This product has been re-named. The Model 2174 is now called the CopperLink™ 1214 Ultra-High-Speed Ethernet Extender (/ethernet-extender/cl1214/). Please order the new model number.

Overview

(/company/newsrelease.asp?id=2257) Perfect for bandwidth-intensive applications the Model 2174 delivers off-the-chart symmetrical line rates greater than 100 Mbps. Best of all—like all CopperLink™ products—the Model 2174 leverages existing copper infrastructure to deliver high speed Ethernet connectivity over voice-grade twisted pair, Cat 5e/6/7, and—new to the CopperLink™ line—coaxial cabling.

Four user-selectable configuration profiles—combined with Patton's auto-rate adaptation feature—ensure maximum achievable symmetrical or asymmetrical rates for the installed noise environment, wire gauge/type and length.

Symmetrical line-rate settings are ideal for such applications as remote LAN extension, video teleconferencing, and data backhaul. Asymmetrical configurations are well-suited for applications requiring higher downstream speeds and/or longer distances between Ethernet devices. Typical symmetrical scenarios include medical imaging, livestock monitoring, underwater video, internet gaming, and transporting high-resolution IP video from security cameras.

Realize fiber-like speed and distance without the expense of fiber with Patton's Ultra-High-Speed CopperLink™ Ethernet Extenders.

Features

- **Ethernet Extension**—Extend 10/100Base-TX Ethernet up to 10,000 feet (3 kilometers)—well beyond the 328-foot (100-meter) limitation—over a single twisted-pair, Cat 5e/6/7, or even coaxial cable.
- **Operates Over Twisted Pair**—Realize fiber-optic speeds without the expense—and hassle—of installing new cables or line-of-site wireless circuits.
- **Plug and Play**—Set these units up straight out of the box. No configuration is required. Auto-sensing 10/100 Ethernet ports support full or half duplex operation.
- **Multiple Line Rates Supported**—Boasting downstream line rates up to 168 Mbps, the switch-selectable rate mode options optimize rate and reach for the noise environment, wire gauge/type and length.
- **Transparent LAN Bridging**—Bypass network configuration requirements by transparently passing all higher layer protocols—including 802.1Q VLAN frames (tagged and untagged). Data-transmission mechanism is fully transparent to such IP video compression schemes as MPEG-4, H.264 and MJPEG.

Applications

Workgroup Ethernet Extension Application

A built-in 4-port Ethernet switch makes the CopperLink Model 2174 ideal for delivering multiple IP information streams over a single cable. For example, at a guardhouse or security kiosk, you could aggregate IP data from a laptop, a motion sensor, and two high resolution IP video cameras for simultaneous transmission over a single Ethernet connection.

Combining data flows from up to four network-enabled devices onto a single twisted pair or coax cable, the Model 2174 can deliver IP traffic up to 4,250 ft (1295 m) away—well beyond the standard 328-foot (100-meter) Ethernet distance limitation.

With achievable line rates up to 100 Mbps, the CopperLink 2174 eliminates the bandwidth constraints commonly experienced with other copper-based transmission technologies. The Model 2174 is engineered to re-use existing infrastructure previously employed in legacy applications including alarm circuits, E1/T1 circuits, RS-232, RS-422, RS-485, CCTV and CATV. Many newer cabling standards are also supported, including Cat 5e, Cat 6 and Cat 7.
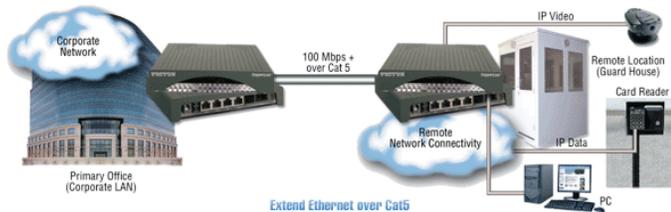
Extend Ethernet over Cat5
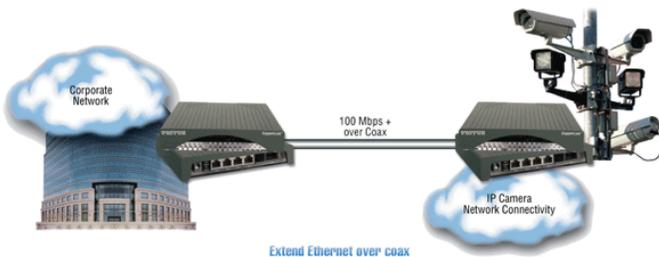
Extend Ethernet over coax

Extend Ethernet over legacy RS-232/422/485 circuit

Specifications

CopperLink Line Interface	• RJ-45 (pin 4 = ring; pin 5 = tip) • BNC 75-ohm coax • Terminal block, 2-position
CopperLink Line Modulation	DMT (Discrete Multi-Tone)
Ethernet Interface (x4)	8-position shielded RJ-45. Auto-sensing 10/100Base-TX with half or full duplex operation.
Protocol	Transparent to high layer protocols: supports 802.1Q VLAN tagged or untagged frames. Transparent to IP Video schemes: fully transparent to such compression schemes as MPEG-4, H.264, and MJPEG.
Ethernet Interface (x4)	8-position shielded RJ-45. Auto-sensing 10/100Base-TX with half or full duplex operation.
Impulse Noise Protection Modes	Selectable fast and interleave modes
Target SNR Modes	6 dB & 9 dB
Management	8-position DIP switch
Monitoring	8 LEDs display Power, Link, Ethernet 1-4, Remote, and Local status.
Dimensions	1.25 H x 6.22 W x 4.75 D in. (31.8 H x 158 W x 120.7 D cm)
Power Supply	External AC: 100–240 VAC
Compliance	FCC Part 15A, CE Mark, EMC Directive 89/336/EEC, Low-Voltage Directive 73/23/EEC
Environment	Temperature: 0 to 50°C Humidity: 5 to 95%, non-condensing Extended Temperature: -40 to 85°C (Model CL1214E) Extended Humidity: Up to 85% condensing (Model CL1214E/CC)
Weight	0.4 lbs (181 g)

Specifications: Rate and Reach
Long Range Asymmetrical
High Speed Asymmetrical
Long Range Symmetrical
High Speed Symmetrical

Long Range Asymmetrical

Length feet (m/km)	Mbps	
	Downstream	Upstream
250 (76m)	67	16
1000 (305m)	59	16
2000 (610m)	45	11
3000 (914m)	31	5
5000 (1.5km)	17	682 kbps
10,000 (3km)	4	263 kbps

High Speed Asymmetrical

Length feet (m/km)	Mbps

Length feet (m/km)	Downstream	Upstream
250 (76m)	168	95
1000 (305m)	126	54
2000 (610m)	60	21
3000 (914m)	42	6
3500 (1km)	35	1

Long Range Symmetrical

Length feet (m/km)	Mbps	
	Downstream	Upstream
250 (76m)	68	50
1000 (305m)	62	44
2000 (610m)	50	16
3000 (914m)	33	4
5000 (1.5km)	16	2
10,000 (3km)	2.5	1

High Speed Symmetrical

Length feet (m/km)	Mbps	
	Downstream	Upstream
250 (76m)	121	144
1000 (305m)	73	103
2000 (610m)	45	37
3000 (914m)	36	10
3500 (1km)	30	4

Ordering

#	Model #	Description	Availability
1	2174/BNC/EUI-2PK	High Speed CopperLink Ethernet Extender Kit (Local and Remote); BNC Line, 100-240VAC	General Availability
	+ Accessories		
2	2174/EUI-2PK	High Speed CopperLink Ethernet Extender Kit (Local and Remote); RJ45 Line, 100-240VAC	End of Life-Notice
	+ Accessories		
3	2174/S/EUI-2PK	High Speed CopperLink Ethernet Extender Kit (Local and Remote); RJ45 Line; POTS; 100-240VAC	General Availability
	+ Accessories		
4	2174/TB/S/EUI-2PK	High Speed CopperLink Ethernet Extender Kit (Local and Remote); Terminal Block Line, POTS Port; 100-240VAC	End of Life-Notice
	+ Accessories		

Item Number	Item Description	Price
SVC-SmartCare-BH (/support/support.asp)	Premium Support for Business Hours	Contact us (/howtobuy/) for availability and pricing.
SVC-SmartCare-24/7 (/support/support.asp)	Premium Support, 24 x 7 Coverage	Contact us (/howtobuy/) for availability and pricing.
SVC-SmartAssist-BH (/support/support-professional.asp)	Business Hour Support Services	Contact us (/howtobuy/) for availability and pricing.
SVC-SmartAssist-AH (/support/support-professional.asp)	After Hours Support Services	Contact us (/howtobuy/) for availability and pricing.
SVC-ENHWAR1 (/support/support-warranty.asp)	1 Year Enhanced Warranty	Contact us (/howtobuy/) for availability and pricing.
SVC-ENHWAR2 (/support/support-warranty.asp)	2 Year Enhanced Warranty	Contact us (/howtobuy/) for availability and pricing.
SVC-ENHWAR3 (/support/support-warranty.asp)	3 Year Enhanced Warranty	Contact us (/howtobuy/) for availability and pricing.

SVC-ENHWAR4 (/support/support-warranty.asp)	4 Year Enhanced Warranty	Contact us (/howtobuy/) for availability and pricing.
SVC-ENHWAR5 (/support/support-warranty.asp)	5 Year Enhanced Warranty	Contact us (/howtobuy/) for availability and pricing.
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SVC-EXTWAR3 (/support/support-warranty.asp)	3 Year Extended Warranty	Contact us (/howtobuy/) for availability and pricing.
SVC-EXTWAR4 (/support/support-warranty.asp)	4 Year Extended Warranty	Contact us (/howtobuy/) for availability and pricing.
SVC-EXTWAR5 (/support/support-warranty.asp)	5 Year Extended Warranty	Contact us (/howtobuy/) for availability and pricing.
SVC-NETENG-HOUR (/support/support-professional.asp)	Network technician hour rate for pre-config services, after hours support, etc.	Contact us (/howtobuy/) for availability and pricing.

Related Products

CopperLink 1214E (/products/product_detail.asp?id=486)   Ruggedized High-Speed Copper Ethernet Extender | 168 Mbps Downstream

User Manuals & Configuration Guides

CopperLink 2174 High Speed Ethernet Extender User Manual (/manuals/2174.pdf)   July 5, 2012

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