

Motion Controllers

Some tips on the full suite of MachMotion motion controllers.

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Apollo Board Power Issues

24V Dropping Out (power light flashing/dim)

Typically related to a "short" in limit switch....some input is getting grounded out.

Remove inputs from Apollo board until issue goes away to figure out which one it is. If all inputs out and still issue, remove 24V plug and wait a few seconds then plug back in.

- If no issue, plugin inputs until it falls out again.
- If it was still an issue then try with the outputs.
- Otherwise, bad power supply or bad apollo (not likely)

Keywords: Apollo board 24v dropping out, power light flashing, power light dim, 15880

HiCON Motor Drive Graph Blank

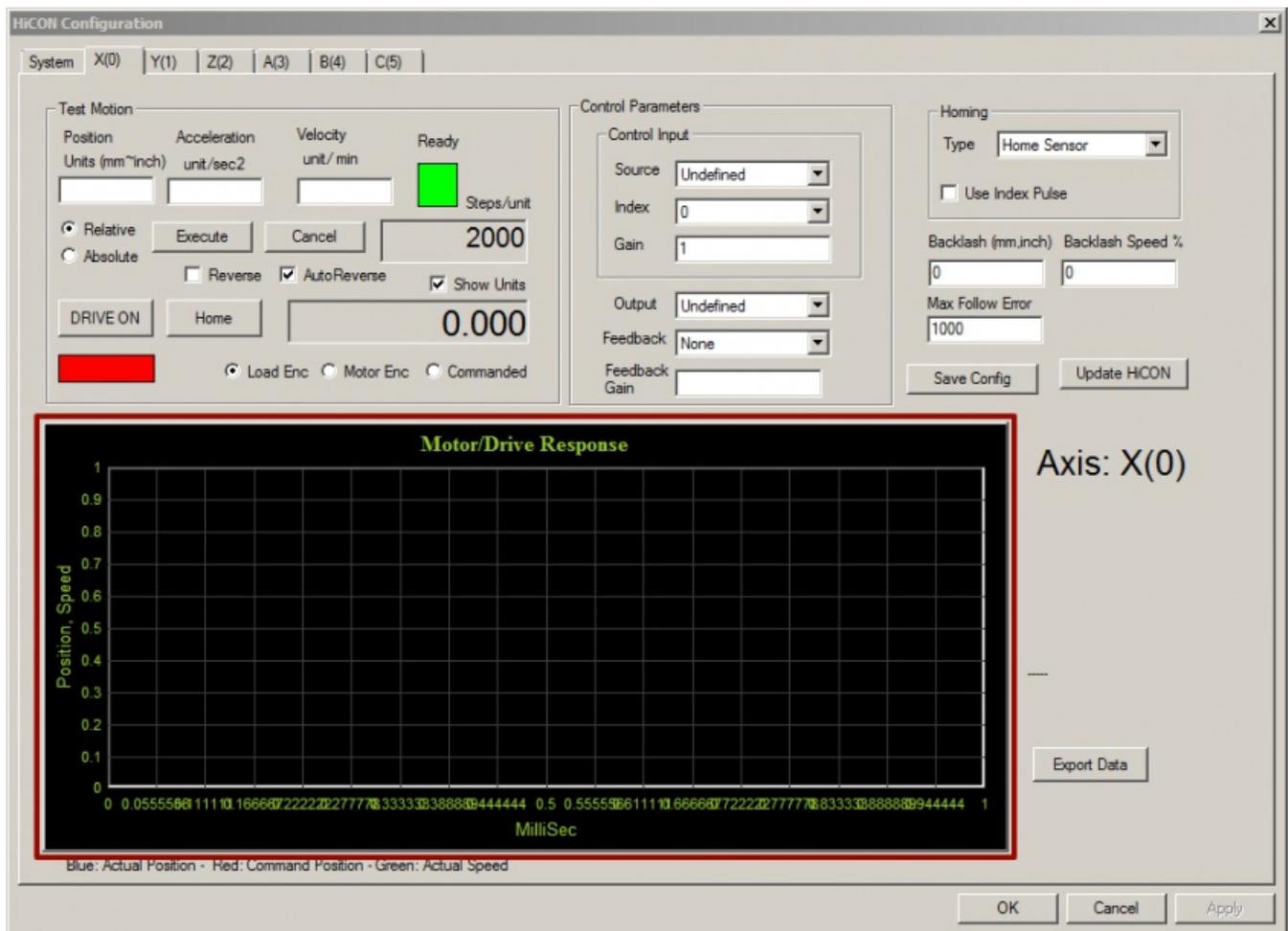
Description of the problem:

The **Motor/Drive Response** graph is blank when motion is commanded.

Solution:

When the HiCON motor/drive graph is blank, this may be caused by Windows Firewall blocking the incoming data.

1. Start Menu, search "Window Firewall" and select
2. On the left, select "Advanced settings"
3. On the left menu, select "Inbound Rules"
4. Sort by Name, scroll down the pane to find Mach3 applications
5. Make sure all Mach3 applications are enabled (right-click, select enable)
6. Repeat steps 5 and 6 for "Outbound Rules"



Keywords: Apollo III, 7648

Interpreter 1000 Encoder Noise Issues

Description of the problem:

Unacceptable noise levels in the encoder signals coming into the Interpreter 1000.

Solution:

- Connect the shield wires for the encoders to the 5V common (GND)
- Shield as much of the wires as possible (only skin the wires back a short distance)
- Connect all the grounds to earth ground (Interpreter 1000 GND, 5V GND, etc)
- Re-route encoder cables

Keywords: 7650

Interpreter 1000 Random Movement While Loading File

Description of the problem:

Random movements while programs are loading.

Solution:

If you are loading a G-Code program on an analog control (using the Interpreter 1000) and if it takes forever to access the file, you may see random movement on your axes. Make sure to load files from your local hard drive and not from a server. The PID (servo lock) times out and the drives start to drift if the access time is too great.

Keywords: 7652

Enable Troubleshooting (IO6, Apollo I, Apollo III)

After reviewing the Enable Troubleshooting flow chart here are some other items to look for on the computer.

- Install parallel port drivers (run the mach3 install software, selecting only the parallel port drivers to install)
- Check to make sure that the Mach3 pulse device is installed in the device manager. Install
- Check for any Antivirus Software that maybe preventing the software to run correctly including parallel port connections.
- Check for any viruses that maybe blocking the software from running.
- Check to see if any PC monitoring software is being used (like for motherboard/cpu stats)

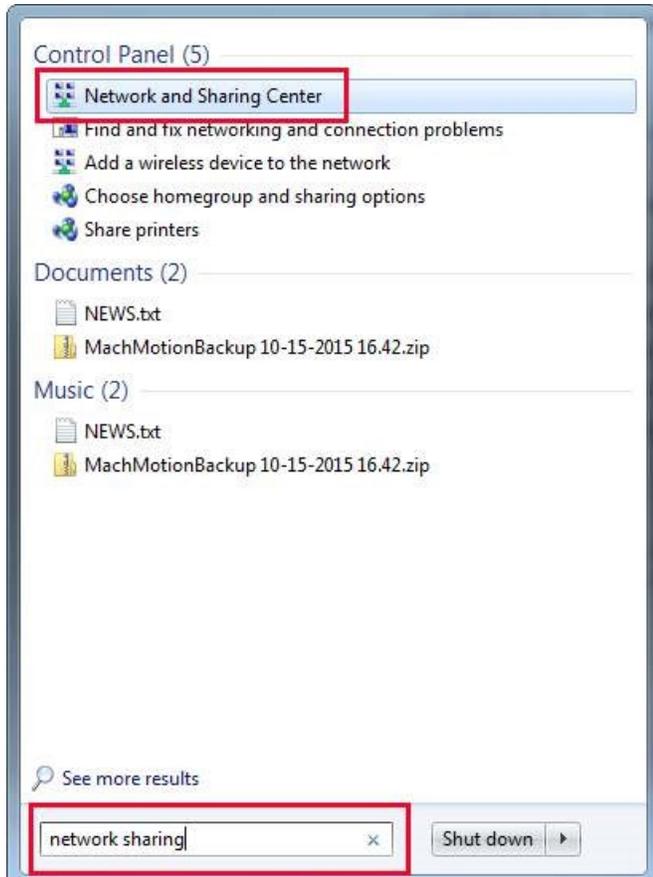
Keywords: 14545

HiCON Board Not Found

The hicon board is the "daughter" board of the Apollo III motion controller. The ethernet cable from the control PC to the HiCON board is the local area network (LAN) connection for it and communications between the 2 were lost.

1. bad cable, or connection at either end. reseal the cable. If no issue, clear the "reset" (Mach3) or "enable" (Mach4) and gently wiggle the connection at each end and see if you get the error.
2. noise. this could be electrical noise or if they are connected to their local network it could be interfering. going to command prompt and doing ipconfig will show all the ip addresses. If the 3rd set of numbers are the same for any of them there are likely problems here. some systems have a switch between the control and the apollo board and this can make it more difficult to isolate.
3. the hicon board is starting to fail
4. the 24V feeding the apollo board is dropping out

If you go into the network and sharing center in windows (search for it or right click on the network icon in the lower right corner of the task bar. see photo below for examples.), then click the change adapter settings link in the left side of the window it will show you the different networks. If the hicon is not getting communications there is likely a red X on the network icon. Pulling the 24V green plug to the apollo board will also give you that red X and is likely a better way to try and clear the issue then rebooting the control. Wait 20 seconds, then plug it back in.



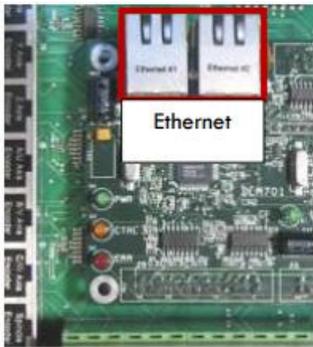
Right-Click on image and select open network and sharing center.

Keywords: 15481

Apollo III Network Connections

Apollo III Network Connection

The Apollo III can be connected directly to the control or via an Ethernet router. Either of the two Ethernet ports on the Apollo III can be used. The Ethernet ports have a built in Ethernet switch so you can also use them to daisy chain other Ethernet devices together on a local network.



To set up the Apollo III to communicate with the control directly, the network configuration needs to be assigned a static IP address. The default static IP configuration is defined below.

Location	IP Address
Apollo III	192.168.208.35
Computer	192.168.208.10

Configuring a Static IP Address on Windows 7

Click on the network icon on the system tray.

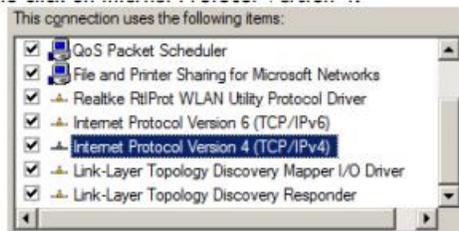


Click on *Open Network and Sharing Center*.

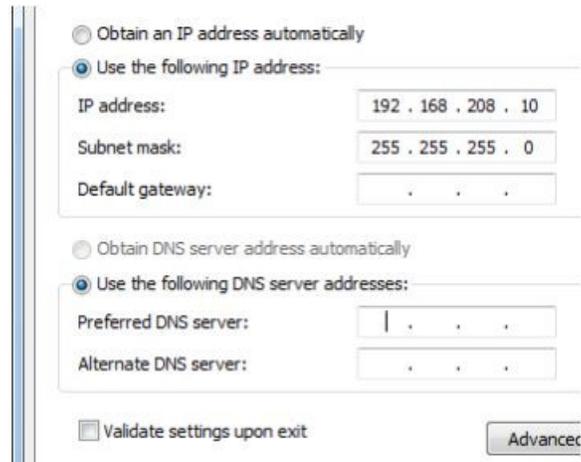
In the top left corner of the *Network and Sharing Center* window click on *Change adapter settings*.

Right click on the network port that the Apollo III is connected to and select

From the list below double click on *Internet Protocol Version 4*



Fill out the options as seen below.



Press [OK] and close out the rest of the windows.

The control now has the correct static IP address.

Router Connection

When using a network router to connect the Apollo III to the control there is no special network setup required. The router will take care of the IP assignments.

