

902 Two-Wire Interface Unit Model B90-090200 (CLEI™ Code: NCCSW231AA)

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1. General

1.01 The Engenuity 902 Two-Wire Interface Unit is designed to terminate a 2-wire special service or private line data circuit at the customer premises. The Engenuity 902 features over-voltage protection at both the line and the drop-side interfaces, simplex or A and B leads on the line side, a choice of either 600 or 900-ohm line impedance, a switchable attenuator that allows for 0 up to 15dB of loss for proper level coordination.

1.02 The Issue B 902 Two-Wire Interface Unit is functionally equivalent with Issue A. The Issue B meets UL1459 requirements.

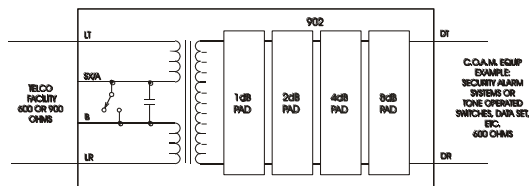


Figure 1.
902 Typical Application

2. Operating Description

2.01 The 902 is used to couple VF signals from the Telco Facility to the Customer Premises Equipment (CPE), such as shown in Figure 1 and in the Block Diagram, Figure 2. The simplex or A and B leads can be used for sealing current and control functions, such as controlling a relay, a lamp or any other warning device controlled by DC signals.

2.02 Signals to, and from, the lines are coupled through a transformer which terminates the line in either 600 Ohms or hms as selected by switch S6. The secondary side of the transformer is shunted by two zener diodes in series which protect the circuitry from transients and limit all signals to less than 7 volts peak.

2.03 The A and B leads are available at screw terminals A/SX and B. Capacitor C1 may be shunted by closing switch S5, thus screw terminal A/SX may then be used as a simplex lead.

2.04 The secondary side of the transformer is connected to four 600-ohm balanced T-type attenuators in series. Each attenuator is controlled by a slide switch, labeled as S1 through S4. The attenuators have values of 1dB, 2dB, 4dB, and 8dB, each of which operate independently of the others. The line output is protected by zener diodes which limit all signals to 7 volts or less peak. The drop-side connections are made at screw terminals DT and DR.

3. Inspection and Warranty

Inspection

3.01 Inspect the equipment thoroughly as soon as possible after delivery. Any damage should be reported immediately to the transportation company.

Warranty

3.02 Engenuity warrants this product to be free of defects at the time of shipment. Engenuity also warrants this product to be fully functional for a period of 5 years from original shipment, given proper handling and installation. Engenuity will repair or replace any unit without cost during this period if the unit is found to be defective for any reason other than abuse, improper use, or installation.

3.03 This equipment should not be field repaired. Any attempt to repair or modify the equipment by anyone other than an authorized Engenuity representative will cause the warranty to be void. If the unit is suspected of being faulty, replace it with another unit. If the replacement unit appears to be operating correctly, the original unit may be faulty. In this case, return the defective unit to Engenuity for repair or replacement.

Repair And Return

3.04 If the equipment is found to be defective, please contact Engenuity regarding repair or exchange. Before returning the equipment, please request a Return Material Authorization (RMA). Return the equipment, along with a brief description of the problem to:

Engenuity Communications
1251 Nagel Blvd.
Batavia, IL 60510
ATTN: Repair & Return Dept.
1-800-980-3266

3.05 Engenuity will repair or replace any defective Engenuity equipment without cost during the warranty period if the unit is found to be defective for any other reason than abuse, improper use, or improper installation. If a replacement unit is required, it will be shipped in the fastest manner consistent with the urgency of the situation.

3.06 Engenuity will continue to repair or replace faulty equipment beyond the warranty period but at a nominal charge. Contact Engenuity or your local Engenuity Sales Representative for details.

Technical Assistance

3.07 If technical assistance is required, please contact Engenuity's Technical Service Department at 1-800-980-3266.

3.08 The 902 is identified by a model number and issue letter (e.g., B90-090200) on the cover. Each time a change is made to the product's form, fit, or function, the issue letter is advanced (e.g., from A90 to B90). Be sure to indicate the issue and revision level of the unit, along with the model number when making inquiries about the equipment.

4. Mounting

4.01 The 902 is designed to be mounted on a wall or directly over an outlet box, using the two screw holes near the cable entry hole on the bottom of the case. The screw holes on the 902 case can also be used to mount the 902 to the floor or wall. The 902 may also be mounted on metal structures, such as a desk or filing cabinet, by using double-sided tape on the bottom of the case. Cables can be routed through the hole on the bottom of the case or through the notch on the side of the case.

5. Installer Connections

5.01 All installer connections are made to the terminal blocks located on the component side of the PC board. Remove the cover of the 902 exposing the PC board and make all installer connections. Please observe the following safety notes:

- (1) Never install telephone wiring during a lightning storm.
- (2) Never install telephone jacks in wet locations unless the jack is specifically designed for wet locations.
- (3) Never touch uninsulated telephone wires or terminals unless the telephone line has been disconnected at the network interface.
- (4) Use caution when installing or modifying telephone lines.

5.02 When the 902 is mounted over an outlet, use the large hole in the bottom of the case for the cable entrance. When wall mounted, the large notch in the side of the case serves as the cable entrance.

Instruction	Terminal Block Designation
Drop Tip	DT
Drop Ring	DR
Line Simplex or A Lead	SX/A
B Lead	B
Line Tip	LT
Line Ring	LR

6. Testing & Alignment

6.01 The alignment procedure for the 902 consists of setting the switchable attenuator pads for the attenuation level desired. When all pads are out, the unit has about .5dB of loss. Therefore, the total attenuation is the sum of all the pads used, plus 1dB. Set switch S6 for either 600 or 900 ohms. Set switch S5 for simplex lead or A and B leads.

6.02 If trouble is encountered with the operation of the 902, verify that all installer connections have been properly made in accordance with Table 1. Verify that the correct line impedance is being used and that the switchable attenuators are set for the required level. If technical assistance is required, contact the Engenuity Technical Services Department by phoning 1-800-980-3266.

7. Specifications

- Pad Range: 0 to 15dB, in 1dB steps, switch selectable
- Impedance: Drop, 600 ohms; Line, 600 or 900 ohms, optional
- Insertion Loss: 1dB typical, plus attenuator
- Over voltage Protection: 7V peak A and B Lead Current: 90mA max.
- Operating Environment: Temperature 0°C to +50°C
- Dimensions: 6.25" x 3.75" x 2.25"
- Weight: 30 oz.

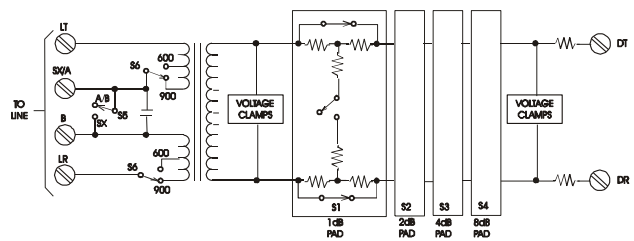


Figure 2.
902 Block Diagram