

**FOLLOW THESE STEPS TO INSTALL A LINK/REPEATER.**

1. Set the DTE/DCE Switch and the Repeater Mode Switch to the appropriate position.
2. Connect an earth ground wire to the ground lug on the face of the unit. The ground stud has three nuts attached. NEVER LOOSEN OR REMOVE THE BOTTOM NUT CLOSEST TO THE UNIT. The two other nuts are used for attaching the ground wire. Place the ground wire between these two nuts and securely tighten the nuts together.

**WARNING: WHEN INSTALLING A MODEL /48DC or /HV LINK/REPEATER, AN EARTH GROUND MUST BE ATTACHED TO THE GROUND STUD ON THE SIDE OF THE CASE BEFORE CONNECTING POWER. FAILURE TO FOLLOW THIS PROCEDURE MAY RESULT IN ELECTRICAL SHOCK TO PERSONNEL.**

3. Connect the Link/Repeater's 9 pin connector to the appropriate communication port on the IED. This connection may be made by either directly plugging the Link/Repeater into a standard RS232 9 pin D Connector on the IED (make sure not to over tighten the D Connector screws) or by means of an adapter or extension cable (make sure that the pin assignments are correctly matched).
4. Connect the Fiber Optic Cable (FOC).

*Note: The FOC must connect a "T" optical port of one Link/Repeater to the "R" optical port of another Link/Repeater and visa-versa.*

5. Connect the power source to the Link/Repeater.

*Note: The LEDs do not illuminate when power is applied. They illuminate only when data signal traffic occurs. If powering through the power connector on the side of the unit:*

- Check the Link/Repeater's voltage rating, stamped next to the power connector and verify it matches the power source.
- Remove the plug portion of the power connector by loosening the two captive mounting screws.
- Strip back 1/4" off the insulation of the wires that will connect the unit to the power source.
- Insert each conductor firmly into the proper terminal hole of the plug (note: this connection is polarity sensitive).
- Visually inspect that no strands of wire are straying out of the hole, potentially shorting to ground or the other conductor. Tighten the saddle screws until secure. Re-insert the plug into the power connector and secure the two captive mounting screws.
- Connect the power leads to the power source. (The input is non-polarized.) The unit is now powered.

6. Verify operation. When powered and transmitting, the amber LEDs TE & TO illuminates. When receiving, the RO and RE LEDs illuminate. When in the repeat mode and receiving, both RO and RE as well as the optical TO LED illuminates.

*Note: The LEDs "flicker" as data passes through the Link/Repeater. This is normal operation.*

7. For more detailed information on operation, please refer to the Complete Product Installation and Operation Manual.

## TESTING

RLFDX232(M,S)2 Link/Repeaters are easily tested. Testing the units can be done by setting the Test mode switch that transmits 100 Hz signal on the optical transmit port or requires transmitting and receiving data using an IED while observing that the diagnostic LEDs are illuminating in the proper sequence.

To test whether a unit is transmitting and receiving correctly, insert a short fiber jumper between its "T" and "R" optical ports, power the units, transmit a signal or set the test mode switch to ON and note that all four diagnostic LEDs illuminate during communications.

To test the units in a loop configuration, two Link/Repeaters are required. Connect two short jumper fibers from the "T" optical port of each Link/Repeater to the "R" optical port of the other. Set the Mode switch on one of the units to REP and the other to OFF. The unit with the Mode switch in the OFF position is the Master. Power both units. Using the Master, set the Test mode switch to ON or transmit and receive data through the other unit in the repeat mode. Observe the diagnostic LEDs illumination patterns during communication.

**TROUBLE SHOOTING**

If the unit does not work properly, refer to the User Manual (UM5845), and use the following checklist:

- Is the unit properly powered?
  - Verify that the unit is receiving the correct power and the Green "PWR" LED is illuminated.
- Check that the diagnostic LEDs are responding to the optical and electrical activity.
- Is the unit mated properly to the IED? If an adapter is used, check that pins are connected correctly.
- Are the fiber cables connected properly? "T" to "R"; not "R" to "R" or "T" to "T".
- Are the DTE/DCE and mode switches set to the proper positions for the application?
- Review the IED's software and protocols. Have the appropriate settings on the IED been made to compensate for these requirements?
- Consult factory.

**Pinout for DTE Mode (Normal Functionality)**

- 2 Transmitted Data (Link Input)
- 3 Received Data (Link Output)
- 5 Signal Common

**Pinout for DCE Mode (Normal Functionality)**

- 2 Received Data (Link Output)
- 3 Transmitted Data (Link Input)
- 5 Signal Common

**Extended Functionality**

- 1 Chassis (Earth) Ground
- 6 Data Set Ready (+5V Output)
- 8 TTL Output
- 7 Repeat Enable / Disable
- 9 +9to 15 VDC Input

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**DO NOT ATTEMPT TO DISASSEMBLE LINK/REPEATERS AS THERE ARE NO USERSERVICEABLE PARTS WITHIN. THIS ACTION WILL VOID THE WARRANTY.**

Need Additional Assistance?

Visit our website <http://www.comnet.net> or contact Comnet tech support:

Tel: (203) 796-5300

Toll free: (888) 678-9427

Email: [techsupport@comnet.net](mailto:techsupport@comnet.net)

Additional Technical support contact details can be found at:

<http://www.comnet.net/services/technical-support.html>

Or Visit our pre-sales design center:

<http://www.comnet.net/services/design-center.html>

Or our customer care:

<http://www.comnet.net/services/customer-care.html>

Additional Downloads

Datasheets, Installation manuals and other product documentation can be found at:

<http://www.comnet.net/comnet-products/ethernet/wireless/>



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