



# Technical Note 023

February 2007

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## USB-Serial Adaptor

External communications to the Tucor controllers take place using serial (RS232) data. All Tucor controllers have a 9-pin D-connector. This is used with a serial cable to connect to a modem or computer.

Historically, Tucor systems have shipped with an “optoisolator” cable assembly. This device electrically isolates signals between the computer and the controller, which prevents damage to one or the other in cases of electrical surges (lightning, etc.). At one time this was useful since the controllers were often connected “permanently” to the computer. However, most connections are now temporary (as to a laptop), with the cable being removed afterwards. In order to minimize costs to the customer, optoisolators are now optional equipment. Controllers currently ship with a direct-connection “null modem” cable, which has 9-pin female connections on both ends.

Currently, many computers, especially laptops, are no longer made with serial ports; USB ports have taken their place. Therefore, to use the standard serial cable, a “USB to Serial Adapter” is necessary. This converts the signals from USB to serial. However, some adapters do not respond to certain signals that are used in Tucor’s communications scheme. When this Tech Note was written, the Keyspan USA-19HS did *not* work with straight cables (without an optoisolator). At the present time the Radio Shack adapter does work. Obviously, not all adapters have been tested. Please contact Tucor if you have particular concerns.