

**NAVnet**  
TZ  
touch

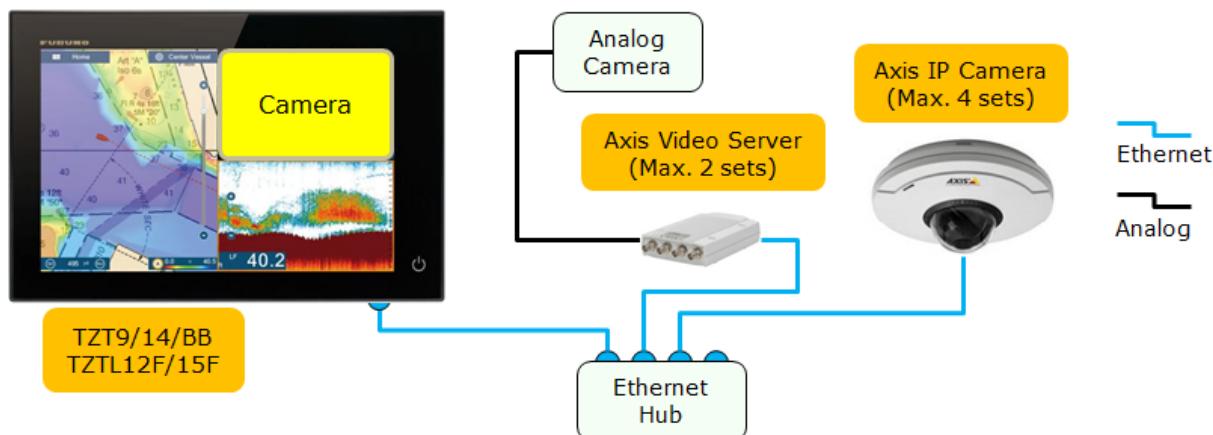
**NAVnet**  
TZ2  
touch

## Axis IP Camera Settings

1. Introduction – NavNet TZtouch/2 with Axis
2. Overview
  - 2.1. Summary – Setup Procedure
  - 2.2. Latest Axis Cameras Compatible with H.264 Format
  - 2.3. Tested Axis Video Servers at FEC
3. Setting up a PC
4. Setting up Axis IP Camera
  - 4.1. Setting up IP Address of Axis IP Camera
  - 4.2. Configuring Axis IP Camera
5. Setting up Axis Video Server
  - 5.1. Setting up IP Address of Axis Video Server
  - 5.2. Configuring Axis Video Server
6. Showing Camera Images
  - 6.1. Checking Axis IP Camera(s) in Menu
  - 6.2. Checking Axis Video Server(s) in Menu
7. Tips – 4 x IP Cameras + 2 x Video Servers

# 1. Introduction – NavNet TZtouch/2 with Axis

NavNet TZtouch (TZT9/14/BB) and NavNet TZtouch2 (TZTL12F/15F) v5.02 are compatible with IP cameras from **Axis** Communications AB in both MPEG-4 and H.264 formats. Native H.264 formatted images occupy a great amount of bandwidth. In addition to conventional settings such as IP address, ensure to set the **resolution to "800x600 (4:3)"** pixels or less and **compression level to "30"**. **Failure to set these parameters will slow down the system!** This document describes the set-up procedures of Axis IP cameras and video servers in H.264 format.



## Note:

Screenshots from the TZT14 are used to describe setup procedures on TZT9/14/BB and TZTL12F/15F.

## 2. Overview

### 2.1. Summary – Setup Procedure

In order to view and control Axis IP cameras from the TZT9/14/BB and TZTL12F/15F, it is necessary to assign an IP address to each Axis IP camera. This procedure will require a Windows PC connected via Ethernet to the Axis IP camera(s). Pre-wiring and installing the cameras on the vessel first is recommended, so that all Axis IP cameras can be networked to the PC through a hub and can be configured at the same time. It will be necessary to set up the IP address of the PC and use the AXIS IP Utility program, which is included with the camera to configure the camera's IP address. See **Section 3** for PC setup before connecting it to an IP camera or video server. See **Section 4** for further settings on IP cameras and **Section 5** for video servers.

### 2.2. Latest Axis Cameras Compatible with H.264 Format

To find the latest Axis camera models with the H.264 format, access the Axis Website – Axis product selector <<http://www.axis.com/products/video-selector/index.php>>. There are more selections than MPEG-4.

**AXIS**  
COMMUNICATIONS

Home Products Solutions Support Where to buy Corporate

Language:

# Axis product selector

**Product characteristics**

Type: Network cameras

Category: All

**Basic functions**

Max resolution: Not specified

Compression: **H.264**

Outdoor ready: ☐

Day & Night: ☐

Power over Ethernet: ☐

Audio support: ☐

**View**

Specify field of view: ☐

Specify resolution: ☐

Compare products. Select up to 5 products from the catalog below.

How to use

Compare »

- Remove all

Result of current selection: 108 products

Image view List view

**HDTV**  
AXIS Q1755-E  
[Product page »](#)



**HDTV**  
AXIS Q1755  
[Product page »](#)

**HDTV**  
AXIS Q1604-E  
[Product page »](#)

**HDTV**  
AXIS Q1604  
[Product page »](#)

## 2.3. Tested Axis Video Servers at FEC

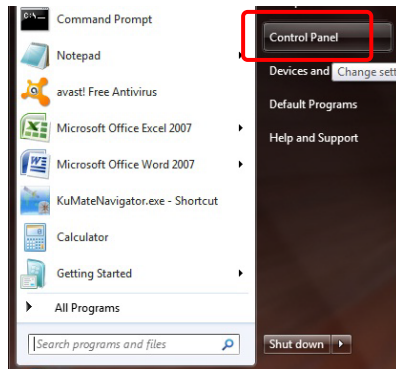
At Furuno USA, the following Axis video servers were used for tests.

<p><b>AXIS M7014 Video Encoder</b> Cost-effective 4-channel video encoder with H.264</p>  <p>Product selector</p>	<p><b>M7014</b></p> <p><a href="http://www.axis.com/products/cam_m7014/index.htm">http://www.axis.com/products/cam_m7014/index.htm</a></p> <p>Analog Input: Four (4) channels</p> <p>Ethernet Output: One (1) channel</p>
<p><b>AXIS P7214 Video Encoder</b> Full-featured, cost-effective 4-channel video encoder with H.264</p>  <p>Product selector</p>	<p><b>P7214</b></p> <p><a href="http://www.axis.com/products/cam_p7214/index.htm">http://www.axis.com/products/cam_p7214/index.htm</a></p> <p>Analog Input: Four (4) channels</p> <p>Ethernet Output: One (1) channel</p>

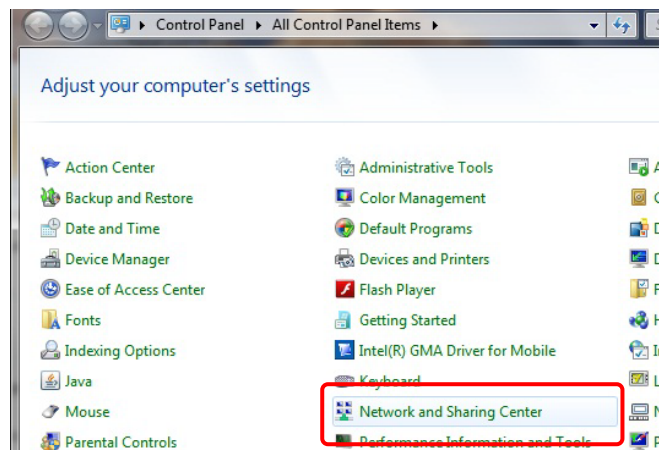
### 3. Setting up a PC

This section describes how to assign a dedicated IP address to a PC.

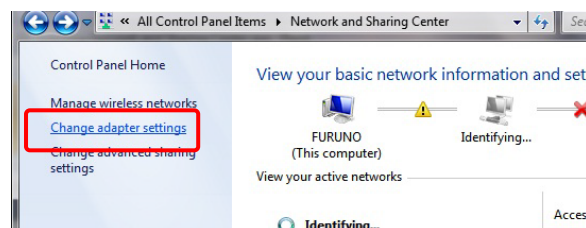
(1) Access [Start] – [Control Panel].



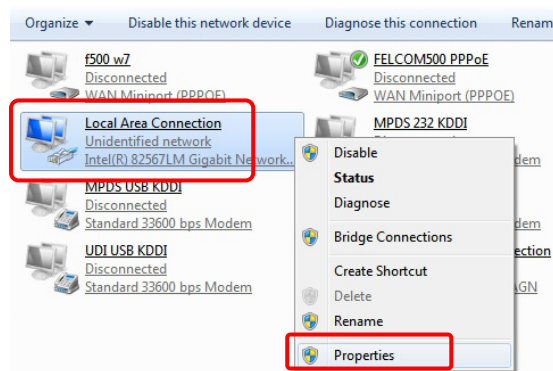
(2) Open [Network and Sharing Center].



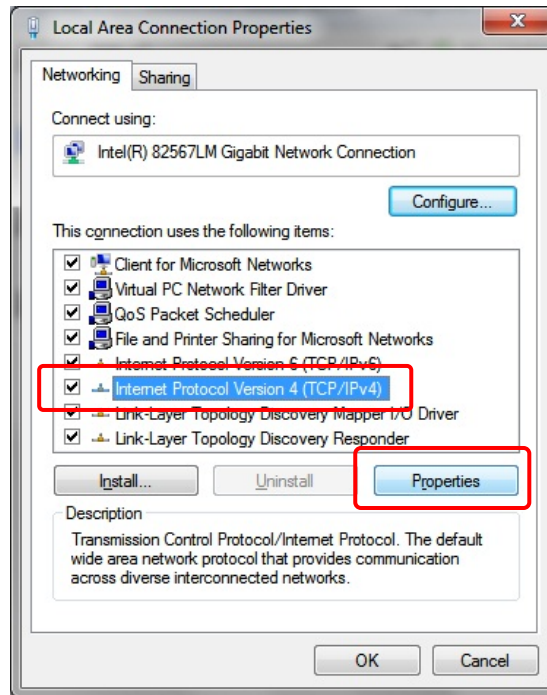
(3) Open [Change adapter settings].



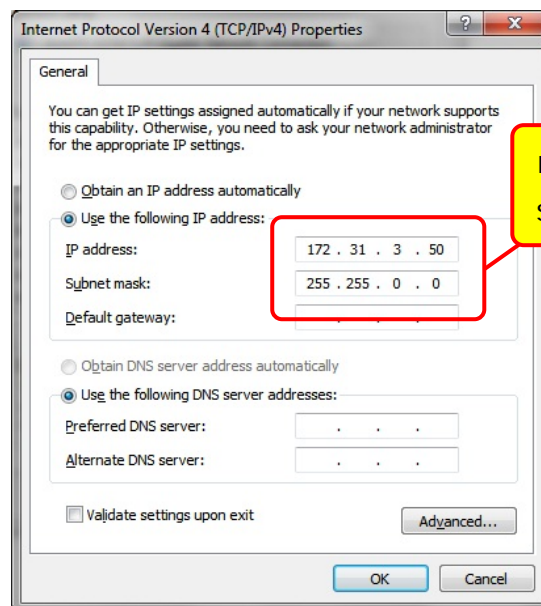
(4) Right click on [Local Area Connection] and select [Properties].



(5) Select [Internet Protocol Version 4 (TCP/IPv4)] and click on [Properties].



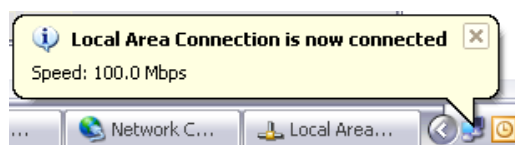
(6) Fill the IP fields as shown below.



(7) Click on [OK] to confirm and close two windows on Step 6 and 5.

**Note:**

It takes up to 20 seconds for the new IP to be recognized. A popup window on the bottom right corner should show when the IP is correctly set. Turn OFF any Firewall that could prevent data from being exchanged between the Axis camera and the PC. You may also have to restart your computer.





## 4. Setting up Axis IP Camera

### 4.1. Setting up IP Address of Axis IP Camera

To work in the NavNet TZtouch/2 system, the Axis IP cameras need to be set up with specific IP Addresses. Up to four (4) IP cameras can be connected in the network.

Axis IP Camera No. 1	Axis IP Camera No. 2	Axis IP Camera No. 3	Axis IP Camera No. 4
172.031.200.003	172.031.200.004	172.031.200.005	172.031.200.006

In this example, two (2) sets of Axis M1011 are used.



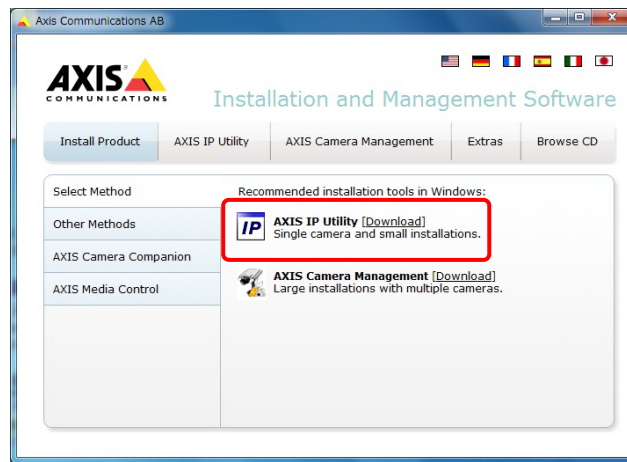
- (1) Load the Axis CD “Network video products”, which is included with the camera. The Autorun software should appear.  
(If the autorun is not working on your computer, browse the CD and double click on [Setup])



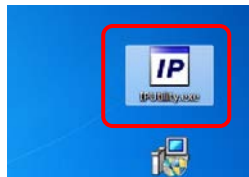
- (2) Select [Install Product].



- (3) Click on [AXIS IP Utility [Download]] to download the AXIS IP Utility program.

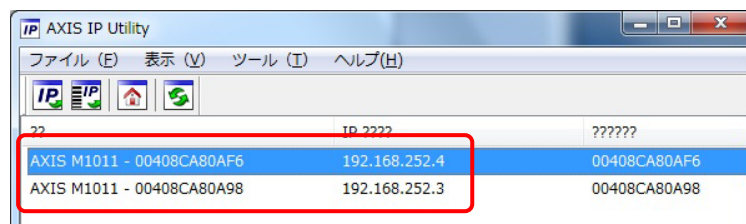


(4) Install the AXIS IP Utility program on your PC.



(5) Double-click on [AXIS IP Utility] to open the program.

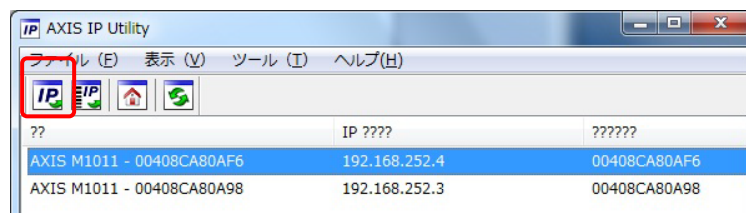
The following window will open, showing the detected cameras in the network.



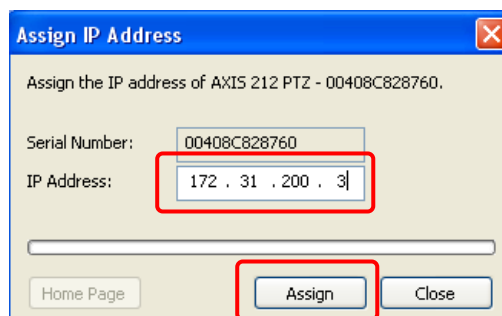
#### Note:

If you use the same camera models in multiple locations, MAKE SURE to WRITE DOWN the IP camera's serial numbers, which can be found on the back of the camera, with the intended location to help correctly assign the IP camera's name.

(6) To change the IP address, select a camera and click on "assign new IP address to selected device" button.

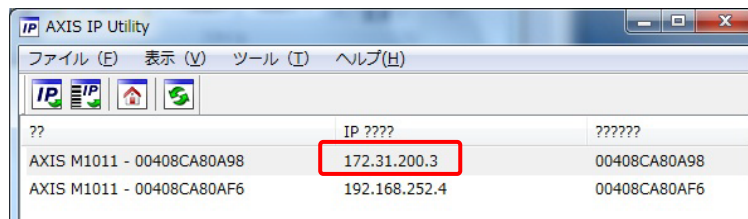


(7) Enter the correct IP address and click on [Assign]. In this example, [172.31.200.3] will be assigned.

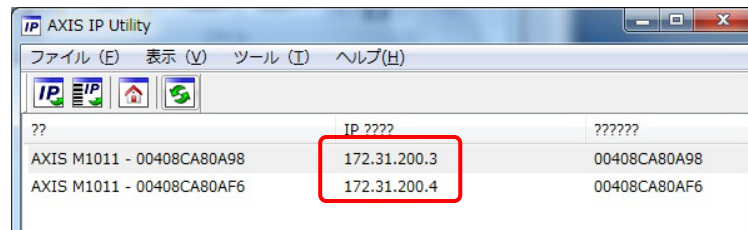


It will take a while before the process is finished.

(8) Check that the IP address is changed.



(9) Repeat the process with the other camera(s).



(10) After the IP address is changed, restart the camera (power OFF/ON).

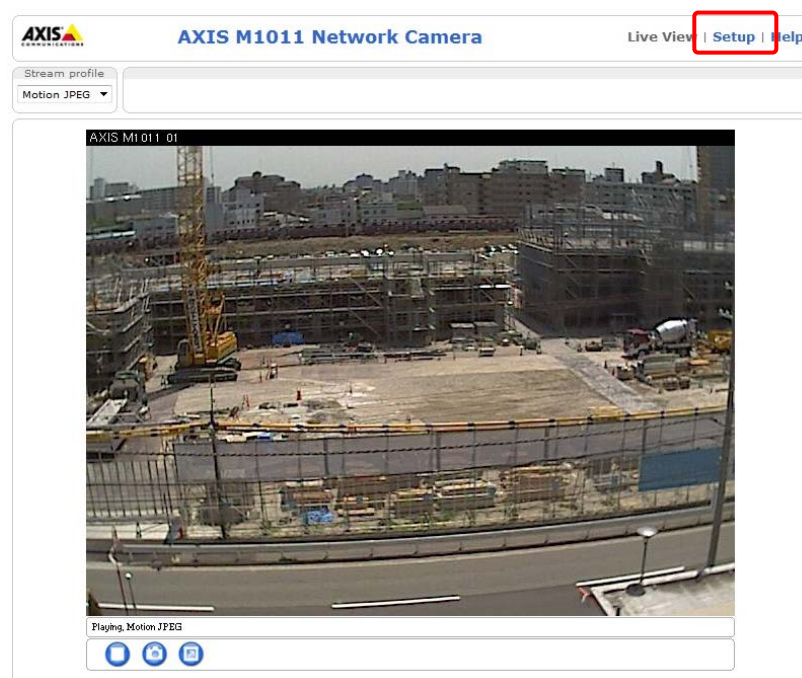
## 4.2. Configuring Axis IP Camera

Axis IP cameras need to be configured using a Web browser.

(1) Enter the IP address of the IP camera. In this example, [http://172.31.200.4] is entered.

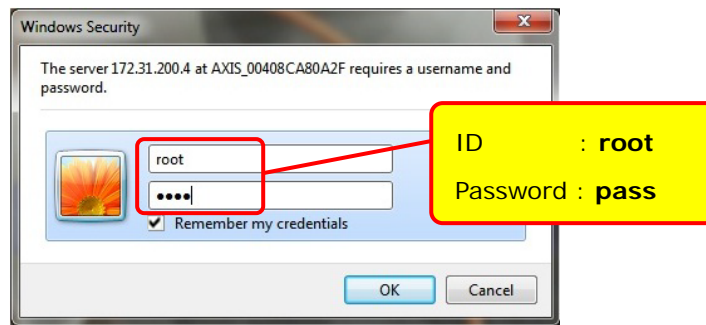


(2) The camera configuration page will open. Click on [Setup] to access the configuration page.



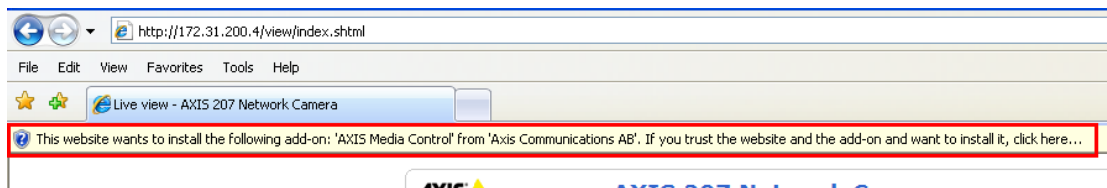


(3) You will be asked for an ID and password. Enter the following ID and password and click on [OK].



**Note:**

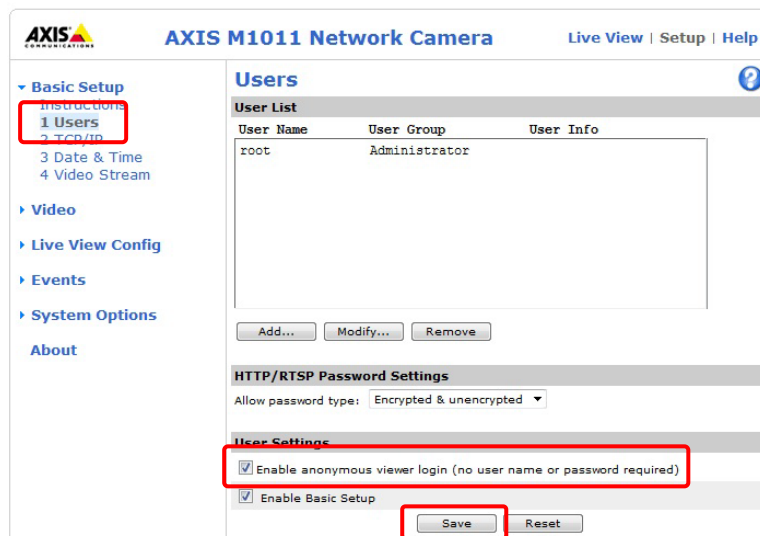
When the webpage loads, pay attention to the top of the page to authorize the installation of the ActiveX®. Click on the yellow bar and choose [Install ActiveX].



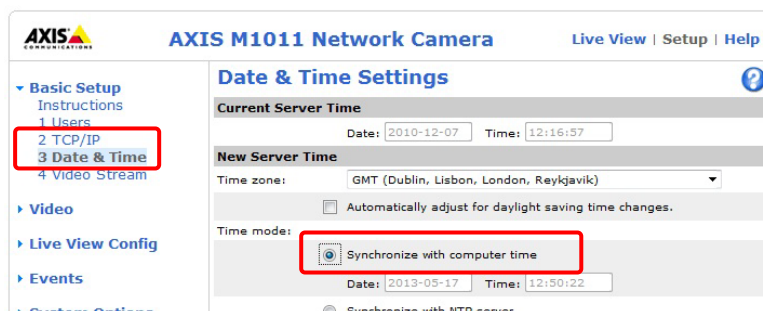
(ActiveX is a registered trademark or a trademark of Microsoft Corporation in the United States and/or other countries.)

(4) After entering the ID and password, the Setup page will open.

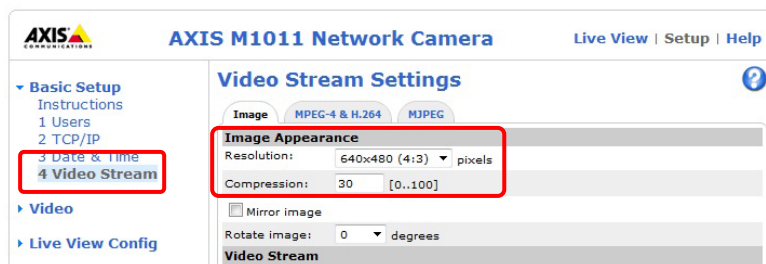
(5) In [Basic Setup] – [1 Users], select [**Enable anonymous viewer login**] and click on [Save].



(6) In [Basic Setup] – [3 Date & Time], select [**Synchronize with computer time**] and click on [Save].

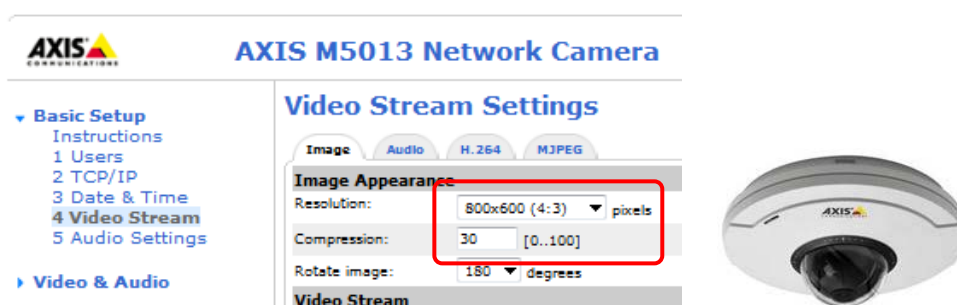


(7) In [Basic Setup] – [4 Video Stream] – [Image] tab, set [Resolution] to **less than "800x600 (4:3)"** and [Compression] to [30] and click on [Save]. In this example, [640x480 (4:3)] is selected as Resolution because this is the maximum resolution supported by the M1011.

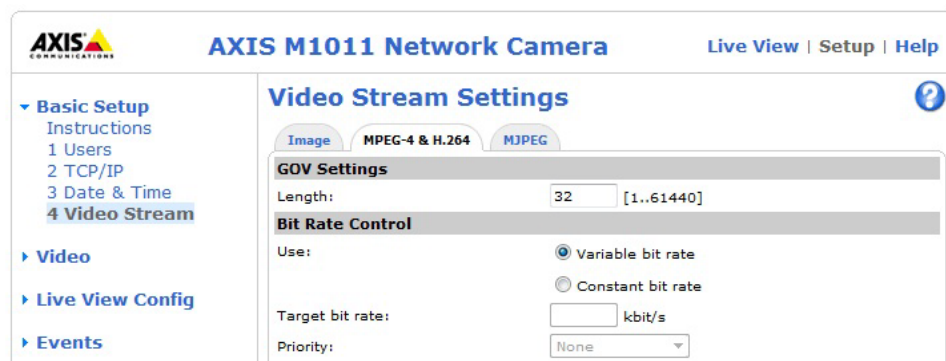


#### Tips:

As another example with the Axis **M5013**, supporting a higher resolution than the M1011, set [Resolution] to [800x600 (4:3)].



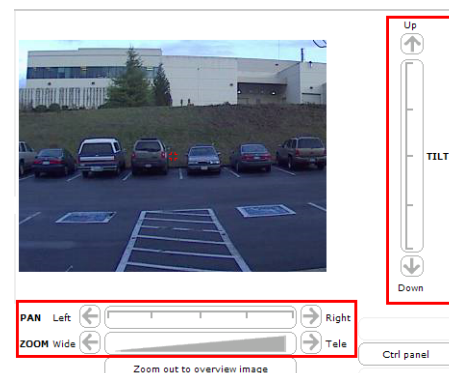
(8) In [Basic Setup] – [4 Video Stream] – [H.264] or [MPEG-4 & H.264] tab, set as follows.



### Optional Settings

#### (1) PTZ

When using a PTZ (moving) camera, you can set up the default "Home" position. In [PTZ configuration] – [Preset Positions], adjust the view of the default camera position using the control.



**Note:**

It is recommended to zoom in on the image (Tele) to have a better “Home” preset. When the view is correctly set up, type “Home” for the Current position and select [Use current position as Home]. Click on [Add] to validate.

**Preset Position Setup**

Current position:

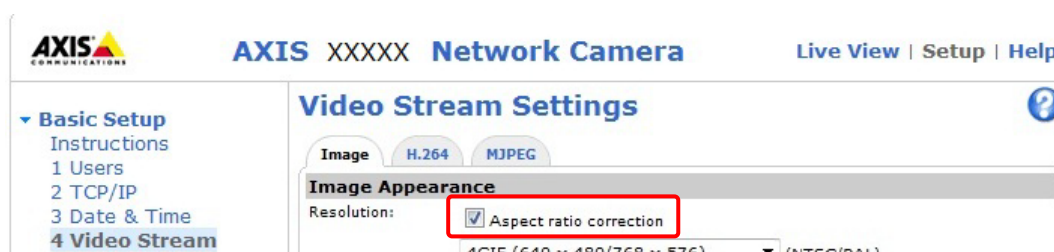
☒ Use current position as Home

If you do not need the camera to return to the “Home” position automatically after 30 sec, just put [0] and validate.

Return to overview after:  
 [0..300] seconds,  
0 = disabled

## (2) Aspect Ratio Correction

Some Axis IP camera models have a setting option of aspect ratio correction in [Basic Setup] – [4 Video Stream]. Make sure to select [**Aspect ratio correction**].



## 5. Setting up Axis Video Server

### 5.1. Setting up IP Address of Axis Video Server

To work in the NavNet TZtouch/2 system, the Axis video servers need to be set up with specific IP Addresses. Up to two (2) video servers can be connected on a network.

Axis Video Server No. 1	Axis Video Server No. 2
172.031.200.007	172.031.200.008

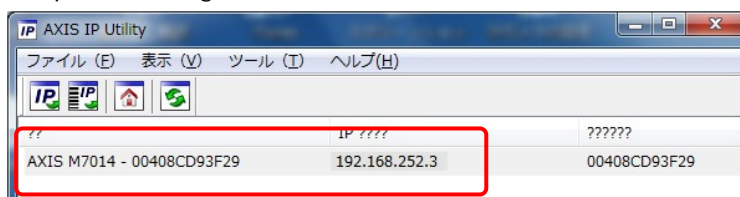
In this example, the Axis M7014 is used.



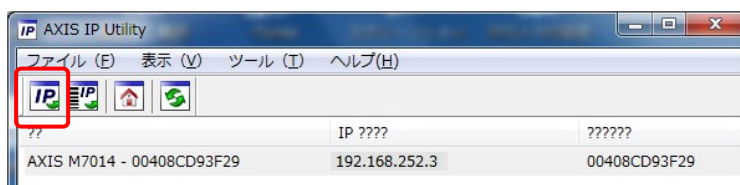
Follow the Step 1 to 4 in **Section 4-1**.

(5) Double-click on [AXIS IP Utility] to open the program.

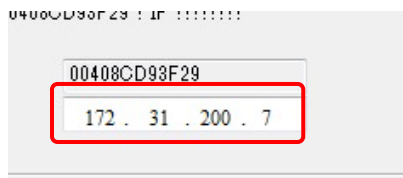
The following window will open, showing the detected cameras in the network.



(6) To change the IP address, select a camera and click on "assign new IP address to selected device" button.

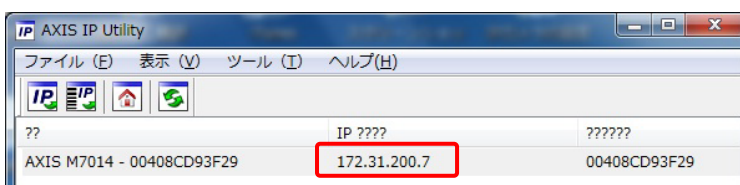


(7) Enter the correct IP address and click on [Assign]. In this example, [172.31.200.7] will be assigned.



It will take a while before the process is finished.

(8) Check that the IP address is changed.



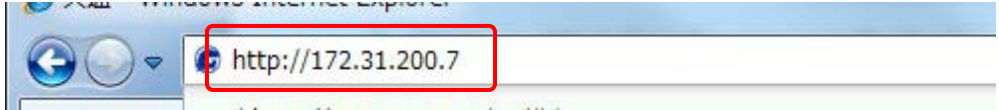
(9) Repeat the process with the other video server if available.

(10) After the IP address is changed, restart the video server (power OFF/ON).

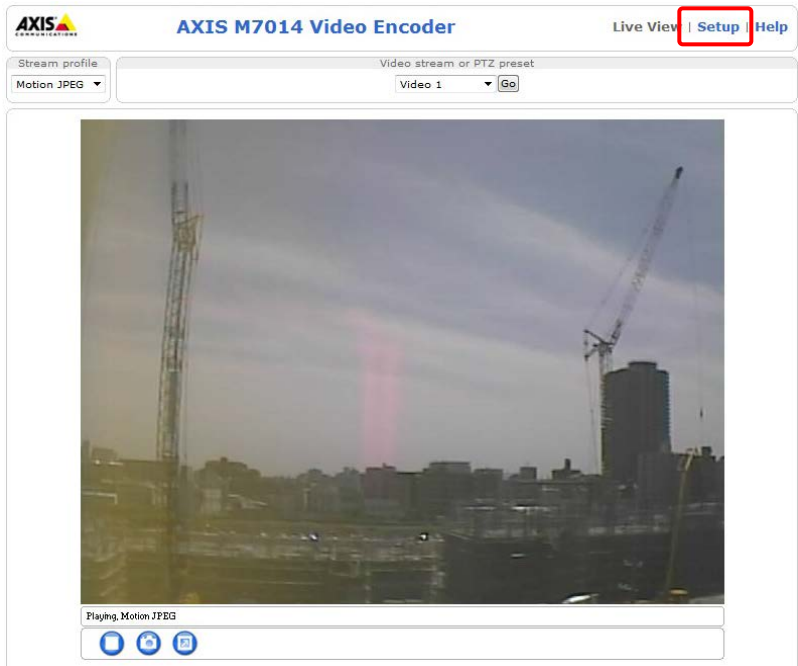
## 5.2. Configuring Axis Video Server

Axis video servers need to be configured using a Web browser like IP cameras.

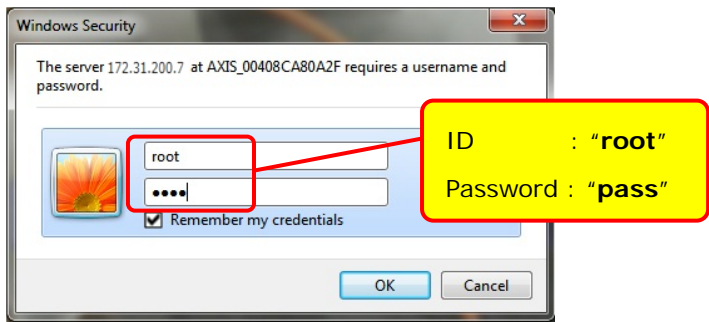
(1) Enter the IP address of the video server. In this example, [http://172.31.200.7] is entered.



(2) The camera configuration page will open. Click on [Setup] to access the configuration page.

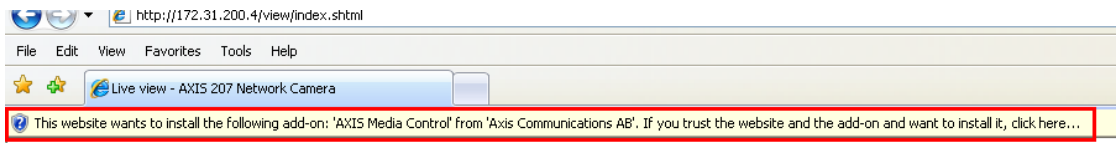


(3) You will be asked for an ID and password. Enter the following ID and password and click on [OK].



### Note:

When the webpage loads, pay attention to the top of the page to authorize the installation of the ActiveX. Click on the yellow bar and choose [Install ActiveX].



(ActiveX is a registered trademark or a trademark of Microsoft Corporation in the United States and/or other countries.)



(4) After entering the ID and password, the Setup page will open.

(5) In [Basic Setup] – [1 Users], select [**Enable anonymous viewer login**] and click on [Save].

The screenshot shows the 'Users' configuration page of the AXIS M7014 Video Encoder. On the left sidebar, 'Basic Setup' is expanded, and '1 Users' is selected. The main area shows a 'User List' table with one entry: 'root' in the 'User Name' column and 'Administrator' in the 'User Group' column. Below the table are 'Add...', 'Modify...', and 'Remove' buttons. Further down, the 'HTTP/RTSP Password Settings' section is visible. The 'User Settings' section has three checked options: 'Enable anonymous viewer login (no user name or password required)', 'Enable anonymous PTZ control login (no user name or password required)', and 'Enable Basic Setup'. A red box highlights the 'Save' button at the bottom right.

(6) In [Basic Setup] – [3 Date & Time], select [**Synchronize with computer time**] and click on [Save].

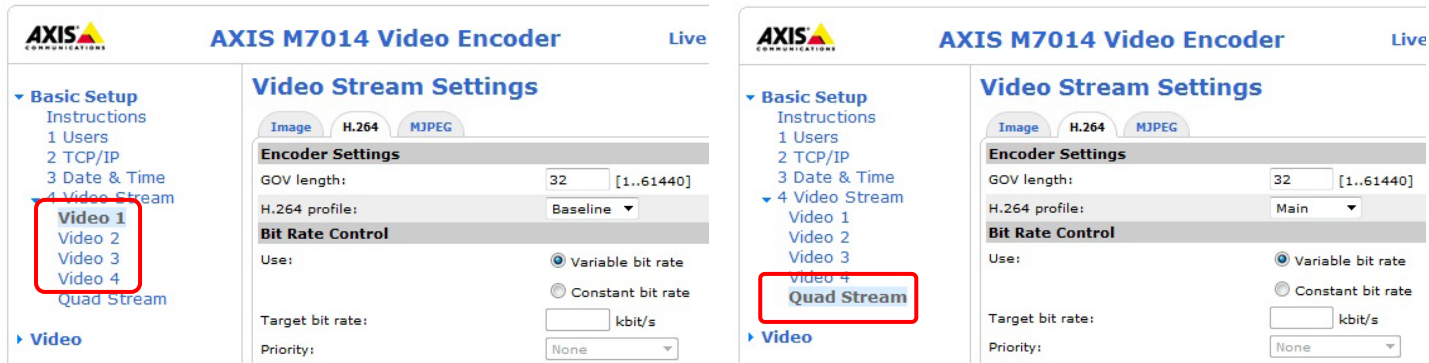
The screenshot shows the 'Date & Time Settings' page. On the left sidebar, 'Basic Setup' is expanded, and '3 Date & Time' is selected. The 'Current Server Time' section shows the date as 2001-08-23 and time as 16:26:41. The 'New Server Time' section has 'Time zone' set to 'GMT (Dublin, Lisbon, London, Reykjavik)'. Under 'Time mode', 'Synchronize with computer time' is selected and highlighted with a red box. Other options include 'Synchronize with NTP server' and 'Set manually'. The 'Date & Time Format Used in Images' section shows 'Specify date format' as 'Predefined YYYY-MM-DD' and 'Specify time format' as 'Predefined 24h'. A red box highlights the 'Save' button at the bottom right.

(7) In [Basic Setup] – [4 Video Stream] – [Video 1] to [Video 4] and [Quad Stream] – [Image] tab, select [**Aspect ratio correction**], set [Resolution] to [4CIF (640 x 480)] and [Compression] to [30], and click on [Save].

The screenshot shows the 'Video Stream Settings' page with the 'Image' tab selected. On the left sidebar, 'Basic Setup' is expanded, and '4 Video Stream' is selected, with 'Video 1' highlighted. The 'Image Appearance' section has 'Resolution' set to '4CIF (640 x 480)' and 'Compression' set to '30'. The 'Aspect ratio correction' checkbox is checked and highlighted with a red box. Other settings include 'Mirror image' (unchecked), 'Rotate image' (180 degrees), and 'Color setting' (Color). A red box highlights the 'Save' button at the bottom right.

The screenshot shows the 'Video Stream Settings' page with the 'Image' tab selected. On the left sidebar, 'Basic Setup' is expanded, and '4 Video Stream' is selected, with 'Quad Stream' highlighted. The 'Image Appearance' section has 'Resolution' set to '4CIF (640 x 480/768 x 576) (NTSC/PAL)' and 'Compression' set to '30'. The 'Aspect ratio correction' checkbox is checked and highlighted with a red box. Other settings include 'Mirror image' (unchecked), 'Rotate image' (0 degrees), and 'Color setting' (Color). A red box highlights the 'Save' button at the bottom right.

(8) In [Basic Setup] – [4 Video Stream] – [Video 1] to [Video 4] and [Quad Stream] – [H.264] tab, set as follows.



## 6. Showing Camera Images

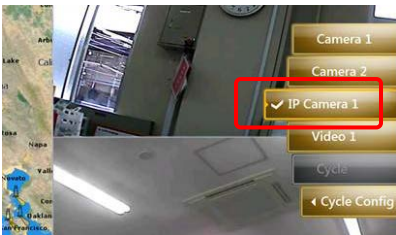
This section describes how to show camera images on the TZT9/14/BB and TZTL12F/15F.

### 6.1. Checking Axis IP Camera(s) in Menu

(1) After the interconnection and setup of IP cameras finish, check that they are detected in the TZT9/14/BB and TZTL12F/15F network, accessing [Menu]/[Settings] – [Camera] – [IP Camera 1] to [IP Camera 4].



Detected	Disconnected or Not Detected
When the camera is detected, the “✔” symbol appears.	When the camera is disconnected or not detected, the “✖” symbol appears.

(2) Available IP camera sources are displayed in the RotoKey™ or contextual menu.

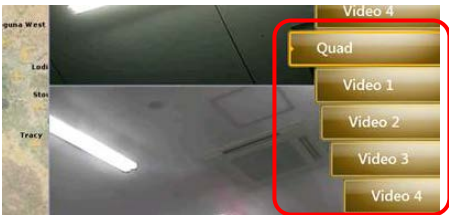


6.2. Checking Axis Video Server(s) in Menu

(1) After the interconnection and setup of video servers finish, check that they are detected in the TZT9/14/BB and TZTL12F/15F network, accessing [Menu]/[Settings] – [Camera] – [Axis Quad Server] and [Second Axis Quad Server].

Detected	Disconnected or Not Detected
	
At default, [Server] is set to [OFF]: Turn it [ON] to show detailed settings. When the video server is detected, the "✔" symbol appears. You can turn ON/OFF the [Quad Mode] and [Input 1] to [Input 4] according to your preference. In this example, everything is [ON].	When the video server is disconnected or not detected, the "✖" symbol appears.

(2) Available video server sources are displayed in the RotoKey™ menu. In this example, [Quad Mode] and [Input 1] to [Input 4] are set to [ON] in menu, thus showing all the selections.

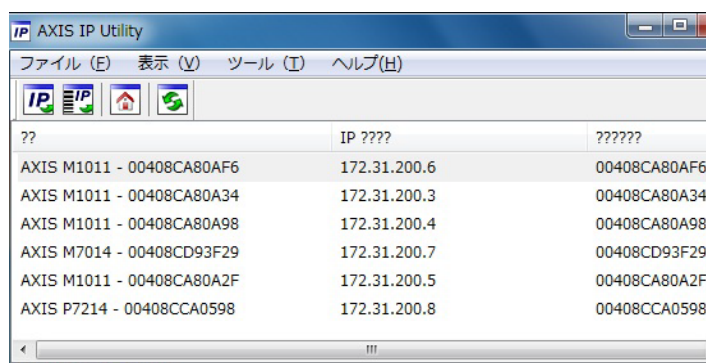


## 7. Tips – 4 x IP Cameras + 2 x Video Servers

As Axis IP camera and video server sources, a maximum of four (4) sets of IP cameras and two (2) sets of video servers are available in one network. In this example, the following items are configured and networked with the TZT14.

No	Items	Models	IP Addresses
1	IP Camera	M1011 (No. 1)	172.031.200.003
2	IP Camera	M1011 (No. 2)	172.031.200.004
3	IP Camera	M1011 (No. 3)	172.031.200.005
4	IP Camera	M1011 (No. 4)	172.031.200.006
5	Video Server	M7014	172.031.200.007
6	Video Server	P7214	172.031.200.008

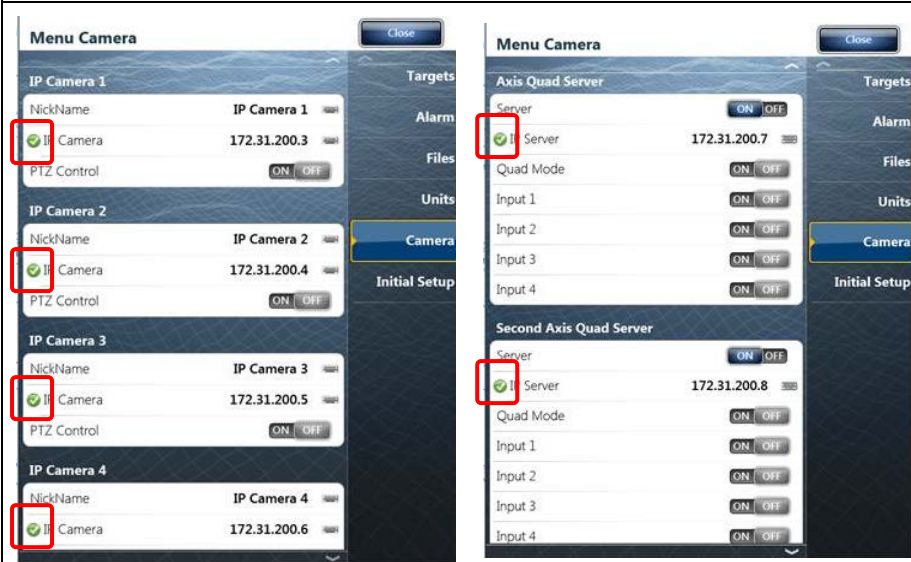
(1) All the IP cameras and video servers are assigned with dedicated IP addresses as shown in the AXIS IP Utility.



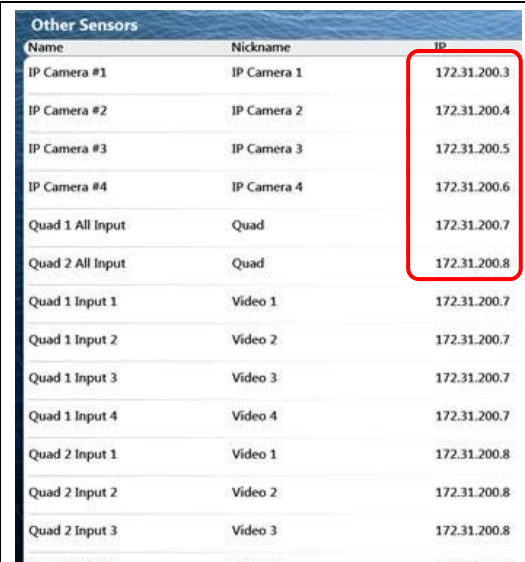
Device Name	IP Address	MAC Address
AXIS M1011 - 00408CA80AF6	172.31.200.6	00408CA80AF6
AXIS M1011 - 00408CA80A34	172.31.200.3	00408CA80A34
AXIS M1011 - 00408CA80A98	172.31.200.4	00408CA80A98
AXIS M7014 - 00408CD93F29	172.31.200.7	00408CD93F29
AXIS M1011 - 00408CA80A2F	172.31.200.5	00408CA80A2F
AXIS P7214 - 00408CCA0598	172.31.200.8	00408CCA0598

(2) All the IP cameras and video servers are detected by the TZT14.

**[Menu] – [Camera] – [IP Camera 1 to 4], [Axis Quad Server], and [Second Axis Quad Server]**



**[Menu] – [Initial Setup] – [Sensor List]**



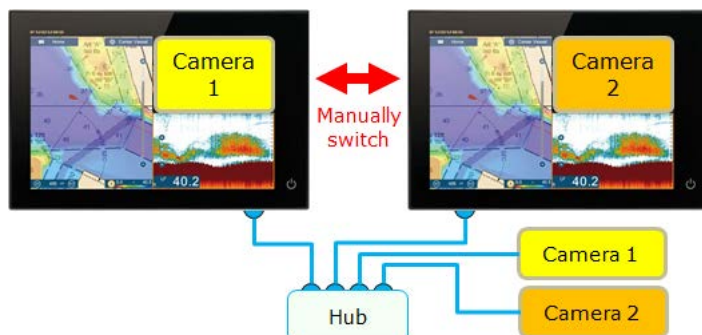


## Notes:

In one **TZT9/14/BB**, a maximum of two (2) screens can be allocated to the Camera page in the 3-split screen mode. Select one of these sources in each screen.



Among multiple IP camera inputs, the **TZTL12F/15F** can assign only one camera screen per display. Two (2) camera images **CANNOT** be simultaneously shown on both quarter (1/4)



screens as shown at right.



To see each camera image, manually switch sources between each source on one camera screen as shown at left because it is **NOT** compatible with the scrolling function.

To get multiple camera images to show at the same time on a TZTL12F/15F use analog cameras connected to a Quad server and display the combined image on a full screen.

--- END ---

- All brand and product names are registered trademarks, trademarks or service marks of their respective holders.