

AgileMesh AV3000G2 User Guide Includes: AVR Discover, Node Control and AV3000 Status applications



AV3000G2 Software Version 7.13 and above AV3000G2 Software Version 8.6 and above AVR Discover 3.2 and above

December 31, 2015



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Introduction

The AgileMesh AV3000G2 is a self-configuring IP video router that provides a transport interface between an AgileMesh wireless network and another LAN/WAN. The AgileMesh network is the host to multiple IP video cameras or servers. The AV3000G2 is connected to the wireless MESH network and the wired LAN network via standard hardware interface. The AV3000G2 will find the AgileMesh video assets in the MESH network and map them to one IP address (assigned by the user or by a DHCP server) on the wired LAN network.

The major features provided by the AgileMesh AV3000G2 are:

- Auto-discovers Agilemesh video and sends them to one IP address (user specified or DHCP)
- Replication of a single wireless stream to one or more viewers or destinations to minimize bandwidth utilization on the wireless network
- Enabling connectivity to the Internet or satellite backhaul
- Setting Time of Day on each node

Minimum Viewing System Requirements

| | Windows 7 | Windows 8.1 | Windows 10 |
|------------|-------------------------|-------------------------|-------------------------|
| | Professional (32/64bit) | Professional (32/64bit) | Professional (32/64bit) |
| CPU (GHz) | 2.3 (multi-core) | 2.3 (multi-core) | 2.3 (multi-core) |
| RAM (GB) | 4 | 4 | 4 |
| Disk (GB) | 120 | 120 | 120 |
| Video Card | 1024 X 768 (256 MB) | 1024 X 768 (256 MB) | 1024 X 768 (256 MB) |

Recommended Viewing System Requirements

| | Windows 7 | Windows 8.1 | Windows 10 |
|------------|-------------------------|-------------------------|-------------------------|
| | Professional (32/64bit) | Professional (32/64bit) | Professional (32/64bit) |
| CPU (GHz) | 3 (multi-core) | 3 (multi-core) | 3 (multi-core) |
| RAM (GB) | 8 | 8 | 8 |
| Disk (GB) | 500 | 500 | 500 |
| Video Card | 1280 X 1024 (512 MB) | 1280 X 1024 (512 MB) | 1280 X 1024 (512 MB) |



Overview

The AgileMesh AV3000G2 is a specialized network router with two Ethernet ports. The operating system is BSD UNIX. The MESH Ethernet side is connected to AgileMesh video sources and the LAN Ethernet side delivers video on one IP address (with each AgileMesh video source on a unique port) to one or more viewers. A typical configuration is shown below.



The AV3000G2 receives IP video from an Agilemesh node via an Ethernet cable. The AgileMesh nodes and the AV3000G2 MESH interface are on the 192.162.119 subnet. Video data is routed through the AV3000G2 to an IP address assigned by the user (preferred) or a DHCP address. The viewer is configured with the IP address assigned to the AV3000G2 as the IP address for all cameras connected (Nodes 1 – 4 in the example above). The AV3000G2 replicated ports are set to 9000 + the node number for codec 1. In the example above, Node 1, codec 1 is viewed on port 9001, Node 2 codec 1 is on port 9002, etc. To view the second codec in an AgileMesh node through the AV3000G2, the port is 9200 + the node number. In the example above, Node 1, codec 2 is viewed on port 9201, Node 2 codec 2 is on port 9202, etc.

The AV3000G2 Connection Schematic shows three viewers connected to the LAN Ethernet port. When viewing video, the AV3000G2 pulls one copy of the video over the air from the MESH Ethernet interface and replicates the video to the three viewers connected to the LAN Ethernet interface. If



three viewers were viewing the same video, **without** the AV3000G2, three separate copies of the video will be transmitted from each camera and therefore increasing the video bandwidth by a factor of 3. This is an important bandwidth saver in a deployed AgileMesh system.



Initial Setup

The AV3000G2 has two Ethernet ports to allow connectivity to the MESH network (AgileMesh video assets) or the LAN network (user's intranet). AgileMesh strongly recommends that the LAN network interface should be set to a static IP address on the user's subnet. This will be the subnet that the AgileMesh Viewer PC is connected. The static IP should be provided by the Network Administrator to make sure a valid address is used. This section has instructions on setting a static IP address on AN AV3000G2.

To configure the AV3000G2, connect an Ethernet cable from the MESH port on the AV3000G2 to a PC that is on the 192.168.119 subnet. The last octet of the IP address should be between .5 and .9. In the example below, the PC is set to 192.168.119.5.



192.168.119.5

Rear View of an AV3000G2

By default, the IP address of the MESH network interface is 192.168.119.1. Use a browser (IE, Chrome, etc.) to browse to 192.168.119.1. The following window will appear:

| assword. The server says: AgileMesh Video Router. |
|---|
| |
| User Name: agilemesh |
| Password; ******** |

The "User Name" and "Password" are both "agilemesh". This is the administrator login. Click on the "Log In" button. This will display an empty AV3000G2 home page. On an AV3000G2 that is



connected to a PC on the MESH Ethernet interface, the home page will not contain any video sources as shown below

| | 🔀 AgileMesh | |
|------------------|---------------------------------------|--------------------|
| oc Prex. | >> Home KK | Next >> |
| Camerus Found: 0 | Refresh in: (1) second Page 1 of 1 | Page Version: 1.16 |

The screen shot below is from an active AV3000G2 with 8 Agilemesh video assets. This home page lists the AgileMesh video sources discovered along with information that will be needed to configure a viewer.

| * | AgileMesh | |
|--|---|---|
| Node 1, Cham. 25 - 192.168.1.253 Node 2 Volt. 13.490, Neighbors: 6 Volt. 12 Cam1. h264, 300ps, VGA, Port 9001 Cam1.1 (Use uldress/port in Viewe) Other uldress/port in Viewei | 0, Classe: 25 - 192 168 1 253 2011, Neighbors: 6 h264, 30fpo, SIF, Port 9020 mipeg, Sfps, VGA, Port 9220 insesport in Viewe) | Node 21, Chan: 25 - 192.168.1.253 Volt. 13.678, Temp: 48, Neighbors: 7 Cam1: h264, 15fps, VGA, Port 9021 (Hoe aikless/port in Viewe) |
| Node 23, Chass: 25 - 192.168.1.73 Node 2 Volt: 13.674, Temp: 48, Neightyrs: 7 Volt: 13 Cam1: h264, 158ps, VGA, Port 9023 Cam1: 1 Olse address/port in Viewe) Olse address/port in Viewe) | 5, Cham. 25 - 192.168.1253 (551, Temp: 52, Neighbors: 7 h264, 156pa, VGA, Port 9025 (resulport in Viewe) | Node 26, Chan: 25 - 192.168.1.253 Volt. 13.613, Temp. 54, Neighbors: 7 Cam1.h264, 10fps, VGA, Port 9026 (Joe address/port in Viewe) |
| Node 27, Cham: 26 - 192,168,1,253 Node 5 Volt 13,333, Temp. 52, Neighbors: 4 Volt 13 Cam3: h264, 1456, VGA, Port 9027 Cam1: 1 (Use address both in Viewe) (Use address both in Viewe) | 7, Chan: 25 - 92 168 1 253 1884, Temp 45, Neighbors 6 1264, 10fps //GA, Port 9057 mpeg, 5fps //GA, Port 9257 iess/port is //even) | |
| Company Report 10 | so Harma en Afresh m. (22) seconds Rem 1 of 1 | Nut >>> |
| | | , age ressources |
| Node 20, Chan: 25 - 192.168.1.253 | Here is the information f | or Node 20. The first line, in bold |
| Volt: 12.213, Neighbors: 6 | text, displays the node r | number, the radio's channel and the |
| Cam1: h264, 30fps, SIF, Port 9020 | IP address to be used | d in the AgileMesh Viewer. The |
| Cam2: mjpeg, 5fps, VGA, Port 9220 | second line displays the | e node's voltage and the number of |
| (Use address/port in Viewer) | neighbors THIS node c | an "see". Because Node 20 has |

two active video inputs, the settings for camera 1 and camera 2 are displayed. After "Cam1" or "Cam 2", the first field displays the type of encoding for that camera, the second field displays the



frames per second (FPS), the third field displays the resolution and the last field displays the port number to be used in an AgileMesh viewer.

Browse to 192.168.119.1/admin to bring up the AV3000G2 Administration webpage. From this webpage, the AV3000G2, the LAN Ethernet interface can be configured to a static IP address, subnet mask and Gateway. The LAN Ethernet address is set from the MESH Ethernet side as the AV3000G2 is shipped with the LAN Ethernet interface set to DHCP. If there is a DHCP server on the subnet where the AV3000G2's LAN Ethernet network is connected, a login from the LAN side is also possible. IF connecting from the LAN side, use the AgileMesh application, "AVR Discover", to find the DHCP address that was given to the AV3000G2.

| | 🧏 Agi | leMesh | | |
|--|--|--|---|---|
| Ancarrege Configuration Law in the transmitter of the constraint Data in the transmitter of the constraint Private in the constraint Private integer integer integer integer integer Private integer | CasiFile Aglabach Iads MAC Dis Imple Passenatti Anti Logite Anti Logite Anti Logite Anti Logite Anti Logite Anti Logite Taschi erito: Theo Threachad Horseny Delays | St. Dense in Carl fas (a). No. 1 (a) in the second of the intervention of the second of the second of the second of the intervention of the second of the second of the second of the intervention of the second of the second of the second of the second of the intervention of the second of the secon | AmCarsPing Configurat Theorem presented for Auto, a Hole-safe address to accurate the carses to carses To accurate the carses To accurate | San coltage. plane () () () () () () () () () () () () () (|
| Interface Configuration Cusives IP: 1965 SEE 1963 # The 1963 P Address: 2447 Debug Readers: MTR: 1971 HATRS - 1983 Bend See Config Inded IP Address: 1971 HATRS - 1983 Bend See Config Interse Rate: September 9, 3915, 3552 Br (M | United Conterns Distance Conterns Pres Reports Tappade AVP Manage Conte | Faces | Mise. Configurations | Date 1 Fare Valen Kultupere Scheidens AVR Autor AVR Gester Zehann Spätern Reiseser Versibel 7.43 |
| Enter IP address Current IP: IP Address: Default Router: Mesh IP Address: | S I DHCP 192.168 | nterface Co 3.119.1 | MTU: | Enter subnet mask |
| Enter Gateway | | | Default IP a | ddress |

To set a static IP address, click on the "Use DHCP" check box to remove the check. Enter the desired static IP address, the subnet mask and gateway. Click on "Save Config" button. The



AV3000G2 must be rebooted for the new address to take effect.

The MESH Ethernet address for the AV3000G2 should only be changed if there are more than one AV3000G2 units are in the same mesh. Use the "Mesh IP Address" pull down menu to select 192.168.119.1 or .2 or .3 or .4. If only one AV3000G2 is in the mesh, use the default Mesh IP address of 192.168.119.1.

The AV3000G2 is now configured. Connect the Mesh Ethernet port to an AgileMesh node (usually to the Mast Radio or RCU in a Command Vehicle Kit) and the LAN Ethernet port to the user's intranet. The next step is to configure the AgileMesh Viewer to view video through the AV3000G2.

Important:

- 1. The AV3000G2's MESH network IP address and the LAN network IP address CANNOT be on the same subnet.
- The AV3000G3 MESH address will be 192.168.119.1 by default. If there are more AV3000G2s in the same mesh, the second AV3000G2 should be 192.168.119.2, the third 192.168.119.3 and the fourth 192.168.119.4. A maximum of 4 AV3000G2s can be in the same mesh.



Configuring an AgileMesh Viewer(s)

When an AgileMesh Viewer is utilized on LAN Ethernet Interface, the following items must be known to configure the Viewer:

- The static IP address of the AV3000G2
- The node numbers to be viewed
- Which codec is to be viewed

From the AgileMesh Viewer, click on the Site button to display "AgileMesh Viewer Groups". In the example below, the Group named "AV3000 Test" is selected. The list of defined cameras is shown in the Site List below. The "Name" field will be displayed below the video image. The "IP Address" is the address of the AV3000G2. This should be a static IP address assigned by the customer. The "Port" is 9000 + the node number for codec 1 or 9200 + the node number for codec 2. The "Type" field MUST be "UDP G2". The default User ID and Password are used in the example below.

| e Groups | Site List | | | | | | | | | |
|----------------------|-----------|-------|---------------|------|------------|-----------|-----------------------|----------|---------|--------|
| V3000 | Name | | IP Address | Port | Туре | User ID | Password | Location | | |
| V3000 Test | Node1 | | 192.168.1.230 | 9001 | UDP G2 | admin | admin |] | | |
| V3000G2-49 | Node2 | | 192.168.1.230 | 9002 | UDP G2 | admin | admin | | | |
| ell.117 | Node3 | | 192.168.1.230 | 9003 | UDP G2 | admin | admin | | | |
| harlotte NC | Node7-1 | | 192.168.1.230 | 9007 | UDP G2 | admin | admin | | | |
| ole County MO | Node20-1 | | 192.168.1.230 | 9020 | UDP G2 | admin | admin | | | |
| si dulu 1 Trancit | Node6 | | 192.168.1.230 | 9006 | UDP G2 | admin | admin | | | |
| alano | Node0 | | 192.168.1.198 | 9000 | UDP G2 | admin | admin | | | |
| olano Cellular | Node9-1 | | 192.168.1.198 | 9009 | UDP G2 | admin | admin | | | |
| noGroup | Node24-1 | | 192.168.1.198 | 9024 | UDP G2 | admin | admin | | | |
| ulsacell | Node41-2 | | 192.168.1.253 | 9241 | UDP G2 | admin | admin | | | |
| | Name: | Node1 | | | IP Address | : 192.168 | 3.1.230 sh G2 LIDP | ~ | | |
| | Torci | 2001 | | | 1750 | Hgilorio. | | LANS. | | |
| | User ID | admin | | | Password | : admin | | | | |
| | Location: | | | | | | | | | |
| | | | | | | | Ad | | pdate C |)elete |
| | | | | | | | | | | |

See the AgileMesh Viewer User Guide for more detail on camera configuration.

The AV3000G2 by default will replicate 5 video streams. If six separate videos are being viewed, each of the six video streams will be sent to up to five viewers. The maximum number of replicated streams is 10. The number of streams replicated is set on the Administration page.



Administration Page

The AV3000G2 Administration webpage is used to configure the AV3000G2. Browsing to 192.168.119.1 accesses this webpage. The "User Name" and "Password" are both "agilemesh". This is the administrator login. Click on the "Log In" button. The current software version is displayed in the lower right corner of the administration page. In the example screen below, the software version is 8.6. The webpage consists of four panels as shown below.

| | <mark> Ag</mark> il | eMesh | | |
|--|---|--|--|---|
| AmCardPage Configuration Centrine Networks with He Drive 0 Get the longer from the calority. Relaat Tarac 5 Seconds follow page related. Fit Watte 10 Calority before page related. Fit Watte 10 Calority before page related. Fit Watte 10 Calority before page related. Renew Proget Calority before brage. Uplowd Image Calority brage with the planet. Renew Watter 00 Dennew Image with the planet. Renew Image. 0 Dennew Image with the planet. Renew I Dennew Image. Renew I Dennew Image. Renew I Network Image. Renew I Denney Image. Renew I Denney Image. Renew I Denney Image. Renew Image. Denney Image. Renew Image. Denney Image. Renew Image. Denney Image. | Gaoff Soc appended King, appended King, and The Passon of Passon of Ana Passon of Tourist Sofer Tourist Sofer Sofer Tourist Sofer Tourist Sofer Tourist Sofer Tourist Sofer Tourist Sofer Tourist Sofer Tourist Sofer Tourist Sofer Sofer Tourist Sofer Sofer Tourist Sofer Sofer Tourist Sofer | Remember and the set Set of a second constrained Set of a second constrained constrained constrained Set of a second constrained constrained constrained Set of a second constrained constrained constrained constrained Set of a second constrained const | AnnCambing Configuration Prevenue generative for eventse, (data the construction of the eventse, (data the construction of the eventse, (data the construction of the eventse) (data construction of the eventse (data construction of the eventse (data construction of the eventse) (data construction of the eventse (data construction of the eventse (data construction of the eventse) (data construction of the eventse (data construction of the eventse (data construction of the eventse) (data construction of the eventse (data construction of the eventse (d | ns 15) Transat: 2000 format - |
| Interface Certification Convert IP: 193 - 66 (200 - 47 time Cent) P Adversal Execut ID: 200 - 47 time Cent) Friday Products Fr | FEE F Containe David Containe Port Magneta Manage Contai Manage Contai | Parates Revos Ca 00P Care | Mbc. Configurations | Data / Yenu Video Hadipatent Janatawa AVR Patient AVR Patient Falls |

The four panels are: AmCamPage Configuration, AmCamPing Configuration, Interface Configuration and Misc. Configurations. Each of panel is described below.

AmCamPage Configuration

The "AmCamPage" Configuration or AgileMesh Camera Configuration panel is **primarily for factory use and is of little interest to the user.** The fields are described below.

| Field | Description |
|--------------|---|
| CamFile: | Used by AgileMesh only. |
| Live: | Not used. |
| Reload Time: | Time in seconds before the reload time of the discovered nodes. |
| Pic Width: | Not used. |



| Field | Description |
|----------------|---|
| Pic Height: | Not used. |
| Banner Image: | Allows the user to place their own banner image at the top of each AV3000 web |
| | page. |
| Upload Image: | Upload a banner image (.jpg or .png). 32 MB maximum file size |
| Banner Width: | In pixels. Minimum value is 50. |
| Banner Height: | In pixels. Minimum value is 40. |
| Columns: | Defines the number of cameras per row to show on the web page. Minimum |
| | value is 1. |
| Rows: | Defines the number of rows displayed on the web page. Minimum value is 1. |
| View Only: | Not used. |

AmCamPing Configuration

The "AmCamPing Configuration" or AgileMesh Camera Ping Configuration panel is **primarily for factory use and is of little interest to the user.** The fields are described below.

| Field | Description |
|------------------|--|
| CamFile: | Used by AgileMesh only. |
| AgileMesh Net: | This field is used to control what subnet is used on the MESH side for auto |
| | discovery and pulling video. Class C subnet. |
| MAC IDs: | This field is used to filter only devices that are auto discovered on the MESH |
| | network. |
| Login: | This field contains the user name used to log into an AgileMesh node. |
| Password: | This field contains the password used to log into an AgileMesh node. |
| Timeout: | This field contains the number of milliseconds to wait for a connection to |
| | complete when trying to log into an AgileMesh node. |
| Axis Login: | This field contains the user name used to log into an Axis camera. |
| Axis Password: | This field contains the password used to log into an Axis camera. |
| Tooltip Info: | Not used. |
| Time Threshold | Minimum number of minutes for time threshold, default 2. If the time difference is |
| | greater than this value then node's time is set by the AV3000G2. |
| SnapShot Thres | Not used. |
| Discovery Delay: | This field contains the number of seconds between discovery pings. |



Interface Configuration

The "Interface Configuration" panel is used to set the AV3000G2 to a static IP address or to allow a DHCP Server to issue an address to the AV3000G2. The fields are described below.

A DHCP Configuration is shown below. This is the default Interface Configuration. An external DHCP Server issues a lease for an IP address that the AV3000G2 will use. The external DHCP Server also issues the subnet mask, default gateway and MTU size. THE Mesh IP Address is a drop-down menu to allow up to 4 AV3000G2s to operate in the same network. The default address is 192.168.119.1 and should not be changed unless more that one AV3000G2 is in the same mesh. This configuration is **NOT RECOMMENDED** unless the DHCP server is configured to issue the same IP address every time the AV3000G2 is power up. This address must be used in the AgileMesh Viewer and will have to change if the AV3000G2's IP address changes.

| Į | Interface Conf | iguration |
|------------------|----------------|------------------------|
| Current IP: | 192.168.1.240 | 🕑 Use DHCP |
| IP Address: | DHCP | |
| Default Router: | | MTU: |
| Mesh IP Address: | 192.168.119.1 | • |
| | | Help Reset Save Config |

The preferred Interface Configuration is a static IP address as shown below. Notice the "Use DHCP" checkbox is not checked. The AV3000G2's IP address, subnet mask, default router and MTU size are enters as shown in the fields below.

| | | | Enter subnet m |
|------------------|-----------------|---------------|----------------|
| Current IP: | 192.168.100.254 | 🗌 Use DHCP | |
| IP Address: | 192.168.100.254 | 255.255.255.0 | |
| Default Router: | 192.168.100.1 | MTU: 1450 | |
| Mesh IP Address: | 192.168.119.1 | • | |



Once entered, click on the "Save Config" button. The AV3000G2 must be restarted (rebooted) for the new configuration to become active.

IMPORTANT:

The AV3000G2 static or DHCP address CANNOT be on the

192.168.119 subnet!

Misc. Configurations

The "Misc. Configuration" or Miscellaneous Configuration panel is used for a variety of operations including upgrading the software, setting the time and rebooting the AV3000G2. The "DHCP Configure" and DDNS Configure" buttons are grayed out and are not used.





Port Mapping

The "Port Mapping" button is not normally used, as all AgileMesh cameras are pre-configured to be routed through the AV3000G2. The port mapping page is shown below.

| 🧏 AgileMesh | | | | | | |
|--|-------------------------------------|---|--|---|--|--|
| | | Mapping | Configurati | on | | |
| Current Mappings 152, 168, 119, 202, 60, 6200 192, 168, 119, 202, 60, 6200 192, 168, 119, 201, 730, -7300 192, 168, 119, 201, 730, -7301 192, 168, 119, 202, 7302, -7302 192, 168, 119, 202, 7303, -7303 192, 168, 119, 203, 7303, -7303 | AgileMesh Network Client Network | 192 168 1 240 Add Update Use the above fields Use the buttons abo To edit a mapping s The idea here is to r client network. When done manage | Port Port Delete to map an IP addr ve to add, update o efect the mapping in nap an IP address o ug the mappings the | Valid samps is 192 163 119 200 to 192 ess on the AgileMesh network to the or delete a mapping the list on the left and edit the address and port on the AgileMesh network b n save the mappings with the button be Help | your client network es above o a port number on the low Reset Commit Changes | |
| Man Page | | | | | Page Version 1.4 | |

Upgrade AVR

This button is used to upgrade the software on the AV3000G2 (AgileMesh Video Router). The upgrade procedure is described in detail in the "Software Upgrade Procedure" section.

| | | 🧏 AgileMesh | |
|-----------------|--------------------------|-----------------------------|------------------|
| | | Video Router Upgrade Upload | |
| Upgrade File: | Choose File No Ne chosen | 871 | |
| Ourrent Version | Release Version: 8.6 | | |
| | | Halp | Upload File |
| Main Page | | | Page Vention 1.2 |



Manage Config

When clicked, this button displays the history of AV3000G2 configurations. An example is screen shot is shown below. This function is rarely used.

| | The second se | | | | | | | |
|--------------------|---|-----------------|---|----------|--|--|--|--|
| Configuration File | Chapse File No file chosen | | Upload Cig | <i>w</i> | | | | |
| | 10-10: Any ensuing compo | ration me or un | e same name on the Agnetatesa whee stones who ce overwise | 50. | | | | |
| | List of configuration files existing on the Agile Mesh Video Router. | | | | | | | |
| | File Name | Size (bytes) | Date | | | | | |
| | AVRCFG-20100908.tgg | 10182 | July 30 2015 82:34:57 | | | | | |
| | AVRCFG-20101029 tgs | 10164 | July 30 2015 02 34:57 | | | | | |
| | AVRCFG-20101210 tgr | 10203 | July 30 2015 02:34:57 | | | | | |
| | AVRCFG-20110217.tgz | 10128 | July 30 2015 02:34:57 | | | | | |
| | AVRCFG-20110321.tgs | 10132 | July 30 2015 02:34:57 | | | | | |
| | AVRCFG-20110322.tgz | 10132 | July 30 2015 02:34:57 | | | | | |
| | AVRCFG-20110323.tgr | 10144 | July 30 2015 02:34:57 | | | | | |
| | AVRCFG-20110325.tgt | 10144 | July 30 2015 02:34:57 | | | | | |
| | AVRCFG-20110524 tgr | 10144 | July 30 2015 02:34:57 | | | | | |
| | AVRCFG-20120621.tgg | 10137 | July 30 2015 02 34 57 | | | | | |
| | AVRCFG-20120913.tgg | 10143 | July 30 2015 02:34:57 | | | | | |
| | AVRCFG-20120918.tgs | 10174 | July 30 2015 02:34:57 | | | | | |
| | AVRCFG-20121026.tgz | 10130 | July 30 2015 02:34:57 | | | | | |
| | AVRCFG-20130703.tgg | 10239 | July 30 2015 02:34:57 | | | | | |
| | AVRCFG-20151223 tgz | 10140 | December 23 2015 19:47:30 - Current Configuration | | | | | |

Passwords

The "Passwords" button allows changes to the "guest" and "agilemesh" passwords. This function is

| rarely used. | Manage Passwords | | | | | |
|--------------|---|------------------------------|--|--------------------------|--|--|
| | Main Video Page Login Main Video Page Password Retyped Password | guest | This login allows access to the main video thumbnail web page. If password is black then password is unchanged | | | |
| | AVE Administrator Login AVE Administrator Paseword Retyped Paseword | agilemesh Update Cancel | This login allows access to the main video thumbnail web page and the AVR administrato If password is blank then password is unchanged Reset | r web page. | | |
| | Main Page | | | Help Page Version I.2 | | |



Remote Cameras

The remote cameras button allows the remote monitoring of an AgileMesh node's voltage to be monitored if the node is connected via a cellular connection. The configuration screen is shown below.

| | Remote Camera Configuration | | | | | | |
|------|-----------------------------|----------------|-------------|---|------------|----------|---------------|
| Num | Enable | Remote IP Addr | Description | | Video Port | Time Out | Clear |
| 1 | -10 | 12.202.33.138 | Frant room | | 7201 | 15000 | Clear |
| 2 | 100 | 12.202.33.138 | Front room | | 7001 | 10000 | Clear |
| 3 | 0 | | | | 1 | | Clear |
| 4 | in . | | | | | | Clear |
| 5 | 13 | | | | | | Clear |
| 6 | I | | | | | | Clear |
| 1 | 10 | | | | | | Clear |
| 8 | 10 | | | | | | Clear |
| 9 | 10 | | | 1 | | | Clear |
| 10 | -10 | | | | | | Clear |
| | | | | | | Help 5 | are Setting |
| Main | Page | | | | | P | igo Version I |

The static IP address of the cellupar modem connecting a remore camera is entered in the "Remote IP Addr" field. The video port is entered in the "Video Port" field. A timout out in miliseconds is enteded in the "timeout" field.



UDP Cameras

This button allow non-AgileMesh UDP cameras to be routed throught the AV3000G2. This feature is rarely used as AgileMesh UDP video is pre configured. A screenshot of the entry screen is shown below. Up to 10 non-AgileMesh cameras can be added.

| | | | | UDP Camera C | onfiguration | | |
|-----|--------|----------|----------|--------------|--------------|---------------|--|
| Num | Enable | Node | Camera | Description | Camera Port | Firewall Port | |
| 1 | 3 | Node 2 🔻 | Can 1 * | | 10055 | 10355 | |
| 2 | G . | Nada O 🔻 | Can 1 • | | 10049 | 10349 | |
| 3 | (G) | Node O 🔹 | Can 1 • | | 10049 | 10349 | |
| 4 | - | Node 0 🔻 | Carn 1 • | | 10049 | 10345 | |
| 5 | - 52 | Node 0 🔻 | Can 1 * | | 10049 | 10349 | |
| 6 | G | Noda O 🔻 | Can 1 • | | 10049 | 10349 | |
| 7 | (G) | Node O 🔹 | Can 1 • | | 10049 | 10349 | |
| 8 | - 12 | Node 0 🔻 | Cam 1 • | | 10049 | 10345 | |
| 9 | - 52 | Node O 🔻 | Can 1 * | | 10049 | 10349 | |
| 10 | G- | Note 0 🔻 | Can 1 • | | 10049 | 10349 | |

Date and Time

This button sets the date and time from the PC to which it is conneted. A screenshot of the entry screen is shown below.

| | | | | | 📌 Ag | ileMesh |
|--------|-------------------------|-----------|-------------|---------------|-------------------|---|
| | | | | 5 | Date & Tin | ne Configuration |
| | Dec | embe | r 23, 2 | 015, 16 | :41 | Date and Time on AgileMesh Video Router |
| Month | December • | Day | 23 🔻 | Year: | 2015 • | Current date on this computer. |
| Hour | 16 • | Minute | 46 * | Second | 36 • | Current time on this computer. |
| Use th | e browser's Relo | ad or Ref | iresh' butt | on to get thi | computer's curren | it time Help Ratiosh Set Data/Time |
| MainP | age | | | | | Page Venion 1 |



Video Multiplexor

This button is used for the sole purpose of setting the maximum mumber of replicated video streams are allowerd by the AV3000G2 ("Max Connections"). The default is 5 replicated streams to 5 different viewers. The maximum is 10 streams. A screenshot of the entry screen is shown below.

| | | 🧏 Ag | gileM | esh | | | |
|-----------------|----------------------|-----------------------------|-----------------|--------|---------|-------------|------------------|
| | | Multiple | xer Configu | ration | | | |
| | 🖉 Enable Multiplexer | Enable the video multiplear | er at startup | | | | |
| Max Connections | 0 | Max connections per came | ra. Ip Start | Stop | Restart | View Status | Save Setting |
| Main Page | | | | | | | Page Version 1.1 |

Shutdown AVR

This button is used to shutdown the AV3000G2 (AgileMesh Video Router). The following screen will appear and requires clicking the "OK" button to shutdown the AV3000G2.

| The page at 192.168.1.240 | says: | × |
|--|--------------------|------------|
| Halting the AgileMesh Video Router connection. Continue? | will cause all use | rs to lose |
| (| ОК | Cancel |

Reboot AVR

Clicking this button reboots the AV3000G2 (AgileMesh Video Router). The following screen will appear and requires clicking the "OK" button to reboot the AV3000G2.





Factory Defaults

Clicking this button returns all AV3000G2 setting to factory defaults. The following screen will appear and requires clicking the "OK" button to reboot the AV3000G2.

| The page at 192.168.1.240 says: | | | | | |
|---|----|--|--|--|--|
| WARNING!! Resetting to factory defaults will lose all your changes. Continue? | | | | | |
| Prevent this page from creating additional dialogs. | | | | | |
| | 1 | | | | |
| OK Cancel |], | | | | |



Software Upgrade Procedure

The AV3000G2's software is upgraded from a PC that is connected to either the MESH or LAN Ethernet interfaces. Login to the AV3000G2 by browsing (IE, Chrome, Firefox, etc.) to the default mesh address (192.168.119.1) on the MESH Ethernet interface or from the static IP address on the LAN Ethernet interface. Use the AgileMesh application "AVR Discover" to determine the previously defined static IP address or find the address on the LCD display for AV3000G2 units inside and RCU. The administrative User ID and Password are both "agilemesh". This will display the AV3000G2 home page. From the same browser, add "/admin" to the IP address (example 192.168.119.1/admin) to display the administration pages as shown below.

| | 🧏 Agi | leMesh | | |
|---|---|---|---|---|
| Ancarrage Configuration Caroline International District District Termson International District District Termson International District Preventer District Termson District Termson District Termson District Termson | CasaFile Agliobiob Hatt MAC Etc Ingles Passeranti Acti Logics Acta Degles Acta | Systematic at the lat. Sol that it is a later of neuroflations of a later of neuroflations of a later of neuroflations of a later of neuroflations of the a later patient constructions of the a later constructions of the a later constructions of the a later a | AmCanoPing Configuration Therative presented for Anti-AmPings Methods Additional Additional Consultance, (other C) The reserve and the second | 71/ |
| Interface Configuration Current IF: 100 KET 305 IF The DECE IF Actives: 2017 F IF Actives: 2017 IF THE IF | UII CF Conform U236 Conform For Watery Topole 419 Manage Confo | Passen Ponte Car USP Care | Misc. Configurations | Date / Two Vision Half-please Sheltown RVR Ration KVR Factory Default Systems Reference (westion: 2010 |
| DHCP Configure Pas DDNS Configure Remote Port Mapping UDP U Upgrade AVR Manage Config | Misc. Co swords e Cameras Cameras | nfigurations | Dati Video Shuto Reb Factor | e / Time Multiplexer Iown AVR oot AVR ry Defaults |

Scroll down the administration page to the lower right panel and click on "Upgrade AVR". "AVR" is the "AgileMesh Video Router" also known as the AV3000G2. This will bring up the "Video Router Upgrade Upload" screen a shown below.



| | | 🧏 AgileMesh | | |
|-----------------|----------------------------|-----------------------------|------|------------------|
| | | Video Router Upgrade Upload | | |
| Upgrade File | Choose File No file chosen | | | |
| Current Version | Release Version: 8.4 | | | |
| | | | Halp | Upload File |
| Main Page | | | | Page Vention 1.2 |

The screen shot above indicates that the current S/W version of the AV3000G2 is 8.4. An upgrade for this version of the AV3000G2 will require software version 8.5 or higher (and not 7.XX S/W). If the current version was 7.XX, then 7.XY software will be required for the upgrade. See "AV3000G2 Hardware Platforms" section for an explanation of AV3000G2 hardware platform differences.

All AV3000G2 upgrade software is in the form of a Zip file. Typical upgrade file names are:

AVR-7.13.zip AVR-8.6.zip

The upgrade file should not be unzipped as the AV3000G2 expects the upgrade file to be zipped. The upgrade file is available from the AgileMesh website (www/agilemesh.com \rightarrow Support \rightarrow Software) with login credential that were previously provided to AgileMesh by the customer. Once the upgrade file is available, place it in a known location on the PC to be used to upgrade the AV3000G2.

From the screen shot above, locate and click on the "Choose File" button. This will bring up a browser to select the upgrade file. Highlight the desired upgrade file and click "Open" as shown

| Diganize * New folde | ł. | |
|---|---|------------------------|
| Dennis K Smith Dektop Crebrie Condition Dektop Decurrents Music Videos Homegroup Homegroup | Name AVR-8.1.240 AVR-8.1.240 AVR-8.1.240 AVR-8.6.240 AVR-8.6.240 AVR-8.6.240 Changen.bst | tia preview available. |
| Filena | me AVR-9.6.zp | • All Fins • |

below.



The selected file "AVR-8.6.zip" is now listed on the upgrade screen as shown below. Now click on

| | 🧏 AgileMe | sh |
|------------------|------------------------|------------------|
| | Video Router Upgrade U | pload |
| Upgrade File: | Choose Fit AVR-8.6.zip | |
| Current Version: | Release Version: E.4 | Help Upload File |
| Main Page | | Page Version 1.2 |

the "Upload File" button to begin the upload of the upgrade file. The following screen will appear indicating "Upload Successful"

| | 🧏 AgileMesh | |
|-----------------------------|------------------------|--------------------|
| | Video Router Upgrading | |
| Last Uploaded : AVR-8.6.zip | Upload successful. | Help Start Upgrade |
| Main Page | | Poge Version 1.3 |

On the screen above, click on the "Start Upgrade" button. The software upgrade will start and the following screen will appear when the upgrade is successful.

| | 🧏 AgileMesh | |
|---|-------------------------|--------------------|
| | Video Router Upgrading | |
| Last Uploaded AVR-86 zp | Upgrade successful. | |
| | | Help Start Upgrade |
| Main Page Return to main page and reboot rout | er to complete upgrade. | Page Verzion 1.3 |

Click on the "Main Page" button to return to the administrative page to reboot the AV3000G2. Scroll down to the lower right corner to the "Misc. Configurations" panel and click on the "Reboot AVR" button.

| | Misc. Configuration | 5 |
|----------------|---------------------|------------------|
| DHCP Configure | Passwords | Date / Time |
| DDNS Configure | Remote Cameras | Video Multiplexe |
| Port Mapping | UDP Cameras | Shutdown AVR |
| Upgrade AVR | | Reboot AVR |
| Manage Config | | Factory Defaults |



This will start a 180 second countdown until the AV3000G2 is rebooted.



This completes the software upgrade. The new software version will be displayed in the bottom righthand corner of the administrative page as shown.

| | | | 🧏 Agi | leMesh | | |
|---|----------------------------------|---|---|--|-----------------------------------|--------------------------------|
| | AmCamPage Configuration | ř. | | | AmCamPing Configuration | an |
| Calefor Itan | water with the | | Laures. | Conternet at file be- | Thereis a grant stud for Arritan | frip. |
| dae: 10.8 | Dot the image from the consume. | | SphotAuch Hot | 102 168 119 | liteto-sets address to monthly pr | lass £1 |
| Default Tarser 30 Second Default performance Pr. Weight 100 Connects Image with its preside. Pic Height 100 Connects Image height excels. Pic Height 100 Connects Image height excels. Pic Height 100 Connects Image height excels. | | MAE ID1: | List of manufactures ID1 temperature The function of the second | | | |
| shullinge Up | tool mage Upland a known temps | | train when | (Address) | W/S login main | Terment: 4800 |
| acres Wilth: 200 | Renner Insige Vicity In prests. | | Faureart. | (admini | W/S processed | |
| errer Height 112 | Baaren Kulgo teight is pinels. | | avity Logins | host. | | |
| ohaver: 7 | Conserve beimging pair times. | | Arth Passworth | Above and a second seco | | |
| non Ditte | there per page. | 22 - C. | Tooky http: mount resultion raise public inightens: contrast incomed) mount with time inc | | | |
| | The case of the case of the case | | Time Threaded 2 Set convert three Branchild Units Bullevill Bullevill 2 without | | | |
| | | | Imagiliant Threat | 3 Snigtbot | Senaturia. Default Scottes | |
| | | | Discourt: Balayi | 10 Humber (2 | intimit intimes discourplings. | |
| | | Help Rotet Save Confg | Q | | 1002 | (Heb) Hostof (Hotel) Son Corty |
| | Interface Configuration | | | | Misc. Configurations | |
| arrest iff | HE NOT THE PARTY OF THE PARTY | | CHERICARINA | Patrick | 193 | Date Time |
| Atkent | BACF | | 0000 Darlagen | Remote 1 | Carneras | Volumi Industrijskes av |
| Huit Russel | ATTE | | Port Dagoing | 0040 | amenda: | Electrica AVR |
| under State | 182 ATM 116.4 + 1 | | Upgrade KVR | | | Habout #rR |
| | | Halp Roset Stave Corrig. | Makage Carily | | | Far My Defaults |



AVR Discover

The AVR (AgileMesh Video Router) Discover application is used to find one or more AV3000G2s on the same subnet. Double-click the AVR Discover icon to launch the application. The screen below will appear. Use the drop-down



menu to select the Ethernet interface of choice. The screen below has 192.168.1.239 as the only

| 🛪 AVR Discover | |
|---------------------------|--------------|
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | M |
| Scan For AVRs Interfaces: | 24 💌 🗶 Close |
| 192.168.1.239 | |

interface found by AVR Discover. Click on this interface. Click on the "Scan for AVRs" button to display the following screen.

| AV3000G2 | AVR Discover | | | | | | |
|-------------|--|---|--|---|---|--|--|
| H/W Version | Broadcasti | ng on address ress: 192.168 | AV3000G2 IP addres | 55 | | | |
| (| Name | Vendor | MAC Address | Voltage | | | |
| | Node - 1 Node - 20 Node - 21 Node - 23 Node - 25 Node - 26 Node - 27 | AgileMeshG2 AgileMeshG2 AgileMeshG2 AgileMeshG2 AgileMeshG2 AgileMeshG2 AgileMeshG2 | 192.168.119.11 192.168.119.30 192.168.119.31 192.168.119.33 192.168.119.35 192.168.119.36 192.168.119.37 | 80:91:c0:00:00:41 80:91:c0:00:00:07 80:91:c0:00:01:b2 80:91:c0:00:02:1e 80:91:c0:00:02:20 80:91:c0:00:00:e3 80:91:c0:00:02:2b | 13.479v 12.209v 13.647v 13.643v 13.548v 13.613v 13.337v | | |
| | Scan For AVI | Rs Interfaces: | AV3000G2 ▼ | Close | | | |



The first line in the AVR Discover window is the IP address of the broadcast packet that is sent on the selected subnet. If an AV3000G2 is located, the address is displayed. In the example above the AV3000G2 was located at 192.168.1.253. This is the address that will be used in the AgileMesh Viewer for all nodes viewed through the AV3000G2. The next line shows the hardware version of the AV3000G2's platform. In this case it is G2. (This is not to be confused with AgileMesh G2 nodes.) If the AV3000G2 has active AgileMesh nodes, a list of these nodes is displayed. In this example, seven nodes were discovered. The node name, Vendor, IP address, MAC address and node voltage is displayed.



AV3000G2 Hardware Platforms

G2 platform as displayed by AVR Discover

The AgileMesh AV3000G2 software has been ported to two hardware platforms. The original G2 platform has the software loaded on an 8 GB Compact Flash module. The photo below is the first AV3000G2 platform as a stand-alone network appliance.



The two Ethernet NICs are on the rear of the unit. The Compact Flash module is shown installed above. This is a single core processor platform. The rear view of this platform is shown below.



This version or the internal board set can be placed inside the Remote Control Unit (RCU) of the Command Vehicle Kit.

An LCD display is added to an RCU with an embedded AV3000G2. The time of day, the

| 1 | | | |
|---|-----------|-----|-------------------|
| 3 | | 500 | Charter Agriemesh |
| U | AV3310-PS | | |

AV3000G2's IP address, number of cameras discovered as well as the S/W version is shown on the



LCD display.

This is AV3000G2 hardware platform version **G2** as displayed by AVR Discover. Software for this version of hardware is 7.XX where the 7 is constant and the revision is XX. When the software for either of these platforms is upgraded, the software version must be 7.XX.

G3 platform as displayed by AVR Discover

The second hardware platform has a multi core processor and an mSATA or SATA disk (solid-state disk). The photo below is the second AV3000G2 platform as a stand-alone network appliance.



The two Ethernet NICs are on the rear of the unit. The rear view of this platform is shown below.



This version's internal board set can be placed inside the Remote Control Unit (RCU) of the Command Vehicle Kit.



AV3000G2

An LCD display is added to an RCU with an embedded AV3000G2. The time of day, the



AV3000G2's IP address, number of cameras discovered as well as the S/W version is shown on the LCD display.

This is AV3000G2 hardware platform version **G3** as displayed by AVR Discover. Software for this version of hardware is 8.XX where the 8 is constant and the revision is XX. When the software for either of these platforms is upgraded, the software version must be 8.XX.



Appendix 1 – AV3000G2 Port Numbers

The table below lists the node number and the corresponding port numbers for video that is viewer on the LAN side of the AV3000G2. The IP address assigned to the AV3000G2 as a static IP (preferred) or an IP address from a DHCP server will be the same for all nodes in the mesh. The port numbers for the Codec 1 & Codec 2 are also listed and change with the node number.

To calculate the video codec1 use the following formula: To calculate the video codec 2 use the following formula: 9000 + the Node number 9200 + the Node number

| | | Video 1 | Video 2 |
|--------|----------------------|---------|---------|
| Node # | LAN Address | Codec | Codec |
| 0 | AV3000G2 LAN Address | 9000 | 9200 |
| 1 | AV3000G2 LAN Address | 9001 | 9201 |
| 2 | AV3000G2 LAN Address | 9002 | 9202 |
| 3 | AV3000G2 LAN Address | 9003 | 9203 |
| 4 | AV3000G2 LAN Address | 9004 | 9204 |
| 5 | AV3000G2 LAN Address | 9005 | 9205 |
| 6 | AV3000G2 LAN Address | 9006 | 9206 |
| 7 | AV3000G2 LAN Address | 9007 | 9207 |
| 8 | AV3000G2 LAN Address | 9008 | 9208 |
| 9 | AV3000G2 LAN Address | 9009 | 9209 |
| 10 | AV3000G2 LAN Address | 9010 | 9210 |
| 11 | AV3000G2 LAN Address | 9011 | 9211 |
| 12 | AV3000G2 LAN Address | 9012 | 9212 |
| 13 | AV3000G2 LAN Address | 9013 | 9213 |
| 14 | AV3000G2 LAN Address | 9014 | 9214 |
| 15 | AV3000G2 LAN Address | 9015 | 9215 |
| 16 | AV3000G2 LAN Address | 9016 | 9216 |
| 17 | AV3000G2 LAN Address | 9017 | 9217 |
| 18 | AV3000G2 LAN Address | 9018 | 9218 |
| 19 | AV3000G2 LAN Address | 9019 | 9219 |
| 20 | AV3000G2 LAN Address | 9020 | 9220 |
| 21 | AV3000G2 LAN Address | 9021 | 9221 |

| | | Video 1 | Video 2 |
|--------|----------------------|---------|---------|
| Node # | LAN Address | Codec | Codec |
| 22 | AV3000G2 LAN Address | 9022 | 9222 |
| 23 | AV3000G2 LAN Address | 9023 | 9223 |
| 24 | AV3000G2 LAN Address | 9024 | 9224 |
| 25 | AV3000G2 LAN Address | 9025 | 9225 |
| 26 | AV3000G2 LAN Address | 9026 | 9226 |
| 27 | AV3000G2 LAN Address | 9027 | 9227 |
| 28 | AV3000G2 LAN Address | 9028 | 9228 |
| 29 | AV3000G2 LAN Address | 9029 | 9229 |
| 30 | AV3000G2 LAN Address | 9030 | 9230 |
| 31 | AV3000G2 LAN Address | 9031 | 9231 |
| 32 | AV3000G2 LAN Address | 9032 | 9232 |
| 33 | AV3000G2 LAN Address | 9033 | 9233 |
| 34 | AV3000G2 LAN Address | 9034 | 9234 |
| 35 | AV3000G2 LAN Address | 9035 | 9235 |
| 36 | AV3000G2 LAN Address | 9036 | 9236 |
| 37 | AV3000G2 LAN Address | 9037 | 9237 |
| 38 | AV3000G2 LAN Address | 9038 | 9238 |
| 39 | AV3000G2 LAN Address | 9039 | 9239 |
| 40 | AV3000G2 LAN Address | 9040 | 9240 |
| 41 | AV3000G2 LAN Address | 9041 | 9241 |
| 42 | AV3000G2 LAN Address | 9042 | 9242 |
| 43 | AV3000G2 LAN Address | 9043 | 9243 |
| 44 | AV3000G2 LAN Address | 9044 | 9244 |
| 45 | AV3000G2 LAN Address | 9045 | 9245 |
| 46 | AV3000G2 LAN Address | 9046 | 9246 |
| 47 | AV3000G2 LAN Address | 9047 | 9247 |
| 48 | AV3000G2 LAN Address | 9048 | 9248 |
| 49 | AV3000G2 LAN Address | 9049 | 9249 |
| 50 | AV3000G2 LAN Address | 9050 | 9250 |
| 51 | AV3000G2 LAN Address | 9051 | 9251 |
| 52 | AV3000G2 LAN Address | 9052 | 9252 |

| | | Video 1 | Video 2 |
|--------|----------------------|---------|---------|
| Node # | LAN Address | Codec | Codec |
| 53 | AV3000G2 LAN Address | 9053 | 9253 |
| 54 | AV3000G2 LAN Address | 9054 | 9254 |
| 55 | AV3000G2 LAN Address | 9055 | 9255 |
| 56 | AV3000G2 LAN Address | 9056 | 9256 |
| 57 | AV3000G2 LAN Address | 9057 | 9257 |
| 58 | AV3000G2 LAN Address | 9058 | 9258 |
| 59 | AV3000G2 LAN Address | 9059 | 9259 |
| 60 | AV3000G2 LAN Address | 9060 | 9260 |
| 61 | AV3000G2 LAN Address | 9061 | 9261 |
| 62 | AV3000G2 LAN Address | 9062 | 9262 |
| 63 | AV3000G2 LAN Address | 9063 | 9263 |
| 64 | AV3000G2 LAN Address | 9064 | 9264 |
| 65 | AV3000G2 LAN Address | 9065 | 9265 |
| 66 | AV3000G2 LAN Address | 9066 | 9266 |
| 67 | AV3000G2 LAN Address | 9067 | 9267 |
| 68 | AV3000G2 LAN Address | 9068 | 9268 |
| 69 | AV3000G2 LAN Address | 9069 | 9269 |
| 70 | AV3000G2 LAN Address | 9070 | 9270 |
| 71 | AV3000G2 LAN Address | 9071 | 9271 |
| 72 | AV3000G2 LAN Address | 9072 | 9272 |
| 73 | AV3000G2 LAN Address | 9073 | 9273 |
| 74 | AV3000G2 LAN Address | 9074 | 9274 |
| 75 | AV3000G2 LAN Address | 9075 | 9275 |
| 76 | AV3000G2 LAN Address | 9076 | 9276 |
| 77 | AV3000G2 LAN Address | 9077 | 9277 |
| 78 | AV3000G2 LAN Address | 9078 | 9278 |
| 79 | AV3000G2 LAN Address | 9079 | 9279 |
| 80 | AV3000G2 LAN Address | 9080 | 9280 |
| 81 | AV3000G2 LAN Address | 9081 | 9281 |
| 82 | AV3000G2 LAN Address | 9082 | 9282 |
| 83 | AV3000G2 LAN Address | 9083 | 9283 |

| | | Video 1 | Video 2 |
|--------|----------------------|---------|---------|
| Node # | LAN Address | Codec | Codec |
| 84 | AV3000G2 LAN Address | 9084 | 9284 |
| 85 | AV3000G2 LAN Address | 9085 | 9285 |
| 86 | AV3000G2 LAN Address | 9086 | 9286 |
| 87 | AV3000G2 LAN Address | 9087 | 9287 |
| 88 | AV3000G2 LAN Address | 9088 | 9288 |
| 89 | AV3000G2 LAN Address | 9089 | 9289 |
| 90 | AV3000G2 LAN Address | 9090 | 9290 |
| 91 | AV3000G2 LAN Address | 9091 | 9291 |
| 92 | AV3000G2 LAN Address | 9092 | 9292 |
| 93 | AV3000G2 LAN Address | 9093 | 9293 |
| 94 | AV3000G2 LAN Address | 9094 | 9294 |
| 95 | AV3000G2 LAN Address | 9095 | 9295 |
| 96 | AV3000G2 LAN Address | 9096 | 9296 |
| 97 | AV3000G2 LAN Address | 9097 | 9297 |
| 98 | AV3000G2 LAN Address | 9098 | 9298 |
| 99 | AV3000G2 LAN Address | 9099 | 9299 |



Appendix 2 – Troubleshooting

No video can be seen through the AV3000G2. Use the following flow chart to diagnose the problem. Troubleshooting begins with an attempt to ping the AV3000G2 from the viewing PC.





Appendix 3 – AgileMesh Node Control Application

When viewing video from the LAN Ethernet interface of the AV30000G2, the configuration of AgileMesh video assets cannot be changed directly as they are on a different subnets. If a codec on an AgileMesh node needs to be changed from H.264 to MJPEG, the web pages of the node must be accessed. The application "AgileMesh Node Control" can be used to view and change setting on AgileMesh nodes on the MESH Ethernet interface side of the AV3000G2 from the LAN Ethernet interface side.

The AgileMesh Node Control application can be downloaded from the AgileMesh website and can be utilized with AV3000G2 S/W versions 7.13 and 8.6 and above. (The application is available from the AgileMesh website (www/agilemesh.com \rightarrow Support \rightarrow Software) with login credential that were previously provided to AgileMesh by the customer.) Master installer 3.9 and above contain this application.

AgileMesh Node Control application installer is named "nodectrl-1_X_setup.exe". Double-click on the executable to install the desktop icon. Once installed, double-click on the icon to launch the AgileMesh Node Control application. This application can be run from the viewing PC or another PC on the LAN side.



| Agile | eMesh |
|---|-------|
| gleffesh develops wireless video survellance solutions, Learn more at the Aphibitish Products page. | |
| lage blu | |
| then advant | |
| Test anno | |
| Terrard (b | |
| | |
| adde-b III C | |
| nore-s of mode-1 | |
| 10de-1 19 | |
| #cda=6 ## (0 | |
| njao-3 | |
| sode-é | |
| 1248-7 | |
| 1030-8 | |
| 8009-8 | |
| 8029-10 8x4a-11 | |
| Ecitar UP | |
| sode-til | |
| 8040-14 | |
| 10de-12 | |
| Bode-1# | |
| rodo-17 | |
| Node-18 | |
| 80de-18 | |
| Robe-Ji | |
| BODD-JL | |
| nore as | |
| mode-14 | |
| Node-23 | |
| node-16 | |
| Rode-27 - Adver | 54 |

Nodes that are active have "UP" beside the node number. By double-clicking "Node 0", the



following screen will appear.

| Strend Street Committee | | A CONTRACT OF | And Designed | | |
|-------------------------|-------------------------------|-------------------------------------|--------------------------------------|---------------------------------------|--|
| | | | | AgileMesh | |
| e that, developed and | alara alalara taraalihara ada | tion Lean part of the | Industrial Designation | Sitemesti | |
| -bris | internet area | Landon Antonia Batel | | | |
| admini | Mate scholp . west | scould occur and | | | |
| | Nedr 0 | | | Internal | |
| | | Codec 1 | Codec 2 | Codes | |
| -0 in [1 | Port Number : | 7000 | 7200 | 2900 | |
| 1-1 RF 1-1 | Video Source : | # Conera 1 | I) Camera 1 | # Carren 1. | |
| -3 19 | | COMMENT. | a career. | Laters | |
| et ma | Encoder Type : | ID MIREG | # M(REG | 9,394 | |
| 6-6 L-T | | IR-11254 | III H.264 | | |
| 8+8 | Resolution : | 12-646x480 (VGA) | # 840x480 (VGA) | # \$40x480 (VGA) | |
| 8-9 8-18 | | # 329/240 (59) (0.168/080 (0.97) | 11 3204240 (SF) 17 3804180 (2537) | (1) 1206242-557 (1) 2606187 (2587) | |
| 8-13 8-12 | Frame Rate : | 3.00 + | 361 +1 | 1244 41 | |
| 8-13 8-14 | Bit Rate (h.264) : | 30000 3000 | Autors (Base) | LINEXCE (TELETY | |
| -30 | (Max) > | 1000000 | 1000000 | 1000000 | |
| 1-16 1-17 | | | Jame 1 | | |
| 1-18 | | | | | |
| 1-39 1-20 | | | | | |
| -43 | | | | | |
| 4-53 | | | | | |
| 1-24 | | | | | |
| -45 | Note # 11 | | | | |
| r17 | Artich | | | | |

The setting on the node selected can be changed from this screen.



Appendix 4 – AgileMesh AV3000 Status Application

AgileMesh Support personnel use the AgileMesh AV3000 Status application to "look inside" the AV3000G2 to trouble shoot a possible problem. Double-clicking on the icon launches this application. Once launched, the application displays information about the AG3000G2's IP addresses, the nodes it can "see", process started to "listen" for node video as well as solid-state disk utilization.



The AgileMesh AV3000 Status application can be downloaded from the AgileMesh website and can be utilized with AV3000G2 S/W versions 7.13 and 8.6 and above. (The application is available from the AgileMesh website (www/agilemesh.com \rightarrow Support \rightarrow Software) with login credential that were previously provided to AgileMesh by the customer.) Master installer 3.9 and above contain this application.

This configuration can be saved by clicking on the "Save" button at the bottom of the page. This saves configuration can be e-mail to AgileMesh support personnel.

The screen shot below is a typical status of an AV3000G2. The IP addresses of the LAN and MESH Ethernet interfaces are listed at the top of the page. A list of auto discovered nodes is displayed next.

Several processes critical to the operation of the AV3000G2 are listed next. There should be tow "listening" ports fro each node that was auto discovered. Solid-state disk information is displayed at the bottom of the page.

See a screen shot of the AgileMesh AV3000 Status application on the next page.



AV3000G2

| Scanning for AV3000 (| levice. | | | | | |
|-----------------------|----------|----------|----------------|----------|------------|---|
| Getting broadcast add | iress. | | | | | |
| Frying broadcast add. | ress; 19 | 2.100.1. | .200 | | | |
| Found AV3000 at addre | ess: 192 | .168.1.2 | 240 | | | |
| Mesh Interlace: 1901 | 1 60 110 | | | | | |
| Mesn if Address; 192 | .100.115 | | | | | |
| Nodes found: | | | | | | |
| Node-0 192.3 | 168.119. | 10 | | | | |
| Node-1 192.3 | 168.119. | 11 | | | | |
| Node-3 192.3 | 168.119. | 13 | | | | |
| Node-4 192.3 | 168.119. | 14 | | | | |
| Processes: | | | | | | |
| Found process for | r | AVMM. | | | | |
| Listening for | | Node-0-1 | L ₂ | on port: | 9000 | |
| Listening for | | Node-0-2 | 2 | on port: | 9200 | |
| Listening for | | Node-1-1 | L ₂ | on port: | 9001 | |
| Listening for | | Node-1-2 | 2 | on port: | 9201 | |
| Listening for | | Node-3-1 | L: | on port: | 9003 | |
| Listening for | | Node-3-2 | 2 | on port: | 9203 | 2 |
| Listening for | | Node-4-1 | L. | on port: | 9004 | |
| Listening for | | Node-4-2 | 2 | on port: | 9204 | |
| Found process for | r | LCD disp | olay. | | | |
| Found process for | r | Camera d | liscover | ry. | | |
| Found process for | r | restarti | ing prog | grams. | | |
| Found process for | r | Dlisten. | | | | |
| Disk space: | | | | | | |
| Filesvstem | Size | Used | Avail | Capacity | Mounted on | |
| zroot/ROOT/default | 24G | 1.8G | 22G | 78 | 1 | |
| devfs | 1.0k | 1.0k | 0B | 100% | /dev | |
| fdescfs | 1.0k | 1.0k | 0B | 100% | /dev/fd | |
| procfs | 4.0k | 4.0k | 0B | 100% | /proc | |
| /dev/md0 | 123M | 24k | 113M | 08 | /cameras | |
| zroot/tmp | 22G | 204k | 22G | 08 | /tmp | |
| zroot/usr/home | 22G | 8.2M | 22G | 08 | /usr/home | |
| zroot/usr/ports | 23G | 807M | 22G | 38 | /usr/ports | |
| zroot/usr/src | 22G | 144k | 22G | 08 | /usr/src | |
| zroot/var | 22G | 661 | 22G | 08 | /var | |
| zroot/var/crash | 22G | 148k | 22G | 08 | /var/crash | |
| zroot/var/log | 22G | 356k | 22G | 08 | /var/log | |
| zroot/var/mail | 22G | 148k | 22G | 08 | /var/mail | |
| zroot/war/tmp | 22G | 152k | 22G | 08 | /var/tmp | |