Release Note – Cisco D9854 Advanced Program Receiver, Software Release Version 3.51

Overview

Purpose

This document describes the changes included in software release version 3.51 for the Cisco® D9854 Advanced Program Receiver, since the previous release version, 3.50.

New Features

The following new features are included in this software release version, 3.51.

- **Control of VANC Data Output** – allows the user to select which VANC data types to be output on the SD/HD-SDI output in the VANC space.

Updates

The following enhancements and fault resolutions are included in this software release version, 3.51:

Tracking Number	Description
2622	Resolved an issue where EIA-708 data would be output too quickly or too slowly and eventually stop due to corrupted closed captioning data from the source closed captioning encoder.
2659	Resolved an issue where the output of AFD, VBI, SCTE-104, EIA-708 and VII at the same time could stop all VANC data output. Note: At this time VANC data output is limited to 42.14 kbps.

Older versions

V3.50 New Features

All features mentioned below are new features of the PowerVu Model D9854 Advanced Program Receiver, version 3.50 since the previous release version, 3.25.

- New Web GUI – The D9854 receiver now utilizes a new style web GUI that enables users to control and easily manage the device.
- Dashboard - A dashboard view has been added to quickly view the status of the device based on functionality that is important to the user.
- Settings Files – A user can now upload or download the configuration of a D9854 receiver through the web GUI. This will allow quick setup of a new device by simply loading a known good configuration.
- Service Selection by Name – Service selection within the web GUI can be chosen by name rather than simply service ID for all PEs.
- Code Update – The D9854 now allows a user to update the device code through the web GUI without any external applications.
- Log Files – While troubleshooting a device, a user can no simply export the D9854's Alarm/Warning logs as well a diagnostic logs to a csv file for further review.
- NTP Time – The D9854 receiver can now be configured to maintain local time by using an NTP server.

V3.50 Updates

The following enhancements and fault resolutions are included in this software release version, 3.50:

Tracking Number	Description
1567	Resolved an issue where the SDI audio slots could not be configured through the web GUI.
1571	An issue on the web GUI to configure the channel numbers on all Program Entries at the same time would cause a failure to save the channel changes has been resolved.
1813	Changed how Auto AFD operates, so that when AFD is not initially present the unit operates in AUTO mode for the aspect ratio conversion for down-conversion.
1819	Display audio language type in the audio status menu on the web GUI.
1843	In some instances the actual conversion status would display none even though an aspect ratio conversion is occurring. This issue has been resolved.
1961	An issue where changing the (Dolby Digital) AC-3 Compression

Tracking Number	Description
	mode would result in loss of audio output has been resolved.
1964	Resolved an issue where changing channels on a service with an MPE PID would take a long period of time.
1966	When tuned to a LEC based uplink the receiver would lose the LEC time out value after a reboot, this value now persists after a power cycle.
1968	If a service containing HE-AAC audio is being decoded and the audio is changed to another format such as MPEG or Dolby Digital, the receiver would stop outputting audio for Audio One on the SDI output. This issue has been resolved.
1970	An issue where the receiver can corrupt closed captions when decoding 1080i H.264 AVC content when the stream is encoded with picture AFF and 3/2 pull down enabled on the video encoder has been resolved
2091	Resolved an issue where the receiver would reboot if it receives a video source encoded as MPEG-2 4:2:2. The receiver will ignore any video source which is 4:2:2.
2175	The receiver will no longer initiate a LEC channel lockdown when the receiver is not a member of a LEC group.
2248	Updated DVB subtitle positioning to conform to the DVB subtitle specification.
2327	The D9854 can now route the entire Transport Stream to the DVB-CI CAMs to support CAM software upgrades. This is a user configurable option. A user can continue to route only the services needed for decryption to the CAMs.
2411	Resolved an issue where the receiver could corrupt Teletext VBI in some instances.
2420	Resolved an issue where in some rare instances DVB subtitles could cause a flash of the subtitles on the decoded output.
2426	Improved the DVB subtitle display and removal for multi line subtitles so that there is a lower delay between the display and removal of the lines.
2490	Resolved an issue where an audio glitch could occur on the audio outputs at a PTS wrap point.

V3.25 New Features

All features mentioned below are new features of the PowerVu Model D9854 Advanced Program Receiver, version 3.25 since the previous release version, 3.02.

- Multi Service BISS-1/E decryption – The D9854 receiver now supports BISS-1/E decryption for up to 16 services instead of 1, previously using the same BISS-1/E key. All stream types within the services scrambled with BISS-1/E will be decrypted.
- Support for SFN – A new variant of the D9854 receiver is now available which will support SFN compatibility for DVB-T distribution. This variant supports a SFN compliant ASI output. The D9854 receiver SFN variant is available under part number 401943801060305.

V3.25 Updates

The following enhancements and fault resolutions are included in this software release version, 3.25:

Tracking Number	Description
1934	Resolved an issue where the wrong version number for the application software could be displayed on the front panel or web user interface.
1970	In some instances HD streams using 3:2 pull down can cause closed captioning to be output incorrectly on the SDI and composite outputs.

V3.02 New Features

All features mentioned below are new features of the PowerVu Model D9854 Advanced Program Receiver, version 3.02 since the previous release version, 2.52.

- HD resolution DVB subtitles – previous releases supported SD resolution subtitles only even if present in HD services. Release version 3.02 will allow the decoding of HD resolution DVB subtitles to be overlaid on the baseband video output.
- Device settings file support – with the web interface, a user is able to send a settings file to an FTP server containing all the settings of the current unit. The receiver is also able to acquire a settings file from an FTP server and apply the configuration stored in the file to the device.
- MPE (Multi Protocol Encapsulation) data support – the receiver is able to de-encapsulate up to 10 Mbps of IP data from an MPE PID in the decoder service to be output on the Ethernet port.
- Live event control – the receiver will follow live event control commands when used in conjunction with a PowerVu uplink that has the Live Event Control (LEC) option and server installed.
- HE-AAC audio decoding – the receiver is able to decode a single pair of HE-

AAC audio on audio 1. HE-AAC audio can be compressed and output for pass-through applications on the SD/HD-SDI or AES output.

- Dolby Digital Plus audio decoding – the receiver is able to decode a single pair of Dolby Digital Plus audio on audio 1. Dolby Digital Plus audio can be output compressed for pass-through applications on the SD/HD-SDI or AES output. The receiver can optionally transcode Dolby Digital Plus audio to Dolby Digital on the SD/HD-SDI and AES outputs.
- SCTE-35 message translation to cue tones and triggers – the receiver can translate an incoming SCTE-35 message with an embedded DTMF descriptor to the Cue Tone and Cue Trigger outputs for the decoded service.
- Increased PMT audio selection – the receiver is now able to decode any audio listed in the PMT up to the 64th audio by selection from the front panel.

V3.02 Updates

The following enhancements and fault resolutions are included in this software release version, 3.02:

Tracking Number	Description
1070	Resolved an issue where PE 12 was not passing all PIDs for the service on the transport output.
1358	The CAM manufacturer name is now displayed in the user interface.
1470	Improved the performance of MPEG-2 HD decoding for bit rates above 25 Mbps.
1548	Improved the compatibility of closed captions when being output in the VANC of the SD/HD-SDI.
1632	DVB-CI improvements to support additional CAM compatibility
1645	Resolved an issue where continuous RF noise could cause the receiver to reboot.
1701	The receiver would fail to output the correct PMT descriptor in the TS output if the incoming descriptor is unknown. The receiver now outputs the correctly regenerated PMT descriptors.
1715	Improved video decoding performance for incoming streams with incorrect STC values.
1718	Subtitles would flicker on the composite video output when the PV output is set to HD. Component and HD-SDI has subtitles correctly rendered.
1727	Corrected DVB subtitle positioning for SD resolution subtitles.
1763	Resolved a receiver reboot issue due to OSD banner being displayed on the decoded output.
1810	Resolved an issue where the D9854 receiver may fail to descramble a service using the ASTON mediaguard CAM.

Tracking Number	Description
1879	Resolved a closed captioning issue where multiple closed captioning packets are output in the VANC for HD-SDI per VSYNC when only one packet is required.
1896	Resolved a SD-SDI video output issue which would produce video tearing when the source video program contains invalid gamut values. Note: Requires the R4 FPGA firmware to be running on the receiver as well.

V3.02 Unresolved Issues

The following issues have not been resolved as of v3.02:

Tracking Number	Description
1567	Using the web GUI, the user is unable to change the settings of the SDI audio slot for embedded audio. Workaround: To change the slot locations for audio decoding, the user must use the front panel.
1571	Using the web GUI to configure the channel numbers on all Program Entries at the same time will cause a failure to save the channel changes. Workaround: To change multiple channels, it is recommended that channels be changed one at a time, saving each change.
1961	Changing the AC-3 Compression mode will result in loss of audio output. Workaround: The output compression mode can be changed using the front panel or web GUI. The receiver will require a reboot for the changes to take effect.
1964	The D9854 receiver can take a period of time to channel change when the decoded service contains MPE PIDs. For example, a channel change could take up to 10 seconds when there are 5 PIDs present.
1968	If a service containing HE-AAC is being decoded and the audio is changed to another format such as MPEG or Dolby Digital, the receiver will stop outputting audio for Audio One on the SDI output. Workaround: A channel change will resolve the problem.
1970	The D9854 receiver can corrupt closed captions when decoding 1080i H.264 AVC content when the stream is encoded with picture AFF and 3/2 pull down enabled on the video encoder. Workaround: Disable 3/2 pulldown on the source encoder.

V2.52 New Features

All features mentioned below are new features of the PowerVu Model D9854 Advanced Program Receiver, version 2.52 since the previous release version, 2.01.

- Enhanced DVB-CI support- this release improves stability of the DVB-CI descrambling, as well as supporting descrambling of programs that are described as unscrambled in the SDT.
- Improved web user interface – the web user interface has been improved to support browsers that use more then two persistent connections, along with various improvements in performance and stability.

V2.52 Updates

The following enhancements and fault resolutions are included in this software release version, 2.52:

Tracking Number	Description
890	The front panel and web GUI did not display all the available PIDs in the received program, under program status. This issue has been resolved.
894	Resolved the issue where closed captioning became corrupted when programs were encoded with 3:2 pulldown.
1168	Using the web GUI to change the ASI or MPEGoIP output mode to No Output did not change the transport output mode on the receiver. The receiver now updates successfully with all the output mode changes through the web GUI.
1191	DVB VBI or SCTE-127 PIDs that exceeded a bit rate of 280 kbps could corrupt the VBI on the Composite or SDI outputs. Improvements in VBI processing have resolved this limitation.
1205	Loss of Dolby Digital (AC-3) audio after a channel change or RF interference occurred when the AC-3 stream was encoded using less than four AC-3 frames per PES packet. The D9854 receiver can now support one or more AC-3 frames per PES packet.
1230	Resolved a chroma luma delay problem when down converting an HD source to SD.
1268	Configuring multiple DVB-CI programs through the Web GUI caused a corruption of the SDT on the transport output. Using the front panel interface prevented SDT corruption. This issue has been resolved, allowing correct configuration through the web GUI.
1311	SMARDTV CAM did not start descrambling correctly after powering up the D9854 receiver. Improvements in the CAM communication in the D9854 receiver have resolved this issue.
1326	Accessing the log page in the Web GUI resulted in a “base_tagname 0” error. This has been resolved.
1360	During a service replacement, in rare circumstances, the end user

Tracking Number	Description
	was prevented from changing channels on the receiver. This has been resolved in this release.
1373	During a channel change, compressed audio would be an output through AES or embedded SDI, even when PCM samples were requested. The D9854 receiver will now mute audio output until channel change is complete and output the appropriate audio samples.
1401	Resolved an issue where accessing the summary page in the web GUI resulted in a "base_tagname 0" error.
1406	Improved compatibility with Harmonic H.264 encoders for 720p resolution encoding.
1501	Resolved an issue where closed captioning became corrupted with 720p sources that had intermittent closed captioning data.

V2.01 New Features

All features mentioned below are new features of the PowerVu Model D9854 Advanced Program Receiver, version 2.01 since the previous release version, 1.05.

- DVB-CI support for third party CAMs – the D9854 receiver can now support third-party conditional access systems. More specifically, DVB-CI CAMs. Iredeto, Viaccess, Nagravision and Conax systems are supported with Cisco approved CAMs. See the data sheet for a list of the supported CAM modules.
- MPEG-2 and H.264 AVC SD decoding – this release provides support for MPEG-2 and H.264 AVC standard definition decoding.
- Active Format Descriptor - the D9854 receiver will now support the Active Format Descriptor (AFD) to select the correct aspect ratio conversion based on the desired outgoing aspect ratio for incoming high-definition and standard definition source programs with embedded AFD.
- DVB-VBI and SCTE-127 VBI - VBI decoding to composite or SDI outputs (model dependant) is now supported in the D9854 receiver for DVB-VBI and SCTE-127 services.
- PowerVu service replacement – service replacement is supported in the latest release, allowing PowerVu uplinks to enable blackouts with program substitution to D9854 receivers.
- Web user interface - the web user interface is now enabled on the D9854 receiver, allowing easy configuration of the receiver. The username and password are "admin" and "localadmin" respectively.
- Enhanced SNMP – software release v2.01 has enhanced SNMP capabilities, allowing full control of the device through the SNMP MIB.
- PowerVu cue tones and trigger – the D9854 receiver will support PowerVu cue tones and cue triggers from existing PowerVu encoders when this feature is enabled.

V2.01 Updates

The following enhancements and fault resolutions are included in this software release version, 2.01:

Tracking Number	Description
715	The front panel user interface displayed ASI no lock in the status menu, even when there was ASI lock. This has been resolved.
716	DPM menus in the D9854 receiver would prevent the user from deleting or inserting PIDs in the PID menu. This has been resolved.
738	LNB status and LNB power information was missing from the status menus. These items have been added to the status menu.
743	SCTE-104 messages converted from SCTE-35 messages were output up to 250 ms later then expected. The D9854 receiver now outputs SCTE-104 messages at the expected time in the SDI output.
852	The D9854 receiver would fail to correctly lock to the D9900 Digital Content Manager ASI output when the TS rate is over 72 Mbps in BYTE mode. This has been resolved.
926	The D9854 receiver status menu failed to correctly output the AC-3 audio bit rate. This has been resolved.
1008	The D9854 receiver would become unresponsive when receiving a transport where PIDs 16 and/or 17 were not the NIT and SDT respectively as dictated by DVB standards. The D9854 receiver can now be configured to ignore the NIT and SDT in order to receive these streams.
1033	The D9854 receiver would present decoded freeze frames while processing certain H.264 streams. This has been resolved.
1129	D9854 receivers with software application code version experienced an issue with the web user interface when an expanded tree was shrunk. It could not be re-expanded until the user logged back into the web page. This issue has been resolved.
1280	D9854 receivers with software application code version 1.50 prevented a change to the IP address of the data interface. This has been resolved.

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