Aligo
4K AV over IP

INTRODUCING ALIGO – INTELLIGENT AVOIP

Aligo, Datapath's AV over IP solution, provides pristine quality 4K content across a 10G network and compressed streams on 10G or 1G infrastructure at the same time, delivering unprecedented quality and flexibility in IP content distribution.

FEATURES

- **Pristine Quality 4K60 Content** - Every source is provided as a visually lossless, zero latency feed over a dedicated 10G network.

- **Flexible Distribution with Simultaneous H264/5 Encoding** - Each source is provided as a H264/5 stream over a 10G or 1G network for storage, distribution over external networks or integration with third-party systems.

- **Powered by Aetria - AV-over-IP Made Simple** - Aligo appliances are fully managed and controlled by Aetria, Datapath's integrated solution for the delivery and management of Pro-AV solutions of any size.

Engineering the **world's best** visual solutions

DATAPATH
EXCELLENCE BY DESIGN

PRISTINE QUALITY WITH DS10G

Aligo's primary 10G channel delivers content using Datapath's proprietary DS10G codec.

- **Engineered for pro-AV applications**: Purpose built for use in professional, mission-critical installations.
- **Quality without compromise:** DS10G delivers visually lossless content, with zero-latency 4K60 intra-frame encoding, optimised for switched distribution over 10Gb networks.
- **Built by Datapath:** Benefitting from decades of video management and processing experience, DS10G has best-in-class signal acquisition, EDID handling, genlocking and mode management.
- **Reliability by design:** Designed for critical applications, DS10G has built-in resilience against bit errors, jitter and dropped packets.

SIMULTANEOUS LIVE STREAMS

Aligo's secondary 1G channel provides a compressed, secure live stream of every input.

- **Flexible distribution over 1G**: Every input is provided as an SQX Livestream encoded as AVC (H.264). This stream can be delivered over the 10G or 1G network.
- **Security first:** Encrypted streams are received only by legitimate users and decoded by pre-authenticated Datapath resources.
- **Configurable external access:** RTSP streams can be configured by admin for remote viewing, archiving, or integration into third-party systems And can be provided without encryption.

RACK MOUNT KITS

Datapath's 6U and 1U rack mount kits support Aligo RX100 (8 HD outputs) appliances. The rack mount kits:

- are made from high quality and robust steel construction.
- contain dual internal independent power supplies with full redundancy (load sharing).
- have PSU failure signalling to external environment monitoring equipment..

NO COMPROMISE STREAM MANAGEMENT

- Aligo always transmits sources to endpoints in 4K. Endpoints that do not support 4K can receive a HD version of a 4K source, whilst other endpoints still get full 4K.
- With a TX100, each 4K link can be used as four independent HD streams, which can be sourced from anywhere within an Aetria system.
- All streams are genlocked to source, maintaining their suitability for IP based video walls.
- AES bitstream encryption is maintained for all primary DS10G and secondary SQX streams.

Datapath's DS10G codec allows a number of options for the flexible routing of video streams when handling mixed HD and 4K sources and displays. It allows customers to comfortably future-proof their project designs by catering for 4K sources and displays whilst still handling HD endpoints. This is done by minimizing the number of network switch ports required without ever compromising quality in any scenario.

POWERED BY AETRIA

Aligo is fully managed and controlled by Aetria, Datapath's integrated solution for the design, management and operation of control rooms of any size.

MODELS AVAILABLE

Order code: ALIGORX100-1 (Aligo RX100 - With PSU. Single AVoIP receiver with four HDMI outputs)

Order code: ALIGORX100-2 (Aligo RX100 - No PSU. Single AVoIP receiver with four HDMI outputs)

Order code: ALIGOQTX100-UK (Aligo QTX100 - Internal PSU. UK mains cable. Quad AVoIP transmitter with four HDMI inputs)

Order code: ALIGOQTX100-EU (Aligo QTX100 - Internal PSU. EU mains cable. Quad AVoIP transmitter with four HDMI inputs)

Order code: ALIGOQTX100-US (Aligo QTX100 - Internal PSU. US mains cable. Quad AVoIP transmitter with four HDMI inputs)

Order code: ALIGOQTX100-AU (Aligo QTX100 - Internal PSU. AU mains cable. Quad AVoIP transmitter with four HDMI inputs)

Order code: ALIGOTX100-1 (Aligo 10G optical KVM AVoIP transmitter, multi-national PSU, 1 SFP+ port, SFP+ modules not included)

Order code: ALIGOTX100-2 (Aligo 10G optical KVM AVoIP transmitter, no PSU, 1 SFP+ port, SFP+ modules not included)

Order code: RMK01 (1U Rack mounting kit, supports 2 units. Compatible with Aligo RX100, TX100, IQS4)

Order code: PSUALIGOIQS4 (SFP+ Tranceiver Module 850nm for Aligo)

Order code: PSUALIGOIQS4 (External Power Supply for Aligo RX100, TX100 and IQS4)

Order code: PSURMK01 (Replacement internal power supply module for Aligo 1U rackmount kit)

QTX100

Quad 4K Transmitter with SQX Encoding

■ Connects up to four HDMI 2.0 inputs (4K60) to your 10G AV network. Can be used in conjunction with a VSN controller to distribute up to 16 independent HD outputs per unit.

■ On-board SQX encoding enables compressed content to be sent over the 10G or 1G network.

■ Low latency KVM is supported for each source via the onboard USB HID interfaces.

SPECIFICATION QTX100

INPUT CONNECTIONS
4 x HDMI: 1 x 2.0, 3 x 1.4

HDCP SUPPORT
HDCP v2.2

HDMI PIXEL CLOCK MAXIMUM
600MHz @ 8-bit 4:4:4

HDMI PIXEL CLOCK MINIMUM
25MHz

TYPICAL RESOLUTIONS, HD STREAM
Up to 150Mpixels/sec, maximum line length 2048
Examples:
1920 x 1080p at 60Hz (SMPTE timings)
1920 x 1200p at 60Hz (CVT-Reduced Blanking)
2048 x 1080p at 60Hz (CVT-Reduced Blanking)

TYPICAL RESOLUTIONS, 4K STREAM
Up to 600Mpixels/sec, maximum line length 4096
Examples:
3840 x 2160p at 60Hz (SMPTE timings)
4096 x 2160p at 60Hz (CVT-Reduced Blanking)

SCAN TYPE
Progressive. Interlaced video not supported

VIDEO SAMPLING FORMATS
[1] – 10,12-bit modes coming soon
RGB 8-bit, RGB 10-bit[1],YCbCr 4:4:4 8-bit, YCbCr 4:4:4 10-bit[1], YCbCr 4:2:2 12-bit, YCbCr 4:2:0[1]

STREAMING CODECS AND PROFILES
DS10G by Datapath (visually lossless & low latency over 10Gb network)
Additional H.264 SQX streaming at source resolution for each port

NETWORK CONNECTIONS
4x 10Gb SFP+ Fiber ports (Lossless streaming interface), Note: Compatible 850nm multi-mode SFP modules are available as a separate accessory
1x 1Gb RJ45 (Control/Management port)
1x 1Gb RJ45 (Media port for SQX streaming)

MULTICAST STREAMING SUPPORT
Each source is available at any number of displays in parallel. Requires IGMPv2 enabled at network switch

MAXIMUM SOURCES PER SYSTEM
At least 220 (UHD), 650 (HD)

AUDIO SUPPORT
Transmit stereo HDMI embedded audio for each input independently routable to multiple sinks. The embedded audio consists of up to four channel pairs encoded in PCM format, up to 96KHz sampling.

KVM SUPPORT
4 x Type-B USB host ports for connecting to a USB host PC
HID device support (keyboard, mouse etc.) independently routable to sink

POWER CONSUMPTION
35W

MECHANICAL
318mm (l) x 176mm (w) x 43mm (h)

WEIGHT
1.8kg

RELATIVE HUMIDITY
5%-90% non-condensing

TX100

Single 4K Transmitter with Quad HD Inputs and SQX Encoding

- Connects a HDMI 2.0 input (4K60) or four HDMI 1.4 (HD) inputs to your 10G AV network

- Supports loop through for local monitoring of a 4K workstation

- On-board SQX encoding enables compressed content to be sent to a 1G network

- Low latency KVM is supported for each source via the onboard USB 2.0 interfaces

SPECIFICATION TX100

INPUT CONNECTIONS
4 x HDMI 1 x 2.0, 3. X 1.4
Supports single 4K input or 4 x HD inputs

HDCP SUPPORT
HDCP v2.2

HDMI PIXEL CLOCK MAXIMUM
600MHz @ 8-bit 4:4:4

HDMI PIXEL CLOCK MINIMUM
25MHz

TYPICAL RESOLUTIONS, HD STREAM
Up to 150Mpixels/sec, maximum line length 2048
Examples:
1920 x 1080p at 60Hz (SMPTE timings)
1920 x 1200p at 60Hz (CVT-Reduced Blanking)
2048 x 1080p at 60Hz (CVT-Reduced Blanking)

TYPICAL RESOLUTIONS, 4K STREAM
Up to 600Mpixels/sec, maximum line length 4096
Examples:
3840 x 2160p at 60Hz (SMPTE timings)
4096 x 2160p at 60Hz (CVT-Reduced Blanking)

SCAN TYPE
Progressive. Interlaced video not supported

VIDEO SAMPLING FORMATS
[1] – 10,12-bit modes coming soon
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STREAMING CODECS AND PROFILES
DS10G by Datapath (visually lossless & low latency over 10Gb network)
Additional H.264 SQX streaming at source resolution for each port

NETWORK CONNECTIONS
1x 10Gb SFP+ Fiber ports (Lossless streaming interface), Note: Compatible 850nm multi-mode SFP modules are available as a separate accessory
1x 1Gb RJ45 (Control/Management port)
1x 1Gb RJ45 (Media port for SQX streaming)

MULTICAST STREAMING SUPPORT
Each source is available at any number of displays in parallel. Requires IGMPv2 enabled at network switch

MAXIMUM SOURCES PER SYSTEM
At least 220 (UHD), 650 (HD)

AUDIO SUPPORT
Transmit stereo HDMI embedded audio for each input independently routable to multiple sinks. The embedded audio consists of up to four channel pairs encoded in PCM format, up to 96KHz sampling.

KVM SUPPORT
4 x Type-B USB host ports for connecting to a USB host PC
HID device support (keyboard, mouse etc.) independently routable to sink

POWER CONSUMPTION
19W : 4 HD In, HD Loop out, 10G, 1G and USB ports active
17W : 4k In, 4k loop out, 10G, 1G and USB ports active

MECHANICAL
205mm (l) x 162mm (w) x 34mm (h)

WEIGHT
1kg

RELATIVE HUMIDITY
5%-90% non-condensing

The TX100 in a 1U rack mount kit will require 2U of rack space to accommodate effective cable management.

4K AV over IP

RX100

Single 4K Receiver with Quad HD Outputs

- ■ Receives either a single 4K or four independent HD feeds.
- ■ VESA mountable behind a screen or desk mountable for use as a remote access station (thin client).
- ■ Keyboard and mouse connectivity is supported for KVM control of sources via the onboard USB 2.0 interfaces.

SPECIFICATION RX100

OUTPUT CONNECTIONS
1 x HDMI 2.0, 3 x HDMI 1.4 full size connectors

HDCP SUPPORT
HDCP v2.2

HDMI PIXEL CLOCK MAXIMUM
600MHz (output 1), 165MHz (outputs 2-4)

HDMI PIXEL CLOCK MINIMUM
25MHz

STREAMING MODES
Single 10Gb network receiver up to 600MPixels/sec
Receive 4K image and display on HDMI2.0 output 1
or
Up to four HD independent streams received and displayed on four HD outputs.

SCAN TYPE
Progressive. Interlaced video not supported.

VIDEO SAMPLING FORMATS
[1] – 10,12-bit modes coming soon
RGB 8-bit, RGB 10-bit[1],YCbCr 4:4:4 8-bit, YCbCr 4:4:4 10-bit[1], YCbCr 4:2:2 12-bit, YCbCr 4:2:0[1]

STREAMING CODECS AND PROFILES
DS10G by Datapath (visually lossless & low latency over 10Gb network)
Additional H.264 SQX streaming at source resolution for each port

NETWORK CONNECTIONS
1 x 10Gb SFP+ Fiber port (Lossless streaming interface), Note: Compatible 850nm multi-mode SFP modules are available as a separate accessory.
1x 1Gb RJ45 (LAN extension port)

MULTICAST STREAMING SUPPORT
Each source is available at any number of displays in parallel. Requires IGMPv2 enabled at network switch

MAXIMUM SOURCES PER SYSTEM
At least 220 (UHD), 650 (HD)

AUDIO SUPPORT
Receive embedded HDMI audio and outputs all channel pairs to display via HDMI cable.
One selectable channel pair routable to the analog line level jack output.

KVM SUPPORT
2 x Type-A USB client ports for connecting HID devices (keyboard, mouse etc.) independently routable to sink

POWER CONSUMPTION
15W

MECHANICAL
205 x 162 x 34 mm, VESA mounting holes for mounting behind a screen
Feet including for desktop mounting.

WEIGHT
1kg

RELATIVE HUMIDITY
5%-90% non-condensing

DATAPATH
EXCELLENCE BY DESIGN