VISLINK

Receiver

Quantum

IP-Native Wireless Camera Receiver

Vislink's Quantum is an IP-native, high-performance RF receiver which enables production teams to fully implement remote production systems, increasing production efficiencies and allowing event operations teams to use their staff and resources more productively. By delivering content directly over IP fibre networks and cutting out additional video compression stages, Vislink's Quantum receiver can remove additional equipment CAPEX costs and increase video quality.

Video production organizations can now benefit from utilizing enhanced IP capability to offer new services. Quantum provides in-built SRT capability to contribute video over the unmanaged internet, enabling event production to be achieved at a fraction of the connectivity costs and making delivery of new content financially viable. Quantum significantly extends the number of RF inputs on a wireless camera receiver to 16—enabling wider area coverage and more robust RF reception through sophisticated MRC and Packet switching technology.

With IP connectivity at the heart of the Quantum receiver, content creators can fully modernize their networks to deliver high-impact wireless camera images and simplify the infrastructure required to bring that content home. Built for both remote production and on-site live event coverage, not only is Quantum capable of moving compressed video around all-IP environments, but it is also a SMPTE2110 device which can enable more efficient operational workflows for video production environments as they also evolve to next generation IP architectures.

Key Features

- Dual Channel Receive
- Diversity LMS-T, DVB-T, ISDB-T and DVB-T2 reception with up to 16x RF inputs
- 4K UHD and HD decoding with HDR support
- HEVC and MPEG-4 video decode compression technology
- Dual service HEVC HD Decode
- IP transport stream input and output with SMPTE 2022-2, SRT and NDI support
- Instantaneous Data to Decision Makers

Typical Applications

- Live event onsite coverage
- Remote production event coverage
- Central receive applications
- ENG applications

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Quantum Receiver:

Technical Specifications	
RF Parameters	
RF Input	4x UHF inputs implementing MRC Diversity reception per demodulator card. Up to 4x demodulator cards can be fitted per Quantum, with packet switching diversity between demodulator cards
Frequency Band	70MHz -10GHz** Use in conjunction with the L3025 Vislink series Down-Converters QANT-ASSY-5030 demodulator: 70MHz to 860MHz QANT-ASSY-5031 demodulator: 470MHz – 862MHz
Frequency Selection	Manual selection & 16 pre-set channels
Demodulation	Dependant on hardware Demodulator Module fitted. • LMS-T • DVB-T • ISDB-T* • DVB-T2 * Licensed option on Quantum
Demodulation Modes	• **LMS-T:** - Modulation: QPSK, 16QAM - FEC: 2/3 - Guard interval: 1/8, 1/16 • **DVB-T:** - Modulation: QPSK, 16QAM, 64QAM - FEC: 1/2, 2/3, 3/4, 5/6, 7/8 - Guard interval: 1/4, 1/8, 1/16, 1/32 • **ISDB-T:** - Modulation: QPSK, 16QAM, 64QAM - FEC: 1/2, 2/3, 3/4, 5/6, 7/8 - Guard interval: 1/4, 1/8, 1/16, 1/32 • **DVB-T2:** - Modulation: QPSK, 16QAM, 64QAM, 256QAM - FEC: 1/2, 3/5, 2/3, 3/4, 4/5, 5/6 - Guard interval: 1/4, 1/8, 1/16, 1/32
Data Rate	• **LMS-T:** 2.90 to 46.8 Mbit/s (bandwidth & modulation dependent) • **DVB-T:** 4.98 to 31.7 Mbit/s (bandwidth & modulation dependent) • **ISDB-T:** 4.89 to 30.9 Mbit/s (bandwidth & modulation dependent)
Bandwidth	• **LMS-T:** 3 / 4 / 5 / 6 / 7 / 8 / 10 or 12 / 14 / 16 / 20 MHz with two carrier density • **DVB-T:** 6 / 7 / 8 or 12 / 14 / 16 MHz with two carrier density • **ISDB-T:** 6 / 7 / 8 MHz • **DVB-T2:** 1.7 / 5 / 6 / 7 / 8 MHz
FFT Size	• **LMS-T:** 512K • **DVB-T:** 2K • **ISDB-T:** 2K • **DVB-T2:** 1K/2K
Receiver Threshold	-92dBm to BER 2.2x10-4th (nom. QPSK)

Video and Audio Parameters	
Video Decoder Profiles	• **HEVC (H.265) UHD, HD & SD** - Main, Main 10, Main 4:2:2 10 - 4:2:0/4:2:2 8/10 bit up to 4K UHD p60 • **MPEG-4 AVC (H.264) HD & SD** - Main, High, Baseline up to Level 5.2, High 10/High 4:2:2 • **MPEG-2 (H.262) HD & SD** - 4:2:0 8 bit, up to 1080i60
Video Outputs	4 SFP+ module slots supporting electrical and optical interfaces Each supports 4x HD SDI Video inputs: • **4x 3G SDI up to 1080p 50/60** - 4x SDI SMPTE-259M - 4x HD-SDI SMPTE-292M - 4x 3G-SDI SMPTE-424M • **2x 6G SDI up to 4K UHD p25/30** - 2x 6G-SDI SMPTE-2081 • **12G SDI up to 4K UHD p50/60** - 1x 12G-SDI SMPTE-2082
Video Formats	• 480i @ 29.97 • 576i @ 25 • 720p @ 50, 59.94, 60 • 1080i @ 50, 59.94, 60 • 1080p @ 23.98, 24, 25, 29.97, 30, 50, 59.94, 60 • 1080psF @ 23.98, 24, 25, 29.97, 30 • 2160p (UHD) @ 23.98, 24, 25, 29.97, 30, 50, 59.94, 60
HDR	• HLG • S-Log • PQ
Latency	Single frame (4K UHD/1080p)* * End to end latency including RF, with HCAM Tx.
Decode Outputs	• Single decode up to 4K UHD • Dual decode up to 3G-SDI
Frame Sync	• CVBS Black & Burst • Tri-level sync
Audio Outputs	• 4x embedded audio over SDI / HD SDI / 3G SDI / 12G SDI • 2x analogue audio stereo pair
Audio Decoding	• AAC (AAC-LC & HE-AAC) • MPEG-1 (Layer 1 & Layer 2) • Linear PCM Passthrough
Scrambling	
Decryption	• BISS-1 • BISS-E • AES 128 & 256 Bit • AES Bcrypt 128 & 256 Bit

Transport Stream Processing	
ASI	• **Input** - DVB-ASI • **Output** - DVB-ASI
PIDs	PIDs user configurable
IP Input	• UDP / RTP / RTSP / SRT (Up to 100Mbit/s) • SMPTE2022-2 ProMPEG FEC • SRT
IP Output	• UDP / RTP / RTSP / SRT (Up to 100Mbit/s) • SMPTE2022-2 ProMPEG FEC • SRT
User Data	• Serial dual user data (RS232 / RS485 / TTL) • Ethernet dual user data (TCP / UDP)
User Interface	
User Interface	• Touchscreen with push-wheel controlled front panel • Ethernet control via internal webserver
Physical Connectors	
Connectors	• **Main Video Output:** 2x SFP+ module slots supporting electrical and optical interfaces: - 4x 3G SDI out - 2x 6G SDI out - 1x 12G SDI out • **Monitor Video Output:** 2x SFP+ module slots supporting electrical and optical interfaces: - 3G SMPTE 2110 Encapsule - 4x 3G SDI out • **SMPTE ST210 Output:** 2x SFP cages supporting: - 4K UHD SMPTE 2110 (HW option required with Quantum) • **ASI:** - Input: 75 Ω BNC (F) - Output: 75 Ω BNC (F) • **GenLock:** - 75 Ω Micro BNC (F) • **Audio:** - 2x 5-Pin Lemo • **Return data:** - 2x 15-way HD D-Type • **Ethernet Transport Stream & Control:** - 1 x WAN port, RJ45 10/100/1000 - 3 x LAN port RJ45 10/100/1000
Flexibility and Power Supply	
Voltage range	100 – 240VAC;
Power Consumption	Up to 230W (approximate, depending on configuration)

Licenses	
Optional Licenses	• QANT-LICE-0003 - 4K UHD Decode • QANT-LICE-0004 - Dual Service HEVC Decode • QANT-LICE-0005 - ISDB-T Demod • QANT-LICE-0006 - Dual Demod & Decode • QANT-LICE-0008 - Dual Demod • QANT-LICE-0015 - AES Decryption • QANT-LICE-0019 - Channel De-Bonding
Physical & Environmental	
Size and Weight	• **Size:** - (H) 44mm x (W) 430mm x (L) 404mm [427mm including SFPs] - (H) 1.7" x (W) 17" x (L) 15.9" [16.8" including SFPs] • **Weight:** - 4.5kg (approximate, depending on configuration)
Environmental	• **Operating Temperature:** 0˚C to 50˚C (32˚F to 122˚F) • **Humidity:** 95% long term
Hardware Options	
Hardware Options	**Quantum Chassis:** • QANT-ASSY-7000 - Quantum Transport Stream Processor (no demod or decode) • QANT-ASSY-7008 - Quantum Decoder HD HEVC **Quantum Modules:** • QANT-ASSY-5030 - Quantum Hardware Demodulator Module – 4 Input LMS-T, DVB-T & ISDB-T • QANT-ASSY-5031 - Quantum Hardware Demodulator Module – 4 Input DVB-T2 • QANT-ASSY-UK01 - Quantum Hardware Option - 4K ST2110

Notes:

- Some features specified are available via optional licenses.
- Not all decoder interface options are concurrently available.
- We reserve the right to change specifications at any time without prior notice.

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