

CP560 DVB-T2 Gateway Release Notes

Revision: 2.6.0 (5120)

2016-10-17

1 Overview

This document contains the SW revision history for CP560. The release note is cumulative, each chapter describing changes since the previous released version.

2 Upgrade instructions

- Software upgrade of the device should – if possible – be done at a time when the device is not in use for critical signal transmission.
- Always take a backup of the device's current configuration before doing the upgrade (use Device Info > Save/load Configs > Save Configuration in the device's GUI).
- Have a copy of the original software file currently in use at hand, in case of a need for reverting to the last operational state.

2.1 How to upgrade

- Log into the unit as admin using any web browser. Navigate to Device Info > Maintenance > Software Upgrade and click on Browse. Then upload the software image (*.out) from your file system.
- After the software is loaded the unit will reboot and load the new software image. Loading the new software image takes the same amount of time as a normal reboot, which may take from 45-90 seconds.
- It is possible to upload the software to the unit, and postpone the reboot operation. The old software will be used until the next reboot. This is done by disabling the Reboot on success option on the Software Upgrade page.
- If you have T-VIPS Connect, refer to the T-VIPS Connect User's Manual on how to upgrade several units.

3 Release 2.6.0 Andoy

3.1 Release Date 2016-10-17

3.2 Bugfixes

- Fixed issue where T2-MI CC counter would not always be synchronized when using manual bitrate mode.
- Fixed an issue in HEM where the CRC8 of the BBFrame header could be corrupt if no input signal.

3.3 Hardware

- 2.6.0 and on supports a new NAND flash variant that is not backwards compatible with older SW versions. Added a check in the SW loader to ensure software compatibility with running HW.

4 Release 2.2.8 Muara

4.1 Release data 2013-06-11

This release is a maintenance release and comes with a new Nevion logo.

4.2 Bugfix

- Fixed an issue where the ISCR field of ISSY could drift relative to the actual TS rate. The ISCR field is inserted for each PLP if ISSY is enabled. This could cause professional monitor equipment to periodically lose TS sync.

5 Release 2.2.2 Edwinstowe

5.1 Release 2012-09-28

This release adds several new features to the CP560, including T2-Lite functionality, input switching and several other fixes and enhancements.

5.2 New features

- Added support for T2-Lite. T2-Lite is a subset of T2-Base, but also introduces a few new parameter options. T2-Lite is aimed at mobile applications.
- Added licensed feature Input Switching (/ISW). An Input Switch may be used as a source for a PLP, and an Input Switch may have 1 or more inputs (ASI and/or IP). The Input Switch will automatically select the best input as it's current source.
- Added In-band signaling. In-band signaling is inserted in the first BBFrame of each Interleaving Frame, thus reducing the PLP throughput slightly. In-band signaling helps the receiver lock to the signal and switch between PLPs.
- Added user configurable BUFS and TTO signaling per PLP.

5.3 Bug fixes

- Fixed an issue where the output stream could sometimes be delayed a few milliseconds, thus causing a momentarily drop in the SFN delay. Some transmitters may be affected by this drop.
- Fixed an issue where the output bitrate in Manual mode could be set less than the minimum required bitrate.
- Improved Null Packet deletion for low rate streams with high amounts of Null Packets to avoid empty BBFrames.
- Fixed setting of CCM/ACM field in BBFrame headers. Used to signal if all PLPs use same coding and modulation settings.
- Fixed insertion of Frame Closing symbols. For some DVB-T2 settings this gives more available data cells => possibly more BBFrames => higher throughput.
- Fixed an issue where PLP transmission order would not be correct if using Common PLP.
- Several other minor bugfixes.

5.4 General improvements

- Several under the hood optimizations.
- Reduced number of CC errors when performing SFN resyncs.
- Added option to set Type2 PLP subslices manually.
- More T2 validations to ensure valid combinations of T2 parameters.
- Big changes to the user interface, especially for the PLP configuration page.
- Improved TCP transmit (GUI loading) performance on links with large transmission delays.
- Added "Generate System Report" button under Device Info -> Maintenance. For Support purposes.
- Changed PLP configuration format. Parameters removed from the /plps node. This only has effect when using TXP or SNMP to control PLP parameters.

5.5 Licensing

The following table lists the available SW options in this SW version.

Table 5.1 The list of licensed features in this version

Key	Function
TSIX	Number of input streams that can be used simultaneously.
PLPX	Number of Physical Layer Pipes (PLPs) that can be used simultaneously.
ASIN	Enables use of ASI inputs.
IP	Enables use of Ethernet data ports for video transport.
ISW	Input switching.
FEC	Forward error correction, both input and output.
TCON	Connect control. Enables management of a device with the Connect Tool.
SFP	SFP slot support.
SFPC	Enables configuration of some telco variants of SFPs.
T2SFN	Enables generation of SFN timestamps
JBRC	Remote control of bitrate of other units using SNMP.
ESW	Emergency switch support.

6 Release 2.0.20 (2012-06-13)

6.1 Bugfixes

- Fixed short term drift in output SFN delay due to erroneous handling of T2-Frame stuffing cells.
- Fixed rare 1 seconds offset when synchronizing to SNTP and 1 PPS for Seamless SFN systems.
- Fixed Null Packet Deletion counter not being reset properly.
- Reduced SNTP polling intervals. Avoids SNTP alarms when SNTP server refuses too rapid polling.

6.2 Improvements

- Greying of PSI/SI alarm groups if PSI/SI analysis for the given table is disabled.
- Alarm log entry when performing manual SFN Resync

7 Release 2.0.10 (2011-10-04)

7.1 Bugfixes

- Fixed Individual Addressing parameter, ACE clip threshold not being set properly.
- Fixed crash when not having T2SFN licence.

8 Release 2.0.8 (2011-08-25)

8.1 Features

- Added FEC on IP input and output.
- Added smallcast feature on IP output.
- Added additional individual addressing functions (according to ETSI TS 102 773 and ETSI TS 101 191)
- Beta release for Tx_sig and DVB-T2 MIP, Reed-Solomon on ASI output. These features have not been validated against a modulator yet.
- Added option to reduce TS to T2MI packing efficiency to get less distance between valid switch points for TNS541.
- Added FEF Part insertion. Currently only support for FEF Composite with 1 subpart of Type Tx-SIG.

8.2 Bugfixes / Improvements

- Changed ETR290 Pri 2 error triggering to set TEI in T2MI stream instead of PAT
- Added rapid sync loss detection for faster setting triggering of ETR290 Pri 2 error
- Fixed UTCO field for Null Timestamp not being set to all 1's.
- Fixed an issue with Individual Addressing packets being updated while transmitting.
- Fixed a rare issue where CC errors might be introduced on the outer TS stream.
- General optimizations resulting in more responsive user interface.

8.3 Known issues

- When downgrading to a 1.12.X version please disable the FEC on the IP outputs. When enabled, FEC might cause the unit to reboot constantly when downgrading.
- The tx_sig and DVB-T2 MIP features are not tested against a modulator yet.
- The Reed-Solomon on ASI output feature are not tested against a modulator yet.

9 Release 1.12.6 (2011-06-29)

- Fixed an issue where the unit would resynchronize it's internal T2 time format due to the 1PPS regulator.

10 Release 1.12.4 (2011-06-06)

- Fixed an issue where the PMT would not update if T2MI PID was changed.
- Fixed a rare issue where SNTP/1PPS sync would cause an offset of 1 second between different CP560's.
- Improvements to SFN Seamless

11 Release 1.12.0 (2011-03-17)

11.1 Features

- Added Joint Bit Rate Control. Transmits PLP bitrate for each PLP to individual devices using SNMP. Supports CP515 and CP525.
- Added automatic rate setting of the T2MI layer. Software calculates optimum rate, thus minimizing the number of Null packets while at the same time not dropping any T2MI packets.
- Added Port Mapping of the ASI connectors.
- Added PLP fill status and alarm if empty PLP to easier see the PLP utilisation.
- Added ETR290 provocation by setting TEI in PAT header if any PLP input source is lost.
- Added synchronization of CC's for outer layer TS for T2MI-stream, PAT and PMT.
- Many enhancements to GUI.

11.2 Bugfixes

- Fixed internal time to start with battery clock instead of 1.1.2010 when no SNTP server is specified.
- Fixed IP Out Ping page.
- Fixed L1 ace parameter not working for Individual Addressing.
- Fixed Null Packet Deletion and ISSY for Normal Mode
- Fixed MIB bindings for TsInputs.
- Fixed an issue when pressing resync after leap second have been added.
- Fixed leap second handling to be persistent even though leap second was to be added while unit was down.
- Fixed offset in the seconds since 2000 field In Timestamp frame.

12 Release 1.10.2 (2010-12-20)

12.1 Features

- New timing subsystem for better time stamp frame signaling.
- Fixed an issue with negative leap second increment.
- Fixed support for pilot pattern PP6 with FFT32K and GI1/32.
- Fixed sending null packets on output disable.
- Added support for 4 ASI port variant.

13 Release 1.8.0 (2010-10-15)

13.1 Features

- Added multiple PLP feature.
- Added IP-input feature (up to 8 connections on 2 physical interfaces).
- Added SFP support.
- Added SFP Configuration support.
- New parameters for Individual Addressing: Tx Sig Aux and Tx Sig FEF.
- Added Leap Second handling feature.
- Modified TS packetizing for a better utilization of T2MI bandwidth.

13.2 Known issues

- Minor fluctuations in the timing.

14 Release 1.6.4 (2010-09-27)

14.1 Features

- Support of the TV0801.2020 ASI card (10 ports).
- Fix for the SNMP walk function.
- New internal timing and BB-frame scheduling based on interrupts.
- Additional fixes.

15 Release 1.6.0 (2010-07-20)

15.1 Features

- Added Individual Addressing packets to be sent with the T2-MI stream to signal MISO group, ACE, TR and L1-ACE parameters.
- Added IP-output feature.
- New improved bitrate calculation for DVB-T2 Frames.
- Added field to select between version 1.1.1 or 1.2.1 of the DVB-T2 specification.
- Added selection of ASI input port for transmission.
- Minor changes to GUI layout.
- Added numerous validations of the DVB-T2 settings to ensure a valid signal.
- Added monitoring of outgoing PIDs (outer TS-layer).
- Added transmission of PCR on the outer TS-layer.
- Adjusted device specific alarms.
- Added.mib files for SNMP support.

15.2 Known issues

- SNMP walk function does not work for DVB-T2 specific fields and parameters.

16 Release 1.0.0 (2009-11-25)

This release is the first official release for CP560.

16.1 Features

- Transparent transmission of one transport stream, encapsulated in one PLP over T2-MI.
- T2-MI L1-Current signaling.
- T2-MI Timestamp. Null, Relative, and Absolute timestamp transmission.
- Null packed deletion (NPD)
- Input stream synchronization (ISSY)
- Normal and High Efficiency mode for elementary stream packaging.

16.2 Known issues

- When time is initially synchronized on the CP560, glitches in the outgoing T2-MI stream will occur.
- There may occur glitches in the T2-MI stream on some configuration changes. (Changing Bandwidth, T2-MI PID, Timestamp delay etc..)