

High-Speed Ethernet Over Video Cable

Features and Benefits

- Uses legacy analogue video cabling
- Support multiple IP Cameras
- Supports MEGA-PIXEL cameras
- Supports any network device—fully transparent 100Base T Ethernet
- Simple to install—no IP address or other setup required
- Full speed over 250m cable runs
- Compact—fits inside camera housings
- Low power—uses camera supply
- Rack-mount option for control room end
- Solves network traffic problem for MEGA-PIXEL cameras

HIGHWIRE turns any existing analogue video cable (co-ax) into a high-speed Ethernet connection. This allows multiple networked IP cameras to replace a single analogue CCTV camera, without installation of any new cabling. Thus the investment in the original cabling (usually around 30% of any system installation cost) can be retained and exploited for new-generation networked CCTV camera systems. HIGHWIRE is especially suited to mega-pixel IP camera applications or multiple IP cameras as it supports high data rates.

HIGHWIRE is not a video codec or any kind of video capture device – it is simply a signal conversion device enabling Ethernet over co-ax for ANY type of network device (e.g. IP camera, network switch, DVR/NVR, PC or even a printer).



HIGHWIREs are used in pairs and installing them is extremely simple. One HIGHWIRE unit is connected to each end of the co-axial cable with the BNC connectors, thus providing a straight RJ45 to RJ45 network connection from end to end across the existing cabling.

This HIGHWIRE to HIGHWIRE connection instantly operates as a full-duplex 100BaseT Ethernet connection and is completely transparent to any network device. HIGHWIRE has no MAC address or IP address and requires no set-up whatsoever.

Where cable length, quality or signal interference prevents full rate operation (200Mbps), the HIGHWIRE pair will auto-adapt to transmission conditions, lowering the total bandwidth as necessary.

This will be transparent to the network system, although the connection bandwidth will be reduced. However it is the total rate (up + down) which decreases – so that for example at half rate, cameras that require up to 90Mbps downstream and 10Mbps upstream capacity will not be affected.

HIGHWIRE itself is a compact box about the size of a cigarette packet. It has a standard RJ45 network connector on one side and a co-axial BNC connector on the other. It uses very little power, and is designed to fit inside a camera housing.

CCTV cable is normally routed to a central point, forming an effective single “star” network topology. Thus exploitation of legacy video cable with HIGHWIRE actually solves a major problem with mega-pixel cameras – that of the high network bandwidth requirements for such devices.

Technical Specifications

HIGHWIRE INTERFACE

Connector type: BNC 75ohm
Cable impedance: 75ohm (RG59 or similar)
Cable length max: Up to 250m for full data rate (or up to 350m at reduced rate)
Data throughput max: 200Mbps (total up + down). Auto-adaptation to cable conditions.

ETHERNET INTERFACE

Connector type: RJ45
Cable type: Straight through or cross-over, auto detected
Rates supported: 100BaseT / 10BaseT, full/half duplex with auto negotiation

LED INDICATORS

Green – Constant: Power OK, Full HIGHWIRE data link
Green – Slow: Power OK, Auto-adapted HIGHWIRE data link
Green – Blink: Power OK, no HIGHWIRE link
Green – Off: No power
Amber – Constant: Ethernet link On
Amber – Blink: Network traffic
POWER SUPPLY
Connector type: Screw terminals with detachable plug
Power supply type: IEC Class II isolated only
Operating voltage: Nominal 12V DC (9-24V working range) or 24V AC (type and polarity auto detected)
Supply current: 200mA (12V), 100mA (24V)

ENVIRONMENTAL

Operating temp.: -10°C to 50°C
Relative humidity: 85% non-condensing
Grounding: Chassis should be grounded and is connected to the BNC shield.
Dimensions: L 104mm (83mm excl. conns.) x W 54mm x H 23mm
Weight: 110g
Compliance: CE, FCC, RoHS
HIGHWIRE PRODUCT CODES
 VHW-HW HIGHWIRE Ethernet over video cable converter
 VHW-12VPSU-UK 12v DC power supply (normally not required)
 VHW-WMB Wall mounting bracket (1 HIGHWIRE unit)
 VHW-1U Rackmount kit (Bracket for 8 units in 1U high)
 VHW-RMPSU-UK Power Supply (12V DC) for rackmount kit (8 units)
 VHW-XF Inline HIGHWIRE ground isolator

ICU Digital

By phone: 01923 855084

By email: info@icudigital.co.uk

By post: Unit 70B Watling Street, Radlett, Hertfordshire WD7 7NP

Website: www.icudigital.co.uk