

M-Link[®]

Live X

Live HD & SD

Video Broadcasting



M-LINK LIVE X

M-Link Live X offers a highly mobile, reliable and compact live HD and SD newsgathering solution, which can be deployed and operated by a single reporter. The latest generation of M-Link Live-X incorporates RazorLink[®] technology, the next level in network optimisation, which guarantees maximum use of available network resources and ensures fully adaptive low latency, high quality video. Optionally, M-Link Live-X can offer bonding of all available connections without the need for proprietary hardware.

M-LINK LIVE X NETWORK

M-Link Live X supports fully adaptive live video over single or aggregated IP circuits such as 3G/4G, Inmarsat's BGAN and other portable satellite systems such as Ka-band, VSAT and Thuraya-IP. The optional bonding combines the bandwidth of selected interfaces for enhanced video quality and more resilient feeds.

M-Link Live X delivers low latency, high quality video direct to an M-Link Exchange receiver where it is played out as (HD) SDI or component with embedded or analogue audio. Even with data rates as low as 128 kbps M Link Live X can deliver PAL/NTSC native frame rates at SIF resolution. Full 1080i HD video is encoded at data rates as low as 2 Mbps, up to 6 Mbps.

KEY FEATURES

- **NEW** Rapid adaptive bit rate control ensures lowest latency, highest quality video quality for the available bandwidth (free upgrade for existing customers in support)
- **NEW** The optional bonding feature combines network connections (USB, Wi-Fi, Ethernet), to increase the bandwidth and provide resilience.
- Professional live broadcasting over IP circuits - 3G/4G, Inmarsat BGAN, Thuraya-IP, Ka band, VSAT, DSL/cable Internet. H.264/AVC video - High quality with full-interlaced support
- AAC or Speex audio - High quality or voice optimised. Integrated return A/V feed from studio - IFB
- Full frame where bandwidth allows - Interlaced, full resolution at native frame rates
- Full motion SIF video at native frame rates over BGAN 256/384Kbps/HDR up to 700kbps (PAL 25fps or NTSC 29.97fps)
- Low latency - One second over Inmarsat BGAN 256 streaming/384 X-Stream/HDR
- Integrated BGAN control – including Cobham/Hughes HDR terminals
- Choice of two error correction modes; Forward Error Correction (FEC) and Livewire Acknowledged Mode (LAM)
- High Definition support - Progressive and interlaced broadcast quality HD
- Fully Integrated BGAN control
- HD-SDI and HDMI capture for Thunderbolt and USB3 (requires compatible Blackmagic Design hardware)

ADAPTIVE BITRATE ENCODING

The Live-X adaptive bitrate encoding automatically sets the video compression parameters to match the available bandwidth resulting in the highest video quality. The RazorLink technology minimises buffering and keeps latency to a minimum.

NETWORK BONDING

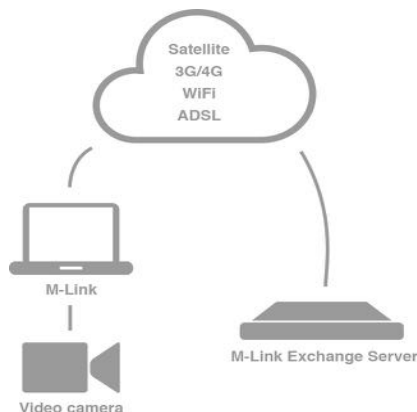
The M-Link Network Bonding feature can combine Internet connections, to increase bandwidth and provide resilience from network outages. Bonding can occur across available network interfaces, for example multiple 3G/4G USB modems, Wi-Fi and Ethernet.

SUPPORT & UPGRADE POLICY

Newsgathering in remote or hostile environments can be very challenging for the reporter and equipment. Livewire Digital offers a comprehensive support package with M-Link products offering expert advice on all aspects of using the equipment in conjunction with cameras, NLEs, IP networks and satellite terminals, free for 12 months after purchase.

In line with Livewire Digital's policy of protecting the customer's investment, all M-Link products come with a high level of compatibility. For those Livewire Digital customers that wish to upgrade their existing equipment to the latest M-Link technology, a technology refresh path is available.

The latest generation M-Link product range offers full backward compatibility with previous versions of installed M-Link software. However, to take advantage of the RazorLink technology existing M-Link Exchange servers will need to be updated.



TECHNICAL SPECIFICATIONS

Video Formats	HD: 720p, 1080i/p SD: PAL 25i, NTSC 29.97i
Video Encoding Resolution	Resolution: 1080i, PAL/NTSC, 4SIF, SIF, QSIF Frame rate: native or custom
Video Bitrates	Automatic adaptive, or user configurable from 128Kbps to 4Mbps (SD), 2-6 Mbps (HD)
Audio Codecs:	AAC, Speex
Error Connection	FEC or LAM (Livewire Acknowledged Mode)
Optimisation & Bonding	RazorLink®
Video Capture	HD/SD-SDI/HDMI via Blackmagic Design Thunderbolt or USB3 compatible products. DV/Firewire direct from Camera
Operating Systems	<i>Windows:</i> Windows 7, Windows 8.1 <i>OSX:</i> 10.8 (Mountain Lion), 10.9 (Mavericks), 10.10 (Yosemite), 10.11 (El Capitan)
Minimum System Requirements	Intel Core i5, 4GB RAM
Minimum System Requirements for HD	Quad Core i7 2.2GHz+, 8GB RAM