AgileMesh™ Virtual Panel
User's Guide

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1. Overview - The *Virtual Panel* Application

The AgileMesh *Virtual Panel* application included with your system allows you to configure AV1200-series mobile units or FT3203-series outdoor units to properly communicate with other AgileMesh wireless network nodes, such as the AV1500- and AV7500-series units. Once configured with the *Virtual Panel*, a node can be disconnected from the computer running the *Virtual Panel* application. That node is then ready to deploy in conjunction with other AgileMesh wireless network nodes. The configuration settings you generate using the *Virtual Panel* are stored in the node, and are not affected by powering off the node.

The AgileMesh *Virtual Panel* application is intended for use with all AV1200-series mobile units, including the AV1200, AV1210, AV1200-PS and AV1210-PS as well as FT3203 and FT3203-PS outdoor nodes. The *Virtual Panel* should not be used with AgileMesh's AV1500- and AV7500-series, which are equipped with physical panels for channel (frequency and encrytioons) and node (camera IP address) configuration.

2. *Virtual Panel* Installation

Insert the AgileMesh Software Utility CD in the CD drive of the PC used to control the AV1200-series Mobile Unit or the FT3203-series Outdoor Unit (node). You must be logged in to a Windows operating system account with administrative privileges. The AgileMesh Utilities currently support Windows XP® or Windows Vista®.

The utilities master installer will start automatically and the Windows® Security Warning window will appear. If the installer does not start automatically, double-click on the application named "master_installer.exe" on the AgileMesh Installation CD.

Click "Run" and the AgileMesh Installer splash screen will appear, followed by the Installation Options window.

In the Installation Options window, select only the Virtual Panel check box to launch the Virtual Panel application installer. Click the "Install" button.

If prompted to load Java, WinPCap or JPCap, accept all the default options. Usually these are installed when CamUtilities and i-Pro Viewer (from AgileMesh) are installed. See *AgileMesh Installation Options* for step-by-step details.
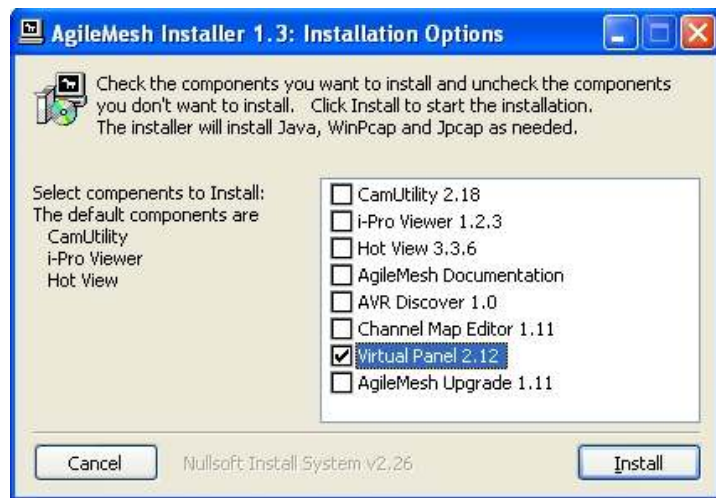
A warning window regarding the license file requirement will be displayed.

Click "Yes" to continue the installation of the *Virtual Panel*.

The AgileMesh *Virtual Panel* splash screen will appear, followed by the Installer Completed window.

Click on "Close" to complete the installation.

3. Virtual Panel License Installation

Place the AgileMesh Virtual Panel License CD in the CD drive of the computer where the AgileMesh *Virtual Panel* was just installed.

From Windows Explorer, locate the license file on the CD. The file will be an executable (*.exe), e.g., *XXXXXX.exe*. (There are no other .exe files on the CD.)

Double click on the file name to activate the AgileMesh Virtual Panel License. When the **Windows Security Warning** window opens, click "Run" to install the license. The AgileMesh Virtual Panel License splash screen will appear, followed by the **License Setup: Completion** window. Simply click "Close" to complete the installation.

4. Controlling an AV1200-Series Unit or an FT3203-Series Unit from a PC

Using an ethernet cable, connect the AV1200-Series Unit or an FT3203-Series Unit (node) to the computer where the AgileMesh *Virtual Panel* was installed. Connect power to the node and turn on the power. Wait approximately 120 seconds for the node to start. Make sure to configure the ethernet adapter in the computer with an IP address of 192.168.224.xx (where "xx" is any number between 10 and 20). If the computer's ethernet LAN IP address is not known or has not been set, see **Setting up a Static IP Address on a PC.**

Start the AgileMesh *Virtual Panel* application by clicking on the *Virtual Panel* icon on the computer's desktop.

The AgileMesh *Virtual Panel* should appear. The "Channel", "Node" and "Neighbors" displays will blink on and off until the *Virtual Panel* and the node have established a communication link.

If the display continues to blink for more than two minutes, refer to the **Troubleshooting the Virtual Panel** section.

The example display below is for an AV1210 on Channel 26, set to Node 3, and currently in communications with no other nodes ("Neighbors".)

The node number on an AV1200, AV1200-PS, FT3203 and an FT3202-PS will show two dashes instead of a number, as these models cannot serve as video nodes. (A video node is a network node which includes one or two ports for connecting video cameras.) Other AV1200-series models can be configured to be identified by its node number, which can be any number from "01" to "32". The example display below is for an AV1200 on Channel 26, and currently in communications with two other nodes ("Neighbors".)

The channel number can be increased by clicking on the "+" side of the channel knob or decreased by clicking on the "-" side of the knob. The display will blink until the radio is established on the desired new channel.

Similarly, the node number can be increased by clicking on the "+" side of the node knob or

decreased by clicking on the "-" side of the knob. The display will blink for approximately 30 seconds until the video server is established on the desired new node number.

As the channel is changed between frequency bands (2.4 GHz to 4.9 GHz only on Public Safety equipped units to 5.X GHz), the required antenna frequency of operation is shown on in the lower right corner of the AgileMesh Virtual Panel.

5. Virtual Panel Configuration and Help

Right click on the black background on the Virtual Front Panel to see a drop down menu. Each menu item will be described starting with the top of the list.

5.1. The first menu item is "Minimize" and can be used to place the *Virtual Panel* on the PC's task bar.

5.2. The second item on the menu is "Channel Map" and is used to load a channel map produced by another AgileMesh application called the "Channel Map Editor".
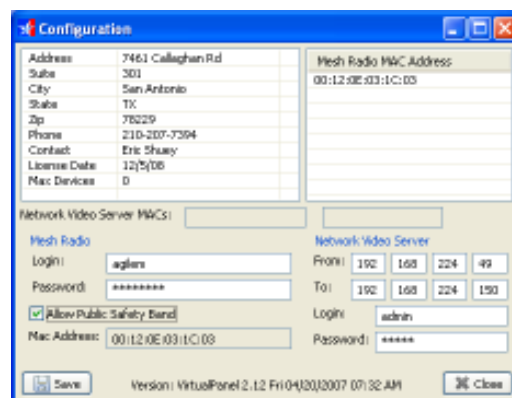
5.3. The third menu item is "View Channel Map". When "View Channel Map" is selected, the *Virtual Panel* will display the current channel map as shown to the right. An example channel map is shown. A RED channel background color represents a 2.4 GHz channel, BLUE represents a 5 GHz channel and the white background represents a Public Safety channels. Public Safety Channels are only allowed on AgileMesh nodes ending in "-PS".

5.4. The forth menu item is "Config". Select and click on "Config" from the menu to display the *Virtual Panel* Configuration screen.

The screen to the right will be displayed. Notice that only one node is licensed in this example. Any number of nodes can be controlled by the Virtual Panel if they are licensed by AgileMesh.

Click the check box labeled "Allow Public Safety Band" and click on "Save" ONLY ON PUBLIC SAFETY RADIOS (i.e. AV1200-PS, AV1210-PS or FT3203-PS).

5.5. The fifth menu item is "Address". Select and click on "Address" from the menu to display the IP address of the AgileMesh mesh network.
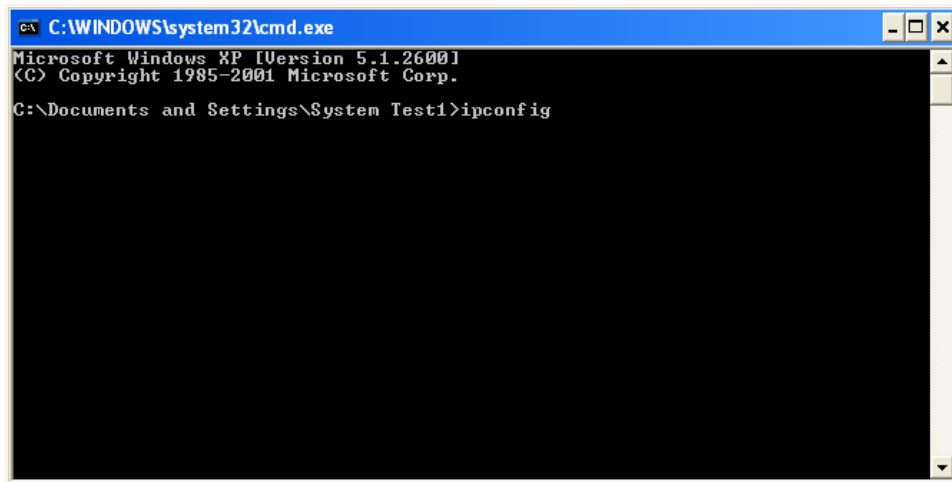
5.6. The sixth menu item is "About". Select and click on "About" from the menu to display the *Virtual Panel* software version number and release date and time.

5.7. The seventh menu item is "Help". Select and click on "Help" from the menu to display the *Virtual Panel* help screen.

5.8. The last menu item is "Quit". Select and click on "Quit" from the menu to close or exit *Virtual Panel* application on this PC.

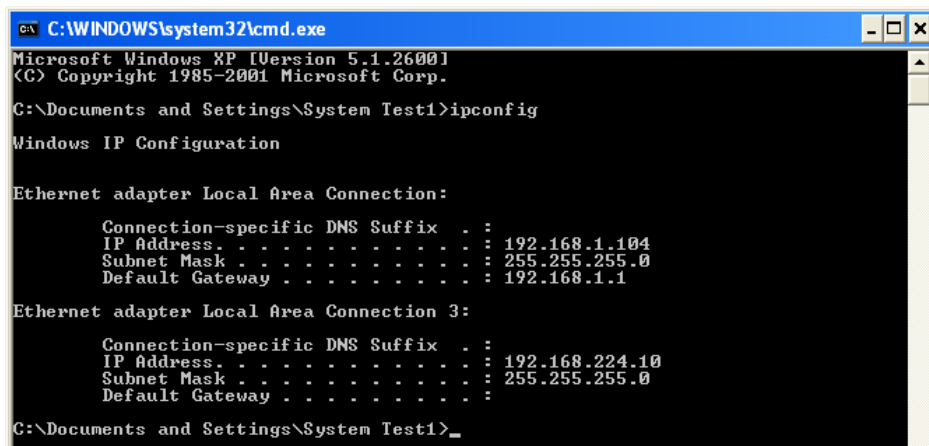## 6. Verifying the Ethernet LAN IP Address on a PC

The IP configuration on the computer can be verified as shown below. Make sure the computer is connected to an AV1200-series node, and then click on the Windows "Start" button at the bottom-left hand corner of the screen. This opens the Windows Start Menu. Now click "Run" to open a command prompt window, and type "ipconfig" (see below) followed by Enter/Return.

Windows will display the IP configuration of your computer, an example of which is shown below:

Notice the "Ethernet adapter Local Area Connection" (ignore any wireless ethernet adapters) in the example displayed above. The 192.168.224.xx (where "xx" is a number between 10 and 20) should be listed on the screen under "Ethernet Adapter Local Area Connection".

If there is no Ethernet adapter Local Area Connection displayed, see section *Static IP Setup on a PC*.

![AgileMesh logo]

You should test the connection between your computer and the node by sending a ping to the AV1200-series unit. Simply type "ping 192.168.224.150" at the command prompt as shown below:

Verify that four replies were received as shown above. The computer and the AV1200-series node are now connected.

If no pings are returned (100% loss), make sure the ethernet cable is securely connected to the correct ethernet RJ-45 jacks on both the computer and the node. Also verify that the ethernet cable is good.

7. Setting up a Static IP Address on a PC

Click on the Windows Start button and select the Control Panel. From the control panel, select Network Connections. Double-click the Local Area Connection   icon to display the Local Area Connection Status screen.
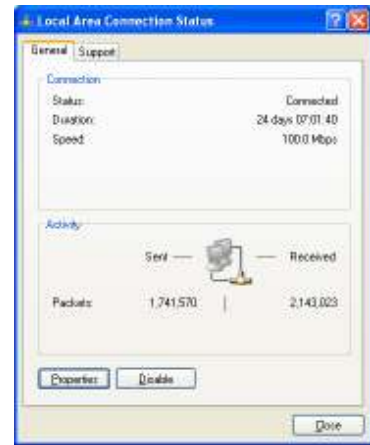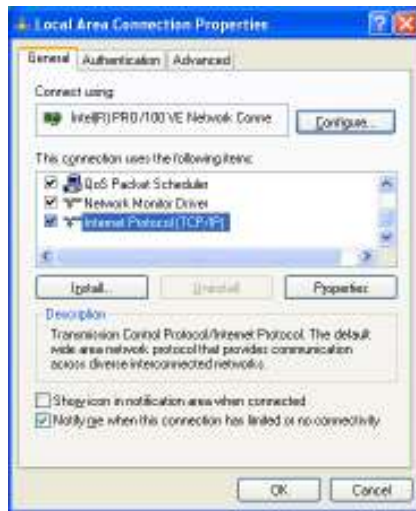
Click on "Properties" to see the Local Area Connection Properties screen. Scroll down to "Internet Protocol (TCP/IP) and click on "Properties".

Click on the "Use the following IP address" radio button and enter a static IP address of 192.168.224.10 and a Subnet mask of 255.255.255.0 as shown above and click on "OK"

Close all open windows and reopen the command prompt window from the Windows Start Menu. Again, type "ipconfig" and then Enter to verify that the address entered was applied to an Ethernet adapter LAN port. Details on how to run "ipconfig" can be found in the section **Verifying the Ethernet LAN IP Address on a PC** above.

8. AgileMesh Installation Options

Place the AgileMesh Software Utility CD in the CD drive of the PC used to control the AV1200-series Mobile Unit. The PC operating system must be Windows XP or Windows Vista, and you must be logged into a Windows account with administrative privileges to allow a new application to be installed on the PC.

Select only the *Virtual Panel* check box on the Installation Options screen to load the *Virtual Panel* application. Click the "Install" button.

When the Security Warning screen appears, click the "Run" button. The AgileMesh Installer splash screen will appear momentarily.

On the Installation Options screen shown to the right, select the *Virtual Panel* checkbox.

If Java Runtime Environment 6 is not already installed on this PC, a Java Runtime Environment 6 – License screen will appear. Keep the default option (Typical setup). After reading the license agreement, click on "Accept" to install Java.
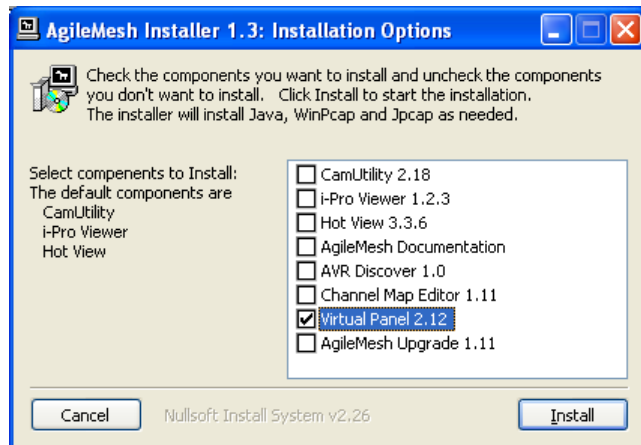
When the Java installation is complete, the following screen will appear.
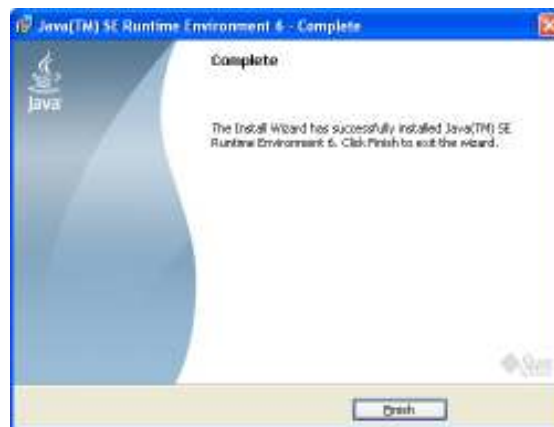
If WinPcap is not already installed on this PC, it will be installed next. The WinPcap launch screen is shown here.

Click "Next" twice to get to the WinPcap license screen. If the terms of the license are acceptable, click the "I Agree" button. WinPcap will install after which the WinPcap installation completion screen will display.

Click "Finish" to complete this step.

If Jpcap is not already installed on this PC, it will be installed next. The **Jpcap Setup** Wizard screen is shown here.
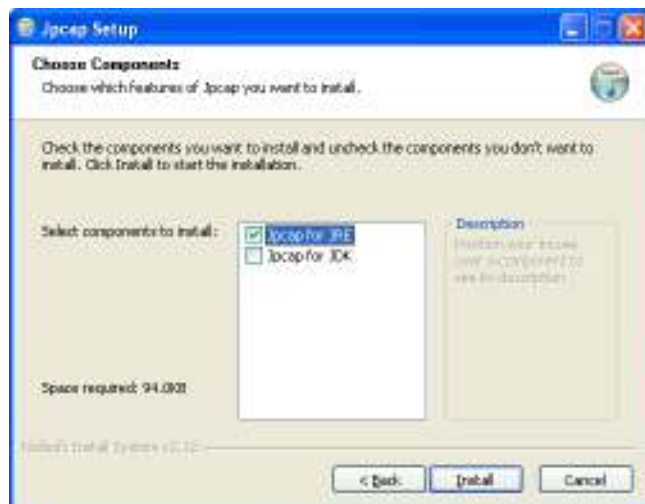

Click "Next".

The Jpcap license screen will be displayed next. Please review the license agreement.

If the license terms are acceptable, click "I Agree".

In the **Jpcap Setup - Choose Components** window, keep the default settings (select only "Jpcap for JRE") and click "Install".


While Jpcap is installing, an installation progress window will be displayed.

When the installation finishes, click "Next" to proceed to the **Jpcap Setup – Installation Complete** window.

Click "Finish" to complete the installation of Jpcap.

The AgileMesh Installer will display a warning that indicates that a *Virtual Panel* License is required to run the *Virtual Panel*. Click "Yes".
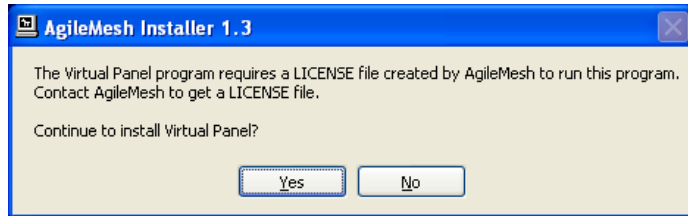
The AgileMesh *Virtual Panel* splash screen will appear momentarily.

When the *Virtual Panel* **Installation Completed** screen appears, click "Close". An icon for launching the *Virtual Panel* should now be on the desktop of the PC.

9. Troubleshooting the Virtual Panel

If the AgileMesh *Virtual Panel* continues to blink, check the following:

1) Is the node powered on (see green LED ON/OFF push button switch on an AV1200-Series Unit or a green LED on the bottom of an FT303 Series Unit)?
2) Is the PC Ethernet LAN adapter set up on the proper IP address (i.e. 192.168.224.XX, where XX is a number between 10 and 20)?
3) Make sure no other PCs with the same IP address are connected to another AgileMesh node that is a neighbor to the node to be controlled by the Virtual Panel.
4) Is the Ethernet cable connected between the PC and the AV1200-series node? (Is there a link LED on the PC?)
5) Ping 192.168.224.150. If pings are unsuccessful, the PC and the Node cannot communicate. Check the cable, PC Ethernet LAN port settings or reboot the node and repeat the ping test test.
6) Has the *Virtual Panel* software been loaded on this PC?
7) Was the *Virtual Panel* installed in the default location (or was it moved during setup)?
8) Has the *Virtual Panel* license application been run on this PC?

   a) To verify the license file has been run, right click the mouse in a black area of the *Virtual Panel* and select "config". One or more mesh radio MAC addresses should be listed in the configuration file. See an example screen.
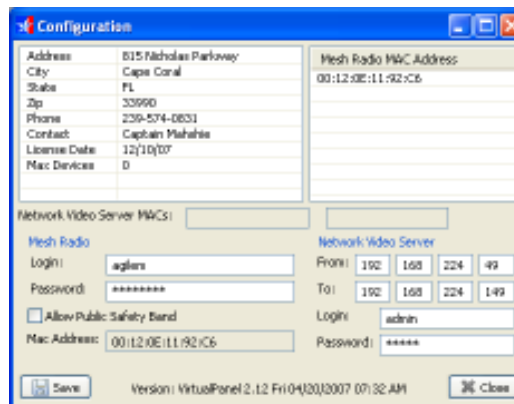
   b) From a command line prompt (Start>Run), enter and launch the following command:

   arp –a

   Verify that the MAC address for IP address 192.168.224.150 is listed in the Mesh Radio MAC address list displayed in the *Virtual Panel* Configuration screen above.

   If the MAC address is not listed in the *Virtual Panel's* Configuration's Mesh Radio address list, a new license file must be obtained from AgileMesh.

10. Support Options

AgileMesh Technical Support

Software support is available free of charge for 90 days after the original date of purchase. For AgileMesh Technical Support, call 1-972-231-2122 or find AgileMesh on the Web at http://www.agilemesh.com.

1130 E. Arapaho
Richardson, TX
75081
(972) 231-2122
www.agilemesh.com