



Ruggedized 4.6 Mbps Auto-Rate Ethernet Extender

CopperLink™ Model 2157R

Patton's CopperLink™ 2157R extends Ethernet connections at distances up to 32,000 feet (10 km) over already existing infrastructure cabling

Long distance network extension

Extension distances up to 32,000 feet (10 km) or 4.6 Mbps at 1.5 miles (2.5 km).

Uses existing infrastructure

Utilizes installed voice-grade twisted pairs to eliminate the expense of fiber or Cat5e cabling.

Plug and Play

No configuration or cable hassles during installation with auto-sensing 10/100, full or half duplex, and auto MDI-X

Auto-rate adaption

Ensures the highest rate possible for each extension distance.

Flexible installation

Wall or DIN rail mountable

Ruggedized

Operating temperature of -10 to 70°C or -40 to 85°C for 2157R/CC

The Patton Model 2157R simplifies network extension by utilizing pre-existing twisted pair infrastructure enabling twisted pair previously used for legacy systems such as TTL, RS232 and 422/485 to be used for extending or connecting Ethernet devices together. With a pair of 2157R's or combined with a 2157, a user can extend their network connections up to 32,000 ft (10 km). Reusing the already existing infrastructure for Ethernet Networking eliminates the cost of purchasing expensive fiber and Cat5E or greater

cabling. Most important, it completely eliminates the hassle and sometimes overwhelming expense and downtime of the cable installations. The 2157R was designed to operate in a rugged environment, with temperature ranges from -10 to 70°C, and the option for conformal coating protecting the device from condensing humidity, and operates at -40 to 85°C. The 2157R's aluminum case design allows for users to conveniently mount them either on a wall or DIN.

Visit www.patton.com for more information.

CopperLink™ Ethernet Extenders			
Take your network connections faster and farther over existing voice-grade wire with Patton CopperLink™ Ethernet Extenders!			
Max. Distance	Max. Speed	Distance at Max. Speed	CopperLink™ Model
1 mile	50 Mbps	800 feet	Model 2172R
1 mile	50 Mbps	800 feet	Model 2172
1.1 miles	16.6 Mbps	3,125 feet	Model 2168
0.75 mile	12 Mbps	4,000 feet	Model 2158
5.7 miles	4.6 Mbps	2.0 miles	Model 2157R
5.7 miles	4.6 Mbps	2.0 miles	Model 2157
5.7 miles	2.3 Mbps	3.1 miles	Model 2156
5 miles	144 kbps	5 miles	Model 2155

4.6 Mbps over one ordinary-grade twisted-pair

Front panel indicators show operational status at a glance

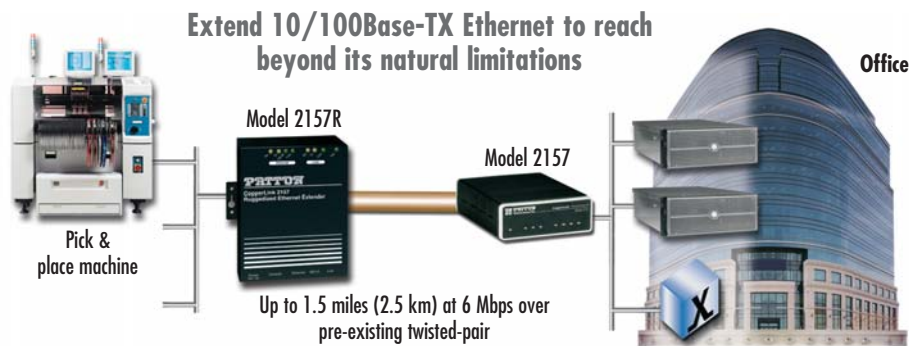
Auto-rate adaptive for more reliable connectivity



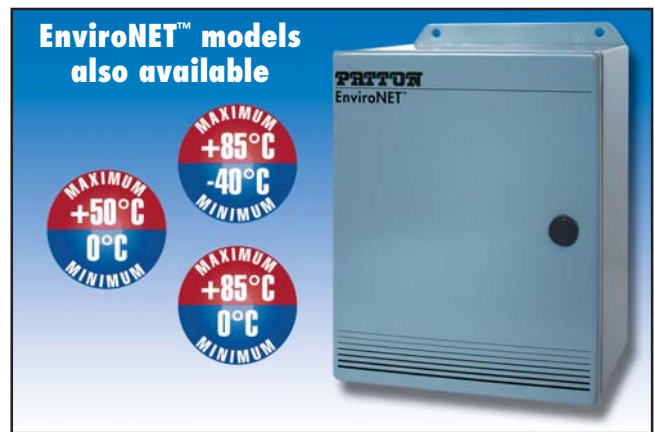
Workgroup Ethernet Extension Application

The Model 2157R auto-rate Ethernet Extenders are ideal for delivering Ethernet links to remote buildings that are beyond the 328-foot (100-meter) distance limit of Ethernet. The 4.6 Mbps throughput eliminates bandwidth concerns previously experienced with other copper wired transmission tech-

nologies. The 2157R includes an auto-rate adaption so that a user will get a constant link, even in noisy environments. By utilizing existing voice grade copper pairs the expense and hassle of installing low capacitance or fiber cable is no longer required.



Line Rate		Extension Distances									
		No Noise									
N	kbps	26g (0.4 mm)		24g (0.5 mm)		22g (0.6 mm)		20g (0.8 mm)		19g (0.9 mm)	
		miles	km	miles	km	miles	km	miles	km	miles	km
3	200	4.4	7.2	5.7	9.4	8.0	13.1	10.3	16.8	12.1	19.7
6	392	4.0	6.6	5.4	8.8	7.5	12.3	8.7	15.8	10.8	17.5
8	520	3.8	6.2	5.1	8.3	7.1	11.6	9.2	14.9	9.7	15.8
12	776	3.5	5.6	4.6	7.5	6.0	9.8	7.8	12.7	8.8	14.3
18	1160	3.0	4.9	4.0	6.4	5.2	8.4	6.7	11.0	7.5	12.3
24	1544	2.8	4.6	3.7	6.1	4.9	7.9	6.4	10.3	6.7	11.0
32	2056	2.5	4.0	3.3	5.3	4.2	6.9	5.6	9.0	5.9	9.6
36	2312	2.3	3.8	3.1	5.0	4.0	6.6	5.3	8.6	5.6	9.1
42	2696	2.3	3.7	3.0	5.0	4.0	6.4	5.2	8.4	5.5	8.9
48	3080	2.2	3.6	3.0	4.8	3.9	6.3	5.0	8.2	5.4	8.7
54	3464	2.1	3.4	2.7	4.5	3.6	5.8	4.7	7.6	4.9	8.8
60	3848	1.9	3.1	2.5	4.1	3.3	5.3	4.3	7.0	4.5	7.4
66	4232	1.7	2.8	2.3	3.7	2.9	4.8	3.9	6.3	4.1	6.6
72	4616	1.5	2.5	2.0	3.3	2.6	4.2	3.4	5.5	3.6	5.9



Specifications*

Transmission Line

Single twisted pair (pin 2 = ring; pin 3 = tip)

Protocol

Transparent to higher layer protocols. Supports 802.1 Q VLAN tagged packet transmission

Line Rates

Auto-Rate adaptive from 192 kbps to 4.6 Mbps

DTE Rates

All 64k steps from 192 to 4608 kbps

Line Coding

TC-PAM

LED Status Indicators

WAN: Link, TD, RD, Ethernet: Link, 10/100, TD, RD, Power

Connectors

RJ-11 on copper line side, RJ-45 for Ethernet connection, shrouded male IEC320 power connector

Power

External 90–260 VAC, 50–60 Hz (Universal Input), 10 W. external 40–60 VDC, 10W (DC option)

Line Interface

Transformer coupled, 1500 VAC isolation.

Compliance

FCC Part 15, CE Mark per EMC directive 89/336/EEC and Low Voltage Directive 73/23/EEC, UL1950 UL and cUL listed (Rev A: Listing in process)

Humidity

5–95%, non-condensing; Conformal Coated: 85% condensing humidity from -10 to 35°C

Operating Temp.

Standard: -10 to 70°C; Conformal Coated: -10 to 80°C

Altitude

0–15,000 ft (0–4,600 m)

Dimensions

7.3 x 6.6 x 1.62 in. (185 x 168 x 41 mm)

Weight

2.0 lbs (1.0 kg)

* Specifications subject to change without notice.

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