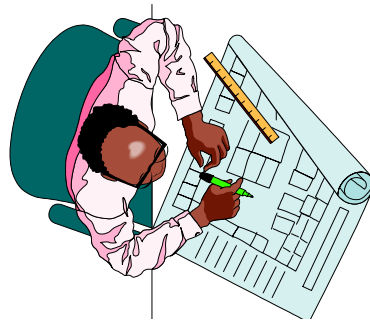


IG-2500

Trouble Shooting



**INCLUDES
TROUBLE AND FINE TUNING PROCEDURES
FOR THE IG-2500 SYSTEM**

*Ground Control
Updated Thursday, September 26, 2002*

GETTING YOUR IG-2500 WORKING & FINELY TUNED

This **step by step** program will make sure that your IG-2500 is finely tuned to give you tons of perfect performance.

WHERE ARE YOU?

New install? or troubleshooting a new problem? ...your reading the right manual. If something hasn't physically been installed, then you're reading a bit too soon. Your professional installer should have installed the dish on top of the vehicle, run the wires and connected to all of the IG-2500 equipment, loaded the software and checked that the dish is working. They would have used the "**Installation Manual**" that shipped with your IG-2500 to do this.

Have you loaded the software? If not, please refer to the **Software Installation Manual** located in the IG-2500 folder on your desktop, or on the IG-2500 CD-ROM.

TURNING ON THE SYSTEM CORRECTLY

The correct procedure for turning on the IG-2500 system is:

1. Turn on the DirecWay Modems (A green light will start to blink on one of the modems).
2. Turn on the Computer.
3. Turn on the IG-2500 Main Controller (The ON button will light up blue. This is not the Green Light that only shows that the DirecWay modems are turned on).

CHECK TO SEE IF THE DIRECWAY SOFTWARE IS RUNNING

After the Windows "Desktop" loads, a small "BE" or "DW" icon will appear on the lower right hand corner of the desktop. This area is called the "Task Bar", and is on the opposite end of where the "Start" button is.

Check to see that both DirecWay modems are now blinking green.

If no "BE" or "DW" icon appears within one minute after Windows loads, please go to: APPENDIX 1A. – DIRECWAY SOFTWARE IS NOT LOADING

If both DirecWay modems are not blinking green please (when the computer is turned on) go to APPENDIX 1B – MODEMS ARE NOT BOTH BLINKING GREEN.

RUN THE IG-2500 SOFTWARE

Now... Locate the "IG-2500" folder that should be on your Windows Desktop. The IG-2500 Software is used to point the the DirecWay dish to the correct satellite.

If there is no IG-2500 folder on your desktop, please go to: APPENDIX 2 – COPYING THE IG-2500 SOFTWARE TO YOUR DESKTOP.

Inside the IG-2500 folder is an application named "IG-2500". Please double-click on this to bring up the IG-2500/DataStorm Screen.

If the IG-2500 Screen doesn't appear, or warning messages appear, please go to: APPENDIX 3 – PROBLEMS RUNNING THE IG-2500 SOFTWARE.

You will either see a Basic screen or an Advanced screen when the IG-2500 screen appears. Please go to the Advanced screen for this fine tuning process.

UPDATE FIRMWARE

On the IG-2500 screen is the “Firmware” button that will upgrade the software on your main controller and the electronics on the dish itself.

To upgrade Firmware, turn OFF the Main Controller and then click on the “Firmware” button. When the directions ask you to turn on the main controller, press AND HOLD the on button on the main controller until the Firmware begins to load. It may take a couple of tries to get this correct.

TEST DISH

Make sure the rig is level (use the leveling jacks if necessary) and click on the “Test Dish” button on the main screen to make sure the mechanical and electrical components are working in the IG-2500. This process takes about 10 minutes and puts the IG-2500 through all of its mechanical limits as well as calibrating some tilt sensors.

Also, this assures that your system has done at least one “Test Dish” prior to normal operation.

If the dish does not start moving when you click on Test Dish, please go to: APPENDIX 4A – PROBLEMS COMMUNICATING WITH THE DISH

If the dish starts moving, and then stops, please go to APPENDIX 4B – Problems with Power.

REFRESHING THE SENSORS

After a Test Dish, and the dish still stowed, click on the button named “REFRESH” on the Advanced screen. You will see that the Sensor readings (on the left side of the screen) will fill up with sensor readings. Click on REFRESH a few times to see some of the sensor readings change slightly. This is good.

If no sensor readings appear, please go to: APPENDIX 4A – PROBLEMS COMMUNICATING WITH THE DISH

GETTING A GPS READING

You'll note that under SENSORS on the screen, there are a number of readings that say GPS. GPS stands for “Global Positioning Satellite” and is a highly accurate sensor that gives you precise readings for where you are currently parked.

It sometimes takes GPS up to 10 minutes to refresh when you click on the Refresh button. However, normally it will take about

10 to 20 seconds. If you do not get a GPS reading after 10 minutes, please make sure your dish is stowed and that no obstructions keep the dish from viewing a wide open sky.

If you do not get a GPS reading after 10 minutes, please go to: APPENDIX X – TECHNICAL SUPPORT

SETTING THE TILT SENSORS

Your Dish needs to know what level feels like when it is stowed. Your professional installer should have placed the dish in the center, level part of the roof, if not, you will need to level the rig so that the Dish is level when stowed.

Park your vehicle on a LEVEL surface (If you have an RV, level your rig with your automatic leveling jacks). You may desire to place a level on the mounting plate the dish is attached to, to make sure you are on a level surface.

On the IG-2500 Advanced screen, you will note two sensors readings... “**Elevation Tilt**” and “**Skew Tilt**”. These sensors show how level your STOWED dish is on top of your vehicle.

The Skew Tilt sensor should not read more than 1.00 degree tilt. The Elevation Tilt sensor should not read more than 2.50 degrees of tilt.

If either of these sensor numbers are too large click on the “**CAL TILT**” button. Please make sure you know the stowed dish is level before you perform this calibration.

CALIBRATING THE COMPASS

You want to be sure the compass on the Dish is working properly after it is installed on your vehicle. Large metallic items (like vehicles) tend to offset a compass reading, so a **Calibration of the Compass is mandatory after installation for proper dish operation**.

The easiest way to know if your Compass is already correct is to know what direction True North is (not Magnetic North) and point your vehicle that direction. Your “Compass Heading” sensor should read 355 or 356 or 357 or 358 or 359 or 0 or 1 or 2 or 3 or 4 or 5. (We allow for a 5 degree + or - error on calibrating this sensor).

If your Compass Heading Sensor is more than 5 degrees off, please go to: APPENDIX 5 – CALIBRATING YOUR COMPASS

FINDING SATELLITE

OKAY... Now for the good stuff, click on “Find Satellite”. Your dish should go up and lock on Satellite within 4 to 7 minutes.

The dish will enter a “search pattern” when it points in the general direction it believes the satellite is located. Please locate the Signal Strength Meter and the Signal Quality Meter in the IG-2500 Screen. The Signal Strength reading shows the

background noise of the sky, such as other satellites, telephone pole transformers and streetlights.

The “Signal Quality” meter **only appears** when your DirecWay modems say “YES!!! I see the correct satellite, and here is how well I see it”.

You will notice that the Signal Strength meter reading go up and down a few times as it searches the sky. If it goes up high enough during a search pattern, it will begin to “peak” on what it believes is the correct satellite. After a peaking routine, it looks at the Signal Quality meter to see if a signal is found. If not, the search pattern continues.

The Signal Strength must get to at least 300 points before it will begin a peaking routine on a signal, or else it will scan right past the signal. You do have the option of lowering this “sensitivity threshold” in the Configuration window.

Once your dish peaks and locks onto the correct satellite, the IG-2500 window will close onto the Task Bar. To open the screen again, simply click on the small blue IG-2500 icon on the Task Bar.

If your dish goes up, searches, and then stows, never finding the correct satellite, please go to: APPENDIX 6 – SATELLITE NOT FOUND

GETTING ONLINE

Once the IG-2500 has connected you to the correct satellite, you should now be able to surf the Internet. Open up your Internet Browser and start surfing!

If your dish is locked on to the correct satellite, and you are not able to surf the web, please go to: APPENDIX 7 – UNABLE TO GET ONLINE

STOWING THE DISH

You do not need to stow the dish unless you intend to move the vehicle. To stow the dish click on “Stow Dish”.

If the Dish does not stow, please go to: APPENDIX 8 – UNABLE TO STOW DISH

YOUR TUNED!

If you’ve performed each of the tests in this guide, you’re system is finely tuned and you should have many many hours of broadband Internet Anywhere!

Welcome to the World of Mobile Connectivity!

APPENDIX 1A DIRECWAY SOFTWARE IS NOT LOADING

NOTE – You may refer to the Interactive Troubleshooting Guide for detailed full color troubleshooting. It is located in the IG-2500 Directory in a folder named “Trouble Shooting”. Open up this folder and locate and double click on the “TroubleShooting” file.

DOES THE DIRECWAY SOFTWARE LOAD?

If no “BE” or “DW” icon appears within two minutes after Windows loads, your DirecWay software is not running. ...This is not good. You need the DirecWay software to get online with the IG-2500. As a side note, we are still trying to understand why “DirecWay” wanted an icon named “BE”, maybe it means “be careful” or more likely, “be-hind the curve”.

MAYBE IT’S YOUR USB CABLE?

First thing to check is if the USB cable is connected from the DirecWay modems to the Computer, and that the modems are indeed turned on and the green light(s) is flashing on the front panel. If the USB cable is not plugged in, the DirecWay software will not run. If it is connected, and you have a green light on the Modem, go to the next step.

IS THE DIRECWAY SOFTWARE LOADED?

Let’s check to make sure DirecWay is loaded on your computer. Click on “START” then point to “PROGRAMS” then locate the folder named “DIRECWAY”. If you do not find it, the Direcway software was not loaded by your installer to your computer. If you find a folder named DirecPC, you will need to uninstall it... Simply select DirecPC and choose “uninstall” to remove DirecPC from your computer.

To load the DirecWay software, insert the CD-ROM, and run Setup.exe and follow the onscreen instructions. Please make sure to UNPLUG the USB cable before you run the Setup.exe program.

If you DO find a DirecWay folder, click on “Navigator” inside this folder. This should bring up the DirecWay “BE” or “DW icon, located on the task bar. If it does come up, remember that this program needs to run anytime you are online (It normally comes up automatically when your computer starts).

WAS WEB SETUP EVER PERFORMED?

If the “BE” icon still does not appear on the Task Bar when you open up “Navigator” then you need to perform a “Web Setup”. To run “Web Setup”, click on “Start”, then “Programs”, then “DirecWay”, then “Web Setup”. Please follow the onscreen instructions. (You will need a dial-up modem to do a Web Setup). Make sure you completely finish Web Setup... Don’t worry that your dish is not pointed at this time when it asks you to point the dish, your goal is to just finish the web setup procedure without clicking on exit or cancel!).

RUNNING WEB SETUP DIDN’T WORK?... UNINSTALL DIRECWAY SOFTWARE.

Could be an older version of DirecWay software. You’ll want to uninstall this program and reinstall the software on the CD-ROM provided to you with the IG-2500. To do this, click on “Start” then “Programs” then “DirecWay” then “Uninstall”. This will uninstall the DirecWay software. Now, simply insert the IG-2500 CD-ROM open the CD-ROM and run the Setup.exe program. Follow the onscreen instructions. (Please make sure to unplug the USB cable prior to running the Setup.exe program).

If your modems have never had a web setup performed on them, you will require a special Mobile Billing ID to complete the Web Setup. Please contact your Internet Service Provider to obtain a Mobile Billing ID.

OTHER PROBLEMS:

REMOVE VIRUS PROTECTION SOFTWARE.

Programs like McAfee conflict with the DirecWay software. You will need to uninstall this software.

APPENDIX 1B – DIRECWAY MODEMS ARE BOTH NOT BLINKING GREEN

NOTE – You may refer to the Interactive Troubleshooting Guide for detailed full color troubleshooting. It is located in the IG-2500 Directory in a folder named “Trouble Shooting”. Open up this folder and locate and double click on the “TroubleShooting” file.

If the computer is turned on, and the DirecWay software is running, you may have an older version of DirecPC on your computer.

Please Uninstall the DirecWay or DirecPC software by going clicking on “Start” then “Programs” then “DirecPC” then “Uninstall”. (Please uninstall DirecWay as well, if it is also there). After which, please unplug the USB cable from the computer.

Once the software is fully uninstalled, please insert the IG-2500 CD-ROM and re-run the Setup program to load the DirecWay software (as well as USB drivers when it asks you to plug in the USB cable). After this install, both modems should be blinking green the next time you reboot.

APPENDIX 2 COPYING THE IG-2500 SOFTWARE TO YOUR DESKTOP.

NOTE – You may refer to the Interactive Troubleshooting Guide for detailed full color troubleshooting. It is located in the IG-2500 Directory in a folder named “Trouble Shooting”. Open up this folder and locate and double click on the “TroubleShooting” file.

If the IG-2500 folder is not on your Desktop, you need to place it there. Locate the IG-2500 Floppy disk that was sent with each IG-2500 system and insert it into your floppy drive. Copy the IG-2500 folder inside of the floppy disk to your desktop. Sometime the IG-2500 folder is located on the CD-ROM... You will need to open the CD-ROM up manually by clicking on “My Computer” on your desktop, then double clicking on the CD-ROM drive. On the folder that appears will be the IG-2500 Folder. Simply Drag and Drop (copy) this folder on to your Desktop.

NOTE - The IG-2500 Application is different than the DirecWay Application. The IG-2500 software is used to automatically point the dish while the DirecWay software is used to connect to the Internet. They are two different programs that do two very different things. Fortunately, it’s not complicated to use... The DirecWay Software will turn on automatically anytime the computer is turned on and the modems are on and connected.

APPENDIX 3 PROBLEMS RUNNING THE IG-2500 SOFTWARE

NOTE – You may refer to the Interactive Troubleshooting Guide for detailed full color troubleshooting. It is located in the IG-2500 Directory in a folder named “Trouble Shooting”. Open up this folder and locate and double click on the “TroubleShooting” file.

INVOKE ERRORS:

This normally means the IG-2500 software is not communicating with the IG-2500 Main Controller. This could be as simple as controller being on the wrong COM port. All of the below items refer to Invoke Error Problems.

ARE THE CABLES CORRECT?

Make sure the Serial Cable between the Computer and the Main Controller is plugged in correctly.

Make sure the 9-pin connector on the back of the main controller (that goes to the dish) is securely connected... and that the connector on the dish itself is connected.

Double check the color coding of the wires into the 9-pin connector. You will have to remove the connector from the back of the IG-2500 Main Controller, and then compare the colors of the wires with the coding on the connector.

CONFLICTS WITH OTHER APPLICATIONS?

REMOVE VIRUS PROTECTION SOFTWARE.

It's amusing, but programs like McAfee conflict with the DirecWay software.

Close all open applications. Make sure you do not have any other open applications that may be using a Com Port such as a Hyper Terminal, or other program. To see which programs are running on your computer, press the “CTRL-ALT-DELETE” keys at the same time. This window allows you to quit single applications. The only applications you need to have running are Explorer, SysTray and any DPC program.

Rebooting the computer is often a good way to release locked up com ports.

YOUR MAIN CONTROLLER MAY BE ON AN INCORRECT COM PORT:

If you received a message “IG-2500 can't communicate with the positioner. Please, make sure that the positioner is turned on and connected to Com1.”, then you are most likely connected to the wrong Com Port.

The Main Controller connects to your computer via a serial cable. The connection on the back of your computer is normally Com Port 1. However, this is not always the case. This connection could be Com Port 2, 3 or 4.

To Fix this problem, bring up the IG-2500 screen by clicking on the “CANCEL” button on this “Warning” window.

Once the IG-2500 screen appears, click on the “Configuration” button. In the Configuration Panel is a window named “Hardware” and inside of this is a text field that says “Serial Port:”, You have the option of selecting Com 2, 3 or 4.

Please select “Com2”, click on “OKAY”.

Now close the IG-2500 Application, and open it up again. If the IG-2500 application comes up without a warning message, you're fixed!

If not, please repeat the process with Com3 and Com4.

IT COULD BE CORRUPTED SOFTWARE.

Turn off and Turn on your Main Controller. (The Green Light on the left side panel of the main controller only means the DirecWay modems are turned on, and not that the controller is turned on). When you turn on the Main Controller, two red lights will light up in about 5 seconds. If not, this is a sign of corrupted software.

Sometimes, a system needs to have software re-installed to the processors in Main Controller and the dish electronics itself. Click on the "Upgrade Firmware" icon on the IG-2500 Screen to re-install the software to the main controller. (In earlier versions of software, (162 or below), please refer to the "Install Read Me" file located in the IG-2500 Folder on your Computer Desktop for instruction in loading software to the Main Controller and Dish.)

New software upgrades may be downloaded at www.groundcontrol.com

IT COULD BE ELECTRICAL INTERFERENCE.

Some installers put the IG-2500 Control cable parallel to a power line that feeds an Air Conditioner (for example). This could cause interference with the IG-2500 software and will cause unpredictable problems such as invoke errors. To isolate that this is or could be the problem, run an extension cord to just the computer and DirecWay modems from an outside source (such as your home). Turn off all AC power in the Vehicle and then see if the problem occurs again. If not, good and bad news. The good news is that you found the problem, the bad news is that you may need to re-run wires so that there is no electrical interference.

TROUBLESHOOTING WITH HYPER TERMINAL

We can use a simple program to log into the Main Controller to see if the communications ports are working properly.

Inside your IG-2500 folder should be a file called 9600 Hyper Terminal. Double click on this file and the Windows Hyper Terminal application will open. (Make sure the computer has no other applications running)

Now, turn off the IG-2500 Main Controller board, and then turn it back on. You have 3 seconds after turning on the Main Controller to press the shift key and the number 8 (at the same time) to bring up the "LOCAL" prompt on Hyper Terminal window. It may take a couple of tries before you get the LOCAL> prompt.

When you get a local prompt! Great! You are communicating with the IG-2500 Main Controller.

NOTE - You may need to select a different Com Port to log into the Main Controller... Select "File" and then "Properties" inside the Hyper Terminal program. On this screen, choose a different com port from the "Connect Using" setting. You'll need to close and the re-open Hyper Terminal with the new com port setting to open a different com port.

Now type in the word REMOTE on the LOCAL> blinking prompt and press the return key.

The prompt should now read REMOTE>

If so, both the Main Controller and Dish Electronics are communicating fine. If this is the case, and you are still receiving invoke errors, look to the next problem for the solution...

If you still can not open a Com Port, another program is most likely using the Com Port. Try closing down other running applications by using the task manager (Click on Control-Alt-Delete to bring up the Task Manager).

If you are still not able to open up a com port, you need to take your computer into a computer professional and find out why your computer's communication ports are not working. Technical Support is not able to discern why a communication port is not working correctly on your computer.

APPENDIX 4A PROBLEMS COMMUNICATING WITH THE DISH

NOTE – You may refer to the Interactive Troubleshooting Guide for detailed full color troubleshooting. It is located in the IG-2500 Directory in a folder named “Trouble Shooting”. Open up this folder and locate and double click on the “TroubleShooting” file.

The IG-2500 program appears quickly, but when you click “REFRESH” none of the Sensor readings update.

If this is happening, then the Dish electronics (Top Board) are not communicating with the Main Controller (Bottom Board). This is caused by:

1. Cables loosely connected... Check connections.
2. Main Controller or Dish electronics are locked up... Reboot.
3. Corrupted Software... Read “Install Read Me” in IG-2500 folder.

To troubleshoot, let's make sure that we can communicate with the Dish Electronics (Top Board).

COMMUNICATING WITH THE DISH ELECTRONICS (TOP BOARD)

Inside of the IG-2500 Folder, double-click on the program “9600 Hyper Terminal” ...A white screen will appear.

NOTE - If Hyper Terminal brings up a window “Unable to open Com Port 1” then do this:

Click on “FILE” from the menu bar and select “Properties”.

In the window that appears, it states “Connect Using”... and a Com Port1. Please select Com Port 2 from this window. Click OK, and close the HyperTerminal Program. Now open the 9600 Hyper Terminal Program again.

If you get the same error message, repeat the process with Com3, and Com4. If you still can not open a Com Port, another program is most likely using the Com Port. Close all open applications, and try again. If you can not open your Com Port, please seek a computer professional for assistance with your Computer.

Now, Turn off the Main Controller, and then turn it back on. **ATTENTION** - You have 3 seconds after turning on the controller to press the shift key and the number 8 (at the same time) on your keyboard to bring up the "LOCAL" prompt on Hyper Terminal window.

It may take a few tries to get it right before you see a LOCAL> prompt on the Hyper Terminal Screen.

When you see the LOCAL> prompt...Good! You are communicating with the Main Controller.

Now type “REMOTE” at the LOCAL prompt and press the Return Key.

This will bring up a REMOTE> prompt. If it comes up... GOOD! ... You are communicating with the Dish Electronics. Everything is working correctly so far. If the REMOTE prompt does not come up, check your cables to the dish. Try rebooting the Main Controller again.

COULD BE A WRONG COM PORT... try this.

Look at the Incorrect Com Port fix in APPENDIX 3.
Turn off the Main Controller. (Make sure the blue light turns off).
Turn off the computer. (Don't just restart, as this is not always sufficient).
Turn on the computer.
Turn on the Main Controller.
Run the IG-2500 program.

STILL HAVING PROBLEMS?

If no success, please review APPENDIX 3 – PROBLEMS WITH THE IG-2500 SOFTWARE

LAST RESORT...

Go to APPENDIX X for contacting Technical Support.

APPENDIX 4B – PROBLEMS WITH POWER

NOTE – You may refer to the Interactive Troubleshooting Guide for detailed full color troubleshooting. It is located in the IG-2500 Directory in a folder named "Trouble Shooting". Open up this folder and locate and double click on the "TroubleShooting" file.

The IG-2500 dish may start to move, but for some reason, stop in mid search. This is normally caused by low power problems, or sometimes AC interference.

The IG-2500 requires a minimum of 2 Amps of fairly clean power 12 VDC to run the IG-2500 system. If you are running off of an AC to DC converter, you must make sure the unit is rated at 2 amps. If you are running the IG-2500 controller off a vehicle battery, this is fine.

Another problem is if your voltage is low, say from a low battery. Please make sure that the voltage that is being supplied to the IG-2500 Main Controller from a charged battery.

A last problem is caused by AC interference from the control cable being next to an AC cable that is supplying power to another device such as an Air Conditioner. To see if this is indeed the problem, turn off all AC and run a shoreline to the DirecWay Modems and computer.

Sometimes, the main controller will not turn on after any of the above incidents happen. Please wait one hour for the controller to reset.

APPENDIX 5 – CALIBRATING YOUR COMPASS

NOTE – You may refer to the Interactive Troubleshooting Guide for detailed full color troubleshooting. It is located in the IG-2500 Directory in a folder named “Trouble Shooting”. Open up this folder and locate and double click on the “TroubleShooting” file.

The easiest way to know if you need to perform a Compass Calibration is to know what direction True North is (not Magnetic North) and point your vehicle that direction. Your Compass Heading sensor should read 355 or 356 or 357 or 358 or 359 or 0 or 1 or 2 or 3 or 4 or 5. (We allow for a 5 degree error on calibrating this sensor). If it is not, you will need to calibrate your Compass.

If you do not know what direction True North is, have someone drive your vehicle over 10 MPH on any straight road or large parking lot (with the dish stowed) and click on Refresh while you are moving. The “GPS HEADING” sensor will begin to show an Accurate reading of the true direction you are headed. True North shows a heading of “0” (Zero).

If the Compass Reading is more than 5 degrees different from “GPS Heading” reading, you will need to perform a “Cal. Compass”.

PERFORMING A CAL. COMPASS

Align your vehicle to any reference point, i.e. a line in a parking lot, or any reference that can be realigned to when told to “turn your vehicle 180 degrees”. After aligning your vehicle on this reference point, click on the Cal. Compass button in the IG-2500 Screen.

Follow the onscreen instructions (the instructions will tell you to turn the vehicle 180 degrees)

Once the vehicle is pointed the opposite directed, click on the OKAY button again.

You have performed a Cal Compass, and your compass should now be reading correctly.

Hand Held Compasses are very inaccurate and we recommend that you use a reference line (it can be headed in any direction) for a Compass Calibration. (Remember that the 180-degree realignment is the key factor in the Compass Calibration.)

APPENDIX 6 – SATELLITE NOT FOUND

NOTE – You may refer to the Interactive Troubleshooting Guide for detailed full color troubleshooting. It is located in the IG-2500 Directory in a folder named “Trouble Shooting”. Open up this folder and locate and double click on the “TroubleShooting” file.

Your dish has gone up, looked around and stowed... Not good. We need to figure out what went wrong. The usual problem is that your modems are not activated yet, so let's find out.

ARE YOUR MODEMS ACTIVATED FOR USE?

To check on the current status of your modems, click on the “Start” button, then select “Programs” then “DirecWay” then “Utilities” then “Adapter Diagnostic Utility”.

With this application, click on the little down arrow and select option number “0 -Get System Statistics”. New information will appear below. Scroll down this window till you see this item:

Device Status = Commissioned

You must have “commissioned” modems or you will not get a signal strength to lock onto. If Device Status reads anything other than “Commissioned”, then you will need to re-run web setup (Information on running web setup can be found in APPENDIX 1).

ARE YOU GETTING A MOVEMENT IN SIGNAL STRENGTH?

While the dish is moving to an upright position, the Signal Strength meter (on the IG-2500 Screen) will average around 50 to 150. (If it is not, this is a problem... Stow Dish, Turn EVERYTHING off and then back on... This should fix this problem).

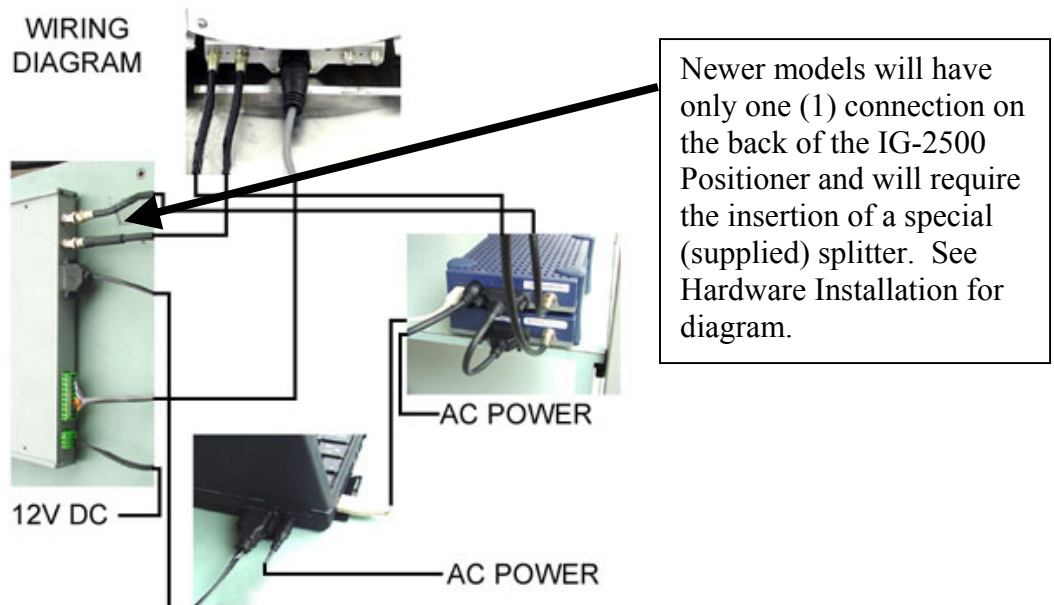
Once the dish enters into a "SEARCH" pattern (as is noted by the Status Window in the IG-2500 screen), it will come across satellites that will push the Signal Strength meter above the 300 mark, which will put the IG-2500 into a "Peaking" mode of locking onto that signal... One of these satellites will register on the Signal Quality meter... This meter shows the IG-2500 is looking at the correct DirecWay Satellite that you should be locking onto.

If the Signal Strength Meter never increases or decreases as it moves in the search window, then your coax cables are incorrectly installed. Please refer to the next section on cables.

As a note, the dish could be looking at the wrong part of the sky, so you may need to override the compass heading if you believe the dish is not looking in a Southerly way. You may also need to perform a Cal Compass if over riding the compass heading fixes this problem.

MAYBE IT'S THE CABLES

In many cases, this problem is caused by improper wiring of the Transmit and Receive Coax Cables. Review this wiring diagram to see if your cables are connected properly.



The "Transmit" cable comes from the Dish and plugs directly into the Transmit DirecWay Modem. The other "Receive" cable from the Dish goes directly to the IG-2500 Main Controller (see insert above). The final length of Coax cable goes from the IG-2500 Main Controller to the Receive DirecWay modem.

If the cable were connected backward in some fashion, you will note that the "Signal Strength" meter never seems to move very much once the dish is pointing toward the sky.

ARE THERE VISIBLE OBSTRUCTIONS?

Okay, is there a tree in the way? A mountain? A telephone pole? High Tension Wires? Any obstructions that could interfere with a direct line of sight to the Satellite in the sky? The fix may be to move the vehicle to a different location.

IT COULD BE YOUR SEARCH WINDOW IS TOO SMALL

If you are certain the cables are correctly wired, you may need to open up your search window for locating the Satellite. To do this, click on the "Configuration" button in the IG-2500 Screen. In a box name "Satellite Searching" you will find "Azimuth Window" and "Elevation Window". Type in 60 in Azimuth Window and 15 in Elevation Window. This opens up your search window considerably. It may take a bit longer to find the satellite, but it will be found.

MAKE SURE YOU'RE LOOKING FOR THE CORRECT SATELLITE.

You're either looking for satellite 117 or 91. To know which satellite your modems are commissioned for, right click on the "BE" or "DW" icon on the task bar and select "HELP". From this screen, choose "System Information". This will bring up another screen on the right side that shows information on your DirecWay system. Where it says "Longitude", this is the location of the Satellite you are trying to connect to.

Make sure this Longitude is the same Longitude that is listed in the IG-2500 Software screen where it read "Satellite Longitude". If the IG-2500 screen is showing the wrong longitude, you may change it by clicking on the "Configurations" button on the IG-2500 software screen. On the window that appears, where it reads "Satellite Longitude", you may enter a new value here.

LOWERING THE SIGNAL THRESHOLD

When the IG-2500 is crossing over a potential Satellite, the Signal Strength meter will start to shoot up. If this number gets above 300 during a Search Window Scan, it will begin PEAKING on that signal. In some areas, the correct Satellite will not be sending a strong enough signal for the IG-2500 dish to connect on. The way to correct this is to lower the Signal Threshold down from 300 to a number like 200 or 150.

Lowering Signal Threshold is often recommended for those living in Canada.

If you are still unable to find Satellite after all of this, please go to APPENDIX X where you can contact Customer Support.

APPENDIX 7 – UNABLE TO GET ONLINE

NOTE – You may refer to the Interactive Troubleshooting Guide for detailed full color troubleshooting. It is located in the IG-2500 Directory in a folder named "Trouble Shooting". Open up this folder and locate and double click on the "TroubleShooting" file.

Okay, You're locked on the Correct Satellite, you're showing Green Bars in the Signal Strength Meter... It looks like all is going well, but when you open up your browser, you're not able to surf the Internet.

Okay... Here are the Potential problems:

1. Modems were not activated by a Hughes Certified Installer
2. Antenna Pointing Software was not used since you last moved the vehicle.
3. Proxy Server settings in Internet Explorer were not set up properly
4. Look at Status Window in "BE" software for the Current Modem status.
5. Network Settings have changed... Re-Run Web Setup.
6. ICS is not configured correctly.

CERTIFYING YOUR MODEMS

Your professional installer should have been responsible for locating a Hughes Certified installer to activate the DirecWay Modems. If you know that this has not happened, now is the time to have a Hughes Certified Installer come.

All that is required to certify your modems is a Cross Pol. Once your dish is locked on satellite, it takes no longer than 30 minutes for the Hughes Certified Installer to perform. (Certified Dealer procedures may change from time to time).

The Certified Installer can use the IG-2500 Manual Motor Controls to move the dish. Please refer them to the Software Installation Manual that was shipped with your IG-2500.

RUNNING THE ANTENNA POINTING SOFTWARE

Sometimes, for unknown reasons, the IG-2500 is unable to update the “timing” parameters of the DirecWay dish. Timing is very important for the dish and may be manually entered. To do this, click on “Start” then “Programs” then “DirecWay” then “Antenna Pointing”. Enter in the ZIP code for the location you are parked. If you do not know the ZIP code for where your current location, click on “Manually Enter Location” on the first screen of Antenna Pointing.

The window that appears will allow you to enter your Latitude and Longitude. These numbers can be obtained in the IG-2500 software under GPS Longitude and GPS Latitude. Simply copy these numbers from the IG-2500 software and paste these numbers into the Antenna Pointing software and click on next.

Click on Finish and to close the Antenna Pointing screen down. This will save your current location, and will allow your modems to connect to the Internet. If this works, then you may need to re-run antenna pointing each time you move the rig to a new zip code.

PROXY SERVER SETTING INCORRECT

Sometimes in Internet Explorer, a number of settings are incorrect and will keep you from surfing the web. To correct this problem do this:

Inside of Internet Explorer, choose “Tools” from the menu bar, and then select “Internet Options”. On this new window, there are a number of TAB’s. Select the “Connections” TAB. On the bottom of this window is a button that says “LAN SETTINGS”. Click on “LAN SETTINGS”.

Uncheck “USE PROXY SERVER”. We also recommend that you also uncheck everything else on this window for better performance. Click on OKAY and close all windows. Now try surfing the web.

CURRENT MODEM STATUS.

Right-click on the “BE” icon on the right bottom side of your desktop in the Task Manager bar. From the menu that appears, select “Status”. This will bring up a window that shows the current status of your DirecWay Modem Connection. It should state “Connected Via Satellite”. If it does not, please read what it says and see if this is something that you can fix... You may need to re-run Web Setup.

If it does read “Connected Via Satellite”, then it could be a proxy problem (see last fix), or it could be a problem with the IG-2500 Main Controller. To check that it is, unplug the Coax Cable that comes from the dish to the Main Controller and plug this directly into the IRU DirecWay Modem coax input (this is a simple bypass of the Main Controller). If you are now able to get online, you may have a bad Main Controller Board.

NETWORK SETTINGS HAVE CHANGED...

If you’ve changed your network settings in some way, we recommend re-running Web Setup. You will need a phone line connected to your computer to do this. To start Web Setup, click on “Start” then choose “Programs” then choose “DirecWay” then choose “Web Setup”. Please follow the onscreen instructions.

After Web Setup is run, it will update your Network Settings, and you should be able to surf the Net.

ICS IS NOT CONFIGURED CORRECTLY

If you are using Internet Connection Sharing, and you currently can not surf the Internet, Disable ICS by re-running Home Network Wizard. Click on "Start" then "Programs" then "Accessories" then "Communications" then "Home Networking Wizard"... Edit the preferences so that you are no longer using ICS. If this fixes the problem... then you have a problem with ICS, not the IG-2500 Software or the DirecWay connection. Please consult a computer professional for setting up your home network.

If you are still not able to surf the Internet, please go to APPENDIX X to contact Technical Support.

APPENDIX 8 – UNABLE TO STOW DISH

NOTE – You may refer to the Interactive Troubleshooting Guide for detailed full color troubleshooting. It is located in the IG-2500 Directory in a folder named "Trouble Shooting". Open up this folder and locate and double click on the "TroubleShooting" file.

If the Dish is up, and you click on the IG-2500 "STOW" button and nothing happens. ...Do this:

Close the IG-2500 Application, and TURN OFF THE MAIN CONTROLLER. You may need to remove the power cord and then plug it back in. Once the Main Controller is off, turn it back on and then open up the IG-2500 Application. Click on Stow Dish. If this doesn't work, reboot the computer and try again.

If this doesn't work, press and HOLD the ON button on the main controller for 15 seconds. This will begin a stow.

If this doesn't work, unplug the Main Controller from the 12 volt outlet, wait 45 seconds then plug it back in. Turn the controller on and then press and HOLD the ON button on the main controller for 15 seconds again.

In an emergency, you may manually stow the dish.

MANUALLY MOVING THE DISH

WARNING – Make sure that you remove the 9-Pin from the back of the main controller BEFORE you put a power source to the wires or you will damage the circuitry on the main controller.

If you need to manually move the dish, you may do so by removing the 9-pin connector from the back of the main controller. Then, using a small screwdriver, remove the wires from the connector and plug in certain colors into the 12-volt power lead that powers the main controller. The power lead wires are the leads that enter into a 3-pin connector to the back of the Main Controller.

ORANGE AND RED wires raise and lower Elevation.

BROWN AND BLACK wires rotate the dish.

BROWN AND RED wires skew the dish face.



Simply reverse the colored wires to make the movement reverse.

APPENDIX X – CONTACTING CUSTOMER/TECHNICAL SUPPORT

NOTE – You may refer to the Interactive Troubleshooting Guide for detailed full color troubleshooting. It is located in the IG-2500 Directory in a folder named “Trouble Shooting”. Open up this folder and locate and double click on the “TroubleShooting” file.

We kindly ask that you first use the Interactive Troubleshooting guide prior to calling Technical Support.

If the dish is not functioning, please call Ground Control at 800-869-2595.

	WARNING
	<p>When making any adjustments to the IG-2500 mount or associated components follow the following procedures:</p> <ul style="list-style-type: none">a. Make sure all power is disconnected from the ITU before approaching and attempting to make any adjustment to the mount.b. Be aware of all surrounding obstacles that could cause you to become disoriented, or to loose your balance.c. Never walk on the roof of a trailer, truck, or RV when water or frost is present.