

IQHIP10

3G/HD/SD-SDI Hyperion Intelligent Processor Module

The IQHIP10 is a sophisticated monitoring module for multichannel playout facilities that continuously and automatically provides analysis and alarm reporting of signal content including video, audio and metadata verification to ensure that legal and technical obligations are met. With delivery of video thumbnail images and audio level monitoring, the IQHIP10 can provide a secondary manual level of confidence that content is correct at both internal and remote locations. The IQHIP10 can be integrated with all major video display wall processors and through the RollMap Network Management system or via SNMP to other vendors' control and monitoring systems.

The IQHIP10 from Grass Valley is an advanced monitoring module with revolutionary Hyperion content QC capability. Hyperion is designed to continuously and automatically monitor signal content providing verification of whether legal and technical obligations are being met and to provide guidance as to whether the content is within the required parameters to be considered as valid. Video factors such as motion level within the content — as well as the amount of darkness and amount of picture color — are monitored. Audio factors reported include Dolby D/E or PCM audio presence, likeness and level information such as Silent, Quiet, Loud and Overload.

Picture regions can be monitored to allow for animated logos and on-screen graphics such as news tickers. Alarm thresholds can all be adjusted allowing profiles to be set by the user for different material types (genres).

Content may be tracked through the broadcast chain by the insertion and reading of SMPTE UMIDs or Internal House Number, title and duration metadata. This data can be used to track content, verify that the correct content is being transmitted and even count the frames of duration for every piece of content to ensure contractual obligations are being met. For ingest applications, timecode information can also be interpreted and stamped on any Hyperion alarms to enable efficient location of QC alarms.

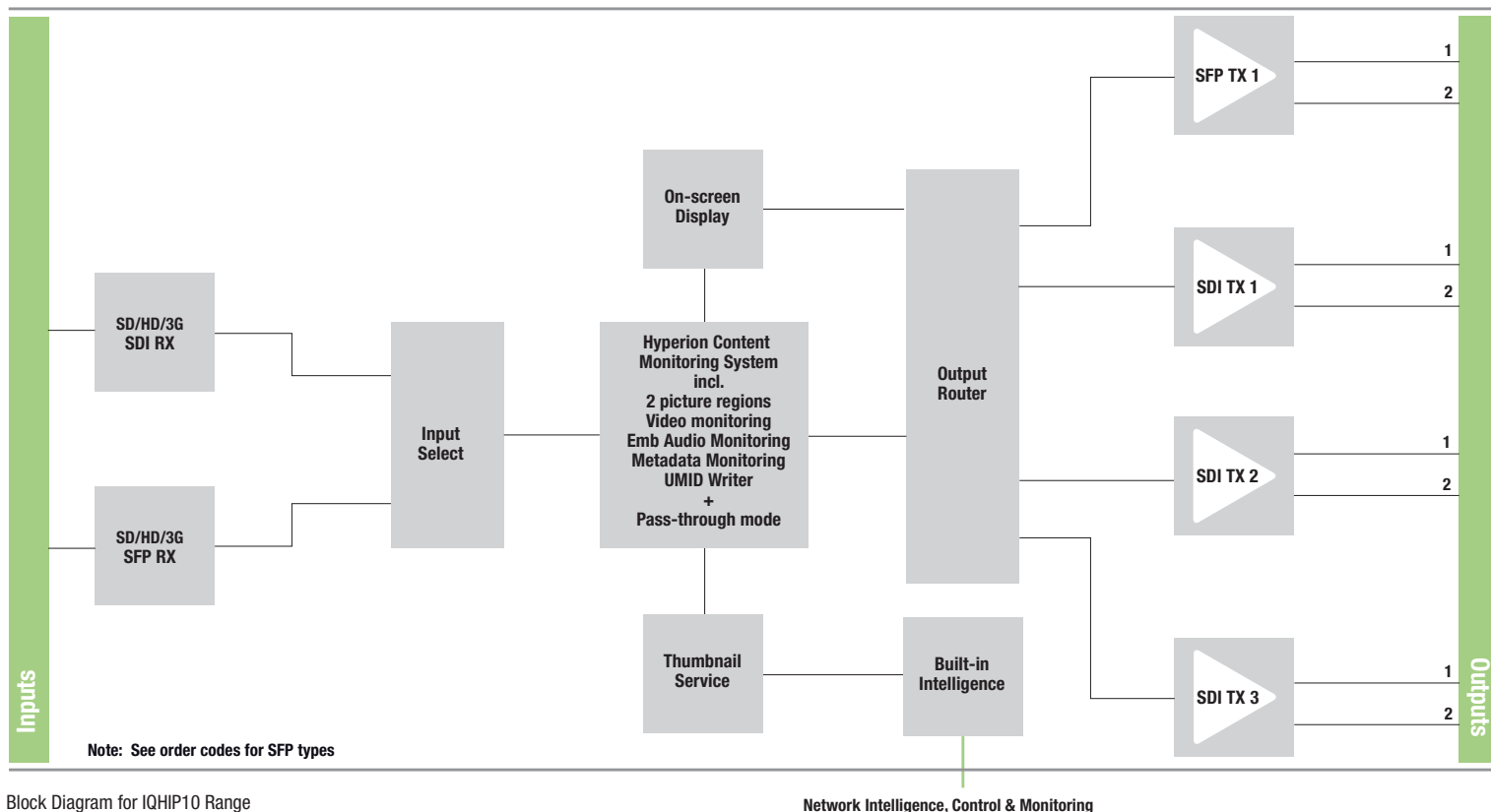
For remote content identification, delivery of video thumbnail images and audio level monitoring provide a secondary manual level of confidence that content is correct at both internal and remote locations. All alarms from this product can be integrated into major video display wall processors to streamline alarm reporting and reported through the RollMap network management system or via SNMP to other vendors' control and monitoring systems.

Why should you choose this module?

- Sophisticated Hyperion content quality management tools allow true assessment of the value of the signal, not just presence, ideal for unmanned and lowmanned operations
- Reporting of all detected alarms via RollMap Infrastructure Management System or via SNMP to other vendors' control and automation systems
- Hyperion alarm data integrates with all major video display wall processors to streamline alarm reporting in playout facilities
- Fiber optic interfacing allows extended transmission distances for 3 Gb/s and HD-SDI signals
- Full RollCall and SNMP compatibility allows easy integration with Grass Valley or third-party network management systems, providing an all-inclusive monitoring and control solution

KEY FEATURES

- Intelligent 3G/HD/SD-SDI processing module with integrated Hyperion QC monitoring
- Dedicated monitoring outputs with OSD for Hyperion audio/video alarms and audio level meter information
- Automated content QC, suited to:
 - Multichannel playout facilities and complimentary monitoring of high value content
 - Automated ingest processes including timecode logging for accurate location of Hyperion alarms
 - Remote location monitoring such as business continuity sites and unmanned teleport facilities
- Real-time content QC against genre profiles ensures any on-air issues are identified with minimal potential impact on revenue, such as scheduling errors or dropped frames on commercial content
- Remote monitoring over TCP/IP via video thumbnails
- Legal and technical validation of signal including detection and reporting of closed captions, content advisory rating, XDS program data
- Automated ingest QC significantly increases throughput efficiency over manual QC processes
- Standards supported:
 - 625/25i, 525/29i
 - 720/50p, 1080/25i
 - 720/59p, 1080/29i
 - 1080/50p, 1080/59p Level A
- Single SFP cage version suitable for fiber optic transmitter and receiver options, DIN or HD-BNC SDI input or outputs, and HDMI output option for local monitoring



Block Diagram for IQHIP10 Range

Network Intelligence, Control & Monitoring

SPECIFICATIONS

Inputs and Outputs

Signal Inputs

Electrical:

- 3 Gb/s SDI, SMPTE ST 424
- 1.5 Gb/s HD-SDI, SMPTE ST 292
- 270 Mb/s SDI, SMPTE ST 259-C

Connector/format: BNC/75Ω panel jack on standard Grass Valley connector panel

Input cable length:

- Up to 80m Belden 1694A @ 3 Gb/s
- Up to 140m Belden 1694A @ 1.5 Gb/s
- Up to 300m Belden 1694A @ 270 Mb/s

Note: When using mixed HD and SD inputs, it is recommended that cable lengths do not exceed the HD specification of 140 m.

Fiber Signal Input

Inputs: 1*

Optical: 3 Gb/s HD-SDI, 1.485 Gb/s HD-SDI or 270 Mb/s SD-SDI

Connector/format: LC singlemode

Standard: SMPTE ST 297-2006

Signal Outputs

Electrical:

- 3 Gb/s SDI, SMPTE ST 424
- 1.5 Gb/s HD-SDI, SMPTE ST 292
- 270 Mb/s SDI, SMPTE ST 259-C

Connector/format:

- BNC/75Ω panel jack on standard Grass Valley connector panel
- HD/SD-SDI outputs: 7x (1 selectable main or monitoring)

Return loss: >-15 dB to 1.5 GHz, better than -10 dB to 3 GHz

Fiber Signal Output

Optical: 3 Gb/s HD-SDI, 1.485 Gb/s HD-SDI or 270 Mb/s SD-SDI

Connector/format: LC singlemode

Conforms to SMPTE ST 297-2006

Outputs: Up to 2*

Controls

Indicators

- Power: OK (Green)
- CPU: OK (Flashing)
- Content status summary:
 - OK (Green)
 - Warning (Yellow)
 - Error (Red)

Functions

- Pattern select: Black, 100% Color Bars, 75% Color Bars, SMPTE Bars, Tartan Bars, Pluge Ramp, H Sweep, Pulse and Bar, Burst
- Monitor output select: Main/Monitoring (Output pair selectable)
- On-screen display: On/Off (Output pair selectable)

Video:

- Video thumbnails over TCP/IP
- Motion level (Stillish)
- Picture darkness (Blackish)
- CRC/EDH reporting
- Average picture level
- Luma high/low
- Chroma high/low
- Chroma/luma underflow
- Video bit depth
- Black
- Input status
- Input standard
- Freeze detect

Audio:

- Audio presence
- Audio type detection (PCM, Non-PCM, Dolby E, AC3, MPEG audio (SMPTE ST 338))
- Audio bit depth
- Audio level metering
- Audio silence
- Audio quiet
- Audio loud
- Audio overload
- Audio out of phase (Polarity)
- Audio mono/stereo detection

Metadata:

- SMPTE UMID (Insert, Report and Scrub)
- Program ID
- House number watermarking (Insert, Report and Scrub)
- Closed captions detection (CEA608, CEA708)
- Signaling detection (WSS, AFD (incl. SMPTE ST 2016), VI)
- Content advisory rating (XDS, V-chip)
- ANC timecode (720p, 1080i)
- VITC timecode (525, 625)
- User-definable ANC detectors
- Dolby E Guardband reporting
- Timecode logging

On-screen display:

- Picture region configuration On/Off
- Audio level meters
- Audio presence and type
- Content advisory system and rating
- 2x 19-character caption generators
- Timecode display
- Average picture level

User memories: 16x Save/Recall/Rename

*Note: Optical I/O and control dependent on type of SFP module fitted.

SPECIFICATIONS (CONT.)

General Specifications

Electrical

Standards supported:

- 1080/50p, 1080/59p, 1080/60p
- 750(720)/60p, 1125(1080)/30
- 750(720)/59p, 750(720)/50p
- 1125(1080)/29i, 1125(1080)/30p
- 1125(1080)/29p, 1125(1080)/25i, 1125(1080)/25p, 1125(1080)/24p
- 1125(1080)/23p, 525(480)/29i
- 625(576)/25i

Power Consumption

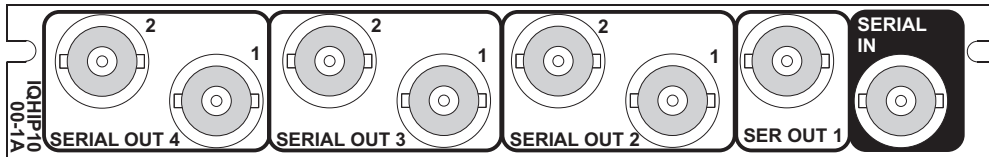
- IQHIP1000-1A3: 12 W max (A frames)
- IQHIP1000-1B3: 11.5 PR (B frames)
- IQHIP1001-1A3: 13 W max (A frames)
- IQHIP1001-1B3: 12.5 PR (B frames)
- IQHIP1003-1A3: 13 W max (A frames)
- IQHIP1003-1B3: 12.5 PR (B frames)

ORDERING

Order Codes for IQH3B Enclosures

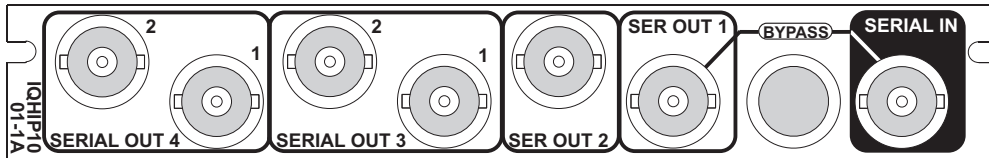
IQHIP1000-1B3

3G/HD/SD-SDI Hyperion intelligent processing and content monitoring module. 7 SDI main or monitoring OSD outputs.



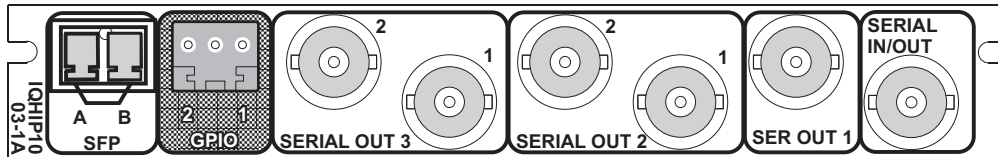
IQHIP1001-1B3

3G/HD/SD-SDI Hyperion intelligent processing and content monitoring module with power fail relay input bypass. 6 SDI main or monitoring OSD outputs.



IQHIP1003-1B3

3G/HD/SD-SDI Hyperion Intelligent processing and content monitoring module. 1 SDI configurable input or output, 5 SDI main or monitoring OSD outputs. 1 SFP cage.



* Older IQH1A and all IQH3A enclosures do not support the B-type rears. Newer IQH1A support both A-type and B-type rears. For more details on enclosure types please refer to the IQ Modular Enclosures datasheet.

Order Codes for IQH3A/1A* Enclosures

IQHIP1000-1A3

3G/HD/SD-SDI Hyperion intelligent processing and content monitoring module. 7 SDI main or monitoring OSD outputs.

IQHIP1001-1A3

3G/HD/SD-SDI Hyperion intelligent processing and content monitoring module with power fail relay input bypass. 6 SDI main or monitoring OSD outputs.

IQHIP1003-1A3

3G/HD/SD-SDI Hyperion Intelligent processing and content monitoring module. 1 SDI configurable input or output, 5 SDI main or monitoring OSD outputs. 1 SFP cage.

Fiber SFP Options

FC1-13T1

Single 1310 nm Tx

FC1-13T2

Dual 1310 nm Tx

FC1-15T1

Single 1550 nm Tx

FC1-15T2

Dual 1550 nm Tx

FC1-R1

Single Rx

FC1-13TR

Transceiver 1310 nm/Rx

FC1-HDBT2

HD-BNC Dual Tx

FC1-HDBR2

HD-BNC Dual Rx

FC1-HDMI2

HDMI Tx with 2m cable

CWDM Tx – Wavelengths available on request

Note: Fiber SFP type must be ordered in addition to the module.