

VideONet Connect for 800xA

User Manual

System Version 6.0

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About This User Manual



Any security measures described in this User Manual, for example, for user access, password security, network security, firewalls, virus protection, etc., represent possible steps that a user of an 800xA System may want to consider based on a risk assessment for a particular application and installation. This risk assessment, as well as the proper implementation, configuration, installation, operation, administration, and maintenance of all relevant security related equipment, software, and procedures, are the responsibility of the user of the 800xA System.

This user manual describes how to install, configure, and operate the VideONet Connect for 800xA product that is a system extension to the 800xA system.

User Manual Conventions


Microsoft Windows conventions are normally used for the standard presentation of material when entering text, key sequences, prompts, messages, menu items, screen elements, etc.


Warning, Caution, Information, and Tip Icons


This User Manual includes Warning, Caution, and Information where appropriate to point out safety related or other important information. It also includes Tip to point out useful hints to the reader. The corresponding symbols should be interpreted as follows:




Electrical warning icon indicates the presence of a hazard which could result in *electrical shock*.

- 

Warning icon indicates the presence of a hazard which could result in *personal injury*.
- 

Caution icon indicates important information or warning related to the concept discussed in the text. It might indicate the presence of a hazard which could result in *corruption of software or damage to equipment/property*.
- 

Information icon alerts the reader to pertinent facts and conditions.
- 

Tip icon indicates advice on, for example, how to design your project or how to use a certain function

Although Warning hazards are related to personal injury, and Caution hazards are associated with equipment or property damage, it should be understood that operation of damaged equipment could, under certain operational conditions, result in degraded process performance leading to personal injury or death. Therefore, fully comply with all Warning and Caution notices.

Terminology

A complete and comprehensive list of terms is included in *System 800xA System Guide Functional Description (3BSE038018*)*. The listing includes terms and definitions that apply to the 800xA System where the usage is different from commonly accepted industry standard definitions and definitions given in standard dictionaries such as Webster’s Dictionary of Computer Terms. Terms that uniquely apply to this User Manual are listed in the following table.

Term/Acronym	Description
Faceplate	A faceplate is an aspect that provides a graphical representation of a certain aspect object, with presentation of certain properties related to the object, and mechanism for operator interaction.
Graphic Display	A graphic display is an aspect that provides a visual presentation. It consists of static graphics representing for example tanks, pipes etc., and graphic elements that present dynamic information. Graphic displays are used to present the state of a process.

Term/Acronym	Description
Camera	An analog CCTV camera that provides a composite video signal.
IP Camera	A digital camera that provides video over Ethernet networks.
VideONet	A camera integration platform that supports visual alarm and recording.
PTZ	Pan, Tilt, and Zoom, which are the functions available in a camera.
Process Object	A process concept/equipment, for example, valve, motor, or tank.
Graphic Element	Building blocks used in other graphic aspects.
Workplace	1. User interactive functions that are combined for a particular use, for example, Operator Workplace. 2. A node that runs one or several workplace applications.
Aspect Object Property	A property defined by an aspect of an aspect object, which is can be accessed from Process Graphics using the data subscription facility. It is often referred to as OPC property inappropriately.
<...>	Refers to keyboard navigation. For example, <Enter> refers to the Enter key.

Released User Manuals and Release Notes

A complete list of all User Manuals and Release Notes applicable to System 800xA is provided in *System 800xA Released User Manuals and Release Notes (3BUA000263*)*.

System 800xA Released User Manuals and Release Notes (3BUA000263)* is updated each time a document is updated or a new document is released. It is in pdf format and is provided in the following ways:

- Included on the documentation media provided with the system and published to ABB SolutionsBank when released as part of a major or minor release, Service Pack, Feature Pack, or System Revision.
- Published to ABB SolutionsBank when a User Manual or Release Note is updated in between any of the release cycles listed in the first bullet.



A product bulletin is published each time *System 800xA Released User Manuals and Release Notes (3BUA000263*)* is updated and published to ABB SolutionsBank.

Section 1 Introduction

The VideONet Connect for 800xA is used to visualize and manage video cameras connected to the 800xA system through the VideONet Server. This enables the operator to have a live view of the process within the Operator Workplace.

System Overview

The VideONet Connect for 800xA is installed in the 800xA system. Each node that will present the video must have VideONet Connect for 800xA installed, to be connected to the cameras. The video stream will be a point-to-point connection between the 800xA node and the VideONet Server.

Product Overview

VideONet System

VideONet is a video handling system that can be used standalone or as a video integration platform in comprehensive Information Management systems, Process Control systems or Alarm Handling systems.

The VideONet system consists of a combination of servers and clients. The system offers a standardized structure for the presentation of video and related data from different types of video sources like Analogue cameras, IP-cameras, Audio communication, and Video analyze data.

The VideONet Server can have one or more plug-ins installed to interface different types of video sources. The VideONet server must have plug-ins for the Analogue video capture, IP-video capture, the serial control bus for the Analogue PTZ camera, IP based PTZ control interface, and a plug-in for video recording.

The VideONet Server provides a functional interface to the 800xA system with the VideONet Connect installed. This enables the system to be extended with other camera types or interfaces by installing new plug-ins on the VideONet Server.

VideONet Connect

The VideONet Connect for 800xA is a system extension to the 800xA system. This product extends the functionality of the 800xA system with VideONet aspects for controlling and managing the video cameras connected through the VideONet Server.

The following are the features of VideONet aspects that belong to the VideONet Connect for 800xA:

- Connection to a VideONet Server.
- Video camera graphic elements for presentation in 800xA graphic displays.
- Video camera faceplates for configuring the video.
- Camera View aspect for playback and live view of video.

Dimensioning the System

It is recommended to use a separate network to setup the integrated 800xA and VideONet System, for the following reasons:

- Video consumes large bandwidth; 8-15 IP cameras consume 100 MBits/s.
- Lower risk of disturbances in the process network.

Higher resolutions, frame rates, and image quality requires more bandwidth. Each video stream consumes 1 to 15 MBits/s on the network depending on the camera type, video format, resolution, and frame rate. A typical CIF resolution, 25 FPS stream consumes about 3 MBits/s.

To calculate the bandwidth for a recording, take the average image size, multiply by 8 and frame rate. The average image size is available in **System > Status VnHistory** in the **VideONet Server** application.

Camera to VideONet Server Communication

The IP cameras send data to one or several VideONet servers during continuous video recording.

Communication increases for each camera with recording or active live stream. One stream to a camera is shared between configured recording and all live streams to 800xA clients. This means that additional clients to a camera do not increase communication.

VideONet Server to 800xA Client Communication

The VideONet Server streams the requested video to the 800xA nodes.

Communication increases for each recorder playback or live stream presented in an 800xA client, through a faceplate, graphic element or camera view.



Depending on the network load, select one of the following topologies.

- [Heavy Video Load Configuration](#)
- [Light Video Load Configuration](#)
- [Standard Video Load Configuration](#)

Heavy Video Load Configuration



Use the Heavy Video Load Configuration when recording is important and the operator usage of live video is high.

When there is an extensive usage of video streams, dual network interface cards and a parallel Video Network to the workstations is needed. The load of the Client Network will then be independent of the load of the Video Network.

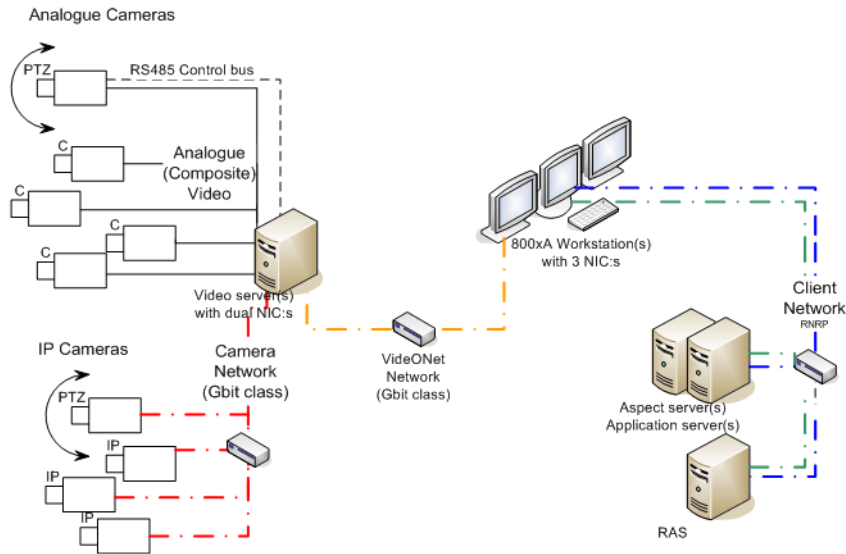


Figure 1. Network Topology for Heavy Video Load Configuration

Light Video Load Configuration



Use the Light Video Load Configuration when the recording of IP-cameras is minimal and the operator usage of live video is low.

When there are a few IP-cameras used or there is a minimal usage of video streams on the workstations, the VideONet Server can be connected to the Plant Network if the Plant Network can handle the additional load.

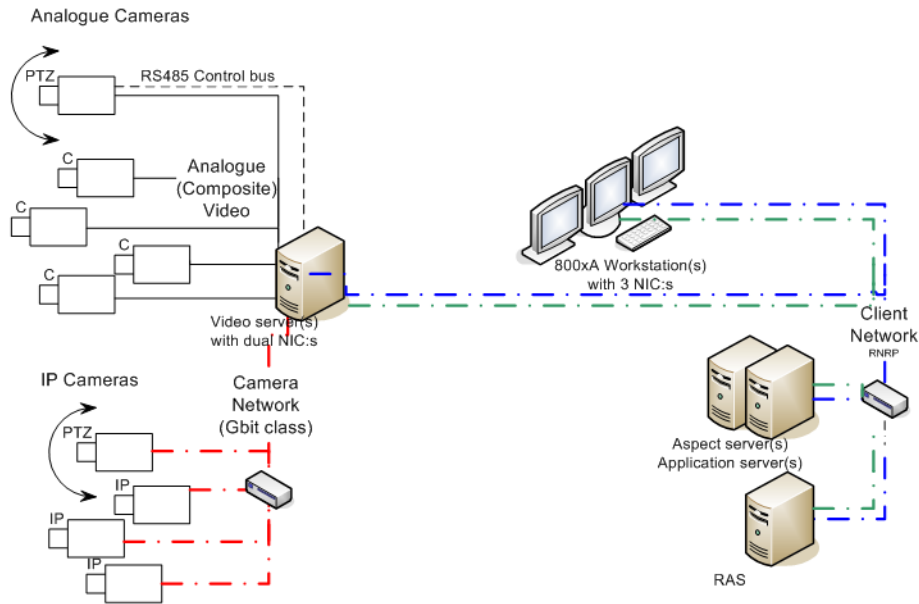


Figure 2. Network Topology for Light Video Load Configuration

Standard Video Load Configuration



Use the Standard Video Load Configuration when recording is important and the operator usage of live video is low.

When the IP-cameras are recorded in the VideONet Server, there will be continuous network traffic between the cameras and the VideONet Server.

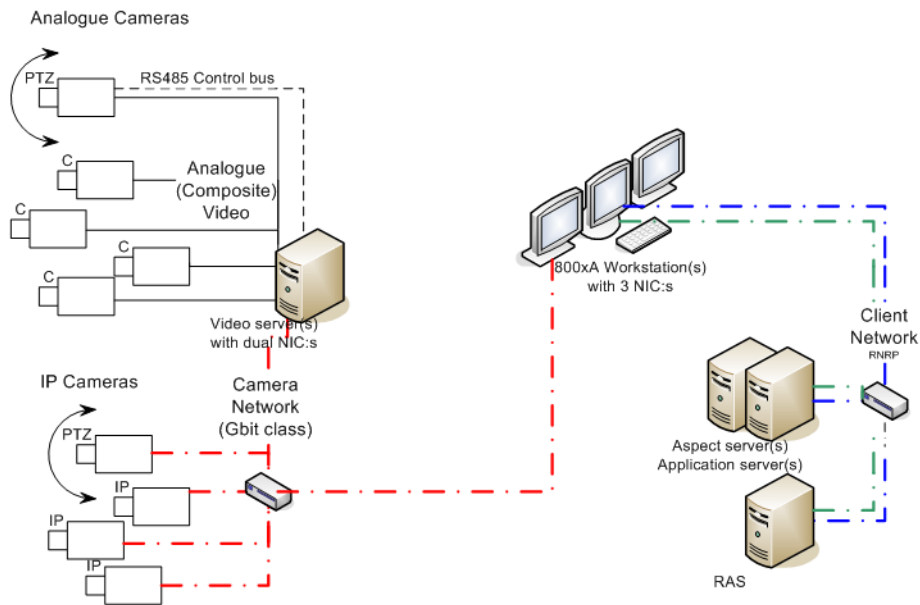


Figure 3. Network Topology for Standard Video Load Configuration

Section 2 Installation

This section describes the installation procedures for the VideONet Server and the VideONet Connect for 800xA.

Prerequisites

The following are the prerequisites for the VideONet Connect for 800xA installation:

- 800xA 6.0 and later versions.
- Adobe Acrobat 6.0 or later versions.
- VideoNet Server 11.x or later versions.

VideONet Server

The following are the system requirements for the VideONet Server:

Hardware

- CPU - Intel® Pentium® 4, 2.4 GHz or higher.
- RAM - Minimum 2 GB (4 GB or more recommended).
- Ethernet - 10/100/1000 Mbit/s depending on the number of cameras and clients.
- HDD - Minimum 100 MB available for application on system disk. Video storage as required, separate.
- Non-raided disk(s) recommended for best storage performance.
- Graphics - Intel Onboard or PCI-Express.

Operating System

- Windows Server Operating System

VideONet Client

The same system requirements apply for VideONet clients as for the clients in the 800xA system. For more information on these system requirements, refer to *System 800xA Getting Started (2PAA111708*)*.

Installing the VideONet Server

This section describes the procedure to install the VideONet Server.



The VideONet Server must belong to the 800xA Windows Domain.

For more information on VideONet Server, refer to *VnServer v11 Installation & Configuration manual*.

Execute the following steps to install the VideONet Server:

1. Run the *VideONet Server.msi* and *VideONet Server Installation* in the media. The Welcome Wizard appears.

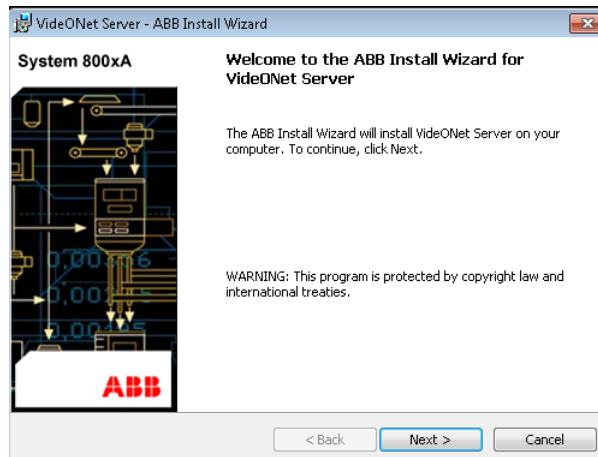


Figure 4. VideONet Server installation-Welcome Wizard

2. Click **Next**. The location of installation will appear.
Click **Change** to modify the location.

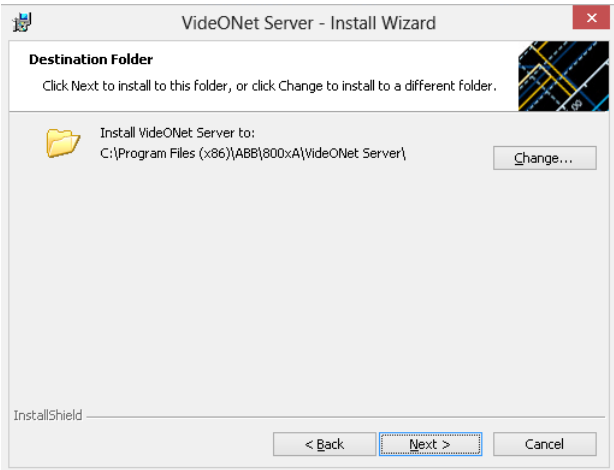


Figure 5. VideONet Server installation-Destination Folder

- 3. Click **Next** and then click **Install** to begin the installation.

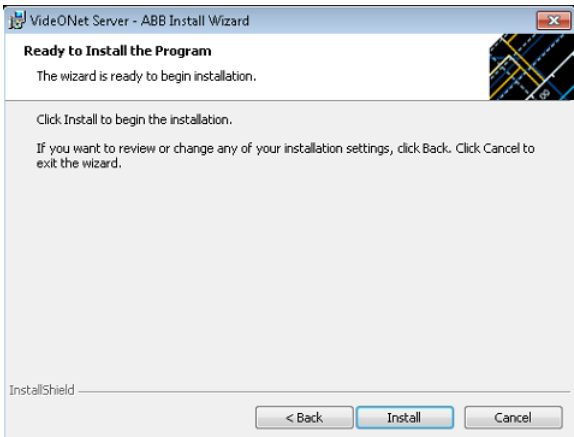


Figure 6. VideONet Server installation-Ready to Install

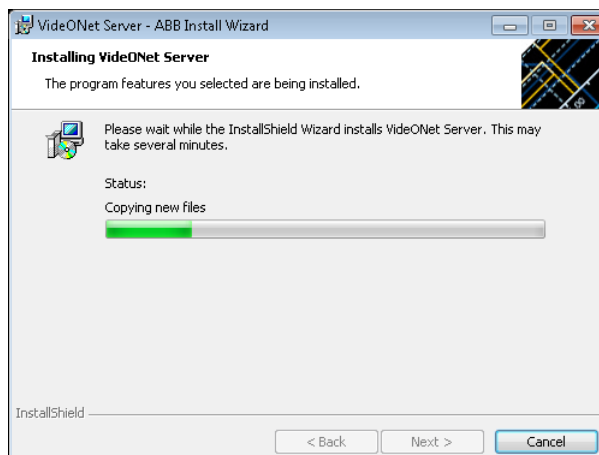


Figure 7. VideONet Server installation-Installation Progress

Click **Finish** to exit the wizard.



It is recommended to install Redundant Network Routing Protocol (RNRP) in the system. For more information on the RNRP installation, refer to *System 800xA Getting started (2PAA111708*)*.



By default, the user name for the VideONet Server is **admin** and the password is **hemma**.



If *VideONetServer.msi* file is executed for installing the VideONet Server, then *VnServer.exe* must be added as an exception to the Windows Firewall.

Installing the VideONet Connect

The VideONet Connect is installed by adding the **Video Surveillance** system function using the **Configure System** task in the **System Configuration Console (SCC)**.

Installing the Video Codec

This section describes the procedure to install the Video Codec.

A Video Codec is a software that enables compression and decompression of digital video. This is required to display the compressed video format (for example, MJPEG) that the cameras transfer over the network. The Video Codec must be installed on all the nodes used to display video.

The 800xA Operator Workplace requires a 32-bit Video Codec even on 64-bit Operating Systems.

Following is an example of a Video Codec and the installation. Execute the following steps:

1. Download the 32-bit *M-JPEG Codec* from the *Products* tab in www.morgan-multimedia.com.

The Video Codec is purchased separately and must be registered.

2. The License Agreement dialog appears.

Click **I Agree** to continue.

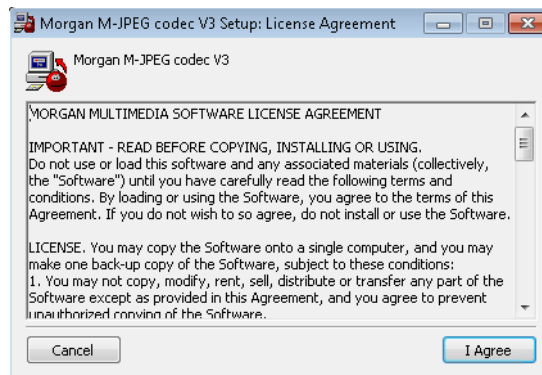


Figure 8. VideONet Codec Installation - License Agreement

3. Select the components to be installed.

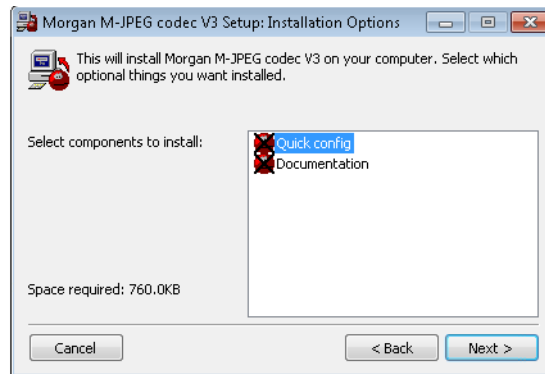


Figure 9. VideONet Codec Installation - Components to be installed

4. Click **Next**. The location of installation will appear.
Click **Browse** to modify the location.

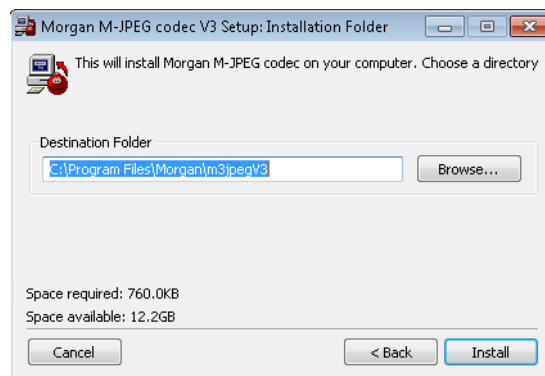


Figure 10. VideONet Codec Installation - Destination Folder

5. Click **Install** to begin the installation.

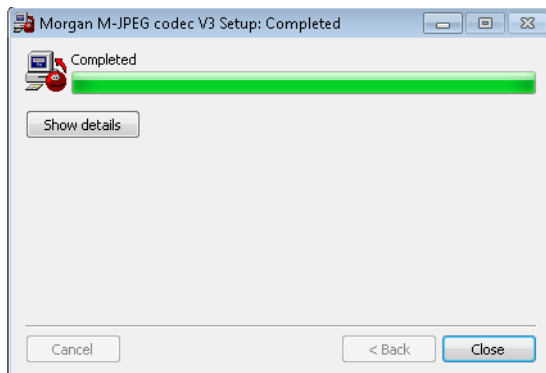


Figure 11. VideONet Codec Installation - Installation Complete

Click **Show Details** to display the details of the installation.

Click **Close** to exit the wizard.

Registering the Video Codec

Execute the following steps to register the Video Codec:

1. Click  in the System Tray. The **Configure** dialog appears (see [Figure 12](#)).

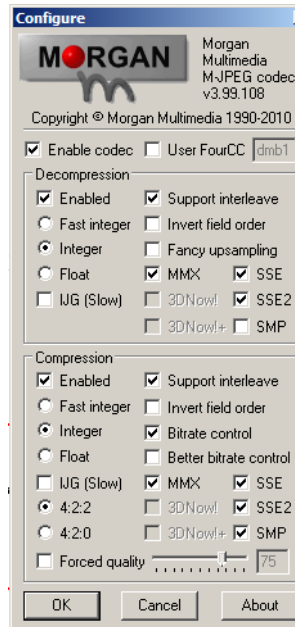


Figure 12. Configure Video Codec

2. Click **About** and the **About** dialog appears (see Figure 13).



Figure 13. About Video Codec

3. Click **Register** to register the Video Codec by specifying the **User Name** and **License Key** (see [Figure 14](#)).

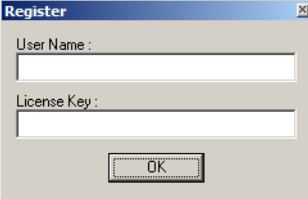
A screenshot of a Windows-style dialog box titled "Register". It has a blue title bar with a close button (X) in the top right corner. The dialog box has a light gray background. It contains two text input fields. The first field is labeled "User Name :" and the second field is labeled "License Key :". Below these fields is a single button labeled "OK".

Figure 14. Register Video Codec

Verification

The installation of VideONet Connect for 800xA can be verified through the Plant Explorer Workplace.

The **Video Object Type Group** object appears in the **Object Type Structure > Object Types > Video Object Type Group**.

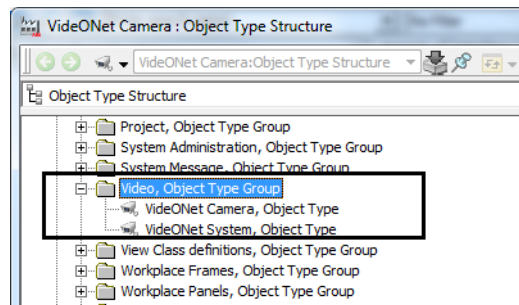


Figure 15. Object Type Structure

The **VideONet Aspect System** object appears in the **Aspect System Structure**.

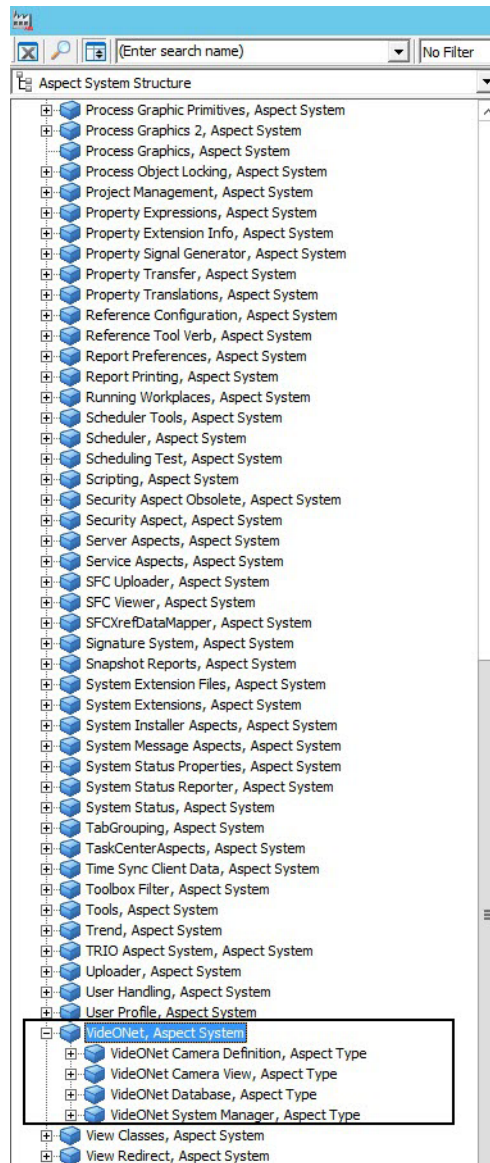


Figure 16. Aspect System Structure

The **Video Network** object appears in the **Control Structure > Root**.

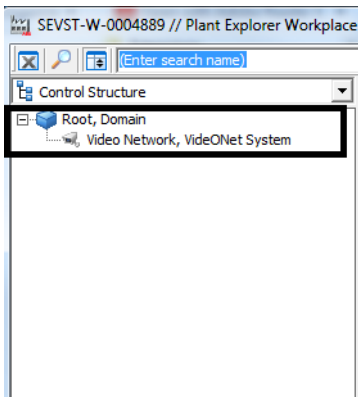


Figure 17. Control Structure

Section 3 Configuration

This section describes the configuration of VideONet Connect for 800xA objects and aspects.

To configure the VideONet objects and aspects:

- The cameras must be physically installed and configured.
- The VideONet Server must be up and running. For more information on VideONet Server, refer to *VnServer v11 Installation & Configuration manual*.

Configuring the Camera objects

This section describes the configuration of VideONet Camera objects in the 800xA system. Each VideONet Camera object is mapped to a physical camera in the video network.

Configure the following aspects for the VideONet Connect in the 800xA system:

- [Camera Definition](#)
- [Faceplate](#)
- [Camera View](#)

Camera Definition

This section describes how to configure cameras in the VideONet system. This configuration is done using the **Camera Definition** aspect. It is the Camera Definition aspect that maps the VideONet Camera object to a physical camera.

Execute the following steps to configure the **Camera Definition** aspect.

1. Right-click the **Video Network** object in **Control Structure > Root** and select **New Object** from the context menu.

2. Enter a name for the object of the category **VideONet Camera** and click **Create**.
3. Select the **Camera Definition** aspect.

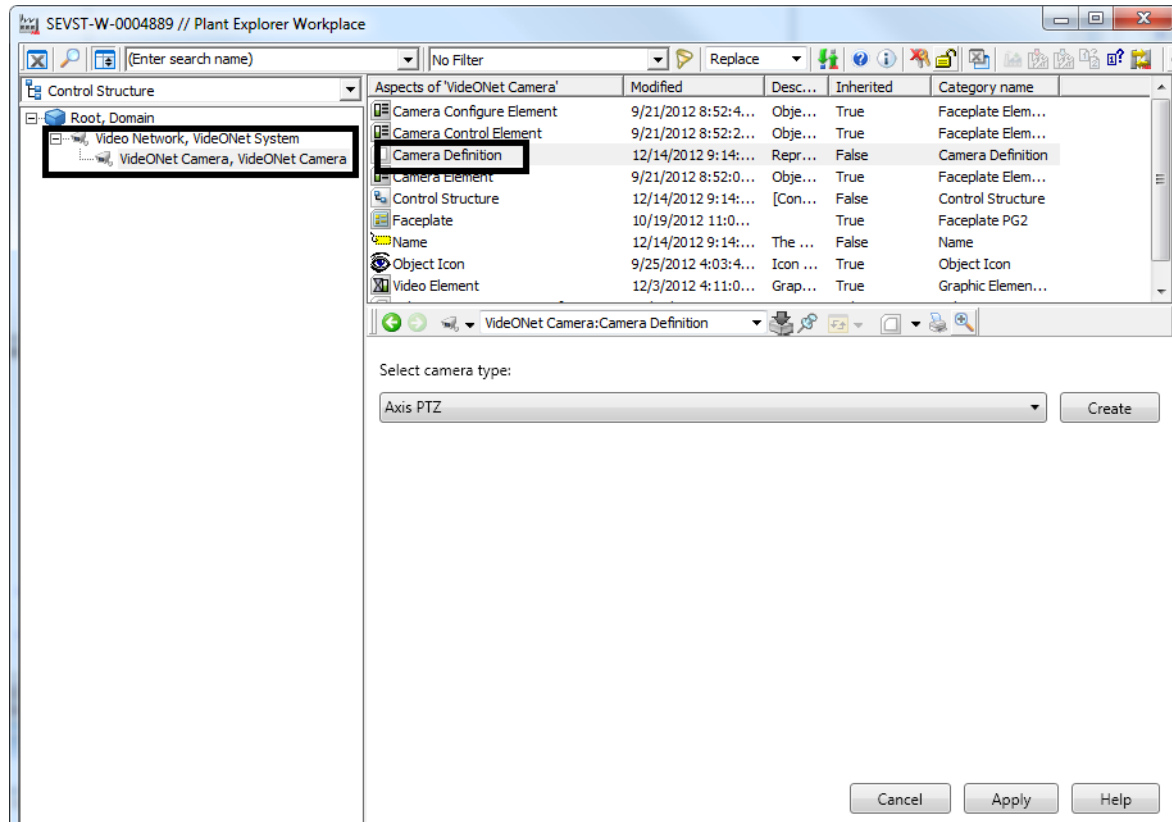


Figure 18. Camera Definition aspect

4. Select the type of camera to be created, from the available list of templates.

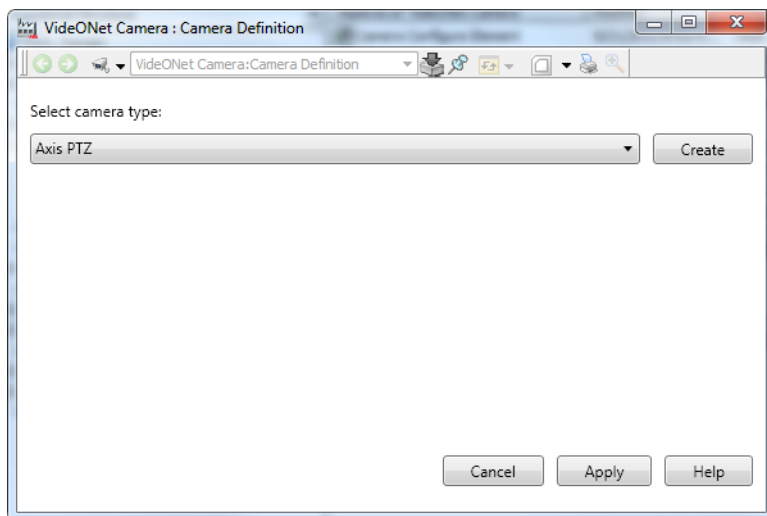


Figure 19. Creating a Camera

Click **Create** to configure the camera. See [Figure 20](#).

VideONet Camera : Camera Definition

VideONet server address:
127.0.0.1

Redundant VideONet server:

Network camera settings

Camera IP address:
192.168.2.88

Camera username:
root

Camera password:

Analog camera settings

Video channel on video card:
0

Camera bus number:
1

Cancel Apply Help

Figure 20. Configuring the Camera

5. Enter the host name or IP address of the VideONet Server in **VideONet Server**.
6. Enter the host name or IP address of the redundant VideONet Server, if any, in **Redundant VideONet Server**.
7. Enter the IP address of the camera in **Camera IP Address**.
8. Enter the user name and password of the camera in **Camera Username** and **Camera Password** respectively.
9. Enter the RS485 address of the camera in **Camera Bus Number**. This is only for PTZ (Pan Tilt Zoom) control of the analog cameras with RS485 control. It controls the lens on an Analog Camera connected with an IO card.

10. Enter the video channel of the camera in **Video channel on IO board**. This is required for an Analog Camera connected to a video board on the VideONet Server.
11. Click **Apply** to save the changes.

Deleting a Camera Configuration

To delete a Camera Configuration, right-click the **Camera Definition** aspect and click **Delete**.

This prompts for a confirmation (see [Figure 21](#)). Click **OK** to delete the aspect.

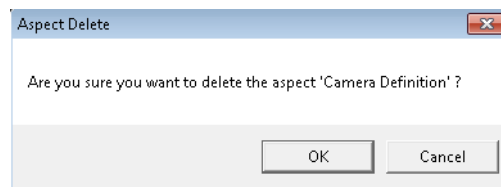


Figure 21. Deleting the Camera Definition aspect

If the user clicks **OK**, the system prompts for a confirmation to delete the camera configuration. Click **Yes** to delete the configuration.

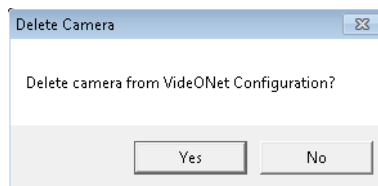


Figure 22. Deleting the Camera Configuration

Faceplate

The **Faceplate** aspect of the **VideoONet Camera** object in the **Control Structure > Root > Video Network** is used to display the camera view of the configured camera and also for the presentation and control of a camera view.

The **Reduced View** (see [Figure 23](#)) of this faceplate presents the camera view.

The **Normal View** (see [Figure 24](#)) of this faceplate presents the camera view and the camera control functions.

The **Extended View** (see [Figure 25](#)) of this faceplate presents the camera view and the camera control functions. In this view, the user can also define the preset positions for the camera.



To view the *Extended View* of the faceplate, the user must have the **Application Engineer** role.

To view the *Normal View* of the faceplate, the user must have the **Operator** role.



Figure 23. Faceplate aspect-Reduced View








Figure 24. Faceplate aspect-Normal View



Figure 25. Faceplate aspect-Extended View

Table 1 describes the camera control functions, Zoom in and Zoom out, Focus, Iris, Washer, and Wiper that are available in this faceplate. The camera control functions available in the faceplate are dependent on the camera hardware.

Table 1. Camera Control Functions

Icon	Description
	To change the focal length on the camera lens to provide a magnification.
	To adjust the focal point on the camera lens.
	To adjust the video brightness.
	To wash the camera lens.
	To wipe the camera lens.

The user can use the Pan icons appearing at the bottom of the Camera Control Functions, to rotate the camera axes to a specific position.

In **Update Preset**, enter a name for the camera position and click **Save** to save a preset position.

These preset positions defined are available in **Load**. The user can select the required positions, which moves the camera into position and view the video.



To rename a preset position, select the position in **Load**. Enter a new name and click **Save**.

To delete a preset position, select the position in **Load** and click **Delete**.

Camera View

The **Camera View** aspect is used to display a live video and also a playback video from a camera. This aspect can be added to any object where live video is suitable.

It is possible to add several views with different angle and zoom settings on the object from one or more cameras.

Execute the following steps to configure a **Camera View** aspect:

1. Right-click the required object and select **New Aspect** from the context menu.

- 2. Enter a name for the aspect of category **Camera View** and click **Create**.

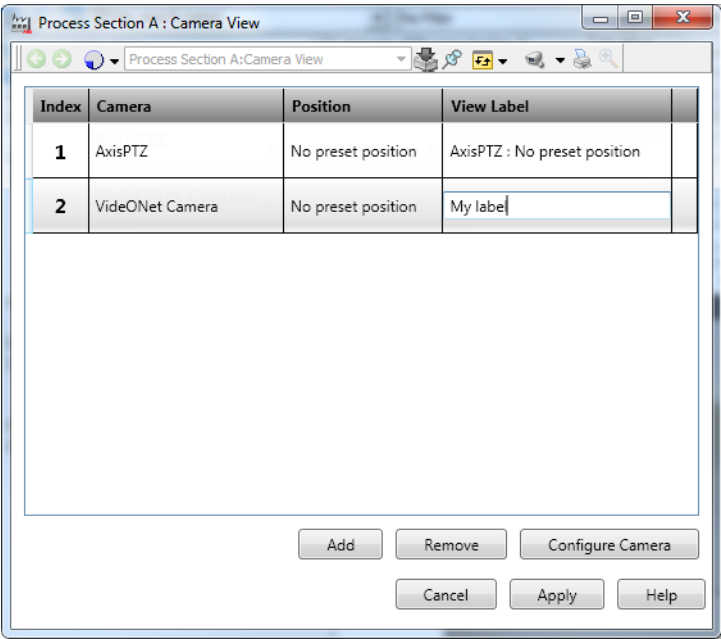


Figure 26. Camera View aspect

- 3. Select a configured camera in **Camera**.
- 4. In **Position**, select the position of the camera. This lists the preset positions defined in the **Faceplate** aspect. For more information, refer to [Faceplate](#) on page 36.
- 5. **View Label** specifies a name for the selected camera detail. The user can enter a new name if required.

If name is not provided, the name is built with the camera and preset position name. This changes on modifying the camera or preset position name.
- 6. To add the configuration of another camera, click **Add**.



To delete a camera entry, select the row and click **Remove**.

Click **Configure Camera** to configure the preset positions of the camera. This opens the **Faceplate** aspect. For more information, refer to [Faceplate](#) on page 36.

Drag and drop different entries to change the order of the entries. The first entry is the default view.

7. Click **Apply** to save the changes.

Uploading the Camera Objects

The **Uploader** aspect displays all the cameras that are defined in VideONet. This aspect appears in the **Video Network** object in **Control Structure > Root**.

[Figure 27](#) shows the **Main View** of the **Uploader** aspect.

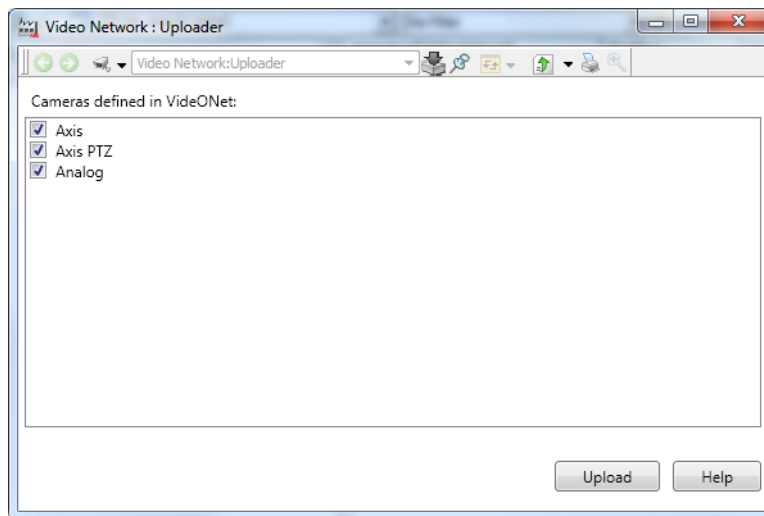


Figure 27. Uploader aspect

The **Uploader** aspect can be used if an 800xA object is deleted but the configuration is available in VideONet, or if the camera has been manually added to the configuration.

Select the cameras to be uploaded and click **Upload**. The corresponding camera objects are created after the upload.

Backup of the VideONet Connect

The VideONet Connect for 800xA is designed to provide the camera configuration with the backup. No recorded video or server configuration is stored with the backup.

For more information on the backup and restore procedure, refer to *VnServer v11 Installation & Configuration manual*.

Section 4 Operation

This section describes how to view the live video captured by the configured cameras.

Video View

Configure the **Camera View** aspect in the object in which the user wishes to have a live view. For more information on configuration, refer to [Camera View](#) on page 39.


Execute the following steps after configuring the aspect:

1. Right-click the configured object in a **Graphic Display** aspect and select **Camera View** from the context menu.



Figure 28. Camera View aspect - Main View (Live Mode)



Click  in the Live mode of the Camera View ([Figure 28](#)) to display the Playback mode of the Camera View ([Figure 29](#)) and vice versa.

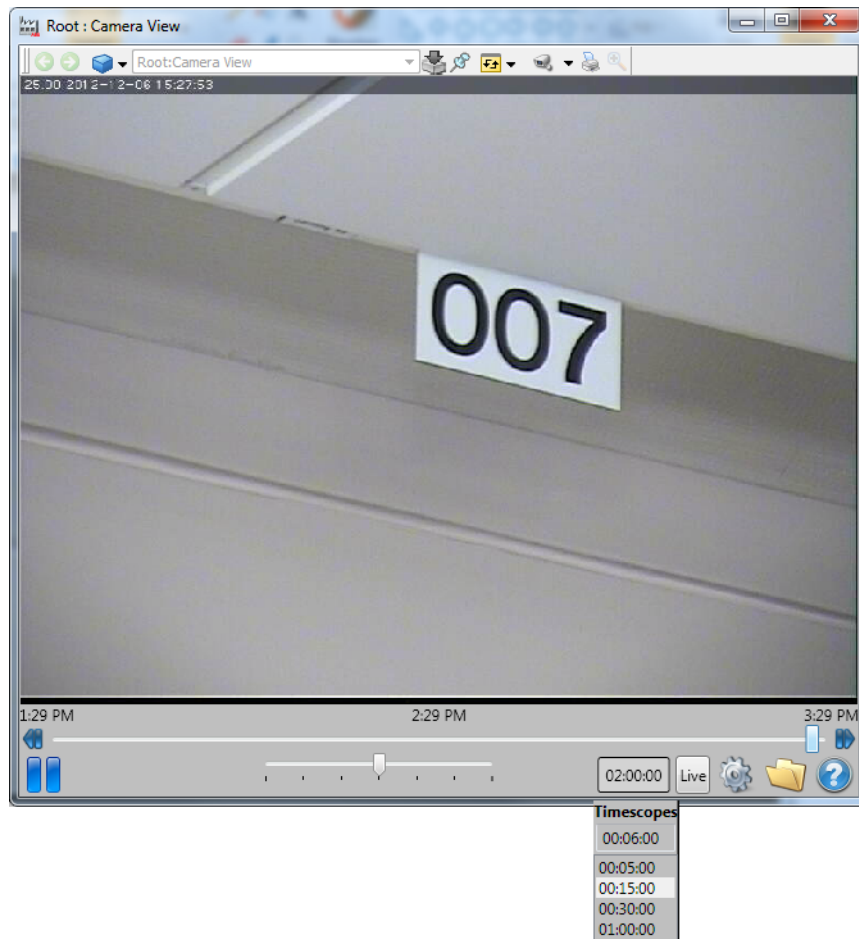


Figure 29. Camera View aspect - Playback Mode

2. If there are two or more camera views configured, the first view is displayed by default.


Use  to toggle between the different camera views configured. Select the required camera view from the list.

Table 2 describes the functions available in the Camera View.

Table 2. Camera View Functions

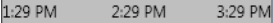










Icon	Description
	Specifies the time scope of the progress bar.
	To show the progress of the playback video. Use   to move the timescope on the progress bar, backward or forward respectively.
	To start a playback if there is a recording configured for the camera or pause the playback video respectively.
	To change the speed of the playback video. Drag the slider to the right or left to change the play speed backward or forward. The play speed is in slow motion when the slider is close to the center between the first ticks appearing to the left and right of the center. The user can also click the bar to lock the slider in fast reverse or fast forward mode.
	To open the Faceplate. For more information, refer to Faceplate on page 36.
	Specifies the length of the progress bar. The user can also select or enter the required time scope to adjust the length of the progress bar. A short time scope increases the precision of the progress bar.
	To toggle between the live mode and playback mode.

Table 2. Camera View Functions (Continued)

Icon	Description
	To open a recorded video.
	To view the online help.

Video Element

The **Video Element** aspect appears on all the Camera objects in **Control Structure > Root**. This graphic element can be added to graphic displays for viewing the live video.

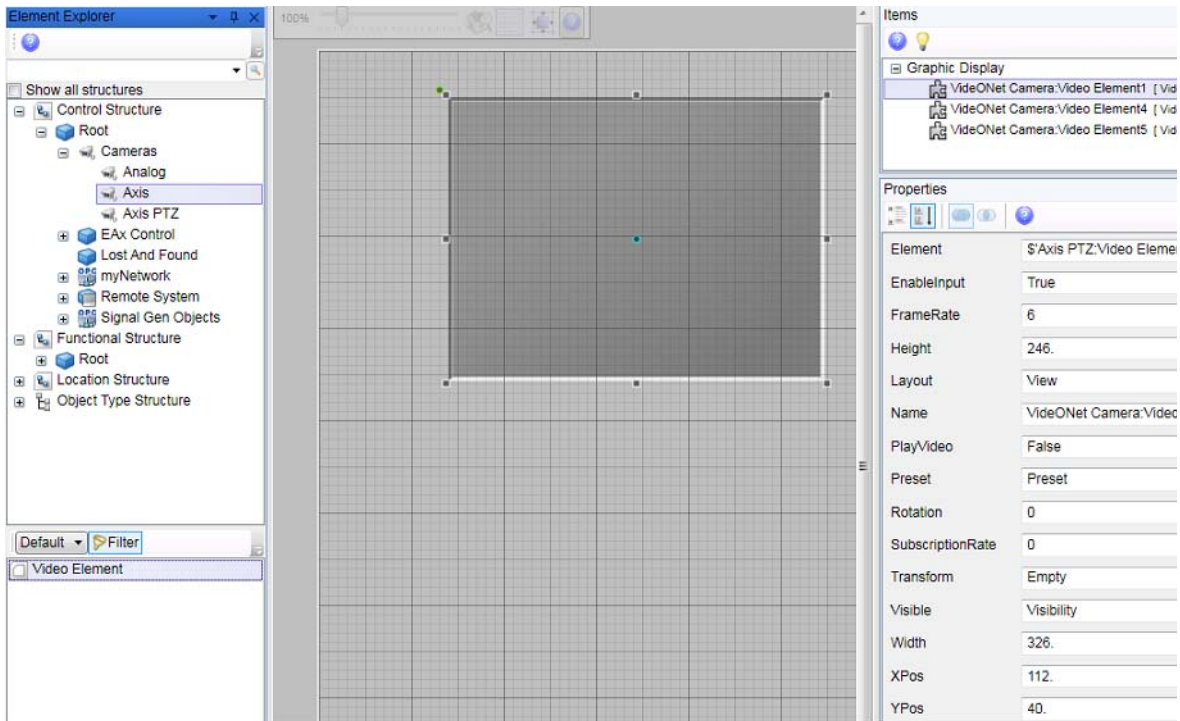


Figure 30. Video Element

The following are the properties specific to this graphic element.

- **Layout** controls the layout of the graphic element.
 - Select *View* to display the Camera View.
 - Select *Operate* to display the controls for operating the camera.
 - Select *Configure* to update the preset positions.
 - Select *Control* to show only the camera controls without video.
- **FrameRate** specifies the number of images to be displayed per second. Lower framerates take less performance.

- **PlayVideo** specifies whether to play the video or not. *Inactive* does not load the network.
- **Preset** changes the camera position. This displays the preset number defined in the camera.

For more information on adding graphic elements and setting the properties, refer to *System 800xA, Engineering, Process Graphics (3BSE049230*)*.

Camera View

The Camera View is a primitive that appears in **ToolBoxes > Special** in the **View** menu of the Graphics Builder. This primitive can be used in Graphic Elements to create a user-defined graphic element for video view.

The following are the properties specific to this primitive:

- **AccessRights** specifies what access rights the current user has to the camera. This must be the CameraAccessRights property on the **Camera Definition** aspect.
- **Camera** specifies the VideONet camera which will be displayed. This must be the CameraId property on the **Camera Definition** aspect.
- **Focus** sets the focal point of the camera lens.
- **Iris** sets the brightness of the video.
- **Layout** controls the layout of the primitive.
 - Select *View* to display the Camera View.
 - Select *Operate* to display the controls for operating the camera.
 - Select *Configure* to update the preset positions.
 - Select *Control* to show only the camera controls without video.
- **Pan** rotates the camera axes to a specific position.
- **Preset** changes the camera position. This displays the preset number defined in the camera.
- **VideoState** activates or deactivates the video. *Inactive* does not load the network.

- **Zoom** adjusts the focal length on the camera lens to provide a magnification.

For more information on adding graphic elements and setting the properties, refer to *System 800xA, Engineering, Process Graphics (3BSE049230*)*.

Section 5 Troubleshooting in VideONet Connect

Table 3 describes a set of procedures to be executed or verified if the user notices the respective issues.

Table 3. Troubleshooting steps

Issue	Procedure
The text <i>Connecting</i> appears in the Faceplate before a camera link is established. The text remains the same if the camera link is not established.	This issue indicates that the client cannot connect to the VideONet Server. Verify the following: <ol style="list-style-type: none">1. <i>VnServer.exe</i> is running.2. Server IP in the Camera Definition aspect.3. Correctness of the Camera User Name and Password.4. Camera IP Address.5. Firewall configuration on the server.6. If the DNS names are used in Camera Definition aspect, ensure that the network interfaces in the VideONet Server does not have IPv6 addresses. DNS names can be used with IPv4.
The text <i>Could not decode the video stream. Verify that a video codec is installed that can handle the configured video format in the camera</i> appears when a camera link is established.	This issue indicates that the decoder is not installed. <i>MJPEG</i> decoder is installed with the 800xA system installation. <ol style="list-style-type: none">1. Verify the compression settings on the camera.2. Install <i>codec</i> that can handle the configured video format in the camera.

Table 3. Troubleshooting steps (Continued)

Issue	Procedure
When applying the Camera Definition aspect, the text <i>VNDN_DB_ERROR_UPDATED</i> appear.	This issue indicates that the file in the shared database path is updated by another user. 1. Close and open the Camera Definition aspect. 2. Verify the write permissions. 3. Delete <i>C:\Program Data\ABB\VideoONet Connect\VnVideoConfig.db</i> locally on the node. This is a cached local copy.
When a video recording is configured in the server, the user does not get any records in the client.	Recording is configured in the VideONet Server. For more information on recording, refer to <i>VideONet 11.x Server manual</i> . After the configuration is done and when the recording is started for the first time, it takes several minutes before the recording is found in the Workplace.
The preset positions are missing or does not function.	Preset positions are reset when the Camera Definition aspect is modified. The positions are stored in the camera. If the camera is reset or replaced, the positions are lost.

Revision History

This section provides information on the revision history of this User Manual.



The revision index of this User Manual is not related to the 800xA 6.0 System Revision.

The following table lists the revision history of this User Manual.

Revision Index	Description	Date
A	Published for 800xA System Version 6.0	December 2014
B	Published for 800xA System Version 6.0.3	September 2016

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