Release Note – Cisco D9036 Modular Encoding Platform, Software Release Version 01.01.20

Overview

This document describes the features of software release version 01.01.20 for the Cisco® D9036 Modular Encoding Platform. This version supersedes v01.00.17, providing new features and resolution for several issues.

New Features

The following new features are included in software release version v01.01.20.

1. CEA-608 closed captions on line 21 for 60 Hz SD systems. Users can choose between VANC based CEA-608/708 caption input or Line 21. Closed Caption test patterns have also been added.
2. AFD and Bar data. Values can be statically configured for a given video, or AFD inputs can be acquired from the source video using SMPTE-2016 or VII. Default values can be set for the video stream that the encoder will revert to in the event that the incoming AFD signal is not present in the incoming video source. A selection is available for AFD to indicate if 4 bit or legacy 3 bit mode is to be used.
3. VBI-based Aspect Ratio (AR) switching. Aspect ratio can be set statically in the D9036, or it can be sourced from the incoming video on 50 Hz video systems using WSS or VII. Default values can be set for the video stream that the encoder will revert to in the event that the incoming AR setting is not present in the incoming video source.
4. New audio formats – AAC and Dolby® Digital Plus. AAC and Dolby Digital plus have been introduced as licensed features on the D9036. AAC audio supports a number of different modes including MPEG-2 and MPEG-2 AAC with ADTS transport syntax (ISO/IEC 13818-7), and MPEG-4 AAC with LATM transport syntax (ISO/IEC 14496-3), with optional explicit mode. It supports SBR, TNS and PS AAC advanced encoding tools.
5. Additional audio channels on the MMA module. When operating in MPEG-1 LII, AAC or Dolby Digital (AC-3) audio mode, the maximum total number of stereos has been increased from 16 to 32 through this software upgrade. Newly introduced Dolby Digital Plus audio supports a maximum of 10 audio channels.
6. Multi-Channel Audio and MetaData. This version of the D9036 includes the ability to encode multi-channel audio, commonly referred to as 3/2 or 5.1 surround. Multi-channel audio is supported for Dolby Digital, Dolby Digital Plus and AAC audio. Dolby audio formats also include support for up to six external metadata channels, supplied via serial connections on the MMA module.

7. Audio passthrough. The D9036 now supports passthrough of Dolby E audio streams in SMPTE-302 format.
8. VBI Capabilities. DVB (EN 301 775) is now supported, including support for transmission of WST, WSS, VPS and transparent lines. EBU (ETS 300 472) WST is also supported. Users can apply a timing offset to the normal video-synchronized operation in order to allow early transmission of the associated data.
9. HD Teletext with OP47. OP47 can be used to receive teletext data from an HD VANC signal, and the D9036 can transmit this data in a Teletext PID on the compressed output.
10. Virtual Service Encoder (VSE) Editing. VSEs can now be edited after they are created and enabled. Audio, video and VBI streams can be deleted or added to an existing VSE while in service.
11. IP Address setting. The IP address of the D9036 can now be changed through the web GUI.
12. Clock Setup. The D9036 clock can now be set through the web GUI, making it easier to adjust the encoder's internal clock and time zone settings.
13. VBR Transport Streams (TS). A TS can now be configured for VBR operation.
14. VBR Encoding. Video Elementary Streams can now be configured as VBR in addition to CBR.

Supported Hardware

The following hardware is supported with software release version v01.01.20.

1. MVI-4 – Modular Video Input module. Four-input SD/HD-SDI video input module, including video frame synchronization and audio de-embedding, as well as video input duplication and routing to multiple encoding engines. Only one MVI module per chassis is allowed. (D9036-MVI-4-MKI)
2. MVI-8 – Modular Video Input module. Eight-input SD/HD-SDI video input, double-height module, including video frame synchronization and audio de-embedding, as well as video input duplication and routing to multiple encoding engines. Only one MVI module per chassis is allowed. (D9036-MVI-8-MKI)
3. MVC – Modular Video Codec module. Up to 4 SD encodes, 2 HD encodes or 2 SD/1HD encodes per module. The module can encode both AVC and MPEG-2. The type of encoding is controlled by license and user configuration. Up to two modules per chassis are supported. (D9036-MVC-MKI)
4. MMA – Modular Multi-Audio Codec module. Up to 32 stereo encodes, 16 AES-3id inputs are provided on the module. Embedded audio can also be routed from the MVI module for encoding. Only one MMA module per chassis is allowed. (D9036-MMA-MKI)
5. MIO – Modular Input/Output module. Four Gigabit Ethernet connections (2+2 redundant configuration) with dual ASI and optional port mirroring. Up to 32 multicast or unicast stream outputs are permitted. One MIO per chassis is allowed. (D9036-MIO-MKI)
6. D9036 2AC 1RU Chassis – 6 module bays, dual redundant PSU bays, front to rear cooling with field serviceable fans and filters. (D9036-2AC-1RU)
7. D9036 PSUs – auto-switching 90-264 VAC, 47 to 63 Hz, 400 W rating. (D9036-PWR-400W-AC)

Resolved Issues

The following issues with v01.00.17 were resolved in version v01.01.20.

ID	Description
ID CSCti48832	**Number of TS packets in an outgoing IP packet**
Issue	Errors can be seen in outgoing transport streams that have less than 7 transport stream packets per IP packet.
ID CSCti48748	**VBR transport stream support**
Issue	Continuity Count (CC) errors have been observed when IP output transport streams are used in VBR mode.
ID CSCtj59669	**Video abnormalities may occur over time**
Issue	Video may be lost occasionally for several seconds.
ID CSCti25898	**Deleting a VSE results in incomplete cleanup**
Issue	Deleting a VSE from the main VSE view leads to incomplete cleanup.
ID CSCtj15644	**Video input format – shared input**
Issue	Video inputs that are shared across multiple VSEs do not have a common control.
ID CSCti81404	**Audio-only services**
Issue	Audio-only VSEs cannot be created and mapped to an output transport stream in one service.
ID CSCti50490	**Missing alarms**
Issue	Power Supply failure and Fan failure alarms are not yet implemented.
ID CSCtj21092	**Audio channel auto-naming**
Issue	VSE audio channel auto-naming scheme stops incrementing after 10 audios are added.
ID CSCtj21606	**Duplicate VSE**
Issue	Using the duplicate VSE function results in a VSE that cannot be edited.
ID CSCth97581	**Gigabit Ethernet statistics**
Issue	Gigabit Ethernet statistics on the MIO are not implemented.
Miscellaneous	**Date and time setting**
Issue	Date and time cannot be set in the D9036 web GUI.
CSCtk33123	**Dolby® Digital pass-through requires a Dolby Digital license**
Issue	The D9036 web GUI requires a Dolby License for each Dolby Digital passthrough channel, even though a license should not be required.

ID	Description
CSCtk60544	**Video sources with unstable frequency or asynchronous frequency have issues when using the SDI input as a clock source**
Issue	Video inputs which are used as both a video source and a clock source for an incoming video may have stability issues if the incoming video source has an unstable frequency or has asynchronous switching.
CSCtk07523	**Some MIO and System alarms refer to the source as "DCM"**
Issue	Some alarms are reported with the text for the source set to DCM rather than D9036.
CSCti85824	**560 Hz test tone is actually 390 Hz**
Issue	Frequency of 560 Hz test tone is lower than expected.
CSCti09417	**GOP Length in encoded video may exceed configured GOP length**
Issue	GOP length may not always be as long as specified in the web GUI.
CSCtl59102	**Issues with Closed Captions loops in 720p mode**
Issue	20 loops included with 720p content instead of 10.
CSCtj67933	**AFD out of sync by one frame with video**
Issue	AFD transition times 1 frame earlier than expected by video content.
CSCtk81974	**Audio is disabled during change of input source from GUI**
Issue	Changing from one SDI input to another results in audio being disabled.
CSCtk32925	**VSE cannot be deleted if VSE name contains "/" character**
Issue	VSEs with "/" character in name cannot be deleted.
CSCtk31505	**MIO GigE interface link state goes down momentarily when the D9036 is activated**
Issue	MIO link is lost momentarily lost on activation when output is to "auto" instead of "enabled".
CSCti21695	**PCR not inserted at RAP**
Issue	PCR not inserted at Random Access Point (RAP).
CSCtk16371	**HD AVC 50 Hz encoding at 22 Mbps causes issues for some decoders**
Issue	Decoders have shown issues processing compressed HD AVC video from the D9036 in both 720p50 and 1080i25 modes when running at 22 Mbps. Bit rates higher and lower than this rate do not exhibit this behavior.
CSCti98817	**Numerous simultaneous parameter changes causes timeout**
Issue	Timeouts can occur if a large number of changes are made before selecting **Apply**.

ID	Description
CSCti95355	**Backup/restore during previous backup/restore causes issues**
Issue	Initiating a backup/restore during a previously initiated backup/restore results in D9036 unit stoppage.
CSCti48409	**Freeze-frame generated when video is unplugged**
Issue	Freeze-frame was generated instead of a test pattern when video is unplugged.
CSCtk54290	**Alarms tied to a VSE are not cleared if VSE deleted**
Issue	Alarms that are active that are tied to a specific VSE's operation will remain active after VSE is deleted.
CSCti65330	**Unicast does not work reliably from MIO**
Issue	Unicast IP streams do not work reliably.
CSCtn14341	**Incorrect MAC Address on MIO Ethernet Ports.**
Issue	MIO Ethernet ports use an incorrect MAC Address, which can cause issues if connected to the same Ethernet switch as another D9036 using the same MAC address.

For Information

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