

T1 Backhaul Connectivity Solution

Telect 1 RU Customer Interface Panel (CIP) Enables Demarcation, Remote Circuit Maintenance and Trouble Isolation at the Backhaul Node

The Application: T1 Demarcation and Testing in Backhaul Environments

- Communications service providers performing backhaul of T1 circuits from remote sites to COs, head ends or MTSOs
- Requirement for cost-effective demarcation, circuit testing, troubleshooting and maintenance

The Solution: Telect's 1 RU Customer Interface Panel (CIP)

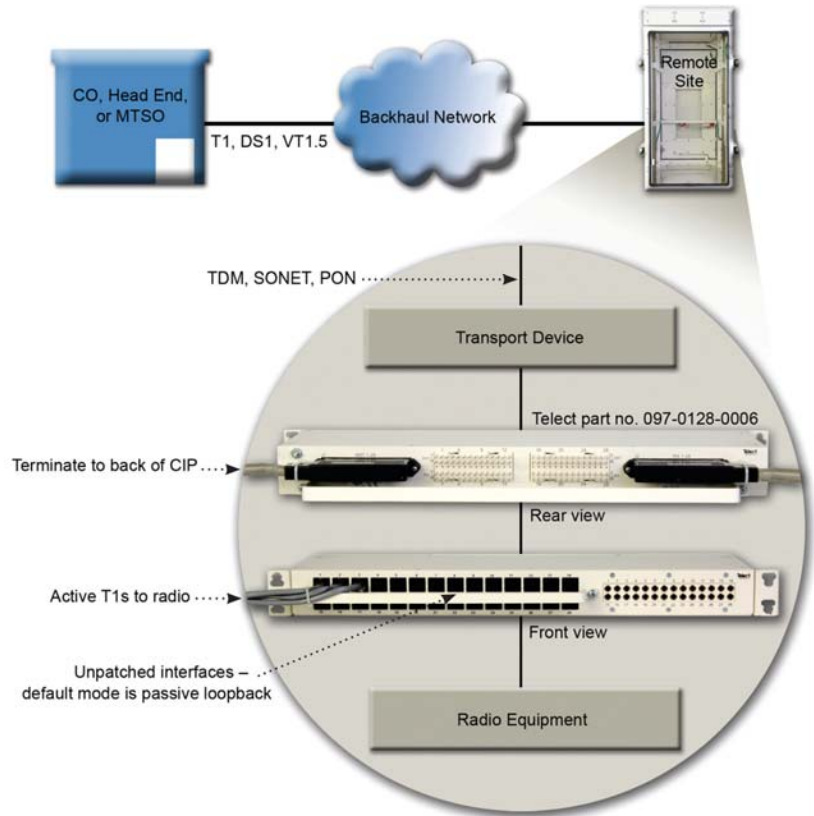
Telect's CIP incorporates RJ48X interface ports, which **passively loop back the T1 circuit** when an RJ cable is not connected in the corresponding port. **This enables the testing of the circuit from the NOC or head end to the Telect CIP and back.**

Using the loopback feature, the provider can perform **pre-service testing** before turning up the circuit.

For simple, remote troubleshooting, the technician can remove the plug from the appropriate RJ jack, which will **isolate the location of the problem** to either transport or local.

When connected to a DSX-1 panel, the provider can monitor both directions of the signal.

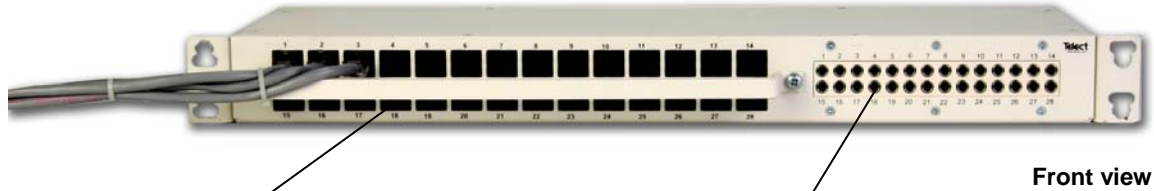
All of this functionality is available in a 1 RU panel to help maximize limited space in remote applications. Deploy your T1 network element, and Telect provides all additional components required for the total solution (see pages 3-7).



Customer Interface Panel: Telect part number 097-0128-0006 (with loopback functionality) or 097-0128-0007 (without loopback functionality).

T1 Demarcation, Testing and Troubleshooting at the Backhaul Node

CIP Capabilities: Circuit Demarcation, Testing & Troubleshooting



28 RJ48X Interface Ports

- Simple connection to SONET/node device
- RJ48X jacks enable remote troubleshooting with passive loopback capabilities (Telect part number 097-0128-0006)
- RJ48C jacks available if loopback functionality not required (097-0128-0007)

28 DS1 Ports

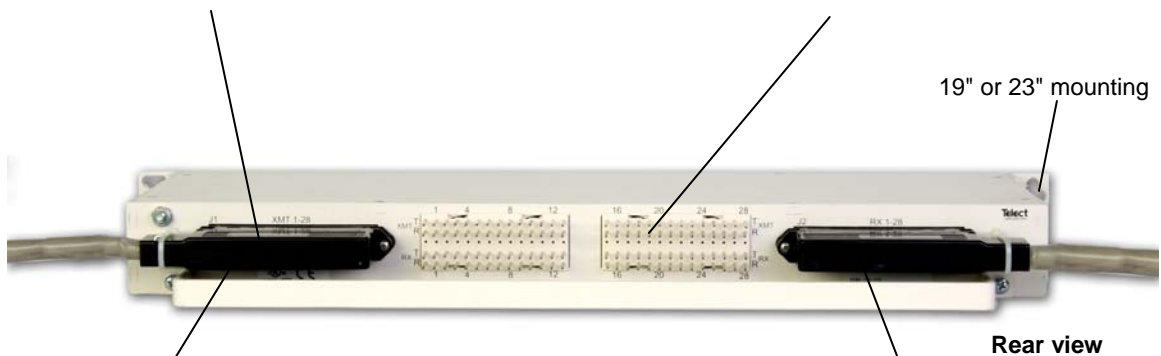
- Enables active monitoring at site

64-Pin AMP Connectors

- Available for faster in-field connections
- Include screw locks and cable ties
- Compatible with T1 node device cabling

Wire-Wrap I/O Field

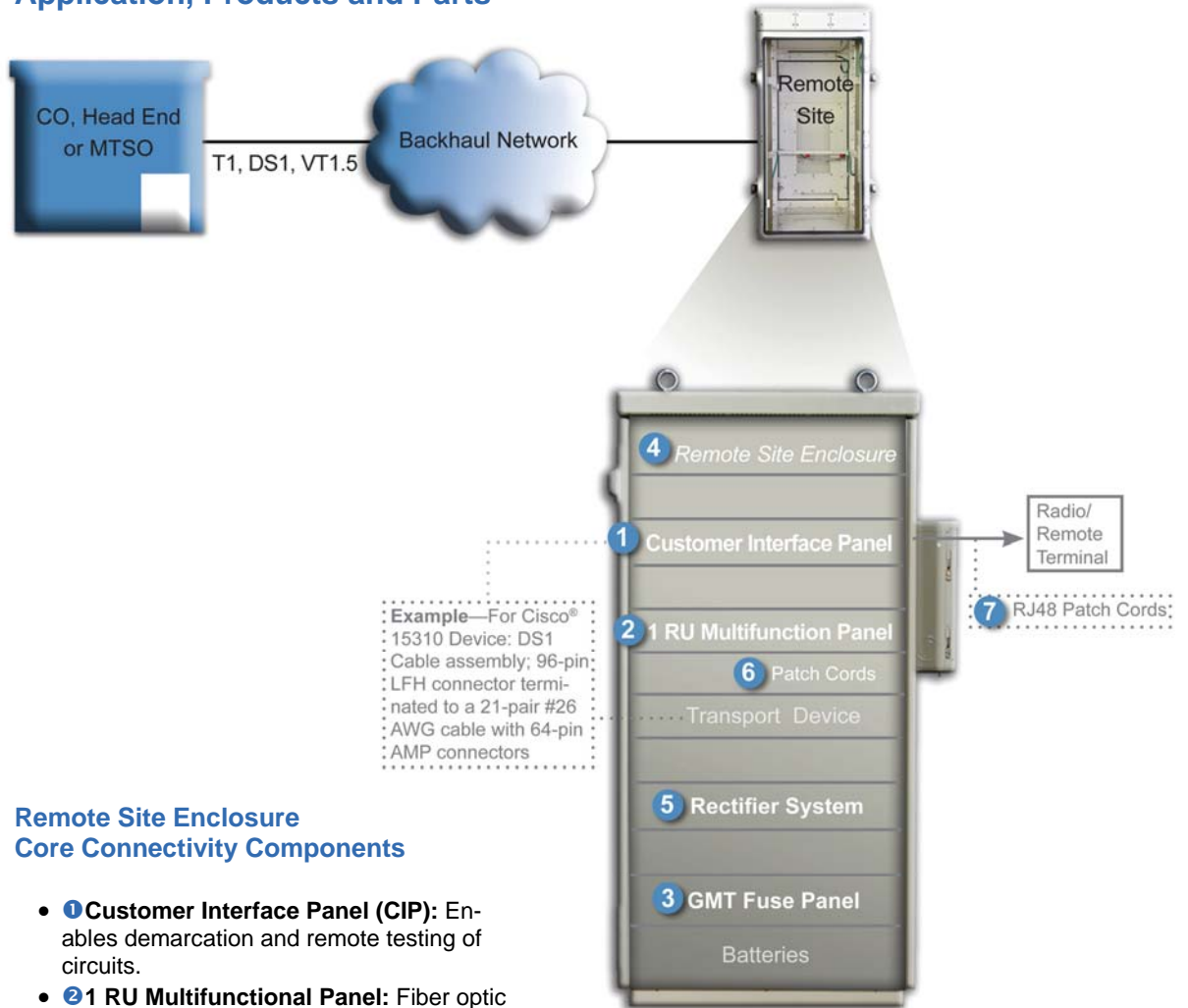
- For traditional wire-wrap connections
- Top row — 1-28 transmit
- Bottom row — 1-28 receive



64-pin connector:
Circuits 1-28 — transmit

64-pin connector:
Circuits 1-28 — receive

Application, Products and Parts



Remote Site Enclosure Core Connectivity Components

- **1 Customer Interface Panel (CIP):** Enables demarcation and remote testing of circuits.
- **2 1 RU Multifunctional Panel:** Fiber optic and copper connectivity platform that occupies minimal space.
- **3 GMT Fuse Panel:** Provides power distribution and protection for equipment in the enclosure.
- **4 Remote Site Enclosure:** Durable, flexible housing solution for all equipment.
- **5 DC Power/Rectifier System:** Rectifier and system controller for supplying AC power feed to the enclosure.
- **6 Fiber Optic, DS1 and/or DS3 Patch Cords:** Required for connecting additional equipment in enclosure.
- **7 RJ48 Patch Cords:** For connection of customer interface panel and radio/remote terminal equipment.

Application Note

T1 Demarcation, Testing and Troubleshooting at the Backhaul Node

T1/DS1 Customer Interface Panels



Features

- High-density demarcation/testing solution
- RJ48X jacks provide automatic loopback capabilities
- RJ Ports meet all key standards
- DS1/Bantam jacks provide a non-intrusive platform for circuit monitoring
- 64-pin female connectors enable rapid deployment and simple usage
- Completely enclosed chassis provides robust protection for connections

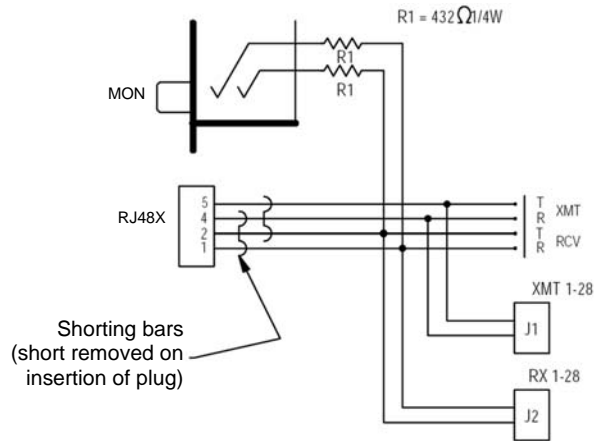
Ordering Information

28-term., RJ48X jacks, with loopback functionality	097-0128-0006
28-term., RJ48C jacks, no loopback functionality	097-0128-0007

Specifications

Dimensions	19" W x 1.7" H x 5.9" D 483 mm x 43 mm x 150 mm
Weight	10 lbs. (4.5 kg)
Material	Steel
Total terminations	28 RJ48, 28 DS1

RJ48X Schematic



RJ48X jacks feature a shorting bar between transmit and receive pins to enable automatic loopback when no patch cord is inserted. RJ48C jacks do not incorporate shorting bars.

21 RU Modular Multifunction Panel



Features

- Deploy with fiber optic patch/splice module for termination of incoming cable and connection to node device
- DSX-1, DSX-3 and Ethernet modules fit in the same chassis to maximize space and enable versatile connectivity
- 1 RU chassis accommodates 3 modules
- Choose modules as required to fit the specific requirements of the application

Ordering Information

Chassis, 3 module capacity	ELF-0000-2400
12-port fiber patch/splice	ELF-SP12-SCPT
8-term. DSX-1 module	ELF-1008-1200
1-term. DSX-3 module	ELF-3206-1200
16-term. RJ-RJ patch module	ELF-9716-1900

Additional module options are available. See Telect.com.

Specifications

Chassis

Dimensions	19" W x 1.75" H x 5" D 483 mm x 44 mm x 127 mm
Weight	5 lbs. (2.3 kg)
Material	Steel
Agency compliance (system)	NEBS, ITU-T

Fiber Optic Patch/Splice Module

Dimensions	5.9" W x 1.7" H x 8" D 150 mm x 42 mm x 202 mm
Weight	2 lbs. (0.9 kg)
Total terminations	12 patch, 12 splice
Patch adapters	SC/UPC

DSX-1 Module

Dimensions	6" W x 1.6" H x 5.5" D 152 mm x 42 mm x 140 mm
Weight	2.5 lbs. (1.1 kg)
Total terminations	8
Circuit access	Front cross-connect
Cross-connect field	Wire-wrap
Network element field	BNC

DSX-3 Module

Dimensions	6" W x 1.6" H x 5" D 152 mm x 42 mm x 140 mm
Weight	2 lbs. (0.9 kg)
Total terminations	2
Circuit access	Rear cross-connect
Cross-connect field	BNC connectorized
Network element field	BNC

Ethernet Module

Dimensions	5.8" W x 1.6" H x 5" D 149 mm x 41 mm x 127 mm
Weight	2 lbs. (0.91 kg)
Total terminations	16
Circuit access	Front cross-connect
Cross-connect field	RJ45C
Network element field	RJ45C

③ Universal Voltage GMT Panels, ±24V/-48V



Features

- Essential power distribution solution for node equipment
- Universal operating voltage handles ±24V or -48V applications seamlessly
- Bay alarm standard for major/minor alarms
- Dual 100A input; up to 20A per GMT output
- Designed for UL and NEBS compliance

Ordering Information

Dual-feed 10/10-position, white	HPGMT10
Dual-feed 10/10-position, black	HPGMT10-BLK
Dual-feed 15/15-position, white	HPGMT15
Dual-feed 15/15-position, black	HPGMT15-BLK
Single-feed 20-position, white	HPGMT20S
Single-feed 20-position, black	HPGMT20S-BLK
Single-feed 30-position, white	HPGMT30S
Single-feed 30-position, black	HPGMT30S-BLK

Additional configurations are available. See Telect.com.

Specifications

Electrical

Nominal voltage	±24 to -48 VDC
Input rating	100A
Maximum input interrupt device	125A
Maximum output protection device	20A
Power dissipation (full load)	12W per bus

Mechanical

Dimensions	17" W x 1.72" H x 12" D 432 mm x 44 mm x 305 mm
Weight	9 lbs. (4.1 kg)
Material	Cold-rolled steel
Finish	Powder coat
Mounting	19" or 23"

Environmental

Temperature	-5° to 55° C
Humidity	0 to 90%, non-condensing

Connections

Input terminals	Dual stud, 1/4" on 5/8" centers
Output terminals	Screw terminal, #6
Chassis ground	Dual stud, #10 on 5/8" centers

Alarms

Alarm indicators	Power, fuse, bay alarm
Alarm type	Form C
Alarm connector	0.045" square pin
Relay contact ratings	0.6A at 48 VDC; 1A at 120 VAC

Compliance

Agency	NEBS 3, UL, CUL, CE
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T1 Demarcation, Testing and Troubleshooting at the Backhaul Node

4 Outdoor Enclosures

Features

- Broad range of configurations available
- Engineered as standalone cabinets or as fully integrated solutions with equipment pre-installed
- Modular component-based design enables extensive customization to fit the specifics of the application
- Engineered, constructed and built at Telect's centrally located facility to expedite delivery and deployment
- Standard sizes listed below: contact Telect for options, specs and ordering information

Ordering Information

TME 45 RU enhanced seismic modular enclosure

TME standard modular enclosures (40 RU, 32 RU, 24 RU)

TWE 25 RU wall-mount/pad-mount enclosure

Additional configurations are available. See Telect.com.



Telect TWE 25 RU enclosure.



5 DC Power Systems

Choose individual rectifier and system controller components, or fully integrated power systems that feature a high-density design and can be pre-installed in a Telect enclosure for immediate deployment.

Ordering Information

Configurable rectifier system can include:

- 48V/1800W or 48V/900W rectifiers
- System controller
- I/O board

Contact Telect for detailed specifications and ordering information.



6 Patch Cords

Required for connections between CIP, node device and multifunction panel within the enclosure.

DS1/Bantam Patch Cords

DS1/Bantam, 3 ft. 040-1000-003

DS1/Bantam, 5 ft. 040-1000-005

DS3/Coax Patch Cords

DS3/Coax, 3 ft. 043-0922-003

DS3/Coax, 6 ft. 043-0922-006

Fiber Optic Patch Cords

SC/UPC SM fiber, 1m F12-SSG-M001-0

SC/UPC SM fiber, 3m F12-SSG-M003-0

RJ Patch Cords, Crossover Wiring Scheme

2-pair RJ patch cord, 3 ft. 902-23DD-0016-003

2-pair RJ patch cord, 5 ft. 902-23DD-0016-005

RJ Patch Cords, Standard Wiring Scheme

2-pair RJ patch cord, 3 ft. 902-23DD-0004-003

2-pair RJ patch cord, 5 ft. 902-23DD-0004-005

