



PHABRIX®
broadcast excellence



QX
UHDTV

PHABRIX QX

UHDTV1 / 4K & UHDTV2 / 8K Generator, Analyzer, Monitor

Designed as a complete solution for testing the new UHDTV formats, the PHABRIX Qx features the very latest technology in a new 'future-proof' platform targeted at broadcasters and manufacturers looking for a comprehensive test and measurement solution. The key differentiator of this new instrument is its ability to provide simultaneous generation and analysis tools on signals with up to 48Gbps payloads offering both video and audio instruments.

The Qx comes complete with support for HD-SDI, 3G-SDI, 6G-SDI and 12G-SDI as standard. Two base models are available: one complete with physical layer analysis and one without.

Incorporating the 'World's first' real-time 12G-SDI physical layer analysis tool-set with automatic SMPTE compliance measurements, the PHABRIX Qx enables comprehensive testing for both UHDTV1/4K and UHDTV2/8K infrastructures. Importantly the PHABRIX Qx can present measurements for both overshoot and undershoot along with eye height, rise time and fall time - compulsory when verifying SMPTE compliance and a key differentiator with Qx technology. With an analogue front end bandwidth in excess of 30 GHz, the Qx is perfect for 12G-SDI eye and jitter testing.

The PHABRIX Qx supports both generation and analysis of UHDTV signals simultaneously - a must have for closed loop testing and a standard feature on the Qx. The low noise floor of the Qx generator sets a benchmark standard for quality testing of the new standards.

With 4 x 12Gbps BNC inputs and 4 x 12Gbps BNC outputs the platform is able to support UHDTV standards up to 4320P60. In addition two fully connected SFP+ cages provide support for both 12Gbps optical SDI SFPs and 10GbE SFPs for the testing of IP based infrastructures. A range of format options will be available including SMPTE 2022-6.

The Qx is controlled using an intuitive user interface consisting of mouse, keyboard and 1920x1080 HDMI and SDI instrument outputs. The all new client/server based Qx GUI provides up to 16 simultaneous scalable instrument windows backed by a powerful preset mechanism.

On first release the Qx is focused on support for manufacturers requiring a sophisticated tool set for test and measurement of UHDTV. The Qx is based on FPGA design enabling 'in the field' upgrades of this rapidly developing product.

Support for HDR (High Dynamic Range), WCG (Wide Colour Gamut), HFR (High Frame Rate) and the advanced object based audio formats will be provided as the standards develop.

All registered PHABRIX Qx units come with a 1 year warranty. Additional 3-5 year extended warranty is available.



FEATURE HIGHLIGHTS

- ALL NEW TECHNOLOGY PLATFORM
- UHDTV TEST & MEASUREMENT
- UHDTV1 / 4K SUPPORT UP TO 2160p120
- UHDTV2 / 8K SUPPORT UP TO 4320p60
- AUDIO (SUPPORTING UP TO 128 CHANNELS)
- 12GBPS COPPER AND FIBRE (SFP) SUPPORT
- 4x 12G-SDI IN, UP TO 48GBPS PAYLOADS
- 4x 12G-SDI OUT, UP TO 48GBPS PAYLOADS
- GEARBOX/COPY/SWITCHED OUTPUT
- LINUX CLIENT/SERVER ARCHITECTURE
- TIMECODE BASED LOGGING
- 20 SCALABLE INSTRUMENTS
- 99 LAYOUT PRESETS
- HDMI 1.4 INSTRUMENT OUTPUT
- SDI INSTRUMENT OUTPUT
- 10/100/1000 ETHERNET CONTROL
- KVM CONTROL

OPTIONS

- REAL TIME EYE/JITTER ANALYSIS TO 12Gbps
- 10 GbE SFP OPTION FOR SMPTE ST 2022-6

PHYSICAL

- H: 1U (1.75", 4.4 CM), W: 1/2 RACK WIDTH (8.25", 21 CM), D: 10.5", 27 CM
- WEIGHT 4 LBS, 1.8 KG

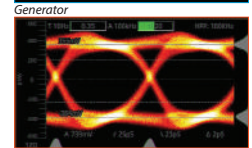
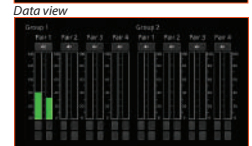
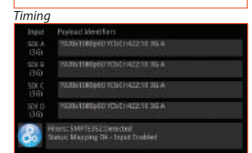
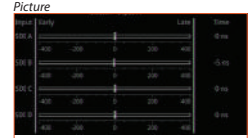
*Specifications and features described herein are subject to change without prior notice. Please see www.phabrix.com for the latest data

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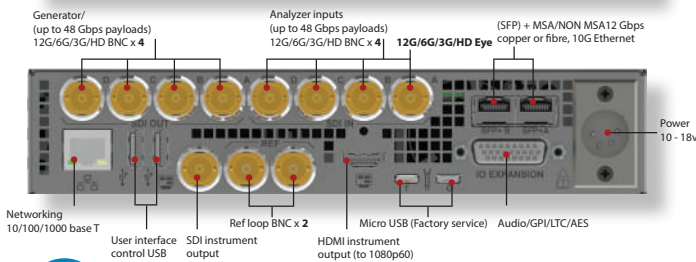
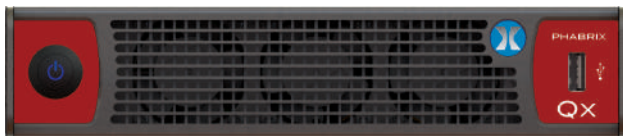


SAMPLE TOOL SET



Real time Eye pattern up to 12G-SDI

| DESCRIPTION | QX 01 | QX 01E |
|-----------------------------------------------------------------------------------------|-------------------|-------------------|
| Format agnostic, future proof chassis | • | • |
| HD-SDI, 3G-SDI, 6G-SDI, 12G-SDI as standard | • | • |
| Physical layer tool-set RTE™ | | • |
| INPUTS - ANALYSER | | |
| 4 x SDI: HD-SDI, 3G-SDI, 6G-SDI, 12G-SDI 75 Ohm terminated BNC | • | • |
| 12 Gbps eye input x 1 (SDI input A) BNC | | • |
| SFP+ MSA/NON-MSA 12 Gbps copper or fibre SDI, 10 G Ethernet | • | • |
| OUTPUTS - GENERATOR | | |
| 4 x SDI: HD-SDI, 3G-SDI, 6G-SDI, 12G-SDI 75 Ohm BNC | • | • |
| SFP+ MSA/NON-MSA 12 Gbps copper or fibre SDI, 10 G Ethernet | • | • |
| REFERENCE | | |
| 2 x 75 Ohm BNC high impedance looping reference input, tri-level or B&B with cross lock | • | • |
| AUDIO | | |
| 4 x 75 Ohm AES selectable I/O (26 pin high density 'D' Type socket) | • | • |
| 1 x Stereo analogue audio output (26 pin high density 'D' Type socket) | • | • |
| 8 channel 48kHz PCM audio on HDMI and SDI Instrument output | • | • |
| Internal loudspeaker | Beeper | Beeper |
| TIMECODE | | |
| LTC (26 pin high density 'D' Type socket), VITC (REFERENCE), ATC (SDI) | • | • |
| USER INTERFACE | | |
| HDMI 1.4 instrument output, 1920 x 1080, 4:4:4 RGB, Type A | • | • |
| SDI instrument output, 1920 x 1080, 4:2:2 YUV, BNC 75 Ohm | • | • |
| Front panel USB 2.0 + 2 x rear panel USB ports, type A socket | • | • |
| 8 x bi-directional GPI (26 pin high density 'D' Type socket) | • | • |
| NETWORKING | | |
| 10/100/1000 base T | • | • |
| SERVICE | | |
| Micro USB service connection x 2 | • | • |
| UPGRADE | | |
| FPGA firmware/software upgrade via Ethernet/USB | • | • |
| OPTIONS | | |
| Desktop mounting kit - feet | • | • |
| 19" Rack mount | • | • |
| 10.5"/9.5" Rack mount | • | • |
| ENVIRONMENTAL | | |
| Power consumption | 30W typical -70W | 35W typical -70W |
| 4 Pin XLR power connector, 12V nominal (10V-18V) | • | • |
| AC Power adapter (included), 90-264VAC, 120W | • | • |
| Dimensions (width x height x depth) excluding projections | 253 x 44 x 211 mm | 253 x 44 x 211 mm |
| Weight | 1.9 kg | 1.9 kg |
| Warranty (1 year standard increased to 3 - 5 years with Extended Warranty package) | • | • |



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PHQX - MPX -2016

PHABRIX UHDTV-SDI VIDEO PAYLOADS

| | Pixels | Lines | Frames | 10b 4:2:2 / 4:2:0 (Gbps) | 10b 4:4:4 (:4) (Gbps) | 12b 4:4:4 (Gbps) | 12b 4:2:2 (:4) (Gbps) |
|-----------|--------|----------|------------|--------------------------|-----------------------|------------------|-----------------------|
| UHDTV2/8K | 7680 | 4320 | 120/119.88 | 80 [8] | 160 [16] | 160 [16] | 160 [16] |
| | 7680 | 4320 | 100 | 67 [8] | 133 [16] | 133 [16] | 133 [16] |
| | 7680 | 4320 | 60/59.94 | 40 [4] | 80 [8] | 80 [8] | 80 [8] |
| | 7680 | 4320 | 50 | 34 [4] | 67 [8] | 67 [8] | 67 [8] |
| | 7680 | 4320 | 30/29.97 | 20 [2] | 40 [4] | 40 [4] | 40 [4] |
| | 7680 | 4320 | 25 | 17 [2] | 34 [4] | 34 [4] | 34 [4] |
| UHDTV1/4K | 3840 | 2160 | 120/119.88 | 20 [2] | 40 [4] | 40 [4] | 40 [4] |
| | 3840 | 2160 | 100 | 17 [2] | 34 [4] | 34 [4] | 34 [4] |
| | 3840 | 2160 | 60/59.94 | 10 [1] | 20 [2] | 20 [2] | 20 [2] |
| | 3840 | 2160 | 50 | 9 [1] | 17 [2] | 17 [2] | 17 [2] |
| | 3840 | 2160 | 30/29.97 | 5 [1] * | 10 [1] | 10 [1] | 10 [1] |
| | 3840 | 2160 | 25 | 5 [1] * | 9 [1] | 9 [1] | 9 [1] |
| 3840 | 2160 | 24/23.98 | 4 [1] * | 8 [1] | 8 [1] | 8 [1] | |

[12G links required] *single link at 6Gbps

48Gbps payloads are in development and will be licensed

- UHDTV2/8K 48G payload (Planned future option)
- UHDTV1 48G payload (Planned future option)
- UHDTV1 12G payload (Standard)