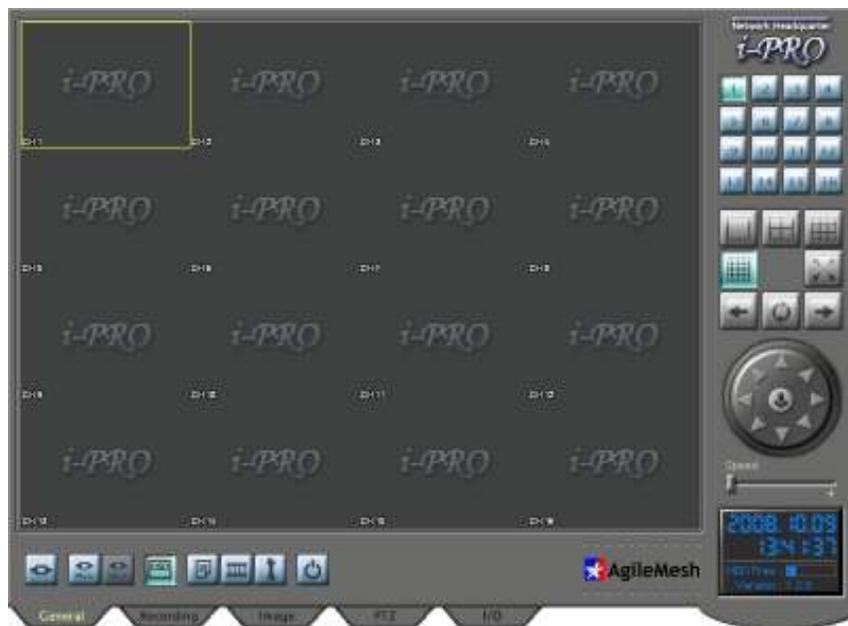




# AgileMesh™ i-Pro Viewer

## User's Guide



Version 1.2.5a

November 14, 2008

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## Introduction

i-Pro Viewer is the software that enables users to view and record the images from AgileMesh cameras at up to 16 different locations simultaneously. i-Pro Viewer also allows users the ability to control or Pan/Tilt/Zoom (PTZ) AgileMesh cameras from any computer that has the i-Pro software installed on it. Any analog camera can be connect to an AgileMesh node and can be displayed by I-Pro Viewer. A few of the features supported by I-Pro Viewer are:

- Simultaneous Multi-Channel Monitoring (1/4/9/16 camera views)
- Sequential and Full Screen Monitoring
- Snap Shot for a still image and Recording
- Playback with the i-Pro player
- Image Attributes Adjustment
- Pan/Tilt/Zoom Control

## Software Installation



Use the AgileMesh Master Installer CD or download i-Pro Viewer from the AgileMesh website (Products → Software → login. Contact AgileMesh to get a unique login and password.

Execute "i-Pro Viewer 1.2.5a Setup.exe" file to install the viewing application software.

Select your language and click "OK" button.



Click "Next >" button.



Assign the directory where I-Pro Viewer is to be installed.

To change the directory, click the "Browse..." button.

Click "Next >" button.

**Note: The default directory is recommended.**



Assign the program folder to be installed.

Click "Next >" button.

**Note: The default folder is recommended.**



Wait until the process finishes.  
To cancel it, click "Cancel" button.



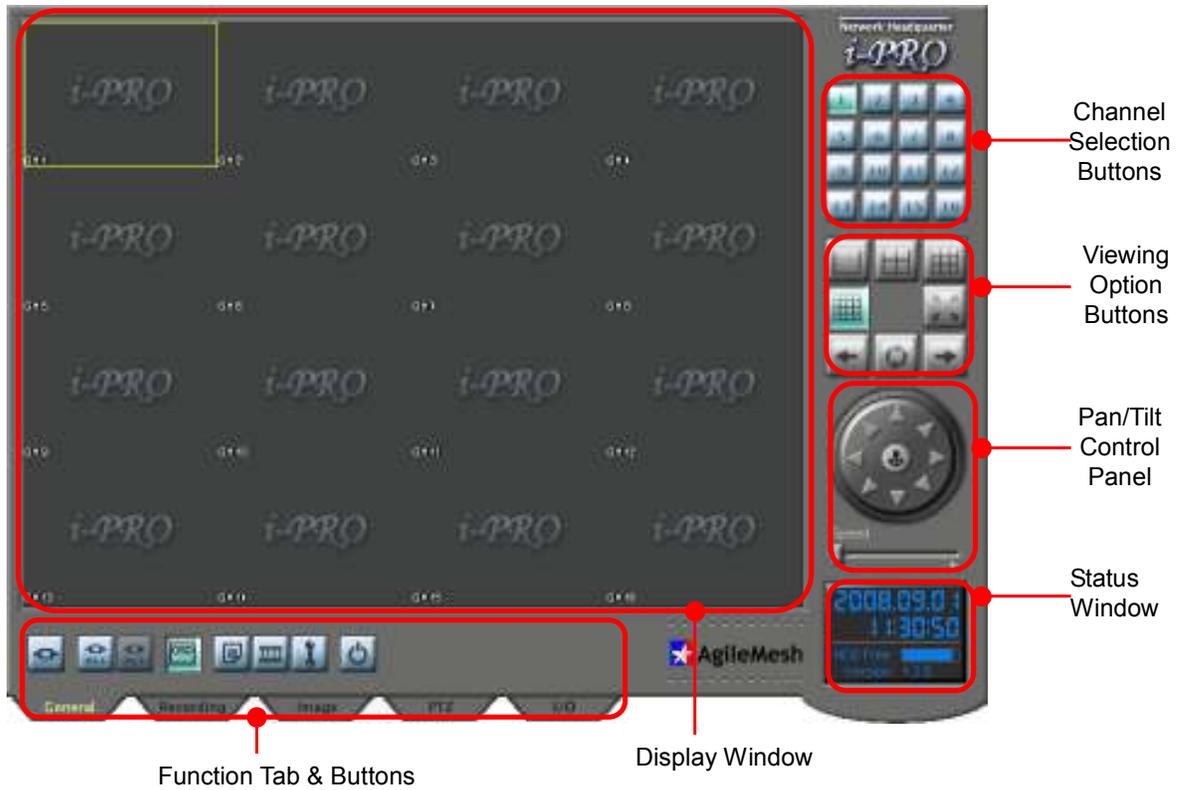
When the installation is complete, click  
"Finish" button.

i-Pro Viewer can be loaded on any number of PCs.

**Notes:**

1. The default IP address of an AgileMesh camera is 192.168.224.XXX. PCs used to view and or record using I-Pro Viewer should have their local Area Network (LAN) adapter set to an IP address in the range of 192.168.224.10 to 192.168.224.20.
2. If more than one PC is connected to the same group of cameras at the same time, each PC should have a unique IP address.

## Overview



Display Window	Shows images from cameras.
Channel Selection Buttons	Enables user to select the camera to control.
Viewing Option Buttons	Simultaneous Multi-Channel (1/4/9/16 camera view), Sequential and Full Screen Monitoring.
Pan/Tilt Control Panel	Pan/Tilt Control. (Pan/Tilt and Zoom functions are available on PTZ cameras with this button enabled)
Status Window	Shows Date & Time, Free Hard Disk Drive Space.
Function Tab & Buttons	Camera Connection, Setup, Record, Zoom Control, Image Attributes Controls

## Initial Setup

Locate and double-click the desktop icon for I-Pro Viewer to start the viewing application. i-Pro Viewer can be configured uniquely for each customer application.



The configuration will only be done once. On the “General tab” at the bottom left corner of the I-Pro Viewer frame,

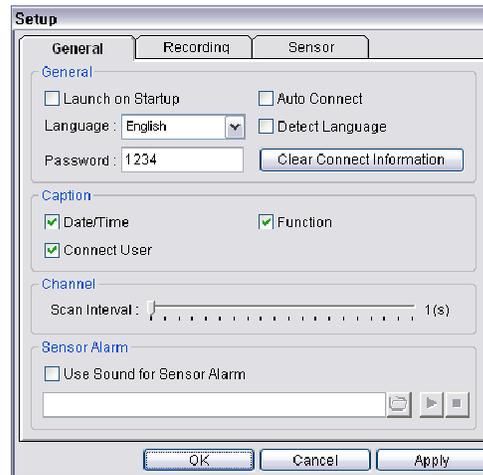
click on the button that looks like an “ON/OFF” switch. i-Pro Viewer requires a password to start and stop the application. A password entry box will appear when I-Pro Viewer starts. The default password is “1234”.



Click on the “General tab” at the bottom left corner of the I-Pro Viewer frame. Locate the button that resembles a wrench. A single click on this button will bring up the “Setup” screen and allow the configuration of I-Pro Viewer.



There are three tabs on the I-Pro Viewer Setup screen. The “General” tab, the “Recording” tab and the “Sensor” tab. The “Sensor” tab is not implemented in the release.

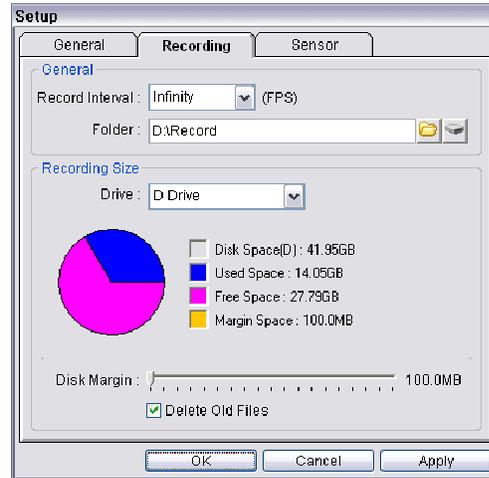


The table below describes the options that can be configured on the “General” tab.

Launch on Startup	Runs automatically when Windows starts
Auto Connect	Connects to camera automatically as soon as it starts.
Language	Language selection.
Detect Language	Detects the language version of Windows.
Password	Set or change the password
Clear Connect Information	Deletes all the previous connection information.
Caption	Selects the items to be displayed on the On Screen Display
Scan Interval	Specifies the amount of time it shows images in the Sequential Monitoring Mode (1 to 20 sec)
Use Sound for Sensor Alarm	Not Implemented

The middle tab on the on the I-Pro Viewer Setup screen is the “Recording” Tab.

The table below describes the options that can be configured on the “Recording” tab. The “Record Interval” should be set to 1 Frame Per Second (FPS) to conserve disk space.

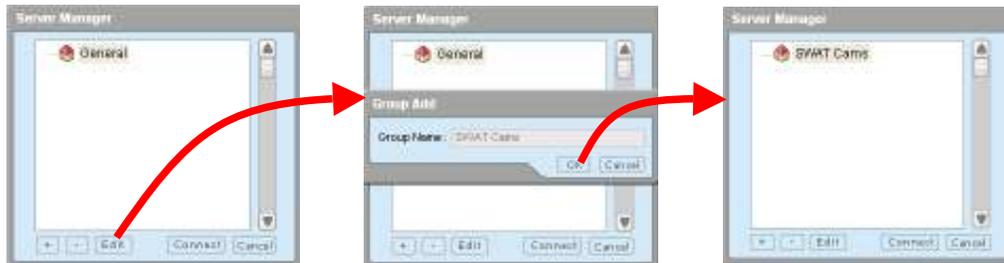


Record Interval	Frame rate to record. (FPS: Frames per Second) <b>Set to 1 FPS to save disk space.</b>
Folder	Specifies the directory to record video. More than one hard disk can be specified.
Recording Size	Shows selected Hard Disk Drive (HDD) Status. If you select multiple HDDs in the folder above, you can set up the disk margin for each HDD drive. If the recorded video file is going to reach the Margin space in a HDD drive, it will automatically switch the disk drive in alphabetic orders i.e. C: → D: → E: → etc.
Disk Margin	Specifies the HDD free space that I-Pro Viewer will not use for recording. The range is 100MB to 1GB. I-Pro Viewer will not write over any existing applications. <b>Set to 1GB.</b>
Delete Old Files	When the all disks are full, this decides whether new files overwrite the old files or not.

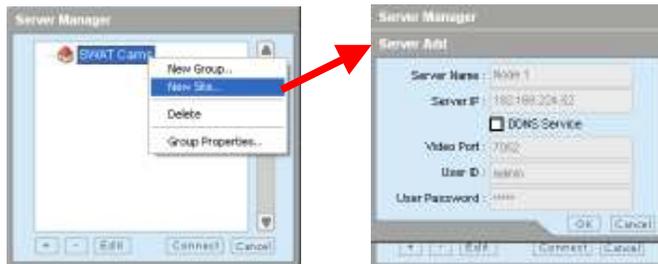
The right tab on the on the I-Pro Viewer Setup screen is the “Sensor” Tab. It is not implemented at this time.

## Adding a camera using Server Manager

Single click the “Connect” button on the “General” tab as shown. This will launch the Server Manager. A single click on “General” will select (highlight) it for editing. Click “Edit” and rename the “General” entry to something meaningful to your application. In this example, the “General” tab was changed to



“SWAT Cams”. Single-click “SWAT Cams” to highlight it. Next right click the highlighted “SWAT Cams” and select “New Site” which will bring up the “Server Add” configuration box. Select a name for the camera to enter for “Server Name”. Camera IP addresses are set by the Node knob on the front panel of the AgileMesh



equipment. In this example, the “Server Name” will be “Node 1”. The IP address for a camera connected to Node 1 is 192.168.224.52 and is entered in “Server IP”. “DDNS Service” is

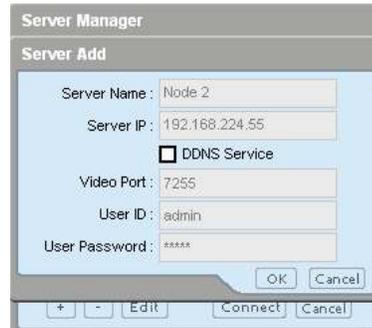
not selected. The “Video Port” is set to 7000 plus the last octet of the “Server IP” address, which is 7000 + 52 or 7052 for this example. The “User ID” and “User Password” are both “admin”. Click “OK” to save the configuration.

**Appendix 1** lists the camera IP addresses for each setting of the Node knob on AgileMesh equipment.

**Note:** For AgileMesh dual video nodes, with the Node set to Node 1, consider the “Server Name” for the first camera to be Node 1A and the second camera to be Node 1B.



Additional cameras can be added by a single-click to “SWAT Cams” (this will highlight it). Next right click the highlighted “SWAT Cams” and select “New Site” which will bring up the “Server Add” configuration box. Refer to **Appendix 1** for the camera IP addresses and video port numbers. Click “OK” to add the second camera.



**Note:**

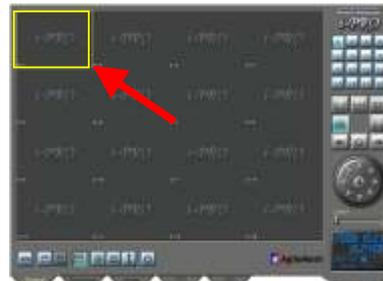
**Alphanumeric characters can be used in the Server Name (camera name), but the Server Name (camera name) must start with a letter of the alphabet.**

To view the video from ALL cameras, highlight “SWAT Cams” and click “Connect”. To view an individual camera, highlight “Node 1” and click “Connect”. An alternate method of

bringing up the video from all cameras is to click on “Connect All” to connect all cameras that have been configured and are set up.



Click on CH1 (upper left viewing location), This will select and outline with a yellow rectangle, the first viewing location. Individual cameras can be added into any viewing location selected and outlined with a yellow rectangle.



**Note: Make sure that a “Disconnect All” is clicked to shut down the video streams from all cameras before clicking on “Connect All” again.**

**Multiple clicks to “Connect All” will result in multiple copies for the same video streams presented by I-Pro**

**Viewer. Multiple copies of the same video stream could limit the AgileMesh system performance.**



## Viewing Cameras

i-Pro Viewer can present the video from 1 to 16 cameras on a display at one time. The Channel Selection and Viewing Option controls are described below. Notice that

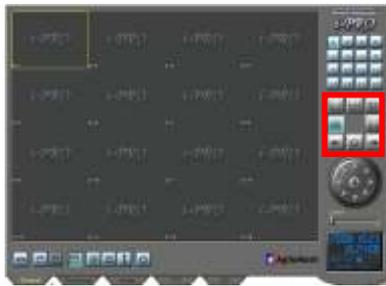


the 16 viewing locations in i-Pro Viewer are labeled “CH1” through “CH16”. Clicking on one of the Channel Selection buttons will select the camera to be controlled.

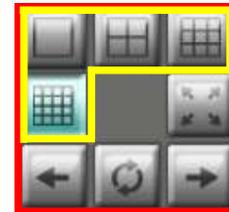


The user can also click on the viewing location directly to select a camera as well.

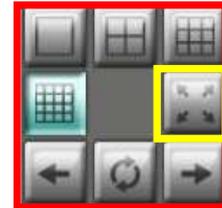
The Viewing Option Controls are used to display 1, 4, 9 or 16 cameras at a time. The 4 buttons



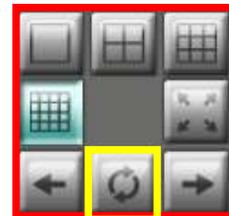
that control the number of cameras to be displayed at one time are outlined in the enlargement of the Viewing Option Controls at the right.



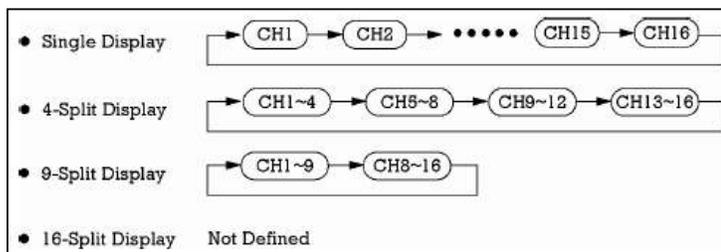
The Viewing Option Controls can also be used to go to a full screen view (without any control buttons



visible). Clicking on the button outlined at the right will cause the current view to become a full screen view without the I-Pro Viewer frame or controls. A right click on the mouse or pressing the “ESC” key will return to the previous view. The “Left Arrow” button on the Viewing Option Controls is used to move to the previous video display and the “Right arrow” is used to move to the next video display. The center button (outlined to the right) on the bottom row of the Viewing Option Controls can be used to rotate through a sequence of camera views.



The rotation sequence depends on the 1, 4, 9 or 16 camera view as shown below.



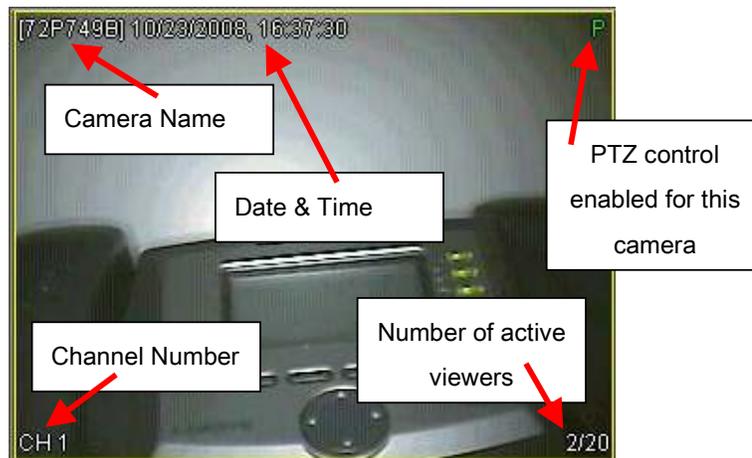
The scan interval, as described in the Initial Setup section, can be set from 1 to 20 seconds.

## On Screen Display

The OSD button on the General tab of I-Pro Viewer turns on the On Screen Display on all video displays. The video from a camera named 72P749B is displayed in the Channel



1 window as shown below. Notice that this viewing window has been selected as indicated by the yellow rectangle surrounding the frame. Also notice that PTZ controls are enabled for this camera and there are 2 active viewers connected to this camera.

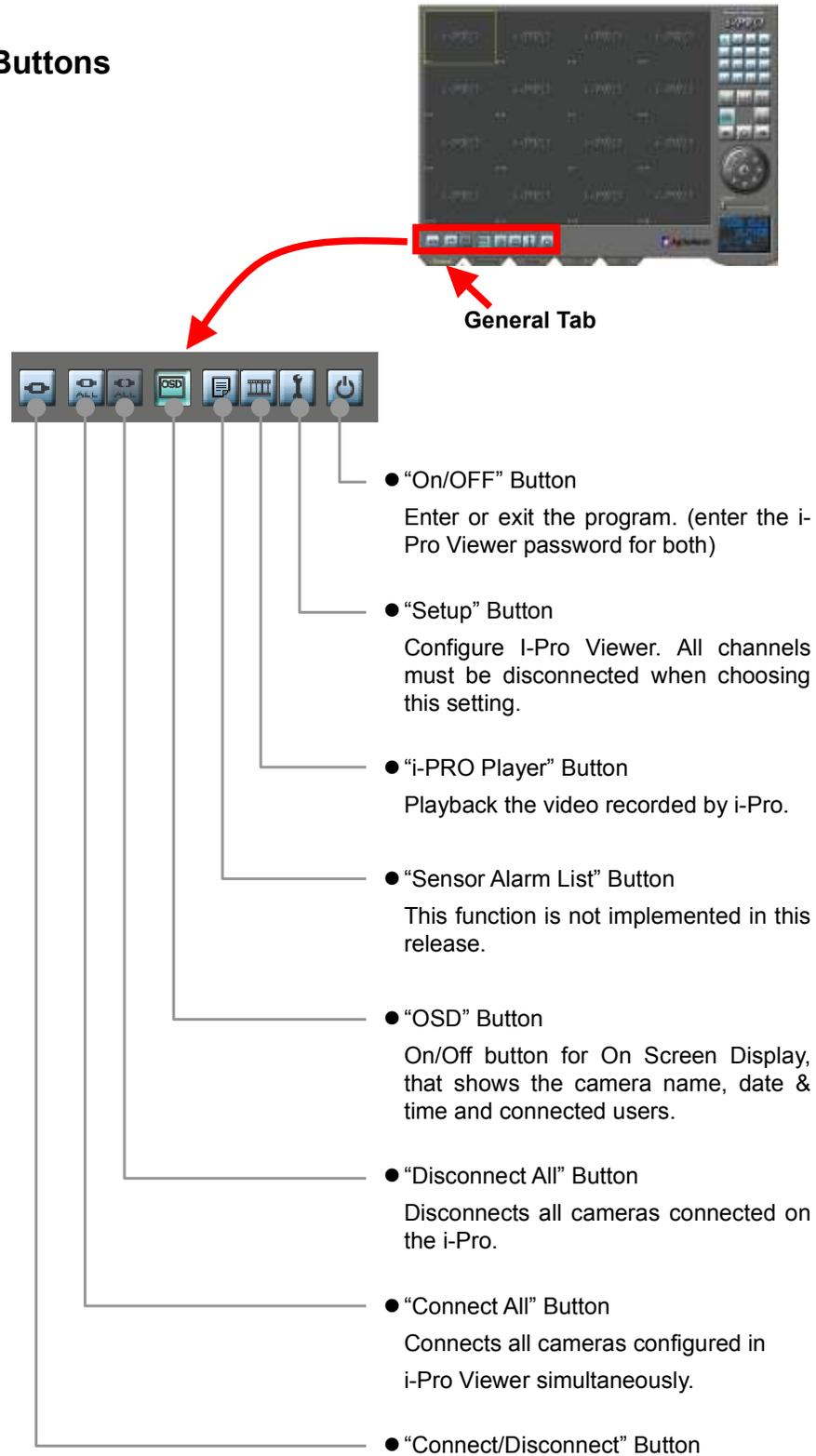


## Setting the date and time on cameras

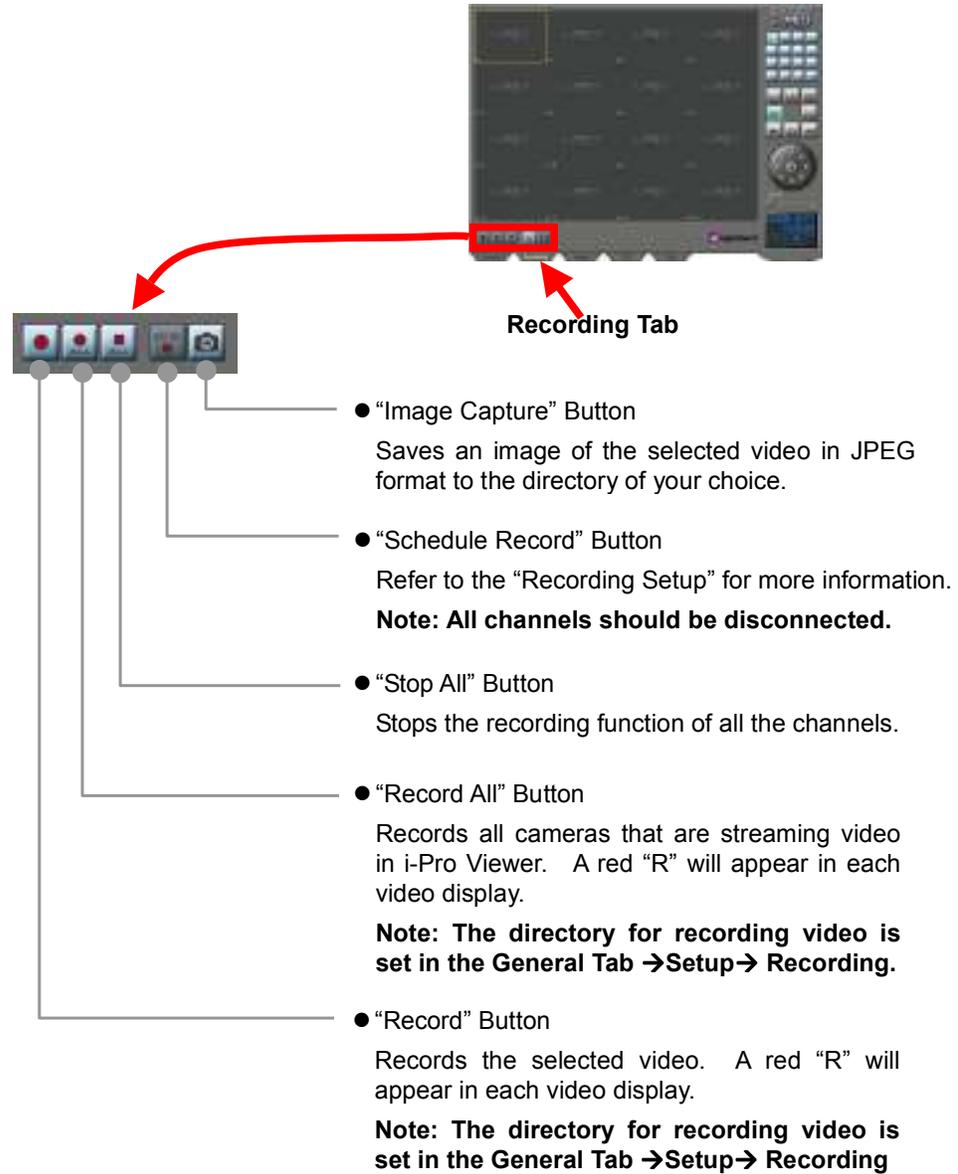
Setting the time on all cameras is very important. The date and time are used by i-Pro Viewer to generate the filename of recorded clips. Use the Agilemesh program CamUtility to set the time on all connected cameras. CamUtility can be downloaded from the AgileMesh website or installed from the Master Installation CD.



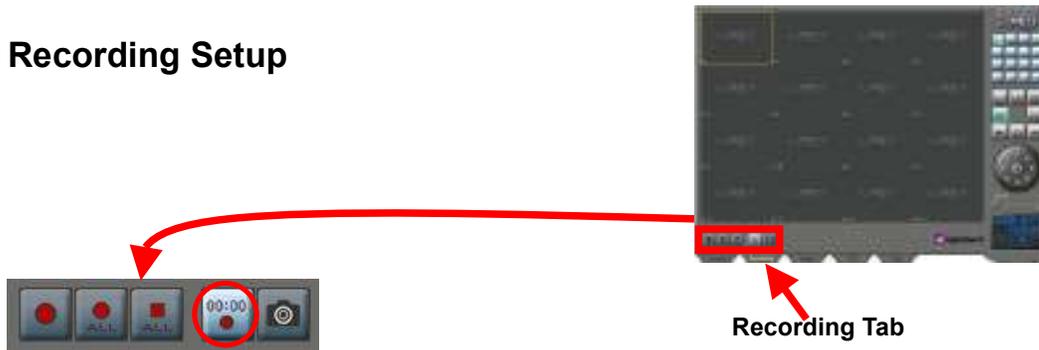
## General Tab & Buttons



## Record Tab & Buttons



## Recording Setup



Click “Schedule Recording” Button in the Recording Tab to set up the automatic schedule recording function of each channel with assigned date & time.



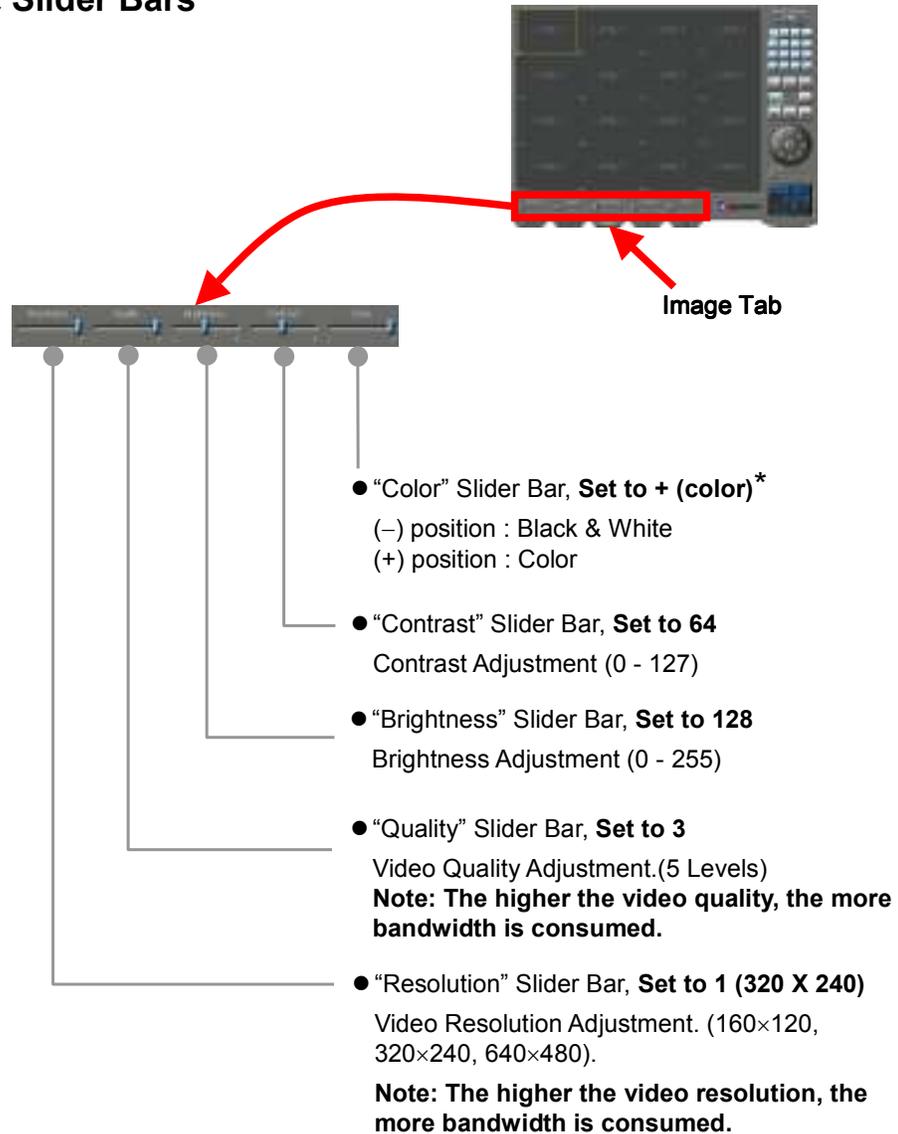
Channel	The video source to record.
Cycle	Enables a user to record video periodically by year/month/week/day.
Start Date/Time	The date & time to start recording
End Date/Time	The date & time to end recording
Add	Adds a schedule recording list.
Update	Update the schedule recording lists.
Delete	Deletes a schedule recording list.

Example) List item 1 shows that i-Pro Viewer records the images of the selected channel from 17:01 to 18:01 every day.

List item 2 shows that i-Pro Viewer records the images of the selected channel from 06:01 to 08:01 every Saturday.

No	Cycle	Start	End
1	DAY	17:01	18:01
2	WEEK	Sat06:01	Sat08:01

## Image Tab & Slider Bars



\*Some AgileMesh cameras have an IR cut filter that will go to black & white in low light conditions

### PTZ Tab & Buttons



PTZ Tab



- "Preset" List (0 – 128)  
Shows preset list.
- "Save" Button  
Sets the pan/tilt device to move to selected preset position.
- "Delete" Button  
Deletes all the previous information of the selected preset.
- "Move" Button  
Commands the pan/tilt device to move to selected preset position.



Pattern, Swing and Group functions are not presently supported



- "Digital Output" Button  
Not presently supported
- "Iris" Button  
Adjusts the Iris of camera.
- "Focus" Button  
Adjusts the Focus of camera.
- "Zoom" Button  
Adjusts the optical zoom of camera.

## Pan/Tilt Control



Pan and Tilt functions are available for Pan/Tilt control capable cameras connected to the Camera 1 or Camera 2 input on AgileMesh AV7510 or AV7520 tactical nodes. The AgileMesh nodes use RS-485 differential pair for PTZ control. The default protocol setup is Pelco-D, 2400 baud, 8 data bits, no parity and 1 stop bit. A green “P” will appear in the upper right corner of a viewing window if the node has been setup for PTZ controls.

Using the mouse, left-click the arrows to move the selected camera in the direction of the arrows. The camera will continue to move while an arrow is held down by the left mouse button and stops moving when the left mouse is released. If the cursor moves off of the arrow while the left mouse button is held down, the camera will continue to move until it reaches a mechanical stop point on the camera.

**Note: Zoom control is found on the PTZ tab of i-Pro Viewer.**

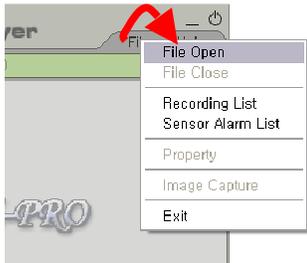
## i-Pro Player Description

i-Pro Player is launched from the General tab of I-Pro Viewer using the button with a film strip image.



Menu	“File” allows search and selection of recorded video to be viewed. “Help” menu indicates version of i-Pro Player.
Status Indicator	Shows information about the video currently being displayed such as the recorded date & time, the frame number / the total frame number. Example) 50/100 : The i-Pro Player is displaying the 50 <sup>th</sup> frame of the total 100 frames.
Playback Button	Plays the recorded video. If clicked during playback, the playback stops.
Pause Button	Pauses playback. Click again to continue with playback.
Search Slide Bar	Shows the frame number of the image currently being displayed. Move the button on the Slide Bar to search through the file.
Playback Speed	Shows the frame rate for playback in seconds per frame. Click the arrow mark to adjust its playback speed. The playback speed is 0.01seconds per frame to 1second per frame. The default playback speed is 0.05 seconds per frame or 20 frames per second.

## i-Pro Player Menu Description



From the i-Pro Player menu, select “File” → “File Open” From the “Record” directory (default directory), select the file to be displayed by selecting the Channel Number, the Camera Name, the Date (formatted YYYYMMDD). Example . \Record\Channel-1\CAM\20040621. See **Appendix 2** for AgileMesh camera naming convention. The default directory for I-Pro Viewer is **C:\Program**

**Files\Network Video Server\i-Pro Viewer\Record** when downloaded from the AgileMesh website.

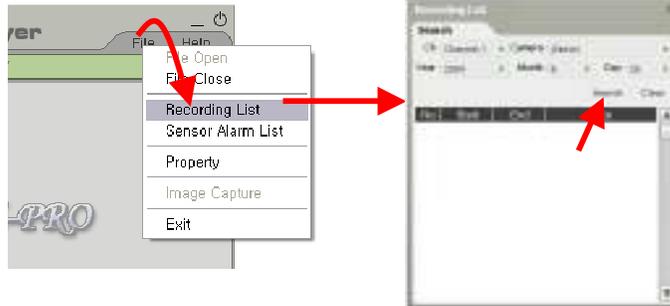
When I-Pro Viewer is loaded from the AgileMesh Installation CD, the default directory is:

**C:\PROGRAM DATA\NETWORK VIDEO SERVER\I\_PRO VIEWER\RECORD**. For Microsoft Vista compliance, the recordings should not be in the “Program Files” directory.

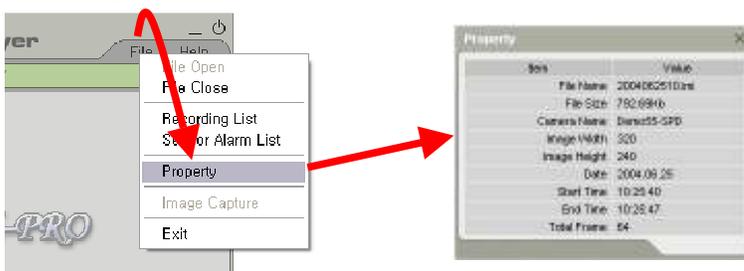
**See the “Initial Setup” section describing the “Recording” tab to set the recording location.**

There could be up to 24 files in this directory, one for each hour of the day. The format of the video files is: YYYYMMDDHH.imi where the HH is the hour ranging from 00 to 23.

Another way to find the recorded video is to select “File” → “Recording List” From the Recording List, select the channel to search (1 – 16), the camera name, Year/Month/Day. Select and click “Search”.



Information about the video file currently being displayed is available by selecting “File” → “Property”. The information includes the file name, file size, camera name, image resolution (width/height), the date, the start/end time and the total number of frames of video.



## Trouble Shooting Tips

If video from cameras connected into AgileMesh equipment cannot be viewed and or controlled by I-Pro Viewer, check the follow list of common issues and resolutions.

Symptom	Possible cause
<p><b>“Cannot find the network video server”</b> error message displayed</p>	<p>Can you ping 192.168.225.150?</p> <ul style="list-style-type: none"> <li>• If not, is the PC running I-Pro Viewer connected to powered up AgileMesh node?</li> <li>• Is the PC LAN address set to 192.168.224.XX (10 &lt;= X &lt;= 20)</li> <li>• Verify server Manager Setup <ul style="list-style-type: none"> <li>○ Is the proper IP address entered?</li> <li>○ Is the proper port entered?</li> <li>○ Is the User ID and Password correct?</li> </ul> </li> </ul>
<p><b>“No Signal”</b> displayed</p>	<ul style="list-style-type: none"> <li>• Battery voltage is too low, recharge the battery or power from AC.</li> <li>• Check the camera cable (does camera move during power-on-self-test?)</li> <li>• Make sure each AgileMesh nodes set to unique Node numbers?</li> </ul>
<p>Users connected shows 3/20 (more than the normal 1/20)</p>	<p>If only one copy of i-Pro Viewer is running and more than one (of 20) users is displayed in the lower right corner of an individual camera display window, there may be multiple copies of the video streaming to the viewer. On the General Tab, select the 16 cameras view. If some or all of the cameras are displayed more than once, click the “All Disconnect” button on the General Tab.</p>
<p>Video from an IP camera is not displayed on I-Pro Viewer</p>	<p>Only analog cameras connected to AgileMesh nodes can be displayed and controlled by I-Pro Viewer.</p>
<p>Pan/Tilt/Zoom Controls do not work on my analog camera connected to an AgileMesh node.</p>	<p>Does the analog camera have Pan/Tilt/Zoom functionality?</p> <p>Is the connection between AgileMesh node and the camera installed properly? Is the camera powered? RS-485 PTZ controls (+ and -) are required.</p> <p>Are you logged in as the Administrator (admin)?</p> <p>Is the protocol set to match the AgileMesh node. The default setup is Pelco-D, 2400 baud, 8 data bits, no parity and 1 stop bit.</p>

**Appendix 1 – AgileMesh default Camera IP Addresses**

Node #	Camera 1		Camera 2	
	IP Address	Video Port #	IP Address	Video Port #
0	192.168.224.49	7049	192.168.224.50	7050
1	192.168.224.52	7052	192.168.224.53	7053
2	192.168.224.55	7055	192.168.224.56	7056
3	192.168.224.58	7058	192.168.224.59	7059
4	192.168.224.61	7061	192.168.224.62	7062
5	192.168.224.64	7064	192.168.224.65	7065
6	192.168.224.67	7067	192.168.224.68	7068
7	192.168.224.70	7070	192.168.224.71	7071
8	192.168.224.73	7073	192.168.224.74	7074
9	192.168.224.76	7076	192.168.224.77	7077
10	192.168.224.79	7079	192.168.224.80	7080
11	192.168.224.82	7082	192.168.224.83	7083
12	192.168.224.85	7085	192.168.224.86	7086
13	192.168.224.88	7088	192.168.224.89	7089
14	192.168.224.91	7091	192.168.224.92	7092
15	192.168.224.94	7094	192.168.224.95	7095
16	192.168.224.97	7097	192.168.224.98	7098
17	192.168.224.100	7100	192.168.224.101	7101
18	192.168.224.103	7103	192.168.224.104	7104
19	192.168.224.106	7106	192.168.224.107	7107
20	192.168.224.109	7109	192.168.224.110	7110
21	192.168.224.112	7112	192.168.224.113	7113
22	192.168.224.115	7115	192.168.224.116	7116
23	192.168.224.118	7118	192.168.224.119	7119
24	192.168.224.121	7121	192.168.224.122	7122
25	192.168.224.124	7124	192.168.224.125	7125
26	192.168.224.127	7127	192.168.224.128	7128
27	192.168.224.130	7130	192.168.224.131	7131
28	192.168.224.133	7133	192.168.224.134	7134
29	192.168.224.136	7136	192.168.224.137	7137
30	192.168.224.139	7139	192.168.224.140	7140
31	192.168.224.142	7142	192.168.224.143	7143

## Appendix 2 – AgileMesh camera naming convention

**Note: the camera name must not contain a dash (“-“) and should be limited to 7 characters.**

1<sup>st</sup> character is “1” or “7” based on AV15XX (also AV12XX) or AV75XX series

2<sup>nd</sup> character is “1” or “2” based on number of video servers

3<sup>rd</sup> character is “P” or “\_” (underscore) based on Public Safety or not

4<sup>th</sup> – 6<sup>th</sup> characters are the last 3 digits of the node serial number

7<sup>th</sup> character is “A” or “B” is the camera 1 (A) or camera 2 (B)

### EXAMPLES

11\_504A is an AV1510, non-PS, serial # 0610504, camera 1

72P501A is an AV7520-PS, serial # 0670501, camera 1

72P501B is an AV7520-PS, serial # 0670501, camera 2