CrossPATH® 4

Wireless carriers face considerable pressure to grow existing networks while minimizing operational costs. New technologies require capacity and bandwidth at cell sites to increase. At the same time, technicians must manage more locations while improving cell site availability and decreasing maintenance expenses.

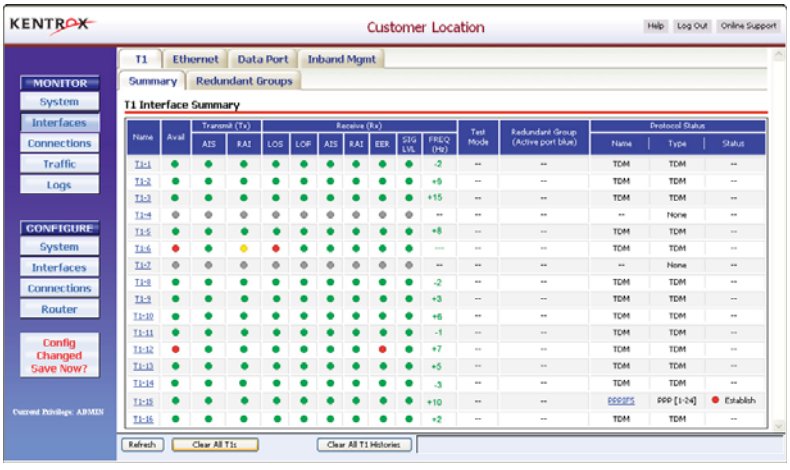
CrossPATH 4 from Kentrox offers extensive remote monitoring, diagnostic tools, reports, and alarms to help operators identify, isolate, and repair backhaul circuit problems without an expensive truck roll. CrossPATH resides at the cell site and can be easily installed into sites without replacing existing equipment.

Remote capabilities enable management of the network by providing built-in test and diagnostic tools and alarms to notify technicians of degrading T1 lines before an outage occurs. Remote diagnostics also help troubleshoot problems including intermittent issues, eliminating or minimizing diagnostic truck rolls and repair time.

Operators can expand cell site capacity without replacing backhaul equipment by simply plugging in expansion modules and turning up links as needed without disrupting service. The three expansion modules support a range of application and growth requirements.

The compact design of CrossPATH is ideal when space is limited. It is a 1 RU (rack unit) that is a cost effective alternative to multiple devices and underutilized backhaul circuits. It also has an embedded Graphical User Interface (GUI) that dramatically simplifies installation, configuration, and network management.

Clocking errors on backhaul links can be difficult to identify and often result in expensive site visits. CrossPATH simplifies diagnosis by remotely monitoring clock frequency on all T1 and DS3 backhaul links. It sends alarms when errors are detected, enabling troubleshooting remotely.



Easy configuration with a web browser interface

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CrossPATH 4 delivers high capacity cell site connectivity for the growth of existing networks and migration to higher densities. CrossPATH highlights include:

- Compact design: 16 T1 ports in a single RU
- Expansion modules with up to 32 T1 and/or two DS3 ports
- Secure GUI to simplify configuration and management
- Built-in historical and real-time reports
- Real-time T1 signal level monitoring
- Remote clock frequency monitoring
- Integrated QoS router for Ethernet management
- Best-in-class lightning protection

An integrated Quality of Service (QoS) access router offers management flexibility. Technicians can connect their laptop into an Ethernet port and access the corporate network to view provisioning records or close trouble tickets. Remote in-band management of other cell site equipment is also possible.

CrossPATH 4 enables carriers to manage and improve today's cell site while planning for the future. It increases cell site availability and customer satisfaction while improving repair time and reducing operational expenses. Operators want to buy equipment today to last for many years, and CrossPATH offers the flexibility for today's needs and tomorrow's requirements.

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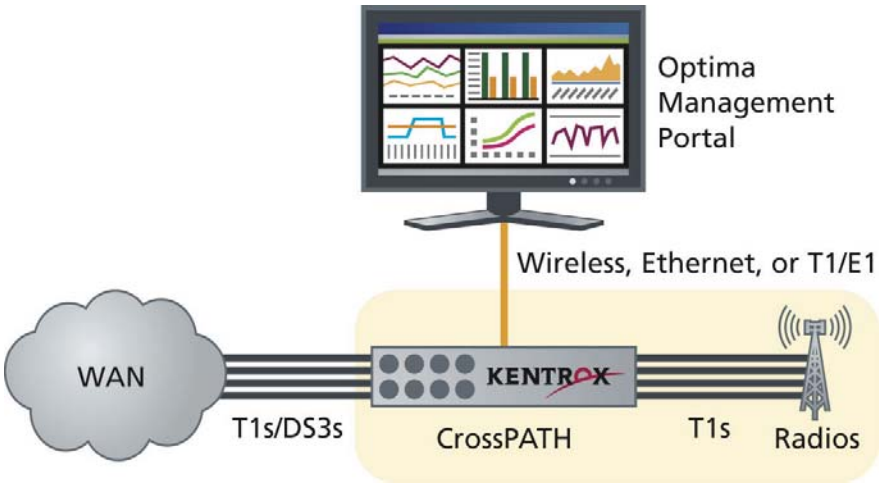

Remotely isolate, diagnose, and repair backhaul problems, often before service is affected

Description	Part #
CrossPATH 4 16-port system with DC power supply	74016
Items included with the CrossPATH 4: - Installation instructions and user documentation CD - One 6′ Ethernet LAN cable, Cat 5e - One RS-232 adapter for CLI access - One 19″ / 23″ rack mounting kit	
CrossPATH 4 power supply, 24/48 DC	74020
Expansion modules	
CrossPATH 4 Dual DS3 TDM module	74152
CrossPATH 4 Dual DS3/12 T1 (DSX-1) module	74155
CrossPATH 4 16 T1 (DSX-1) module	74170
Cables	
T1 network cable, RJ48C plug to RJ48C plug	930xx143
T1 radio cable, RJ48C plug to RJ48C plug (x-over)	930xx144
T1 wire wrap cable, RJ48C plug to stub	930xx146
Hydra T1 cable Cat5 w/8 1′ RJ48C tails 1-8, 8 feet	93008251
Hydra T1 cable Cat5 w/8 1′ RJ48C tails 9-16, 8 feet	93008252
DS3 BNC Cable, BNC plug to BNC plug, 10 feet	96010010

Note: xx denotes length of cable; contact Kentrox for other available lengths.

Interfaces

T1	16 DS1 or DSX-1 (RJ48) ports
10/100 LAN	Four-port 10/100Base-Tx switch; auto-sensing, auto-polarity (RJ45)
RS-232	One serial management port (RJ45)
V.35	One serial data port for e911 locator equipment (DA26)
Power input	Screw terminal. Hot swappable. Redundant.
Alarm relays	Major and minor contact outputs
Expansion Modules:	
Dual DS3	Two DS3 Tx/Rx (BNC) ports
Dual DS3/12 T1	Two DS3 Tx/Rx (mini-BNC) ports, 12 DSX-1 (RJ48) ports
16 T1	16 DSX-1 (RJ48) ports

Management/administration

GUI	Browser-based, Web-style GUI (accessible from 10/100 LAN port or in-band remote); HTTP/HTTPS
Access Management	Three levels—admin, configure, view; up to 10 users with passwords
Logs	Alarm, System, Router Data, Syslog
Reports	Network performance statistics (24 hrs. x 15 min.) Router traffic reports: protocol, QoS, policy
SNMP	Traps, MIB II, DS1, I/F MIBs, Frame Relay DTE MIB
Updates	Software updates via FTP or GUI
CLI	Command line interface (CLI) accessible via Telnet, SSH, 10/100 LAN, RS-232 port, or in-band IP
Real-time Clock	SNTP support and two hour power failure backup
T1 Signal Level	Monitors, alarms
Clock Frequency	Monitors, alarms

Router

Routing	Static, RIP v1/v2 and OSPF PPP and Frame Relay DHCP server DNS client, relay VLAN support for 8 LAN subnets
QoS	Class-based Weighted Fair Queuing Auto DiffServ/ToS-based priority queuing VoIP and video prioritization All DiffServ classes supported Configurable queue weighting
Marking	Configurable QoS marking
Policies	32 user-configurable QoS policies for prioritization by source and destination addresses, port, protocol, DiffServ Code Point (DSCP)
Monitoring	QoS traffic reports and graphs Configurable WAN Latency report
Standards	Supports VLAN 802.1Q tags

Diagnostic LEDs (front panel)

Power	Power on/off
Alarm	Interface alarm condition
System	System status, security alert
T1	Alarm, status
DS3	Alarm, status
10/100 LAN	Speed, link activity

Physical specifications

Dimensions	1.7" h x 17" w x 11.9" d (44mm h x 432mm w x 303mm d)
Weight	Approximately 5.5 lbs. (2.5 kg)
Power	24–48 VDC, 40W 2 amps maximum
Mounting	1 RU high in 19" or 23″ rack (brackets included)

Environmental

Operating	-40° to 65°C (-40° to 149°F) 5% to 95% RH (non-condensing)
Storage	-40° to 70°C (-40° to 158°F) 5% to 95% RH (non-condensing)

Regulatory

Emissions	FCC 47 CFR 15 Class A
Safety	IEC 60950, FCC 68
Terminal	ACTA TIA-968-A-2, IC CS.03
Lightning	Telcordia GR 1089 Issue 2 Section 4.5 (DS1 ports)

For more information, visit www.kentrox.com, email info@kentrox.com or call 800-733-5511.