

# PONEMAH V5.30 WITH NOLDUS MEDIA RECORDER 4.0 QUICK START GUIDE

DSI has partnered with Noldus Information Technology, the leading solution provider for human and animal behavioral research for 25 years, to offer scientists a better video experience. By integrating the Noldus Media Recorder and DSI's Ponemah Physiology Platform, scientists now have an easy method for synchronizing physiologic data with video data.

The Noldus Media Recorder enables synchronous video recordings from **up to eight** different video sources. When integrated with Ponemah, you can command the Media Recorder to save and sync video data with the physiologic data recorded from DSI hardware and manage all your data with one application. This combined solution provides greater insights into the physiologic data to better understand your results.

*Note:* Synchronization of video data with physiologic signals will be within +/- 1 second.

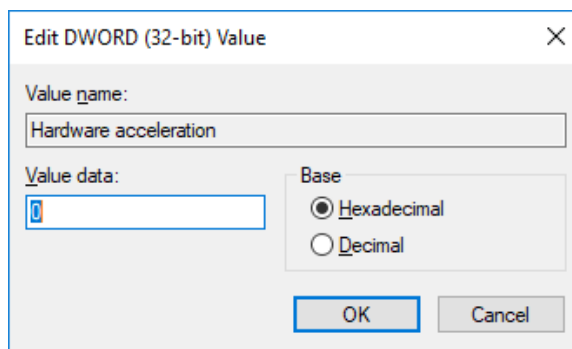
## INSTALLATION

In addition to the Ponemah installation, users are required to install the Noldus Media Recorder software and necessary cameras drivers. For information on installing these items, please refer to the Noldus Media Recorder Reference Manual.

Once installed, launch Noldus Media Recorder. The following registry entry should then be updated:

`\HKEY_CURRENT_USER\Software\MainConcept\MainConcept AVC/H.264 Video Decoder\MediaRecorder.exe`

- Double-click **Hardware Acceleration**
- Change the **Value data** to **0**
- Click **OK**.



- Close the Registry.

## GIGE CAMERA SETUP

GigE cameras are high-performance industrial cameras. They can have a higher frame rate and resolution than the other supported cameras. The images are sent unprocessed to the computer using a standard network cable (UTP). Noldus Media Recorder is compatible with certain Basler GigE Cameras.

For GigE camera setup and support, please see the **Noldus Media Recorder Reference Manual**.

Note:

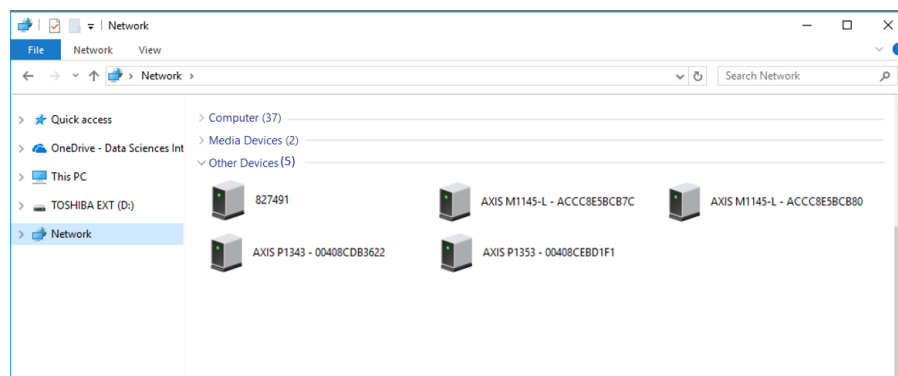
- File size of a 24 hours recording is very large (at least 12 Gb).
- When using multiple GigE cameras, it takes a while before they become visible in Media Recorder. GigE cameras take time to initialize.

## IP CAMERA SETUP

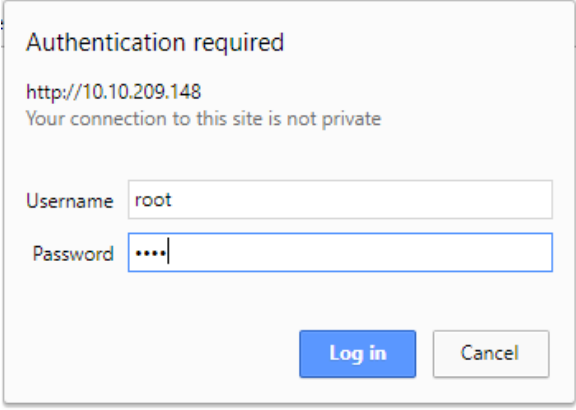
IP cameras are connected directly to a network. IP cameras are especially useful to film remote locations and receive the video files through an ethernet network on your computer. Noldus Media Recorder is compatible with Axis IP Cameras. In order to configure Axis IP Cameras in Noldus Media Recorder a few camera settings are required to be updated.

To Configure:

1. Access the camera's webpage:
  - a. Open Windows Explorer.
  - b. Select the Network folder.



- c. Double-click the camera to launch its webpage.
- d. When prompted for Authentication, enter the following:
  - i. Username: root
  - ii. Password: root



Authentication required

http://10.10.209.148  
Your connection to this site is not private

Username

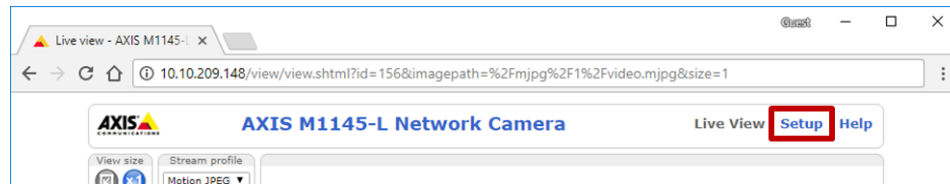
Password

- e. Note the IP Address of the camera, as it will be needed later when configuring the cameras in Noldus Media Recorder.

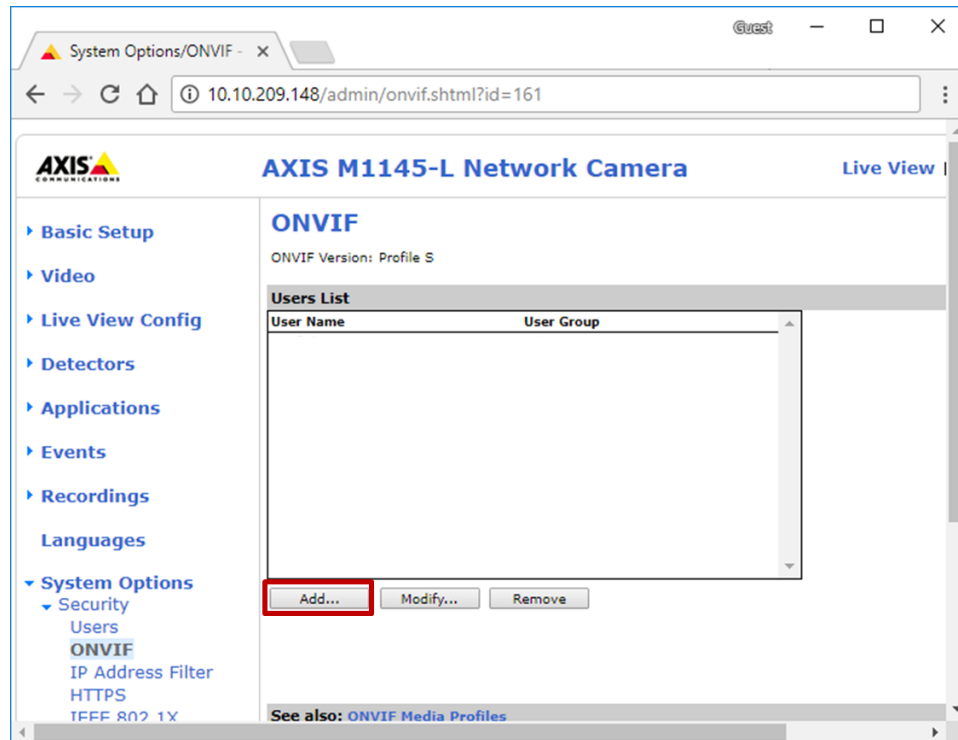
2. Add an ONVIF Admin User:

ONVIF is a communication standard for network devices. ONVIF Profile S applies video and audio streaming and PTZ control. Most IP cameras nowadays support ONVIF Profile S. For cameras that do so, pan, tilt, and zoom control can be done with Media Recorder and audio from the camera can be recorded. For cameras that do not support ONVIF, pan, tilt, and zoom control must be done with a browser and audio must be recorded with a microphone connected to the sound card of the computer.

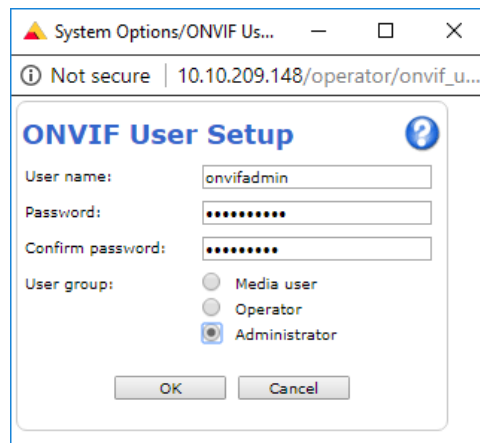
- a. Select the **Setup** link in the upper right side of the webpage.



- b. From the menu options on the left side of the webpage, select **System Options | ONVIF**.
- c. Click the **Add...** button associated with the *User List*.



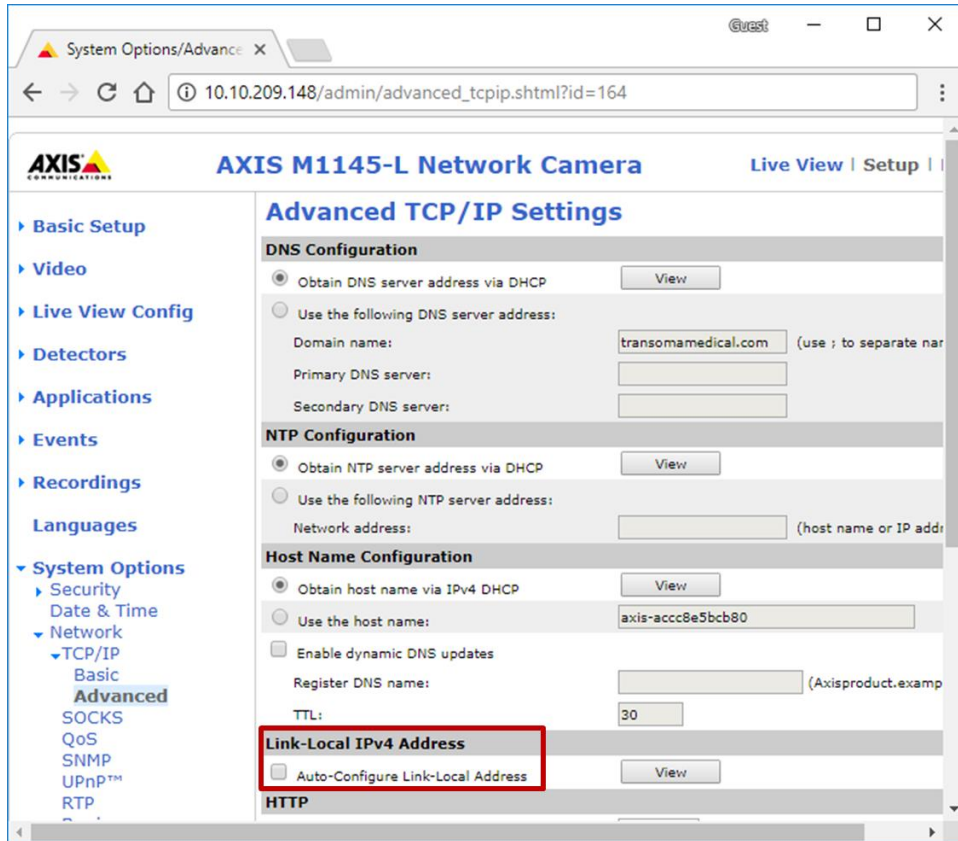
- d. When prompted, enter the following:
  - i. Username: onvifadmin
  - ii. Password: onvifadmin
  - iii. User Group: Administrator



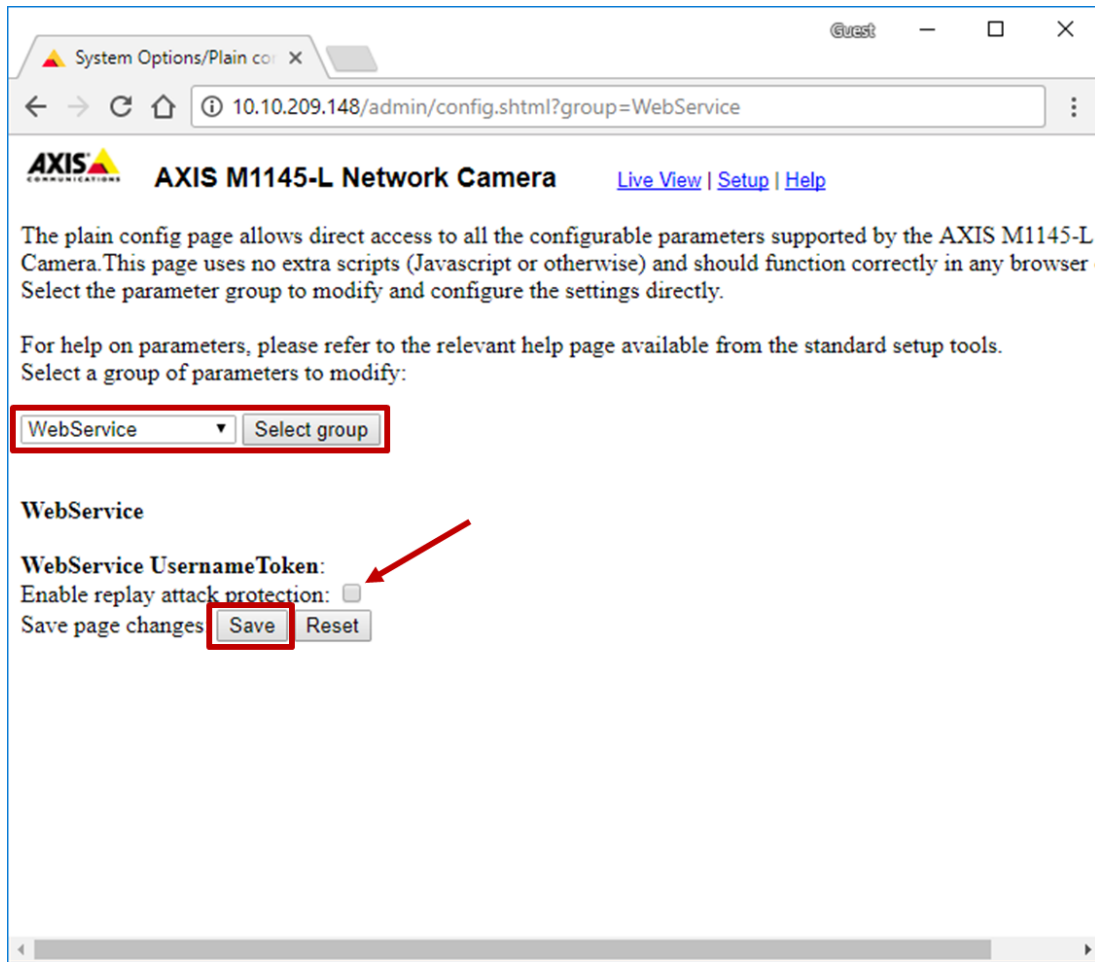
- e. Click **OK**.

3. Update TCP/IP Settings:

- a. Still within the **System Options**, select **Network | TCP/IP | Advanced**.
- b. Locate the *Link-Local IPv4 Address* heading.
- c. **Uncheck Auto-Configure Link-Local Address**.



4. Update Webservice Settings:
  - a. Still within the **System Options**, select **Advanced | Plain Config | Advanced**.
  - b. Select **Webservice** from the dropdown menu, then click **Select Group**.
  - c. **Uncheck** the *Enable replay attach protection* setting.
  - d. Click **Save**.



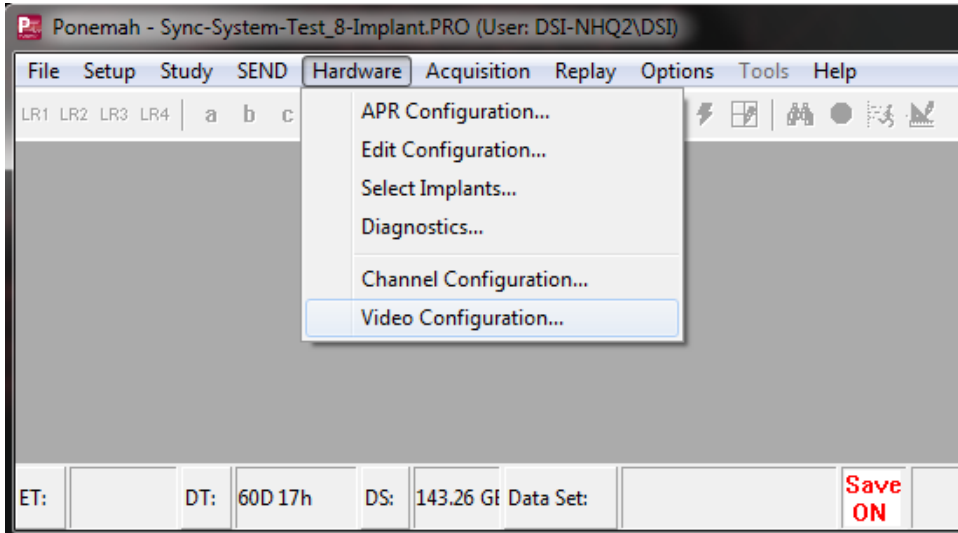
5. Repeat steps 1-4 above for any additional Axis IP Cameras.

## CONFIGURING CAMERAS IN MEDIA RECORDER

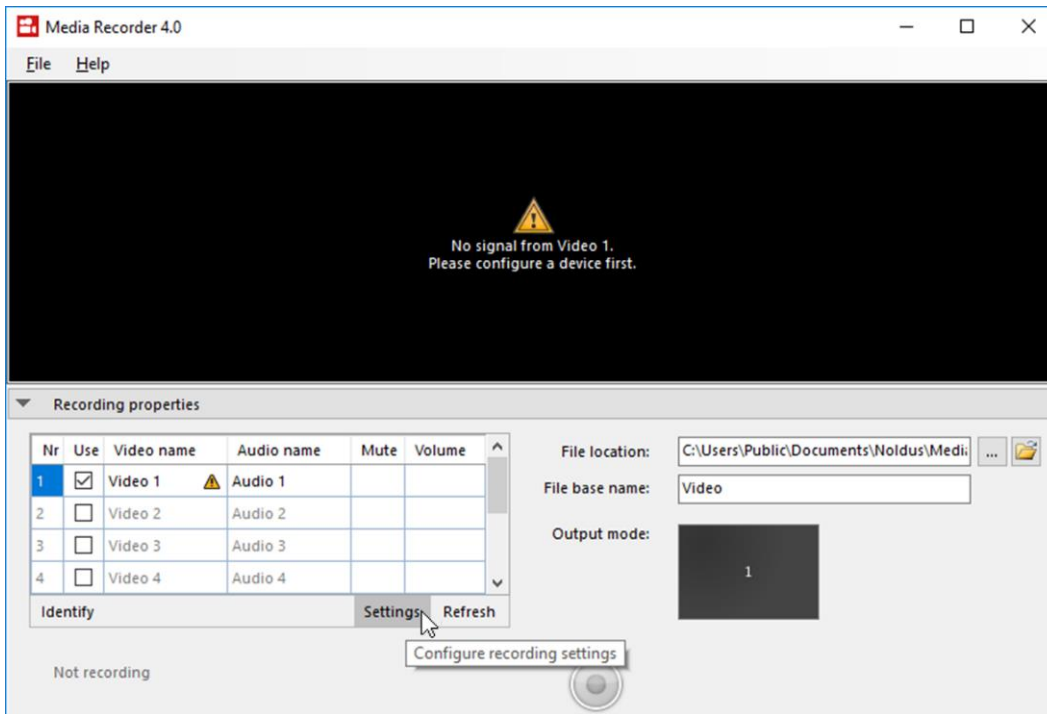
To configure cameras within Noldus Media Recorder:

1. Launch Ponemah.
2. Open the appropriate Protocol.

3. Select the **Hardware menu | Video Configuration** to launch Noldus Media Recorder.

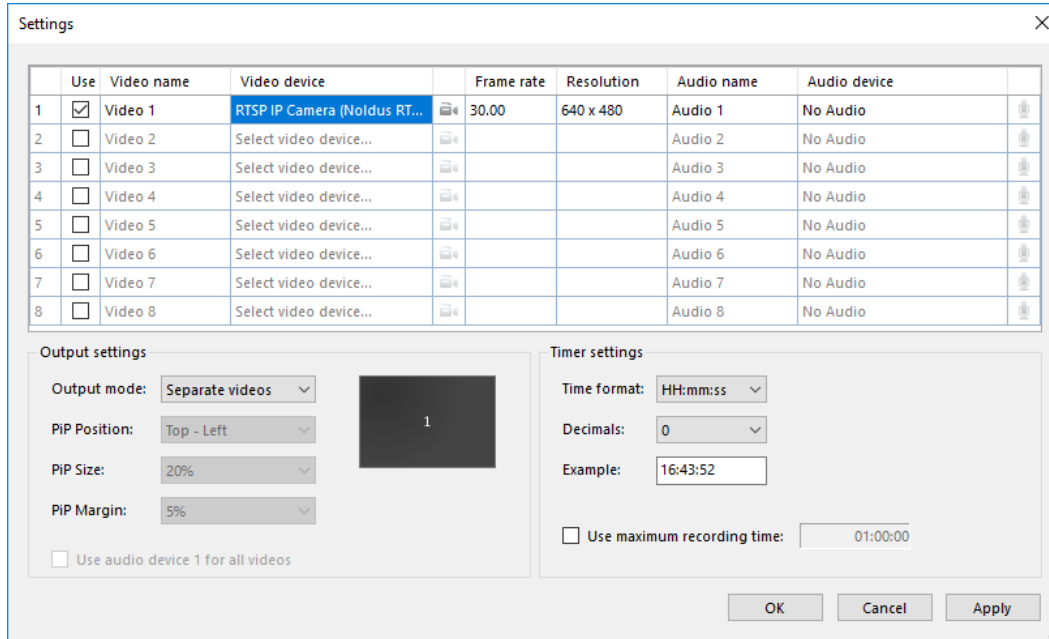


4. Click the **Settings** button or choose the **File menu | Settings**.



5. (Optional) Update the name of video camera.  
**The name specified here will be displayed within Ponemah during the camera assignment process.**

6. Select **RTSP IP Cameras** from the dropdown list under *Video Device*.



7. Click the **Camera Icon**  to access the advanced settings.

**COMPLETE THE CAMERA SETTINGS DIALOG WITH THE CAMERA’S IP ADDRESS (GIGE CAMERA SETUP)**

GigE cameras are high-performance industrial cameras. They can have a higher frame rate and resolution than the other supported cameras. The images are sent unprocessed to the computer using a standard network cable (UTP). Noldus Media Recorder is compatible with certain Basler GigE Cameras.

For GigE camera setup and support, please see the **Noldus Media Recorder Reference Manual**.

Note:

- File size of a 24 hours recording is very large (at least 12 Gb).
- When using multiple GigE cameras, it takes a while before they become visible in Media Recorder. GigE cameras take time to initialize.

**IP CAMERA SETUP SECTION STEP 1) AND ONVIF USERNAME AND PASSWORD (GIGE CAMERA SETUP)**

GigE cameras are high-performance industrial cameras. They can have a higher frame rate and resolution than the other supported cameras. The images are sent unprocessed to the computer using a standard network cable (UTP). Noldus Media Recorder is compatible with certain Basler GigE Cameras.

For GigE camera setup and support, please see the **Noldus Media Recorder Reference Manual**.



Note:

- File size of a 24 hours recording is very large (at least 12 Gb).
  - When using multiple GigE cameras, it takes a while before they become visible in Media Recorder. GigE cameras take time to initialize.
8. IP Camera Setup section step 2.d.), then click **Get device properties**.

RTSP IP Camera Settings

IP address: 10.10.209.159

Port: 554

User name: onvifadmin

Password: ●●●●●●●●

Get device properties

Encoding: H264

Quality: 640 x 480 @ 30fps Edit...

Flip pan axis

Flip tilt axis

OK Cancel

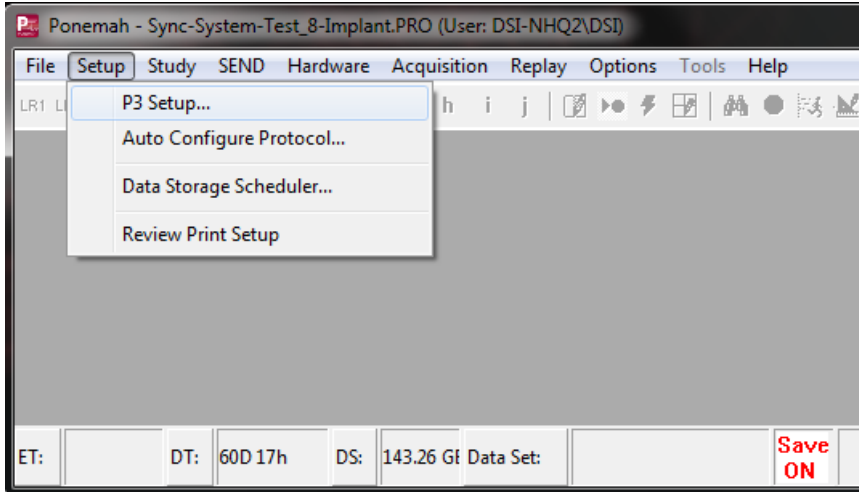
9. Click **OK**.
10. Select the desired **Frame Rate** and **Resolution**.  
The available options will depend on the camera model. By default, the optimal combination of frame rate and resolution for the camera is selected. If you increase the frame rate, the maximum resolution available goes down and vice versa. If you select an impossible combination of frame rate and resolution and format, Media Recorder gives a warning.
11. Add subsequent cameras by enabling the checkbox under the *Use* header.
12. Repeat steps 5-10 for additional cameras.
13. Click **OK** to close the *Media Recorder Settings* dialog.
14. Once camera setup is complete, choose **File | Exit** to close Noldus Media Recorder and return to Ponemah to associate the cameras to the desired subjects.

**Note: Please keep the default settings for Output Settings, Timer Settings, File Location, and File Base Name.**

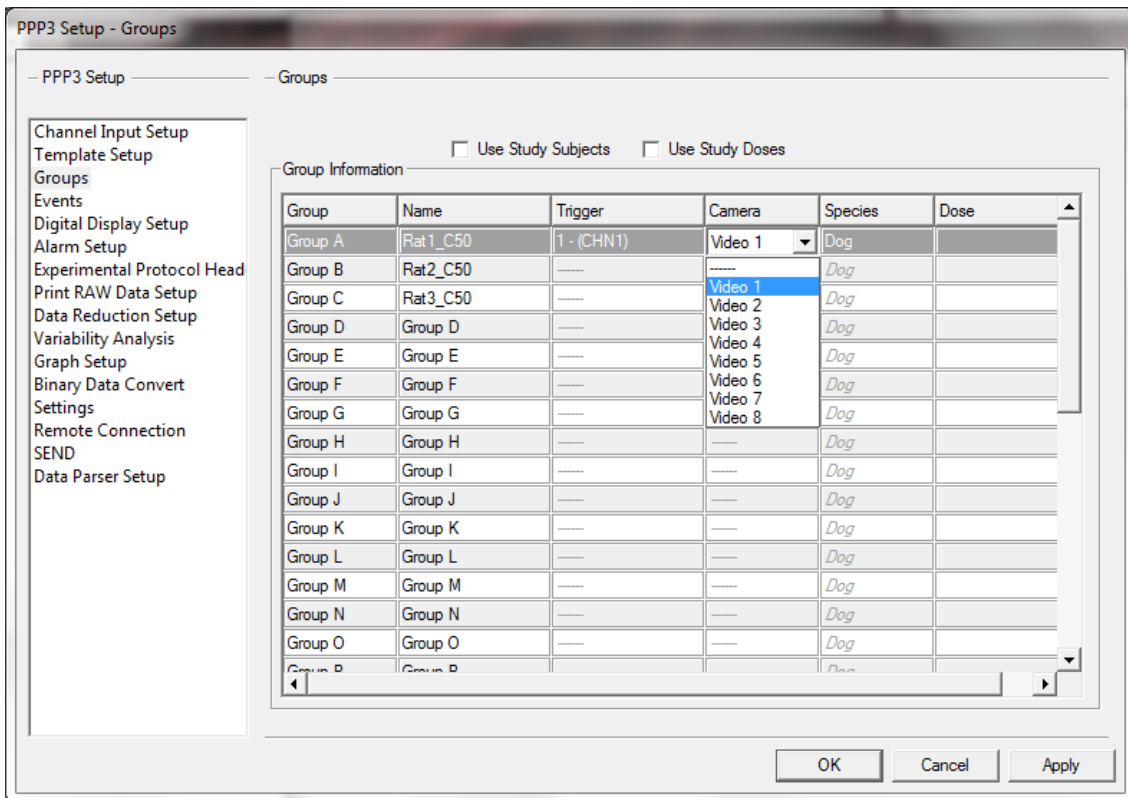
## ASSOCIATING CAMERAS TO PONEMAH SUBJECTS

To assign cameras to the appropriate subject for synchronized physiologic data and video data acquisitions:

1. Select the Ponemah **Setup menu | P3 Setup**.



2. Select the **Groups** on the left.
3. Select the camera from dropdown menu in the *Camera* column to pair with the desired Group.



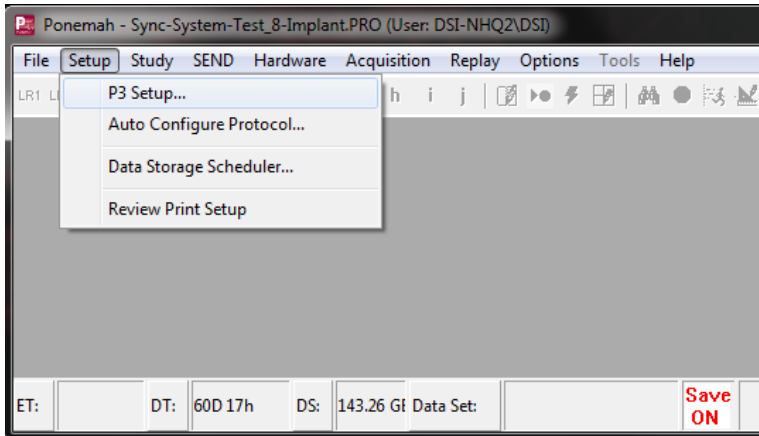
4. Repeat for any additional subjects.
5. Select **OK**.

*Note:* Cameras may be associated with multiple Subjects.

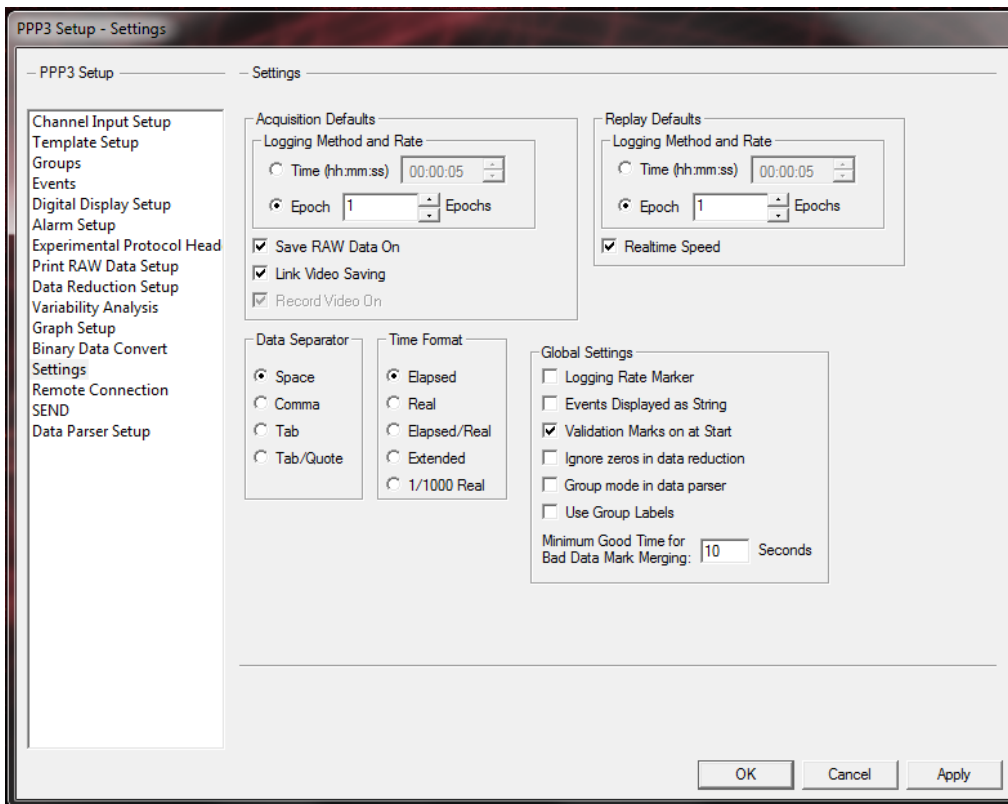
**ACQUIRING SYNCHRONIZED VIDEO DATA**

To acquire and save synchronized video with the physiologic data:

1. Select the Ponemah **Setup** menu | **P3 Setup**.



2. Click on the **Settings** tab and make sure that the **Link Video Saving** checkbox is checked, then click **OK**.



3. Once all cameras are configured, save the changes to the protocol by clicking **File | Save**.

Once Acquisition is started by clicking **Acquisition | Start Acquisition**, Ponemah will begin data collection, automatically launch Noldus Media Recorder and commence video acquisition. Please note: Do not stop the video recording, if video collection is stopped while data collection is running, it will de-link from the data.

## UNDERSTANDING VIDEO FILE GENERATION

When acquiring video data, each subject will have its own video file. This includes an .XML file containing pertinent meta data about the video file Ponemah requires for Subject association and video playback in Ponemah Review and the actual video data files.

New video data files are created at the start of each acquisition session. To stop video and data acquisition simultaneously, select the menu option **Functions – Stop Acquisition**. It will take a few moments for Ponemah to stop the acquisition and close all video and data files.

### FILE LOCATIONS

During acquisition, video files are actively saved to the following directory:

C:\Users\Public\Documents\Noldus\Media Recorder\Video Files\

Once acquisition is stopped the video files will be closed and automatically transferred to the appropriate data folder (default location is C:/Ponemah Data). Files will also be renamed at this time based on Ponemah's file naming structure. Please see the Error! Reference source not found. section of this manual for descriptions of the video file types.

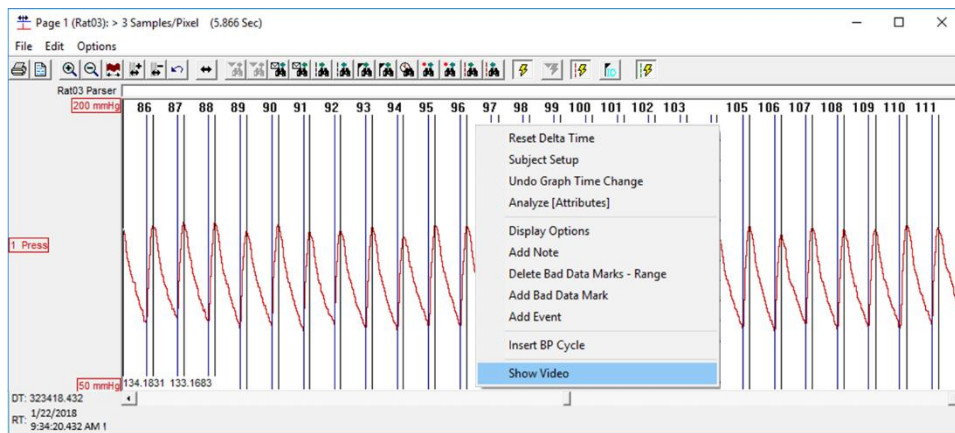
## VIDEO PLAYBACK WITHIN PONEMAH REVIEW

Video Data can be reviewed within Ponemah Review. To do this, start a review session. Should any video data be associated with the data loaded into Review, it will automatically be available.

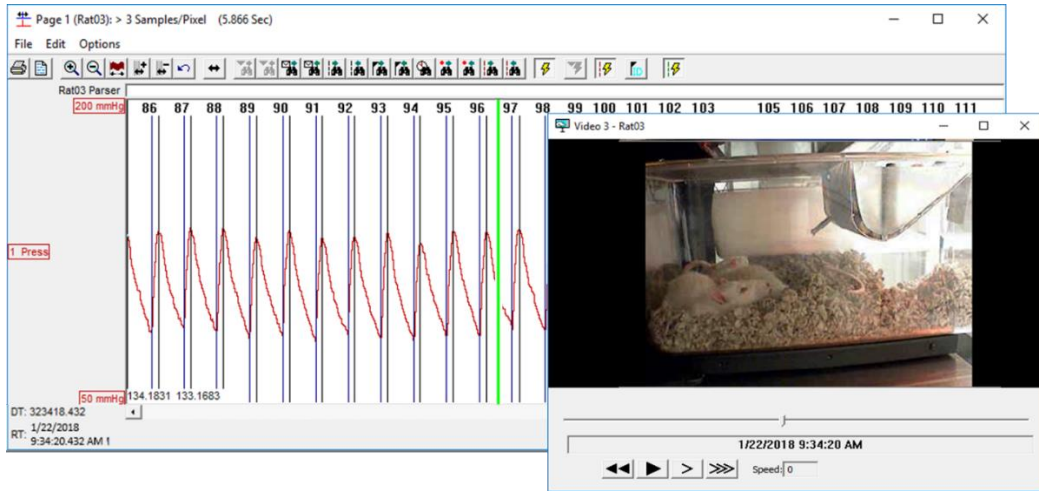
**The Noldus Media Recorder software MUST be installed on the Analysis computer for playback to occur within Ponemah Review. The Analysis computer does NOT require a separate Noldus Media Recorder license nor does the Noldus security dongle need to be used.**

To launch the Video Player:

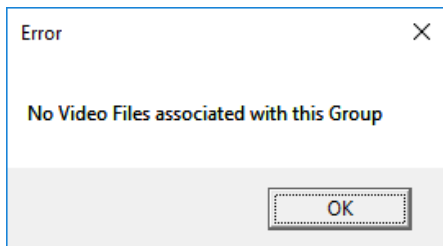
1. Navigate to a Primary or Trend Graph Page.
2. Right-click a graph pane and select **Show Video** from the menu to launch the player.



Once the Video Player is launched, a solid, vertical green line will appear on the graph page to indicate the location of the current frame in relation to the physiologic data. Should this green cursor reach the edge of the graph during video playback, the graph will automatically advance to the next page of data.

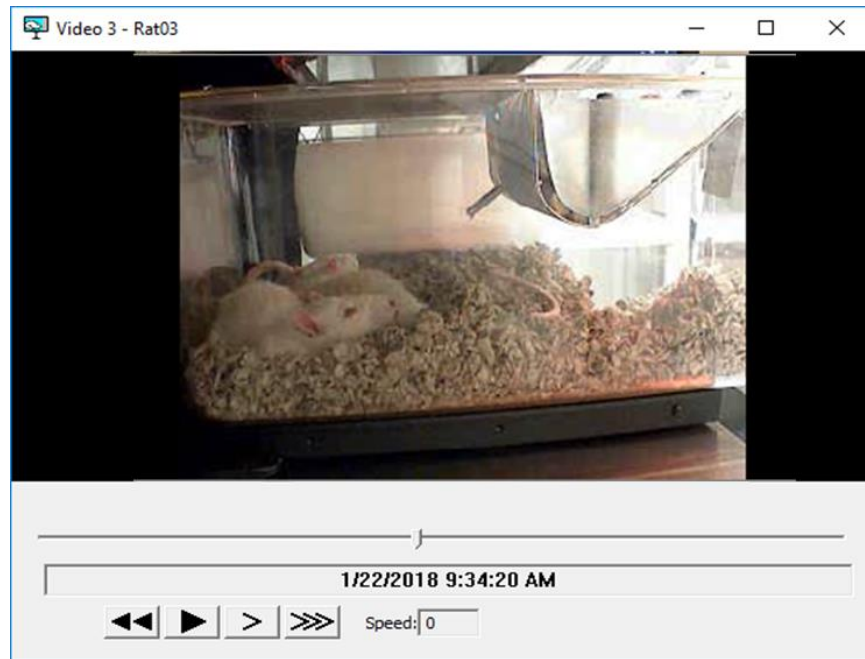


*Note:* If video files are not found for the Subject, the following message will be displayed:



**VIDEO PLAYER CONTROLS**

The Video Player offers several control features to navigate through the video file, as outlined below.



**1/22/2018 9:34:20 AM**

The Video Player will display the date and time of the currently displayed image. This date and time corresponds to the solid, vertical green line associated with the physiologic data on the graph page.



Scroll bar for the video data. Scrolling through with this cursor will also advance the physiologic data graphs to keep synchronized with the image displayed in the Video Player.



Rewind button. Used to step through the video file in reverse, two seconds at a time.



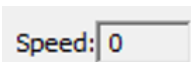
Play button. Used to step through images at the frame rate acquired; i.e. real-time playback. When video is playing back, this button turns into a Pause button.



Reduce playback speed by half.  
Min: 0.125



Increase playback speed by double.  
Max: 2



Playback speed indicator.

*Note:* To step forward through the video file frame-by-frame, use the keyboard right arrow key <=>. Reversing through the file with the left arrow <<=> will step back in 0.1 second increments.