

Qx Version 3.4.1 release notes

Software downloads are approximately 100 MB and can be found in the Support area of the PHABRIX website currently located at www.phabrix.com/support.asp

Download the .ZIP file. Extract and copy the 'phab_qx_upgrade.bin' file to the root directory of a FAT32 formatted USB stick.

The 'phab_qx_upgrade.bin.md5' file contains the expected md5 hash value for the bin file and should be used to verify its integrity.

Make sure the unit is turned OFF before upgrading.

Insert the USB into the front panel USB port.

Press the start button TWICE in succession. The start button will glow pink when the upgrade procedure begins.

If the button doesn't glow pink then repeat the procedure.

The start button will flash several colours and the fans will be on full throughout the upgrade process.

Please wait approximately 4 minutes as the unit upgrades. It will automatically show the menu screen when complete.

New features in 3.4.1

NMOS IS-04 and IS-05

Switchable 2110-21 analysis on either SFP interface

2110-21 'Network delay offset' renamed to 'Read offset' and allowed to be set negative

2110-21 REST API

AES IO Configuration REST API

ST309 Data and Input Name added to Message Centre

Issues resolved in 3.4.1

2487 Switching audio flows causes audio monitoring to stop

2498 AES passthrough causing shutdown

2569 VNC freezes

2605 In 2110 mode static IP for eth0 causes interface to become unreachable

Known issues

1046 Audio Generator channels not always phase aligned when generating the same frequency

1648 Dolby output over AES needs to be locked to the same reference as the Dolby source

1734 PRBS Cannot determine the received data rate without first receiving SDI

1849 Jitter waveform scaling incorrect in Dual Link 6G standards

2283 Enabling LLDP discovery can cause intermittent PTP locking

2226 100% and 75% Bars show incorrect Y and Cb Levels

New features in 3.3.1

Eye Time Cursors (SDI Stress)

Enable future upgrades via SFTP

Issues resolved in 3.3.1

2277 Jitter performance under pathological conditions

2534 Audio Monitoring channels reset on standard change or loss

2542 Double clicking a preset occasionally causes a Qx reboot

Known issues

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New features in 3.3.0

Ancillary Time Code (S12M-2) In-picture display
608 in 708 Closed Captions multi-language in-picture display
SCTE 104 in-picture display
Safe Areas picture overlay
VCHIP in-picture display
AFD in-picture display
Dual Picture Windows with independent in-picture controls

Issues resolved in 3.3.0

2265 Enabling/Disabling S352 insertion only takes affect on (re)generating
2299 Eye Amplitude and Rise/Fall times sometimes mis-report
2339 Remove invalid test pattern mapping to RGB HDR

Known issues

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New features in 3.2.0

2110-21 analysis
2110 Video Timing Measurement
2110 Margin Measurement
2110 RTP Offset Measurement
PTP vs External Reference Measurement
Dual PIT windows
LLDP Information Window
Source Specific Multicast
Enhanced PTP Config

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2265 Enabling/Disabling S352 insertion only takes affect on (re)generating

New features in 3.1.0

Eye overshoot measurement
AC Eye display
DC offset measurement (calibration required)
Improved jitter Insertion & Analysis performance
Jitter histogram
Additional pathological generator pattern
Generator S352 insertion enable/disable control
USB file manager

Known issues

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Issues resolved in 3.0.1

2127 Mapped HDR Patterns have incorrect chroma
2142 Audio auto-detected parameters are not applied to flow from SFP B
2165 SFP Reclockers sometimes fail to lock with certain SFPs

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New features in 3.0.0

2110 Analysis Boot mode (supports -10, -20, -30, -31, -40 including 'Hitless' -7 Audio and Ancillary data)
ReST API for 2110
Improved SDI Jitter Insertion amplitude range
ReST API for System Timing & PTP

Issues resolved in 3.0.0

1711 Sync bit removal option should not be available for 2022-6
1714 Invalid user test patterns can prolong boot time
1976 CRC Error rate calculation not correct
2042 75% Bars pattern White should be at 100% not 75%
2058 Generator not re-generating video standard on recall of presets
2073 Audio Control Packet inserted on the wrong line in Segmented Frame standards
2074 Audio Data Packet inserted on Line 8 (reserved for switching) in Level A and B
2075 Payload ID inserted on the wrong line in field two in Segmented Frame standards

New features in 2.6.0

Support for Quad HD Standards
Extended Mode support in UHD standards (except Level B)
HDR support in extended modes
Dolby Framing indication
Eye Analysis - Shorth Mean option (SDI Stress)
Eye Analysis - Amplitude Windowing (SDI Stress)
ReST support for Ancillary Status
ReST support for Ancillary Inspector
ReST support for Audio Meters
ReST support for Jitter Insertion (SDI Stress only)

Issues resolved in 2.6.0

1094 Per Sub-Image Decimation feature causes line swap in Picture window when enabled
1720 Ancillary Inspector sample position incorrect if more than one packet on a line (reports sample of previous packet)

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Issues resolved in 2.5.1

1787 Pre-2.5 preset causes qx_server to shutdown upon selection (Qx reboots)
1786 SFP Info windows close immediately if IP licence isn't present

New features in 2.5.0

New Generator window
SDI SFP support HD to 12G
Ancillary Inspector
BNC Rx to Tx passthrough
2022-6 generation phase constant with respect to reference
Audio generator status window
SDI stats window now displays input signal frequency
User test patterns are visible from a connected browser
OP47 closed caption decode and render
AES support added
AES source no longer needs to be monitored
Eye now centered
Nits scale now on the left side of waveform and visible at all sizes
Dataview now included in presets

Issues resolved in 2.5.0

1593 IP Licensed units can now generate 1.5G
1650 Active picture CRC changed no longer reported for static level B
1603 CRC Analysis fixed problem where OK time is reported longer than the last failure time
1531 Qx webpage loading problem fixed
1281 Preset bar now appears after a short delay to prevent accidental presses
1455 Rest API now updates the active cursor position
1483 Improving TIFF file support for user test patterns
1398 Confirmation box added to mode switch to prevent accidental use
1642 Fixed eye amplitude cursor histogram alignment
1660 CRC Analysis rate of errors corrected
1712 Huge numbers of errors in CRC Analysis no longer negative overflow
1685 Eye rise and fall time calculation improved
1425 Setting cursor via REST API now updates Dataview

Known issues

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Issues resolved in 2.4.2

HDMI/SDI Output frequency defaulting to 60Hz on power up
PQ nits scale conversion incorrect for 12-bit and Full Range
SDI input loses lock when source's reference changes
Jitter alignment 1UI Error kick
Multicast media streams cannot be requested in IP 2022-6

New features in 2.4.0

SLOG3 Support in HDR
Additional HDR Test Patterns
Additional 2020 Test Patterns
Waveform right hand Nits scale
User Markers in Waveform and Vectorscope

Issues resolved in 2.4.0

Bouncing Box colour wrong when generating HDR

Known issues

The first use of test patterns: Circle, Multiburst, BowTie, UHD quad Align, after system upgrade will be incorrect, subsequent use will be correct

New features in 2.3.0

Generator: Jitter insertion
Generator: Scrambler enable/disable control
Generator: SDI output copy to unused outputs
Generator: Pathological condition reporting
Generator: 12G and 6G sync bit insertion enable/disable control
Generator: SDI driver pre-emphasis control
Generator: SDI output mute controls
Generator: SDI output A Amplitude control (Note requires SDI A driver recalibration)
Dataview: 12G and 6G sync bit removal enable/disable control
Eye and Jitter: Can show unlocked
Jitter: Sweep control fixed for level B
Analyser - Video Standard: Square division / 2-SI override added
System IO: SDI Cable length measurement added
CRC Analysis: Window redesigned
CRC Analysis: Ignore switch line feature
REST API: Screen capture control
PRBS analysis and generation
Confirmation box on system settings reset
Presets saved between releases

Issues resolved in 2.3.0

Transfer curve and colorimetry overrides moved to the Analyser - Video Standard window
Transfer curve and colorimetry overrides no longer affect Jitter and Eye
Eye and jitter infinite mode now reset on signal rate change
Eye and jitter locking improved
6G Ancillary data generation, corruption fixed
Sync bit insertion now applied to ADF headers
SFP information reading fixed
HLG CIE chart equation now using 2100-1 (used to be 2100-0)

C position payload ID now not stated as required for 6G standards
C position payload ID missing now considered a warning for 3G-A standards

New features in 2.2.0

Bouncing box support in Generator
Screen capture
VNC remote control
HLG support in HDR
Diffuse white markers in waveform
ReST API documentation
Active picture CRC
PSF standards support
System presets
Audio monitor via SDI Out

Issues resolved in 2.2.0

1003 Sub-menus cause random crashes
1093 Cursor limits incorrect in Lvl B
1115 Network & Automation reports incorrect IP address & out of date DNS/Gateway
1137 Audio meters can display old dataview
1144 Audio meters show value from wrong subimage
1147 ReST API custom audio channel range should be 0-31 not 0-32
1148 Active picture cursor and source cursor conversions cause recursive looping
1154 ST337 (Dolby) detection is updated from wrong subimage
1203 VNC & REST Setting does not persist overs a software upgrade or apply default settings
1215 Can't access audio volume context menu from touch screen
1260 Expired temporary Qx IP licence causing system reboots

Known Issues

797 720p23.98/24 video standard not working

New features in 2.0.1

32 Channel Audio Generator
Audio Generator full standards support
Audio generation over REST API
CRC Errors over REST API
Cursors linking Picture, Dataview, and Waveform

Issues resolved in 2.0.1

Total number of issues resolved: 75

Including:

716 Missing 352 packet from an interlaced field causes continuous standard relock (use ignore 352 packets to avoid this)
732 Interlaced video modes, when displayed full screen skip a field
806 Issues with Stream produced by SDI Memory reader for Quad-link 3G Level B Square Division standards
894 Unable to downgrade to previous software version via USB stick
908 Vectorscope - All RGB standards with i and q patterns show their vectors are above i and q lines
1007 Qx unstable when high jitter/unstable inputs are connected
1008 No audio output on HDMI or breakout board
1012 Qx not being able to detect external SDI 3GA signal
1014 CRC Analysis tool time running is not continuous - leaps up by 1 day at 8am every morning

Known Issues

797 720p23.98/24 video standard not working

New features in 1.0.3

HDR Waveform PQ Nits scale
HDR PQ test patterns
HDR licensable option
CIE chart, P3, Whitepoint
Vectorscope PQ and 2020 targets
Vectorscope colourbar targets label positioning improved
False colour overlay added to picture
REST API for remote control and automation
User driven driver recalibration
CRC Errors renamed to CRC Analysis
CRC Analysis frame change detection added

Issues resolved in 1.0.3

496 System IO window "Ext Ref" input renamed and system reference info removed
889 Audio Monitor Volume says 50 in GUI but is defaulting to 0
900 Power Cycling the Mains loses the preset
921 System Settings and About menu dull even at full Brightness

New features in 1.0.2

Generator output timing control
Dataview: Add analysis of interlaced modes, level B
Analyser and generator 4x 3G level B 2-SI support
Enhanced eye calibration precision
Reference Locking & Input Timing against Reference

Issues resolved in 1.0.2

724 Resize of the Analyser - Configuration window vertically to a size smaller than its minimum (dynamic) causes a crash
761 Time zone change alters CRC Errors running time
788 [SRX00697] Delay between SDI and HDMI outputs. Intermittent. Causes luma and chroma shift on SDI output
801 System IO Reference Table doesn't respond to brightness changes
880 Generator and analyser buffers overlap
884 Generator dialog gets stuck on screen
891 [SRX00869] Pathological Pattern values reversed compared to Sx & Rx (non-standard, but still valid)
892 Level A Square division alignment not correct on picture preview

New features in 1.0.1

Unified visual theme
Extended colour mode standard support
Reference locking (frame locking)
12G & 6G pathological patterns
Additional video standards (widescreen, 4x 3G Level B SQ & 2SI)
ToolBar redesign
Waveforms
Vectorscope
Additional 12 bit & 10 bit test patterns
Audio monitoring (via HDMI/Analogue Out)

Jitter noise floor improvements

Issues resolved in 1.0.1

- 807 RGB blanking should be 40h
- 804 Jitter ADC calibration occasionally mis-calibrates, causing higher than expected jitter
- 756 Brightness adjustment does not affect menus and is lost on power off
- 723 Qx reboots when dataview active on change from progressive to interlaced
- 702 Ancillary Status doesn't work for Level B
- 650 Downgrade with USB Stick failing

Known Issues

- 826 3G Level A SQ vertical line appears on waveform in single line enabled mode in blanking.
- 822 3G Level B SQ to 3G Level A, SQ line accross waveform - blanking issue.
- 779 Analyser - Dataview not supported in all standards
- 777 Analyser - Picture missing end of test pattern in 2048 and 4096 pixel standards
- 761 Time zone change alters CRC Errors running time
- 701 Vertical blanking shown above picture in level B
- 916 Unit restarts when using control menus (rare)
- 934 Colour pickers can be drawn offscreen when opened in the bottom right corner