 2-picture display mode, and 2 channels can be displayed for each terminal in 4-picture display mode.

#### Preparations for updating the firmware

It is recommended that current settings are exported before attempting to update the firmware. Once the firmware is updated, settings can be imported back to the display.

The downloaded folder contains the new firmware. (Filename: "update\_dpv2421.rom", file size: 25,191,963 bytes) It also contains the firmware update procedure document (multilingual PDF file in following languages: Japanese, English, French, German and Chinese (simplified characters)). Before proceeding to update the firmware, please read the firmware update procedure document.

The following items are required to perform the firmware update:

1. Display unit
2. Personal computer
3. USB memory (FAT16 or FAT32)

#### 4. Firmware (The downloaded file)

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■linux kernel, busybox, SquashFS, JFFS2, FUSE

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■glibc, libfuse, avahi-autoipd

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■Newlib(libc)

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