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HAIVISION

Makito X Series

Professional Encoding and Streaming Solutions from Haivision

Haivision's award-winning Makito X series of encoders and decoders enables ultra low latency end-to-end transport of secure, high-quality video, even over unpredictable networks.

Makito X products are available in a broad range of configurations including:

- H.264 and/or HEVC encoding and decoding
- HD-SDI/Composite or DVI input options
- Single, dual, or quad-input channel operation
- Storage options: fixed, removable or without storage
- Compact, ruggedized & fanless operation
- Blades for rackmounting in high density 1RU or 4RU chassis

Makito X H.264 Encoders & Decoders

Haivision's award-winning Makito X H.264 encoder and decoder transports secure, low latency, HD video over any network at extremely low bitrates. And with Network Adaptive Encoding, Makito X ensures your stream plays even when network performance chokes. The Makito X is ideal for live, interactive and bandwidth constrained applications and is available with single channel SDI, DVI and Dual channel SDI configurations.

Stream Sync for Remote Production Multiple Makito X encoders & decoders can be used with synchronized cameras to enable cost-effective and efficient remote production capabilities with multi-channel simultaneous decoding & playback.

Security & Stream Tuning By implementing the Advanced Encryption Standard (AES) protocol within Haivision's SRT, Makito X decoders delivers video content securely and ensures high quality even on congested or unreliable networks. The Makito X decoder provides recovery from packet loss with either forward error correction (FEC) or using SRT with an adjustable receive buffer to tune its performance for various network conditions.





Makito X HEVC Encoder & Decoder

With the Makito X HEVC, you can reduce bandwidth requirements by 50%, while maintaining video quality when compared to H.264. The Makito X HEVC differs from competing HEVC encoders by combining a four engine Makito X H.264 architecture with a dedicated HEVC encoding engine. Makito X HEVC supports existing H.264 workflows, and offers the best-in-class HEVC performance.

HEVC & H.264 Decoding The Makito X HEVC Decoder is a highly-versatile component of any low-latency video workflow. Compatible with the Makito X4 Encoder and capable of decoding streams with 8- or 10-bit pixel depth & 4:2:0 or 4:2:2 chroma subsampling, the Makito X HEVC Decoder supports the most demanding broadcast, defense and enterprise applications.





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Makito X Encoder with Storage

Record High, Stream low The Makito X with Storage is the perfect encoder for situations where bandwidth availability is limited and keeping a high quality master for further review, archiving or post production workflows is necessary. The Makito X with Storage is built with multiple encoding cores, allowing you to stream live video at low bitrates while recording up to two high quality streams directly onto the encoder. Both .ts and .mp4 files are supported.

Fixed and Removable Storage With 250GB (expandable up to 1TB) of either fixed or removable storage, the Makito X with Storage can record up to 5 days at 5Mb/s or 30 hours at 20Mb/s. Removable storage is powered by industry standard 2.5" SATA SSD drives, giving you the option to quickly remove a drive once full, and allowing for content backups regardless of how close you are to your main storage/server facility.

Remote Management The Makito X with Storage can be programmed and controlled remotely through command line, web UI, and SNMP APIs. You can set a time or size limit on the recording segments allowing for easier management of your video files. Simply upload your video from the Makito X with Storage to a USB, SD Card, Haivision Video Cloud, Haivision Media Platform, FTP, or NFS.





Makito X Harsh Encoder & Decoder

Extreme Encoding & Decoding The Makito Harsh Environment encoder and decoder are industrial-grade fanless appliances designed for high operating temperature environments within static deployment applications.

The Makito X series of H.264 encoders and decoders for harsh environments delivers a complete field proven video solution offering confidence, security, and reliability with a mature feature set.





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High Quality
Delivers pristine quality live encoded video, even at low bitrates, making it ideal for Internet or satellite transport of video.

Ultra Low Latency
Ideal in applications where end-to-end latency below 200 ms is required. Respond in real-time to mission-critical video information.

Next-gen Compression
Flexible encoding & compression, adapting to different network environments and applications. HEVC (H.265) options reduce bandwidth by up to 50% compared to H.264.

Remote Production with Stream Sync
Makito X series includes encoder/decoder pairs for any high-performance use case as well as synchronized multi-camera workflows. Provide a cost-effective alternative to deploying large teams of personnel & resources at remote event locations.

SRT
Assures quality-of-service when faced with packet loss, jitter, latency, and fluctuating bandwidth from unpredictable networks.

Secure
Secure end-to-end unicast or multicast video distribution & AES 128/256 bit encryption.

Ruggedized
Fanless chassis option designed for high operating temperature environments. Designed for demanding portable and space-constrained applications.

KLV Metadata
Supports full-motion video requiring STANAG and MISP compliant Key-Length-Value (KLV) metadata.

High Density
Highly flexible deployment from ultra compact appliance to 21 blade (4RU) chassis. Ideal where size, weight and power considerations are critical.

Trusted by Thousands
Used by thousands of organizations worldwide including major broadcasters, media companies, corporations, governments, and defense.

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MB6

MB21

High Density, Flexible, and Scalable Chassis

Designed for high density deployment in server rooms across broadcast, enterprise, universities, and hospitals, the MB series of chassis provide flexible and scalable solutions where rackmount installations are required.

High Density Multichannel Chassis Haivision's encoders, decoders, and gateways are available as single product appliances or as independent mini-blades. For installations where rack mounting is desired, Haivision offers rackmount kits for single and dual-height appliance enclosures, as well as the MB6 and MB21 enclosures, which can contain up to 6 or 21 encoder/decoder blades, respectively, within the single highest density platform available. MB6 & MB21 series enclosures feature redundant power supplies, allow for in-service blade replacement and incorporate fan management circuitry to minimize fan noise. MB series enclosures can be populated with various combinations of Haivision's Makito high performance, HEVC or H.264 encoders, and HEVC or H.264 Makito decoders.

MB1 & MB2 Enclosures Makito X blades can be mounted in lightweight and portable single-height (MB1) or dual-height (MB2) enclosures. The MB2 can contain two single-height encoder or decoder blades, one dual-height encoder or decoder, or both an encoder and a decoder, providing a flexible options for building a portable unit.

MB6 AC, DC and Medical High Density Six-Slot Chassis The MB6 is designed to support fast deployments of Haivision's market-leading encoding/decoding systems in the most space constrained installations. The six-slot chassis can hold up to 6 Makito and Makito X encoders/decoders or Torpedo DVB to IP gateways, in just a single rack unit (1RU), making it the highest density system available. The MB6 is available with either redundant AC, single DC, or medical grade AC power supplies.

MB21X High Density Twenty-One Slot Chassis Designed for high density IP video headends, the MB21 holds any combination of up to 21 Makito X ir X4 products in a 7-inch rack (4RU) and also features replaceable fans and fully redundant power supplies. This high density, cost effective solution has been deployed in headends and server rooms in universities, hospitals, and enterprises worldwide.In addition, the MB21X provides a station alarm interface so as to notify operators when a power supply or fan failure has occurred.

Redundancy Redundant AC inputs and a field serviceable power supply allows the MB21 to continue operating even if an AC input is lost or a Power Supply Unit (PSU) fails. The MB21X dual PSU variant can remain fully operational if a single power supply has failed. With the MB6X-RAC, a single AC input or PSU can fail without affecting the operation of the unit.

Rackmounting Appliances

1RU or 2RU mounting brackets available for mounting one or two Makito or Makito X appliances (single or double height) in machine rooms racks.





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	Makito X Encoders					Makito X Decoders		
	H.264 SDI	H.264 DVI	HEVC SDI	H.264 Harsh SDI	H.264 Harsh DVI	H.264	HEVC	H.264 Harsh
CHANNELS								
Single	•	•	•	•	•	•	•	•
Dual	•		•	•		•	*	•
VIDEO INPUTS								
ANALOG								
Composite NTSC/PAL/PAL-M	•		•	•				
Y, Pb, Pr / RGBHV component analog		•			•			
Y, Cb, Cr / DVI single link component digital		•			•			
SD-SDI								
SMPTE 259M-C	•		•	•				
HD-SDI								
SMPTE 292M	•		•	•				
SMPTE 274M	•		•	•				
SMPTE 296M	•		•	•				
3G-SDI								
SMPTE 424M (Level A Only)	•		•	•				
SMPTE 425M	•		•	•				
6G-SDI								
HDMI 1.4		•			•			
VIDEO OUTPUTS								
SD-SDI								
SMPTE 259M-C						•	•	•
HD-SDI								
SMPTE 292M						•	•	•
SMPTE 274M						•	•	•
SMPTE 296M						•	•	•
3G-SDI								
SMPTE 424M (Level A Only)						•	•	•
SMPTE 425M						•	•	•
HDMI								
HDMI 1.4						•	•	•

* Dual-channel HEVC decode up to 1080p30.

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	Makito X Encoders					Makito X Decoders		
	H.264 SDI	H.264 DVI	HEVC SDI	H.264 Harsh SDI	H.264 Harsh DVI	H.264	HEVC	H.264 Harsh
VIDEO RESOLUTIONS								
HD 1080								
1920x1080p 60/59.94/50/30/29.97/25 Hz	•	•	•	•	•	•	•	•
1920x1080p 24/23.98 Hz	•	•	•	•	•	•	•	•
1920x1080i 60/59.94/50 Hz	•	•	•	•	•	•	•	•
HD 720								
1280x720p 60/59.94/50 Hz	•	•	•	•	•	•	•	•
1280x720p 30/29.97/25 Hz	•	•	•	•	•			
SD								
720x480/576i 60/59.94/50 Hz	•	•	•	•	•	•	•	•
720x480/576p 60/59.54/50 Hz (HDMI/DVI only) interlaced shown in fields per second		•			•	•		•
COMPUTER RESOLUTIONS HDMI/DVI ONLY								
1920x1200 60 Hz 1680x1050 60 Hz 1600x1200 60 Hz 1600x900 60 Hz 1400x1050 75/60 Hz 1440x900 75/60 Hz 1360x768 60 Hz 1280x1024 75/60 Hz 1280x800 85/75/60 Hz 1280x768 85/75/60 Hz 1152x864 75 Hz 1024x768 85/75/60 Hz 800x600 85/75/60 Hz 640x480 85/75/60 Hz		•			•	•		•
VIDEO ENCODING								
VIDEO COMPRESSION								
H.265/HEVC (ISO/IEC 23008-2)			•				•	
H.264 (MPEG-4 AVC part 10 / ISO/IEC 14496-10)	•	•	•	•	•	•	•	•
High Profiles	•	•	**	•	•	•	**	•
Baseline & Main Profiles	•	•	•	•	•	•	•	•
Up to Level 4.2 and lower intermediate levels	•	•	**	•	•	•	**	•
Up to Level 4 (1080p60) (HEVC)			**				**	
I, IP framing	•	•	•	•	•	•	•	•
IBP, IBBP framing	•	•	**	•	•	•	•	•
Configurable Group of Picture (GOP) size	•	•	•	•	•			
Configurable frame rate	•	•	•	•	•	•	•	•
Region of Interest Coding	•	•	**	•	•			
Bit Rates (max bitrate depends on configuration)	32 kbps - 25 Mbps	32 kbps - 25 Mbps	32 kbps - 25 Mbps	32 kbps - 25 Mbps	32 kbps - 25 Mbps			
Rate Control	CBR/VBR	CBR/VBR	CBR/VBR	CBR/VBR	CBR/VBR			

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	Makito X Encoders					Makito X Decoders		
	H.264 SDI	H.264 DVI	HEVC SDI	H.264 Harsh SDI	H.264 Harsh DVI	H.264	HEVC	H.264 Harsh
AUDIO I/O								
AVAILABLE THROUGH A LOCKING MINI-DIN-8 CONNECTOR								
Balanced stereo analog audio	•	•	•	•	•	•	•	•
Unbalanced stereo analog audio	•	•	•	•	•	•	•	•
Talkback	•	•	•	•	•	•	•	•
EMBEDDED AUDIO								
SD-SDI SMPTE 272M	•		•	•		•	•	•
HD/3G-SDI SMPTE 299M	•		•	•		•	•	•
Embedded DVI (encoder only)		•			•			
HDMI 1.4 (decoder only)						•	•	•
AUDIO ENCODING/DECODING								
COMPRESSION STANDARD								
MPEG-2 AAC-LC ISO/IEC 13818-7	•	•	•	•	•	•	•	•
MPEG-4 AAC-LC ISO/IEC 14496-3	•	•	•	•	•	•	•	•
AUDIO CHANNELS								
2 analog audio per blade	•	•	•	•	•	•	•	•
32 embedded audio per blade (SDI)								
16 embedded audio per blade (SDI)	•	•	•	•	•	•	•	•
2 embedded audio per blade (DVI)		•			•			
8 embedded audio per blade (HDMI)						•	•	•
Bit Rates:								
From 56 to 320 kbps per audio pair	•	•	•	•	•	•	•	•
FREQUENCY RESPONSE								
From 20 Hz to 22 kHz	•	•	•	•	•	•	•	•
High precision timecode insertion as per MISB 0604.2	•	•	•	•	•			

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	Makito X Encoders					Makito X Decoders		
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METADATA (OPTIONAL)								
INPUT METADATA								
KLV over SD-SDI/HD-SDI/3G-SDI	•		•	•		•	•	•
KLV or CoT over serial RS-232/422	•	•	•	•	•			
KLV or CoT over UDP/IP	•	•	•	•	•			
METADATA PROCESSING								
CoT to KLV conversion	•	•	•	•	•			
CoT Relay	•	•	•	•	•			
Insertion and KLV edits	•	•	•	•	•			
CC 608/708 pass-through	•		•	•		•	•	•
SMPTE 336M compliant	•	•	•	•	•	•	•	•
MISB 0601.14 compliant	•	•	•	•	•	•	•	•
MISB 0604.2 compliant	•	•	•	•	•	•	•	•
Asynchronous & synchronous modes as per MISB 0604.2	•	•	•	•	•	•	•	•
High precision timecode insertion as per MISB 0604.2	•	•	•	•	•			
STORAGE OPTIONS								
250GB mSATA SSD Fixed	optional	optional						
250GB SATA SSD Removable	optional	optional						
RECORDING OPTIONS								
FILE FORMATS								
TS	optional	optional						
MP4	optional	optional						
Record KLV source metadata in TS format	optional	optional						
FILE SEGMENTS								
File Size	optional	optional						
Time Limit	optional	optional						
AUTO-EXPORT								
FTP Server	optional	optional						
Haivision Media Platform	optional	optional						
Haivision Video Cloud	optional	optional						
ASSET MANAGEMENT								
Copy/Move assets from SSD to NAS, SD or USB devices (SD and USB is specific to the fixed storage option)	optional	optional						
Download assets to your PC	optional	optional						
Browse assets within Makito X with Storage Web UI	optional	optional						
Playback MP4 assets within Makito X with Storage Web UI	optional	optional						
All assets are stored within an EXT4 file system on the SSD	optional	optional						
When connecting the SSD to a Windows/MAC, Paragon software must be used	optional	optional						

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	Makito X Encoders					Makito X Decoders		
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IP NETWORK INTERFACES								
STANDARD								
Ethernet 10/100/1000 Base-T, auto-detect, Half/Full-duplex	•	•	•	•	•	•	•	•
Static IPv4/IPv6/ DHCPv4/v6	•	•	•	•	•	•	•	•
Unicast streaming	•	•	•	•	•	•	•	•
Multicast streaming (IGMP v3, ICMPv6)	•	•	•	•	•	•	•	•
Multiple unicast streaming	•	•	•	•	•			
STREAMING PROTOCOLS								
MPEG Transport Stream over UDP / RTP	•	•	•	•	•	•	•	•
RTMP (IPv4 only)	•	•	•	•	•			
SAP (RFC 2974)	•	•	•	•	•	•	•	•
Secure Reliable Transport (SRT)	•	•	•	•	•	•	•	•
Direct-RTP - H.264 over RTP (RFC 3984)	•	•	**	•	•			
RTSP (For specified devices)	•	•	•	•	•	•	•	•
Connector RJ45	•	•	•	•	•	•	•	•
MANAGEMENT INTERFACES								
STANDARD								
RJ45 to RS-232 (DB-9 Management Cable Req'd.)	•		•	•				
Ethernet	•	•	•	•	•	•	•	•
MANAGEMENT								
HTTPS (web browser)	•	•	•	•	•	•	•	•
Command line over SSH/Telnet/RS-232	•	•	•	•	•	•	•	•
SFTP/TFTP/SCP	•	•	•	•	•	•	•	•
SNMP v3	•	•	•	•	•	•	•	•
Haivision EMS	•	•	•	•	•	•	•	•
ONVIF API	•	•	•	•	•			

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	Makito X Encoders					Makito X Decoders		
	H.264 SDI	H.264 DVI	HEVC SDI	H.264 Harsh SDI	H.264 Harsh DVI	H.264	HEVC	H.264 Harsh
ADVANCED FEATURES								
Network Adaptive Encoding	•	•	•	•	•			
Multi-bitrate (MBR) streaming	•	•	•	•	•			
HD/SD de-interlacing	•	•	•	•	•	•	•	•
Built-in downscaling	•	•	•	•	•	•	**	•
EIA-608-B/NTSC Line 21 closed captioning	•		•	•		•	**	•
EIA-708-B/SDI closed captioning	•		•	•		•	**	•
Forward Error Correction (FEC)	•	•	•	•	•	•	•	•
AES encryption 128-bit or 256-bit with SRT	•	•	•	•	•	•	•	•
Aspect ratio configuration	•	•	•	•	•			
Active Format Description (AFD)	•		•	•		•	**	•
Wide Screen Signaling (WSS)	•		•	•		•	**	•
Timecode (ATC_VITC)	•	•	•	•	•	•	•	•
Selective Mute	•	•	•	•	•			
Talkback	•	•	•	•	•	•	•	•
Color Space Conversion (DVI only)		•			•			
Image Cropping	•	•	•	•	•			
Image Filtering	•	•	•	•	•			
Bi-directional serial passthrough	•		•	•				
Advanced Buffering Control						•	•	•
Still Image Insertion	•	•	•	•	•	•	•	•
Logo Overlay	•	•	•	•	•			
Synchronized playback between decoders						•	•	•

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Software Version

- **Makito X Encoder:** 2.5
- **Makito X Decoder:** 2.5

DoDIN APL Certified

Makito X Encoder and Makito X Decoder is on the Department of Defense Information Network Approved Product List (DODIN APL) under tracking number 2118301.

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Encoders & Decoders

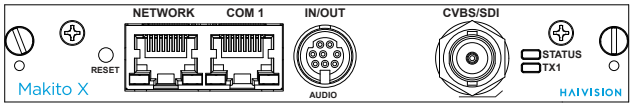
	Makito X Encoders					Makito X Decoders		
	H.264 SDI	H.264 DVI	HEVC SDI	H.264 Harsh SDI	H.264 Harsh DVI	H.264	HEVC	H.264 Harsh
DIMENSIONS (H x W x D)								
Millimeters	24x152x196	24x152x192	44x150x220	44x137x202	44x137x202	24x152x192	44x150x213	44x137x202
Inches	0.94x5.98x7.7	0.94x5.98x7.56	1.7x5.91x7.7	1.73x5.4x8.0	1.73x5.4x8.0	0.94x5.98x7.56	1.7x5.91x7.4	1.73x5.4x8.0
WEIGHT								
kg	1.08	1.08	1.36	1.8	1.8	1.08	1.36	1.8
lbs	2.37	2.37	3	4	4	2.37	3	4
POWER								
Blade/Appliance	12VDC 20W	12VDC 20W	12VDC 25W	12VDC 20W	12VDC 20W	12VDC 20W	12VDC 25W	12VDC 20W
PSU External locking power supply	100-240 VAC 30W	100-240 VAC 30W	100-240 VAC 60W	100-240 VAC 30W	100-240 VAC 30W	100-240 VAC 30W	100-240 VAC 60W	100-240 VAC 30W
APPLIANCE TEMPERATURE								
Operating (°C)	0 to 40	0 to 40	0 to 40	0 to 70	0 to 70	0 to 40	0 to 40	0 to 70
Non-operating (°C)	-30 to 70	-30 to 70	-30 to 70	-40 to 85	-40 to 85	-30 to 70	-30 to 70	-40 to 85
Operating (°F)	32 to 104	32 to 104	32 to 104	32 to 158	32 to 158	32 to 104	32 to 158	32 to 158
Non-operating (°F)	-22 to 158	-22 to 158	-40 to 122	-40 to 185	-40 to 185	-22 to 158	-40 to 122	-40 to 185
HUMIDITY								
%	up to 95% non-condensing					up to 95% non-condensing		

Rackmount Chassis

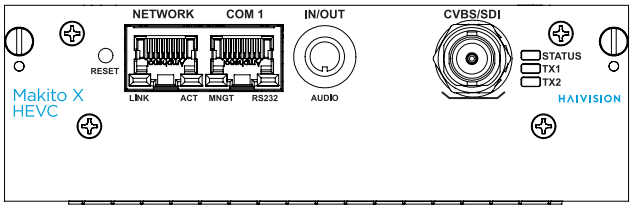
	6 Blade		21 Blade
	F-MB6X-RAC	F-MB6X-DC	F-MB21X-R
DIMENSIONS (H X W X D)			
Rackmount Units	19" 1RU	19" 1RU	19" 4RU
Millimeters	44.07x 440.004 x 420.4	44.07x 440.004 x 420.4	177.29 x 441.35 x 461.92
Inches	1.735 x 17.323 x 16.55	1.735 x 17.323 x 16.55	6.980 x 17.376 x 18.186
WEIGHT – EMPTY CHASSIS			
kg	7.94	7.94	14.52
lbs	17.5	17.5	32
POWER			
Internal Power Supply	90-264 VAC 47Hz-63Hz 300 Watt max	20-36 VDC 300 Watt max	100-240 VAC 47Hz-63Hz 600 Watt max
APPLIANCE TEMPERATURE			
Operating (°C)	0°C to 50°C	0°C to 50°C	0°C to 50°C
Non-operating (°C)	-40°C to 70°C	-40°C to 70°C	-40°C to 70°C
Operating (°F)	32°F to 122°F	32°F to 122°F	32°F to 122°F
Non-operating (°F)	-40°F to 158°F	-40°F to 158°F	-40°F to 158°F
HUMIDITY			
%	up to 95% non-condensing		up to 95% non-condensing

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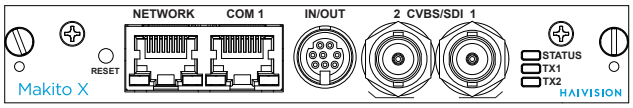
Encoders



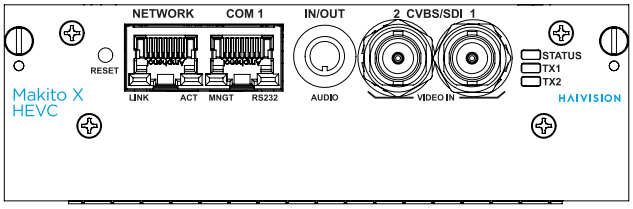
Makito X (Single SDI)



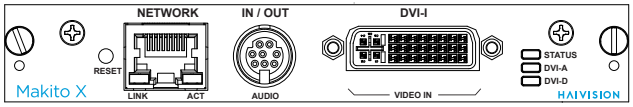
Makito X HEVC (Single SDI)



Makito X (Dual SDI)

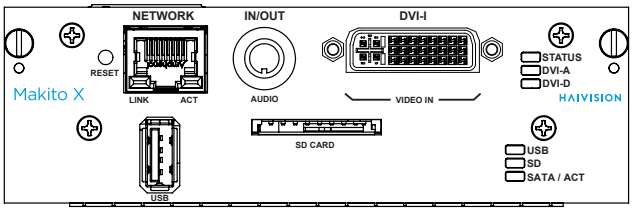


Makito X HEVC (Dual SDI)

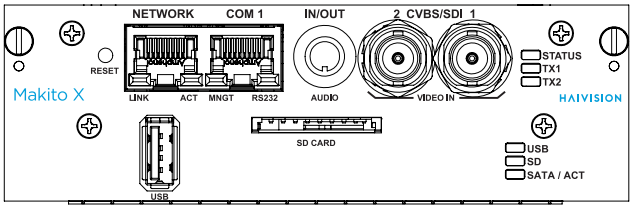


Makito X (DVI)

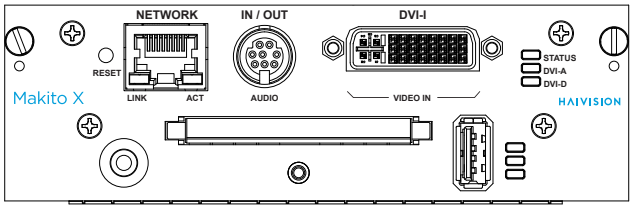
Encoders with Storage



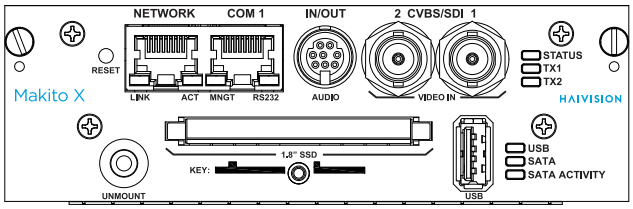
Makito X DVI with Fixed Storage



Makito X Dual SDI with Fixed Storage



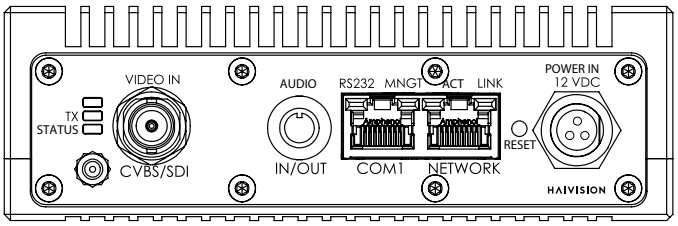
Makito X DVI with Removable Storage



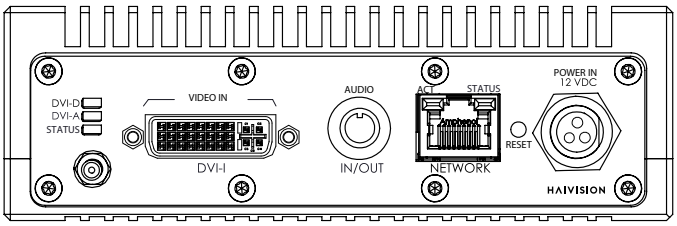
Makito X Dual SDI with Removable Storage

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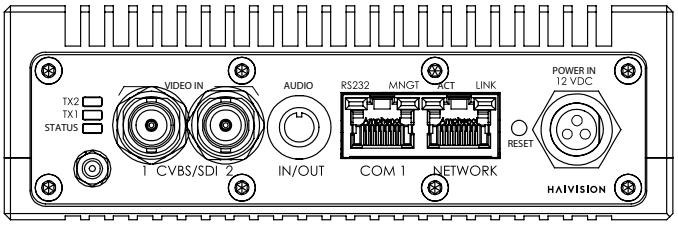
Harsh Environment Encoders



Makito X (Harsh Environment Single Channel SDI)

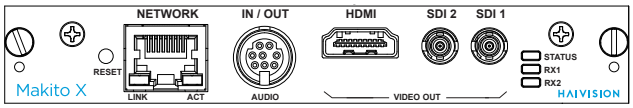


Makito X (Harsh Environment Single Channel DVI)

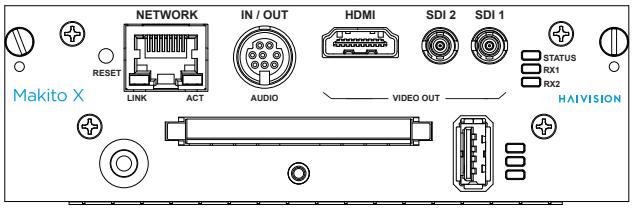


Makito X (Harsh Environment Dual Channel SDI)

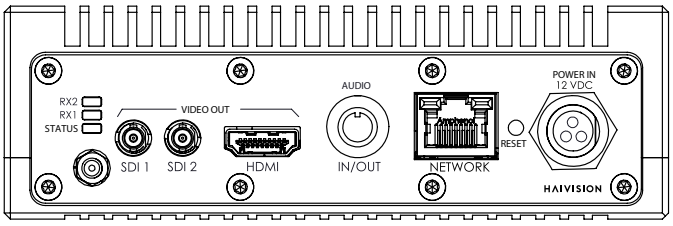
Decoders



Makito X Decoder



Makito X HEVC Decoder (Dual SDI)



Makito X Decoder (Harsh Environment Dual Channel)

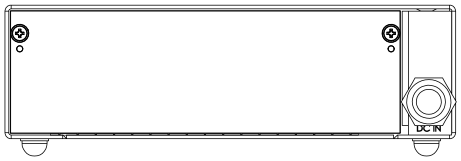
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MB1



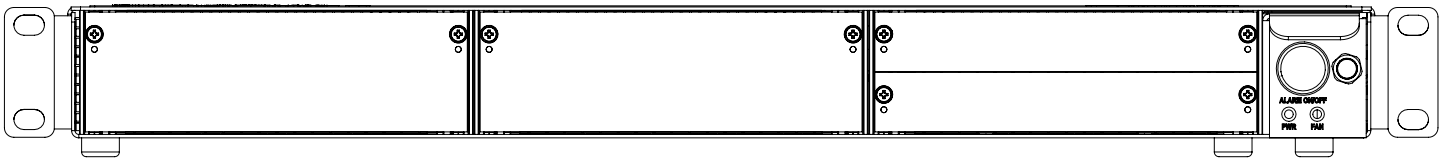
Rear

MB2



Rear

MB6X with DC Power Supply (MB6X-DC)

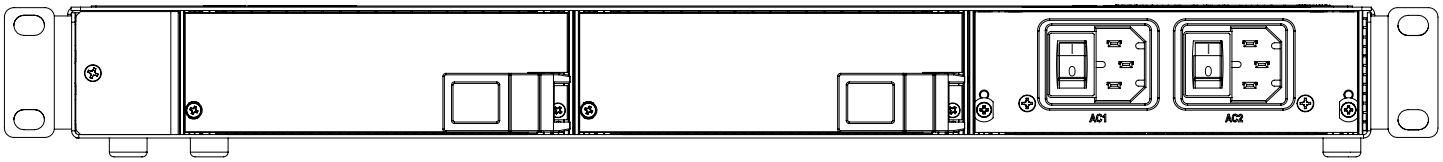


Front (This is the same schematic as for MB6X-DC and MB6X-RAC)



Rear

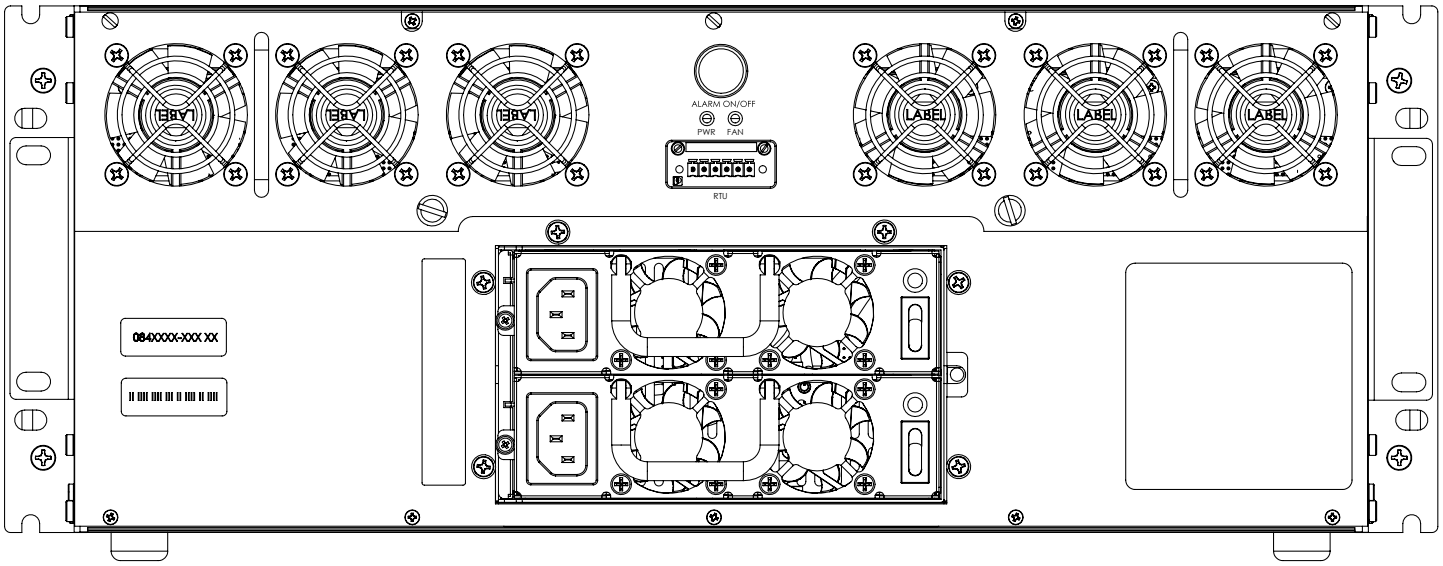
MB6X with Redundant AC Power (MB6X-RAC)



Rear

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MB21X



Rear - With dual power supplies, removable fans, and station alarm interface

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Ordering Information*

Makito X Product Name	SKU	Description
ENCODERS		
Makito X H.264 Single SDI	S/B-292E-HDSDI1	Makito X Encoder Appliance (S) or Blade (B) HD H.264 IP video encoder supporting a single 3G/HD/SD-SDI and Composite
Makito X H.264 Dual SDI	S/B-292E-HDSDI2	Makito X Encoder Appliance (S) or Blade (B) HD H.264 IP video encoder supporting dual 3G/HD/SD-SDI and Composite
Makito X H.264 DVI	S/B-292E-DVI	Makito X Encoder Appliance (S) or Blade (B) HD H.264 IP video encoder supporting a single DVI-I and Component
Makito X HEVC Single SDI	S/B-292E-SDI1-HEVC	Makito X HEVC Appliance (S) or Blade (B) HD HEVC/H.264 IP video encoder supporting a single 3G/HD/SD-SDI or Composite
Makito X HEVC Dual SDI	S/B-292E-SDI2-HEVC	Makito X HEVC Appliance (S) or Blade (B) HD HEVC/H.264 IP video encoder supporting dual channel 3G/HD/SD-SDI or Composite
Makito X Harsh Single SDI	S-292E-X1H	Makito X Single SDI Encoder Appliance for Harsh Environments
Makito X Harsh Dual SDI	S-292E-X2H	Makito X Dual SDI Encoder Appliance for Harsh Environments
Makito X Harsh Single DVI	S-292E-DVI-H	Makito X Single DVI Encoder Appliance for Harsh Environments
DECODERS		
Makito X H.264 Single Decoder	S/B-292D-HD1	Makito X Decoder Appliance (S) or Blade (B) HD H.264 IP Video decoder supporting single channel 3G/HD/SD-SDI and HDMI
Makito X H.264 Dual Decoder	S/B-292D-HD2	Makito X Decoder Appliance (S) or Blade (B) HD H.264 IP Video decoder supporting dual channel 3G/HD/SD-SDI and HDMI
Makito X HEVC Single Decoder	S/B-292D-HD1-HEVC	Makito X HEVC single channel decoder appliance (S) or blade (B)
Makito X HEVC Dual Decoder	S/B-292D-HD2-HEVC	Makito X HEVC dual channel decoder appliance (S) or blade (B)
Makito X Harsh Single Decoder	S-292D-X1H	Makito X Single Channel Decoder Appliance for Harsh Environments
Makito X Harsh Dual Decoder	S-292D-X2H	Makito X Dual Channel Decoder Appliance for Harsh Environments
RACKMOUNT KITS		
21 Slot Chassis with Dual Redundant AC for Makito X Blades	F-MB21X-R	Rackmount 4RU Chassis - Up to 21 Makito X mini-blades, Redundant Dual AC power supply, 100-240VAC 47Hz-63Hz, 600 Watt max.
6 Slot Chassis Redundant AC	F-MB6X-RAC	1RU Rackmount Chassis – Up to 6 Makito/Makito X/Torpedo2 mini-blades, Redundant AC power supply, 90-264VAC, 47Hz-63Hz, 300 Watt max.
6 Slot Chassis DC	F-MB6X-DC	Rackmount 1RU Chassis - Up to 6 Makito/Makito X/Torpedo2 mini-blades, DC power supply, 2-36 VDC, 300 watt max.

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

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- NOTES -

Do you have specific OEM needs?

Contact us: **info@haivision.com** | **1-877-224-5445**

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