HIGHWIRE™

High-Speed Ethernet Over Video Cable

HIGHWIRE™ allows IP Network Cameras to communicate over existing co-axial video cables.

- Uses legacy cabling - cuts installation costs
- Supports multiple IP cameras
- Supports MEGA-PIXEL cameras

veracity

DIGITAL VIDEO SURVEILLANCE

HIGHWIRE™

High-Speed Ethernet
Over Video Cable

Why HIGHWIRE cuts your installation costs

- Uses legacy analogue video cabling
- Supports multiple IP cameras
- Supports MEGA-PIXEL cameras
- Supports any network device - fully transparent 100BaseT 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

Signal Converter

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).

Simple Installation

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.

Auto Cable Adaptation

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.

Compact Device

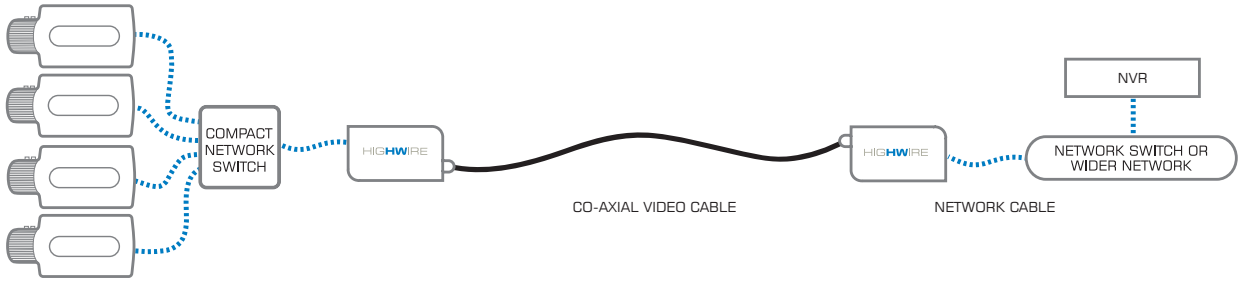
HIGHWIRE itself is a compact box about the size of a cigarette packet. It has a standard RJ45 network connector on one side and a co-axial BNC connector on the other. It uses very little power, and is designed to fit inside a camera housing.

Mega-Pixel Cameras

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.

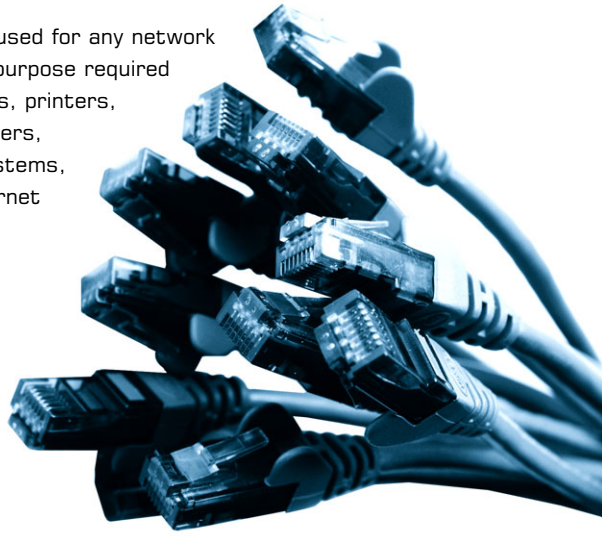
HIGHWIRE™ Applications

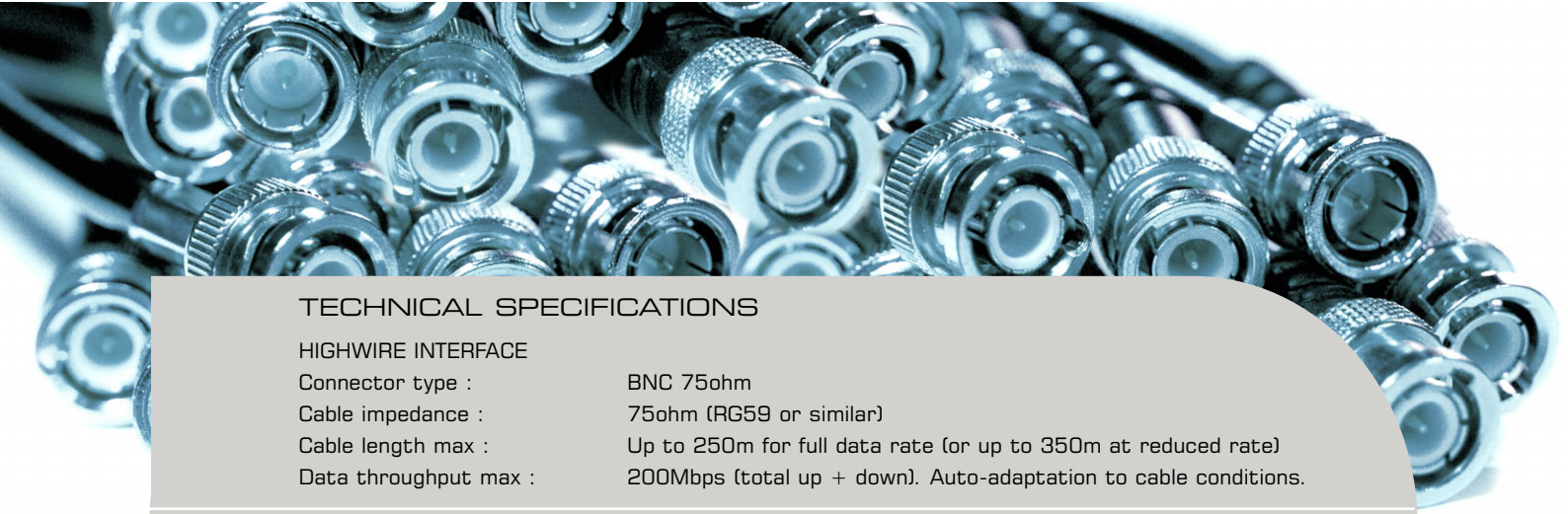
In this application, a high-resolution mega-pixel IP camera replaces a standard analogue CCTV video camera. The IP camera's standard Ethernet TCP/IP connection is linked to a HIGHWIRE device with a short CAT5 patch cable (straight-through or cross-over). Both the camera and the HIGHWIRE are powered from the same power supply, and both may be fitted inside a standard external camera housing. The HIGHWIRE link runs across the existing installed 75ohm co-axial video cable, and the rest of the network is connected at the other end (usually, but not necessarily, a control room or equipment room). One, several or many such links may feed into the network to an NVR (network video recorder). As the network link is full speed and fully-transparent, the IP camera appears on the network as a completely normal IP connection.



In this application, multiple IP cameras replace a single analogue CCTV video camera. The IP cameras are connected to a small network switch. One port of the switch is linked to a HIGHWIRE device. Again, the HIGHWIRE link runs across the existing installed 75ohm co-axial video cable, and the rest of the network is connected at the other end which again, usually includes one or more network video recording systems, which "see" the cameras as if they were connected over Ethernet cable.

This is an example of a completely general application, where any network device or devices are connected across a length of co-axial video cable. An example might be a Gatehouse located remote from a main building, which is only connected to the main building with a video cable (perhaps orginally laid-in for a night-guard to view a camera). Now this legacy cabling can be turned into a full 100BaseT network connection and used for any network communication purpose required (IP cameras, PCs, printers, network controllers, voice-over-IP systems, in fact any Ethernet equipment of any type).





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.:	-10ºC to 50ºC
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

Veracity UK Ltd
6 Barns Street, Ayr,
KA7 1XA
UK

Tel 01292 264967
Fax 01292 263127

www.veracityuk.com
sales@veracityuk.com

veracity
DIGITAL VIDEO SURVEILLANCE