

Makito ONE

Video Transport Platform

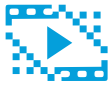


Flexible and Scalable Encoding and Decoding for Broadcast Contribution

Makito ONE is a highly flexible and scalable video transport platform engineered for live production workflows that demand exceptional video quality and ultra-low latency. Purpose-built for the most demanding live broadcast productions, the Makito ONE delivers ultra-low latency encoding and decoding for H.264, HEVC, and JPEG XS workflows. Ideally suited for primary and multi-camera contribution, it supports live video encoding and decoding with 4:2:2 chroma subsampling for accurate color correction and 10-bit processing for wide color gamut and HDR workflows. Support for genlock ensures that every feed stays perfectly in sync for flawless, frame-accurate live production.

Inheriting the award winning Makito blade architecture, each Makito ONE blade features a pair of 12G SDI or 25 Gbps SMPTE ST 2110 interfaces. The system can be deployed as a single blade in a compact desktop chassis, scaled to a 4-blade 1RU rackmount chassis, or expanded to an 18 blade 4RU chassis supporting up to 36 HD/UHD channels. Every channel can be independently configured as an encoder input or decoder output, providing exceptional versatility to meet the needs of a wide range of live broadcast applications.

Featuring video preview thumbnails and real-time performance statistics, the browser-based user interface simplifies monitoring and configuration, while the front-panel touch screen on the multi-blade chassis provides at-a-glance visibility into system status. Regardless of the size or complexity of your live production workflow, the Makito ONE delivers high-quality, low-latency video from any location to any destination.



DUAL-CHANNEL ENCODING/DECODING

Configure two channels of live video encoding or decoding for flexible broadcast productions.



4K VIDEO QUALITY

Process high-quality 4K UHD and HD video with HDR, 10-bit color and 4:2:2 chroma subsampling.



MULTI-CODEC

Encode and decode H.264, HEVC, and JPEG XS video for different broadcast production requirements.



SDI & ST 2110

Available as a dual channel SDI or ST 2110 video processing blade for digital, IP, and hybrid workflows.



ULTRA-LOW LATENCY

Support advanced remote production workflows with ultra-low latency encoding, decoding, and streaming.



GENLOCK SUPPORT

Ensure precise and frame-accurate synchronization for multi-camera productions.



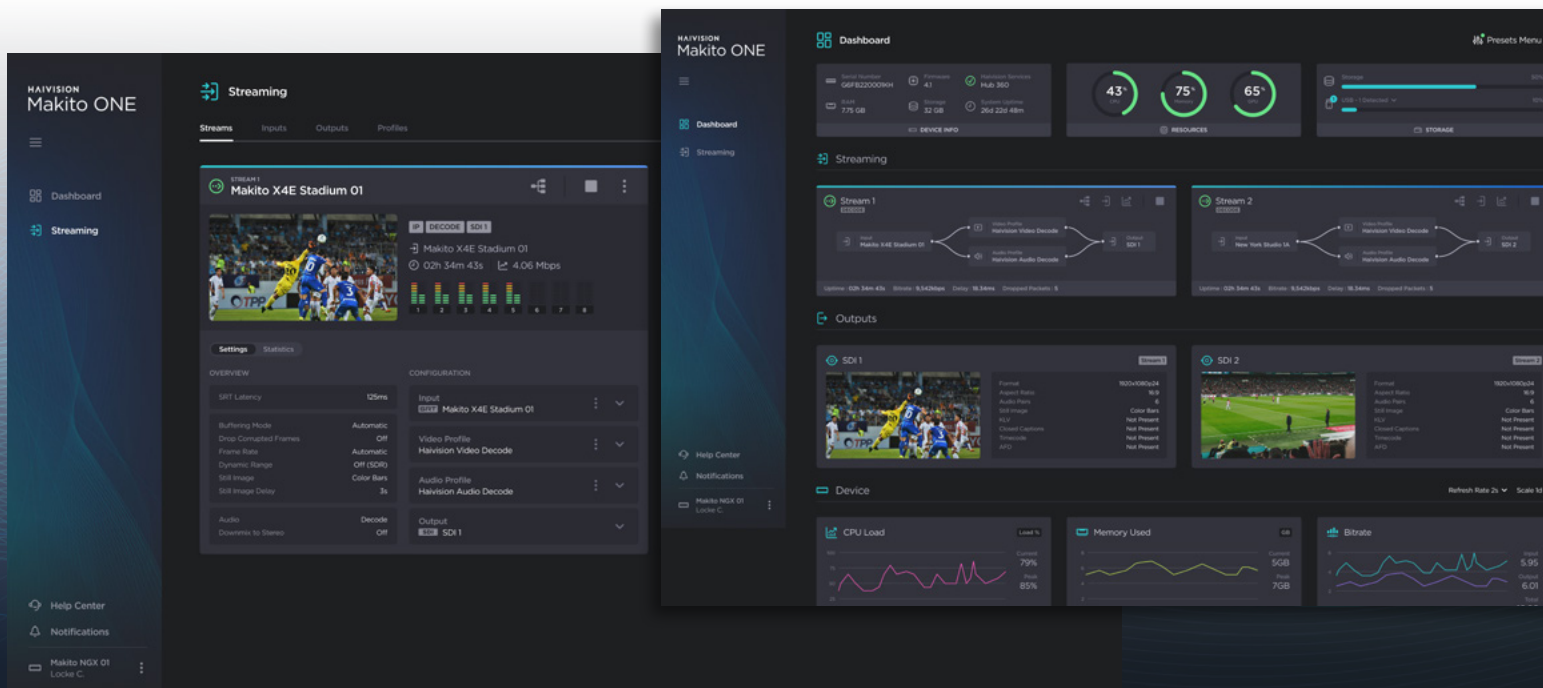
NATIVE SRT

Secure and reliable streaming at low latency with the Haivision SRT protocol.



HAIVISION ECOSYSTEM

Part of the Haivision Ecosystem of Broadcast Contribution products.



VIDEO INTERFACES*SDI (2x mini BNC inputs):*

SD-SDI SMPTE 259M-C

HD-SDI SMPTE 292-1

SMPTE 274M

SMPTE 296

3G-SDI SMPTE 424

SMPTE 425-1 Level A

6G-SDI SMPTE 2081

12G-SDI SMPTE 2082

ST 2110 (2x SFP28 ports):

SMPTE ST 2110 (with 25G SFP28 transceiver)

VIDEO RESOLUTIONS

3840x2160p 60/59.94/50/30/29.97/25 Hz

1920x1080p 60/59.94/50/30/29.97/25 Hz

1920x1080i 60/59.94/50 Hz

1280x720p 60/59.94/50/30/29.97/25 Hz

720x480/576i 60/59.94/50 Hz

VIDEO ENCODING/DECODING*HEVC & H.264:*

8-bit or 10-bit pixel depth

Chroma sub-sampling 4:2:0 or 4:2:2

BT.709 color space and WCG (BT.2020)

SDR and HDR - HLG or PQ (ST 2084)

Configurable Group of Picture (GOP) size

I, IP, IBBP, IBBBP, IBBBBP Framing

Bitrates from 32 Kbps to 120 Mbps*

Configurable frame rate

H.264/AVC Profiles:

MPEG-4 AVC part 10 / ISO/IEC 14496-10

Baseline, Main, High, High 10-Bit and High 4:2:2

Profiles up to Level 5.2

H.265/HEVC Profiles:

ISO/IEC 23008-2

Main, Main 10-Bit, Main 4:2:2 Profiles up to Level 5.1

JPEG XS (ISO/IEC 21122) High Profile:

10-bit pixel depth

4:2:2 chroma sub-sampling

BT.709 color space and WCG (BT.2020)

SDR and HDR - HLG or PQ (ST 2084)

Bitrate up to 2 Gbps *

TR-07 streaming

* max bitrate depends on configuration

AUDIO INTERFACES*Embedded Audio:*

SD-SDI SMPTE 272M

HD/3D-SDI SMPTE 299

AUDIO ENCODING/DECODING*Compression Standard:*

MPEG-2 AAC-LC ISO/IEC 13818-7

Audio Channels:

8 embedded audio sources

Bit Rates:

From 14 to 576 kbps per audio pair

Frequency Response:

From 20 Hz to 22 kHz

METADATA*Input/Output:*

SMPTE 352 payload ID (HDR)

SMPTE 12 timecode

SMPTE 334 closed captioning

EIA/CEA/CTA-608/708 CC pass-through

NETWORKING*Interfaces:*

2x RJ45 10GBASE-T

2x SFP28 (ST 2110 blade)

Streaming Protocols:

MPEG-TS over UDP

MPEG-TS over RTP

Secure Reliable Transport (SRT)

Unicast streaming

Multicast streaming (IGMPv3)

Multiple unicast streaming

Advanced Streaming Features:

AES encryption 128-bit or 256-bit

SRT Latency Control

Forward Error Correction (FEC)

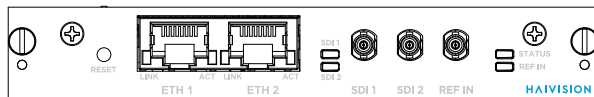
Management:

HTTPS (web browser)

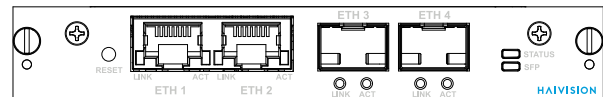
REST API

Haivision Hub 360

Command line over SSH/Telnet



Makito ONE SDI



Makito ONE ST 2110

Makito ONE Product Portfolio & Ordering Information:*

Makito ONE Dual SDI Encoder/Decoder Blade

B-M1ED2-SDI2

Dual ch. H.264/HEVC SDI encoder/decoder with genlock

Makito ONE 2110 Encoder/Decoder Blade

B-M1ED2-2110

Dual ch. H.264/HEVC 2110 encoder/decoder

Makito ONE JPEG XS TR-07 License

SWO-M1-JXS

Dual ch. HD/UHD JPEG XS encoder/decoder upgrade license

Makito ONE 4 Slot Chassis

F-F4-RAC

1RU 4 slot chassis, redundant AC power supplies

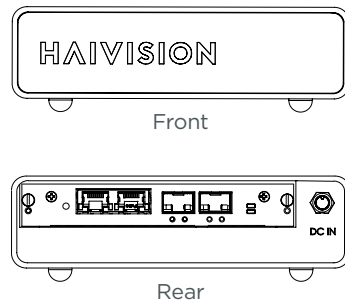
Makito ONE 18 Slot Chassis

F-F18-RAC

4RU 18 slot chassis, redundant AC power supplies

* For complete pricing and ordering, contact us at sales@haivision.com or your certified Haivision reseller.

F1

**F1 SINGLE BLADE APPLIANCE CHASSIS:***Dimensions:*

44mm H x 160mm W x 194mm D
1.75" H x 6.3" W x 7.6" D

Weight:

0.77 kg (1.7 lbs)

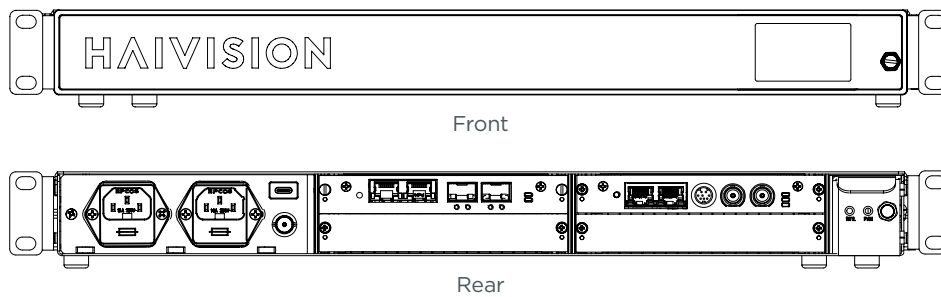
Power:

120/240V AC 60W

Temperature:

Operating: 0° to 50°C (32° to 122°F)
Non-operating: -30° to 70°C (-22° to 158°F)
Humidity: 0-95% non-condensing

F4

**F4 CHASSIS (UP TO 4 BLADES):***Dimensions:*

44mm H x 445mm W x 436mm D
1.75" H x 17.5" W x 17.2" D

Weight:

7.94 kg (17.5 lbs)

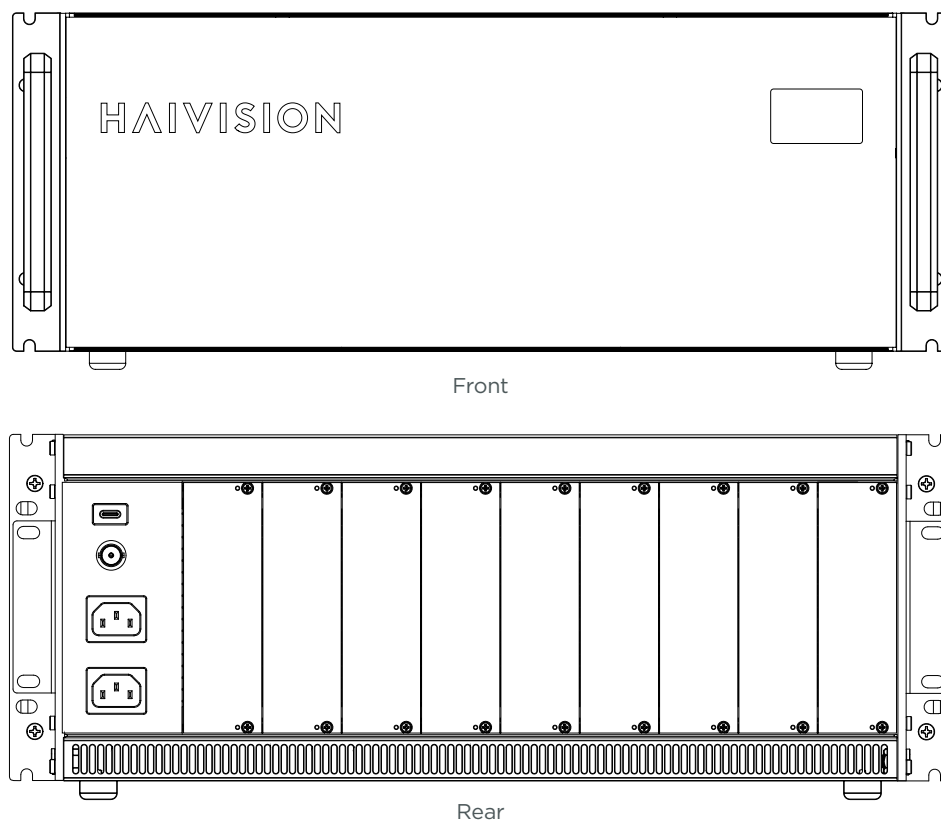
Power:

Redundant power supplies
120/240V AC 300W each

Temperature:

Operating: 0° to 50°C (32° to 122°F)
Non-operating: -30° to 70°C (-22° to 158°F)
Humidity: 0-95% non-condensing

F18

**F18 CHASSIS (UP TO 18 BLADES):***Dimensions:*

177mm H x 445mm W x 462mm D
7" H x 17.5" W x 18.9" D

Weight:

14.5 kg (32 lbs)

Power:

Redundant power supplies
120/240V AC 1300W each

Temperature:

Operating: 0° to 50°C (32° to 122°F)
Non-operating: -30° to 70°C (-22° to 158°F)
Humidity: 0-95% non-condensing