

## TECH NOTE

### Connecting a ELK-M1XSP Serial Expander to a UPLINK 4500EZ 4G GSM Communicator

**NOTE: This requires a special serial cable available only from UPLINK.**

UPLINK has not produced a version of the 4500 GSM Communicator with an external serial port connection as they had previously offered with their 2500 and AnyNet products. As an alternative, they are recommending a workaround solution that uses a 12-Pin software development connector inside the unit on the left side of the circuit board. This connector requires a special serial adapter cable that can only be obtained directly from UPLINK. There are some points worth mentioning about this connection: 1) There is no friction lock or physical locking mechanism to prevent an accidental unplug. 2) There is no strain relief to prevent damage if the cable be pulled. 3) There is minimal surge/transient protection because the cable itself must pass very close to sensitive components on the board. It is unknown if any isolation or protection exists between this connector and the microprocessor. 4) Once this cable is connected it is nearly impossible to reclose the cover on the 4500EZ. In spite of all these points, this is the only available method for integrating the UPLINK 4500EZ to the Elk M1XSP and M1 Control. We feel it important to mention that Elk Products had no control over these issues and therefore cannot accept responsibility or any liability for damage, misuse, or failure due to the application of this product.

Contact UPLINK directly to purchase the special serial cable. This cable has a 9-Pin "D" style connector on one end and a dual row 12-Pin black header connector on the other end. **WARNING: REMOVE POWER FROM ALL EQUIPMENT BEFORE MAKING ANY CONNECTIONS!**

Remove the cover from the UPLINK 4500EZ and locate the dual row 12-pin male header connector on the left side of the circuit board. The lower right hand pin of this header is PIN #1. There should be a "1" printed on the circuit board adjacent to this pin. Now look on the UPLINK cable's 12-Pin female connector to find the small WHITE DOT painted on one end. This dot identifies PIN #1 of the female connector. Align PIN #1 on the 12-Pin female connector with PIN #1 on the circuit 12-Pin male header connector. Plug the connector into the header pins making certain that all 12 pins are properly aligned and covered. Double check the final installation against the picture below.

Because UPLINK did not provide any locking or strain relief provisions to prevent this connector from accidentally coming loose, one workable solution is to route the cable around the right side of the screw terminal blocks and then bend it down and back around to the left so that it can exit from the terminal block notch in the cover. See diagrams below. When attempting to replace the cover on the 4500EZ, be careful not to bend, pinch, or otherwise damage the wires. Since the top of the connector is nearly as tall as the cover, it is very difficult to fit the cover in place. If all goes well the results should look similar to the lower right hand picture. If you decide to leave the cover off, be sure to provide some means of keeping the connector plugged in.

