



## Troubleshooting GENIE 1

If you are unable to connect to a GENIE microcontroller or download a program, you should go through the following troubleshooting hints and tips.

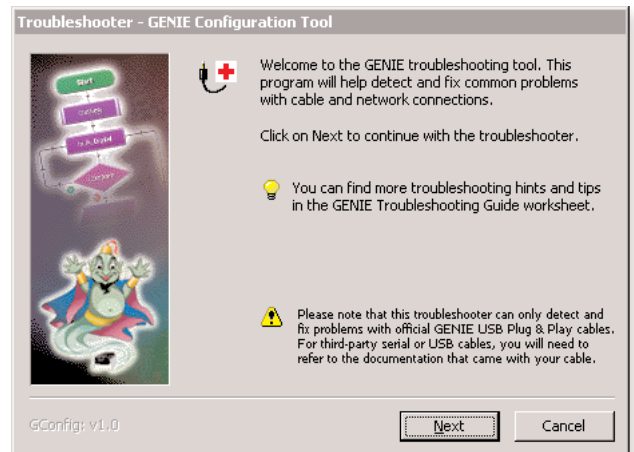
### A Run the GENIE troubleshooting tool

The GENIE troubleshooter will automatically check your cable and software to ensure that the computer can access the GENIE cable.

To run the GENIE troubleshooter, choose **Troubleshoot GENIE...** from the **Help** menu of the Circuit Wizard or GENIE software.

If that option is not shown in your version of the software, you can download it separately from [www.genieonline.com/cable](http://www.genieonline.com/cable).

Step through the on-screen instructions.



### B Step through the following checklist of common problems

#### Software

- Ensure that the software is not busy or displaying an error message. Close any floating windows and click on the **Program** tab in the right-hand panel.

#### Cable

- Circuit Wizard, GENIE Design Studio and the GENIE Programming Editor software all check and report problems involving the cable. If given, follow through on the on-screen advice.
- Unplug the cable, wait a few seconds and then plug it back in. Windows can occasionally fail to detect that a cable has been inserted.
- Check that you are not running other software that might be using the cable.
- If not using an official GENIE Plug & Play cable, check that the COM port setting in the **Control** tab of the software **Options** window is correctly set. For further assistance with third-party serial or USB cables, please refer to the documentation that came with your cable.

#### Power

- Check that the voltage of the battery is sufficient (but not too high) for the board. The voltage for standard GENIE kits or boards is shown next to the PWR or POWER label.
- Check the voltage level across the power connections (+V and 0V) on the board. This can identify if there is a problem with the battery clip or battery holder. Ensure that the wiring has not become loose and the batteries are properly seated in the holder.



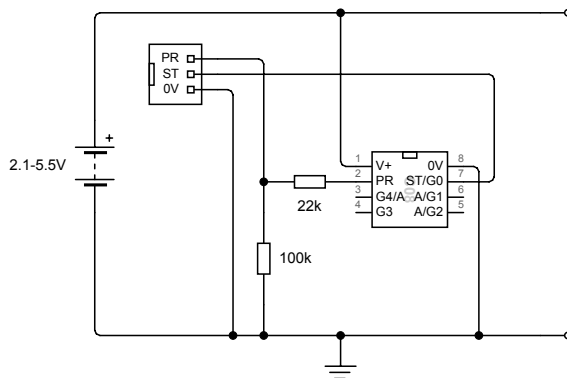


### Circuit

- Try plugging the cable into a different GENIE board. Ideally, try an official GENIE kit or board if you have one available. When powering up an official GENIE circuit, the green STATUS LED should flash once (when properly connected it will flash repeatedly).
- Try with another GENIE microcontroller if possible. Please note that you can only use official GENIE microcontrollers; third-party or blank PIC® microcontrollers are not supported.
- If your board is using outputs that are not fixed in place (particularly high-power outputs such as large off-board motors), try temporarily disconnecting the outputs. This can help identify if a specific output component is causing the problems.
- Visually inspect the board for bad solder joints or cases where soldering has incorrectly bridged pins together. Note that for the download socket, the two left-most pins should be connected together, as should the two right-most pins.
- For the standard GENIE kits and boards, refer to the appropriate worksheets for help and further advice on their use.

### Custom

- If a custom board has been designed, check that the download circuitry is correct and that a 5-pin stereo socket has been used (3-pin mono sockets are not compatible).



You can see the download circuit for a GENIE 08 microcontroller on the left. It includes a download socket and two resistors (22k and 100k). These resistors must be included.

The download circuitry required for the other GENIE microcontrollers are similar, but you should refer to the appropriate worksheet for further details.

- The GENIE 08 and 14 microcontrollers combine the programming STATUS (ST) pin with an output signal (G0 and Q0 respectively). To ensure the STATUS signal is unaffected, check that your circuit does not have a high-load output on this pin causing the voltage to drop.
- For circuits based around a (v1) GENIE E18 or E28 microcontroller, or a v2 microcontroller with the reset pin option enabled, check that the Reset (R) pin is properly connected. You cannot connect it to 0 volts or leave the pin unconnected; it needs to be connected instead to +V via a 4.7k resistor (if a reset switch is required, the switch should go from the Reset pin-side of the 4.7k resistor down to 0V).
- Check that the layout of tracks and components in the PCB matches your circuit diagram.

