XMT-500 Firmware Release Notes

Version 1.06

- Send app:
  - Added support for storing up to 99 scenes on the device and loading them again.
    - Storing a scene captures the current DMX channel values set in the Send app, for one universe.
    - Loading a scene replaces all channel values in the Send app with those from the scene.
    - Added new “Store Scene” and “Load Scene” menus within “Send Settings”.
    - Scenes can be stored, loaded, renamed and deleted.
  - Channel values are cleared when the app defaults are restored.
- Receive app:
  - Added support for storing up to 99 scenes on the device.
    - Storing a scene captures all the present DMX channel values, as they are received in the Receive app.
    - Added new “Store Scene” menu within “Receive Settings”.
- Flicker Finder app:
  - When DMX is selected as protocol, fields dedicated to Ethernet protocols are now shown as “-”.
  - When Art-Net or sACN is selected as protocol, all fields only supported by the DMX protocol are now shown as “-”.
  - Restructured overview page of the report by moving errors further up.
  - Added “Channels Received Min” and “Channels Received Max” to the report overview.
  - Disable the “Resume” button if the universe configuration changed from within another app.
  - Improved update rate of timer labels within Flicker Finder screens.
  - Bug fix: Stopped DMX frame counters from continuing to count while the app is paused.
- Tracer app:
  - When DMX is selected as protocol, fields dedicated to Ethernet protocols are now shown as “-”.

- USB:
  - Changed USB VID:PID combination to 0x16D0:0x1441
  - Added support for composite USB devices
  - Added support for USB mass-storage devices
- USB File Transfer app:
  - Allows the device to enter USB mass-storage mode, which allows for file transfer over USB.
  - Added support for the file system.
  - Scene files can be copied to and from the device over the USB mass-storage functionality. General:
  - Extended size of internal parameter storage used for user settings.

Version 1.05

- Flicker Finder app:
  - Allows troubleshooting of DMX installations by monitoring a provided input signal for value changes and signal errors.
  - Selection of active protocol similar to receive app using the routing soft key before running analysis.
  - It is possible to configure a threshold which needs to be exceeded in order to count a channel as “changed”.
  - It is possible to configure a channel range into which to look for changes.
  - Pressing “Start” will run the analysis and capture a reference packet that is used to compare the values of the following packets to.
  - In the run screen, the following statistics are available:
    - “Time”: the total run time of the analysis in H:MM:SS.s.
    - “Time No Signal”: the total time of the analysis without a valid signal in H:MM:SS.s.
    - “Channels Received”: The number of channels received in each packet.
    - “Channels with Changes”: The number of received channels in any packet in the configured range that changed at least by the configured threshold compared to the reference packet.
    - “Signal Errors”: The sum of detected signal errors, meaning UART framing errors or UART noise errors (see report below).

    - The report offers additional details:
        - An overview screen with the content mentioned above. Additionally:
            - Displaying the “Signal Errors” as “Framing Errors” and “Noise Error” where
                - a “Framing Error” is an UART receive error when the stop bits are not received as expected.
                - a “Noise Error” is an UART receive error where the samples of one bit (which should be all high or low) change unexpectedly.
            - “Frame Slot Count Change” is the number of times the slot count of a frame is different from the frame before.
            - “DMX Frame Count” is the total number of DMX frames received.
            - “RDM Frame Count” is the total number of RDM frames received.
            - “Other Frame Count” is the total number of frames received that are neither DMX frames nor RDM frames.
        - The channel screen displays details about the received channels with errors:
            - In the channel screen it displays the “Number of Changes” of that channel, see below:
            - Clicking on a channel reveals further information:
                - “Number of Changes” is the number of packets a channel did not contain the recorded reference value.
                - “Number of Received Values” is the total number of packets containing that channel.
                - “Min Value” is the observed minimum value.
                - “Max Value” is the observed maximum value.
                - “Reference Value” is the reference value taken from the first received packet.
    - An analysis can be paused and resumed at any point by pressing “Pause” or “Resume” respectively.
    - App disregards “Turn Device Off After” setting, so device can be left unattended during the analysis.
    - Pressing “Reset” will stop the analysis and go back to the setup screen.
- Tracer app:
    - Allows to graph up to four different DMX values over time.
    - Selection of active protocol similar to receive app using the routing soft key.

    - Channels can be configured in the app settings menu:
        - Enable or disable the trace of a channel.
            - Disabled channels are shown with a “-” in the app screen below the channel name.
        - Set the traced DMX channel.
            - The currently configured channel is displayed in the app screen below the channel name.
    - The time base can be set to 0.5 s or 1.0 s, settings the horizontal scale of the app screen, allowing to capture for longer or with better resolution.
- Timings app:
    - Improved the screen layout to allow for more information.
    - Renamed the field “Slots DMX” to “DMX Slots”.
        - This field is now properly filtered, i.e. only DMX packets affect the slot count.
    - Rename “Rate DMX” and “Rate RDM” to “DMX Rate” and “RDM Rate” respectively.
    - Add new field “ASC Rate” which shows the rate of alternate start codes, i.e. not `0x00` (DMX) or `0xCC` (RDM).
    - Added a new statistic “MTBS” (“MARK” Time Between Slots) that allows to display the time between the end of the stop bits of the previous DMX data slot to the start of the start bit of the next DMX data slot.
    - Added a new setting “Statistics Mode” affecting the “MBB”, “BRK”, “MAB” and “MTBS” fields:
        - “Average” (default and previous behavior) displays the average of the statistics in a one second window.
        - “Min / Max” displays the minimum and the maximum of the statistics in a one second window.
    - Improved accuracy of measured values.
- Send app:
    - Add protocol indicators to indicate which protocol is currently being sent.
    - Add “Uni” label indicating which universe is currently being sent (if using network protocols).
    - Bug fix: When changing the number of slots packets were sent with a wrong timing.
- Receive app:
    - Add “Uni” label indicating which universe is currently being received (if using network protocols).

- RDM app:
  - Bug fix: Improve behavior for proxied devices that might become unreachable after some time.
- Device Settings:
  - Users can set a name for their device under “Device Name”, which helps to distinguish your device among other devices.
    - Device Name is present on splash screen when device is turned on.
    - Device Name is used for sACN port names and ArtNet long name.
  - “Battery Information” moved into “Device Information”.
- General:
  - All apps now have a “Restore Defaults” menu item in their settings that allows to only restore defaults for the current app.
  - Sub-menus are now indicated by a “>” symbol.
  - Bug fix: Fix a non-critical regression introduced in V1.04 which put the RS-485 but to idle during the mark before break. Affected were send app, RDM app and node app.

Version 1.04

- Send app:
  - It is now possible to set the “Edit Mode” in the send app settings:
    - “Normal” (default): A value set to a channel is persistent.
    - “Sticky Value”: A value set to a channel is restored to its previous value when switching to another channel. Similar behavior to the XMT-350 “Direct Mode”.
  - Bug fix: The increment / decrement in percentage mode now works properly.
  - Improvement: “Address” is renamed to “Channel” and “Level” to “Value”.
- Receive app:
  - Improvement: “Address” is renamed to “Channel” and “Level” to “Value”.
- RDM app:
  - Device menu has an improved response time.
  - The device screen is restyled and allows for longer strings.
  - The device settings menu, giving access to additional PIDs:
    - The device settings menu is available through pressing down when in the device screen.
    - The device settings menu will issues GET requests for all PIDs in the menu.

- The PIDs that can be set also have an editor appropriate for the PID.
  - For PIDs containing only one value, the SET request is sent when the PID editor is closed.
  - For PIDs containing multiple values, the SET request is sent when the menu displaying all values is closed.
- The displayed PIDs depend on the setting “Supported PID Filter” in the RDM settings menu:
  - “Enabled” (default): Only PIDs a device reports as supported are displayed.
  - “Disabled”: All PIDs are displayed. Unsupported PIDs are displayed as “N/A” in the menu and SET requests will report the `NACK_REASON` from the device.
- Support for the following PIDs:
  - Product Information
    - `BOOT_SOFTWARE_VERSION_ID` (`0x00C1`)
    - `BOOT_SOFTWARE_VERSION_LABEL` (`0x00C2`)
    - `DEVICE_INFO` (`0x0060`)
    - `DEVICE_LABEL` (`0x0082`)
    - `DEVICE_MODEL_DESCRIPTION` (`0x0080`)
    - `FACTORY_DEFAULTS` (`0x0090`)
    - `MANUFACTURER_LABEL` (`0x0081`)
    - `SERIAL_NUMBER` (`0x00D3`)
    - `SOFTWARE_VERSION_LABEL` (`0x00C0`)
  - DMX512 Setup
    - `DMX_FAIL_MODE` (`0x0141`)
    - `DMX_PERSONALITY` (`0x00E0`)
    - `DMX_PERSONALITY_DESCRIPTION` (`0x00E1`)
    - `DMX_STARTUP_MODE` (`0x0142`)
    - `DMX_START_ADDRESS` (`0x00F0`)
  - Power/Lamp Settings
    - `BURN_IN` (`0x0440`)
    - `DEVICE_HOURS` (`0x0400`)
    - `DEVICE_POWER_CYCLES` (`0x0405`)
    - `LAMP_HOURS` (`0x0401`)
    - `LAMP_ON_MODE` (`0x0404`)
    - `LAMP_STATE` (`0x0403`)

        - `LAMP_STRIKES` (`0x0402`)
    - Display Settings
        - `DISPLAY_INVERT` (`0x0500`)
        - `DISPLAY_LEVEL` (`0x0501`)
    - Dimmer Settings
        - `CURVE` (`0x0343`)
        - `CURVE_DESCRIPTION` (`0x0344`)
        - `DIMMER_INFO` (`0x0340`)
        - `MAXIMUM_LEVEL` (`0x0342`)
        - `MINIMUM_LEVEL` (`0x0341`)
        - `MODULATION_FREQUENCY` (`0x0347`)
        - `MODULATION_FREQUENCY_DESCRIPTION` (`0x0348`)
        - `OUTPUT_RESPONSE_TIME` (`0x0345`)
        - `OUTPUT_RESPONSE_TIME_DESCRIPTION` (`0x0346`)
    - Configuration
        - `DEVICE_UNIT_NUMBER` (`0x0656`)
        - `PAN_INVERT` (`0x0600`)
        - `PAN_TILT_SWAP` (`0x0602`)
        - `SHIPPING_LOCK` (`0x0650`)
        - `TILT_INVERT` (`0x0601`)
    - Control
        - `CAPTURE_PRESET` (`0x1030`)
        - `IDENTIFY_MODE` (`0x1040`)
        - `IDENTIFY_TIMEOUT` (`0x1050`)
        - `POWER_OFF_READY` (`0x1051`)
        - `POWER_ON_SELF_TEST` (`0x1044`)
        - `POWER_STATE` (`0x1010`)
        - `PRESET_PLAYBACK` (`0x1031`)
        - `RESET_DEVICE` (`0x1001`)
    - Sensors
        - `SENSOR_VALUE` (`0x0201`)
        - `SENSOR_DEFINITION` (`0x0200`)
- Support for RDM sub-devices:
    - When a RDM device reports sub-devices, the sub-devices will be displayed when entering the device settings menu.

        - One can choose between editing the root device, all sub-devices or the selected sub-device.
    - Support for patching:
        - The device menu features a new soft button: Patch.
        - The Patch button will open a new window where the DMX start address of devices can easily be edited.
    - Support for DMX in the RDM data stream.
        - It is now possible to also send DMX from the RDM app.
        - This can be enabled in the RDM app settings under “DMX Output”.
            - The “RDM Only” (default) option will only send RDM.
            - The “DMX Low” option will send a DMX packet every 50th frame.
            - The “DMX Med” option will send a DMX packet every 15th frame.
            - The “DMX High” option will send a DMX packet 3rd frame.
        - The source of the DMX values can also be chosen:
            - The “DMX Input” (default) option will use the DMX values from the DMX Input.
            - The “Send App” option will use the DMX values from the send app.
    - Support for sorting the device menu:
        - The sorting can be set in the RDM app settings under “Sort Devices by”:
            - “Natural” (default) sorts the devices by the order of their discovery.
            - “Model” sorts the devices by manufacturer and model ID.
            - “DMX Address” sorts the devices by the DMX start address.
- Node app:
    - Now a standard app, feature package is no longer required.
- Cable Test app:
    - Fix false positives for rare cases with the DMX and RJ45 dongle.
- General:
    - String editor:
        - Improve scrolling behavior.
        - Copy and paste can no longer paste more than the maximum allowed string length.
        - Validity check is reset properly when reopening.
    - Number editor: Support for negative numbers (when in range).
    - Bug fix:
        - Fix an issue where in rare cases a button press could be acted upon twice.
    - Improvements:
        - Display updates should be smoother and with less artifacts.

        - Firmware version is displayed in bottom right of the splash screen.
        - Battery charging screen turns off display after the time set with “Reduce Display Brightness After” power setting has elapsed.
    - Feature packages:
        - Feature packages are removed.

Version 1.03

- Receive app:
    - Table view is now available as display mode.
    - Graph view is no longer displaying a zero value as a red bar but as a grey bar instead. Current cursor position is shown with a green bar below.
    - Configurable source timeout (available in advanced settings).
    - Currently selected address is now stored persistently.
    - Bug fix: Fixed an issue of protocols being displayed as valid if no longer present.
    - Bug fix: Fixed an issue where a protocol was displayed as valid if previously sent by send app.
- Send app:
    - Allow setting of sACN priority.
    - Currently selected address is stored persistently.
    - Moved some settings into an advanced sub menu.
- Routing screen (send and receive app):
    - The routing screen has been reworked for better usability.
    - The screen now allows access to the input or output configuration depending on context (send or receive app).
    - Protocols can now be selected by pressing left and right and confirming with OK.
    - The universe can now be changes by pressing Up or Down.
        - Optionally long pressing OK goes into a cursor edit mode which allows easier edits for bigger jumps.
- RDM app:
    - Identify can now be toggled with a function key.
    - Full discovery at app start up can now be aborted.
    - Bug fix: Identify should now be cleared properly when closing the RDM app or when turning off the device.
- Node app (additional feature package):
    - With the node app the device can be used as a two-port node.
    - Art-Net and sACN are supported.

    - Both XLR ports can be used as input or output ports.
    - For the output mode, the node app supports:
        - Refresh rate: Max and relaxed.
        - Merge modes: HTP, LTP, Off.
        - Failure behavior: DMX Hold, Off.
- Cable Test app:
    - For the ETH dongle tab, the colors can now be switched between T568A and T568B, settable in the cable test settings menu.
- Device Settings:
    - Additional options for turn off time and display brightness reduction.
    - Change order of items: firmware version is before boot loader version now.
    - Firmware version only displays in “major.minor” format. For full version, press OK.
- Web Interface:
    - There is now a web interface available. It can be reached by entering the IP of the device into a web browser.
    - The following features are currently supported:
        - Firmware update: This page allows to update the device’s firmware.
- General:
    - Numeric or selection settings in menus can also be changed by pressing left and right buttons.
    - Improve persistency of settings.

Version 1.02

- USB: Fix issue with WCID support.

Version 1.01

- Receive app:
    - Introduce protocol indicators to display the state of the protocols:
        - When the protocol is disabled, no indicator is shown.
        - When the protocol is enabled but has no signal, it is displayed in grey.
        - If the protocol has valid signal but is not displayed since there is a higher priority protocol, its border turns green.
        - If the protocol has valid signal and is currently displayed, it fully turns green.

    - Introduce graph view:
        - Can be selected in the receive app settings menu.
        - Level is displayed in red if 0.
        - Currently selected channel is highlighted in green.
    - Bug fix: When in receive app, the input signal will always be forwarded to the output port.
- Send app:
    - You can now set the number of slots sent in the send app settings.
- Routing screen:
    - Universe 0 is now allowed.
    - Art-Net and sACN selectors are disabled when the current universe is invalid for the protocol.
- Cable test app:
    - When activating the RJ45 dongle test while there is currently an active ethernet link, there is a new prompt to use the RJ45 dongle.
    - Covering a few more additional connection cases.
- Timings app:
    - Bug fix: When in timings app, the input signal will always be forwarded to the output port.
- General editors:
    - The value field can now be focused and navigated with left and right to move the cursor.
    - Long press on soft-key “Backspace” to clear current value.
    - Long press on hard-key “OK” to accept independent of current position.
    - When closing an editor which has unsaved changes with the “Back” hard-key, a dialog will pop-up.
- IP editor:
    - Additional checks for validity against subnet.
- Battery:
    - Battery indicator in running device now has one additional bar.
    - Charging screen:
        - Improved charging animation to indicate state of charge.
        - Changed text to display state of charge with “Charging” or “Full”.

Version 1.00

- Initial Release.