



UNITY WIRELESS

UniLinx

Hardware Installation Guide

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Do not operate the UniLinX in areas where blasting is in progress, where explosive atmospheres may be present, near medical equipment, near life support equipment, or any equipment which may be susceptible to any form of radio interference. In such areas, the UniLinX Card MUST BE TURNED OFF. It can transmit signals that could interfere with this equipment.

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Customer Support

Toll Free Telephone 1-800-337-6642

Corporate Address

Head Office:
7438 Fraser Park Drive
Burnaby, B.C., CANADA
V5J 5B9

Telephone (604) 267-2700

Fax (604) 267-2701

Email info@unitywireless.com

<http://www.unitywireless.com>

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UniLinx Hardware Installation

This Guide describes the procedure for installing the UniLinx hardware.

You perform the following steps to install the UniLinx:

1. Connect the backup power supply
2. (Optional) Set the auxiliary DC power supply to 5 Volt
3. Mount the UniLinx in the equipment rack
4. Connect the serial device to the UniLinx
5. (Optional) Connect the Auxiliary Input/Output
6. Connect the antenna
7. Power up the UniLinx
8. Verify UniLinx operations

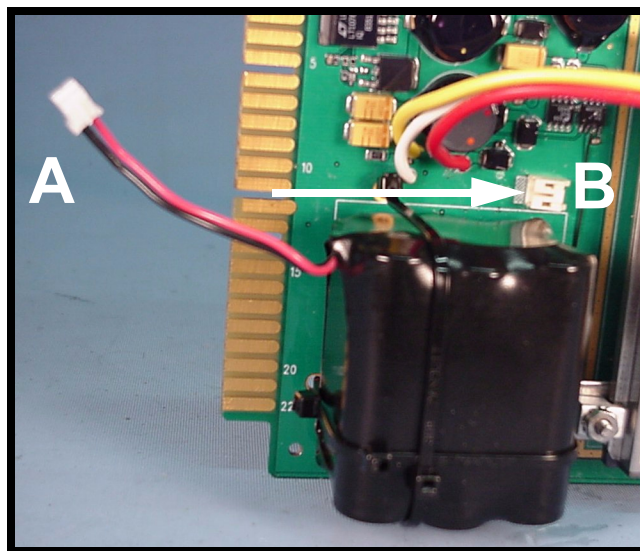
Detailed information is provided here for each step of the procedure.

Note: You must wear a static strap for all steps where it is possible for you to touch internal UniLinx components.



Step 1: Connect the Backup Power Supply

The UniLinx uses a NiCad battery pack for a backup power supply. This rechargeable battery is trickle-charged by the main power supply during normal UniLinx operation. This battery pack is disconnected when you receive the UniLinx from the factory, so you must connect it before you install the UniLinx in the field.



Note: You must wear a static strap while connecting the NiCad battery pack.

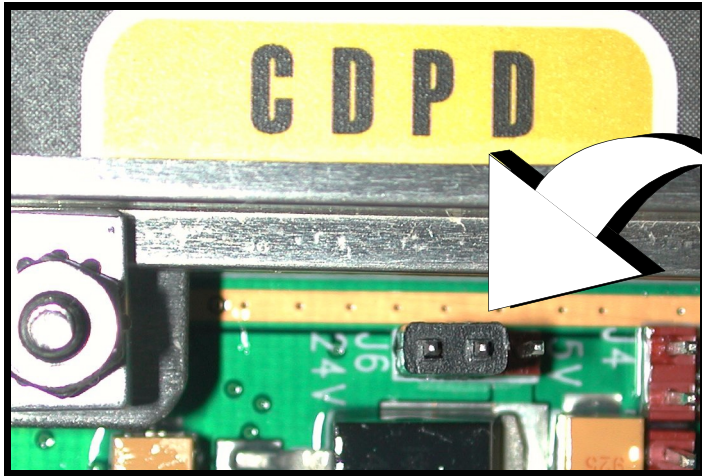
To connect the NiCad battery pack, slide the battery power wire (A) into the connector on the logic board (B) as indicated in the diagram.

Step 2: (Optional) Set the Auxiliary DC Power Supply to 5 Volt

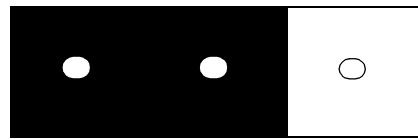
The UniLinx Auxiliary I/O can provide either a 24 VDC or 5 VDC voltage supply to external circuitry. It is set to provide 24 VDC in the factory. To set up the UniLinx to provide 5 VDC, you change the jumper settings.

Note: You must wear a static strap while changing jumper settings.

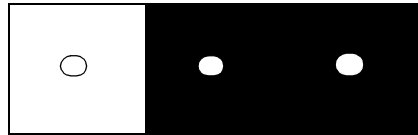
To set up the UniLinx to provide a 5 VDC power source, move the shunt for the J6 jumpers to the position indicated in the “Close-up After” diagram.



Close-up Before: Jumpers set to 24 VDC

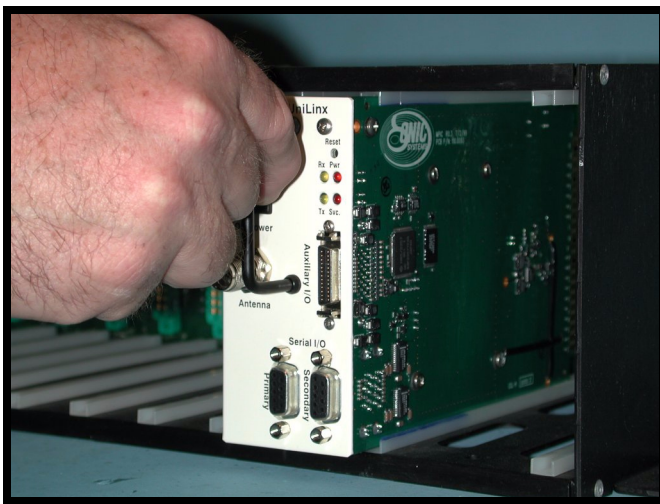


Close-up After: Jumpers set to 5 VDC



Step 3: Mount the UniLinx in the Equipment Rack

The UniLinx can be mounted in CalTrans and NEMA Detector Racks. It can also be mounted in its own card cage. For pin assignments, refer to the *UniLinx Hardware Specification*.



Note: You must wear a static strap while mounting the UniLinx.

Note: Ensure the UniLinx power switch is set to the Off position before you mount it.

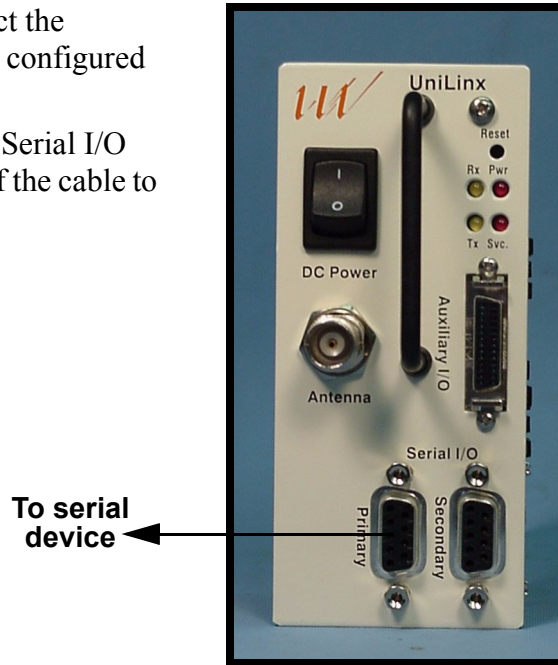
To mount the UniLinx in the equipment rack, slide the card into

Step 4: Connect the Serial Device

The UniLinx connects to standard serial devices such as traffic controllers, variable message display signs, and security system controllers.

Use a standard DB-9 modem cable to connect the UniLinx to the serial device. The UniLinx is configured as Data Communications Equipment (DCE)

Connect one end of the cable to the Primary Serial I/O port on the UniLinx. Connect the other end of the cable to the RS-232 port on the serial device.



Step 5: Connect the Auxiliary Input/Output

The auxiliary Input/Output (I/O) port connects to circuitry on one or more electrical or mechanical devices located at the remote site. Operators can then use IP-based applications (e.g., the UniLinx Management Tool) which are running on hosts connected to the Wireless IP Network, to monitor and manage the device(s) connected to the auxiliary I/O.

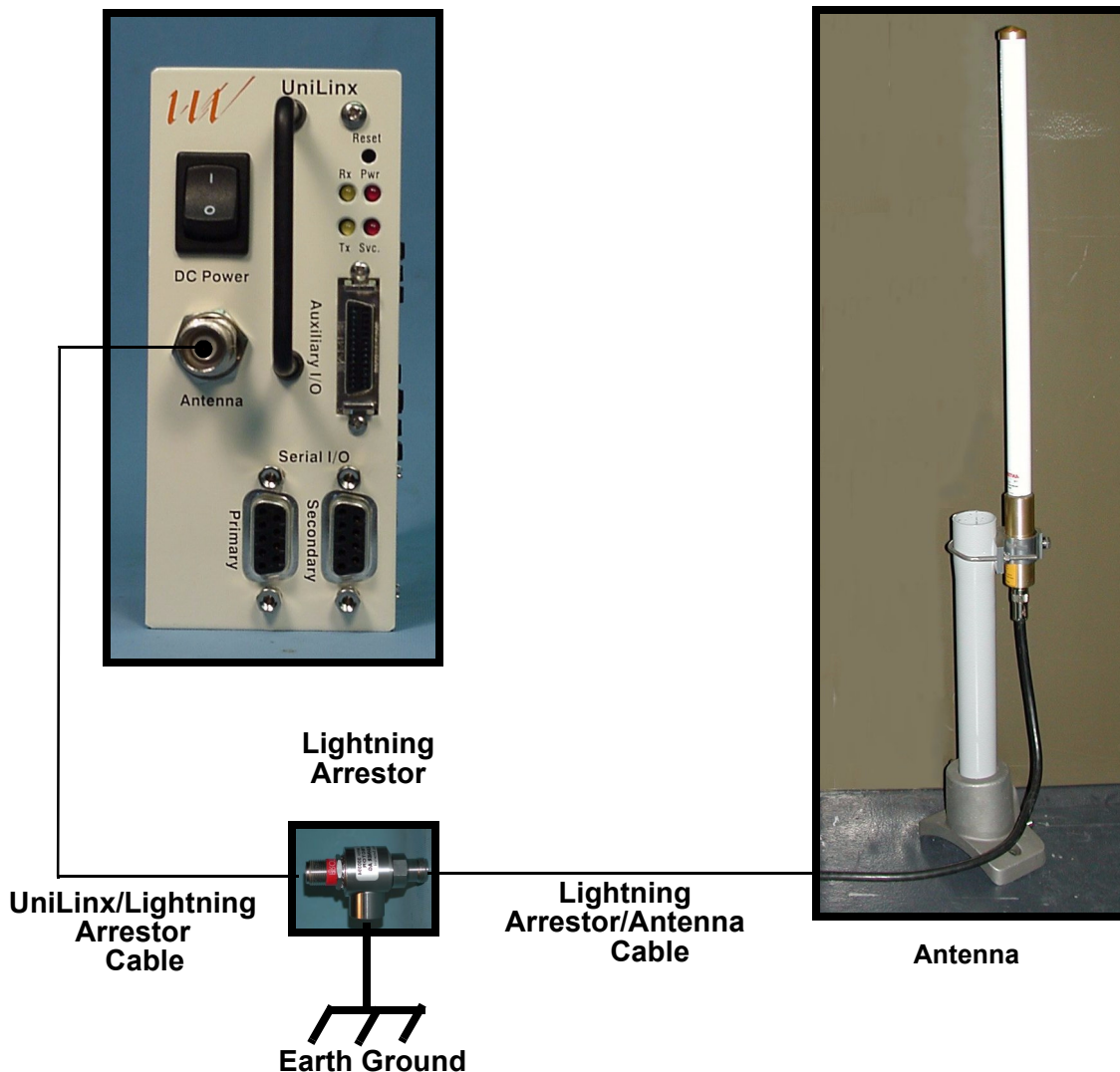
To set up the Auxiliary I/O, you need a custom cable. One end of the cable must have a 26-pin connector to connect to the UniLinx. The wiring on the other end of the cable is customized to meet the requirements of your system. Wire this end to circuitry as required by your system design.

For individual pin assignments, refer to the *UniLinx Hardware Specification*.

Step 6: Connect the Antenna

The recommended antenna system configuration is shown below. It includes the following equipment:

- A short length of coaxial cable from the Antenna connector on the front panel of the UniLinx to the lightning arrester. This cable should have TNC connectors.
- A lightning arrester mounted inside the equipment cabinet and connected to the Earth Ground. This is recommended in all antenna installations, specifically if the antenna is elevated.
- A longer length of coaxial cable from the lightning arrester to the antenna.
- The antenna.



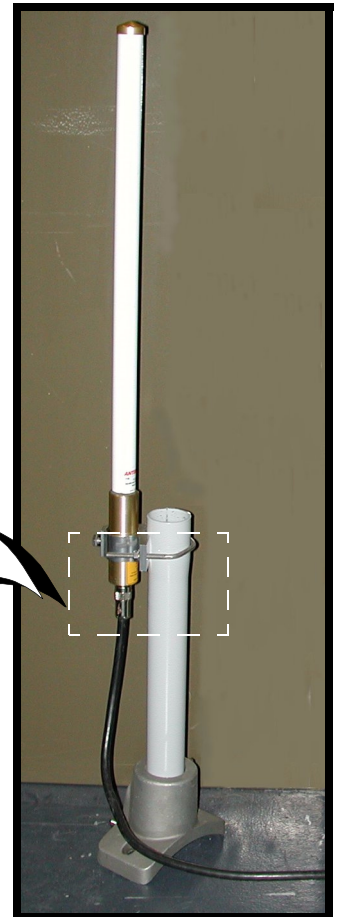
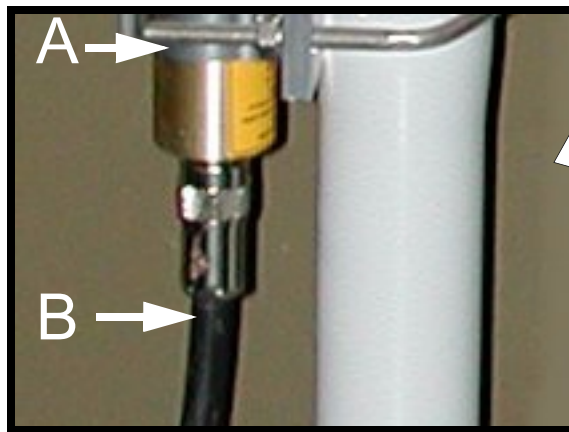
Three antennas are orderable with the UniLinx: the Sleeved Colinear Whip, the Discadoo, and the Portable Plastic-coated Whip. This section provides further information on each orderable antenna. It also includes important information on lightning arrestors.

Sleeved Colinear Mast Mount Antenna

The Sleeved Colinear Mast Mount Antenna shown is designed for exterior installations.

You mount this antenna using the bracket included with the product. Connect the antenna to the TNC antenna connector on the front panel of the UniLinx.

Then you should tape the Type N connector with self-sealing tape to prevent moisture from penetrating the coaxial cable. Tape the Type N connector from the base of the antenna (A) over the length of the connector, and on to the outer protective sheath of the coaxial cable (B).



Discadoo Cabinet Mount Antenna

The Discadoo Cabinet Mount Antenna is also designed for exterior installations.



Connect the antenna to the TNC antenna connector on the front panel of the UniLinx. Then, Mount the Discadoo antenna using the installation procedures included with the product. In addition, you

must seal the base with silicon to prevent the antenna from damage due to precipitation. Run a bead of silicon around the circumference of the antenna base where it contacts the surface of the cabinet.

Portable Plastic-coated Whip

The Portable Plastic-coated Whip is only recommended for temporary use. It is primarily used for demonstrations at trades shows. It is also practical in test environments.

Connect the antenna to the TNC antenna connector on the front panel of the UniLinx. Use the magnetic mount, or remove the sticker to expose the adhesive surface and mount the antenna to a smooth, clean surface.

Lightning Arrestors

Failure to install a lightning arrester could allow electrical discharges in the form of lightning to damage the UniLinx and other electrical equipment in the cabinet in which the UniLinx is located.

You can use either a gas discharge type lightning arrester, or a 1/4 Wave Stub type. The 1/4 Wave Stub type shown here is the preferred option.

The lightning arrester must be mounted on a bulkhead mount. The bulkhead ground must be connected to earth ground. The lightning arrester body should be mounted on a panel bracket which is secured mechanically and electrically to the cabinet. This may require scraping paint from the panel bracket mounting location. A heavy gauge electrical conductor should be connected from the panel bracket on which the lightning arrester is mounted to the earth ground connection in the cabinet.



Step 7: Power up the UniLinx

Now power up the UniLinx by pressing the Power switch on the front panel to the on position.

Step 8: Verify UniLinx Operations

You can verify UniLinx hardware operations by viewing the LEDs on the front panel.



If the UniLinx card is receiving power via its backplane connection, then the Pwr LED will be on solid. Otherwise, if the UniLinx is equipped with a backup battery and the battery has been sufficiently charged, it will blink on and off while running on the backup battery.

If the UniLinx software was pre-configured, you can also use the LEDs to verify wireless IP connectivity. Within a couple of minutes, the SVC LED on the UniLinx should start to blink two times per second. If this does not occur, refer to the troubleshooting procedures in the *UniLinx System Installation and Deployment Guide*.

