USB-Serial Converter (Robot Tether Cable)

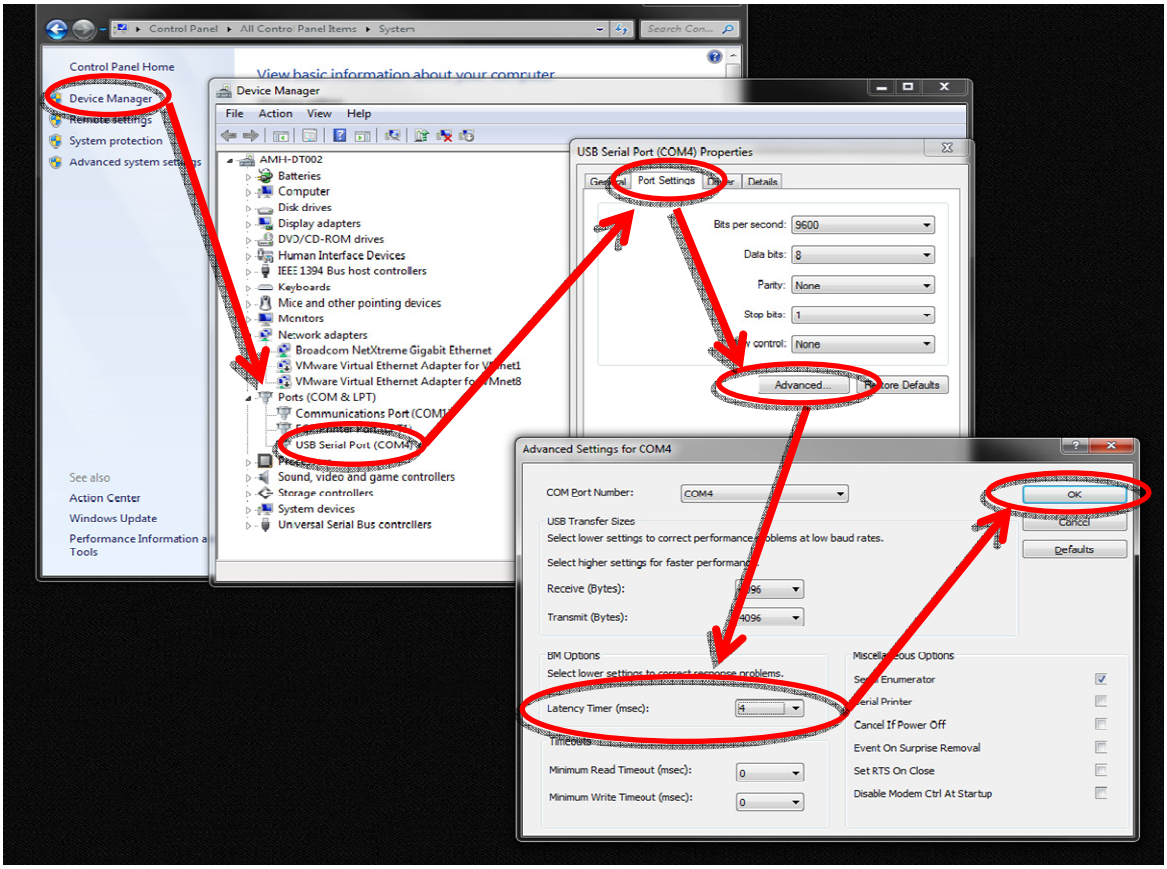
ACT0160

The USB-serial cable can be used to connect a laptop or other computer to the robot's HOST or SERIAL port for control by ARIA or other software, or for firmware configuration and updates. (See your robot's manual for location of serial port.) The USB converter uses an FTDI US232R chipset. Drivers are available for Windows at http://www.ftdichip.com/FTDrivers.htm, and this device is supported automatically by the standard Linux `ftdi_sio` driver.

Use on Windows:

On Windows, USB-serial devices are accessed via new COM ports created by Windows when the device is attached. The COM port name will be shown in the "Ports (COM & LPT)" section of the Device Manager, which can be opened from the System control panel. It may also be shown as a temporary tooltip in the taskbar when the device is attached.

Important Note: By default, on Windows a latency timer of 16 ms is set by the FTDI driver. For proper performance of the USB-serial connection, this must be changed to 4 ms. To change the latency timer (and other settings), double-click the USB Serial Port entry in the "Ports (COM & LPT)" section of the Device Manager; select Port Settings; click Advanced…; and change the Latency Timer in the "BM Options" section. Click "OK" to save the changes.



The COM port number can also be changed here.

It is also recommended that you **disable** "Serial Enumerator" (uncheck box) and disable "Modem Ctrl At Startup" (check box) to prevent Windows from automatically reading/writing from/to the serial device at startup or attempting to autodetect the device as a serial mouse.

The USB-serial device name can be provided to ARIA programs or `ARCOScf` via the `-robotPort` command-line parameter. For example, if the USB-serial device is COM4:

```
cd "C:\Program Files\MobileRobots\Aria\bin"
demo.exe -robotPort COM4
```

This command line parameter can be automatically set for all ARIA programs by storing it in the an `ARIAARGS` environment variable (environment variables can be set by clicking "Advanced system settings" in the System control panel, then clicking the "Environment Variables…" button.)

Use on Linux:

On Linux, USB-serial devices are accessed via devices in `/dev/` prefixed with `ttyUSB`. For example, the first USB-serial device will be named `/dev/ttyUSB0`, the second will be named `/dev/ttyUSB1`, etc. When a USB-serial device is attached, the Linux kernel indicates the device name in the diagnostic log. Use the dmesg command to print this log:

```
dmesg
```

The device interfaces in `/dev` are automatically created when the device is added, and will be accessible only to root or users in the `dialout` group. You can add your user account to the `dialout` group using the `usermod` command:

```
sudo usermod -a -G dialout yourusername
```

The USB-serial device name can be provided to ARIA programs or `ARCOScf` via the `-robotPort` command-line parameter. For example, if the USB-serial device is /dev/ttyUSB0:

```
/usr/local/Aria/examples/demo -robotPort /dev/ttyUSB0
```

This command line parameter can be automatically set for all ARIA programs by storing it in the `/etc/Aria.args` file, or an `ARIAARGS` environment variable (which can be set for each new command shell in `.bashrc` or `.bash_aliases` in your home directory)

More Information:

For more information on how to operate your robot and its devices, refer to the robot operations manual and any other manuals provided for individual devices. In addition, MobileRobots maintains an online knowledge base with additional help, tips and information. This site also provides downloads of all robot and device manuals, as well as downloads of software updates. You may also join the users' community forums and contact MobileRobots support through this site:

http://robots.mobilerobots.com