MPX-1g
Release Notes

Version 1.13
26.01.2024

2wcom Systems GmbH – Am Sophienhof 8 – 24941 Flensburg – Germany
+49 461 662830-0 (Fax11) – contact@2wcom.com – **www.2wcom.com**

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Version 1.13

26.01.2024

New Functionality

- Added entries to the extended log in case of CC (continuity count) errors in transport stream decoding

1.13-rc8

- Added the fan status to Status →Device in the web interface (needs System Controller firmware 1.07)

1.13-rc7

- For security reasons the password hashes of the user accounts are no longer stored as MD5, but as bcrypt hashes. The migration will be done automatically.
- Added the possibility to update the firmware locally from USB

1.13-rc6

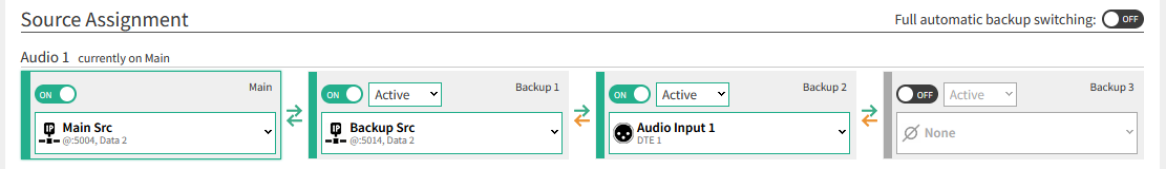
- When loading settings via the web interface it can now optionally include the TCP/IP configuration
- Added the IP interface link status to the IP interface selection in the different configuration dialogs
- SAT Tuner: added the frequency offset to the status parameters

1.13-rc5

- Current RDS parameters (PI, PS, RT, MS, PTY, TA, TP UECP Counts) retrievable via ext. API

1.13-rc4

- The fully automatic switching between the different decoder ranks (Main, Backup1-3) in both inferior and superior direction can now be deactivated. It will then allow you to configure, if the backup switching between two decoder ranks should be automatically done in both inferior and superior direction (as it's done by default) or if the automatic is only allow to switch in inferior direction.
  The switch back to a superior input rank will then not be done automatically but only on user request (e. g. after checking the superior input signal manually).



- Added the possibility to locally load settings from and save settings to USB via the LCD menu.
  The settings loading from USB can be done in two different ways – one without and one including the TCP/IP configuration.
- Added the possibility to access the latest 50 event log entries via external API (e. g. SNMP)
- Added SNMP traps for detected local GPI and remote GPI (GPI Forwarding) changes

1.13-rc3

- µMPX: Support for En/Decryption the µMPX stream data with Password or Hash.
- Add compatibility to Qbit GPIO Forwarding in ancillary data.
- Added the possibility to configure individual switch criteria per input source
  Instead of having one global switch criteria configuration per input source type each input source can now have different switch criteria, e. g. different levels and times for the audio silence detection. To allow this each input source configuration dialog now has an additional tab allowing to enable and configure individual switch criteria.
  This change did also introduce a new visual appearance for the configuration dialogs.

- Added optional automatic firmware update check to web interface
- Added monitoring/alarms for the optional FM/DAB tuner
- Added a new status value providing the delta time between the two streams in RTP DualStreaming setup
- Network setting: manual speed selection is now available for CTRL, DATA1 and DATA2.
- First steps to more advanced / extended logging:
  For some events, which were previously only counted (like missed packets) there's now the possibility to check the point in time when these events occur. There's a new "Extended Log" tab on the Log web page, which shows these events. Currently we added events for RTP Rx start, RTP missed packets, RTP unrecovered packets, RTP Rx timeout, SIP register/connect/disconnect/ declined/error and SRT connect/disconnect.
  Like the counters this extended log is volatile, meaning it is cleared after a reboot. If syslog is enabled, these events will however also be sent out to syslog, making them externally persistent.
- The event log web page will now update automatically when new events arise while having the page open
- Added interface (and VLAN) selection to the SNMP trap manager configuration

Improved / Changed Functionality

- Loading settings via the web interface will show a warning when trying to load settings from a different device type. The settings can still be loaded, though, as many settings are of general nature.

1.13 rc-10

- SAT Tuner: Tuning at low symbol rate has been improved.
- UECP source settings are now accessible via ext. API.

1.13-rc8

- "Load factory settings" from within the web interface does no longer require a reboot

1.13-rc7

- The individual gain adjustments per input source can now be done with a resolution of 0.01 dB steps

1.13-rc4

- Loading settings via the web interface will no longer require a reboot of the device, but will be done very quickly (within a few seconds)

1.13-rc3

- New web interface dialog layout
- Slightly revised decoder source assignment layout
- The Icecast Server did still answer with "ICY 200 OK" to a connection request and only for certain user agents / browsers with "HTTP/1.0 200 OK". For some time now the ICY answer is however deprecated and should no longer be used, so we do now always answer to a connection request with the HTTP answer, thereby hopefully improving the general compatibility of the Icecast server to certain clients.

Fixed Issues

- Under high CPU load IP packets may have been lost and reported as missed
- Under high CPU load the audio output may get distorted (event log showing FPGA underruns)
- When doing “Load Factory Settings” and unplugging the power immediately after completion, the new (default) settings might not have been saved
- Optional SAT tuner: For C band transponders the minimum allowed transponder frequency was too high, not allowing to configure some transponder frequencies
- AAC decoding may encounter problems in case of SIP connections to some other vendors (problem with short frames)
- Distorted MPX signal if XLR Cable is disconnected.

1.13-rc10

- When doing “Load Factory Settings” some settings may not be back to default, but only after a reboot
- When uploading and activating a settings file some settings may not be activated correctly and may need a reboot
- SAT tuner alarms were swapped between RF1 and RF2

1.13-rc9

- Audio glitches occur when decoding signals that do not have a 192 kHz sample rate.
- Wrong individual switch criteria for the file input sources
- Individual switch criteria changes of an input source were not applied immediately

1.13-rc8

- A bad combination of two changes introduced in firmware 1.13-rc7 (migrating password hashes from MD5 to bcrypt and doing “Load factory settings” without reboot) could lead to the impossibility of being able to login to the web interface after having done “Load factory settings”.
  A reboot would fix this problem, but one might not be able to initiate the reboot due to the impossibility to login to the web interface.
- Ancillary data from Icecast input sources may not be put out on device startup
- The audio error counter may not increase for very small buffer underruns
- DNS configuration per interface did not work via LCD menu
- SAT tuner: if reception gets interrupted due to e. g. bad weather conditions for a longer period of time, the device might fail to re-establish tuner lock (with the normal dual tuner EXM01)
- If an audio input is used as a decoder input source, the signal runtime fluctuates greatly.
- Fixed a high CPU load problem when many AES67 receive streams are configured
- Ember+ improvement for read-only items (in the virt subfolder)
- The new individual switch criteria did not work correctly (were not applied correctly)

1.13-rc7

- RDS Encoder: The function "Remove ext. RDS Signal (Filter)”, filters out the complete MPX.
- Saving settings to USB may fail, if the USB stick is removed too quickly after the OK message is shown
- Fix visible name field in TS/Demux configuration when in “Service from list” mode

1.13-rc6

- Configuration changes done in the Codec dialogs may not get saved, when the dialog is left while the new (individual) Switch Criteria tab is selected
- SAT tuner status may get unavailable (e. g. after disabling/enabling a SAT input source)

- Extended log entries for missed RTP packets may have empty stream names, if the packet was lost in a redundant (DualStreaming) or FEC stream
- If a decoder does provide ancillary data this data is now also shown on the Overview page if the input source is not the currently active one
- Fix possible crashes with AES67 inputs (due to new extended logging)
- External clock configuration - a reconfiguration from an already configured and valid clock source (e.g. from PTP to PPS) was not handled correctly

1.13-rc3

- UECP Settings: “MEC Access Rights” - Settings are not saved in some cases.
- Icecast HTTPS streams are not decoded
- Changing the SFTP user PW is only applied after a restart.
- Possible crash when deactivating all decoders of a chain.
- Alarm status of a deactivated decoder is not withdrawn.
- Current state / status of the decoder chain (Main, Backup 1...) is not updated via SNMP.
- µMPX: Overview statistics display is always 0.
- Fix often crashes on configuration changes with MPE µMPX decoding
- RTP Pro-MPEG FEC decoder: Fix unnecessarily recovered packets in case of 1x4 FEC
- RIST receiver improved for low latency transmissions, avoiding sometimes quite aggressive retransmission requests
- RIST receiver improved for dual streams with encoder send delay
- SAT tuner: fixed an issue where satellite tuner data would no longer be processed after a prolonged loss of reception (i.e. bad weather).
- RIST: fixed an issue that was causing too many packets being requested and retransmitted when a packet did not arrive in time or at all.
- Changing just the LNB config for a SAT input source was not applied

Version 1.12

23.06.2023

New Functionality

- Function "MEC access rights" allows to block certain UECP MEC commands. Blocked UECP commands are displayed in the UECP log if desired.
- Download and upload of UECP log files: The UECP log entries loaded from the device can be saved and reloaded as a file.
- The event log web page will now update automatically when new events arise while having the page open
- First steps to more advanced / extended logging:
  For some events, which were previously only counted (like missed packets) there's now the possibility to check the point in time when these events occur. There's a new "Extended Log" tab on the Log web page, which shows these events. Currently we added events for RTP Rx start, RTP missed packets, RTP unrecovered packets, RTP Rx timeout, SIP register/connect/disconnect/ declined/error and SRT connect/disconnect. Like the counters this extended log is volatile, meaning it is cleared after a reboot. If syslog is enabled, these events will however also be sent out to syslog, making them externally persistent.
- UECP Log: "View statistics" shows the percentage distribution of MEC commands.
- Released REST API that enables customers to use an Open API 3.0 compliant API to control and monitor 2wcom's devices.
  - More info about Open API 3.0 can be found here.
  - The API can be enabled and browsed on page "External APIs" -> "REST API".
  - The openapi.json for the device and additional documentation can be found on the devices page "External APIs" -> "REST API".

Improved Functionality

- RDS signal generation optimized.
- Recovery page: Is now displayed faster to more reliable in case of an error.
- UECP Log: Maximum number of entries increased to 100000.
- UECP Log: Input of a MEC filter facilitated by display of available entries.

Fixed Issues

- NTP time synchronization does not work without decoder/encoder right.
- Settings Upload: The settings are not applied after the restart.
- RIST receiver improved for RTP streams, where the encoder has RIST disabled (could lead to audio buffer not building up)
- RIST didn't work in dual streaming setup for the redundant line
- RTP: Overall packet lost counter could be too large in rare cases
- Fixed ancillary data descriptor in MPEG TS encoding for better compatibility
- A configured source IP for SSM (Source Specific Multicast) could not get deleted
- When switching between different web interface menu items the page will now always scroll back to top
- DTE baudrate changes were not applied immediately, but only after a reboot – Fixed

- Ancillary data was not shown on the Overview page for XLR audio input sources

Known Issues

- RDS Encoder: The function "Remove ext. RDS Signal (Filter)", filters out the complete MPX.

Version 1.11

28.03.2023

New Functionality

- Automatic Config Mode (optional): Enables automatic switching between MPX Decoder (MPX over IP/SAT) and MPX Encoder (RDS / Stereo Encoder) when using the Audio/MPX Decoder. This allows an MPX to be decoded via IP / SAT and a local MPX to be created as a backup.
- FM / DAB Tuner (optional): The tuner can be used as an audio source for the stereo encoder. The received UECP commands (via FM) are forwarded to the RDS encoder (RDS Databridge).
- Input as Decoder Source: The physical inputs (BNC/XLR) can be selected as main/backup source at the Audio/MPX Decoder.
- SFN is now working with µMPX as well. Since this is using the same system that is being used for PCM as well, µMPX with SFN is only possible in between 2wcom MPX-2c, MPX-1g and MPX-2ds devices.

Fixed Issues

- Time synchronization via NTP does not work.
- In rare cases, RDS generation is disturbed after a device start.

Known Issues

- µMPX with SFN: Currently it is mandatory to set the codec type manually to µMPX. SFN operation is not possible in automatic mode

Changed functionality

- UECP / RDS Encoder: The selection of available UECP sources has been combined on one settings page (UECP Sources).
- Port Mode "UDP and TCP" is no longer supported. Old settings with this mode are switched to "UDP" (only). Please check these settings after the update!
- Remove: Audio/MPX decoder gain settings. A gain can be set in the respective decoder source.