

## IP-HE950D V01L055 Enhancement List

Modified Items

| No. | Affected region & Version | Description  |
|-----|---------------------------|--|
| 1   | V01L053~V01L054           | Addressed issues that may result in maximum (0.021 ms) delay differences between audio channels when receiving a stream with multichannel audio "4ch (2/2), 4ch (3/1), 5.1ch". |

## IP-HE950D V01L054 Enhancement List (Released Date: July 26<sup>th</sup>, 2023)

Modified Items

| No. | Affected region & Version | Description  |
|-----|---------------------------|--|
| 1   | V01L001~V01L053           | CVE-2023-38433: Vulnerable to use of hard-coded credentials<br>Addressing the above problem that authentication information of the Web interface of the product may be obtained by reverse engineering, etc. |

## IP-HE950D V01L053 Enhancement List

Modified Items

| No. | Affected region & Version | Description   |
|-----|---------------------------|---|
| 1   | V01L052                   | Addressed issues that audio breaks every few 10 seconds when a single-channel audio stream is received with the Internal/BB/Tri-sync reference setting.   |
| 2   | V01L032~V01L052           | Addressed issues that CRC errors in audio status occur every few 10 seconds when a stream of Pass-thru (SMPTE 302M) 16 bit or 20 bit audio is received with the Internal/BB/Tri-sync reference setting. |

## IP-HE950D V01L052 Enhancement List (Released Date: January 30<sup>th</sup>, 2023)

Modified Items

| No. | Affected region & Version | Description  |
|-----|---------------------------|--|
| 1   | V01L030~V01L051           | Addressed issues that may result in maximum (0.063 ms) delay differences between audio channels when the audio channel mode is multichannel "4ch (2/2), 4ch (3/1), 5.1ch". |
| 2   | V01L001~V01L051           | Correct VPID (VideoPayloadID) colorimetric value for HD video output from Rec.2020 to Rec.709.   |

## IP-HE950D V01L051 Enhancement List (Released Date: April 27<sup>th</sup>, 2021)

### Enhanced Items

| No. | Item                   | Description   |
|-----|------------------------|---|
| 1   | IPv6 Stateless address | For the generation of IPv6 stateless addresses when the IP version is "IPv4 & IPv6" and IPv6 "stateless".<br>Up to V01L050, to generate IPv6 stateless addresses, a router had to be present on the network at IP-HE950D startup. If an IPv6 stateless address has not been generated, a request is periodically sent to the router so that an IPv6 stateless address can be generated even when the router is started after IP-HE950D. |

## IP-HE950D V01L050 Enhancement List (Released Date: January 27<sup>th</sup>, 2021)

### New Features

| No. | Item                              | Description   |
|-----|-----------------------------------|---|
| 1   | Serial data transmission function | Transmit the data of RS-232C/RS-422 serial port between devices through IP network.                           |
| 2   | HDx4ch multi-channel              | Audio allocation to each HD channel can be freely set.<br>(until V01L042: 1x Stereo fixed to each HD channel) |

### Enhanced Items

| No. | Item                                     | Description  |
|-----|--|--|
| 1   | Option for HDx4ch multi-channel function | Change options to<br>- Contribution-plus decoder option<br>- Quad 3G-SDI output option<br>(until V01L042: Also requires 4K decoder option) |

### Modified Items

| No. | Affected region & Version | Description  |
|-----|---------------------------|--|
| 1   | V01L030~V01L042           | Addressed issue with no other audio output when audio 1 is "No Audio" in HD x4ch multi-channel transmission.   |
| 2   | V01L020~V01L042           | Addressed issue that video is not output when a stream containing one of the following information is received in a video format different from Output format at startup when Contribution-plus decoder option is installed.<br>Main4:2:2 10 profile, Ancillary data, Audio 3 or 4 |

## IP-HE950D V01L042 Enhancement List

(Released Date: June 5<sup>th</sup>, 2020)

Modified Items

| No. | Affected region & Version | Description   |
|-----|---------------------------|---|
| 1   | V01L001~V01L041           | Addressing the problem of packet loss with a special pattern (1/4, 1/5, 1/10) and SDI field frequency (20~30ms) that is out of the specification when network fixed delay occurs                                |
| 2   | V01L020~V01L041           | CVE-2020-8597: Affected by buffer overflow vulnerability in pppd.<br>Addressing potential Denial of Service (DoS) attacks when using PPPoE.   |
| 3   | V01L030~V01L041           | 5.1 channel audio required Contribution-plus option, but it can be decoded without the option. The specifications and instructions have been changed so that 5.1 channel audio can be used without any options. |

## IP-HE950D V01L041 Enhancement List

(Released Date: January 17<sup>th</sup>, 2020)

Modified Items

| No. | Affected region & Version | Description   |
|-----|---------------------------|---|
| 1   | V01L001~V01L040           | The following item has been modified.<br>Audio might not output when network fluctuation occurred beyond the jitter buffer setting.   |
| 2   | V01L001~V01L040           | The following item has been modified.<br>SDI frequency deviation became 50ppm or more (standard is 10ppm.) after an uncorrectable packet loss occurred under the conditions below.<br>- Jitter buffer size is less than 24ms<br>- IP redundancy is Enable, and SMPTE2022 FEC is Disable (V01L040) |
| 3   | V01L030~V01L040           | The following item has been modified.<br>When the audio format was other than Pass-thru(SMPTE302M), no audio was rarely output when a stream begun to be decoded.   |

## IP-HE950D V01L040 Enhancement List (Released Date: August 8, 2019)

New Features

| No. | Item                              | Description   |
|-----|-----------------------------------|---|
| 1   | Additional IP redundancy function | -Streaming mode: Multicast, Unicast (Simplex) & Multicast<br>-Error correction: SMPTE2022 FEC |

Modified Items

| No. | Affected region & Version | Description  |
|-----|---------------------------|--|
| 1   | V01L001~V01L032           | The following item has been modified (when sampling bit 16bit or 20bit).<br>Channel status (VUCP bit) was not transmitted in Pass-thru (SMPTE302M) audio format. |
| 2   | V01L001~V01L032           | The following bug has been fixed.<br>When audio coding method was set to other than Pass-thru (SMPTE203M), actual status was not in channel status.              |

## IP-HE950D V01L032 Enhancement List (Released Date: December 6<sup>th</sup>, 2018)

Modified Items

| No. | Affected region & Version | Description   |
|-----|---------------------------|---|
| 1   | V01L030~V01L031           | The following bug has been fixed.<br>Ancillary data decoding error sometimes occurred while receiving specific video data with ancillary data                               |
| 2   | V01L030                   | The following bug has been fixed.<br>VFD device error and flashROM error sometimes occurred while receiving ancillary data although there were no problems with a hardware. |

## IP-HE950D V01L030 Enhancement List (Released Date: October 15<sup>th</sup>, 2018)

### New Features

| No. | Item  | Description   |
|-----|---|---|
| 1   | HDx4ch multi-channel                        | HD(1080i)x4ch receiving enable  |
| 2   | IP redundancy                               | Stream into LAN1 and LAN2   |
| 3   | Additional video resolution                 | -H.265/H.264: 480i, 576i<br>-H.265: 1080i x 1440                              |
| 4   | Additional audio coding and channel mapping | -MPEG-4 AAC LC<br>-MPEG-4 AAC ELD<br>-Channel mode: 5.1ch, 4ch(2/2), 4ch(3/1) |
| 5   | Expansion of decoding bit rate              | -Video bit rate: up to 68Mbps<br>-System bit rate: up to 70Mbps               |
| 6   | IPv6  | Support IPv6 for stream and control over IP network                           |

### Modified Items

| No. | Affected region & Version | Description  |
|-----|---------------------------|--|
| 1   | V01L001~V01L021           | The following bug has been fixed.<br>When Reference in decoder is set to "Internal" or external ("BB" or "Try-sync"), Short jumpiness of audio has happened.   |
| 2   | V01L001~V01L021           | The following bug has been fixed.<br>Video decode error rarely happened and video and audio froze approx. 5s under long operating.   |
| 3   | V01L001~V01L021           | The following bug has been fixed.<br>Packet loss rarely happened under high video bitrate (over 50Mbps).   |
| 4   | V01L020~V01L021           | The following bug has been fixed.<br>When ancillary data decoding error occurred at IP-HE950D, it rarely failed in recovering without turning power off and on.  |
| 5   | V01L020                   | The following bug has been fixed.<br>When phase adjustment value for reference clock was set, ancillary data decoding error sometimes occurred.  |
| 6   | V01L010~V01L021           | The following bug has been fixed.<br>If characteristic number for alarm name and detail parameter is more than 52 letters in SNMP v2c trap, it cannot be conformed to SNMP IP packet format. The trap is sometimes detected. |
| 7   | V01L010~V01L021           | The following bug has been fixed.<br>When BISS Mode E was enabled at IP-HE950D, video wasn't appeared after turning on.  |
| 8   | V01L010~V01L021           | The following bug has been fixed.<br>Decode error rarely occurred at IP-HE950D even IP-HE950D could recover packet loss during running test between IP-9x0E and IP-HE950D.   |

## IP-HE950D V01L021 Enhancement List (Released Date: May 14<sup>th</sup>, 2018)

Modified Items

| No. | Affected region & Version | Description   |
|-----|---------------------------|---|
| 1   | V01L001~V01L020           | The following bug has been fixed.<br>When receiving stream had a short break like changing encoder settings, audio output from decoder sometimes had irregular audio level.                                       |
| 2   | V01L001~V01L020           | The following bug has been fixed.<br>SNMP manager couldn't sometimes recognize details of alarm.  |
| 3   | V01L001~V01L020           | The following bug has been fixed.<br>Analyzer detected field frequency error when encoder transmitted stream through DVB-ASI and IP simultaneously and input interface was changed from DVB-ASI to IP at decoder. |
| 4   | V01L020                   | The following bug has been fixed.<br>Analyzer detected CRC error for audio channel status.  |
| 5   | V01L020                   | The following bug has been fixed.<br>Ancillary data decoding error occurred when ancillary data was superimposed in line #9.  |
| 6   | V01L020                   | The following bug has been fixed.<br>Ancillary data decoding error occurred depending on ancillary data size.   |

## IP-HE950D V01L020 Enhancement List (Released Date: December 5<sup>th</sup>, 2017)

### New Features

| No. | Item                                       | Description  |
|-----|--|--|
| 1   | Expansion of number of audio channels      | With contribution-plus option: 8ch (4 stereo pair)<br>Without contribution-plus option: 4ch (2 stereo pair)  |
| 2   | Ancillary function                         | Transmit ancillary data based on SMPTE ST 2038 or ARIB STD-B40   |
| 3   | Additional parameters of video performance | -Ultra low latency (ALL P)<br>-Low latency (ALL P)   |
| 4   | SDI output option (SFP)                    | Active through SDI output  |
| 5   | Balanced analog audio function             | 2ch (1 stereo pair)  |
| 6   | Additional parameters of video decoding    | -H.264/AVC*<br><ul style="list-style-type: none"> <li>•1080p x 1920 (50/59.94Hz)</li> <li>•1080i x 1920/1440 (50/59.94Hz)</li> </ul> -MPEG-2*<br><ul style="list-style-type: none"> <li>•1080i x 1920/1440 (50/59.94Hz)</li> <li>•720p x 1280 (50/59.94Hz)</li> </ul> (*: NOT guaranteed for decoding of all streams.) |

### Modified Items

| No. | Affected region & Version | Description  |
|-----|---------------------------|--|
| 1   | V01L001~V01L010           | The following bug has been fixed.<br>After time synchronization by SNTP and turning off, Log time stamp was initialized when booting up again.                                 |
| 2   | V01L001~V01L010           | The following bug has been fixed.<br>Decoder sometimes couldn't boot by turning on, or software reset from web GUI or front panel operation.<br>(Depended on hardware)         |
| 3   | V01L010                   | The following bug has been fixed.<br>Although actual memory error did not occur, the alarm "E090 memory error#1" sometimes occurred when booting up.<br>(Depended on hardware) |
| 4   | V01L010                   | The following bug has been fixed.<br>Decoder couldn't receive UDP stream.  |