



XTEND 900 MHZ WIRELESS MODEM  
For use with VEEDER-ROOT EMR4 DATALINK  
INSTALLATION INSTRUCTIONS  
Manual 577014-354, Rev. A



## INTRODUCTION

This installation guide contains the necessary information to connect the wireless modems to the EMR4 Interconnect Box and the office computer for running the EMR4 DataLink program. For specific instructions on running the program itself, refer to the Quick Help guide that is included with the office and direct Interconnect Box connection kits.

## DESCRIPTION:

There are three wireless modem kits and one optional high gain antenna kit available for EMR4 DataLink in office computer and truck applications.

Kit Number	Description	General Contents and Comments
0845900-030	Office Kit - XTend 900 MHZ	The office kit includes: <ul style="list-style-type: none"><li>• Wireless USB modem with standard antenna,</li><li>• Regular USB Cable for connecting the modem to the office PC,</li><li>• Quick Help Guide,</li><li>• Installation Guide (this manual)</li></ul>
0845900-031	Truck Kit with Keypad - XTend 900 MHZ	The Truck Kit with Keypad includes: <ul style="list-style-type: none"><li>• Wireless modem with standard antenna,</li><li>• Special RS-232 Cable for Connecting to Interconnect Box</li><li>• Cord grip and Velcro patch</li><li>• Installation Guide (this manual)</li><li>• Optional Keypad for EMR4 Display Head</li></ul>
0845900-032	Truck Kit without Keypad - XTend 900 MHZ	The Truck Kit without Keypad includes: <ul style="list-style-type: none"><li>• Wireless modem with standard antenna,</li><li>• Special RS-232 Cable for Connecting to Interconnect Box</li><li>• Cord grip and Velcro patch</li><li>• Installation Guide (this manual)</li></ul>
0845900-033	Optional High Gain Antenna Kit	The Optional High Gain Antenna Kit includes: <ul style="list-style-type: none"><li>• High Gain Antenna</li><li>• Mounting bracket</li><li>• 20 feet of cable with connectors</li></ul>







## INDIVIDUAL MODEM UNIQUE ADDRESS

Each modem has a unique address assigned by Veeder-Root. This number is on the label on the modem itself, and on the kit box. For each truck / Interconnect Box, this number is your traceability from the specific truck to the office software. The truck modem number will be entered into the office software and identified with the specific truck number (or other local identification).

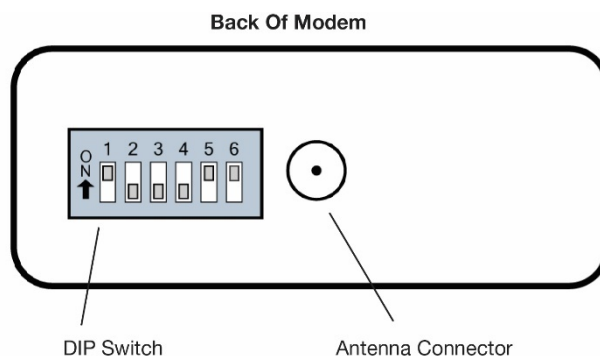
### TRUCK KIT MODEM:

XTend 900 MHz, 1 Watt, Serial	Unique Address Assigned By Veeder-Root Example of Label on Side of Modem
	<div data-bbox="961 951 1344 1050" style="border: 1px solid black; border-radius: 15px; padding: 10px; text-align: center;"> <p>MODEM NO.: 10126</p>  </div>

## FOR XTEND 900 MHz SERIAL MODEMS

### TRUCK MODEM MOUNTING AND CONNECTION:

1. The DIP switches on the XTend modem should be set to: 1=ON 2=OFF 3=OFF 4=OFF 5=ON 6=ON as shown below.



2. Screw the antenna into the modem and hand tighten.
3. Mount the modem to the back window of the vehicle or other surface of the vehicle using the Velcro patch provided, or the modem can be attached with screws or bolts using the tabs on the modem.
4. Add the screw clips and screws to the head of the RS-232 cable, plug into the connector, and tighten the screws to secure the connector to the modem.

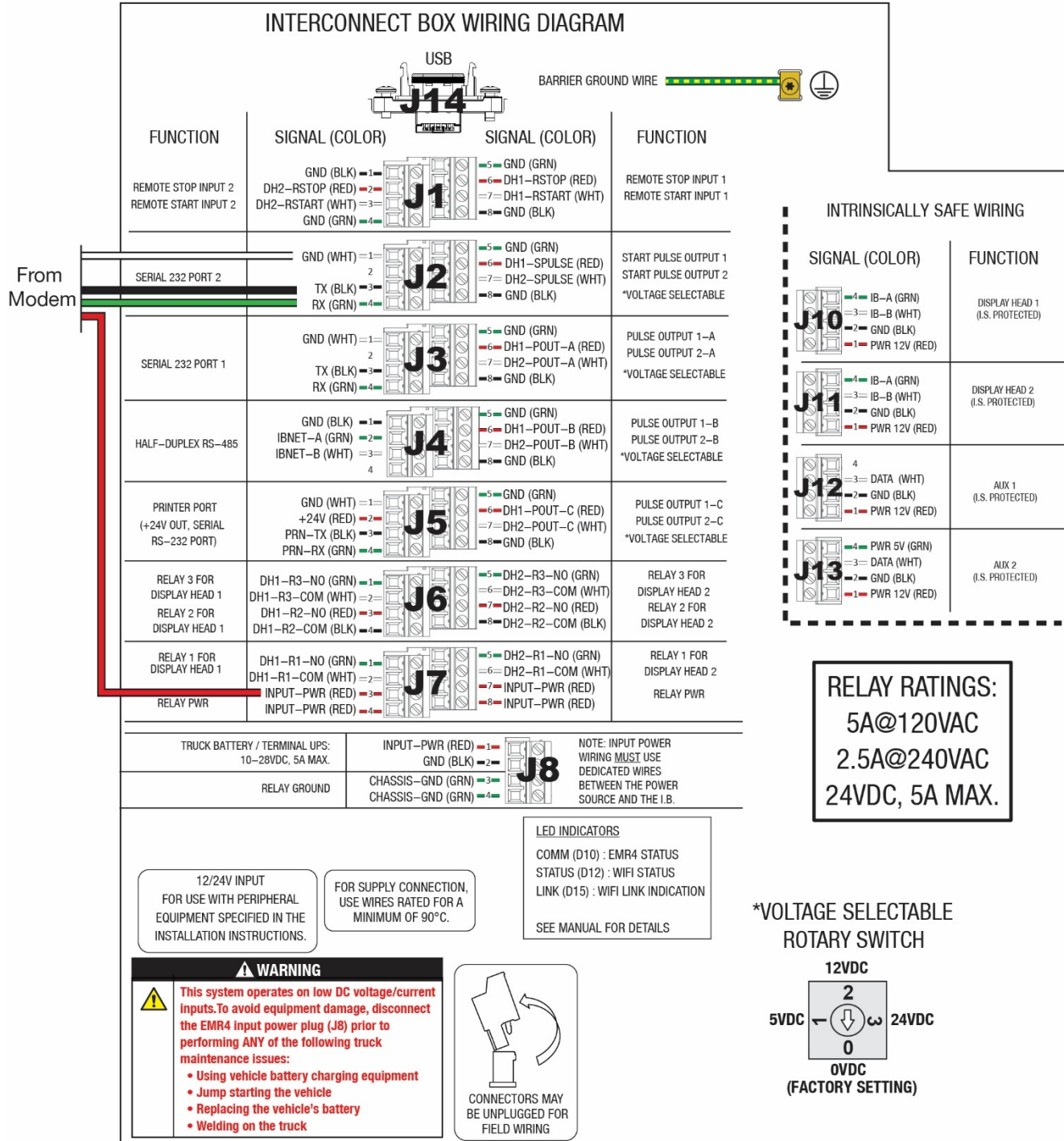


#### **WIRING THE SPECIAL RS-232 CABLE INTO THE IB – TRUCK KIT ONLY – XTEND MODEM:**

Power should be off to the Interconnect Box before connections are made.

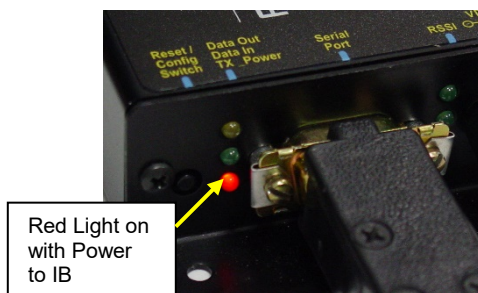
The special RS-232 cable included with the truck kit provides modem communication data and power from the Interconnect Box. The connectors in the IB are designed for up to 12-gauge wire.

**XTend Modem cable wiring connections at the IB:** Green to J2 or J3, terminal 4 (RX), Black J2 or J3, terminal 3 (TX), White to J2 or J3, terminal 1 (Ground), Red to J7 terminals 3, 4, 7 or 8 (INPUT-PWR) as shown in the diagram on the following page.





Upon completion of the wiring and power to the IB is turned on, the red light on the modem next to the RS-232 connector will be on.

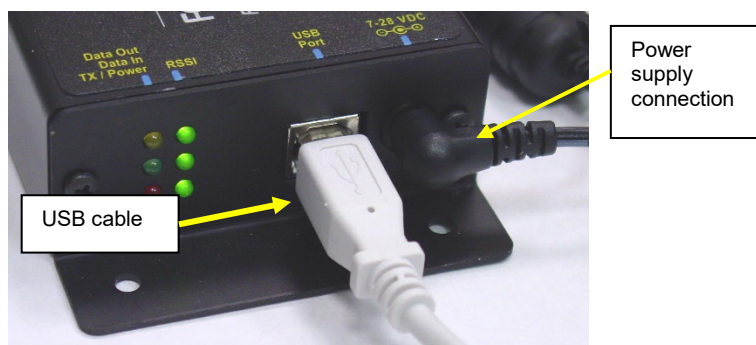


## **FOR XTEND 900 MHZ OFFICE USB MODEMS**

### **XTEND OFFICE KIT INSTALLATION:**

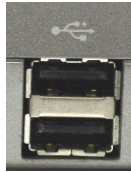


1. Screw the antenna into the modem and hand tighten. The antenna should point upwards. If using the High Gain Antenna, it connects to the same location.
2. Insert the power supply cable connector into the modem completely and attach the USB cable.





3. Plug the power supply into a normal 110V outlet or with the proper non-Americas plug. The three green signal lights on the modem will be lit.
4. The modem can sit on a desk, but for best results it should be placed as high as possible. The modem can be attached with Velcro, screws or bolts using the tabs on the modem to a surface. A high gain antenna will enhance the modem's capability.
5. Attach the other end of the USB Cable to a USB port on your computer

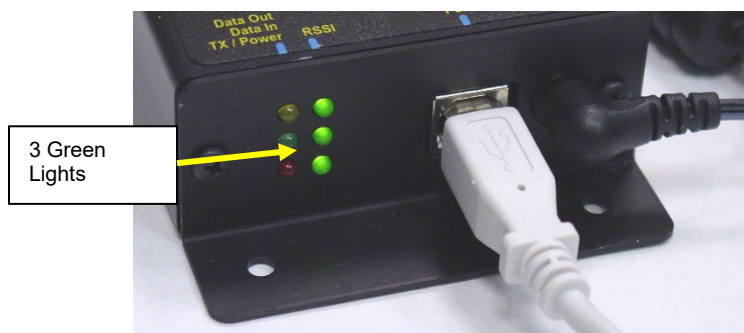


6. The Red LED on the Modem will be lit indicating power.



## Verifying XTEND MODEM Communication

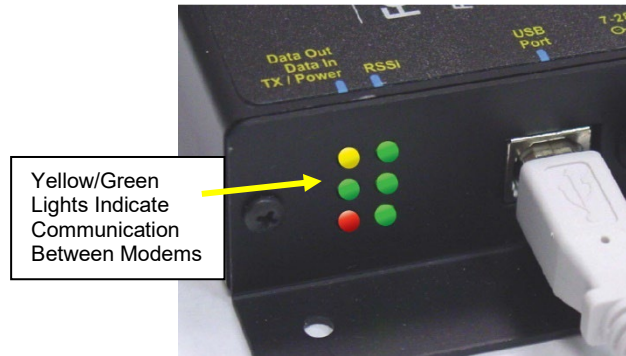
1. Have the truck modem turned on.
2. Turn on the PC and the DataLink program.
3. The Xtend modem is a plug and play device that should be detected automatically by your PC. Verify the three lights on the rear of the office modem are on as shown below. This indicates the DataLink program is transmitting a query to the truck modem.







4. The yellow/green lights over the power light should be flashing indicating communication between the truck modem and the office modem.



5. Once the modems are in communication go to Device Manager (Step 6 in Modem Configuration below) to note the modem's assigned COM port which you will need in the DataLink setup process. If the two modems are not communicating, try moving the office modem antenna to a higher position to ensure line of sight communication with the truck modem in the yard. If this doesn't resolve the issue the modem driver may need to be manually installed (Step 6 in Modem Configuration below).

## MODEM CONFIGURATION

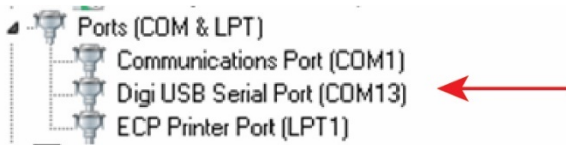
1. Click the Start button (left corner of task bar).
2. Type **cmd**
3. Click on **Command Prompt** from the displayed list.
4. At the blinking cursor in the command prompt window type **devmgmt.msc** then press **Enter**
5. Click on **Ports (COM & LPT)**
6. You should see **Digi USB Serial Port (COMX)** where X is the port number. If this port is not in the list, you need to download the driver.

If necessary, click on the link below to download the driver:

[http://ftp1.digi.com/support/driver/Digi\\_USB\\_RF\\_Drivers.exe](http://ftp1.digi.com/support/driver/Digi_USB_RF_Drivers.exe)



7. When the prompted, Click **Run** to install the driver on your PC.
8. Once the installation is complete repeat Steps 1 – 6. The modem should now appear in your com ports list:



**Note:** The COM port number (in the example above 13) which will be needed in the DataLink setup process.

9. The modem COM lights on the back of the modem should be flashing indicating modem to modem communication.
10. Open the DataLink program and begin setup (Quick Help Guide 577014-431).

## MISCELLANEOUS

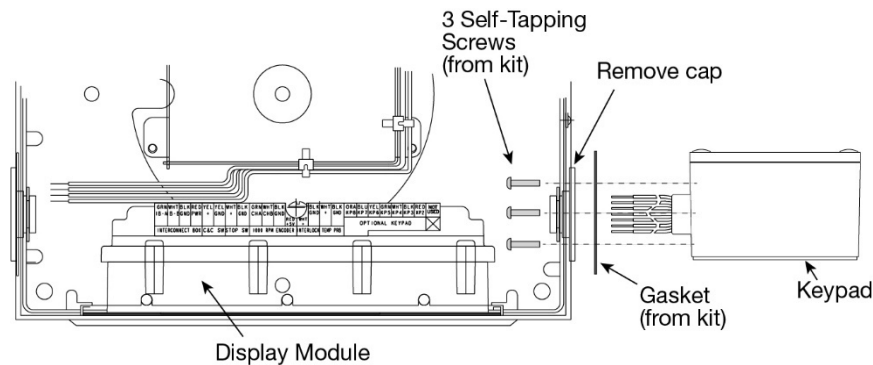
### High Gain Antenna - Kit 0845900-033

If a high gain antenna is used, it should be installed as high as possible. Instead of additional coaxial cable being added to locate the antenna, a longer USB cable can be added between the computer and the modem to improve performance.

### OPTIONAL KEYPAD INSTALLATION - Right or Left Side

1. Remove the four cover bolts of the Display Head (DH) and lift off the cover. Put the cover and bolts aside.
2. Remove the cap from the right or left side of the DH after first removing the snap ring from the cap inside the DH (see right side installation example below):

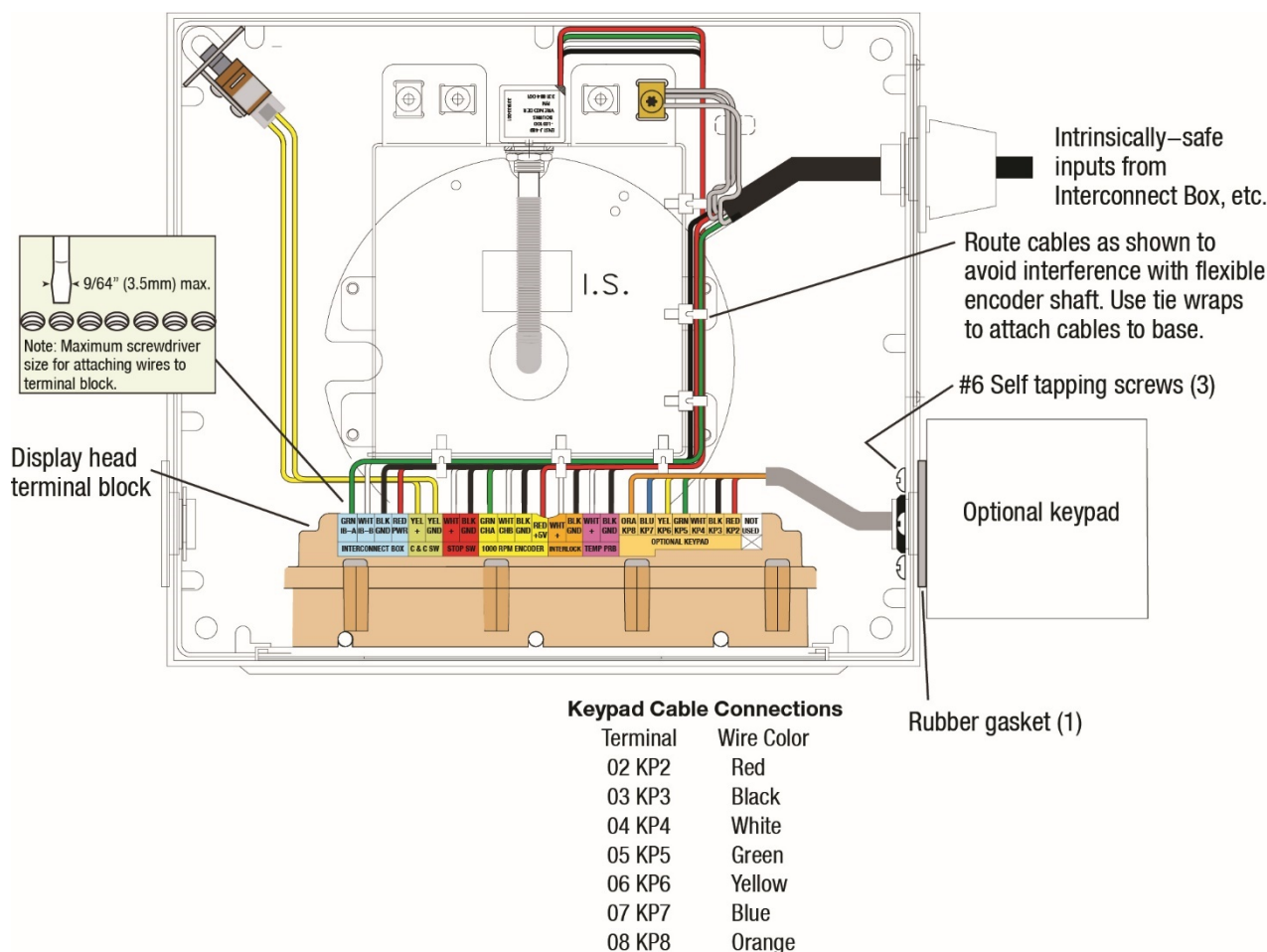




3. Get the keypad and gasket and three self-tapping screws from the kit.
4. Slide the gasket over the cable and up against the keypad housing.
5. Route the keypad cable into the DH through hole that was covered by the cap.
6. Align the three holes in the side of the DH with the three holes in the gasket and in the side of the keypad.
7. Use the three self-tapping screws to secure the keypad to the side of the DH.

**Note:** you may need to slide up the Display Module until you can tighten one or more of the self-tapping screws. If so, replace the Display Module when finished installing the Keypad.

8. Connect the keypad wires to the keypad terminals with the colored wires from the keypad attached to similar labeled terminals on the Display Module (e.g., Orange KP8 to ORA KP8) – see diagram on next page.



9. Replace the cover on the Display Head using the four cover bolts.

10. Seal the Display Head according to local Weights and Measures certification regulations using the sealing wire from the kit. Refer to the EMR4 Application Guide (P/N 577014-339) for more detail.



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### Warranty of Modems by Digi:

To view warranties for modems by Digi visit <https://www.digi.com/legal/terms>.

### MODEM REGULATORY APPROVALS:

To view information on regulatory approvals for the Digi XTP9B-PKI-RA (or XT09-PKI-R) and XTP9B-PKC-UA (or XT09-PKC-UA) modems refer to the latest version of the XTP9B-PKI-RA (or XT09-PKI-R) and XTP9B-PKCUA (or XT09-PKC-UA) user guides and datasheets at <https://www.digi.com>.

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### DAMAGE CLAIMS

1. Thoroughly examine all components and units as soon as they are received. If damaged, write a complete and detailed description of the damage on the face of the freight bill. The carrier's agent *must* verify the inspection and sign the description.
2. Immediately notify the delivering carrier of damage or loss. This notification may be given either in person or by telephone. Written confirmation must be mailed within 48 hours. Railroads and motor carriers are reluctant to make adjustments for damaged merchandise unless inspected and reported promptly.
3. Risk of loss, or damage to merchandise remains with the buyer. It is the buyer's responsibility to file a claim with the carrier involved.

### RETURN SHIPPING

For the parts return procedure, please follow the appropriate instructions in the "General Returned Goods Policy" and "Parts Return" section of the Veeder-Root EMR4 price list.

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