

7480-00 Special Service Interface Unit

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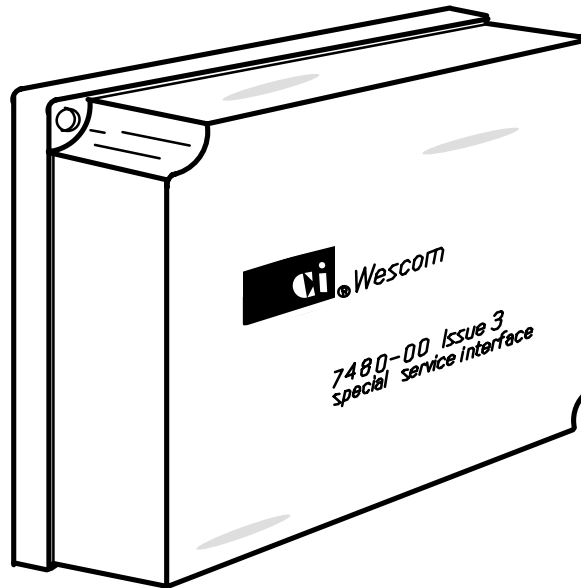


Figure 1. 7480-00 Special Service Interface Unit

1. GENERAL

1.1 Document Purpose

This document provides a circuit description, installation procedures, and basic testing information for the Charles Industries 7480–00 Special Service Interface Unit, shown in Figure 1.

1.2 Document Status

This document is reprinted to provide a general editorial update.

1.3 Equipment Function

The Charles Industries 7480–00 is designed to terminate a 2-wire special service or private line circuit at the customer's premises.

1.4 Equipment Location/Mounting

Various methods of mounting may be used as well as several possible cable entry and exit arrangements.

1.5 Equipment Features

The 7480–00 provides the following features:

- DC potential isolation
- Overvoltage protection at both the facility and customer interface
- Simplex lead access on the facility side
- A choice of either 600– or 900–ohm facility side impedance
- Up to 32.5dB of attenuation in 0.1dB increments.

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 Charles Industries 7480–00 protects the TELCO facility from undesirable potentials that may be placed on the line by CPE equipment. Additionally, the 7480–00 is used to limit the signal from the CPE equipment to minimize crosstalk potential.

In a typical application, the 7480–00 is used to couple VF signals as shown in Figure 2. The simplex lead may be used for signaling current or control functions, such as controlling a relay, a lamp, or any other warning device controlled by DC signals.

4. CIRCUIT DESCRIPTION

Refer to Figure 2, the 7480-00 (Issue 3) block diagram while reading the following circuit description.

Transformer T1 and T2 provide DC isolation between the TELCO facility and the CPE equipment. Transformer T2 provides 600 or 900 ohm taps to select facility side impedance. Transformer T1 provides a fixed 600 ohm impedance toward the customer equipment. TLP level control is provided via switches S1 and S2, which in combination provide up to 32.5dB of TLP adjustment in 0.1dB increments. The absolute signal level through the 7480-00 is limited to a maximum of 1.2V peak at the customer's interface, and a maximum of 7V peak at the TELCO facility.

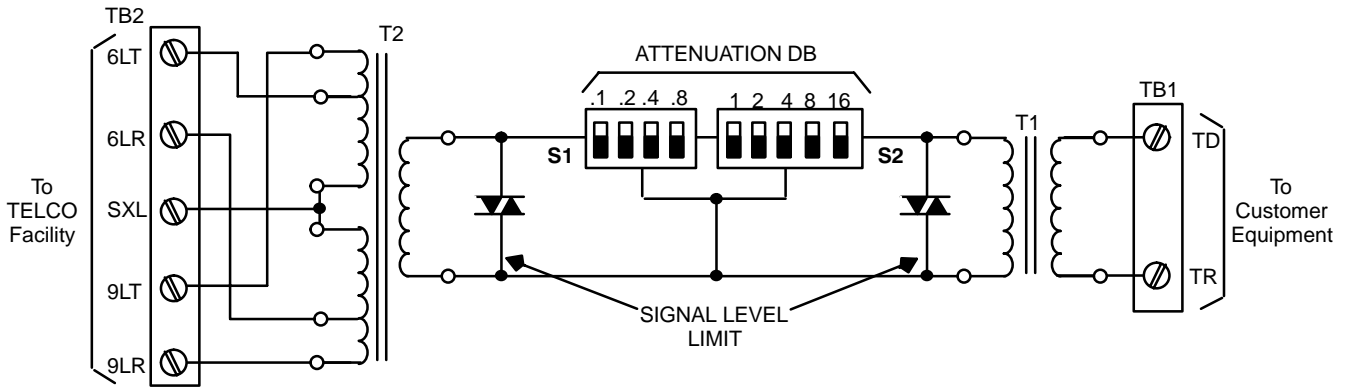


Figure 2. 7480-00 Special Service Interface Unit (Issue 3) Block Diagram

5. MOUNTING

The 7480-00 is contained in a small, beige case made of high impact plastic designed for mounting directly over an outlet box. Use the two screw holes on the bottom of the case near the cable entrance. The 7480-00 can also be mounted, in any position, on a wall or on the floor using any of the three screw holes on the 7480-00 case. Refer to Figure 3.

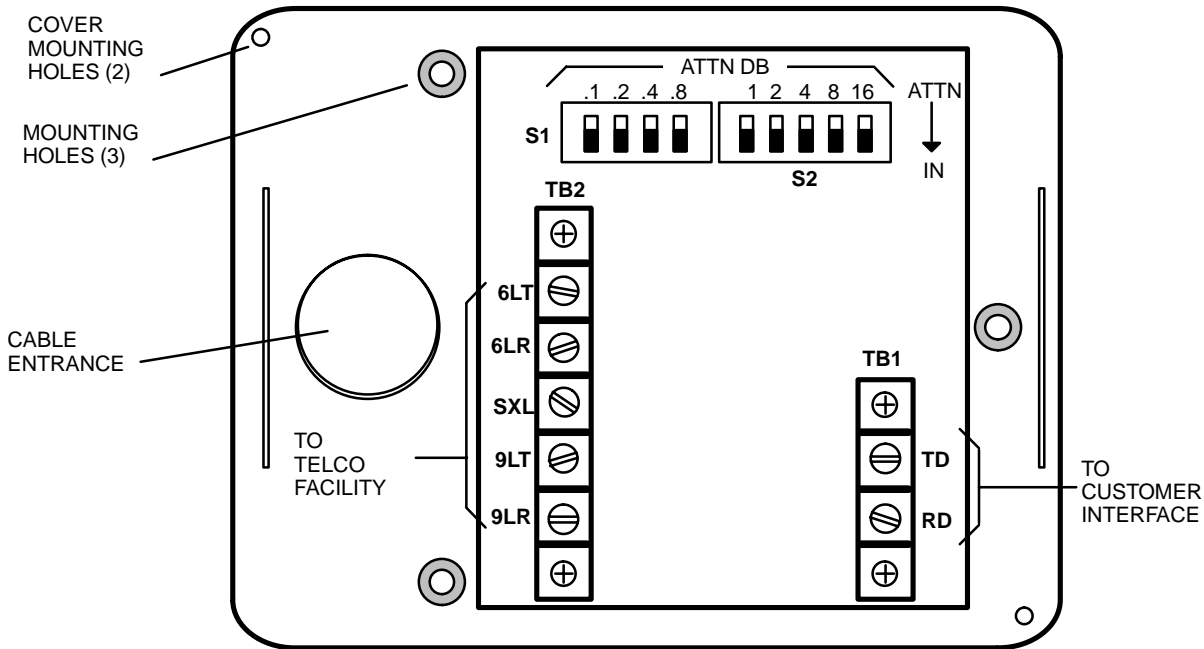


Figure 3. 7480-00 Option Locations and Installer Connections

6. INSTALLER CONNECTIONS

All installer connections are made to the terminal blocks located on the component side of the PC board. Remove the top of the case, exposing the PC board and make all connections according to Table 1 and Figure 3.

Table 1. 7480–00 Installer Connections

TB DESIGNATION		CONNECTED TO
TB1	TB2	
TD RD		TIP (CUSTOMER EQUIPMENT) RING (CUSTOMER EQUIPMENT)
	6LT 6LR	TIP (600-OHM TELCO FACILITY)* RING (600-OHM TELCO FACILITY)*
	SXL	SIMPLEX (TELCO FACILITY)
	9LT 9LR	TIP (900-OHM TELCO FACILITY)* RING (900-OHM TELCO FACILITY)*
*Use only TB2–6LT and TB2–6LR when a 600-ohm line impedance is required. Use only TB2–9LT and TB2–9LR when a 900-ohm line impedance is required.		

There are three possible cable entry and exit points on the 7480–00. The first is the large hole located on the bottom of the case, where the cable would enter from the outlet box. The second hole is alongside the bottom of the case where typically the cable would enter when the unit is wall mounted. The third hole is located on the side of the top of the unit and is typically used as an exit point. It should be noted that any of the three entry and exit points can be used as either as cable entry or exit points.

7. ALIGNMENT

To align the unit, set switches S1 and S2 for the required attenuation level.

8. TESTING

If trouble is encountered with the operation of the 7480–00, verify that all installer connections are correct according to Table 1. Verify that the correct line impedance is being used and that the attenuators are set for the required level.

9. TECHNICAL ASSISTANCE

9.1 Technical Assistance — U.S.

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

847–806–8500

847–806–8556 (FAX)

800–607–8500

techserv@charlesindustries.com (e-mail)

9.2 Technical Assistance — Canada

Canadian customers contact:

905–821–7673 (Main Office)

905–821–3280 (FAX)

10. WARRANTY & CUSTOMER SERVICE

10.1 Warranty

Charles Industries, Ltd. offers an industry-leading, 5-year warranty on products manufactured by Charles Industries. 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)

10.2 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 Industries, Ltd. for replacement or repair instructions, or follow the *Repair Service Procedure* below.

10.3 Advanced Replacement Service (In-Warranty Units)

Charles Industries, Ltd. 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.

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

Charles Industries, Ltd. 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 CI 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.

CI Service Center
Route 40 East
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.

11. SPECIFICATIONS

11.1 Electrical

The electrical characteristics of the 7480-00 are as follows:

- (a) PAD RANGE: 0.0 to 32.5dB, in 0.1dB increments.
- (b) IMPEDANCE: Customer interface, 600 ohms; TELCO facility, 600 or 900 ohms.
- (c) INSERTION LOSS: 1.4dB typical, with adjustable PAD set to 0.0dB.
- (d) VOLTAGE LIMITING: Drop, 1.2V peak; line (900 ohms), 7V peak.
- (e) SIMPLEX CURRENT: 10mA, maximum; 5mA, unbalanced.

11.2 Physical

See Table 2 for the physical characteristics of the 7480-00.

Table 2. Physical Characteristics

Feature	U.S.	Metric
Height	4.3 inches	10.9 centimeters
Width	5.5 inches	14.0 centimeters
Depth	1.9 inches	4.8 centimeters
Weight	10 ounces	283 grams
Temperature	0° to 120°F	-18° to +49°C
Mounting	Wall, baseboard, or electrical type junction box.	

