HAIVISION

DATASHEET

HAIVISION
Falkon X2



4K UHD Video Encoder and Bonded 5G Transmitter

The Falkon X2 is a ready-to-go mobile transmitter — delivering pristine quality video at resolutions up to 4K UHD with ultra-low latency across both public and private 5G networks. Equipped with two globally compliant 5G modems featuring 2x2 MIMO technology, the Falkon X2 provides secure, dependable connectivity using Haivision's Emmy® Award-winning SST bonded network technology.

Conduct live interviews and follow the action with efficient HEVC and H.264 encoding, HDR, 4:2:2 chroma subsampling, and 10-bit color so that your video always look sharp. Whether you are working over bonded cellular, Wi-Fi 6, Ethernet, or LEO satellite networks, the Falkon X2 keeps ultra-low latency contribution simple and reliable. And with Haivision's SST technology bringing together available networks with adaptive retransmission and forward error correction, you can stay confidently connected even when network conditions are less than ideal.

Easily configure settings with the integrated touchscreen, browser-based user interface, or Haivision Hub 360 appliance management solution. Advanced features including two-way intercom, low-latency video return, and DataBridge for remote camera control, camera shading, and tally support keep your team connected, from field to studio. Available in multiple configurations to match a wide range of workflows, the lightweight design and internal battery provides the freedom to transmit from anywhere. Choose V-mount or Gold-mount for seamless broadcast camera integration, a slim version with shoulder bag for maximum portability, or external antenna connectors for optimized RF performance in vehicles, aircraft, and custom installations. No matter the assignment, Falkon X2 enables you to reliably deliver broadcast-quality video every time.

FEATURES	BENEFITS
4K Video Quality	Encode 4K UHD, HD, and HDR, up to 4:2:2 10-bit, in HEVC and H.264 for premium broadcast productions.
Dual-5G Modems and 2x2 MIMO Antennas	Two high-performance 5G modems and 4 antennas ensure a robust high-bandwidth connection even in unpredictable network environments.
Ultra-Low Latency	Transmit live video over public and private 5G networks with end-to-end ultra-low latency.
Video Return and IFB	Receive a low latency HD return feed via the HDMI output alongside intercom and IFB for real-time collaboration between field and production.
Record & Progressive Forward	Record video while broadcasting live and enable progressive file-forwarding for immediate post-production.
Synchronized Remote Production	Ensure frame-accurate synchronization across multiple transmitters with embedded time stamps in each SST stream.
Remote Camera Control	Remotely control your camera settings and PTZ movement with data bridge.

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VIDEO
Standards:
UHD: 2160p60/59.94/50/30/29.97/25/24/23.98*
HD: 1080p60/59.94/50/30/29.97/25/24/23.98
1080i60/59.94/50
720p60/59.94/50
Encoding:
H.265/HEVC 4:2:0 | 4:2:2, 8-bit | 10-bit
H.264/AVC 4:2:0, 8-bit
SDR and HDR - HLG or PQ (ST 2084)
Dynamic resolution adjustment
Bitrates:
HD: 300 Kbps to 20 Mbps
UHD: 300 Kbps to 80 Mbps
Constant Bitrate (CBR)
Variable Bitrate (VBR)
Inputs:
12G SDI
HDMI 2.0

AUDIO
Encoding:
AAC-LC
Bitrates:
32 Kbps to 256 Kbps
Mode:
Mono, Stereo
Density:
Up to 4 Stereo or 8 Mono
Inputs:
Embedded over SDI
Embedded over HDMI

NETWORK CONNECTIONS
Cellular:
- 2 x 3G/4G/5G world-wide compliant modems
- Sub 6GHz bands
- SA (Standalone) and NSA (Non Standalone)
- Internal high efficiency antennas (2 x 2 MIMO) except with Falkon X2ext
- Add up to two external USB modems or two Haivision Quad CellLink antennas for a total of 8 additional modems

Ethernet:
1 x Gigabit Ethernet port
- LAN, WAN
- Portable satellite terminal (Ka, Ku)

Wi-Fi:
Wi-Fi 6/6E (2.4GHz, 5 GHz and 6 GHz)
- 802.11a/b/g/n/ac/ax
- Internal high efficiency antennas (2 x 2 MIMO)
- Client & Hot Spot modes

Transport Protocol
SST over Cellular/Ethernet/Wi-Fi (bonding)

INTERFACES
1 x 12-G SDI input
1 x HDMI 2.0 input
1 x HDMI 2.0 output for video return
1 x Gigabit RJ-45 Ethernet
2 x USB 3.0 (type-A), 1 x USB 3.0 (type-C)
2 x micro SIM slots
1 x mini jack for IFB/intercom headset
4x SMA connectors (Falkon X2ext model)

ADVANCED FEATURES
Video Encoding:
Video downscaling at a fixed resolution
Streaming:
Sub-second glass-to-glass latency
AES encryption of live broadcasts
IP Data Bridge for remote camera control and tally
Simultaneous live broadcasting and IP traffic (for remote camera control)*
Prioritize Network Links (user configurable)
Video Returns:
Full HD video return with AES encryption
Sub-second latency
Video Recording:*
Recording to internal memory (128 GB)
Standalone or simultaneous recording during live broadcast
Transfer of files during or after recording
User Interface and Operations:
Video and Audio level preview
Remote dynamic latency adjustment during a live broadcast
Automatic Live Start
Intercom:
Intercom/IFB with AES encryption
Bluetooth or wired headset
Metadata:
Closed Captions EIA/CEA/CTA-608/708
SMPTE-12M timecode passthrough
SMPTE-2038 (transparent carriage of ancillary data)
Geolocation (GPS, Galileo, Glonass, and Beidou)

CONTROL & MONITORING
Embedded touch screen
Web UI from any browser
From Haivision Hub 360 and StreamHub transceiver

POWER
Power Supply:
Internal battery for several hours of live broadcast
USB-C input for
- charging the internal battery
- powering the device via an AC/DC adapter (45 W min)
- power the device via a D-TAP cable + external V/G-Mount battery attached to the device.

PHYSICAL
Dimensions (W x H x D):
20,4 cm x 8,3 cm x 11,3 cm (8.02” x 3.26” x 4.46”) with V-Mount
20,4 cm x 7.6 cm x 11,3 cm (8.02” x 3.00” x 4.46”) with Gold Mount
20,4 cm x 5,5 cm x 11,3 cm (8.02” x 2.16” x 4.46”) with no plates
Weight:
1.2 Kg / 2.6 lbs
Operating Temperature:
-5°C to 45°C (23°F to 113°F)

*Ultra models only

Falkon X2 Transmitter Product Portfolio & Ordering Information: *

Several hardware options are available with two feature sets, GO (HD) or Ultra (4K UHD). GO models are software upgradeable to Ultra.

Falkon X2 Ultra, V-Mount, Backpack	S-FX2-ULTRA-V-BPK	Falkon X2 Transmitter - 4K/UHD, 4x5G Modems, V-Mount, Accessories, Backpack
Falkon X2 Ultra, V-Mount, Case	S-FX2-ULTRA-V-CASE	Falkon X2 Transmitter - 4K/UHD, 4x5G Modems, V-Mount, Accessories, Case
Falkon X2 Ultra, Gold-Mount, Backpack	S-FX2-ULTRA-G-BPK	Falkon X2 Transmitter - 4K/UHD, 4x5G Modems, Gold-Mount, Accessories, Backpack
Falkon X2 Ultra, Gold-Mount, Case	S-FX2-ULTRA-G-CASE	Falkon X2 Transmitter - 4K/UHD, 4x5G Modems, Gold-Mount, Accessories, Case
Falkon X2 GO, V-Mount, Backpack	S-FX2-GO-V-BPK	Falkon X2 Transmitter - HD, 4x5G Modems, V-Mount, Accessories, Backpack
Falkon X2 GO, V-Mount, Case	S-FX2-GO-V-CASE	Falkon X2 Transmitter - HD, 4x5G Modems, V-Mount, Accessories, Backpack
Falkon X2 GO, Gold-Mount, Backpack	S-FX2-GO-G-BPK	Falkon X2 Transmitter - HD, 4x5G Modems, Gold-Mount, Accessories, Backpack
Falkon X2 GO, Gold-Mount, Case	S-FX2-GO-G-CASE	Falkon X2 Transmitter - HD, 4x5G Modems, Gold-Mount, Accessories, Backpack
Falkon X2 Ultra, No plates, Shoulder bag	S-FX2-ULTRA	Falkon X2 Transmitter - 4K/UHD, 4x5G Modems, Accessories, Shoulder bag
Falkon X2 Ultra, No plates, Shoulder bag + Case	S-FX2-ULTRA-CASE	Falkon X2 Transmitter - 4K/UHD, 4x5G Modems, Accessories, Shoulder bag
Falkon X2 GO, No plates, Shoulder bag	S-FX2-GO	Falkon X2 Transmitter - HD, 4x5G Modems, Accessories, Shoulder bag
Falkon X2 GO, No plates, Shoulder bag + Case	S-FX2-GO-CASE	Falkon X2 Transmitter - HD, 4x5G Modems, Accessories, Shoulder bag and Case
Falkon X2ext Ultra, V-Mount, Case	S-FX2EXT-ULTRA-V-CASE	Falkon X2 Transmitter - 4K/UHD, 4x5G Modems, V-Mount, Accessories, Case, SMA antenna connectors
Falkon X2ext Ultra, Gold-Mount, Case	S-FX2EXT-ULTRA-G-CASE	Falkon X2 Transmitter - 4K/UHD, 4x5G Modems, Gold-Mount, Accessories, Case, SMA antenna connectors

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