

Robot Troubleshooting

The very first thing to check is that you have the most up to date versions of RobotLoader (version 2.5a) and the drivers (CDM version 2.10). To get these, go to globalspecialties.com. Go to your particular robots homepage. Go to the Downloads tab. CD Contents.

Now try connecting to RobotLoader. Follow these steps:

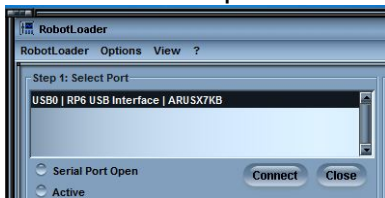
- Connect your robot to power or make sure good batteries are installed.
- Make sure the robot is switched on (LEDs showing).
- Connect the robot to the 10-pin cable.
- 10-pin cable to USB interface
- USB interface to USB cable
- USB cable to computer USB.
- Only now that it is fully connected, open RobotLoader.

Open RobotLoader. You should see the following message acknowledging that you are connected to the USB interface.

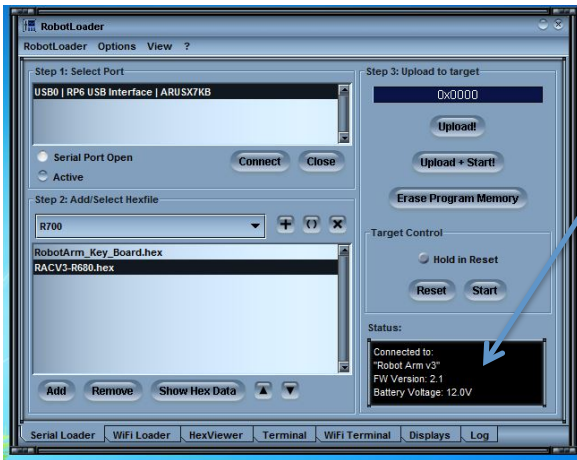


If you do not see this, please “X” out of RobotLoader. Now, connect your robot to power. Make sure the robot is switched on (LEDs showing). Connect the robot to the 10-pin cable, to USB interface, to USB cable, to computer USB. Now that it is fully connected, open RobotLoader again. If you still do not see this message, you have probably not installed the correct driver. Go to globalspecialites.com and make sure you have downloaded and installed the latest version of the robot driver.

Now select the port line that says “USB0, RP6 USB Interface...” and then click “Connect.”

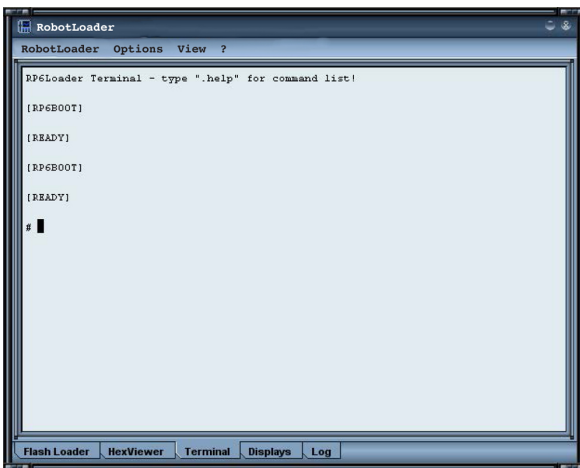


You should see the message in the black “Status” box that says, “Connected to.....[the name of your robot like RP6 or Robot Arm].”



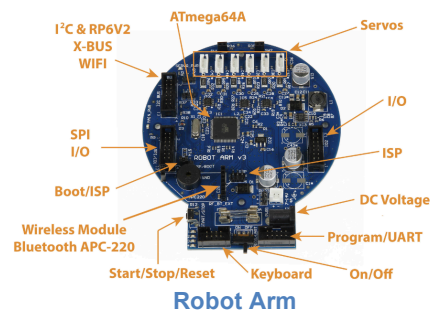
If this is the case, everything is fine with the USB Interface. If not, try opening RobotLoader again with the above steps.

Next, select the “Terminal” tab at the bottom of RobotLoader. The text messages [RP6BOOT] and [READY] should appear in the terminal of as you turn on the robot, or when you press the RESET button on your robot.



If you are still having issues check the following items:

- Check is if the BOOT/ISP jumper is in the correct position. The manual explains this in detail and this check clears up about 99% of the failures. The white marking on the board indicates the BOOT position is correct. You may also try the other position, just to rule that out.



- Check if the blue LEDs on the board react when you click on "START" and "RESET / Stop" and "Hold in Reset" in the RobotLoader software. When they do, try to click connect.
- Check if the power supply is sufficient. 7V 2A is the minimum. You will get better results from 12V and $\geq 2A$.
- Last thing to check is to swap the cable connectors (remove the flat cable, rotate the cable 180°, connect again). If this helps then the cable has a broken wire and should be replaced.

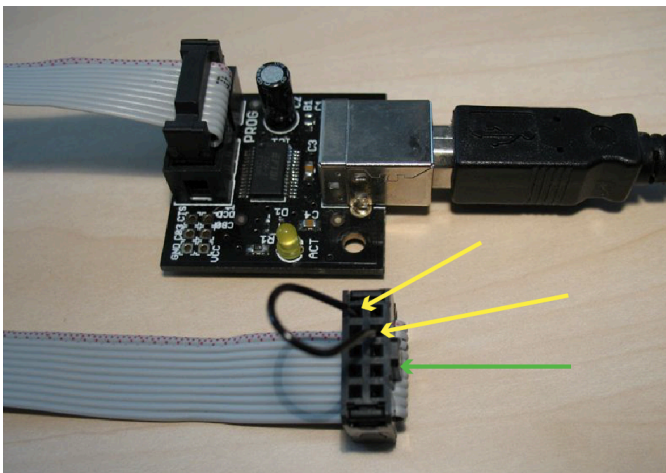
Still having problems? Here is a procedure to check out your USB Interface more fully.

You can use a short wire to easily check the USB Interface for hardware defects.

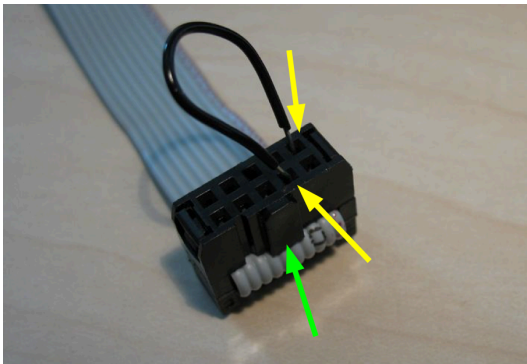


You have to use the wire to connect the signals RX (receive) and TX (transmit) together. You can use any wire as long as it fits properly into the cable connector of the flat 10-pin cable.

Make sure that the wire has proper contact. It should have a diameter between 0.6 and 1 mm. Make sure that you connect the correct signals together. Otherwise you may damage other signals.

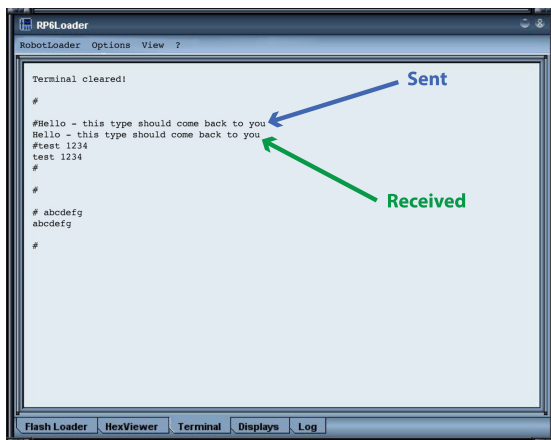


Look at the reverse polarity protection of the connector marked with a green arrow in the picture. This can help you to identify the correct pins.



Now, all text that is sent through the USB Interface will be received back directly. So if you type any text in the RobotLoader terminal and then send it by pressing enter, the text should be received back 1:1 and show up in the next line.

It should look like this:



(Blue arrow: sent text. Green arrow: received text)

If that does not work, the USB Interface may be defective (e.g. bad solder joints on the connector or the USB Interface chip). But if it works OK, the microcontroller, or the connector on the RP6 mainboard may be defective.

To get service on your products, see globalspecialties.com. See "Service" tab.