

2826-00 Six-Slot T1 Mini-Repeater Apparatus Case

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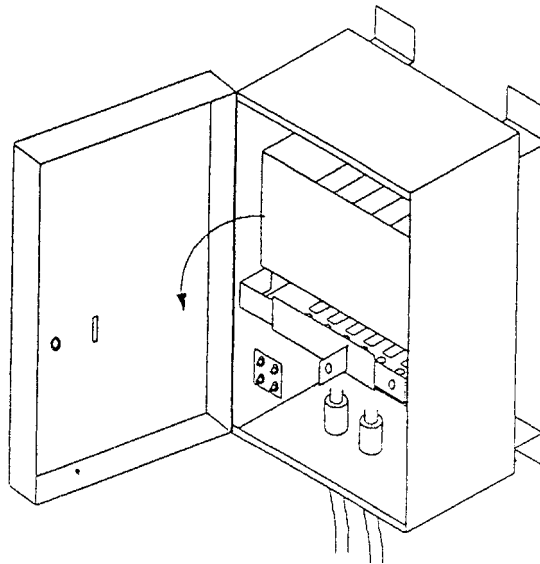


Figure 1. 2826-00 Apparatus Case

1. GENERAL

1.1 Document Purpose

This document provides general and installation information for the Charles Industries 2826–00 Six-Slot T1 Apparatus Case, shown in Figure 1.

1.2 Document Status

This document is reprinted to include a general editorial update.

1.3 Equipment Function

The 2826–00 provides mounting for up to 6 T1 span line mini-repeaters and one fault locate (FL) filter. The apparatus case accommodates either 238-type non-protected or 239-type protected repeaters.

1.4 Equipment Location/Mounting

The 2826–00 Apparatus Case is designed to mount in the TELCO cabinet at or near the customer premises. It is equipped with factory-prewired cable stubs.

CAUTION

Field repairs/modifications may void compliance with any CSA and/or UL certification.

1.5 Equipment Features

The 2826–00 provides the following features:

- Economical
- Simple, fast installation
- Terminates 1–6 span lines plus a fault locate filter
- Accommodates all industry-standard 238– and 239–type T1 span line repeaters
- Factory prewired with cable stubs
- Orderwire standard
- Aluminum housing
- Unit access using a standard 216 tool (can wrench)
- Security from unauthorized access with optional padlock

2. INSPECTION

2.1 Inspect for Damages

Inspect the equipment thoroughly upon delivery. If the equipment has been damaged in transit, immediately report the extent of damage to the transportation company.

2.2 Equipment Identification

Charles Industries' equipment is identified by a model and issue number imprinted on the front panel or located elsewhere on the equipment. Each time a major engineering design change is made on the equipment, the issue number is advanced by 1 and imprinted on subsequent units manufactured. Therefore, be sure to include both the model number and its issue number when making inquiries about the equipment.

3. APPLICATION GUIDELINES

The unit can be used to provision DS1 service offerings where cable losses dictate the need for a regenerator. For customer-premises applications, the 2826–00 should be equipped with 238-type (nonprotected) or 239-type (protected) repeaters. In addition, building entrance primary protection must be provided per local practice.

4. MOUNTING

The 2826–00 is typically mounted directly on an indoor wall or wooden backboard in an equipment cabinet. Provide a suitable mounting location with adequate clearance on the left side of the unit to accommodate the unit's hinged cover.

Use the following steps to mount the unit.

| Step | Action |
|------|---|
| 1. | Using a standard 216 tool, turn the hex bolt in the cup washer counterclockwise and open the cover. |
| 2. | Install appropriate-size screws to secure the unit to the backboard. The unit can be fastened using 4 screws through the mounting bracket holes, or using 3 screws installed through holes located inside the case (both sets of screws supplied with the unit). The 3 holes inside the case are equipped with small plugs at the factory. Remove these plugs if those holes are to be used for mounting. |
| 3. | If installer connections are not to be made at this time, close the cover and secure the unit by turning the front hex bolt clockwise until it is tight. |

The 2826–00 is equipped with a hasp on the front panel which can accept a padlock, with up to a 1/4-inch shackle, to provide added security.

5. INSTALLER CONNECTIONS

All signal lead connections to the unit are made via the cable stubs, which are factory-prewired to the mounting assembly.

Wiring data of a 2826–00 apparatus case which is equipped with bidirectional 239A (two-way) repeaters is shown in Figure 2 and Table 1. Cable stub assignments for orderwire and fault locate are shown in Table 2.

Table 1. Cable Stub Repeater Pin Assignments

| Stub | Pin # | Repeater # | | | | | |
|------|-------|------------|-----|-----|-----|-----|-----|
| | | 1 | 2 | 3 | 4 | 5 | 6 |
| RCV | 5 | WH | WH | WH | RED | RED | BLK |
| | 6 | BLU | GRN | SL | OR | BRN | BLU |
| | 11 | WH | WH | RED | RED | RED | BLK |
| | 12 | OR | BRN | BLU | GRN | SL | OR |
| XMT | 3 | WH | WH | WH | RED | RED | BLK |
| | 4 | BLU | GRN | SL | OR | BRN | BLU |
| | 8 | WH | WH | RED | RED | RED | BLK |
| | 9 | OR | BRN | BLU | GRN | SL | OR |

Note: Cable RCV pairs BLK–GRN through VIO–SLT, and cable XMT pairs YEL–ORG through VIO–SLT are unused and grounded.

Table 2. Cable Stub Orderwire and Fault Locate Pin Assignments

| | Test Point | XMT Stub | |
|--------------|------------|----------|-----|
| | | | |
| Fault Locate | 1 | BLK | BLK |
| | 2 | GRN | BRN |
| Orderwire | 3 | BLK | YEL |
| | 4 | SL | BLU |

5.1 Fault Locate Filters

The fault locate filter is assigned to slot JK2 in the apparatus case housing. The fault locate filter should be plugged into this slot. Prior to inserting an active filter, be sure that the polarity switch is properly set. The apparatus case has a jumper from JK8 pin 7 to pin 10. If fault locate is used, cut or remove the jumper. If fault locate is not used, do NOT cut or remove the jumper.

The apparatus case has an installer grounding screw terminal at the bottom of the case for connection to earth ground. The terminal is equipped with a 1/4-inch stud nut and washer and should be connected to an earth ground with 14-gauge (minimum) wire.

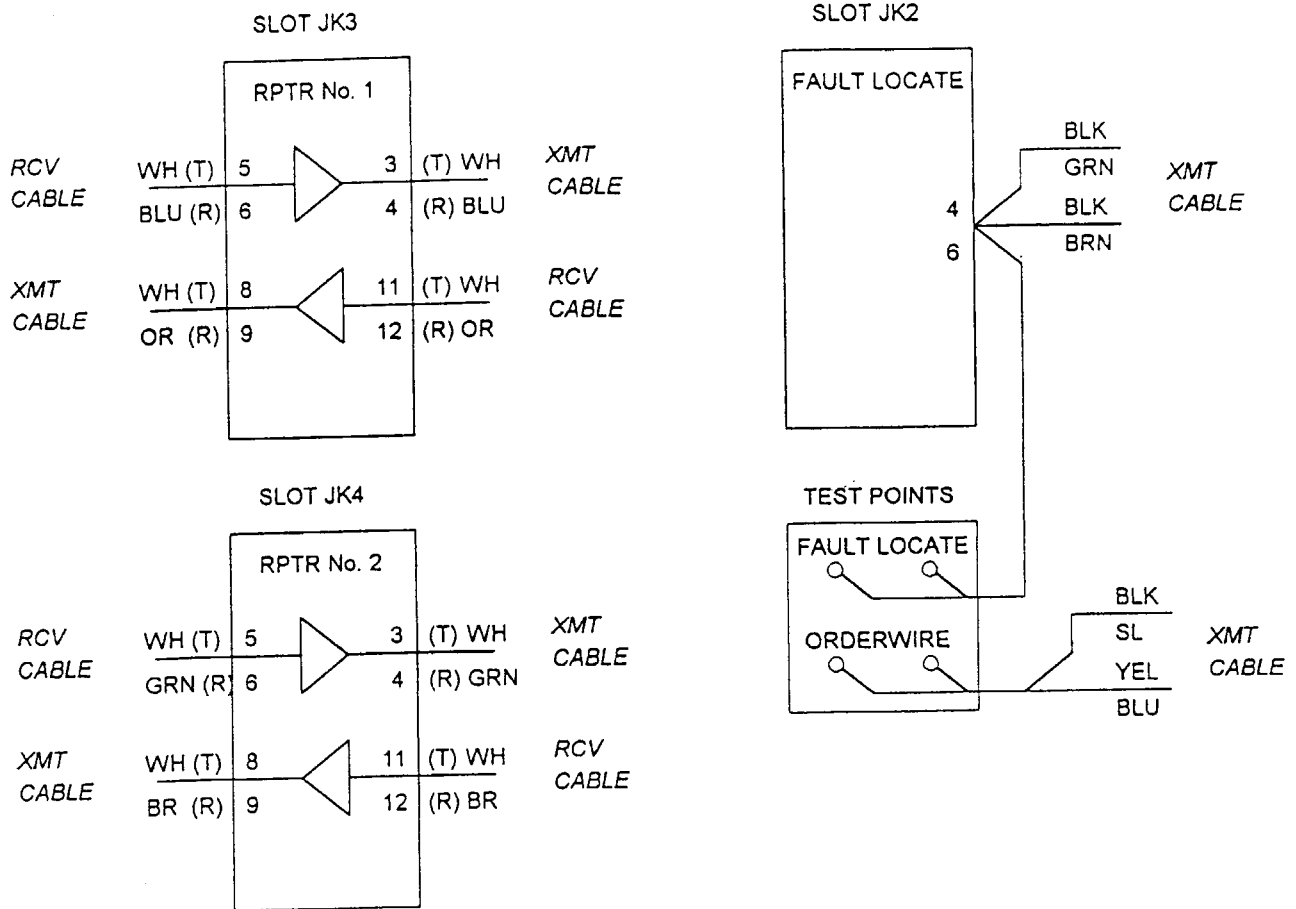


Figure 2. Block Diagram

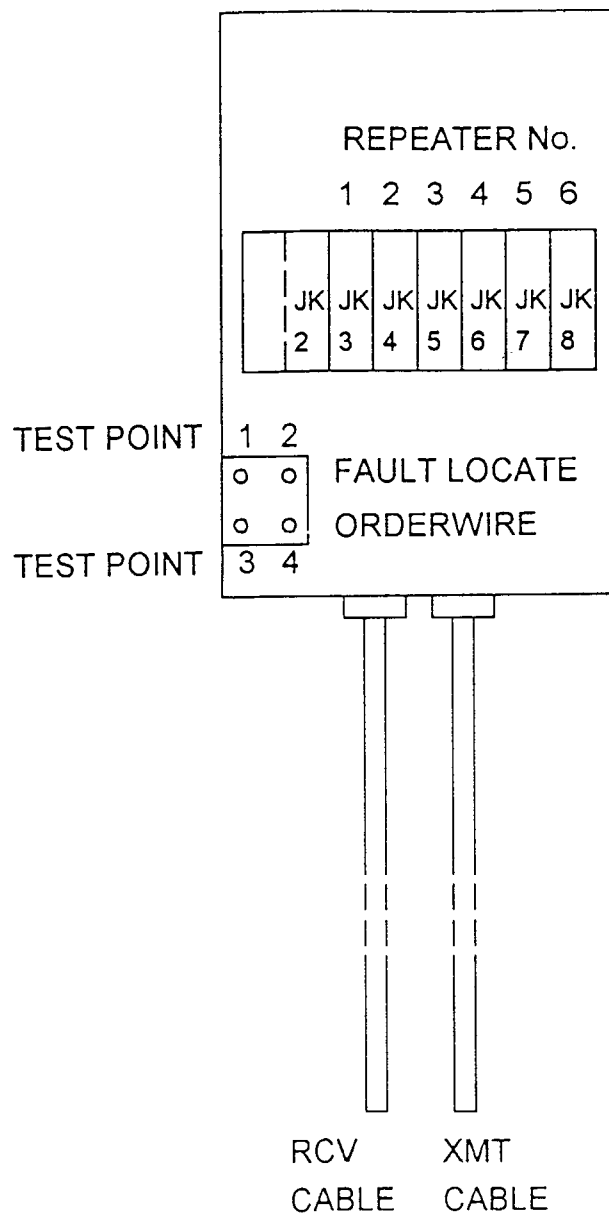


Figure 3. Equipment Layout

6. TECHNICAL ASSISTANCE

If technical assistance is required, contact Charles' Technical Services Center at:

847-806-8500

847-806-8556 (FAX)

800-607-8500

techserv@charlesindustries.com (e-mail)

7. WARRANTY & CUSTOMER SERVICE

7.1 Warranty

Charles offers an industry-leading, 5-year warranty on products manufactured by Charles. Contact your local Sales Representative at the address or telephone numbers below for warranty details. The warranty provisions are subject to change without notice. The terms and conditions applicable to any specific sale of product shall be defined in the resulting sales contract.

Charles Industries, Ltd.
5600 Apollo Drive
Rolling Meadows, Illinois 60008–4049
847–806–6300 (Main Office)
847–806–6231 (FAX)

7.2 Field Repairs (In-Warranty Units)

Field repairs involving the replacement of components within a unit are not recommended and may void the warranty and compatibility with any applicable regulatory or agency requirements. If a unit needs repair, contact Charles for replacement or repair instructions, or follow the *Repair Service Procedure* below.

7.3 Advanced Replacement Service (In-Warranty Units)

Charles offers an “advanced replacement” service if a replacement unit is required as soon as possible. With this service, the unit will be shipped in the fastest manner consistent with the urgency of the situation. In most cases, there are no charges for in-warranty repairs, except for the transportation charges of the unit and for a testing and handling charge for units returned with no trouble found. Upon receipt of the advanced replacement unit, return the out-of-service unit in the carton in which the replacement was shipped, using the pre-addressed shipping label provided. Call your customer service representative at the telephone number above for more details.

7.4 Standard Repair and Replacement Service (Both In-Warranty and Out-Of-Warranty Units)

Charles offers a standard repair or exchange service for units either in- or out-of-warranty. With this service, units may be shipped to Charles Industries for either repair and quality testing or exchanged for a replacement unit, as determined by Charles Industries. Follow the *Repair Service Procedure* below to return units and to secure a repair or replacement. A handling charge applies for equipment returned with no trouble found. To obtain more details of this service and a schedule of prices, contact the Charles Service Center at 217–932–5288 (FAX 217–932–2943).

Repair Service Procedure

1. Prepare, complete, and enclose a purchase order in the box with the equipment to be returned.
2. Include the following information:
 - Company name and address
 - Contact name and phone number
 - Inventory of equipment being shipped
 - Particulars as to the nature of the failure
 - Return shipping address
3. Ship the equipment, purchase order, and above-listed information, transportation prepaid, to the service center address shown below.

Charles Service Center
503 N.E. 15th St., P.O. Box 339
Casey, IL 62420–2054

4. Most repaired or replaced units will be returned within 30 or 45 days, depending on the product type and availability of repair parts. Repaired units are warranted for either 90 days from the date of repair or for the remaining unexpired portion of the original warranty, whichever is longer.

8. SPECIFICATIONS

See Table 3 for the physical characteristics of the

Table 3. Physical Specifications

| Feature | U.S. | Metric |
|------------------------------------|----------------------------|------------------|
| Height | | |
| Case | 11.5 inches | 29.2 centimeters |
| Overall, not including cable stubs | 12.0 inches | 30.5 centimeters |
| Width | 7.8 inches | 19.8 centimeters |
| Depth | | |
| Excluding hasp and hex nut | 5.35 inches | 13.6 centimeters |
| Overall | 6.12 inches | 15.6 centimeters |
| Weight, including cable stubs | 4.6 pounds | 2.1 kilograms |
| Cable stub length | 10 feet | 3 meters |
| Temperature | –40° to 140° F | –40° to 60° C |
| Humidity | 0 to 95% (no condensation) | |

