

Eutelsat Tooway / SurfBeam 2 Pro and the iNetVu® 7700 Series Controller



SurfBeam 2 Pro



Tooway (SurfBeam 2)

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1.1 Safety and Warning Information

For your safety and protection the following important safety information should be reviewed before installation, configuration and use of the iNetVu Satellite Platform System and Modem equipment. It is also recommended to read the manual in its entirety prior to setup and operation.

Warning: The following general safety precautions must be observed during all phases of setup and operation of this equipment. Failure to comply with these precautions or with specific warnings elsewhere in this documentation violates safety standards of design, manufacture and intended use of the equipment. C-COM Satellites Systems Inc. assumes no liability for the customer's failure to comply with these requirements.

NOTICE

C-COM Satellite Systems Inc. makes no warranty of any kind with regards to this manual including, but not limited to, the implied warranties of merchantability and fitness for a particular purpose.

C-COM Satellite Systems Inc. shall not be liable for errors contained herein or direct, indirect, special, incidental or consequential damages in connection with the furnishing, performance or use of this material.

The information contained in this document is subject to change without notice.



This situation or practice might result in property or equipment damage. Ensure All Cables are connected prior to powering on 7700 Series Controller. Do not connect or disconnect cables once controller has been powered on. It is recommended that controller is properly grounded at all times.

1.2 System Overview

The iNetVu™ Mobile Satellite Internet system is an automatic scanner, polarizer and beam positioning system for a foldable two-way satellite antenna. It has been designed to automatically find and acquire the satellite beam and the position based on both a GPS position reading as well as other positioning parameters. It is targeted for mobile users that require high speed Internet access in remote locations where cable and DSL do not exist. It provides two-way, high-speed data communications over satellite. iNetVu™ empowers mobile users with the ability to stop anywhere there is Satellite coverage and access Internet at broadband speeds. The iNetVu™ Mobile application consists of the iNetVu™ Mobile software 7710 software (for the 7700 Series Controller)

iNetVu™ Mobile Application

Key Features:

- Automatic re-peak on satellite upon signal loss.
- Automatic dish stow if Mobile Platform moves
- If the vehicle is moved before the dish is stowed, the dish will sense movement and will automatically begin stowing itself.
- The dish will not transmit unless it is pointed adequately to meet cross-polarization specifications.
- The system will automatically find any satellite from any point on the Earth within its coverage area.
- Displays comprehensive information about the satellite, dish, motors, GPS, compass, control box, and modem.
- Finds the satellite, peaks the signal strength and selects the optimal path to perform the selected satellite, allowing the customer's computer to be online as soon as possible
- Simple to install, configure and operate.

1.3 Pre-Configuration Check List

The following items should be completed/known prior to configuring the iNetVu® Mobile System. Contact the Network Operation Center (NOC) if any of the following items are unknown or if you are unfamiliar with them.

- IP Address Satellite Modem

Service Type	Modem Firmware	IMS 7700 S/W	IMS F/W	Interface
Tooway	UT_1.5.2.x.x +	7.7.3+	7.7.3+	HTTP
SurfBeam 2 Pro	UT_1.5.2.x.x +	7.7.3+	7.7.3+	HTTP

- Verify Modem Software Version is correct. This can be acquired by login to modem's webpage at 192.168.100.1. Go to Modem icon, the information can be found under IDENTIFICATION section.

Note: Please contact C-COM if you require more information about modem compatibility as these may change without further notice.

Modem/IFL Cable Status

HOME

MODEM

TRIA

▼ MODEM STATE

Status Online Online Time 000:00:13:40

▼ GENERAL

Rx Power: -35.0 dBm

Rx SNR: 11.4 dB

ODU Telemetry status: Active

Cable Resistance: 1.5 Ohms

Cable Attenuation 5.4 dB

▼ IDENTIFICATION

IP Address

Software Version UT_1.5.2.2.3

Serial Number

IFL Type Single

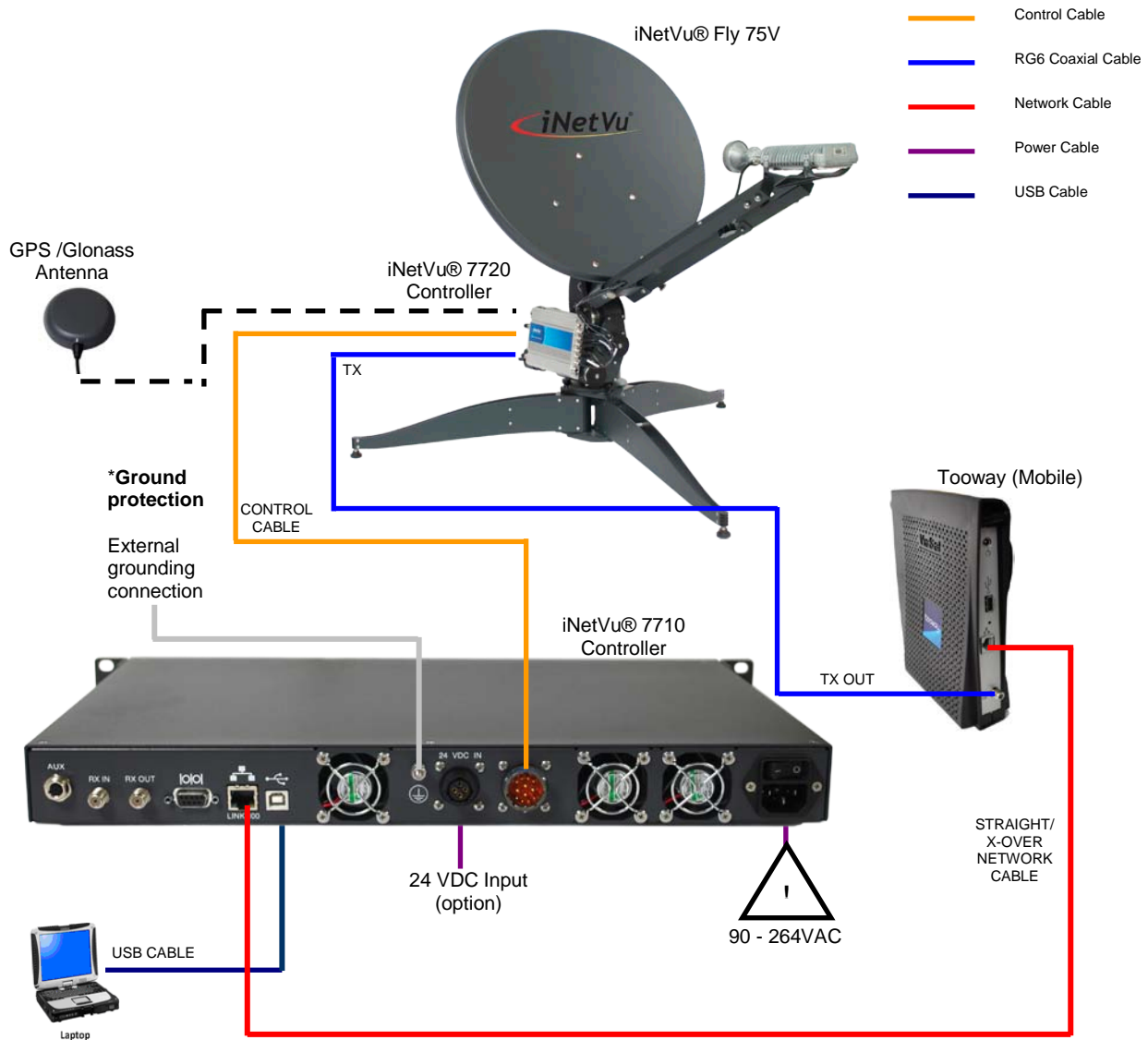
MAC Address

Hardware Version

Part Number

1.4 System Wiring with Eutelsat Service

1.5 USB Interface Connection – Single IFL Cable System Wiring



USB Interface System Wiring Diagram

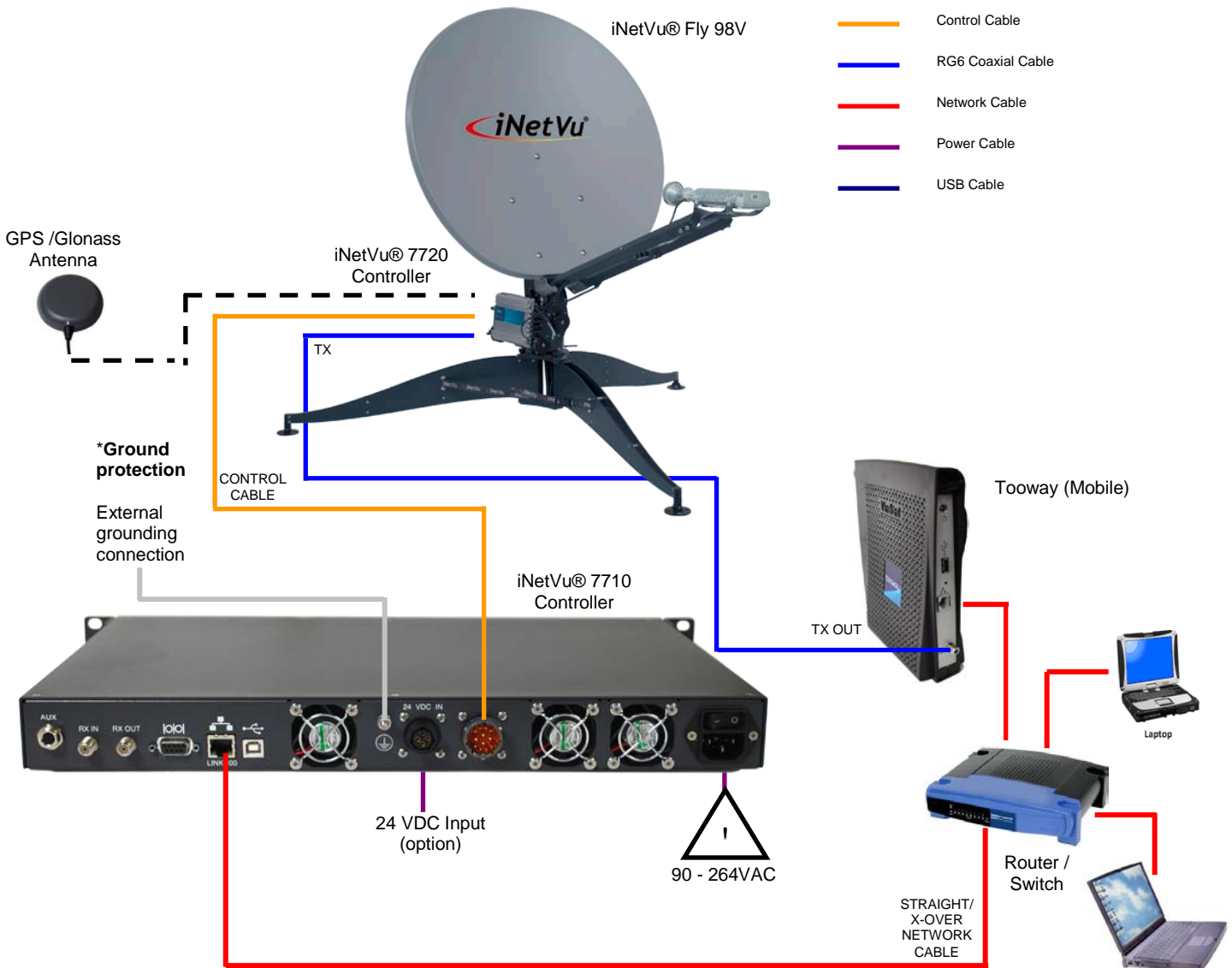
***Recommended for proper grounding of iNetVu® systems.**

Note: TX Cable is the only cable used with a single IFL Cable Modem.

CAUTION

Ensure Control Cable, including RX and TX cables are connected prior to powering on 7710 Controller.

1.6 Network Interface Connection – Single IFL Cable System Wiring



Network Interface System Wiring Diagram

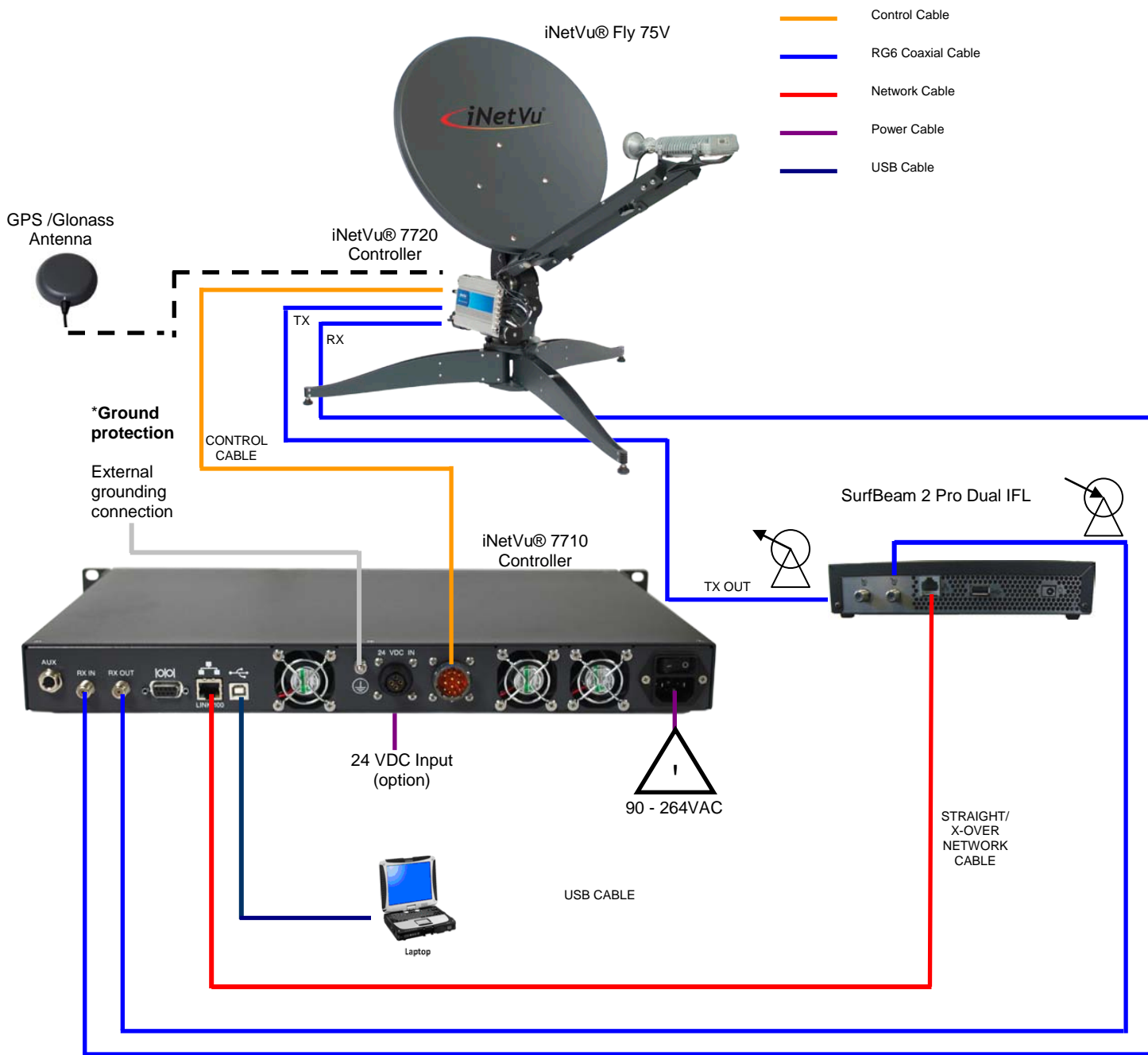
***Recommended for proper grounding of iNetVu® systems.**

Note: TX Cable is the only cable used with a single IFL Cable Modem.

CAUTION

Ensure Control Cable, including RX and TX cables are connected prior to powering on 7710 Controller.

1.7 USB Interface Connection – Dual IFL Cable System Wiring



USB Interface System Wiring Diagram

*Recommended for proper grounding of iNetVu® systems.

CAUTION

Ensure Control Cable, including RX and TX cables are connected prior to powering on 7710 Controller.

1.8 Initial Controller Configuration and Verification Test with Eutelsat Tooway & SurfBeam 2 Pro Modem(s)

Once the system wiring with the Viasat/Eutelsat modem is setup and the network configuration on your PC is configured, you are required to configure the system parameters for the following before satellite acquisition:

- Communication Method between IMS and iNetVu® Controller.
- Satellite Name, Longitude, and Transmit Polarization
- Modem/VSAT Communication Parameters

The 7710 Controller may be configured via the Software Application / Web Interface / LCD interface. Only one is necessary for complete configuration.

- iNetVu® Software Application Version (**preferred method**)
- First time user should use the iNetVu Wizard which is imbedded into the iNetVu software for guidance in configuring your system.
 - USB Connection
 - Ethernet Connection
- iNetVu® Web Interface
 - Ethernet Connection
- iNetVu® 7710 Front Panel

USB drivers must be installed for USB connection method. The configuration process is only required to be done once as long there are no change in satellite, service, modem, or platform parameters.

1.9 Tips and Recommendations



- The user has the option to search for satellite using the following methods depending on what is available to you:
 - ❖ DVB search and or Reference Satellite Using a Known DVB Carrier
 - ❖ RF search
 - ❖ Beacon receiver

The recommended method of satellite search is DVB using DVB-S/S2, followed by DVB reference satellite search with RF search being the last option of choice. If using RF search, a **valid RF frequency** must be entered and is highly recommended; this can be the service frequency or any other valid RF frequency from a known carrier (preferably taken from Modem parameters)

Search Method

- DVB or RF search are selectable from the drop down window. DVB will search directly on DVB-S1 or DVB-S2 carrier and lock on it. This is the option of choice to use when searching for satellite. RF option will allow the user to base satellite searching and peaking strictly on RF instead of DVB.

This method of searching could be used when the user is having a hard time finding the transponder data for a specific satellite, or if no transponder data exists. The controller will then peak on the modem signal when the satellite is found. RF search should be used as a last resort after DVB and or DVB with reference satellite because search time is much longer.

- The Reference Satellite option is useful when the user cannot find a DVB transponder on the desired target satellite. The user may select a reference satellite with a known DVB Transponder. The iNetVu® System will lock onto the reference satellite, and then pivot from that point to the desired target satellite, and peak on the modem signal. Does not work if search method selected is RF Search.
- Beacon Receiver is used to lock onto a satellite without the use of a modem.

Compass Issues?

If you are in an area where there is magnetic interference or the compass readings are incorrect, it is recommended to select Full Search which will also override the compass.

- ❖ Full Search
- ❖ Override Compass

Selecting **Full Search** will auto select **Override Compass** and set the AZ Search Window to 180 or any other value depending on the Platform type. This value can be overridden to a more desirable range. **Override Compass** can be selected without selecting **Full Search** but this does not hold true for the vice-versa.

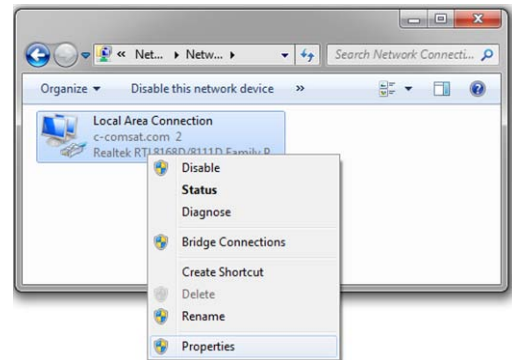


Refer to Controller User Manual for more information on using the iNetVu Controller and options associated with your system.

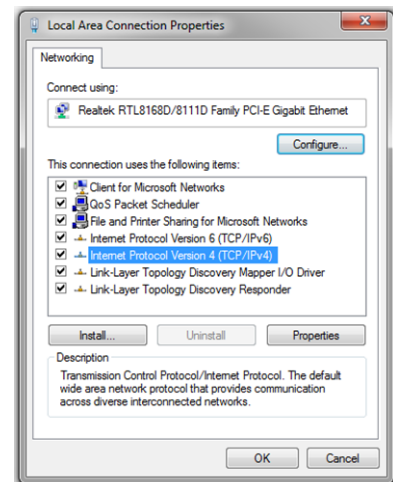
1.10 Software Setup and Initial Configuration Procedure with Eutelsat Tooway Service

1. If you are using the network interface to communicate with the 7710 Controller, set the PC/Notebook to the same network as the 7710 Controller. **(If you are using the USB interface, you may skip this step and continue to the Software Installation and Configuration.)**

2. Open **Network and Sharing Center\Network Connections**, right-click your network card, and select **Properties**.



3. Select **Internet Protocol Version 4 (TCP/IPv4)** and click **Properties**.



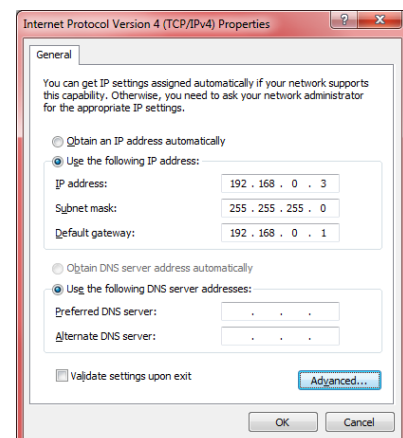
4. Select **Use the following IP address**.

Set your PC to the same subnet as the 7710 Controller.

IP Address: 192.168.100.3
Subnet Mask: 255.255.255.0
Gateway: 192.168.100.1

The Gateway is usually the Router IP address. If no router is used, it is usually the VSAT Modem IP Address.

Set the DNS IP Addresses if required.



- Set the 7710 Controller to the same network as the PC and VSAT Modem.

***Note:** The controller IP should be set in the controller through the LCD interface prior to entering it into the software tool for proper PC to Controller Communication through network interface. **(USB Interface users may skip this step)**

To Configure the IP address on the controller, you must navigate to the CONF menu using the LCD Interface. (Default password “password”)

- Navigate to the “IP” menu and press the “ENTER” button.

SAT	MDM	EL	AZ	PL	GP
MT	CC	PW	SG	IP	SR

- Press the ‘↑’ button to allow for modification on the C_IP field and set the IP address of the controller. For example, if the Modem/Router IP is 192.168.100.1 then the controller IP could be set to 192.168.100.2. Press the “ENTER” button once the change is complete.

C_IP:	192.168.000.002
M_IP:	192.168.000.001

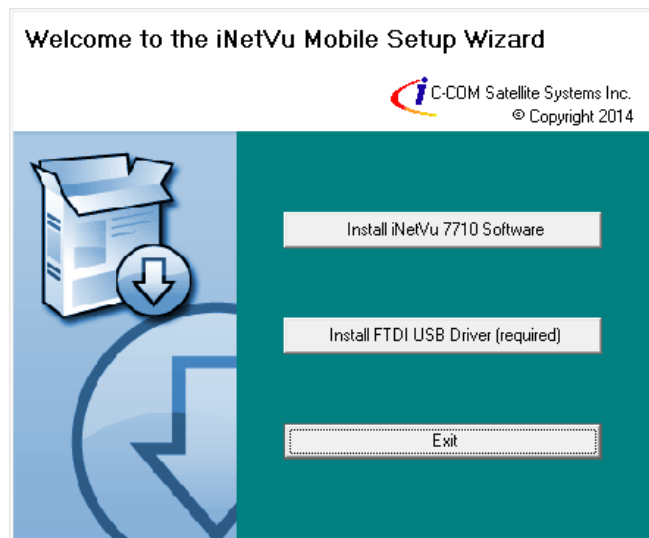
- Press the “Exit” button twice to exit out of the configuration menu. When prompted if you would like to save configuration, press the ‘↑’ button to select “Y” (yes) and press “Enter”.
- Click the “reset” button on the controller.

You may view the 7710 Controller IP from the LCD interface via – MONITOR → IP→ (C_IP)

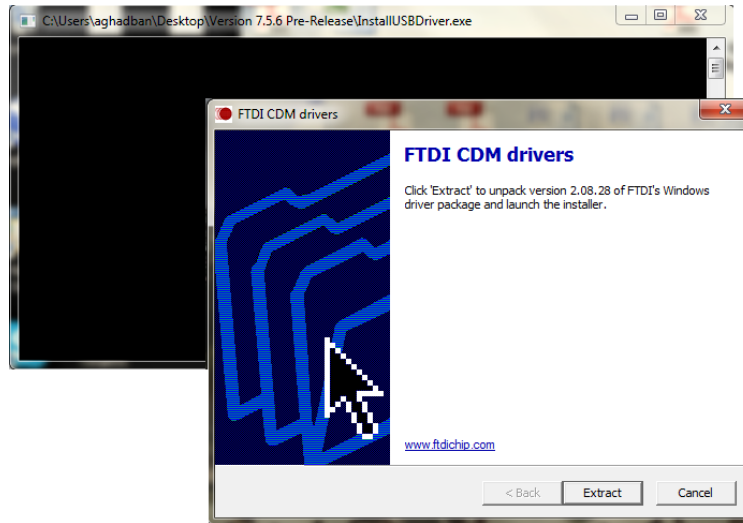
1.11 Software Installation and Configuration

Please Note: Do not connect the Controller via USB until the drivers and software have been installed

- If you are installing from the USB flash drive or have downloaded from the C-COM FTP, run the **iNetVu7710Setup.exe** file.



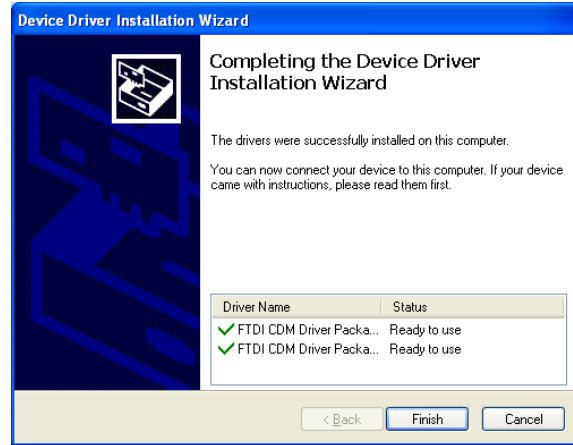
2. Install the FTDI USB Driver and continue through the Installation Wizard.



Click "Extract"

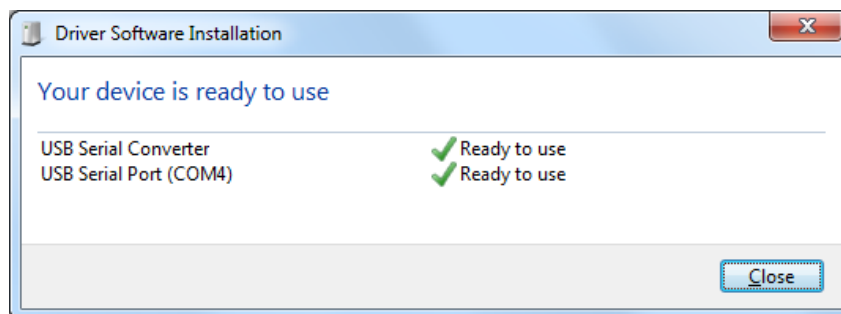


Click "Next"



Click "Finish"

3. Install the iNetVu 7710 Software and close when complete.
4. Connect the Controller using the provided USB cable. **Windows Vista and 7+** users, the drivers should install automatically without any further user action.



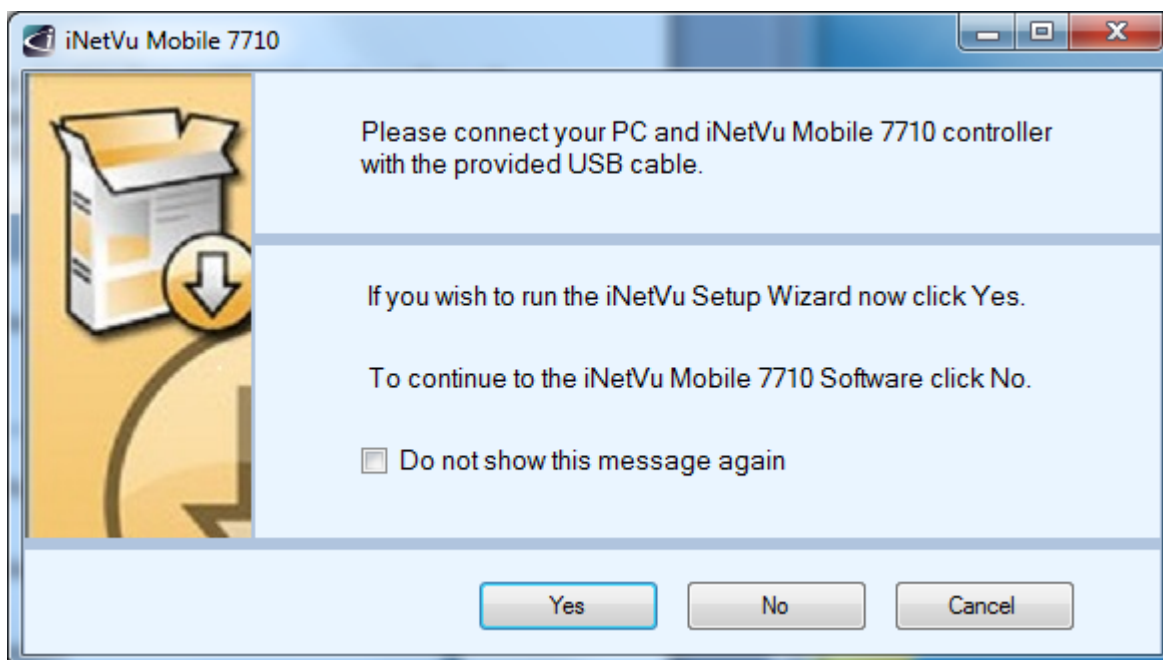
5. You have successfully installed the 7710 iNetVu Drivers and Software. Exit the setup wizard.
6. You can now run the iNetVu Mobile 7710 software from the shortcut on your desktop.

1.12 iNetVu Setup Wizard

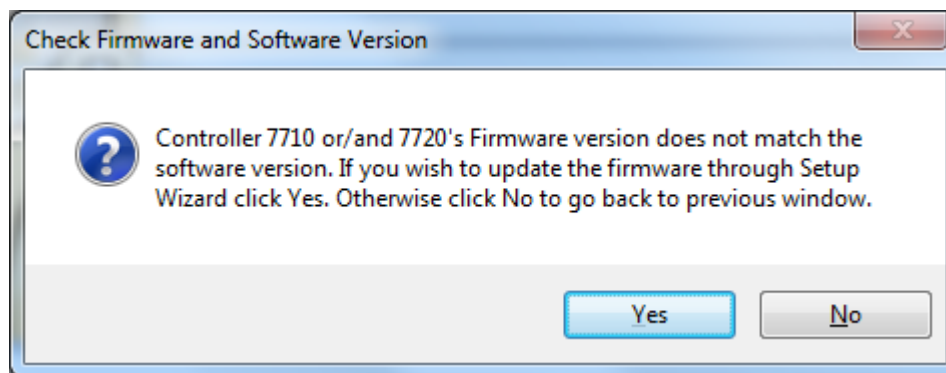
1. The first screen you will see is the new iNetVu Setup Wizard. You can choose to continue using the wizard or click NO to proceed to the iNetVu Mobile 7710 software.



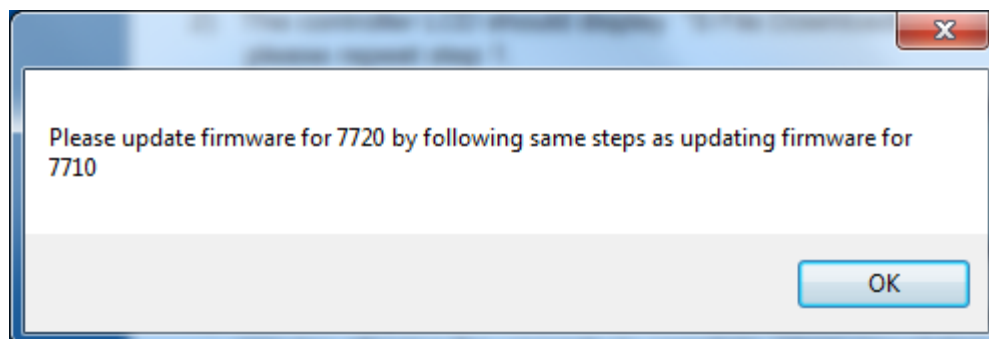
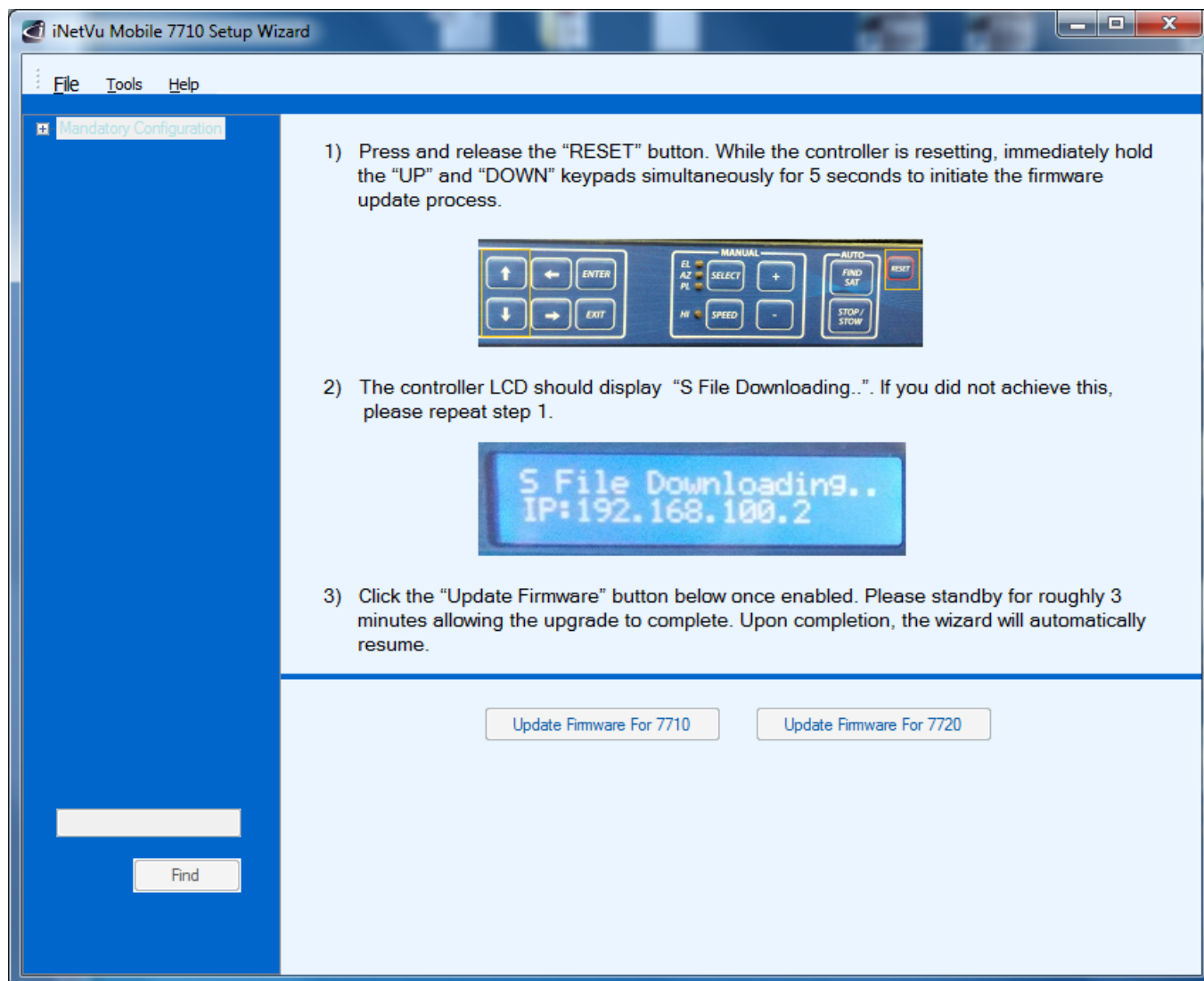
NOTE: It is recommended that you continue to the iNetVu Setup Wizard and confirm all required information is correct. Please select “**Do not show this message again**” so this pop-up will not appear after you have completed the initial Controller setup.



2. If the controller firmware does not match you will be prompted to update.



3. Follow the on screen instructions to update both the 7710 and 7720 controller firmware. Once complete the wizard will resume.



4. Configure the **Platform Type**, **Version** and **Serial No.** If no changes are needed press “Next” to continue.

Platform

Type: Antenna Model
Version: Antenna Version
Serial No: Antenna Serial Number



It is important that this information be correct or will result in undesired antenna behavior.

iNetVu Mobile 7710 Setup Wizard

File Tools Help

Mandatory Configuration

Please check the sticker on antenna and base on picture below, find platform type, version and serial number, enter them into relevant input entry.

Platform

Type: A0756A

Version: 1.X

Serial No.: 13416

Next

Platform Serial No. Detail

The platform Serial number can be found next to the connector plate , Elevation Arm or Feed Arm on the platform. The last four or five-digits of the platform serial number must be entered for proper configuration.

C-COM SATELLITE SYSTEMS INC.
 Model: iNetVu A0756A Ver: 1.0
 Serial: 1340C13416
 www.c-comsat.com
 Made In Canada

Serial No.

Find

5. Complete the **Service Information** section, set to **Tooway** as the Service Type. Select the Interface method you wish to use and configure accordingly. Mouse over each selection for a detailed description. After changes have been made please click “**Next**” to continue.

Service Information

Type: Tooway
Interface: HTTP (how the Controller will communicate with the Modem)

Modem Configuration

IP Address: Enter the Modem IP Address
Auto-select Beam Color: Auto Select Beam Color Based on GPS location
Update Look-up Table Ignore

Controller TCP/IP Settings

IP Address: Controller IP Address
Subnet Mask: Controller Subnet Mask
Default Gateway: Controller Gateway (Modem or Router)

The screenshot shows the 'iNetVu Mobile 7710 Setup Wizard' window. The left sidebar is expanded to 'Service Information'. The main content area is as follows:

Service Information

Type: Tooway
Interface: HTTP

Buttons: Back, Next

Please request modem IP address from your service provider

Modem Configuration

IP Address: 192.168.100.1
 Auto-select Beam Color

Controller TCP/IP Setting

IP Address: 192.168.100.2
Subnet Mask: 255.255.255.0
Default Gateway: 192.168.100.32

Service Interface Detail

The modem interface to Controller. The user must select the service interface in use from this drop down menu for proper modem to controller connectivity.

6. Complete the **Satellite Parameters**, **DVB Settings** and **Search Method**. Mouse over each selection for a detailed description. Click Finish when complete.



No changes are needed. Please click Finish to complete the setup.

iNetVu Mobile 7710 Setup Wizard

File Tools Help

Mandatory Configuration

- Platform Information
 - Platform Type
 - Platform Version
 - Platform Serial No
- Service Information
 - Service Type
 - Service Interface
 - Modem IP
 - Modem Baud Rate
 - Modem Password
 - Controller IP
 - Controller Subnet Mask
 - Controller Default Gateway
- Satellite Information
 - Satellite No
 - Satellite Longitude
 - Satellite Offset
 - LNB Power
 - LNB LO Frequency
 - Search Method
 - DVB Type
 - DVB Frequency
 - DVB Symbol Rate
 - DVB FEC Rate

Please request satellite longitude and receive polarity from service provider.

Beam

Beam ID: 1

Longitude: 9.0 E

Carrier Skew: 0.0

LNB Power: 18V

LNB_LO: 10.75

Satellite and DVB Transponder Settings

Transponder No.: 0

DVB Type: DVB-S2A

Frequency(KHz): 1468750

Symbol Rate(sps): 50000000

FEC: AUTO

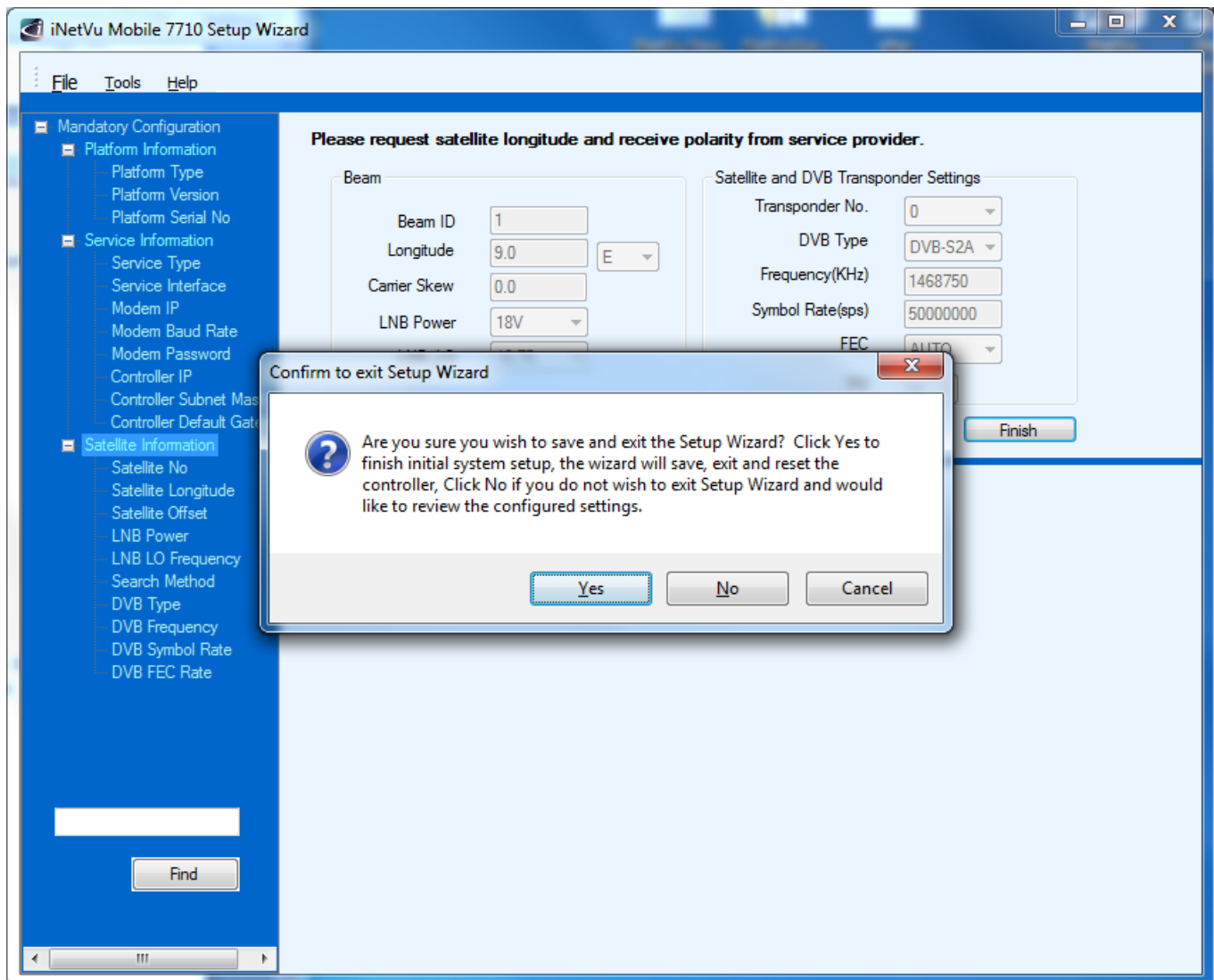
RX: H

Search Method: RF Search

Back Finish

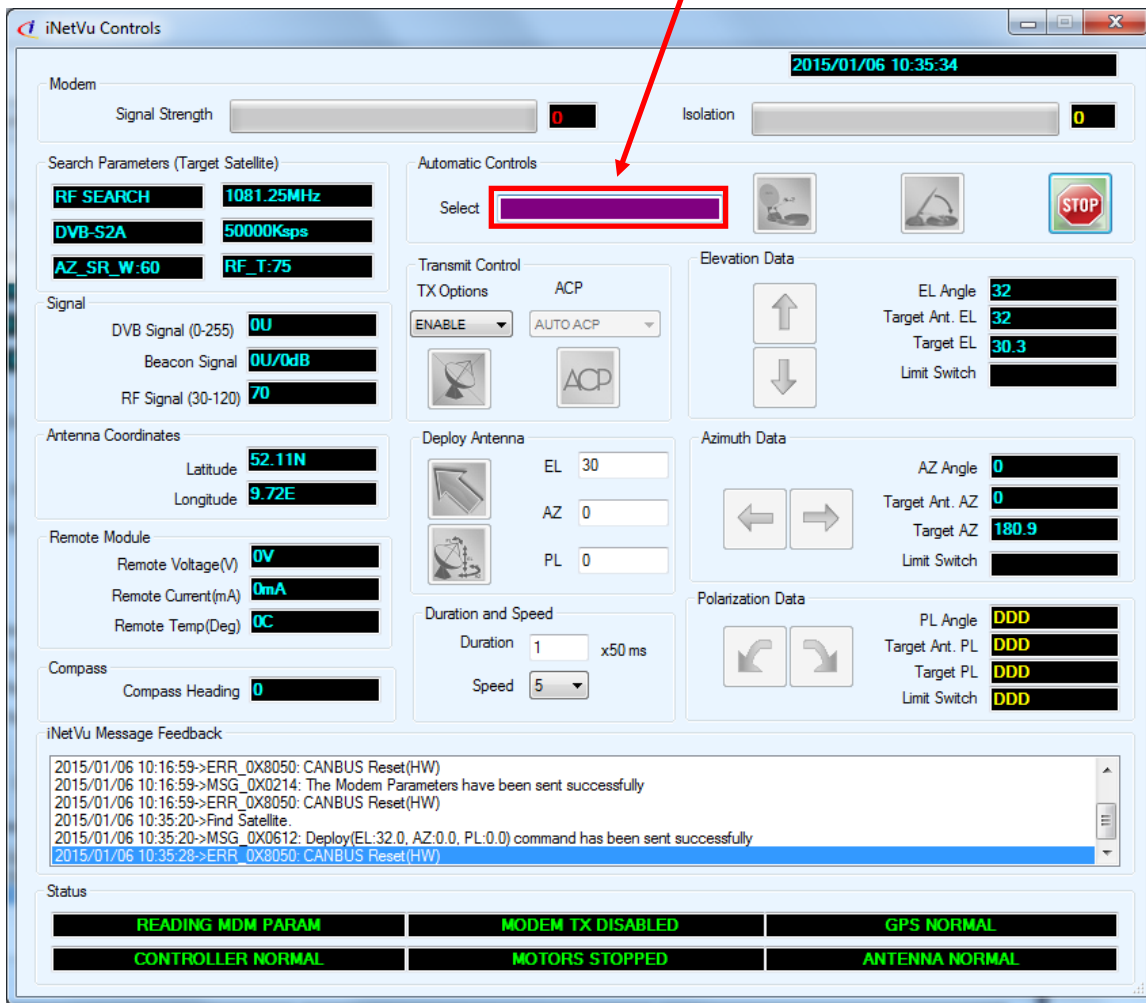
Find

- Once completed you will be able to save changes by selecting **Yes**, or select **No** to return to the previous screen to make additional changes.

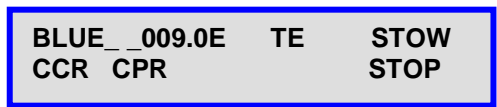


- Congratulations you have configured your iNetVu Controller. You can now find satellite by pressing the FIND SAT button from the front panel or by launching the iNetvu Software.

9. Ensure **Auto-select Beam Color** option is selected on the Application side in order to see which Beam color the auto selection is searching on.
10. Color Beam Status can be viewed on the Controls screen.



11. The Controller is now ready to do Auto Beam selection.
12. Press **FIND SAT** from the software or front panel, to begin the Auto Beam search.
13. For Manual Beam Select hold down the **FIND SAT** button for 3 seconds then let go, Tooway menu will be displayed, which will allow the user to manually select the Beam Color they desire.



**For more detailed information on the iNetVu® 7700 Series Controller Software, refer to the iNetVu® 7700 Series Controller Manual.*