

Advanced Service and Clinical Manual

This manual is meant to assist the Clinical Field Engineer (CFE) Team at Intersect ENT. This document contains confidential information and is not to be distributed to anyone outside the CFE Team without explicit approval.

Last Edited by Faher Aboshady: 8/20/2021

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Passwords

DO NOT SHARE ANY PASSWORDS WITH ANYONE OUTSIDE THE CFE TEAM

Navigation System User Windows Login

- Password: rose2009

Navigation System Admin/"sp" Windows Login

- Password: spsonne66

Navigation System Expert Mode Configurator

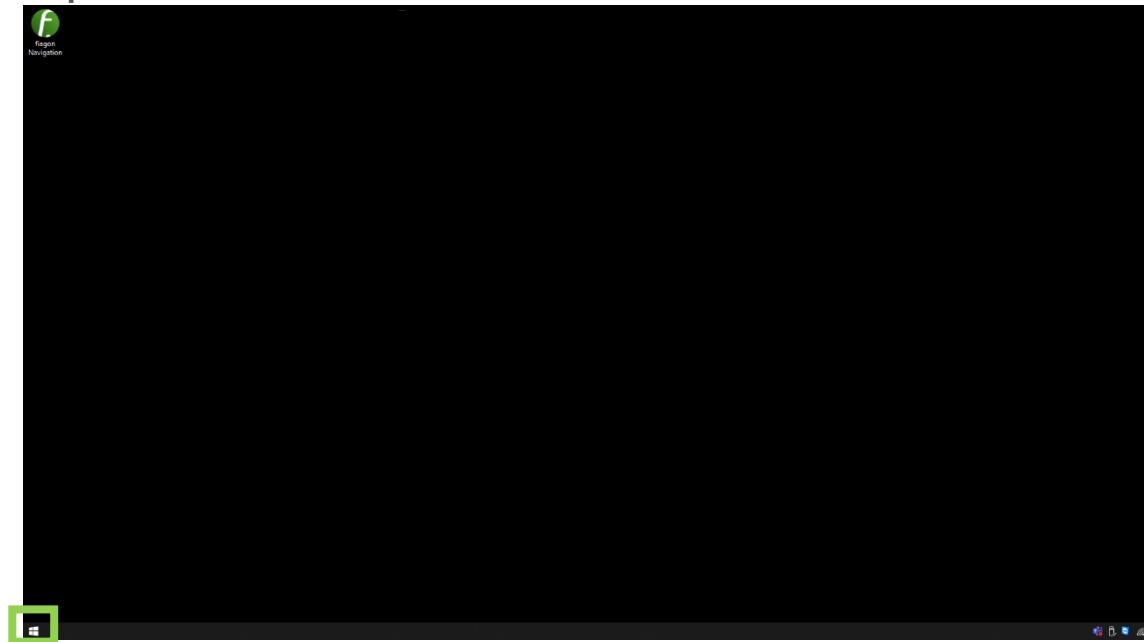
- Password: 16761

Expert Configurator Settings

Purpose: To access settings that should only be adjusted by trained technical experts.

WARNING: There are many sensitive settings that can cause detrimental changes to the software. Avoid using the scroll wheel when navigating the menu.

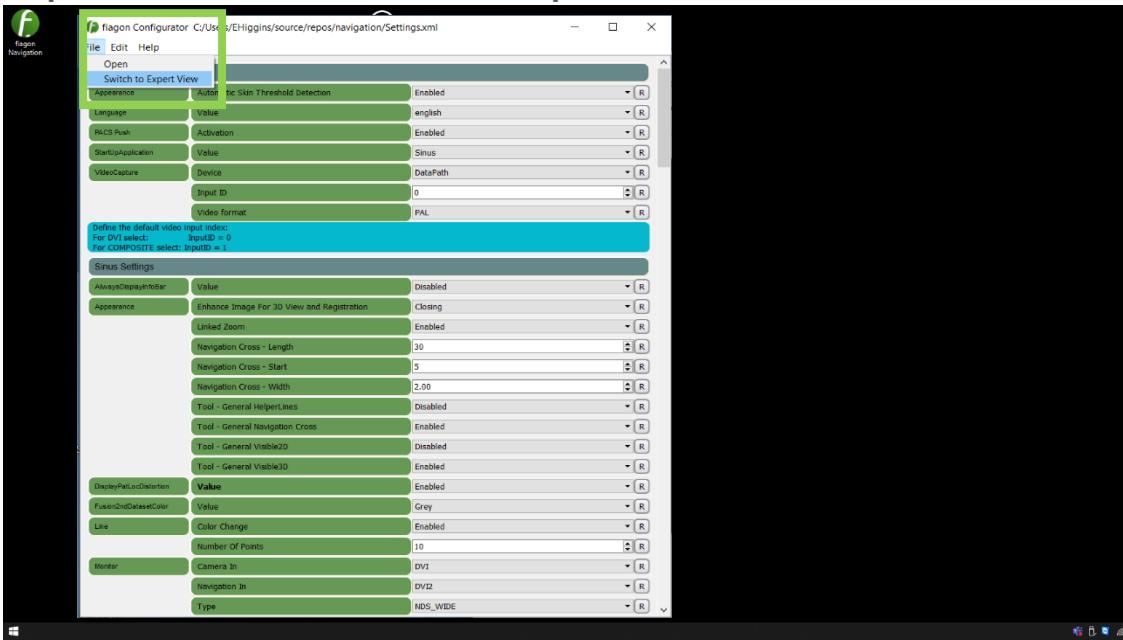
Step 1: Click on the “Start” button.



Step 2: Click on "Configure"



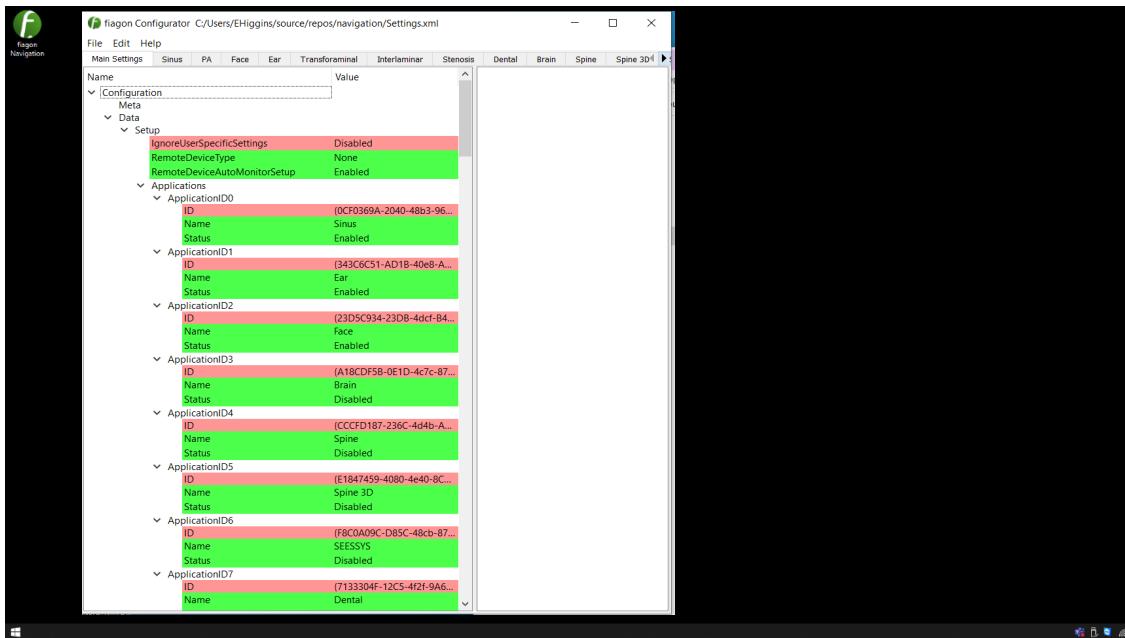
Step 3: Click on "File" and "Switch to Expert View"



Step 4: Enter password

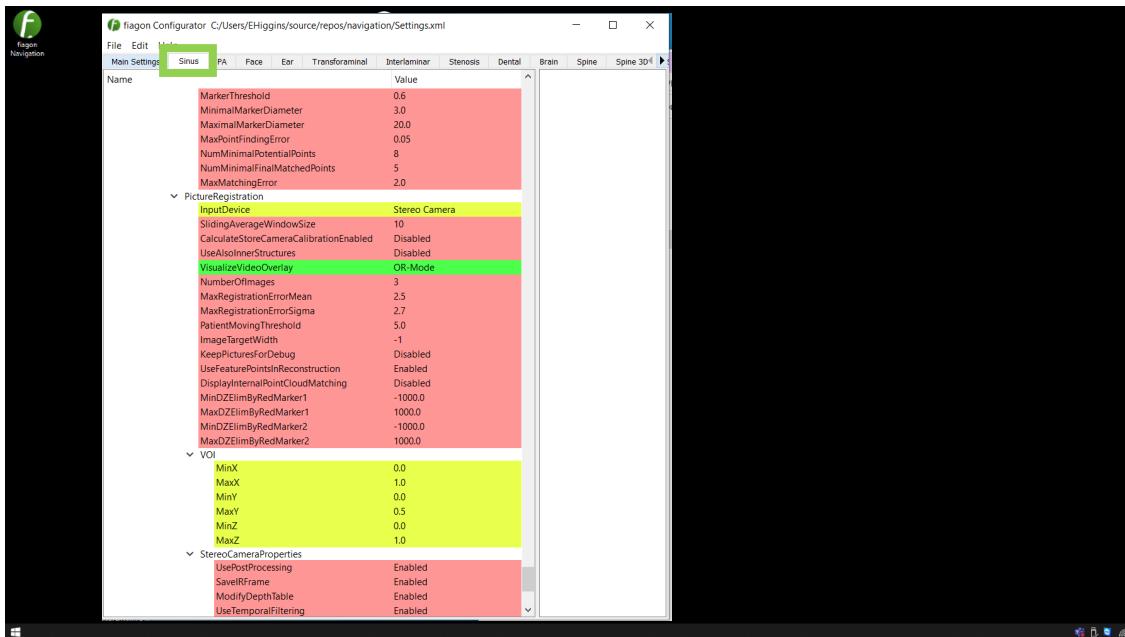


Upon success, you will have access to the expert configurator settings. Be mindful when navigating the window as almost all aspects of the software can be adjusted, even with the scroll wheel. Use the scroll bar when possible.



Noteworthy Settings

Click on the “Sinus” tab, then use the scroll bar to find the section titled “Picture Registration.”



1. “KeepPicturesForDebug”

- Stores patient registration data to assist internal team investigate reports of patient inaccuracy

2. “DisplayInternalPointCloudMatching”

- After conducting a patient registration using photoregistration, a window will appear to show the point cloud of the registration in blue and the point cloud of the CT scan in green.
WARNING: Registration will never be completed until the window is closed. Close the window to initiate navigation.



1. "InitializeContrastBrightnessBasedOnTheMiddleSlice"

- Software Version 4430.27 introduced a new method to set the default contrast/brightness when loading a patient scan for the first time. If the previous method of setting the contrast/brightness was more desirable, this setting can be disabled.
- NOTE: the new method also produces a higher resolution image, so disabling this setting will also lead to a lower CT resolution.

Connecting to the Facility Network

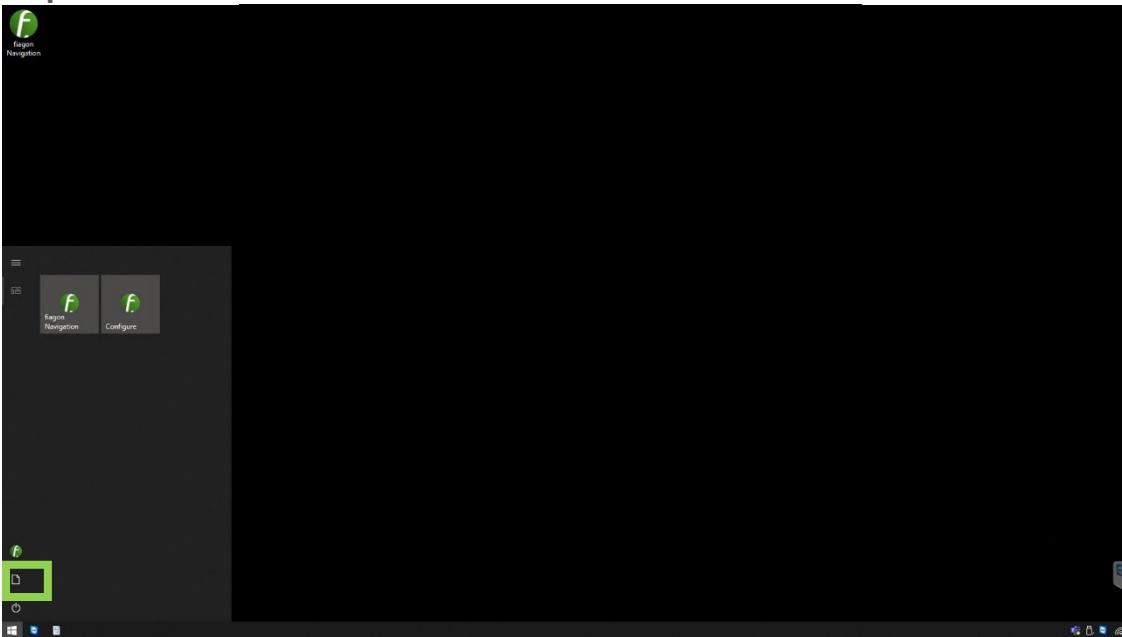
Purpose: To connect the navigation system to the facility's network

Windows 10 Systems (Cube4Ds and Post-700s)

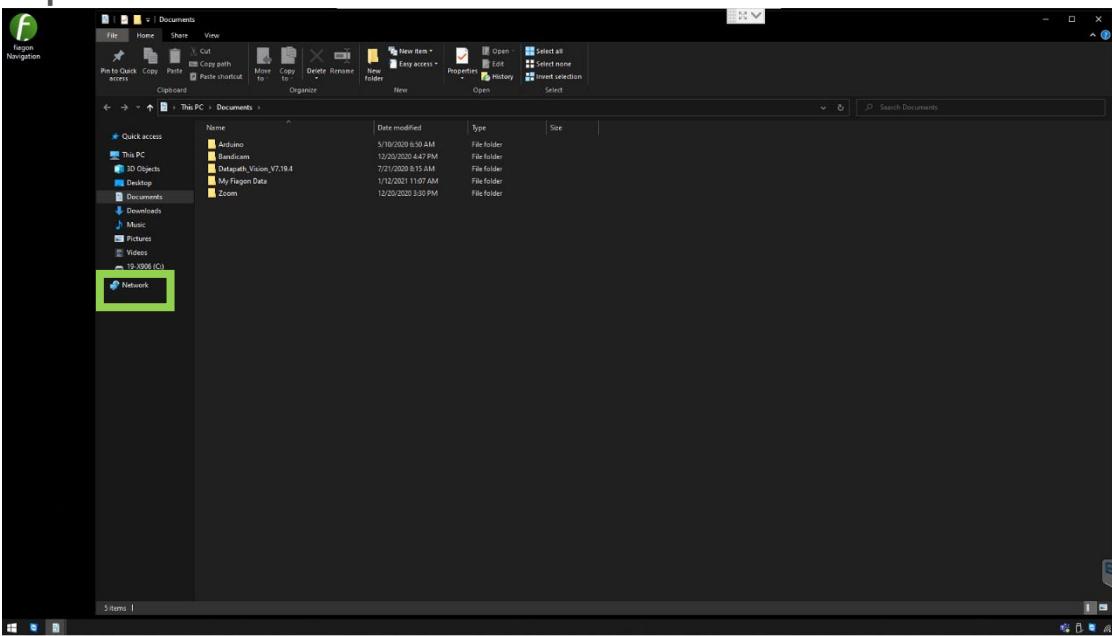
Step 1: Click on the “Start” button.



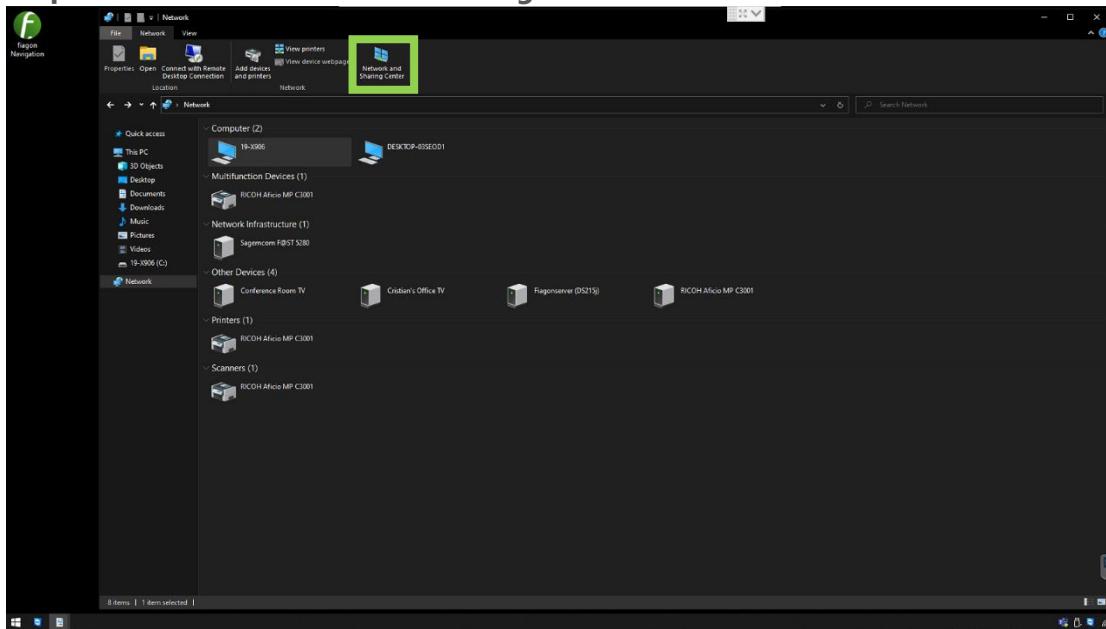
Step 2: Click on “Documents”



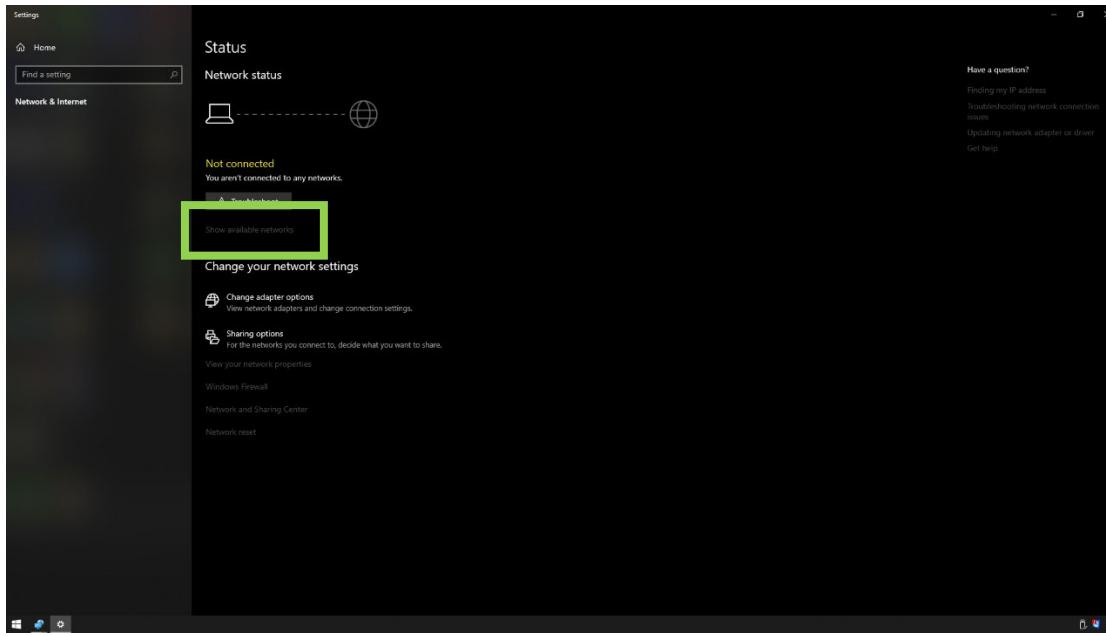
Step 3: Click on “Network”



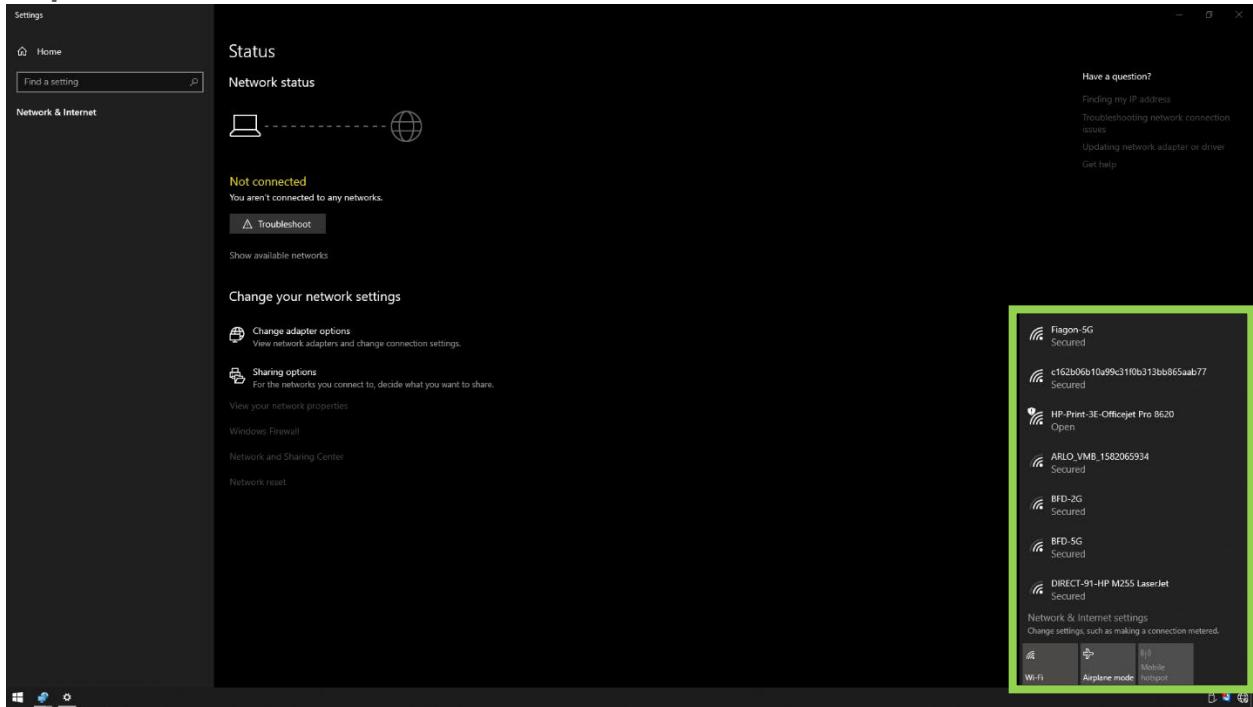
Step 4: Click on “Network and Sharing Center”



Step 5: Click on “Show available networks”



Step 6: Click on the desired network



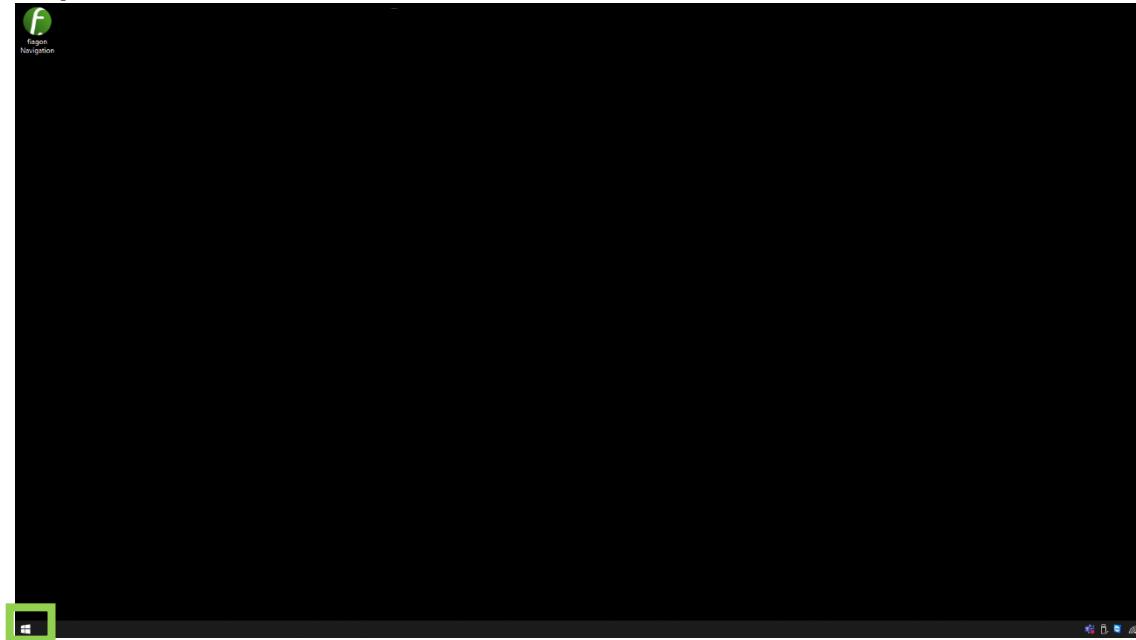
DICOM Push Installation Instructions

Purpose: To establish a network connection between the navigation system and a facility's CT scanner. This will allow the transfer of patient scans through the facility's network instead of utilizing physical media. If the system is not currently connected to the facility's network, look in the [Connecting to the Facility Network](#) section.

How to Use: The installation steps are divided into 4 Parts. Part 1 is split into two versions: one for Windows 10 systems (Cube4Ds and Post-700s) and one for Windows 7 systems (Pre-400s and Post-400s). Parts 2-4 are the same for all systems.

Part 1 for Windows 10 Systems (Cube4Ds and Post-700s): Finding the IP Address Details Page

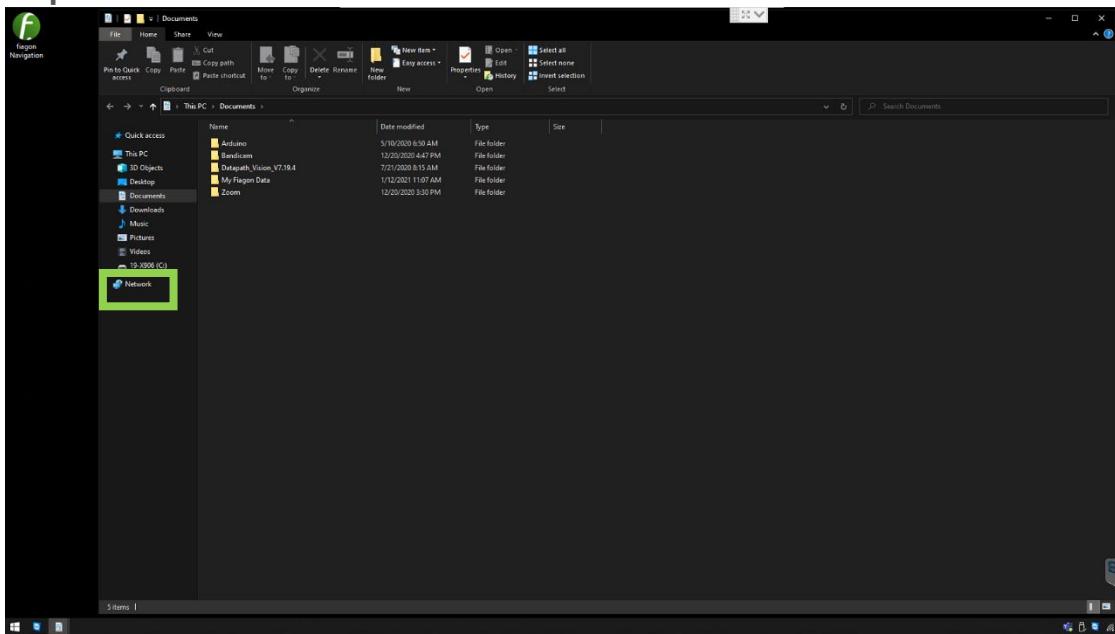
Step 1: Click on the "Start" button.



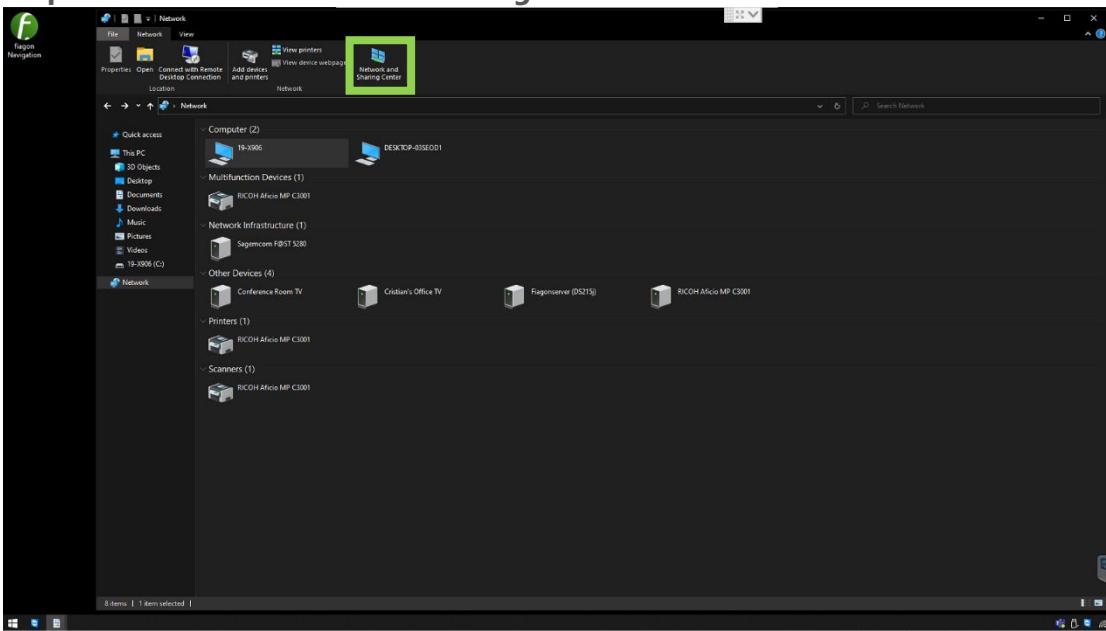
Step 2: Click on "Documents"



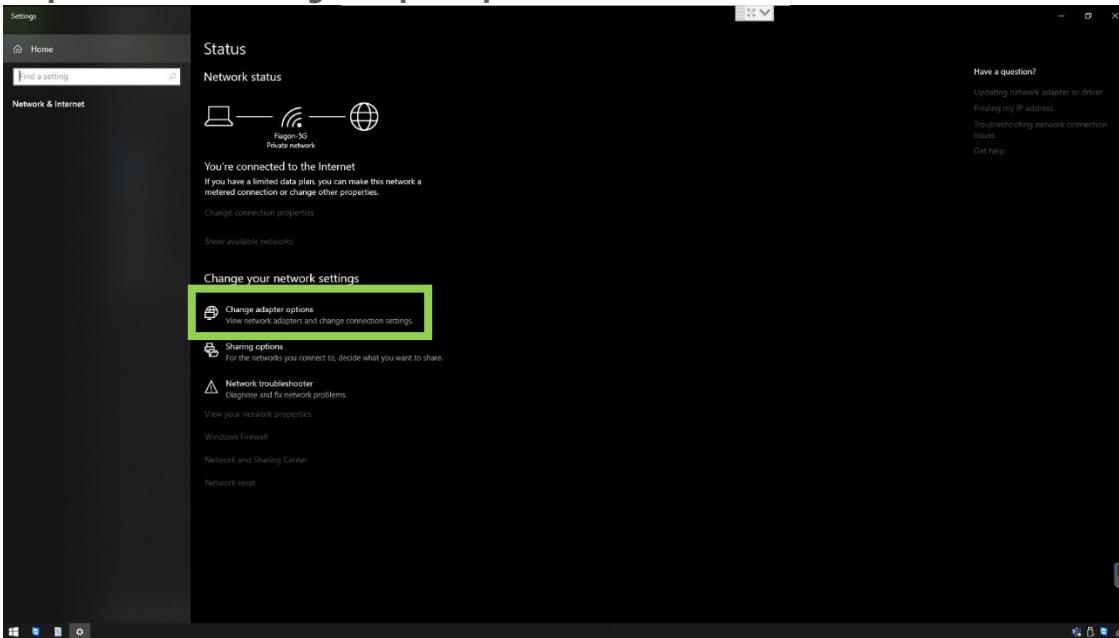
Step 3: Click on "Network"



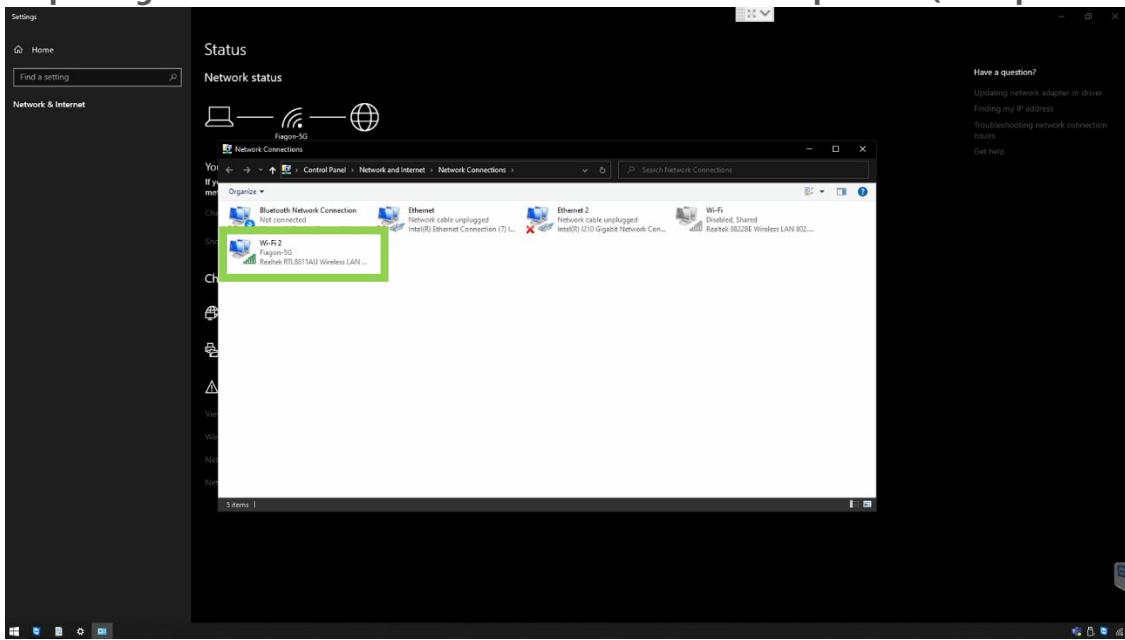
Step 4: Click on “Network and Sharing Center”



Step 5: Click on “Change adapter options”



Step 6: Right- click on the valid connection and select “Properties” (Example has Wi-Fi 2)



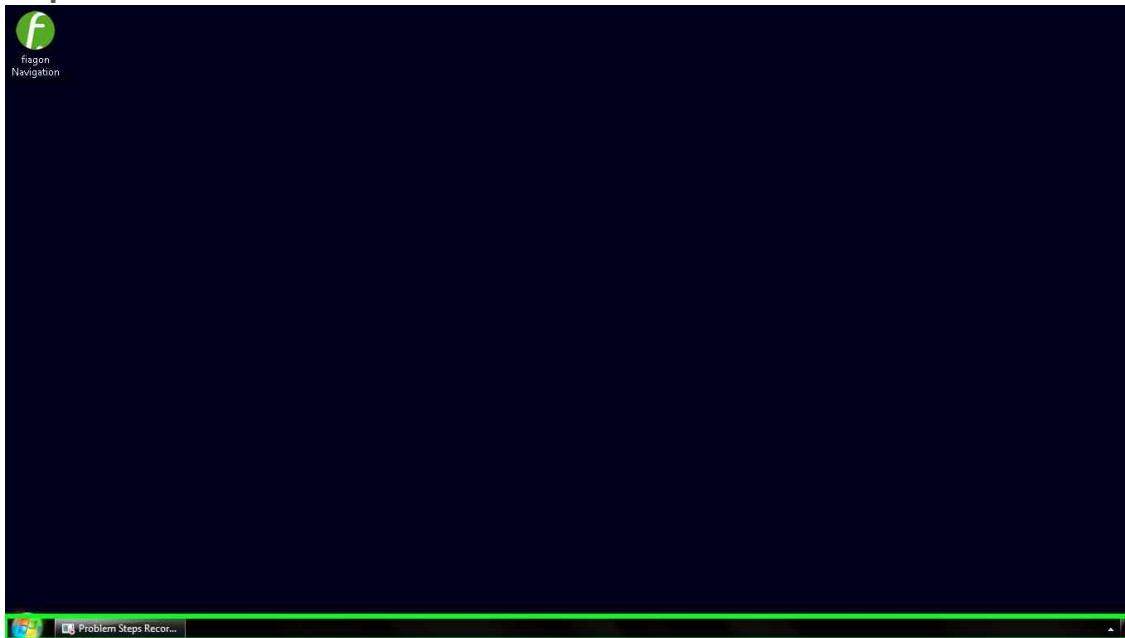
Proceed to Part II to continue

Part I for Windows 7 Systems (Pre-400s and Post-400s): Finding the IP Address Details Page

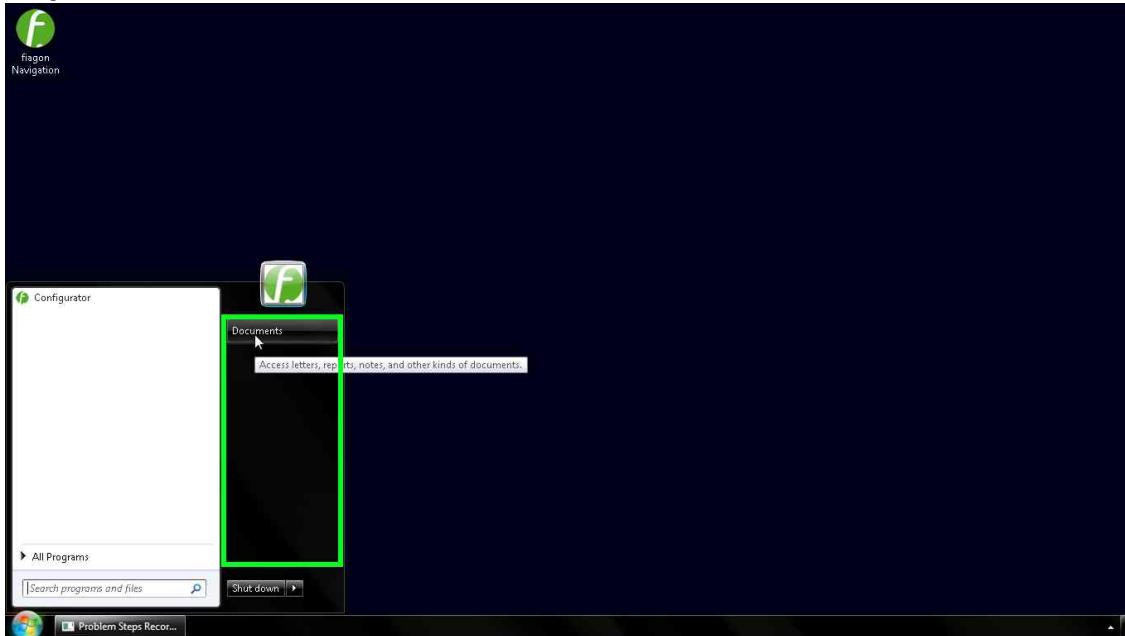
Pre-400 = Switch the user to the "sp" user. Login password is "spsonne66". Now proceed to Step 1.

Post-400 = You can proceed to Step 1.

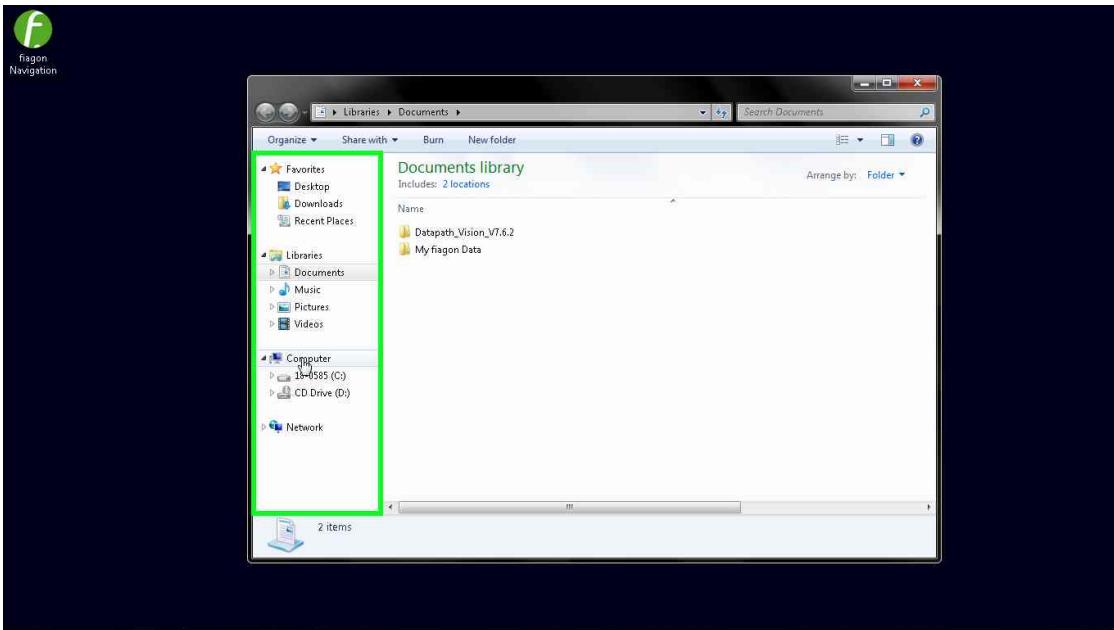
Step 1: Click on the "Start" button.



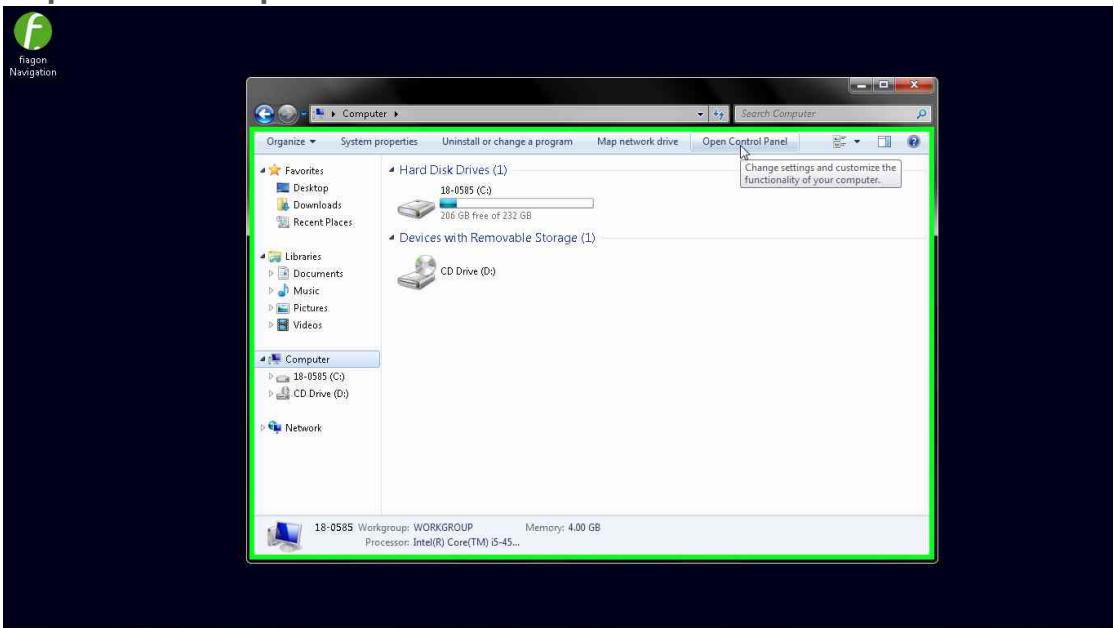
Step 2: Click on "Documents"



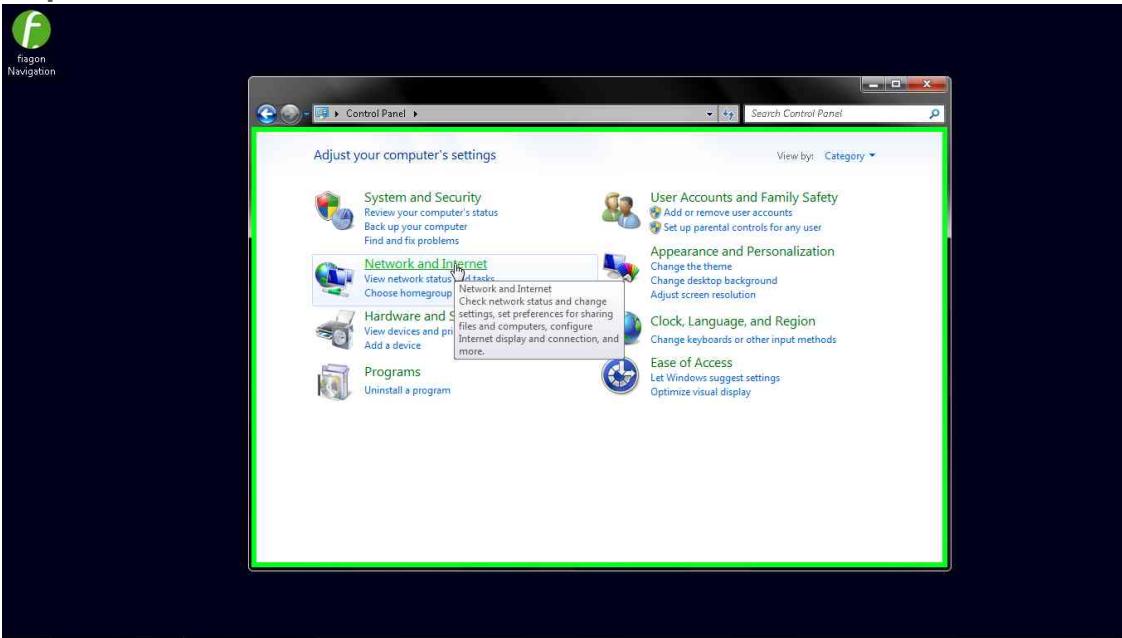
Step 3: Click on "Computer"



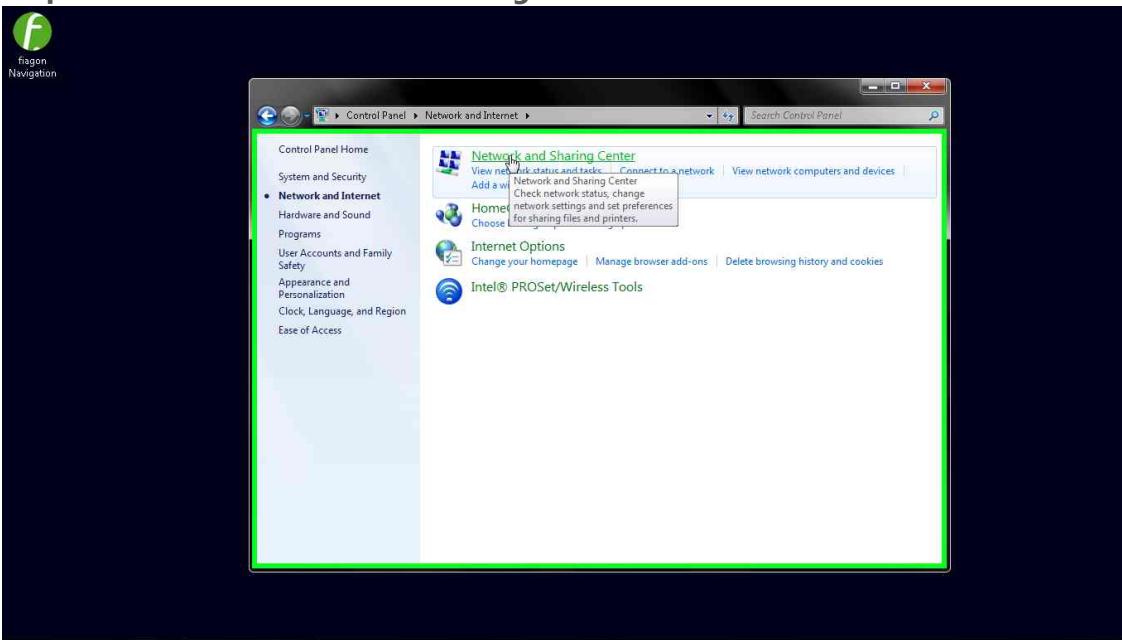
Step 4: Click on "Open Control Panel"



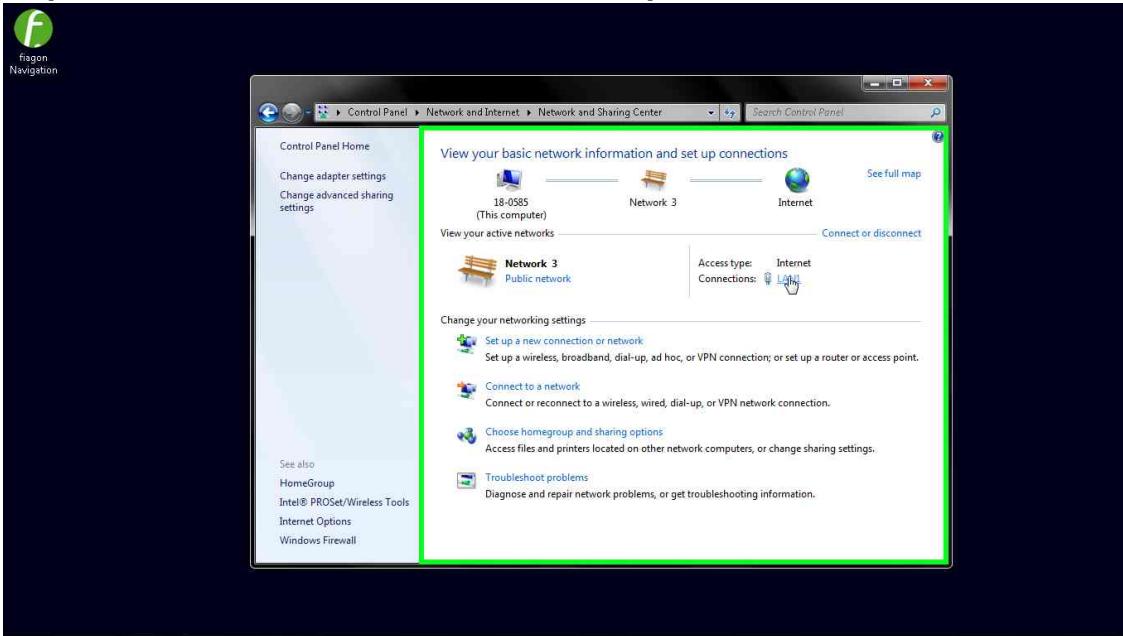
Step 5: Click on “Network and Internet”



Step 6: Click on “Network and Sharing Center”

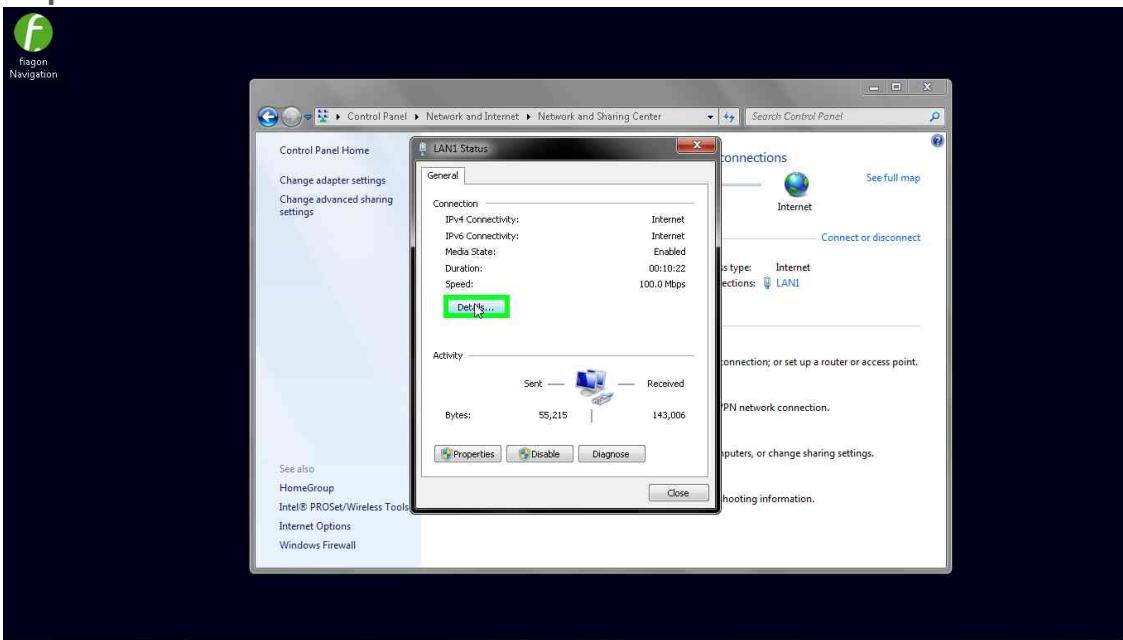


Step 7: Click on the valid “Connection.” (Example has LAN1).

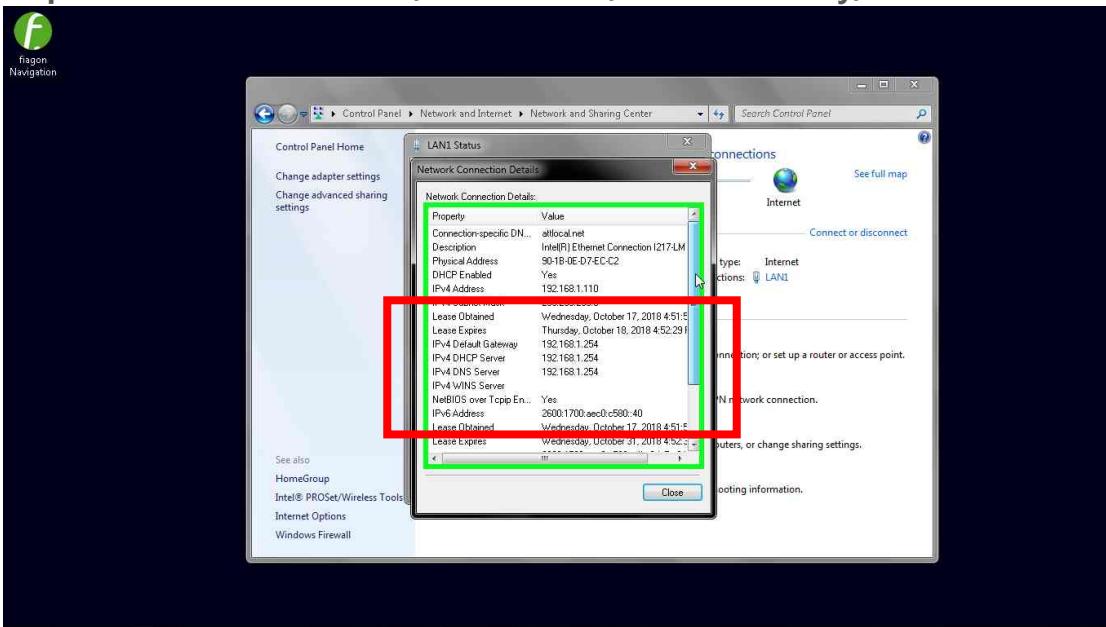


Part II for All Systems: Setting IP Address to Static

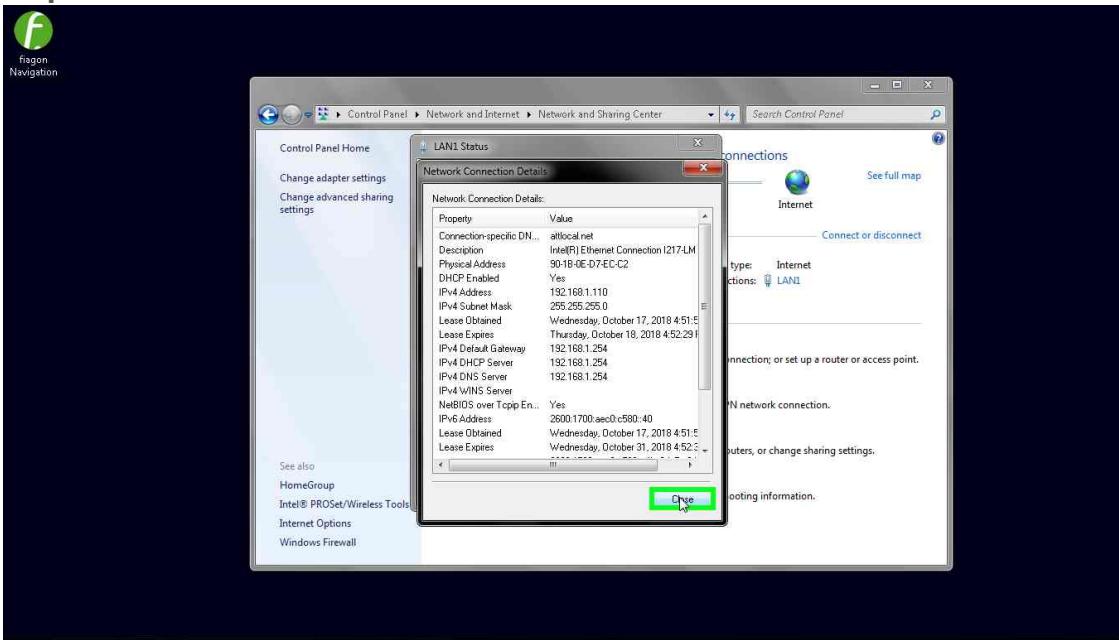
Step 1: Click on "Details"



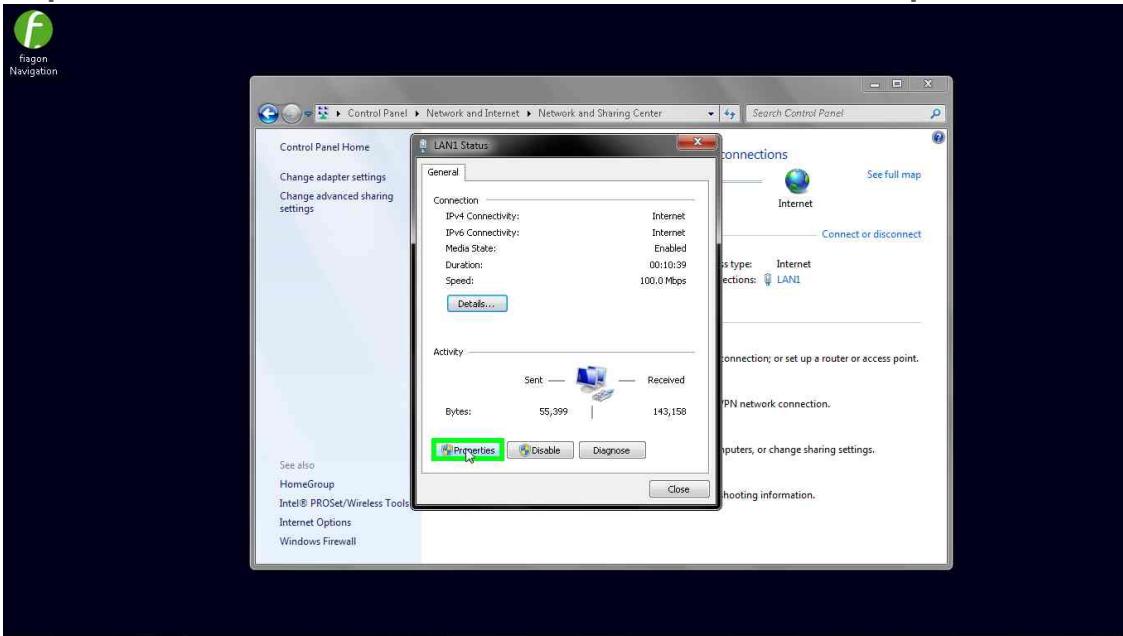
Step 2: Note the IPv4 Address, Subnet Mask, Default Gateway, and DNS Server.



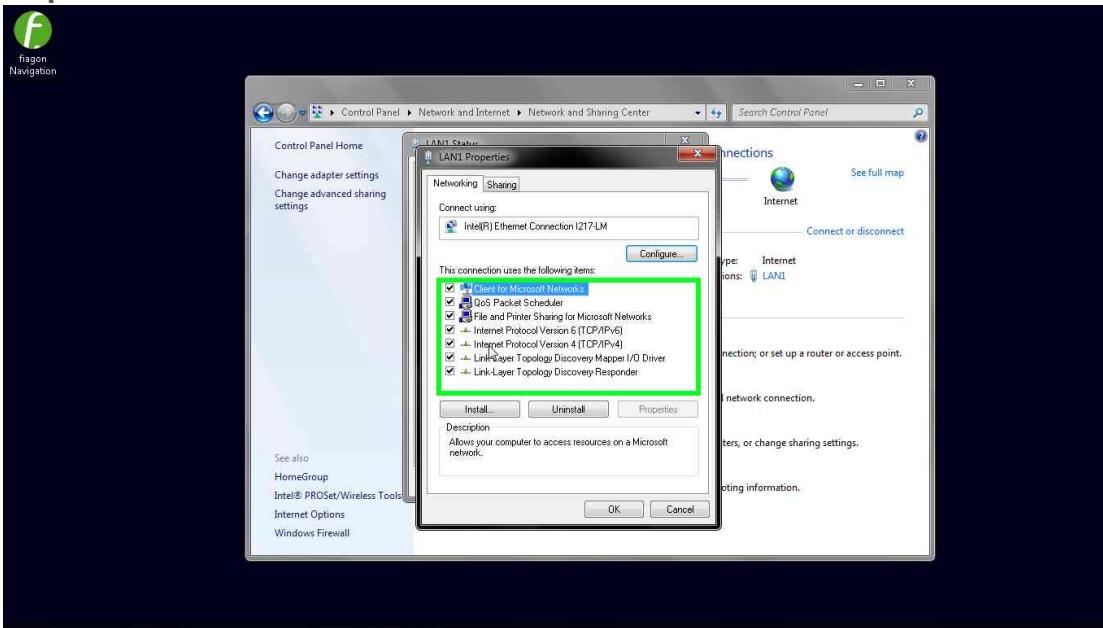
Step 3: Click "Close"



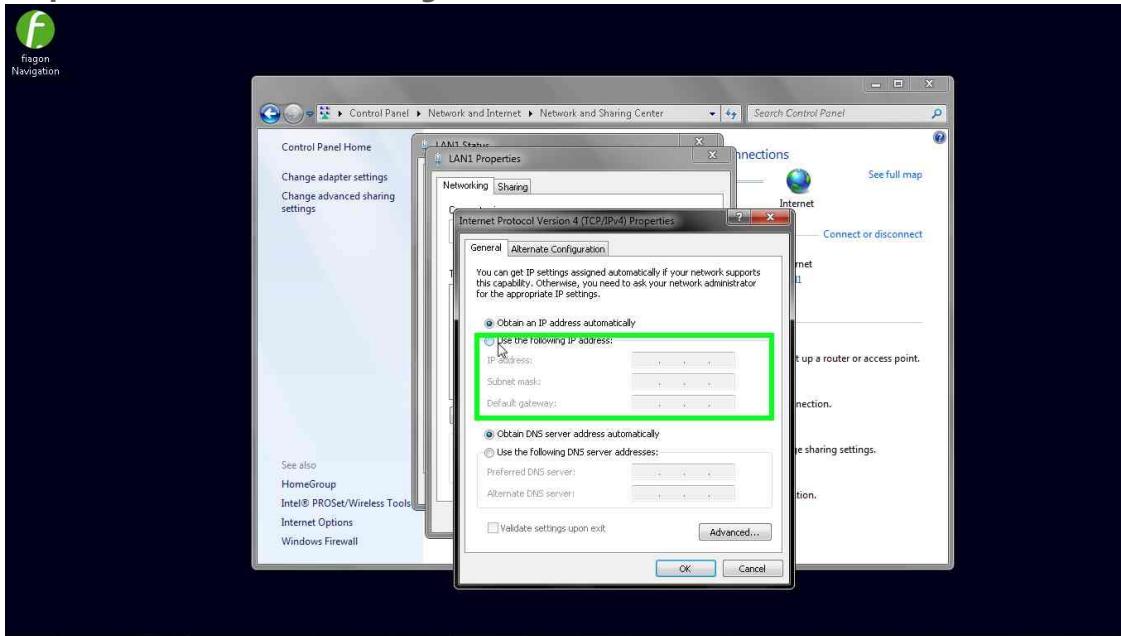
Step 4: Now we need to set the IP Address to static. Click on "Properties"



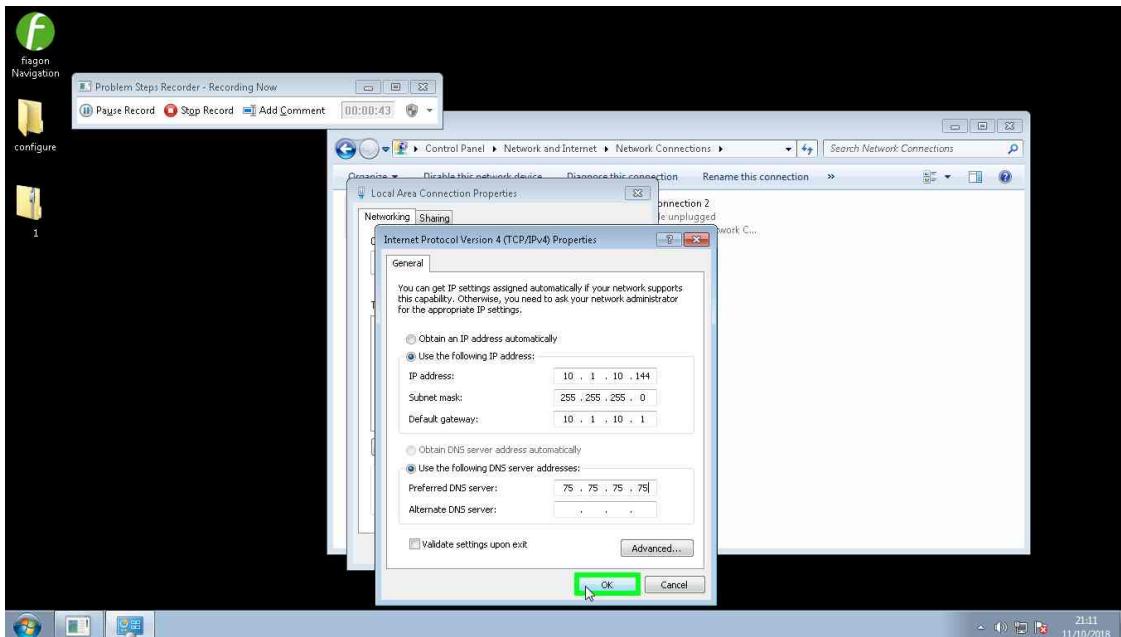
Step 5: Click "Internet Protocol Version 4"



Step 6: Click “Use the following IP address” to enter the Static IP.

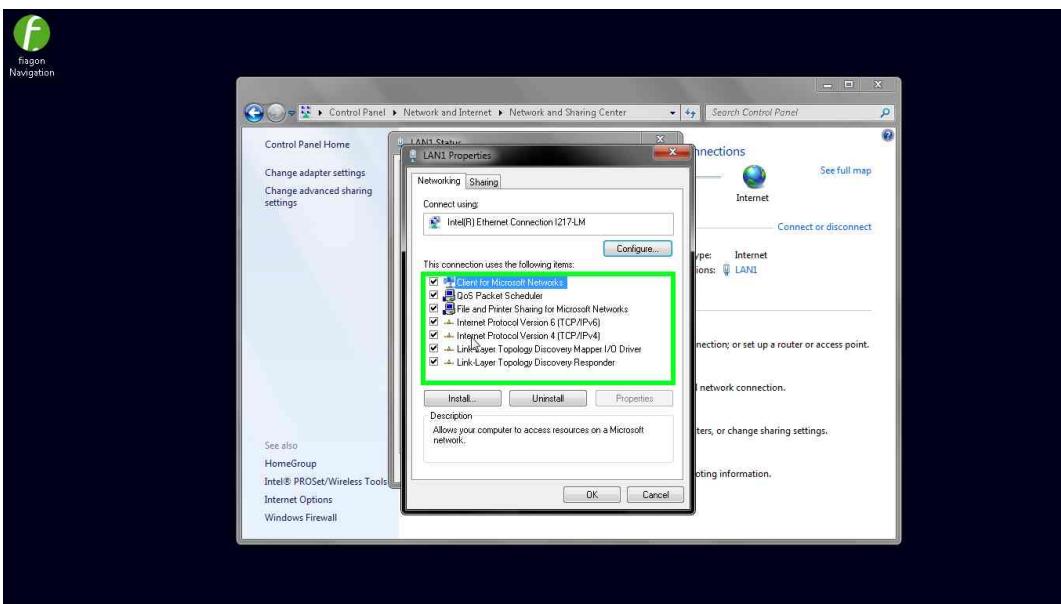
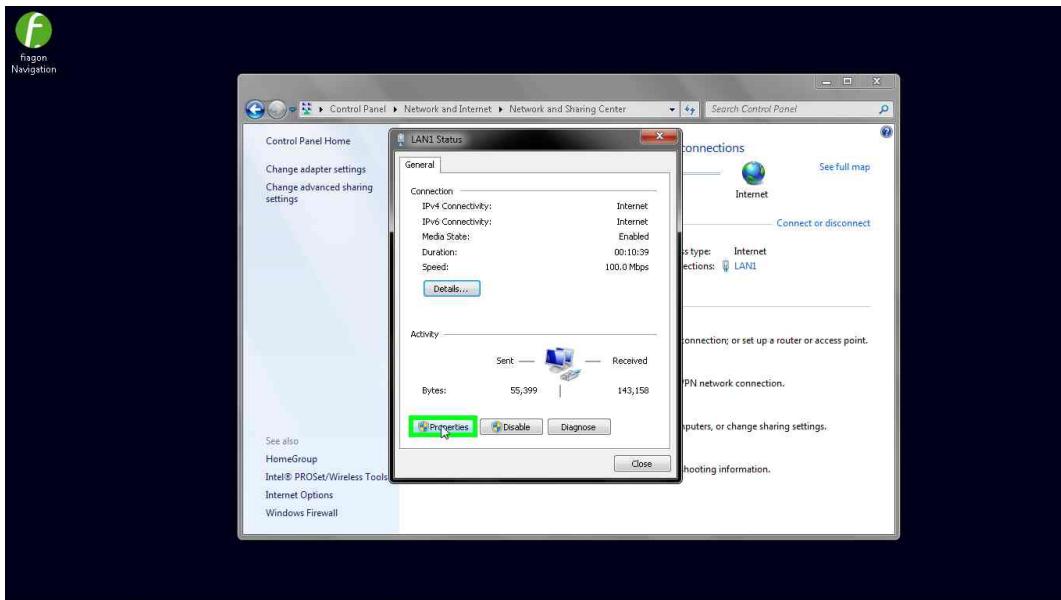


Step 7: Enter in IP address, Subnet Mask, Default Gateway, and DNS Server noted in Step 2.



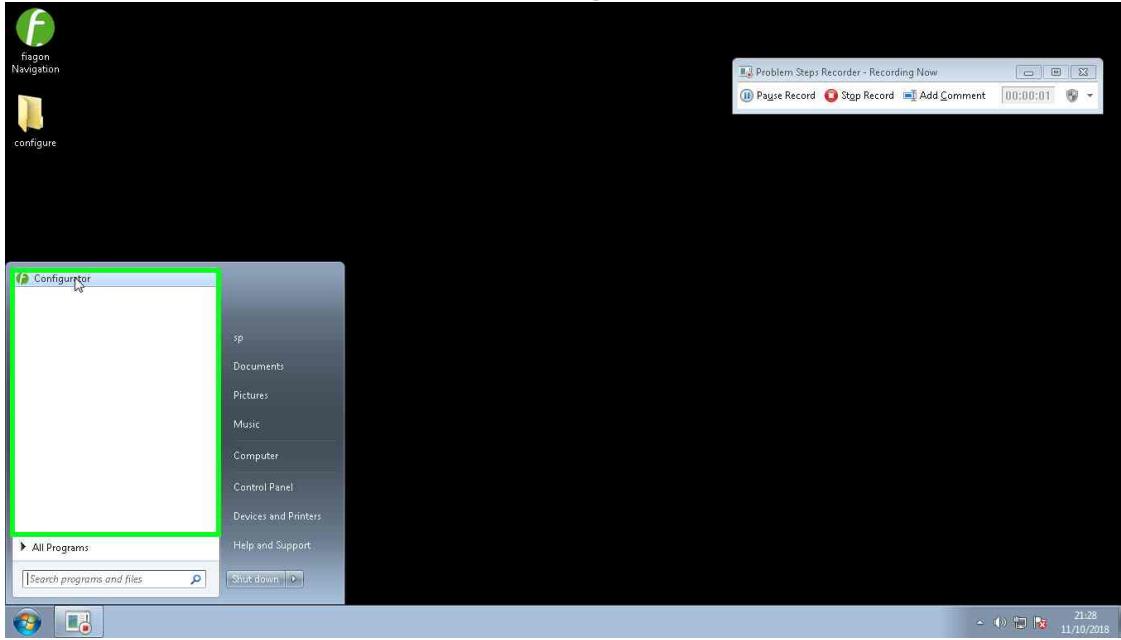
After entering the information, Click “OK.” This saves the change and cannot be skipped.

Step 8: Check to see if the changes saved. Redo Step 4 and 5.

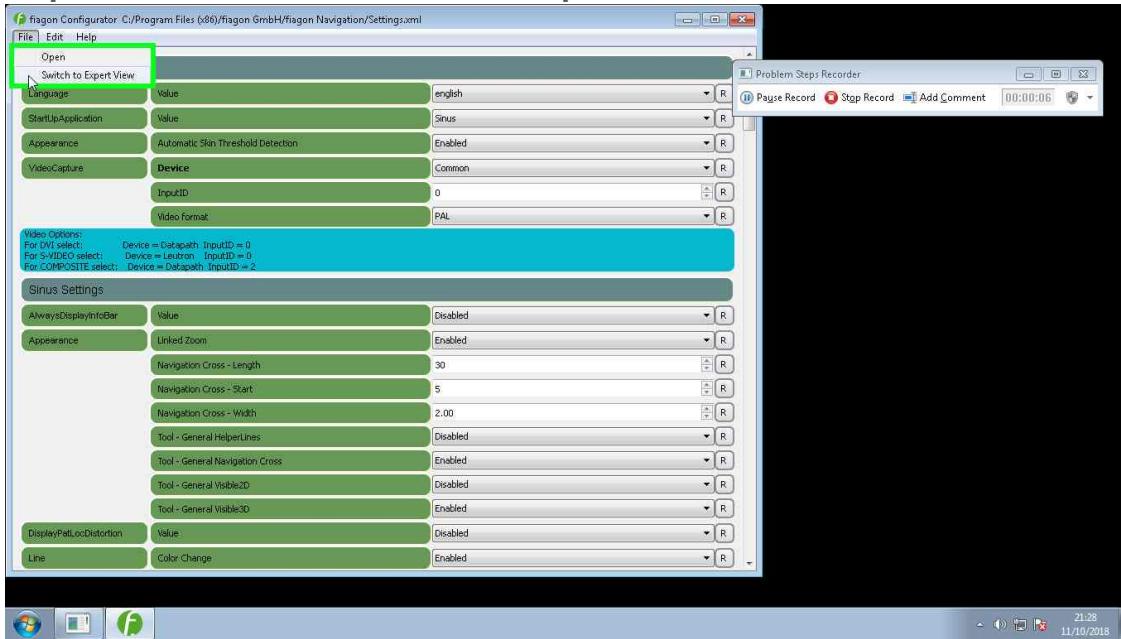


Part 3 for All Systems: Now we need to set up the Configurator settings. This part can be done in the main user for all systems.

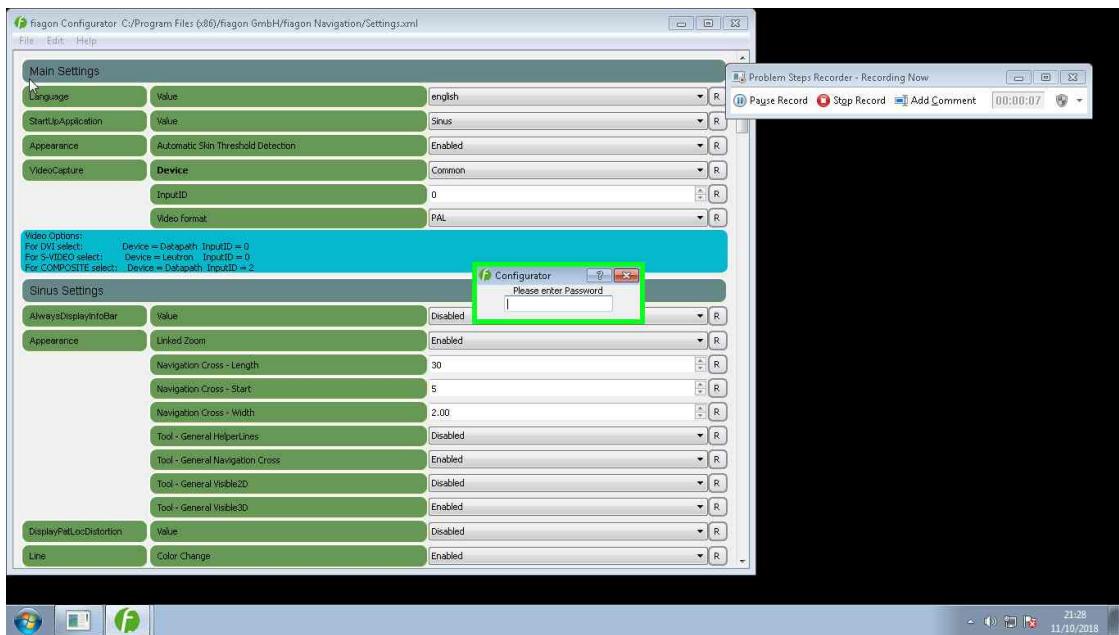
Step 1: Click the “Start” Button and “Configurator”



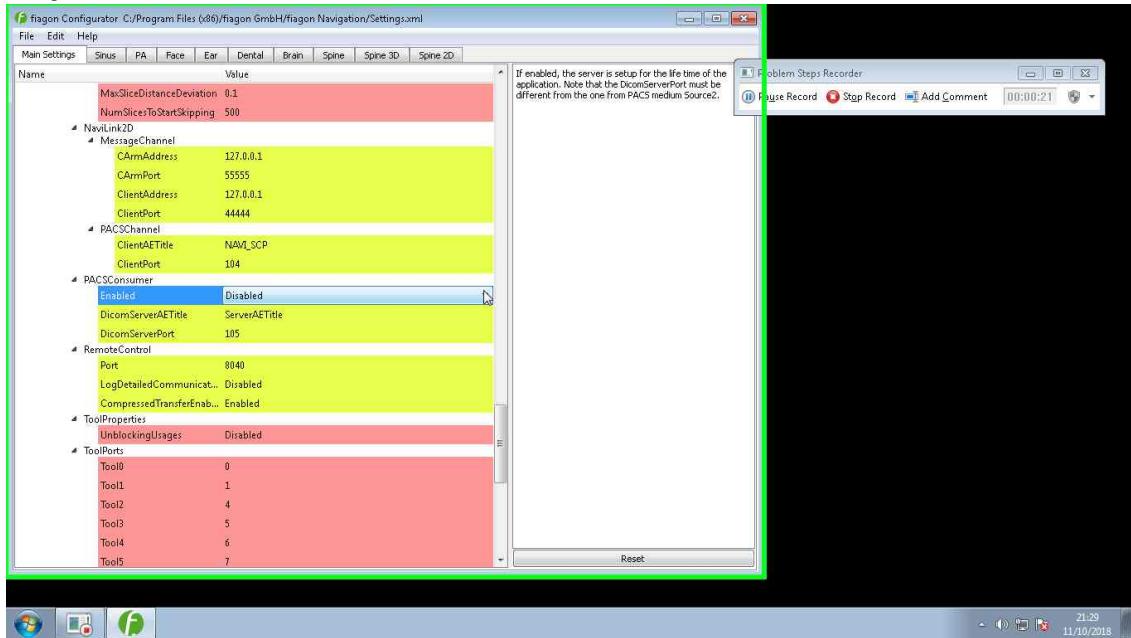
Step 2: Click on “File” and “Switch to Expert View”



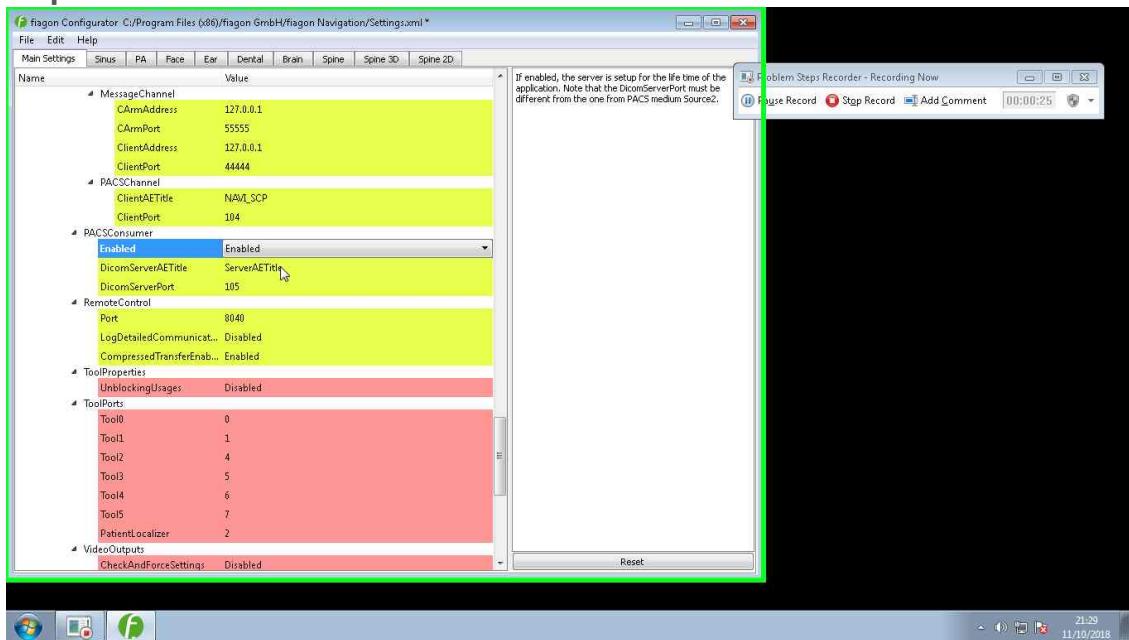
Step 3: Enter password.



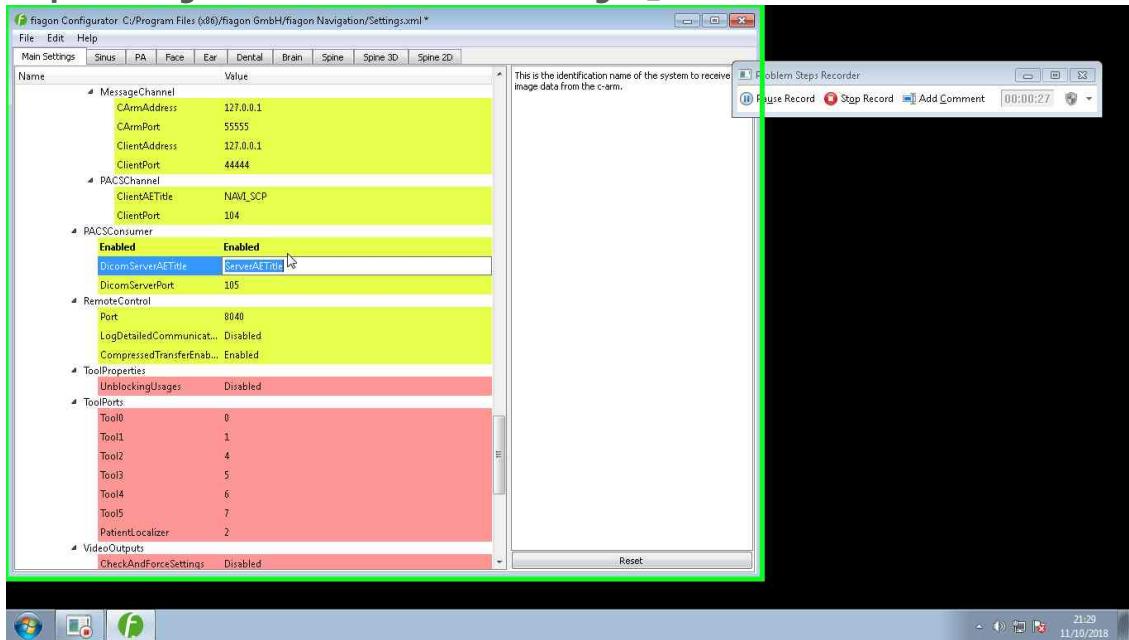
Step 4: Scroll down to "PACSConsumer"



Step 5: Switch to "Enabled"

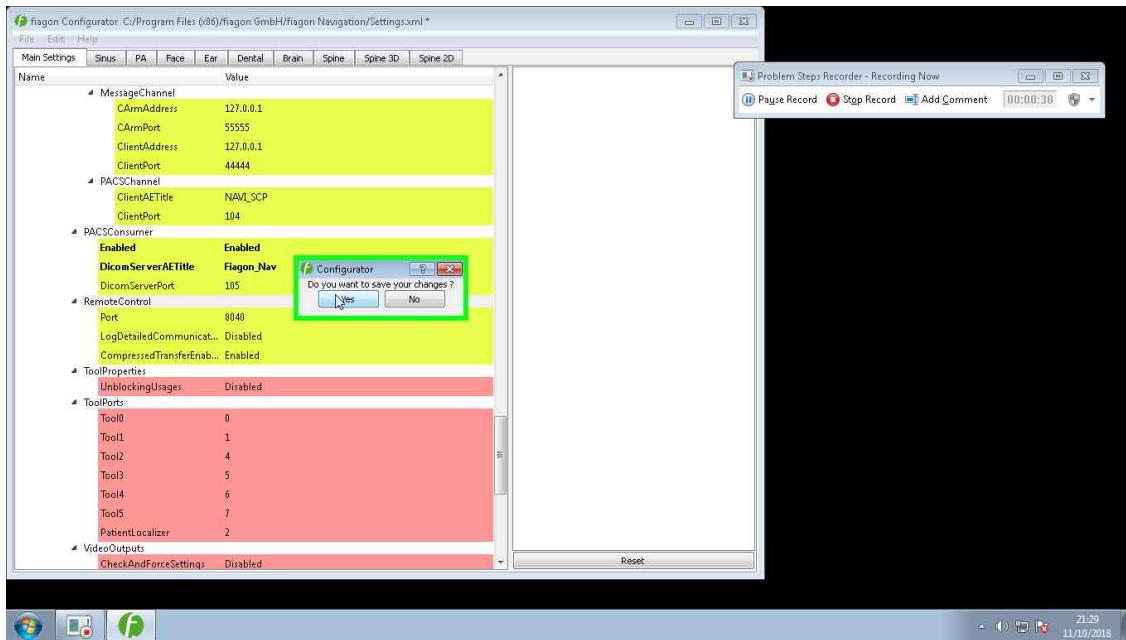


Step 6: Change DicomServerAETitle to "Fiagon_Nav"



Note the DicomServerPort number. (105 in this case)

Step 7: Exit and Save Changes.



Part 4 for All Systems: Notify Xoran Support (or any scanner company's support team)

- Obtain the Xoran Scanner # from the sales rep/customer. It should be located on the scanner.
- Call Xoran Technical Support at 1 (800) 709-6726.
 - Tell the technician you are a part of Fiagon Service and that you want to setup a DICOM push from a scanner.
 - Relay the following information:
 - The Static IP Address
 - Xoran Scanner #
 - AE Title (Fiagon_Nav in this case)
 - DicomServerPort (105 in this case)
 - The technician will remote into the Xoran and test the connection by sending over a scan. Go into the software and wait until the scan shows up on the right-side.
 - Load the test scan to make sure.

You have successfully completed a DICOM Push Installation.

Creating/Applying a Configuration File Instructions

Purpose: To create a configurator file with the user's settings and apply it to another navigation system. This method can be completed on all systems.

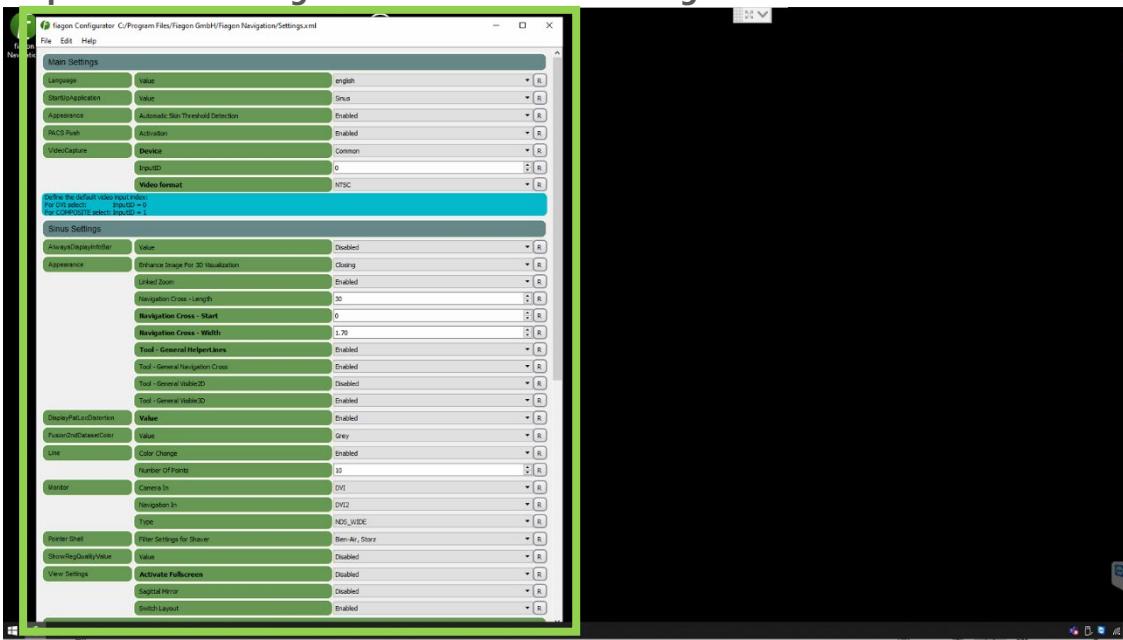
Step 1: Click on the "Start" button.



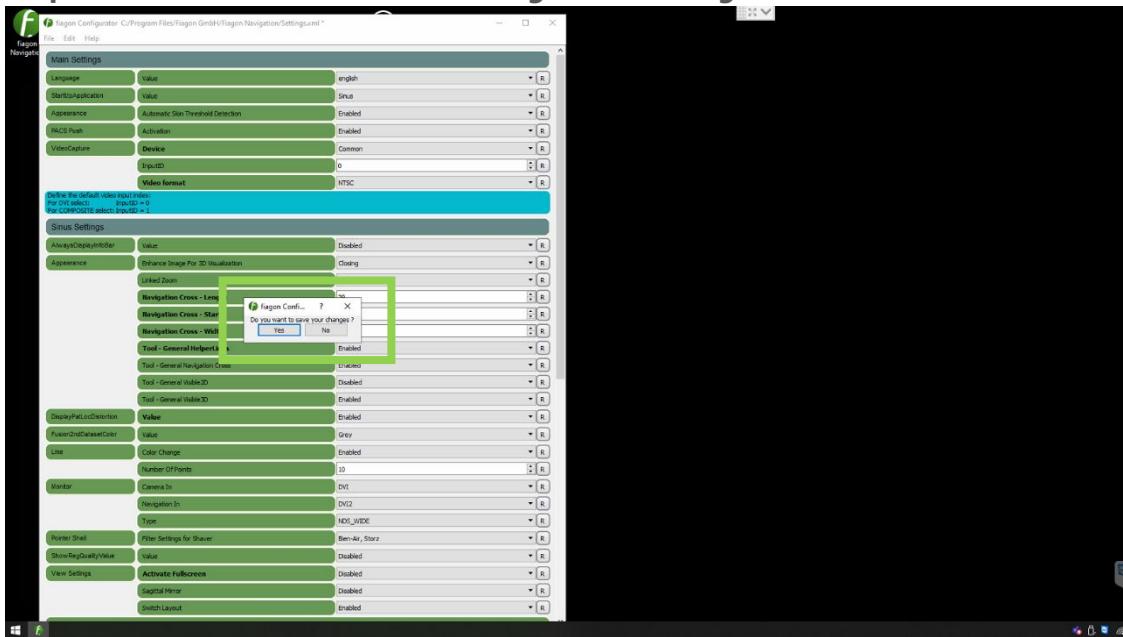
Step 2: Click on "Configure"/"Configurator"



Step 3: Edit the configurator to the desired settings



Step 4: Exit and save the desired configurator settings



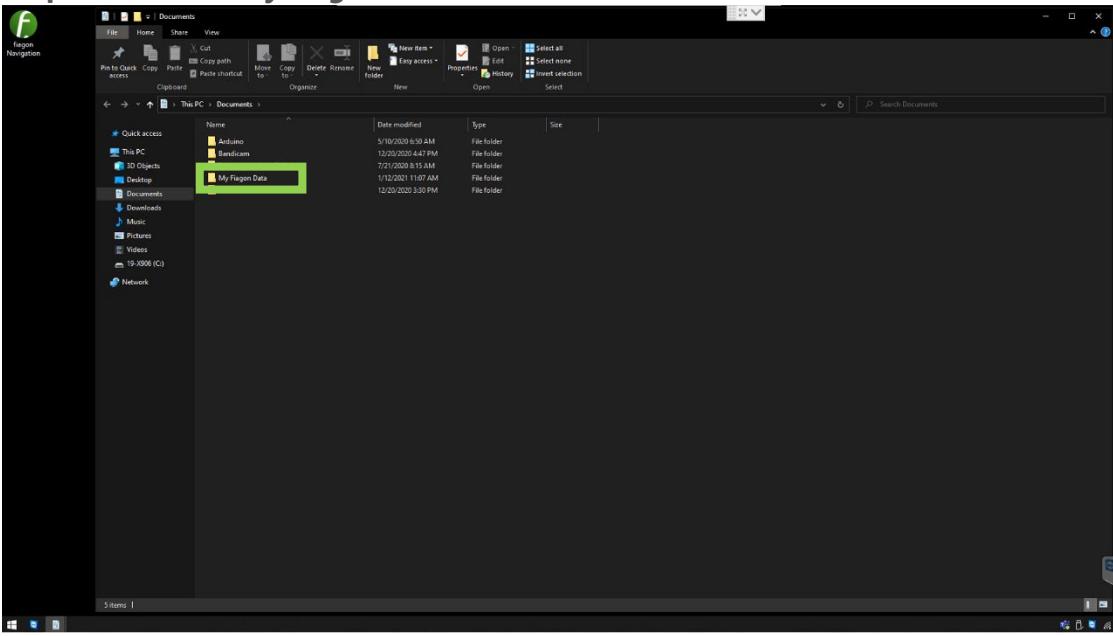
Step 5: Click on the “Start” button.



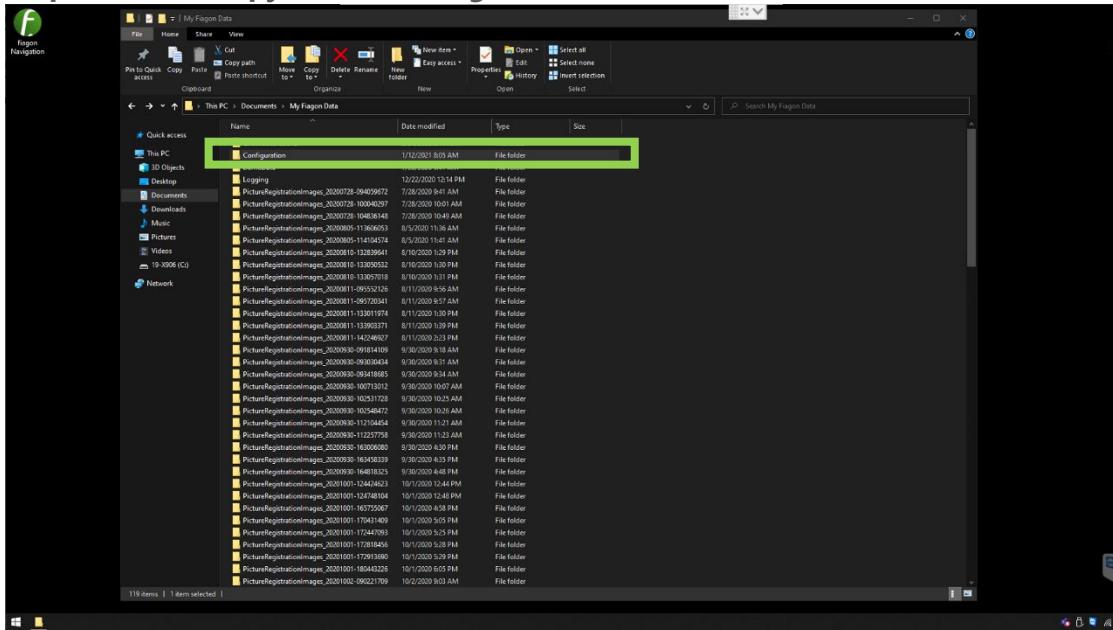
Step 6: Click on “Documents”



Step 7: Click on “My Fiagon Data”



Step 8: Make a copy of the “Configuration” folder



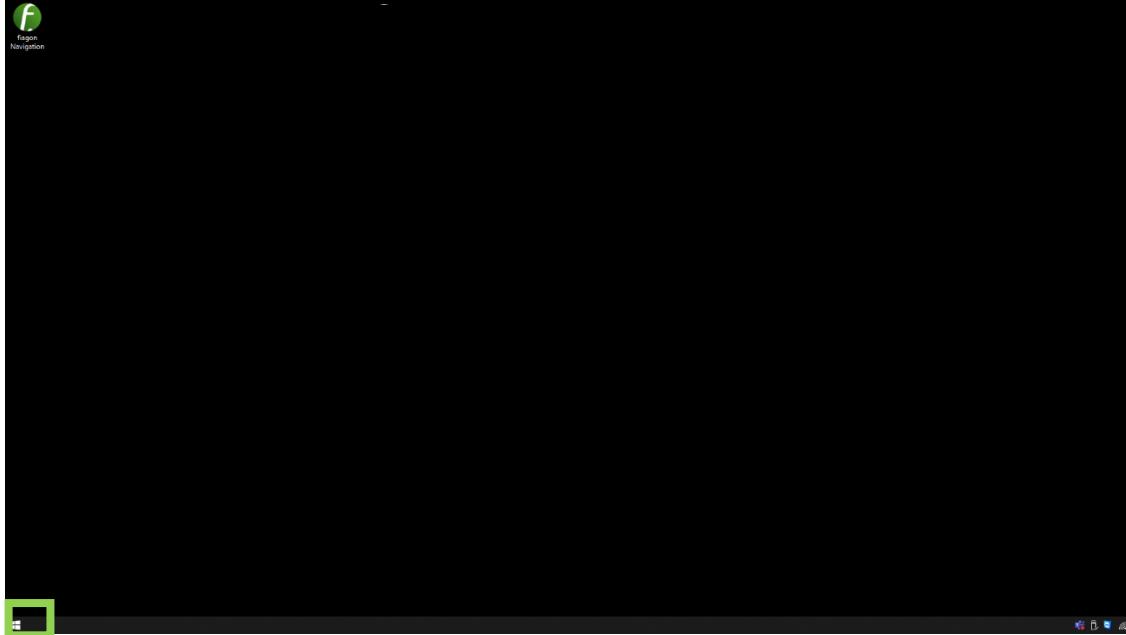
Note: Do not change the contents or the name of the folder.

To apply the Configuration file, save your Configuration file within the My Fiagon Data folder on the desired system and overwrite its current Configuration File.

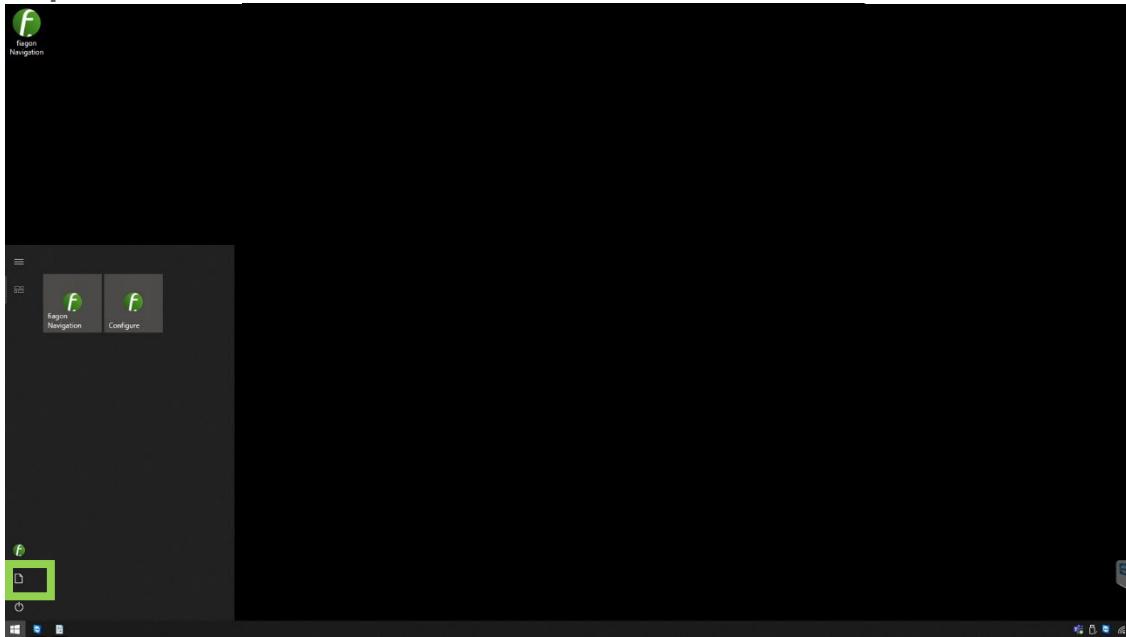
Locating Usage File Instructions

Purpose: To locate the usage file that logs the systems actions. This can be used to assist troubleshooting issues that occur in the field.

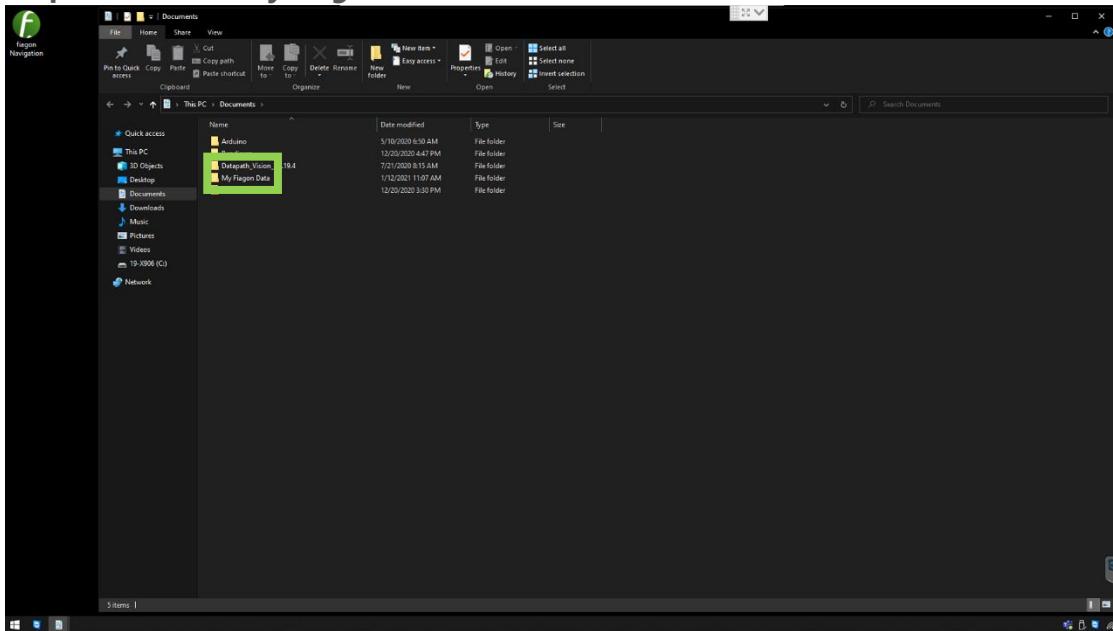
Step 1: Click on the “Start” button.



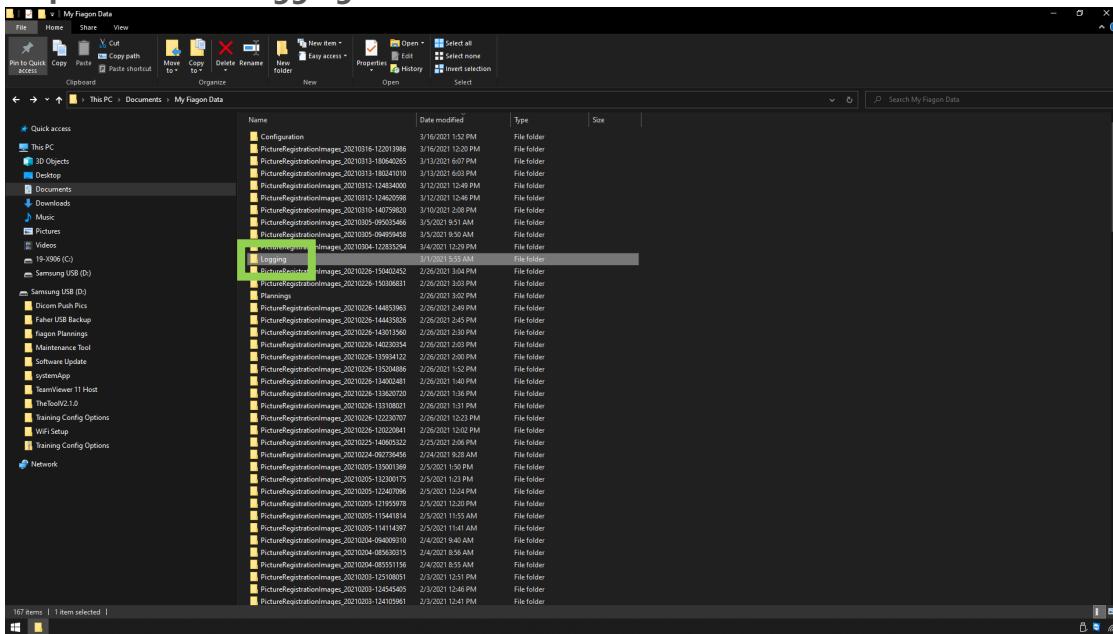
Step 2: Click on “Documents”



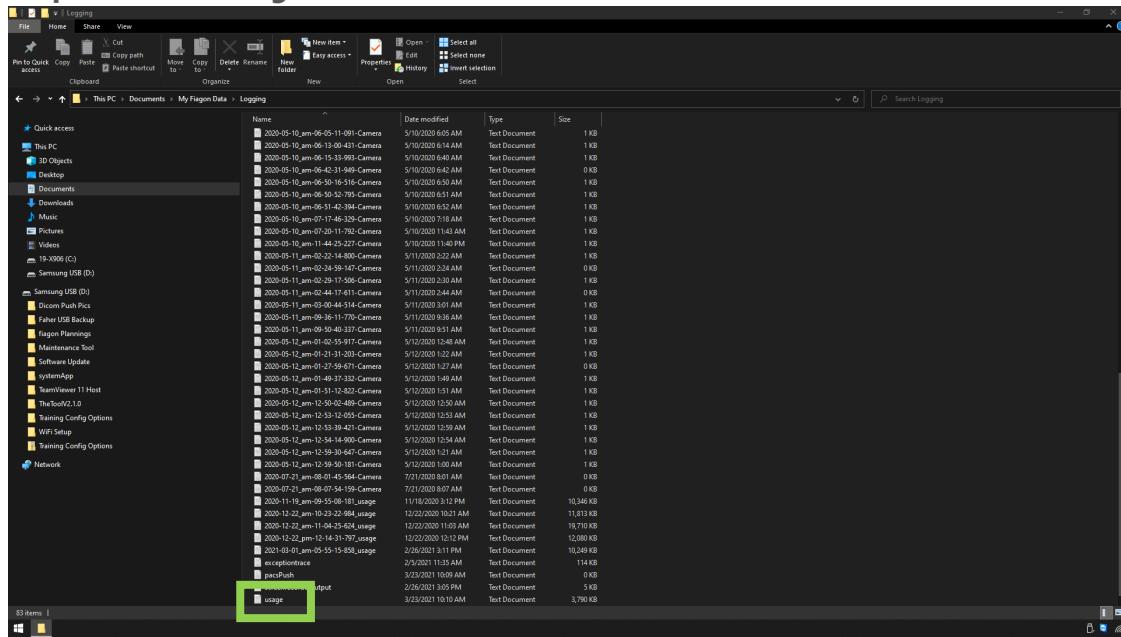
Step 3: Click on “My Fiagon Data”



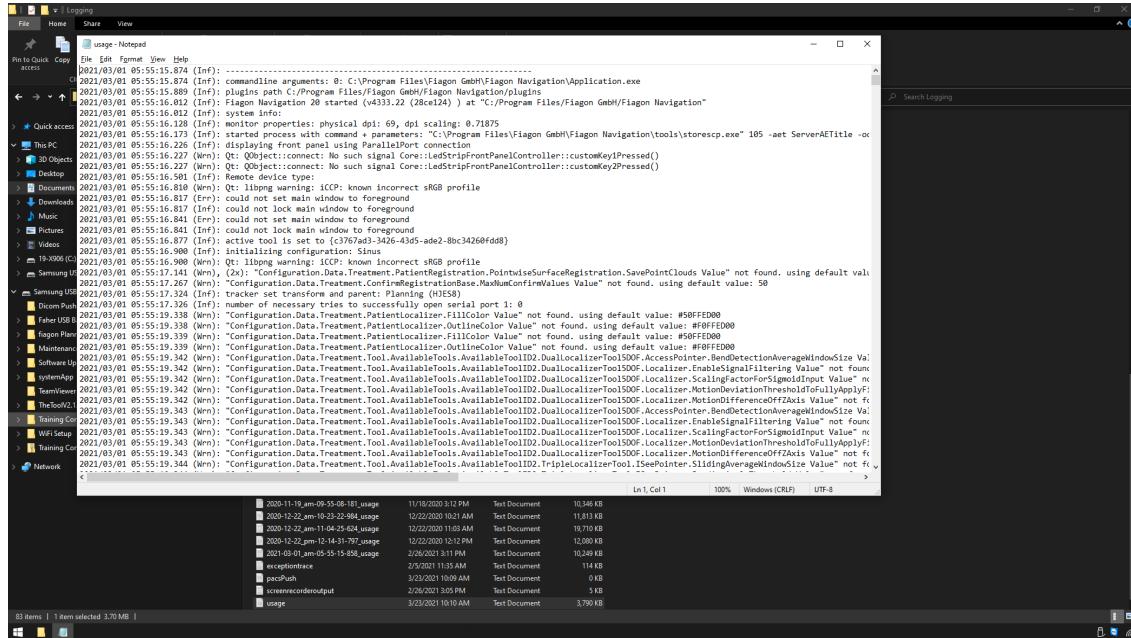
Step 4: Click on “Logging”



Step 5: Locate “usage” file



To save the usage file to an external drive, right click on the file and select “Send to” and select the desired drive. To analyze the usage, double click with the left mouse button.



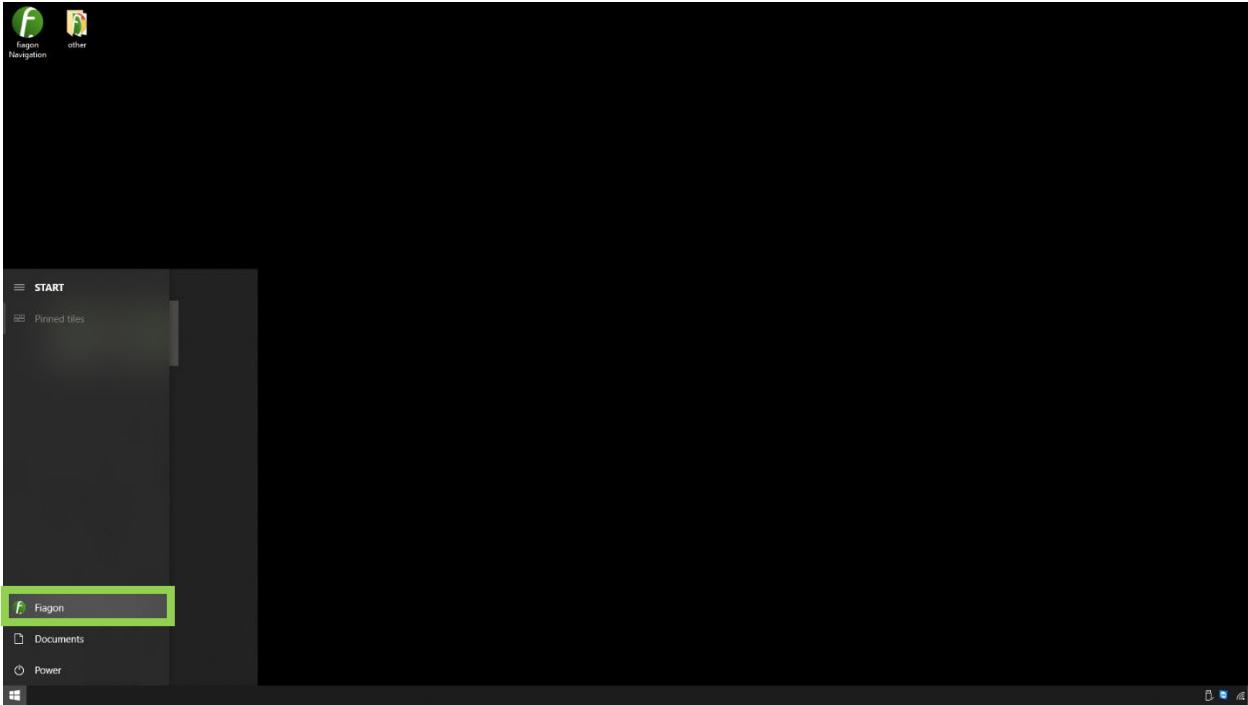
Advanced Troubleshooting – COM Port Allocation

Purpose: To fix an issue that when attempting to boot up the software, the Cube system makes no beeping sounds and the software is “frozen” on the load screen.

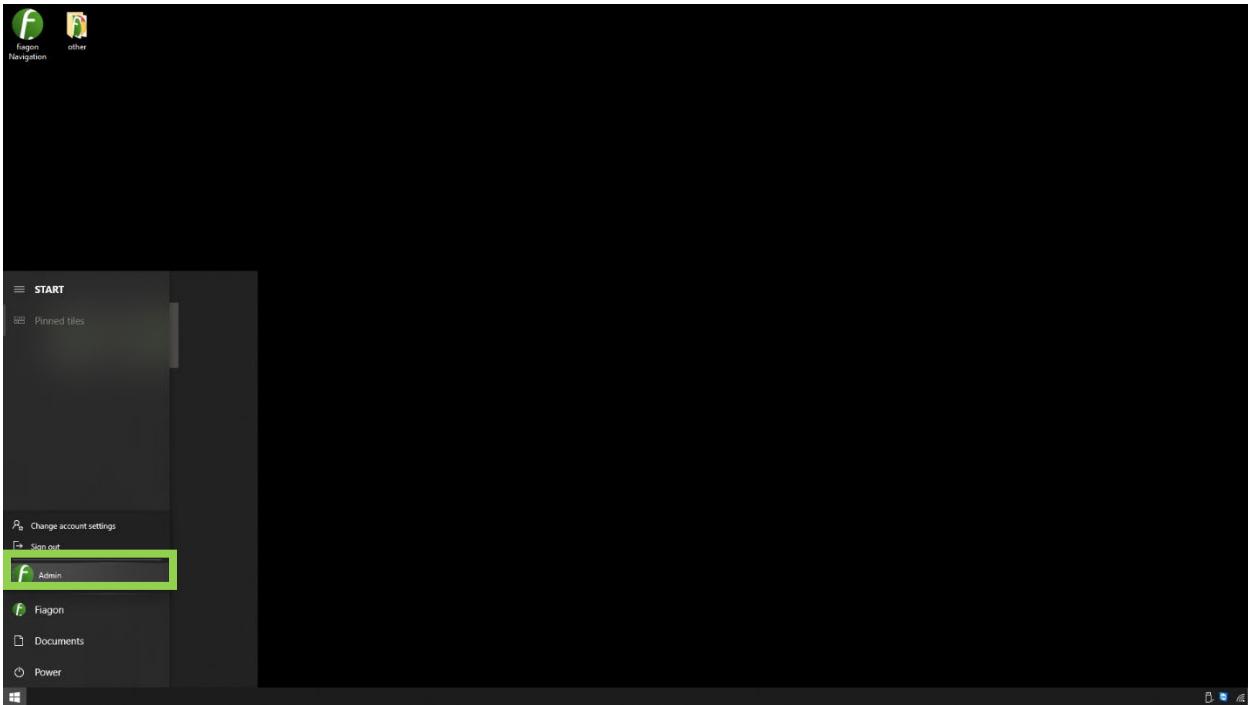
Step 1: Click on “Start” Button



Step 2: Click on “Fiagon” User

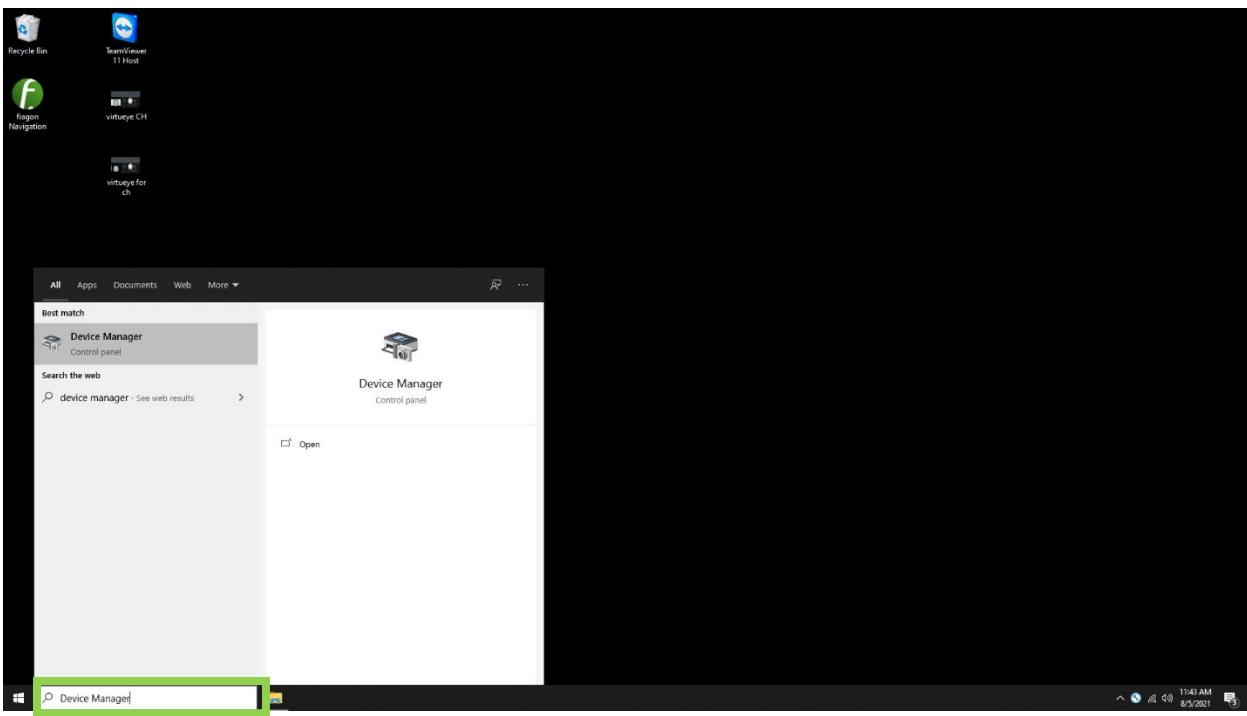


Step 3: Click on “Admin” User to switch users

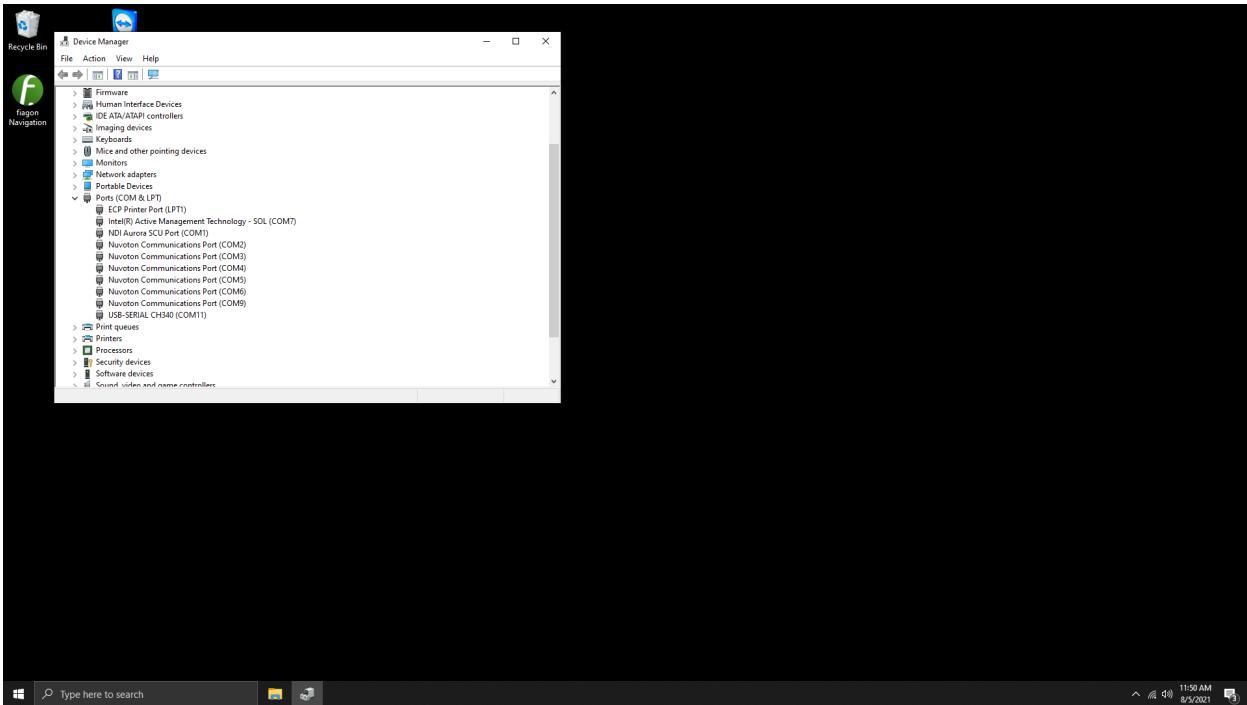


It will ask you for the admin password. That can be found in the “[Passwords](#)” section of this manual.

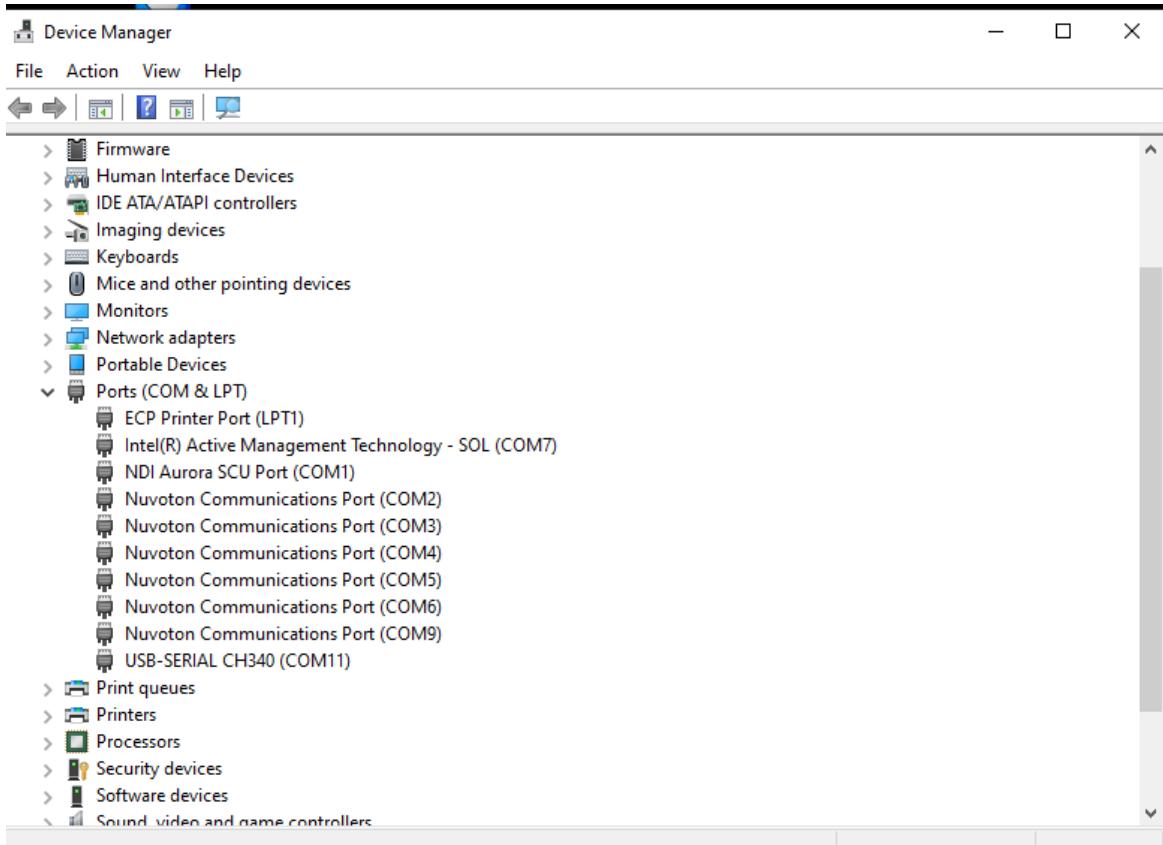
Step 4: Once in the “Admin” User homepage, type “Device Manager” in the search bar



Step 5: Scroll down until you see “Ports (COM & LPT)

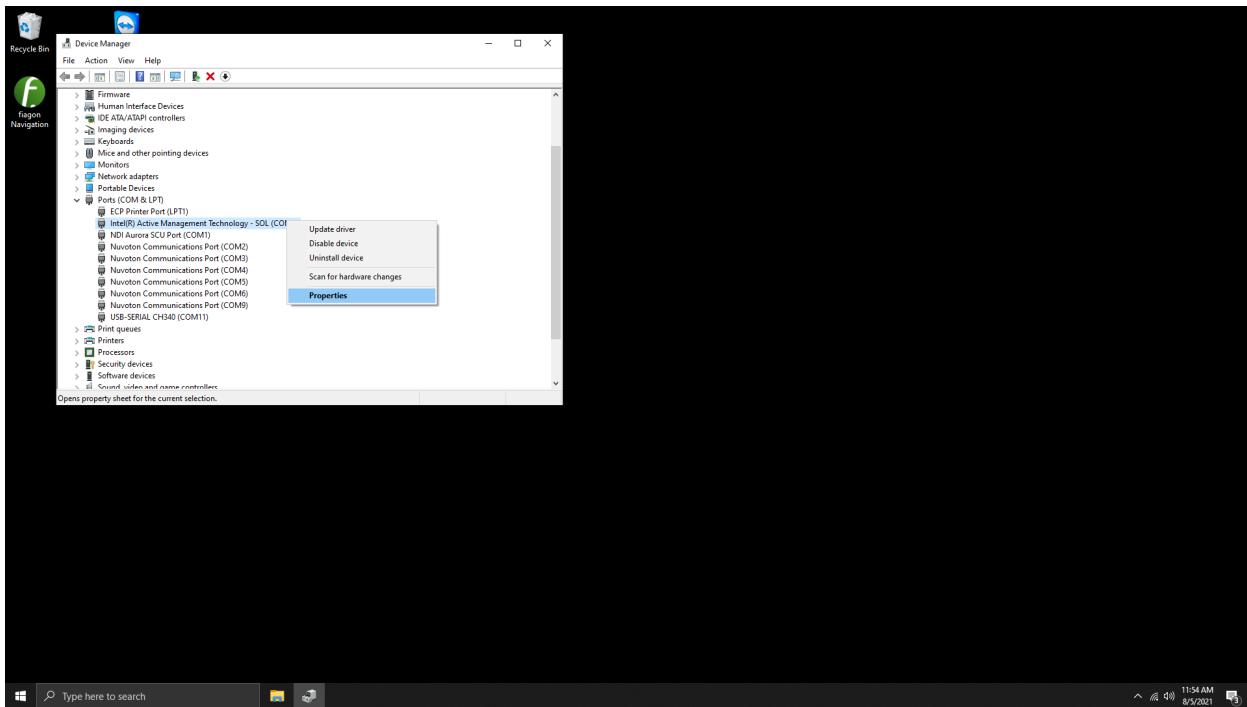


The port assignment of each COM# port should be EXACTLY like in the image below. If any of the ports differ, the navigation software will not boot.

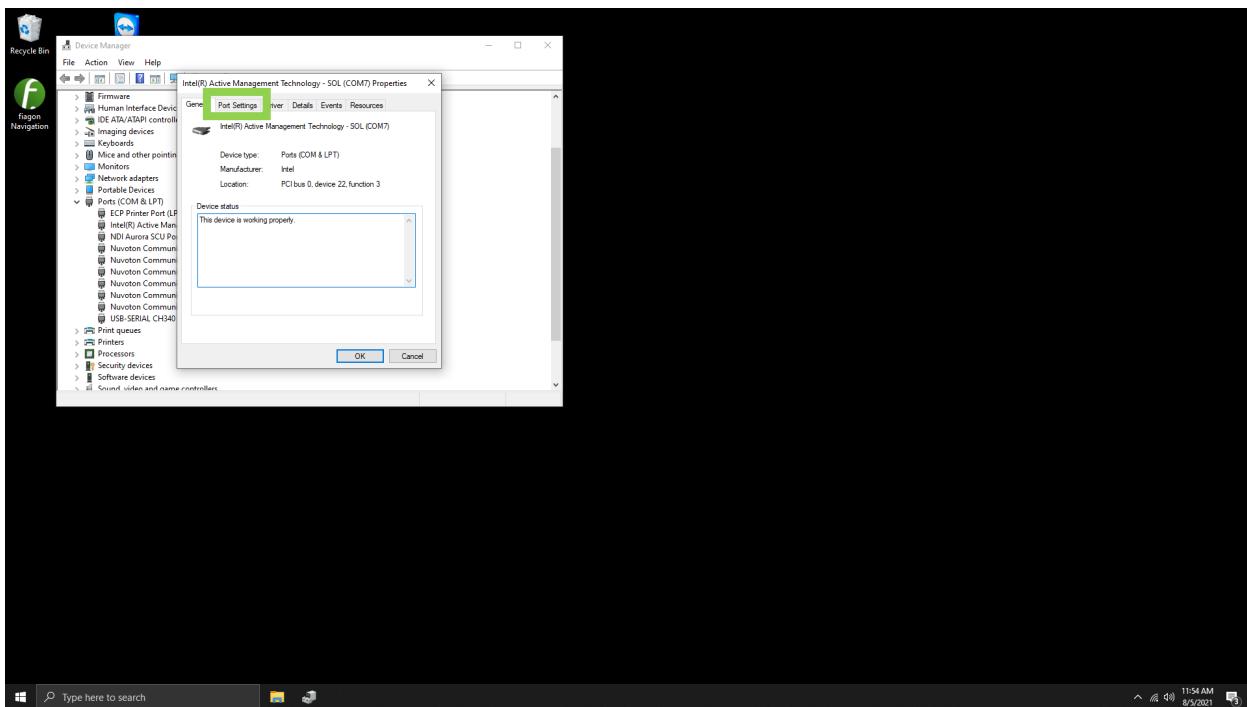


If you notice there are ports allocated incorrectly and wish to change them, follow the steps below.

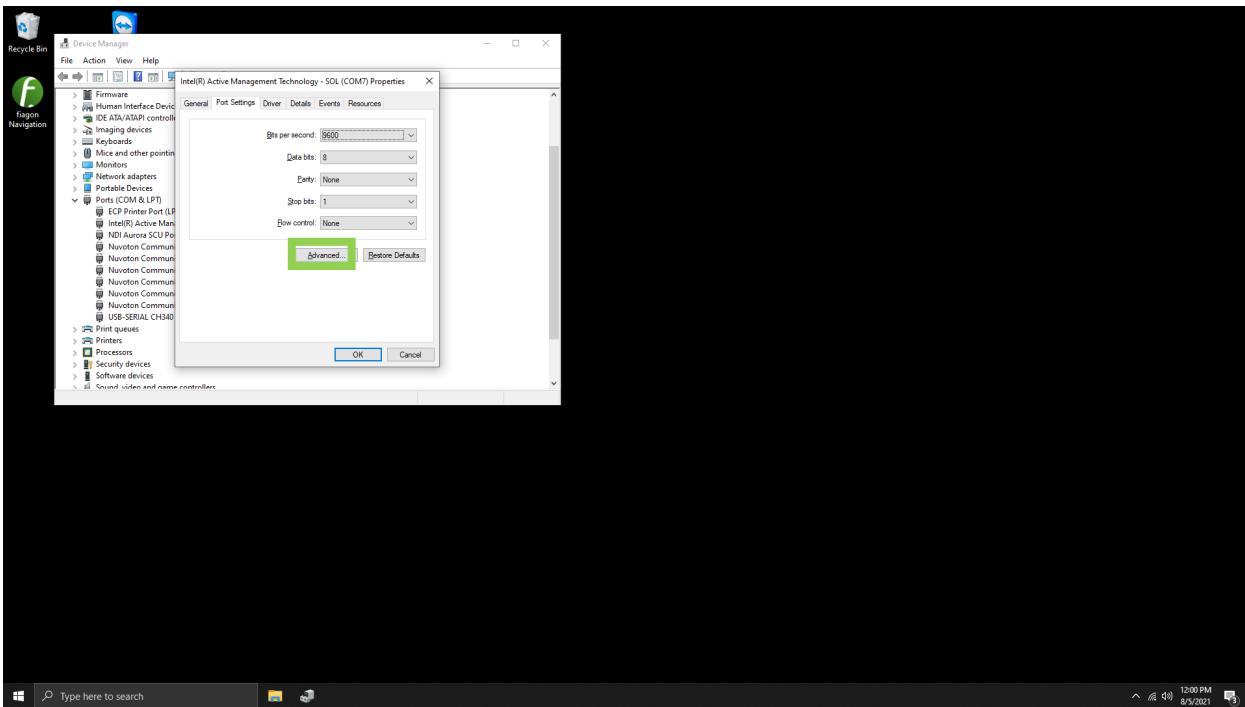
Step 6: Right click the port you wish to change, and select “Properties”



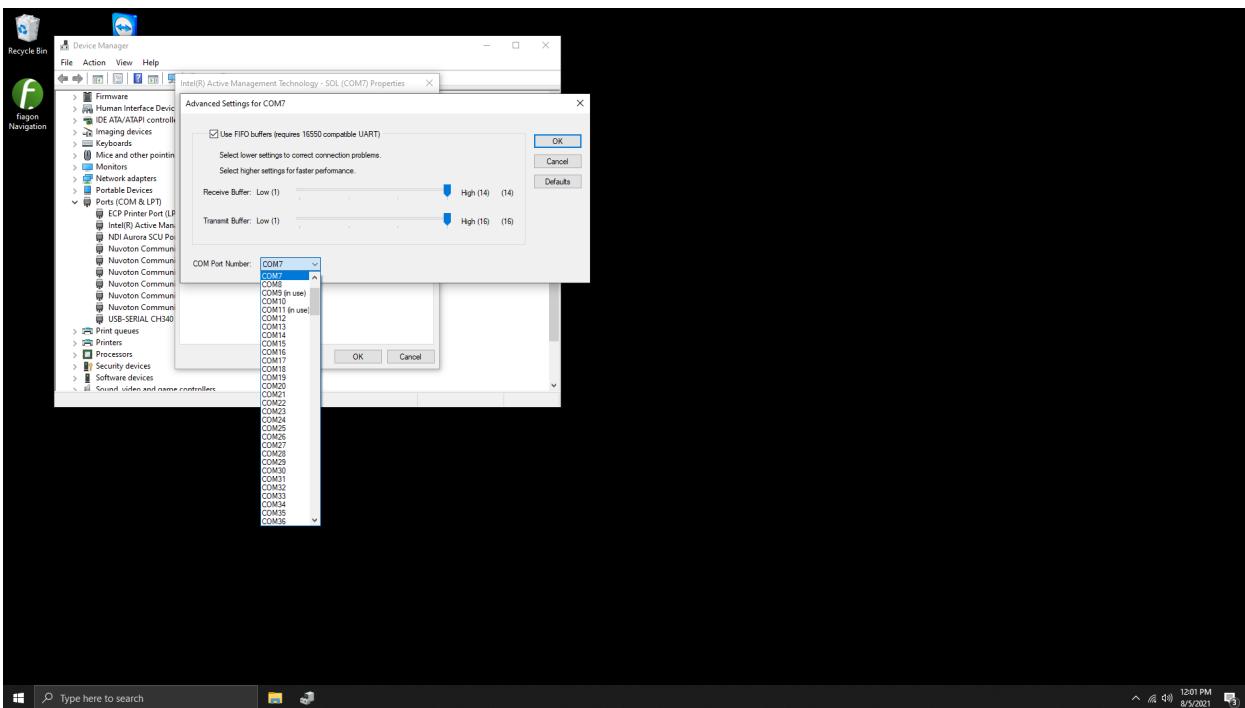
Step 7: Click on the “Port Settings” tab



Step 8: Click on “Advanced”



Step 9: Select the correct COM Port Number from the dropdown menu

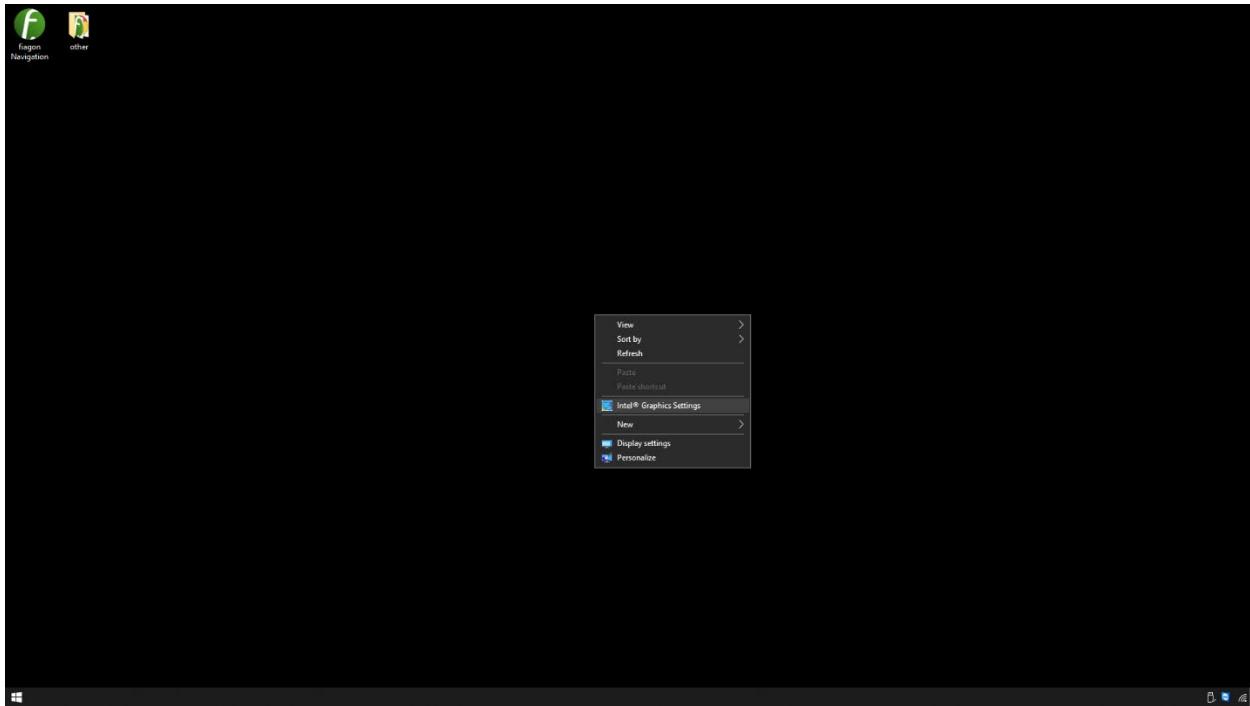


Repeat steps 6-9 for every port that is assigned incorrectly. Once all the necessary changes have been made, restart the Cube and allow the system to boot the software again. If the Cube beeps as the software loads, then the ports should be allocated correctly.

Advanced Troubleshooting – Aspect Ratio Adjustment

Purpose: To fix an issue when the Cube navigation system is set to 1080p resolution, but the displayed aspect ratio is does not match the monitors borders used to display the navigation software.

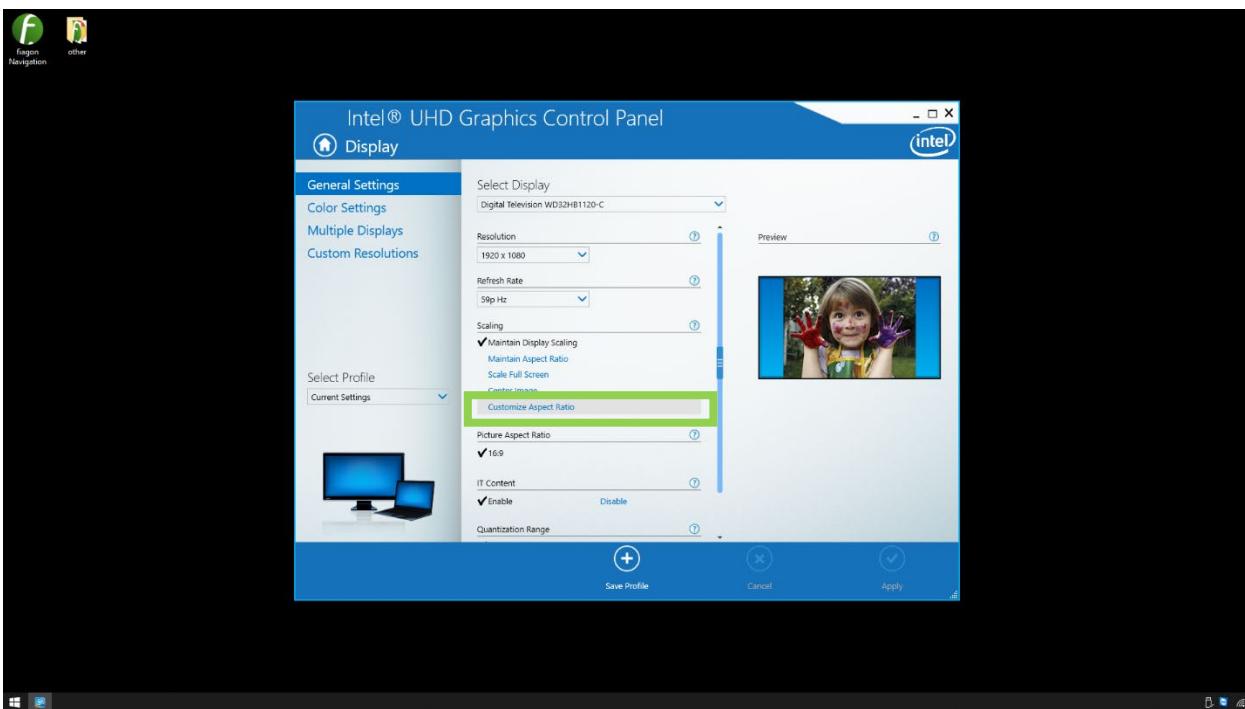
Step 1: Right-click the mouse on the desktop and select “Intel Graphics Settings”



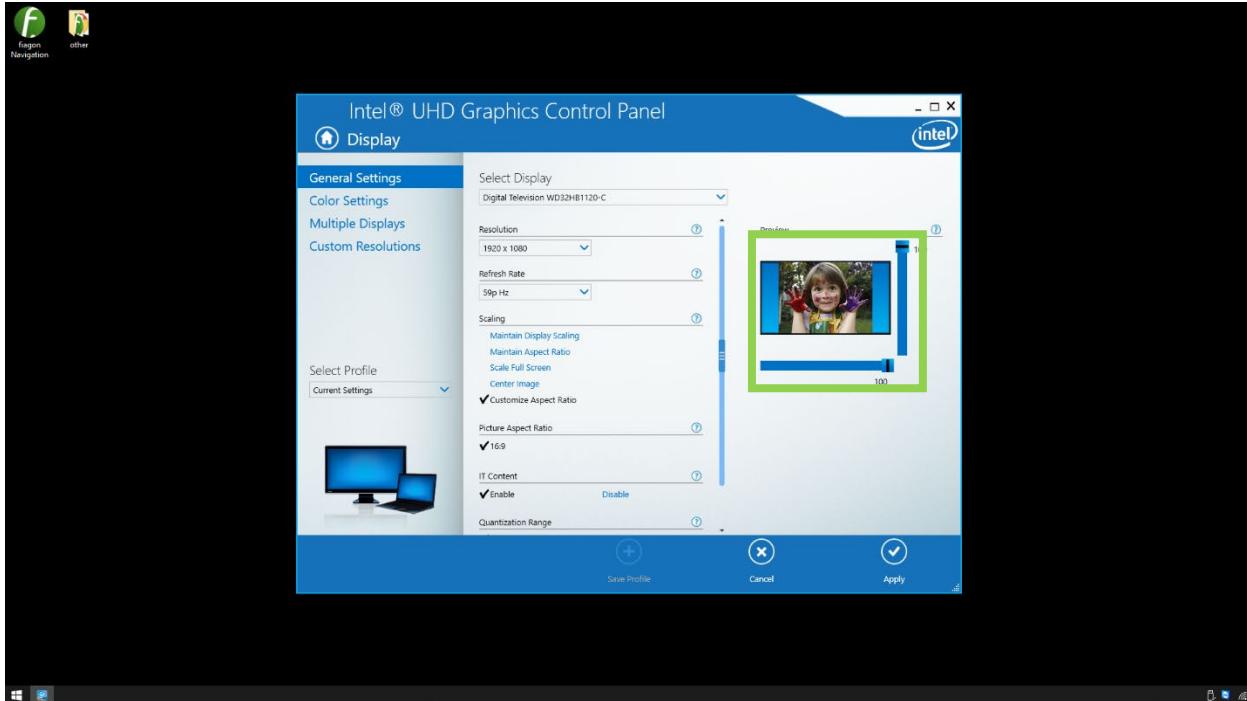
Step 2: Select the “Display” option



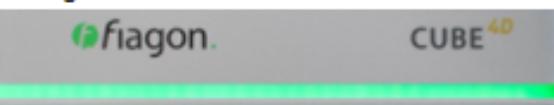
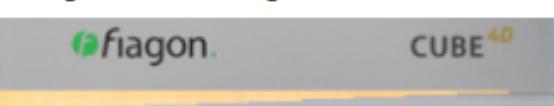
Step 3: Select the “Customize Aspect Ratio” option



Step 4: Use the vertical and horizontal sliders to adjust the aspect ratio to fit the border of the monitor



LED Feedback Visual Guide

Cube ^{4d} LED Feedback Bar Signals	
<ul style="list-style-type: none"> System is powered off 	Off – no emitting 
<ul style="list-style-type: none"> <i>System is busy:</i> <ul style="list-style-type: none"> Software is loading a dataset Software is calculating registration 	Fading in and out green 
<ul style="list-style-type: none"> <i>System is ready to be used:</i> <ul style="list-style-type: none"> Software startup completed Software finished loading dataset Software in Navigation Mode 	Solid green 
<ul style="list-style-type: none"> <i>System is waiting for user interaction:</i> <ul style="list-style-type: none"> Touch landmarks/Take photo/Hold to start surface recording Connect mapper/camera Confirm registration/use registration-ready instrument 	Fading green-orange forth and back 
<ul style="list-style-type: none"> <i>System warning:</i> <ul style="list-style-type: none"> Line feature is activated and the user gets close to the set line Localizer connected and distortion threshold reached or localizer out of the electromagnetic field 	Fading in and out orange 
<ul style="list-style-type: none"> <i>System start:</i> <ul style="list-style-type: none"> System powering on and booting Software starting Software is in Mouse Mode Field generator is connected and turned off Default state if software does not start or if the software is closed 	Solid Orange Signal 
<ul style="list-style-type: none"> <i>Issue detected:</i> <ul style="list-style-type: none"> Broken instrument or localizer detected in Mouse Mode or Navigation Mode Instrument with 0 uses remaining 	Solid Red Signal 

Cube ^{4D} Status Indicator for Instruments	
<ul style="list-style-type: none"> Off <ul style="list-style-type: none"> Instrument disconnected or not recognized 	
<ul style="list-style-type: none"> Dim solid green <ul style="list-style-type: none"> Instrument connected, recognized by the software, but non active instrument Solid green <ul style="list-style-type: none"> Instrument connected, recognized by the software, and current active instrument 	
<ul style="list-style-type: none"> Blinking red <ul style="list-style-type: none"> Instrument/localizer connected, recognized by the software, but broken or instrument has zero uses remaining 	
<ul style="list-style-type: none"> Solid blue <ul style="list-style-type: none"> Touch landmarks/Take photo/Hold to start surface recording Connect mapper/camera Confirm registration/use registration-ready instrument 	
<ul style="list-style-type: none"> Solid orange <ul style="list-style-type: none"> Line feature is activated and the user gets close to the set line Localizer connected and distortion threshold reached or localizer out of the electromagnetic field 	

Unofficial Product Specifications

- **Cube4D (Navigation System)**
 - Weight – 10.7lbs
 - Length – 10.25in
 - Width – 10.25in
 - Height – 6.625in
- **Field Generator**
 - Weight – 6.2lbs
 - Length – 7.8in
 - Width – 2.8in
 - Height – 7.8in
 - Cord Length– 15ft
- **VirtuEye Camera and Clamp Holder**
 - Weight – ~2.5lbs VirtuEye Camera
 - Weight – ~5.3lbs VirtuEye Camera and Clamp Holder
 - Clamp Width – 3.5in
 - Clamp Length – 3.75in
 - Diagonal Length – ~21in
- **Keyboard (included with purchase, varies)**
 - Weight - .5lbs
 - Length – 8.5in
 - Width – 4in
- **Mouse (included with purchase, varies)**
 - Weight - .2lbs
 - Length – 4.25in
 - Width – 2.375in