

NVR LE/PRO

Users Guide



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1 Introduction

VIPRO NVR, the standard for Network Video Surveillance. You have purchased the most comprehensive and scalable solution available for Digital CCTV Video Surveillance and monitoring. In this chapter we will introduce you to **VIPRO NVR**.

1.1 Welcome

Thank you for choosing VIPRO NVR - Digital CCTV Video Surveillance. The Getting Started Guide is a comprehensive VIPRO NVR documentation set. Please note that some information and diagrams might not apply to previous versions of VIPRO NVR.

For additional VIPRO NVR information, please visit our Web site at www.viproinc.com for the latest news, updates, configuration help, installations and technical support.

We are committed to providing you with the most innovative and scalable software solutions available for Digital CCTV Video Surveillance. As such, we welcome your comments and suggestions about VIPRO NVR and how it has helped you. We consider your feedback highly valuable, please contact us though our support page at: www.viproinc.com

1.2 Legal

All documentation furnished by VIPRO INC is for informational purposes only to licensed users of the VIPRO NVR software product(s) and is furnished on an "as is" basis without any warranties, expressed or implied. VIPRO NVR is a trademark of VIPRO. All brand and product names are trademarks of the respective holders. Information in this document is subject to change without notice and does not represent any commitment on the part of VIPRO. The software described in this document is furnished under a license agreement. The software may be used only in accordance with the terms of that license agreement. It is against the law to copy or use the software except as specifically allowed in the license. No part of this document may be reproduced or transmitted in any form or by any means, whether by electronically or mechanically, without the expressed written permission of VIPRO.

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Please visit our Web site at www.viproinc.com

1.3 Overview

Solution for Digital Video Surveillance

VIPRO NVR is the most comprehensive and scalable solution available for acquiring, displaying and archiving images for Digital Video Surveillance. Operators can take full advantage of the powerful features of VIPRO NVR, including image capture, storage, system control and image playback.

Easy to Use, Powerful and Scalable

Shielding you from the complexities of camera image acquisition, VIPRO NVR's simple and easy to use modules and configuration allows you to build your camera installation quickly.

VIPRO NVR lets you create your camera installation with powerful features that meet your current needs. To meet the demand of the future, we offer additional camera upgrades to handle any number of cameras you may require.

Client/Server Architecture

Client/Server computing has become the industry standard for high availability digital video surveillance applications. VIPRO NVR incorporates thin client/server technology to add new capabilities and best of all, it's built-in now! VIPRO NVR provides key benefits that only client/server architectures can provide, such as more efficient distributed processing, high performance, enhanced reliability, remote access and scalability for large numbers of users.

Powerful Camera Control

- VIPRO NVR supports all popular JPG, JPEG and MJPEG IP cameras and video servers. Our driver list is constantly updated to provide you with the most comprehensive camera coverage possible.
- Central client/server operation: All application files and configuration databases are centrally located on one server. Each application may be run from any system on the network.
- Security: Leveraging Microsoft Windows 2000 Server, you can implement your own security schema with currently available tools.
- Enhanced Automation: Add, delete or change configuration settings for one camera or a group of cameras.
- Expanded Configurations: Capture your images in color or black and white. Set image compression and size to match your requirements. Capture images at up to 30 frames per second for viewing and archive images at slower time-lapse rates.

VIPRO NVR Module Descriptions

- vMaster: The Master Console for your camera database to configuration information. All modules draw from and report back to this central application.
- vCapture: Image capture engine designed with high-performance multitasking, multiprocessor use and efficient TCP/IP networking built-in.
- vStore: Image archiving engine that stores images to your hard drive for later use and retrieval.
- vMotion: Image archiving engine that stores images based on motion detected. vMotion is powerful and easy to setup with different complexity settings to further enhance the user experience.
- vMonitor: View captured images on your desktop computers. Multiple stations and configurations are provided to allow you to easily handle the most demanding monitoring needs.
- vConsole: A sophisticated camera image viewing module with complete control over viewing layouts, rotating images, hot recording and instant playback.
- vSchedule: Provides for camera on and off scheduling.
- vMovie: Converts JPEG image data to an AVI format for expanded playback options.
- vPlay: View and playback your archived images from anywhere you can access your network. Printing functionality allows you to immediately print important images quickly and efficiently. An export function allows you to export one or a series of images for quick distribution.
- vGuard: The vGuard module provides email and event notification. All events that require pager and email alerting will spool to the vGuard module. Our spooling methods allow many notifications to occur simultaneously so you don't miss your alerts.
- vAlarm: The vAlarm module provides alarm based messaging to start camera recording via motion detection, external alarm events and IP Sockets based communications.
- vWeb: Additional functionality is provided to serve your images on your WAN or the Internet.
- vWebMon: A stand-alone application is provided that can be installed on any windows system to view and control your cameras via the Internet.

1.4 IP Cameras and Video Servers

VIPRO NVR supports most popular IP cameras and video servers. Please refer to the VIPRO NVR Camera Guide for detailed information on supported cameras and video servers. If you do not see your particular model listed please email your request to us at sales@viproinc.com

1.5 Image Formats Supported

VIPRO NVR utilizes the JPEG and MJPEG (Motion JPEG) image format for most of its processes. This chapter deals with the JPEG image format and other encoding schemes that are of use to us.

1.5.1 Technology Notes

Many video systems currently available are based on the old NTSC (USA) or PAL (Euro) standards. These two standards are similar and analog in nature. Because of this analog nature certain facts must be presented in order to understand what these old standards are capable of providing and how they are being discontinued in a digital world.

NTSC and PAL Facts

- NTSC and PAL formats are interlaced (2 pictures used to make 1 picture).
- 320x240 (NTSC) and 352x240 (PAL) images can be encoded as a single image pictures.
- 704x240 (NTSC) and 704x293 (PAL) images can be encoded as a single image pictures.
- 704x480 (NTSC) and 704x586 (PAL) images are two interlaced image pictures, separated by 1/30th of a second. When encoded this causes severe motion related jaggies (image distortions).

The Next Generation (IP Cameras)

- All Next Generation cameras are non-interlaced (no image distortions).
- Next generation IP camera images sizes are 352x240, 640x480, 1024x768 and larger.
- Mega-Pixel cameras are non-interlaced (no image distortions).
- Many IP cameras support important digital features impossible to implement in the old analog cameras.

1.5.2 JPEG

VIPRO NVR supports JPEG (JPG) and MJPEG image formats. The JPEG/MJPEG image format provides many benefits to video surveillance that must not be over looked, they are:

- JPEG encoding is the defacto standard for clear high quality images.
- JPEG encoding does not make use of proprietary algorithms.
- JPEG does not rely on "key" frames to construct its images.
- JPEG image provides all information needed to render or display a single image.
- JPEG has no minimum bit rate or bandwidth requirements.
- JPEG images can be of any size and resolution.
- JPEG images never deteriorate.
- JPEG image streams can operate from less that 1FPS to faster than 30FPS.
- JPEG is the image format of choice for mega-pixel cameras (including digital cameras).
- JPEG image historic playback allows efficient individual single step image display in any direction.
- JPEG images allow multiple images sizes to be mixed in the image stream.
- JPEG images are easily printed.
- JPEG images can be stored individually for your convenience and access.
- JPEG is standard on all Operating Systems (MAC, Windows, Linux and others).

JPEG image size in pixels and compression settings used dictate actual file size. Most IP cameras provide several options in order to balance image quality and clarity and desired file size. Presented in this section are two image sizes and related compression setting and how it relates to actual file size.

352x240 Image Size

- Minimum or Low: Little compression is applied to image. Images are of higher quality, produce excellent prints. Average yield is usually greater than 15KB per image, depending on the IP camera.

- Medium: Medium compression is applied to image. Images are good quality and print well. Average yield is 10KB to 15KB. This setting is recommended for high frame rates and good quality prints.
- High or Very High: High levels of compression are applied to image. These setting greatly increase over all frame rates, however image quality suffers, prints are generally of lower quality. Average yield is usually less than 10KB per image.

640x480 Image Size (Progressive Scan IP Camera)

- Minimum or Low: Little compression is applied to image. Images are of higher quality, produce excellent prints. Average yield is usually greater than 20KB per image, depending on the IP camera.
- Medium: Medium compression is applied to image. Images are good quality and print well. Average yield is 15KB to 20KB. This setting is recommended for high frame rates and good quality prints.
- High or Very High: High levels of compression are applied to image. These setting greatly increase over all frame rates, however image quality suffers, prints are generally of lower quality. Average yield is usually less than 15KB per image.

Start with a medium compression setting and analyze your viewing and printing experience. You have full control over viewing and storing options to suit your individual requirements.

1.5.3 MPEG and DivX

Please be advised that many encoding processes use and rely on "key" frames which an image is originally reconstructed from. If this key frame or subsequent "partial" frames are missing you may encounter many images that will be lost forever. Also, some encoding techniques such as MPEG-4 work well at lower resolutions however they do not support multiple image sizes, nor do they support larger images above their maximum image size (typically 640x480). Some encoding processes such as MPEG-2 provide DVD image quality however their bandwidth requirements are typically prohibitive for use with multiple network video streams.

VIPRO NVR does utilize MPEG-4 and DivX transcoding techniques for the following uses.

- Web Streaming of video from VIPRO NVR
- AVI file creation for CD or DVD
- Backup purposes for long term storage

1.6 Registration

In order to receive 30 calendar days of free technical support, be sure to register your software. Registering also enables you to receive the latest information about product releases and upgrades.

Register your VIPRO NVR software in one of the following ways:

- Fill out a registration form on VIPRO's registration Web page at www.viproinc.com
- Fill out and send in the registration card included with VIPRO NVR.

1.7 Technical Support

Before contacting our Technical Support department, please check out our resources offered to support VIPRO NVR.

On-line Help

To help answer your questions that may arise about VIPRO NVR, first consult the on-line manual or the Getting Started Guide. These resources are designed to get VIPRO NVR installed and operating.

Web-Based Help

Consult VIPRO's Web site at www.viproinc.com for immediate access to support information. This information is available to you 24 hours, 7 days a week.

Product Registration

You must register VIPRO NVR to become eligible for technical support. Product registration can be performed at www.viproinc.com.

Support Options

Your support package is typically determined at the time of purchase. For additional options please contact your solutions provider.

To contact VIPRO NVR's Support Engineers:

- Phone: 816-616-4245 (8:00 a.m. to 5:00 p.m. Monday through Friday)
- Internet: www.viproinc.com

Support is limited to installation assistance and answers to general VIPRO NVR usage questions. Questions relating to operating systems, networking or various other windows technologies are not included.

When contacting technical support, our Support Engineers will require the following information to help answer your questions:

- Your name and the name under which the product was registered.
- Your VIPRO NVR serial number.
- Your address and email address.
- Version and build numbers of your VIPRO NVR.
- A detailed description of the problem you are experiencing. Please record any relevant error messages as they appear. Provide a detailed list of all the steps that led up to the problem.
- Additional information concerning the computer on which the problem occurred, make, model, video, operating system, available memory and other relevant system information.

1.8 Consulting Services

If you have complex requirements for your installation that require expert advice, you might consider contracting with VIPRO Consulting Services. We have expert partners who are trained in every aspect of Digital Video Surveillance Network planning and implementation. We provide consulting services on the following:

- Pre-installation planning and design.
- Analysis and troubleshooting of existing installations.
- Meeting custom requirements.
- Customized training of your support personnel.

For more information regarding our consulting services:

- Phone: 816-616-4245
- FAX: <FAX>
- e-Mail: sales@viproinc.com

1.9 Additional Information

For additional information on installing VIPRO NVR please refer to the VIPRO NVR Quick Start Guide.

For additional information on cameras please refer to the VIPRO NVR Camera Guide.

For additional information on system requirements please refer to the VIPRO NVR Design Wizard.

2 Installation

Installation of VIPRO NVR is easy. All installation files are always installed to one computer server. After installation, you can run VIPRO NVR's modules locally or from other computers on your network.

2.1 Overview

For basic installation please refer to the VIPRO NVR Quick Start Guide. Before you install VIPRO NVR, you should make sure that your computer meets the minimum system requirements for each product and module used.

VIPRO NVR is installed on one computer system. Individual modules may run on one system or many depending on the product purchased.

- VIPRO NVR EX and LE base modules (capture and storage) may run on the installed system only. Viewing clients are not restricted and may run on as many systems as you require.
- VIPRO NVR PRO and ENT modules may run on one system or many.

Administrative privileges are required to install and operate VIPRO NVR on your system. Modules operated on other systems will require read and write privileges.

2.2 Basic Installation

For basic installation please refer to the VIPRO NVR Quick Start Guide supplied with VIPRO NVR. This guide covers the following installation points.

- Recommended Hardware Requirements
- Recommended Software Requirements
- Operating Systems Supported
- Re-Install Preparation
- VIPRO NVR Product Specific Information
- License System (USB Key)
- IP Camera Installation
- Basic Module Setup and Operations

All other installation concerns are considered advanced in nature and are covered in the [Advanced Installation](#) section.

2.3 Advanced Installation

All other installation concerns not covered in the Quick Start Guide are considered advanced in nature and are covered in this section.

2.3.1 Installation Partition

It is recommended that **VIPRO NVR** be installed to the boot partition. If you will be using logging or event logging and you expect large files as a result then you may require a larger boot partition or you may want to install **VIPRO NVR** to its own partition. With current hard drive technology it is recommended that **VIPRO NVR** be installed on a RAID0 or RAID5 disk subsystem.

2.3.2 Network Considerations

Make sure you plan your network properly. When running **VIPRO NVR** modules on multiple systems all modules must be able to connect to each other in order to transfer images properly.

2.3.3 WAN and Internet Options

When operating **VIPRO NVR** over the Internet or a WAN connection you have the following options.

Available options when using a Virtual Private Network (VPN)

Use vWeb Server and vWebMon for live viewing and playback your camera images.
Use nPlay for tree based historic playback.

Available options without a VPN

Use vWeb Server and vWebMon for live viewing and playback your camera images.

Additionally you can setup a **VIPRO NVR** and a Web Server for [Browser Based Viewing](#).

2.3.4 Browser Based Viewing

Browser based viewing can be accomplished by integrating **VIPRO NVR** with a Web Server. **VIPRO NVR** supports most HTTP Web Servers currently available.

Please contact your **VIPRO NVR** solutions provider for detailed information on this subject.

2.3.5 Image Storage Concerns

For small **VIPRO NVR** solutions you can use individual hard drives for image archiving. For larger solutions RAID5 is recommended for fault tolerance.

If you archive more than one camera to the same hard drive, be sure that the sum of all Disk Quota's does not exceed the capacity of the hard drive. Always leave some additional space on the hard drive for proper operation. This additional space varies depending on your **VIPRO NVR** version.

Prior to **VIPRO NVR** Version v3.00

- Please reserve a minimum of 5% to 10% unused space at all times for reliable operation.
- Depending on your system, the "per camera" maximum storage is between 20GBs and 200GBs

VIPRO NVR v3.00 and Newer

- Please reserve a minimum of 0.1% to 10% unused space at all times for reliable operation.
- Depending on your system, the "per camera" maximum storage is from 200GBs to 1TB and larger.

Important Notes:

- **This section applies to the vStore and the vMotion modules.**
- **It is not recommended to store images on any boot partition. A boot partition filled to maximum capacity can render your Operating System inoperable.**

2.3.6 vMaster Relocation

The VIPRO NVR License device driver is installed by default on the same system on which the installation was performed. It is recommended that the vMaster be run on that same install system. If however you require vMaster to run on a different system please follow the procedure listed below to relocate the vMaster. The new station you plan to run vMaster on must have network access to the VIPRO NVR installation folder with read and write privileges.

1. Insert VIPRO NVR installation CD into CD-ROM drive of the new system.
2. Remove License USB Key device prior to installation (required for USB drivers).
3. Run VIPRO NVR License (SafeNet) installer on the new system.
4. Install License USB Key to new system.
5. Launch vMaster from the original install server and verify operation.

3 Common Features

VIPRO NVR's designers have provided a consistent look and feel across the entire solution wherever possible. This section provides features that are common in two or more modules.

3.1 Module Versioning

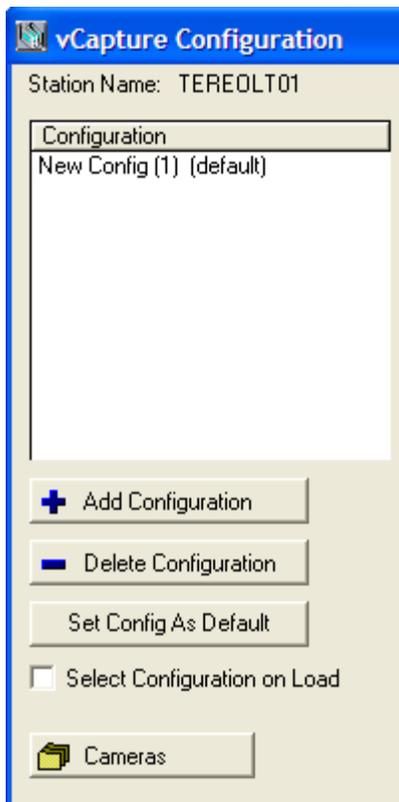
Module versioning is displayed within the title bar of each module.



Please include this information along with any tech support issue you may encounter.

3.2 Configurations

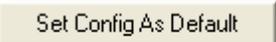
Many of VIPRO NVR's modules can support multiple configurations. This section describes this common feature in detail.



The Station Name is the name of the computer system on which the module is running.

The Configuration window lists all configurations created. Each module can have one or more pre-configured Configurations available at run time.

General Information

 	<p>The plus sign command button is used to add a configuration. All modules provide a text box for optionally changing the Configuration Name.</p>
 	<p>The minus command button is used to delete any highlighted configuration.</p>
	<p>By clicking on the Help command button, you can launch the help available for this module.</p>
 	<p>To designate a configuration as the default simply highlight the desired configuration name and click the Set Config Default command button. Only one configuration can be set at the default configuration.</p>
<input type="checkbox"/> Require that user <input type="checkbox"/> Select Configuration on Load	<p>If you want to manually specify the Configuration at launch time simply check the Select Configuration on Load check box.</p>
 Cameras	<p>The Cameras command button is used to launch the vCam Camera Maintenance directly from the running module. Please reference the vCam camera maintenance section for further information.</p>
 	<p>The Update Configuration command button is used to save your configuration changes.</p>
 Close	<p>Use the Close command button to exit the module's configuration window.</p>

Module Startup

At launch time the default configuration is used if the Select Configuration on Load check box is not checked. If the Select Configuration on Load check box is checked then you will be prompted to select a configuration to run.

Multiple Configurations

Multiple configurations can be utilized for multiple startup configurations or when running multiple modules on a single station for large camera support.

Running Multiple Instances of the Same Module

- On **VIPRO NVR PRO** and ENT (large camera support) systems, multiple instances of vCapture, vStore, vMotion may be run to handle as many camera connections as you required. System resources may dictate actual maximum connections and image frame rates.
- You may run multiple instances of the vConsole, vPlay and nPlay on all **VIPRO NVR** solutions.

Batch File and Script Module Launching

Most VIPRO NVR modules can be started by batch or script files. The configuration name can also be specified along with the module launch.

3.3 Help System



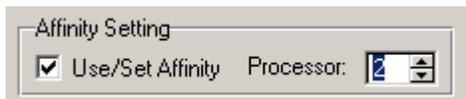
By clicking on the Help command button, you can launch the help available for this module.

3.4 Affinity

VIPRO NVR has built-in Affinity support for multiple CPUs. If your system has only one CPU the Affinity is disabled and grayed out as shown here.

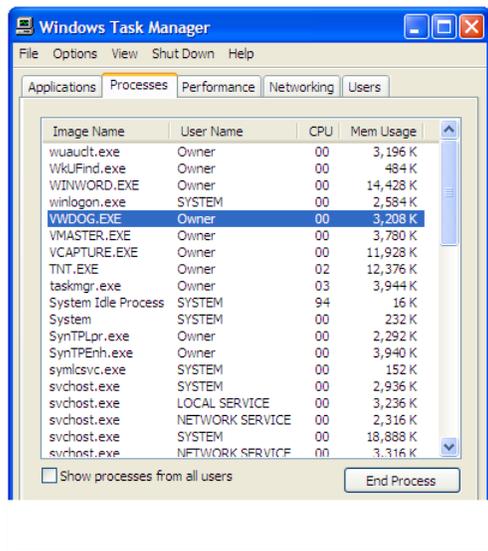


If your system has two CPUs or more, Affinity will be available. You must activate Affinity by checking the "Use/Set Affinity" check box. Once Affinity is activated, you may select an individual CPU for your module's configuration to run on, as shown next.



3.5 Application Monitor

The application monitoring option becomes active by enabling or checking the Use App Monitor check box. This option causes the enabled module to be monitored by a special hidden process called vwDog as seen in the Task Manager.

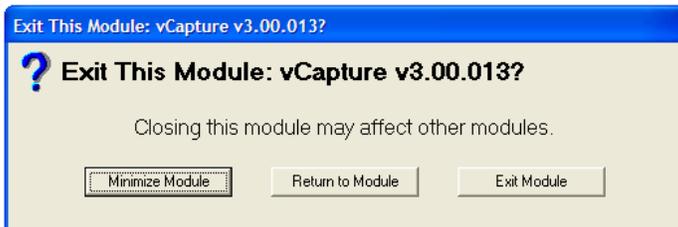


If the monitored module should become inoperable for any reason the vwDog will restart the module with the currently running configuration.

3.6 Module Close

Specific modules that are important to the proper operation of your VIPRO NVR solution have an added safe guard when closing the module.

As an added precaution you will be prompted with the following popup window.



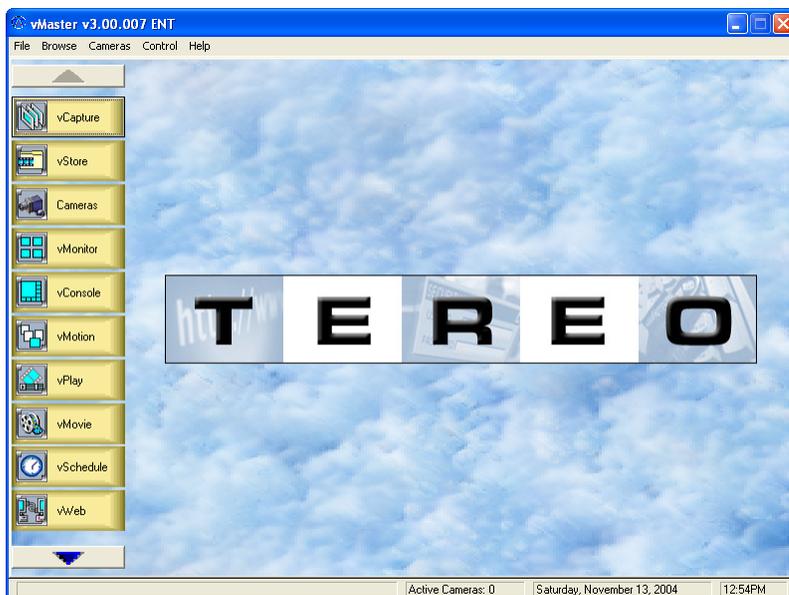
Simply click on the appropriate command button to execute the desired task.

4 vMaster

vMaster is your Master Console for your entire camera installation. vMaster provides the connections to all the modules that comprise the VIPRO NVR software product. It controls all information and databases that are used in your installation.

4.1 Overview

The vMaster module is the first VIPRO NVR module to run, as all other modules must connect to vMaster for licensing and database connectivity. This section describes basic vMaster operation and setup.



4.2 Menu Bar

The vMaster Menu Bar provides several important functions as described in this section.

4.2.1 Browse

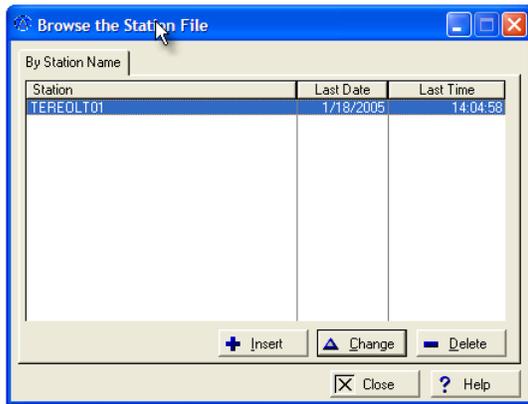
Clicking the Browse will allow you to browse various databases to access module configurations, locations, users, operational modules and log files.

4.2.1.1 Cameras

This selection launches the Camera Maintenance (vCam) module. Please refer to the [vCam](#) section of this help system for detailed information.

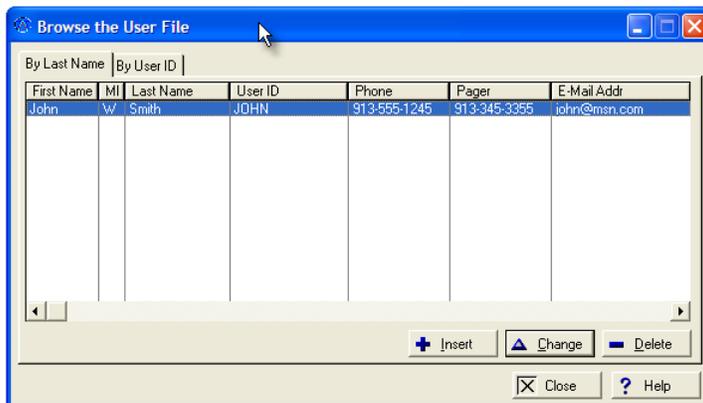
4.2.1.2 Station List

The Station List provides detailed information on all currently connected VIPRO NVR related systems.



4.2.1.3 User and Contacts

Clicking Users and Contacts will take you directly to the user database.



To modify a user highlight the user and click the Change command button. To add a new user click on the Insert command button.



Changing a User Record

General

First Name: John

Mid Init: W

Last Name: Smith

Display Name: John Smith

Phone: 913-555-1245

Pager: 913-345-3355 Pager Type: Digital Text

E-Mail Addr: john@msn.com

User ID: JOHN

Password: *****

Security Level: 10 (1 = Highest through 10 = Lowest)

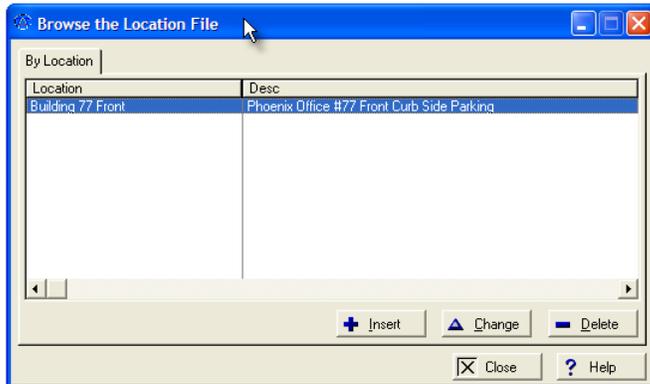
OK Cancel Help

Once the user record screen appears you may add or change contact information. If the user is to accept paging from the alerting service please complete all information completely.

If you will be using Authentication or e-mail notification of events you must have at least one user defined.

4.2.1.4 Locations

Locations are optional in VIPRO NVR. If you have many physical locations it is recommended that you list them here.



Browse the Location File

By Location

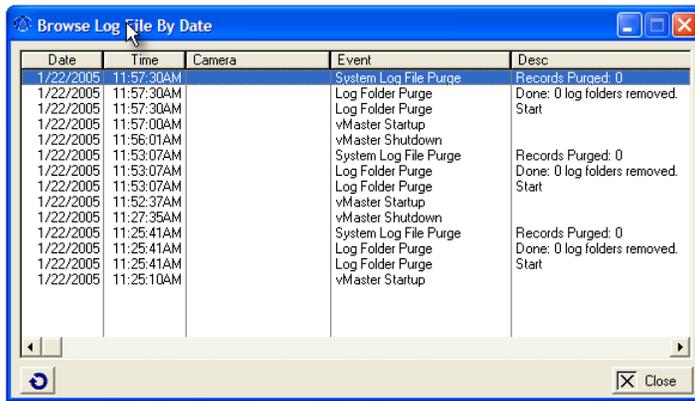
Location	Desc
Building 77 Front	Phoenix Office #77 Front Curb Side Parking

Insert Change Delete

Close Help

4.2.1.5 Log File By Date

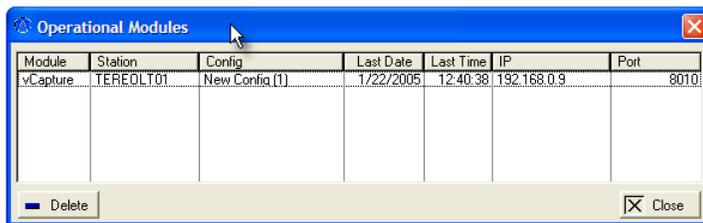
If logging is enabled (see [Log Option](#)) then log files are available for your viewing.



Date	Time	Camera	Event	Desc
1/22/2005	11:57:30AM		System Log File Purge	Records Purged: 0
1/22/2005	11:57:30AM		Log Folder Purge	Done: 0 log folders removed.
1/22/2005	11:57:30AM		Log Folder Purge	Start
1/22/2005	11:57:00AM		vMaster Startup	
1/22/2005	11:56:01AM		vMaster Shutdown	
1/22/2005	11:53:07AM		System Log File Purge	Records Purged: 0
1/22/2005	11:53:07AM		Log Folder Purge	Done: 0 log folders removed.
1/22/2005	11:53:07AM		Log Folder Purge	Start
1/22/2005	11:52:37AM		vMaster Startup	
1/22/2005	11:27:35AM		vMaster Shutdown	
1/22/2005	11:25:41AM		System Log File Purge	Records Purged: 0
1/22/2005	11:25:41AM		Log Folder Purge	Done: 0 log folders removed.
1/22/2005	11:25:41AM		Log Folder Purge	Start
1/22/2005	11:25:10AM		vMaster Startup	

4.2.1.6 Operational Modules

The Operational Modules list provides you with detailed information on all VIPRO NVR related modules currently running.

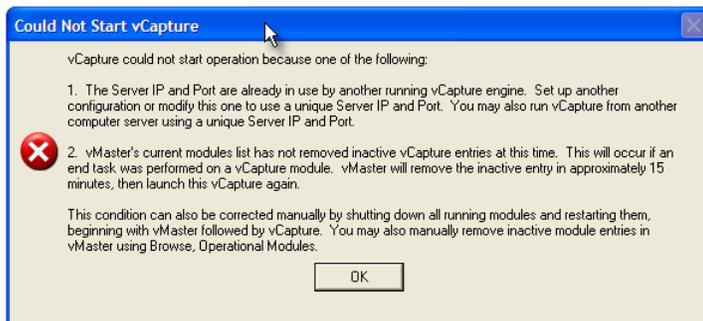


Module	Station	Config	Last Date	Last Time	IP	Port
vCapture	TEREQLT01	New Config (1)	1/22/2005	12:40:38	192.168.0.9	8010

Most modules require a direct connection to the vMaster and are listed here. The Operational Modules list is updated approximately every minute. When a module closes normally it will notify the vMaster of its close operation and the vMaster will update its list immediately.

Possible Error Conditions

If a module is interrupted for any reason such as an "End-Task" or network hardware failure this list may not update immediately. vMaster does periodically removes lost or missing modules (approximately every minute or so). If you attempt to launch the same module with the same configuration that is in this list you will receive the following error message.



This is because you are not allowed to run the same module with the same configuration name. If you know for certain that you received this error because of a failed module then you have two options.

- Wait for the vMaster to remove the lost module name from its list, or
- Manually remove the lost module by highlighting the module name and clicking the Delete Command Button.

4.2.2 Cameras

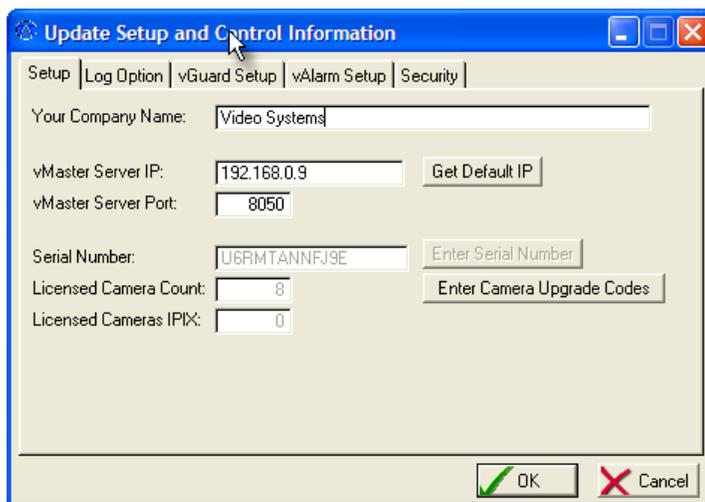
This selection launches the Camera Maintenance (vCam) module. Please refer to the [vCam](#) section of this help system for detailed information.

4.2.3 Control

Clicking the control will allow you to view your serial number and enter client specific information. Additional vMaster control information is provided in a tabbed view and is described in this section.

4.2.3.1 Setup

After the initial installation, enter your company name as shown below. Then set the vMaster Server IP to the desired IP number of your network interface adapter. If your system incorporates multiple adapters or IP numbers, please enter the IP number that you will require the vMaster to communicate through. Set the port to any unused port number (default port 8050).



The screenshot shows a Windows-style dialog box titled "Update Setup and Control Information". It features a tabbed interface with the following tabs: "Setup", "Log Option", "vGuard Setup", "vAlarm Setup", and "Security". The "Setup" tab is selected. The dialog contains several input fields and buttons:

- "Your Company Name:" with the text "Video Systems" entered.
- "vMaster Server IP:" with "192.168.0.9" entered and a "Get Default IP" button.
- "vMaster Server Port:" with "8050" entered.
- "Serial Number:" with "U6RMTANNFJ9E" entered and an "Enter Serial Number" button.
- "Licensed Camera Count:" with "8" entered and an "Enter Camera Upgrade Codes" button.
- "Licensed Cameras IPIX:" with "0" entered.
- At the bottom right, there are "OK" and "Cancel" buttons.

If you have purchased additional camera upgrade codes, click on Enter Camera Upgrade Codes and enter any upgrade codes you have purchased as shown next.

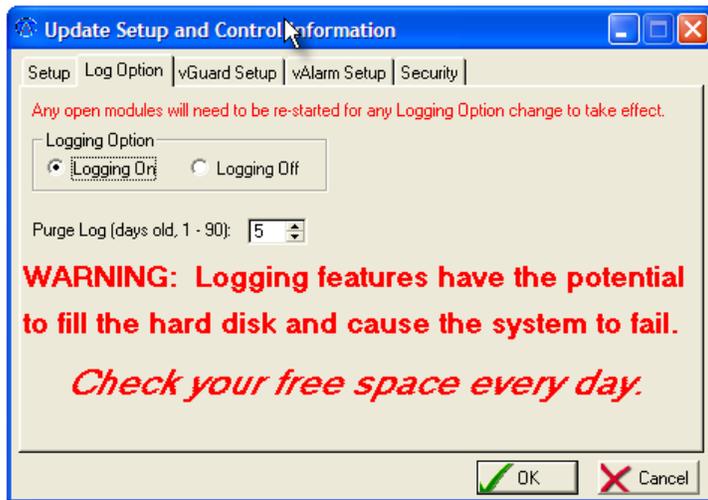


The screenshot shows a smaller dialog box titled "Enter Upgrade/Unlock Codes". It contains a single text input field with the label "Enter Upgrade/Unlock Code:". Below the input field are two buttons: "Verify Upgrade Code" and "Close".

After entering your upgrade codes the Licensed Camera Count will increase according to your purchase. Upgrade codes may be purchased and entered at any time.

4.2.3.2 Log Option

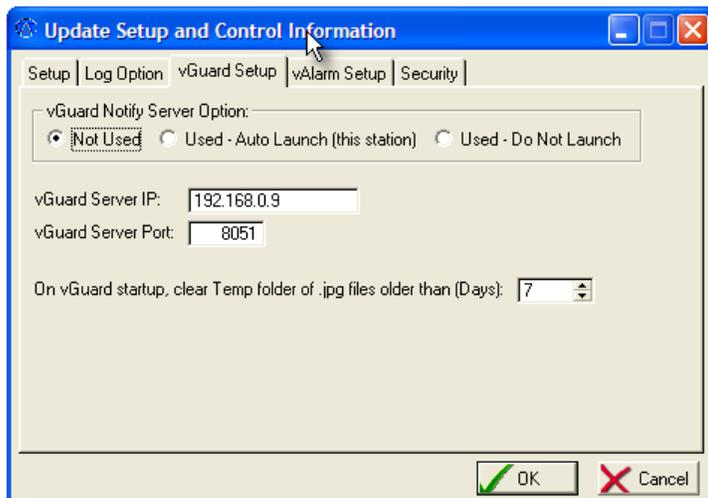
Within the Control Information Window is the Log Option settings. You can enable or disable logging and set the Purge (rollover) value in days.



Please note that enabling logging does use hard drive resources and can result in significant amounts of data being written to your hard drive. The location of the log files are in the installation folder (normally c:\program files...). VIPRO NVR Log file requirements can vary greatly depending on modules used, module counts, camera counts and whether or not vMotion is being employed. Reserve 1GB or more of hard drive space if you enable logging and monitor the system during the logging period to determine exact hard drive space requirements.

4.2.3.3 vGuard Setup

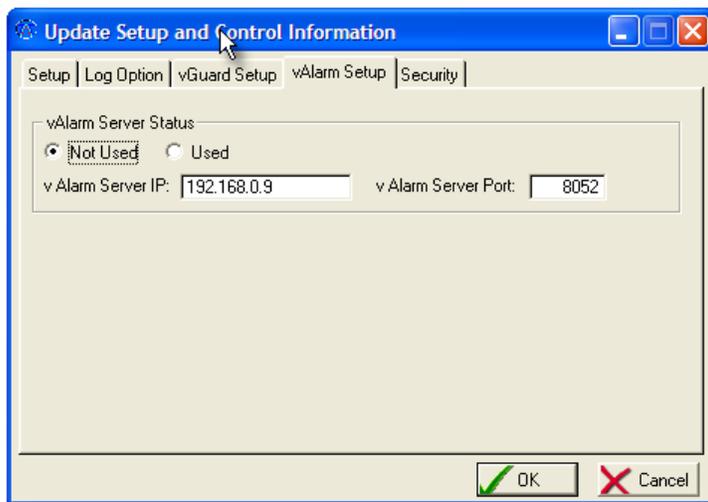
vGuard is used to provide spooling email and paging alerting. If used, you must specify if it is to run automatically when you launch vMaster or you will be running it on a separate server (Used - Do Not Launch). Additionally you can set the number of days that old JPG images are saved before they are deleted. Please refer to the vGuard chapter for additional information on vGuard.



Note: If this is set to 'Used' and vGuard is not running, the modules will constantly attempt to connect to the vGuard. If you do not plan to use the vGuard set this option to "Not Used".

4.2.3.4 vAlarm Setup

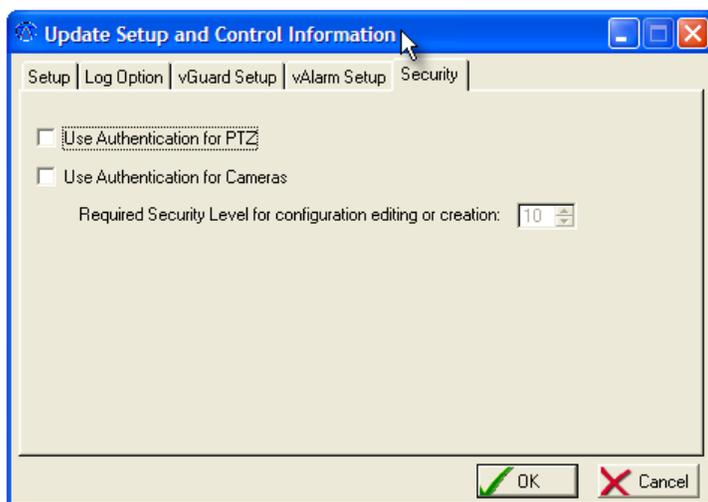
vAlarm provides access to dry contacts, sensors and relay outputs from associated IP appliances. Please refer to the vAlarm chapter for additional information on vAlarm.



Note: If this is set to 'Used' and vAlarm is not running, the modules will constantly attempt to connect to the vAlarm. If you do not plan to use the vAlarm set this option to "Not Used".

4.2.3.5 Security

Security is provided for VIPRO NVR PRO and ENT only. Please refer to the [Security](#) section for detailed information on this topic.



4.2.4 Help

Clicking the Help will allow you to view the About box or enter the help system.

4.2.4.1 About

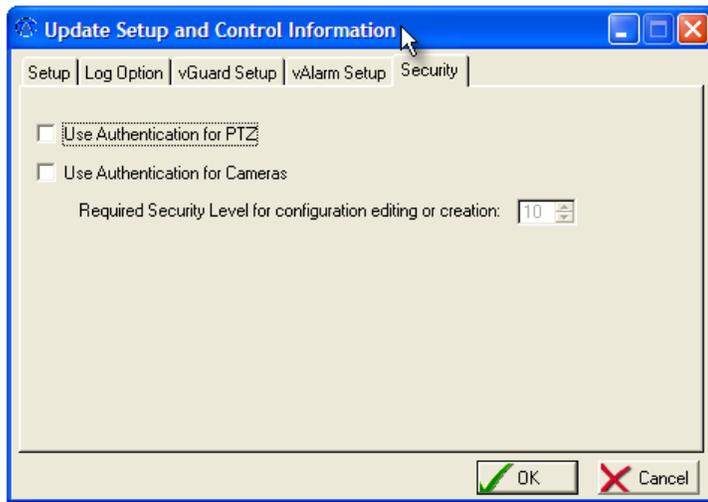
This selections brings up the vMaster About box listing version and license information.

4.2.4.2 Contents

This selection launches this help system.

4.3 Security

Security is provided for VIPRO NVR PRO and ENT only. VIPRO NVR provides different authentication methods to allow you more control over your system. You can setup different levels for users, cameras and PTZ operations. These authentication options allow you to have full control over camera viewing and PTZ control.



4.3.1 Use Authentication For vPTZ

Enabling (checking) Use Authentication For vPTZ enforces that all PTZ operations are performed by the vPTZ module. Additional items of concern are described next.

User logon

The user may logon automatically or manually to launch the vPTZ module, see [Logon Procedures](#). If manual logon is used, the username must be previously setup in the vMaster list as described previously. No unauthorized vPTZ modules are allowed to operate within VIPRO NVR.

User PTZ Operations

The user has PTZ privileges on cameras with the same or higher number level setting, as well as any non-secure (level 10) cameras.

Module PTZ Operations

PTZ command buttons in the vMonitor and vConsole are disabled and all PTZ operations must be performed with the vPTZ module exclusively.

4.3.2 Use Authentication For Cameras

Enabling (checking) Use Authentication for Cameras forces the user to logon to gain access to cameras for viewing purposes. The user has viewing privileges on cameras with the same or higher number level setting, as well as any non-secure cameras (level 10).

Required Security Level for configuration editing or creation

If the Using Authentication for Cameras is enabled you can further control who has access to your camera display configurations. Set this to the required security required to access camera display configurations.

- Level 1 is the highest level available.
- Level 10 is the lowest level available.

4.3.3 Advanced Security Topics

Advanced security topics are discussed here.

4.3.3.1 Camera Level

Camera Level Control is provided to allow for level (up to 10) assignments to be placed on cameras and users. Level 1 is the highest and Level 10 is the lowest level (and is considered "Not Secured"). For example, a camera with a level 3 setting is accessible by only users logged on with a 1, 2 or 3 level setting. Note: any user that is able to launch a VIPRO NVR display module and is not in the VIPRO NVR authentication list is automatically assigned a level 10 (considered non-secure).

- To setup Camera Levels please refer to the [Camera Maintenance](#) (vCam) section.
- To setup User Levels and please refer to the [Users and Contacts](#) section.

4.3.3.2 Logon Procedures

There are two methods to logon to the VIPRO NVR system when using authentication for cameras or vPTZ operation.

Automatic Mode

Automatic Mode is the preferred method for logging into your VIPRO NVR system. Browse to the vMaster/Browse/Users and Contacts/ and create as many new users as you require. For automatic logon to occur, make sure you use the same username, spelled exactly the same as previously setup in the Windows Local Users and Groups. Using the password is optional and is not used for automatic VIPRO NVR logins, as the user is already logged on through the Windows Authentication System.

Manual Mode

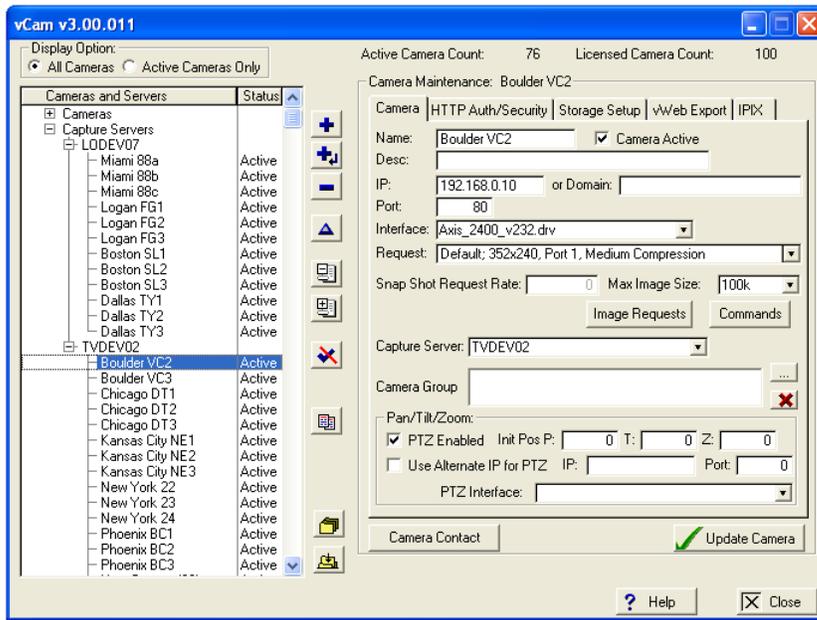
Manual mode is used when a user is not a member of an existing Windows domain or group. In this case, the user may operate a computer connected to the VIPRO NVR server however with rights not allowing automatic logon to VIPRO NVR. Using this method to access VIPRO NVR is tightly restricted to allow only vPTZ launching and operation.

5 vCam Camera Maintenance

vCam is a tree based camera maintenance module.

5.1 Overview

vCam is your Camera Maintenance Console providing complete configuration for your entire camera installation. It controls all information and databases that are used in your installation. It allows you to add or change camera configurations from a central location. From here you can setup new cameras and capture servers.



5.2 Tree Controls

vCam provides a powerful tree based tool to manage your camera database. This section describes the tree based controls and operation.

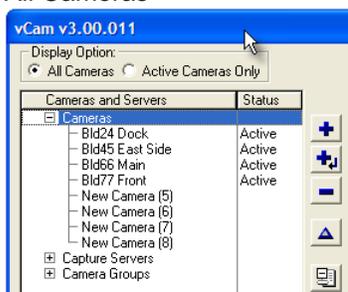
5.2.1 Expand and Collapse

In addition to the Expand and Collapse buttons you may also right-click any branch of the tree to expand or collapse that entire branch.

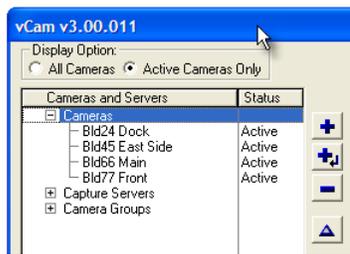
5.2.2 Display Options

Select a display option of All Cameras or Active Cameras. From there you can access all camera database configuration information.

All Cameras



Active Cameras



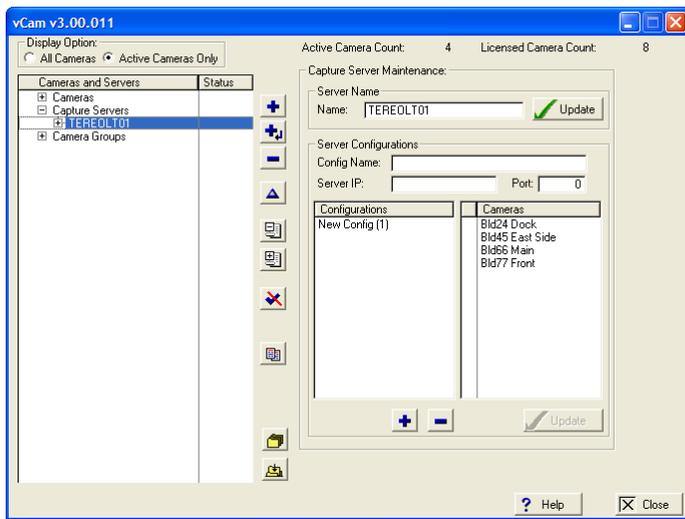
5.2.3 Toolbar Buttons

Following is a list of all the standard toolbar buttons and their descriptions.

	Add	This button is used to add a new record. Use it to create a new camera or capture server entry.
	Insert Under	Use this option when there are no Capture Servers entered yet. This can also be used to create new camera records (under a named Capture Server).
	Delete	Delete highlighted record. Deleting a Capture Server does not delete the camera records associated with the server.
	Group Change	This button used to apply changes to a selected group of cameras.
	Collapse	Click this button to collapse the tree-list.
	Expand	Click this button to expand the tree-list.
	Remove Tag	This button clears all tags from the camera list. Tags are used for selecting cameras for group changes.
	Copy	Click this button to copy highlighted camera record. You may only copy one camera record at a time.
	Export	Use this feature to export your camera database to file camera.ini
	Import	Use this feature to import your camera database from file camera.ini

5.2.4 Capture Servers

Capture Servers can be entered into **VIPRO NVR** by three methods.



Manual Entry

Simply click the Capture Servers tree item and click the "Insert Under" command button. This creates a new Capture Server entry. You must type the full computer name exactly as it is listed in the Computer Properties under System Name.

Automatic Entry

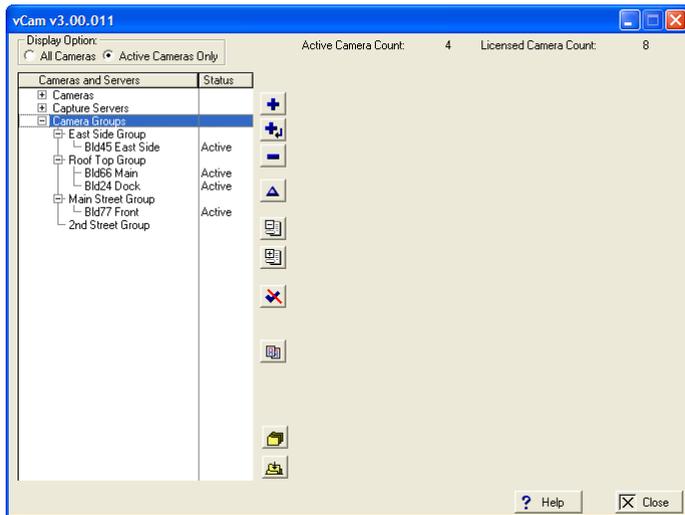
Each time a new vCapture module is launched from **VIPRO NVR** the computer name is automatically captured and stored for future use. This is the simplest and recommended method for single server systems.

Import Camera Database

A camera database from an existing installation may be imported into **VIPRO NVR**.

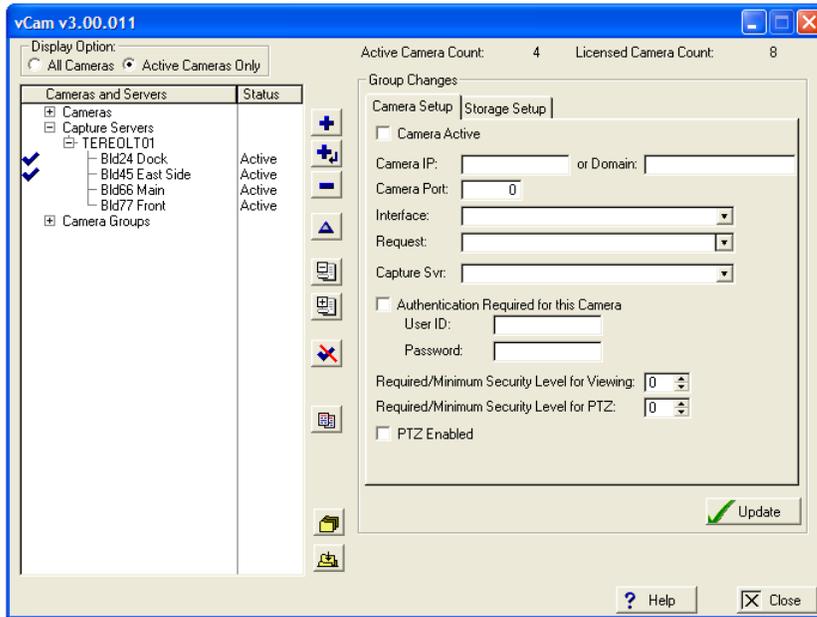
5.2.5 Camera Groups

Cameras can be organized into groups in order to help simplify your camera maintenance operations.



5.2.6 Multiple Camera Selection

Multiple camera records can be selected for multiple record changes.



To Select multiple cameras

- Holding down the CTRL key and click the left mouse button on the cameras you wish to tag, for global changes.
- To select a range, CTRL click the first camera entry to tag. Then Shift click the last entry to tag. CTRL clicking any camera entry will toggle tagging action.

Camera Group Change

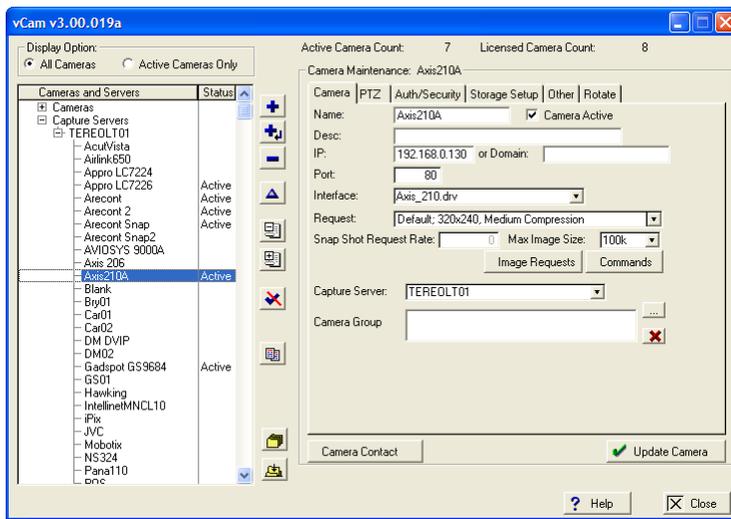
After you have tagged one or more camera entries, a new window is displayed for changing configuration data for the group. You may globally change configuration data associated with all tagged cameras. Care must be taken when changing the configuration for multiple cameras.

5.3 Camera Maintenance

All cameras require setup before images can be acquired. If one is not already setup, highlight a named Capture Server (or Cameras) and click the Insert Under button. A new camera entry will be created for you.

5.3.1 Camera

The Camera Tab provides camera related database input.

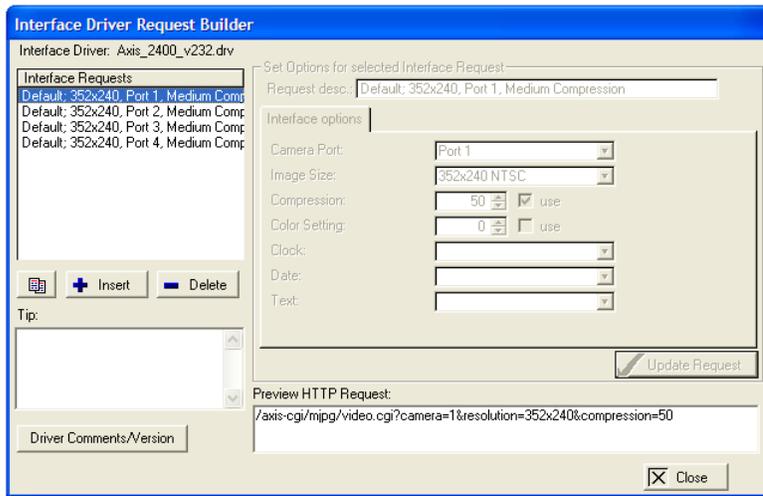


Listed below is a list of all the standard camera setup entries and their descriptions.

- Name: Enter the Camera Name you desire to assign to this camera.
- Camera Active: Check this box to make the selected camera active.
- Description: Camera Description (optional).
- IP: IP Number of the camera or video server interface.
- or Domain: Fully qualified domain name to camera.
- Port: Port Number (most standard HTTP devices use port 80).
- Interface: Select the proper camera or video server device driver.
- Request: Select the desired image request (interface port, image size and compression).
- Snap Shot Request Rate: For snap shot drivers select the desired FPS.
- Max Image Size: Set the maximum image size allowed for this camera.
- Image Request Command Button: See [Image Request Builder](#)
- Commands Button: See [Command Builder](#)
- Capture Server: Select Capture Sever associated with this camera.
- Camera Group: Optional camera group(s) assignments can be setup to help you manage your cameras.

5.3.1.1 Image Request Builder

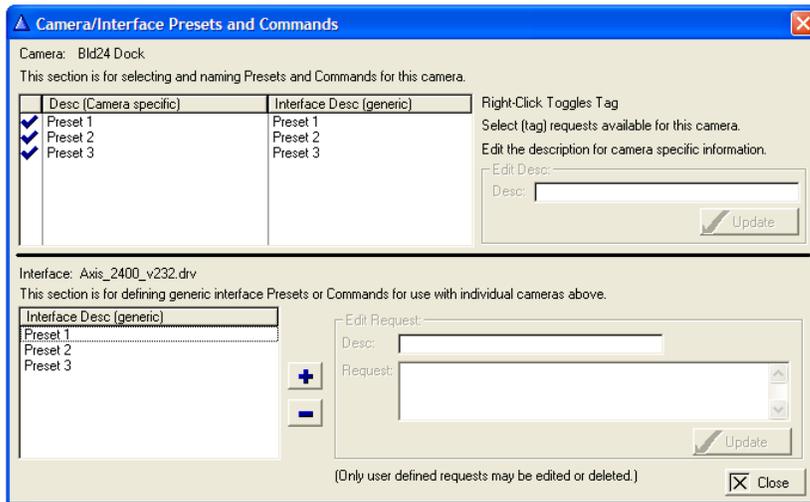
VIPRO NVR provides many camera and video server drivers for your selection. Each driver contains default requests you can use. The Image Request Builder is an advanced feature that allows you to build custom driver requests you may require.



After all options have been selected click on Update Request and Close.

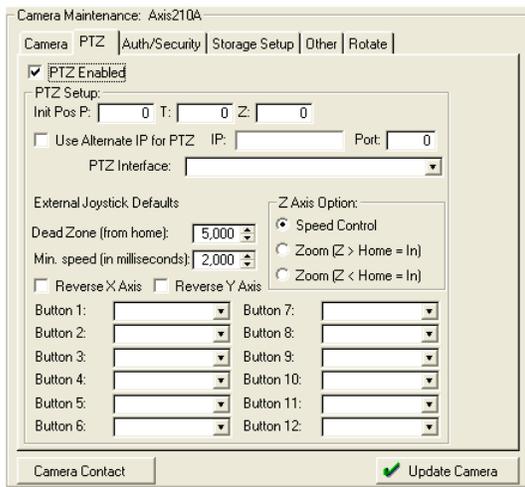
5.3.1.2 Command Builder

The Command Builder provides you with the ability to create your own PTZ presets, macros or special camera commands. Simply add a new command, assign it a name, description and the actual CGI request that will be sent to the camera.



5.3.2 PTZ Tab

The PTZ tab contains configuration information that allows you to use a USB joystick in the vConsole for PTZ operations.



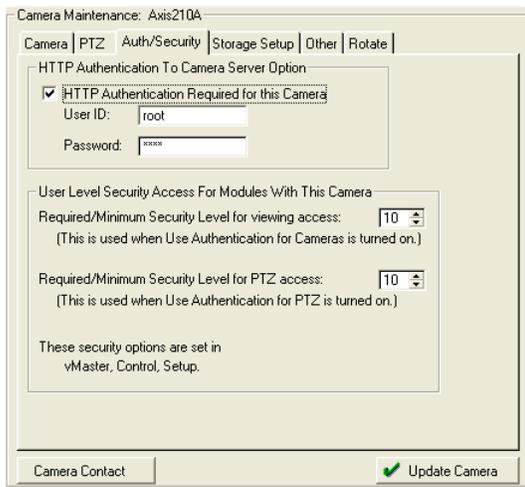
The Init Pos is used by PTZ cameras that utilize exact positioning for PTZ movement. Since most PTZ cameras use relative positioning, you can ignore these settings.

Use the Alternate IP for PTZ when the IP address of the PTZ unit is different from the IP address of the camera.

Please refer to the vPTZ section for detailed configuration of an external joystick.

5.3.3 HTTP Auth/Security

If you are using authentication enter the proper username and password here.



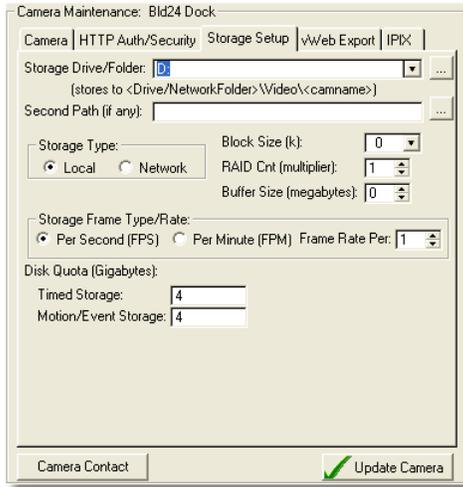
HTTP Auth/Security Table Descriptions

- Authentication Required: Check this box if authentication is required.
- User ID: Enter User ID as setup in camera or video server.
- Password: Enter Password required to access this resource.
- Security Level For Viewing: Enter desired level for viewing (VIPRO NVR PRO/ENT only).
- Security Level For PTZ: Enter desired level for PTZ control (VIPRO NVR PRO/ENT only).

For more information on security please refer to the [Security](#) section located in vMaster.

5.3.4 Storage Tab

The Storage Setup tab presents all storage related settings.



Storage Setup Descriptions.

- Storage Drive: This camera's storage location (drive or network path).
- Second Path: Optional network path for vPlay.
- Storage Type: Select Local or Network storage option.
- RAID Settings: If used select proper RAID5 setting.
- Storage Frame Type: Select images per second or images per minute.
- Frame Rate Per: Frame rate per second or per minute.
- Timed Storage: The disk quota in GBs used by vStore to impose on this camera's images.
- Motion/Event Storage: The disk quota in GBs used by vMotion to impose on this camera's images.

Disk Quota and Rollover

VIPRO NVR uses 1GB (1,000MB) files for image storage. The minimum disk quota is 2GBs per camera and the default is 4GBs. It should be noted that when rollover occurs the next file to be written to is cleared of its images prior to recording. This means if you have imposed a 2GB disk quota and the system rolls to the next file, you will have 1GBs worth of images available to you at that point in time. Because of these facts it is recommended to add 1GB to each camera's disk quota (especially for smaller quotas) to ensure a minimum number of GBs allocated per camera.

Networked Systems

The Second Path provides an alternate path to your video archives. Use this path when the LAN system does not have a mapped drive letter that corresponds to the Storage Drive letter. Valid entries for Second Path are as follows:

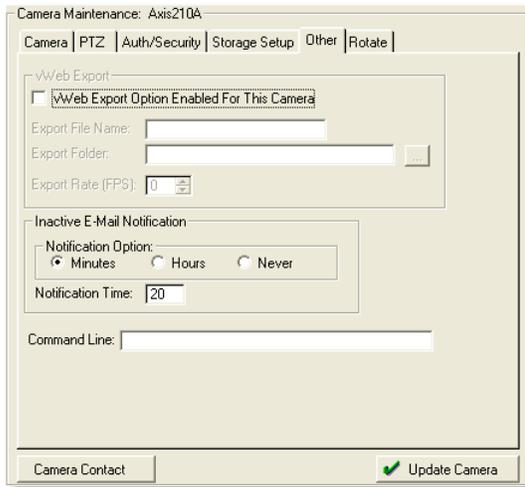
- G:
- \\ServerName\Video
- \\192.168.0.22\video

Note: Using IP numbers allows faster access to your image archives as the system name does not have to be resolved.

If you are setting up a network installation, be sure to use a disk drive letter or network path that will be available to other VIPRO NVR stations. Doing so will ensure that remote playback operations will be able to find the source files automatically.

5.3.5 Other Tab

The Other tab presents vWeb and other settings.



vWeb

vWeb Export provides JPEG images for WAN, Internet and third party applications developers. If enabled and vWeb is running, one single image is provided and stored in the export folder. This allows external applications access to **VIPRO NVR** images.

vWeb Export Option: Check this box to enable this function.

Export File Name: Enter the file name desired.

Export Folder: Enter the proper folder on the Web Server.

Export Rate (FPS): Enter the frames per second desired.

Exported images can be provided to any web server or external process that may use HTML, ActiveX, DLL or JAVA.

RAM drives can be used to minimize hardware impact for large systems.

Inactive E-Mail Notification

If e-mail is setup, configure these settings to correspond the desired time you would like to be notified by e-mail when a camera becomes unreachable for any reason.

vConsole User Button

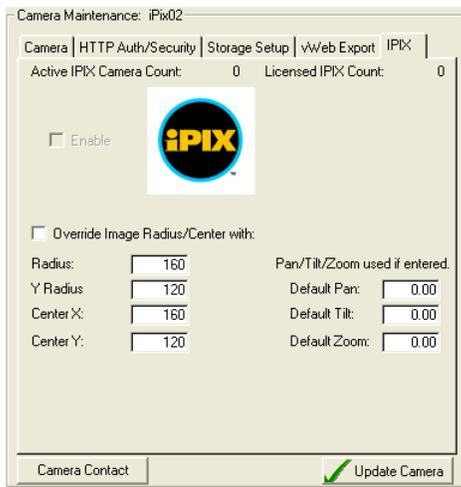
If a command is entered in the Command Line text box, an additional button will be presented on the vConsole toolbar when the user clicks on an image pane. Clicking the User button will run or start an external process as enter here.

5.3.6 Rotate Tab

Enter topic text here.

5.3.7 iPix

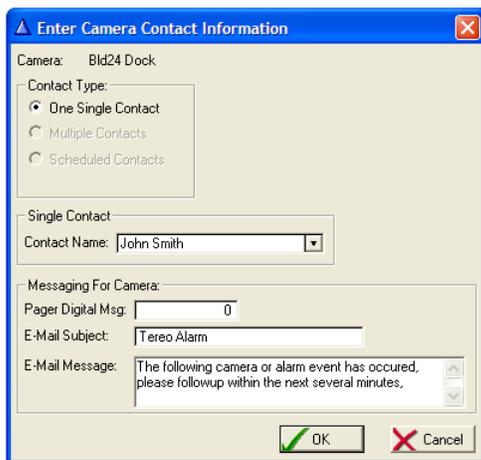
Note: The iPix option is discontinued. It is shown here for reference only.



iPix provides 180 and 360 degree image viewing. You must have a valid iPix camera unlock code to use iPix cameras. To obtain an unlock code for your iPix camera please contact your solutions provider. You will need to provide your iPix camera's serial number.

5.3.8 Camera Contact

Camera contacts are used if you want to notify specific personnel of status and events associated with individual cameras.



Contact Setup Descriptions

- Contact Type: Select One Single Contact.
- Contact Name: Select the contact associated with this camera.
- Pager Digital Msg: Enter message you want to appear on digital pager.
- E-Mail Subject: Enter subject line of email message.
- E-Mail Message: Enter message you want to appear in email.

vGuard must be running to provide digital pager and email functions.

6 vCapture and vWeb

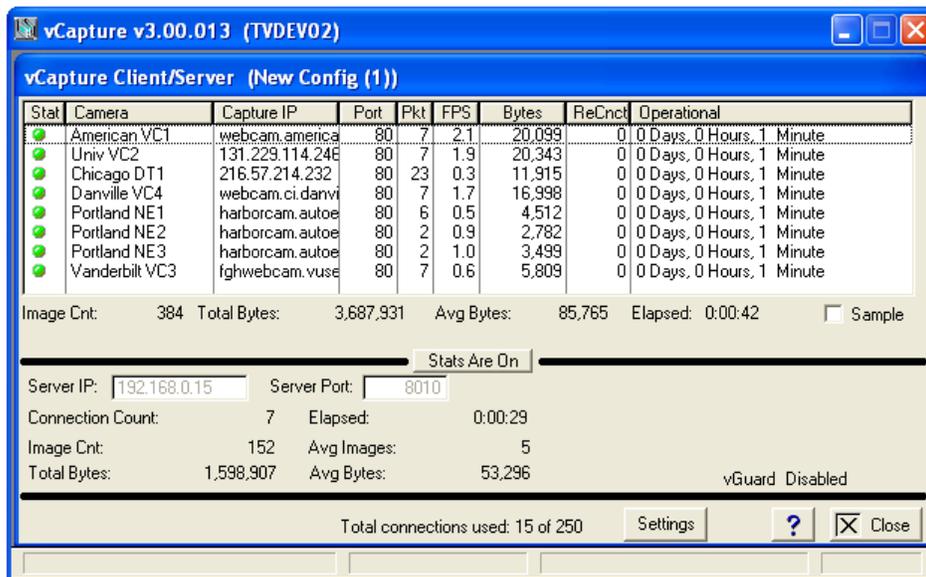
vCapture and vWeb capture images and serves them back up for viewing and storage modules.

- vCapture must be used for all connections made to IP cameras and video servers.
- vWeb Server is used to serve image streams to your WAN or Internet.

6.1 Overview

vCapture is a high performance image capture and server engine. vCapture provides the primary connections to all camera interfaces for image acquisition. In addition, vCapture provides image server functionality for all other modules. This functionality provides many performance benefits that are described in this section.

vWeb is a video server optimized for the WAN and Internet and is functionally equivalent to vCapture.



"The Stats On/Off command button is located in the center of the vCapture engine. When the button read "Stats Are Off" then vCapture does not update its window stats.

If the ReCnct numbers are dramatically increasing on a single or group of cameras, this may indicate a camera or network related issue.

6.2 vCapture Stats

Camera Capture Status Indicators

- Stat: Green indicates connected and operating. Yellow indicates a temporary loss of images. Red indicates that the camera is no longer providing images.
- Camera: Camera name assigned.
- Capture IP: IP number of interface.
- Port: TCP/IP port for image acquisition.
- Pkt: Average number of packets TCP/IP is using to send an image.
- FPS: Image frames per second, received.

- Bytes: Average bytes per second of image data received.
- Recnt: Incrementing number associated with reconnection attempts.
- Operational: Displays total time of continuous operation or current status.

Image Capture Status Indicators

- Image Cnt: Total Images captured.
- Total Bytes: Total bytes captured.
- Avg Bytes: Average bytes captured per second.
- Elapsed Time: Counter indicating current second.

Image Server Status Indicators

- Server IP: IP Number assigned to this vCapture.
- Port Number: TCP/IP port number assigned to this vCapture.
- Connection Count: Total number of current server connections.
- Elapsed Time: Counter indicating current second.
- Image Cnt: Total Images served.
- Avg Images: Average images served per second.
- Total Bytes: Total bytes served.
- Avg Bytes: Average bytes served per second.

vCapture limits the total number of connections (per running instance of vCapture) to 250 connections total.

6.3 Sample Image

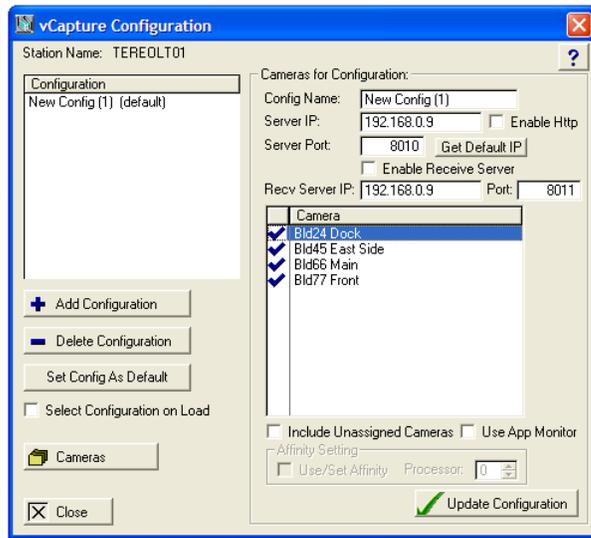
To preview an image from one of the current cameras connected to vCapture, highlight the desired camera you want to display, click the Sample Image check box. A new window will appear with the images displayed from the highlighted camera.



Uncheck the Sample Image check box or close the Sample Image window when finished. The Sample Image window updates approximately one time per second, if an image is available.

6.4 vCapture Configuration

To change, add or modify settings for vCapture or its cameras, click on the Settings command button, a configuration window will appear.



The Configuration window displays a list of configurations that may be used for this station. Please refer to the [Configurations](#) section for more information on Configurations.

vCapture Command Buttons Descriptions

- Add: This button is used to add a new entry. Use it to create a new vCapture configuration entry.
- Delete: Use this button to delete the entry currently highlighted.
- Set Config As Default: This command button set the highlighted configuration as the default.
- Cameras: Used to launch the vCam Camera Maintenance module.
- Close: Used to close this window.
- Help: Used to call help for this module.
- Get Default IP: Used to get the first IP address of the system.
- Update Configuration: Used to update the vCapture configuration.

General vCapture Configuration

- Station Name: Name of system, from system identification.
- Config Name: Name of user assigned configuration.
- Server IP: IP Number assigned to this vCapture (Image Server IP).
- Port Number: TCP/IP port number assigned to this vCapture.

Select Configuration On Load

- Select Configuration On Load: Used to prompt the user for a configuration at launch time.

HTTP Server (see [HTTP Server](#) section)

- Enable HTTP: Used to enable the HTTP Server (default port 80).

Receive Server (see [Receive Server](#) section)

- Enable Receiver Server: Used for devices that initiate connections.
- Recv Server IP: IP address assigned to the server component
- Recv Port: Port used for server receive option

Application Monitor (see [Applications Monitor](#) section)

- Use App Monitor: Used to enable the Applications Monitor

Affinity Setting (see [Affinity](#) section)

- Use/Set Affinity: Allows user to set a running configuration to run on a specific CPU (multiple CPUs required)

- Processor: Select Processor Number

6.5 HTTP Server

The HTTP Server is feature that provides or serves images in the same fashion as a web server. HTTP image resource requests are processed and JPEG images are returned to the requesting client.

The HTTP image resource request must contain the camera name with or without the file extension .jpg

Valid Image Requests

- cameraname or http://IPaddress/cameraname
- cameraname.jpg http://IPaddress/cameraname.jpg

6.6 Receive Server

The Receive Server is currently used for IP Audio appliances. For example the Barix IP Intercom device can send RAW MP3 audio files to the vCapture for archive and playback.

6.7 vWeb Server

The vWeb Server connects to running vCaptures and serves up camera image streams on your Wan or the Internet. vWeb Server is functionally equivalent to vCapture and is operated in like manner. The default port has been changed and other improvements have been added to enhance Internet operation and connectivity. vWeb serves up images in two ways as described below.

Serving Images for vWebMon

Images from vWeb are viewed using vWebMon, a stand-alone module installable on any windows system. Please refer to section [vWebMonitor](#) for more information.

Exporting Images

Images can be exported by vWeb Server for other processes, please refer to vCam's [vWeb Export](#).

6.8 Networks and vCapture

vCapture can capture images from any IP camera or video server, provided that it is accessible from the system running vCapture. This applies to multiple IP address and subnets, if used. Alternately you may use a fully qualified domain name to access your cameras. Each instance of vCapture will serve up images on one IP address and Port.

6.9 Images For 3rd Party Applications

API features are available for third party applications to receive images from VIPRO NVR. There are two methods available to for this feature.

vWeb Server (see [vWeb Server](#))

This functionality is setup in the Cameras vWeb Export section or tab. To use this function, check the vWeb Export Option box, optionally change the default camera file name, select the proper Export Folder (for storage) and the desired frame rate. Once setup and with the vWeb running, camera images will be stored in the selected folder assigned, at the designated frame rates. This function is in addition to the serving of images to vWebMon.

vCapture HTTP Server (see [HTTP Server](#))

7 vConsole

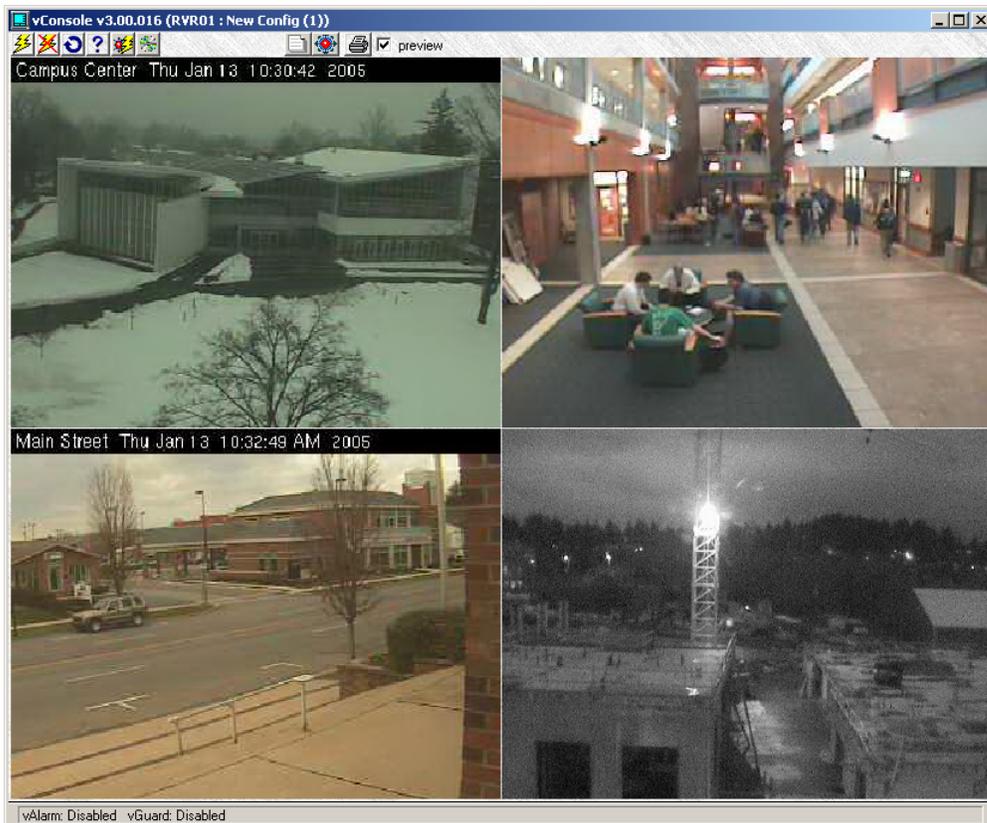
vConsole is a smart display system with highly customizable display options. Options include

- PTZ controls
- Instant playback
- Direct print
- Alarm events
- Hot record (directly from within vConsole)

7.1 Overview

vConsole is a powerful camera display application used to display your camera images with more options available to you. vConsole is very scalable and able to run on any number of monitoring workstations. Additional functionality allows you to control pan/tilt/zoom cameras, print, record and view images in an instant playback window.

Below is a vConsole view created for a station displaying camera images. You can create as many vConsole views as you require for each vConsole Station you have connected to your network.



7.2 Viewing Frame Rates

You can specify the slowest and fastest frame rates in the [vConsole Configuration](#). To activate a camera image for high speed viewing, simply click on the camera image in vConsole. This will activate the image update to the highest frame rate as determined for that configuration.

In order to display higher frame rates, the camera must be producing the desired FPS or better.

To view all camera images in time lapse mode, click on the Time Lapse command button.

7.3 Full Window Viewing

Double clicking an image will enlarge it to full window or the maximum size allowed by vConsole. Double-click again to return the image to normal display size.

7.4 Pan, Tilt and Zoom (PTZ)

You have complete control over your movable or controllable cameras. By selecting an image from a controllable camera, you can use the controls provided to pan, tilt and zoom. A home command button is provided to home the select camera for your convenience.

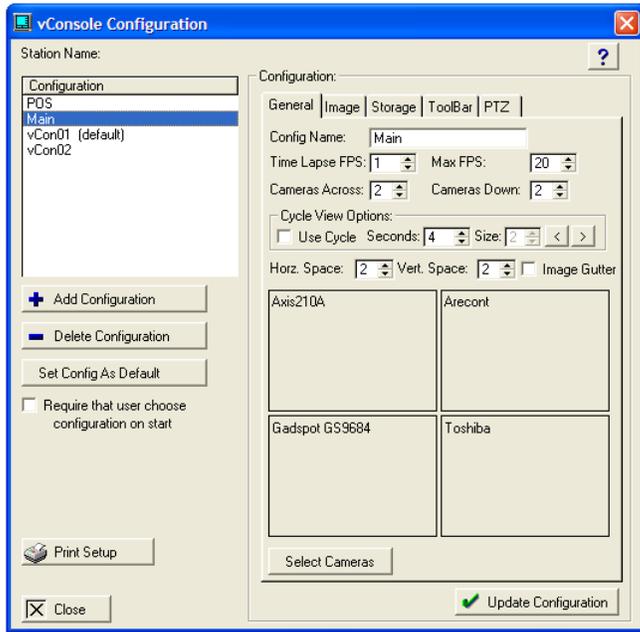
7.5 Toolbar Buttons

Following is a list of all the vConsole toolbar buttons and their descriptions.

	Connect All	Use this button to connect all.
	Disconnect All	Use this button to disconnect all cameras.
	Reload	Use this button to reload or change configuration.
	Help	Used to call help for this module.
	vPTZ	Launch vPTZ module.
	Playback	Launch vPlay module.
	Messages	Display vAlarm message window.
	PTZ Control	Display built in PTZ control.
	Printer	Used to print an image.

7.6 vConsole Configuration

You can configure vConsole to match a variety of system and display capabilities.



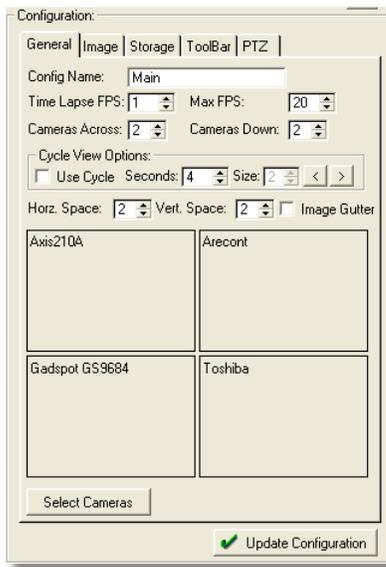
The Configuration window displays a list of configurations that may be used for this station. Please refer to the [Configurations](#) section for more information on Configurations.

vConsole Command Buttons Descriptions

- Station Name: Identifies the system or station name.
- Require That User Choose Configuration On Start: Used to prompt the user for a configuration at launch time.
- Add: This button is used to add a new entry. Use it to create a new vCapture configuration entry.
- Delete: Use this button to delete the entry currently highlighted.
- Set Config As Default: This command button sets the highlighted configuration as the default.
- Close: Used to close this window.
- Help: Used to call help for this module.
- Update Configuration: Used to update the vCapture configuration.

7.6.1 General Tab

This section details the items provided on the General tab.



Start by selecting the newly created default configuration and optionally enter a new name.

General Items

- Config Name: Name of user assigned configuration.
- Time Lapse FPS: Setup the slowest frame rate.
- Max FPS: Setup the maximum frame rates.
- Cameras Across: Use to specify the number of camera image panes horizontally.
- Cameras Down: Use to specify the number of camera image panes vertically.

Cycle View Options

- Use Cycle: Check this box if you want a cycling image pane (rotating image).
- Seconds: Specifies the seconds between image cycling.
- Size: Specifies the size of the cycling image pane.
- Move: Provides a method for cycle pane placement.

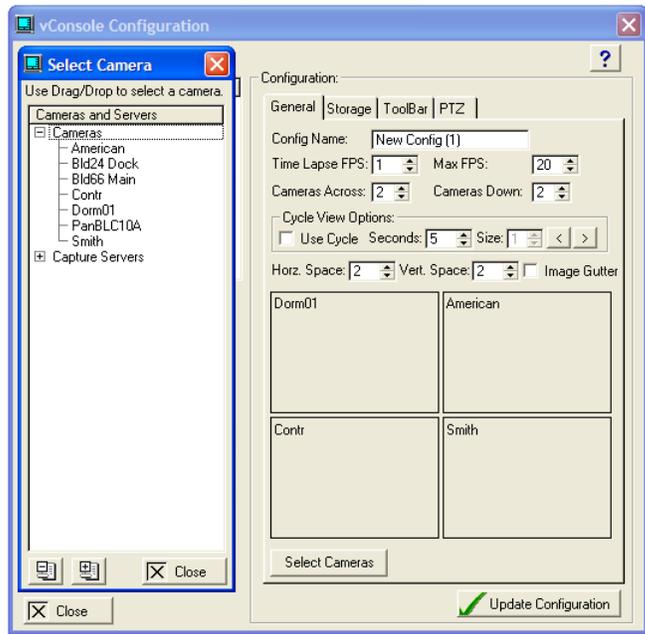
Cycling or rotating layouts are indicated by a special yellow image area. The cycling layouts are provided to rotate each camera image into the Cycle Viewing Pane. You can not assign a specific camera to the yellow image area as it is used for the image cycling function.

General vConsole Layout

- Horz Space: Specifies the space between image panes horizontally.
- Vert Space: Specifies the space between image panes vertically.
- Image Gutter: Used to provide footer space and icons for each image pane.

7.6.2 Select Cameras For Viewing

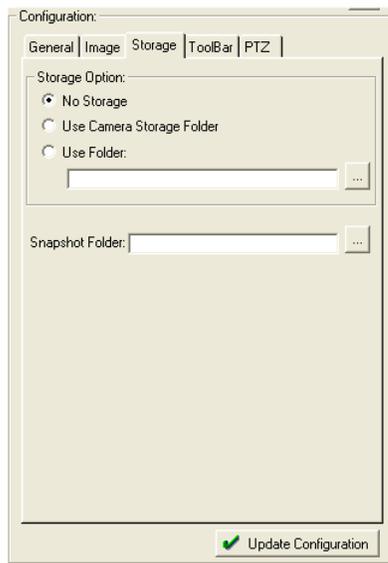
To populate a layout, click the Select Cameras command button, once the window is present you can left click the camera name and drag to the Camera Viewing Layout position desired.



Repeat this procedure until you have all the cameras positioned as desired. When finished close the Select Camera window and click Update Configuration.

7.6.3 Storage Tab

This section details the items provided on the Storage tab.

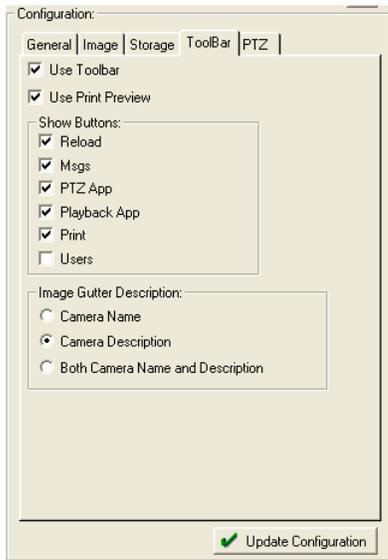


Storage Setup Radial Buttons

- **No Storage:** Select when you do not want the vConsole to store images.
- **Use Camera Storage Folder:** Select this when you want images to be stored in the Camera Storage Folder.
- **Use Folder:** Select when you want to specify the storage location manually.

7.6.4 Toolbar Tab

This section details the items provided on the Toolbar tab.



General Items

- **Use Toolbar:** Normally checked to allow toolbar use. If unchecked this configuration will not display the toolbar. When the toolbar is not displayed you can not enter the vConsole configuration using the toolbar (see alternate configuration method below).
- **Use Print Preview:** Check this to provide the print preview option.

Show Buttons

- **Reload:** Check this to enable the Reload toolbar button. Reload is used to reload the vConsole or enter this configuration section. When the Reload toolbar button is not displayed you can not enter the vConsole configuration (see alternate configuration method below).
- **Msgs:** Check this to enable the Message toolbar button. The Message window displays alarm and event messages.
- **PTZ App:** Check this to enable the PTZ Application toolbar button. The PTZ application is an application specifically designed for PTZ operations.
- **Playback App:** Check this to enable the Playback application toolbar button. The Playback application provides image playback from your archived images.
- **Print:** Check this to enable the Print toolbar button. The Print function allows you to print directly from vConsole.
- **Users:** This feature adds a Users button to the vConsole tool bar. When clicked it opens a small window that will show the logged users for the current camera for PTZ control. This is similar to the vPTZ toggle action (from the command buttons to the logged users list) using the Users button. Note: To enable this feature it is necessary to enable it in the vMaster (Control | Setup on the Security tab with the Use Authentication for PTZ checkbox).

Image Gutter Text

- **Camera Name:** Used to display the camera name under the image pane.
- **Camera Description:** Used to display the camera description under the image pane.
- **Both Camera Name and Description:** Used to display both the camera name and description under the camera image pane.

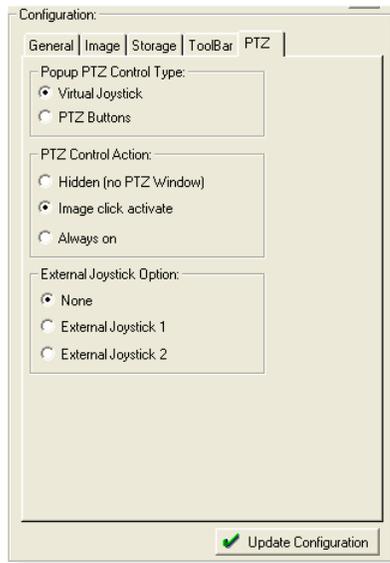
To use Image Gutter Text you must enable or check the Image Gutter check box on the [General Tab](#).

Note: If the Reload Toolbar button is disabled (not shown) you have two alternate methods to enter the vConsole configuration window.

- Launch the vConsole from a command shell, script or shortcut (example: vconsole.exe ForceConfig).
- Delete the ViewCfg.Dat file (this method resets or deletes all vConsole configurations).

7.6.5 PTZ Tab

This section details the items provided on the PTZ tab.



PTZ Control Type

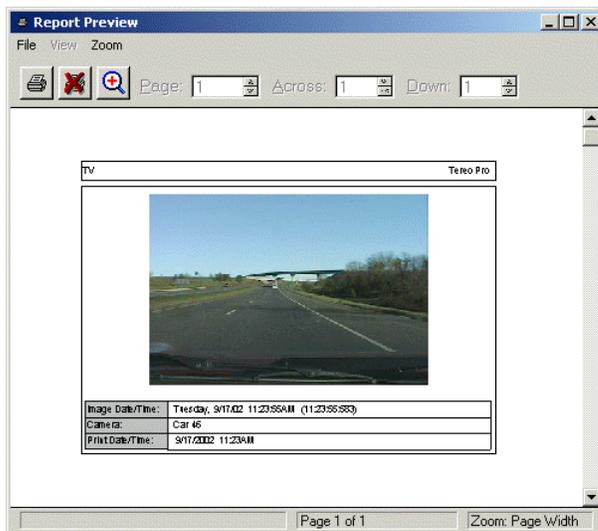
- Virtual Joystick: This option provides a virtual joystick for PTZ operations. To use the Virtual Joystick option you must have Flash installed on the system(s) that will be running the Virtual Joystick.
- PTZ Buttons: This option provides standard buttons for PTZ operations. No special considerations are required for PTZ Buttons.

PTZ Control Action

- Disabled: No PTZ operations are provided for this configuration.
- Image Click Activate: When you click on a PTZ enabled camera, the built in vConsole PTZ control will appear.
- Always On: The built in vConsole PTZ control will always be visible.

7.7 Image Printing

Printing an image is as easy as clicking the printer icon under the desired camera image.



A preview print will appear displaying the camera image for printing.

7.8 Record On/Off

Clicking the red record button starts an immediate recording session for the specific camera. The red icon will blink red and yellow indicating that recording is taking place. Clicking the icon again will end the recording session. To playback recording sessions created by vConsole, please use vPlay and select vConsole as the image source.

7.9 vAlarm Integration

When using vAlarm (please refer to vAlarm chapter) and vConsole in your camera installation provides you with additional functionality as described below.

- All alarm times and descriptions will appear in the alarm section (Message Window).
- Visual motion detection (from vMotion) events displayed directly in the vConsole, indicated by the camera name bar changing to a blue color.
- The ability to play a sound file at the vConsole on vAlarm events.

7.10 Instant Playback

Instant Playback is a powerful feature that allows you to capture images and play them back in an instant playback fashion. When activated, the Instant Playback allows you to play images in forward and reverse directions. You can also go to the first or last image stored in its internal cache. Additional functionality is provided to print and activate a recording of what is stored in cache.



Instant Playback Video Cache

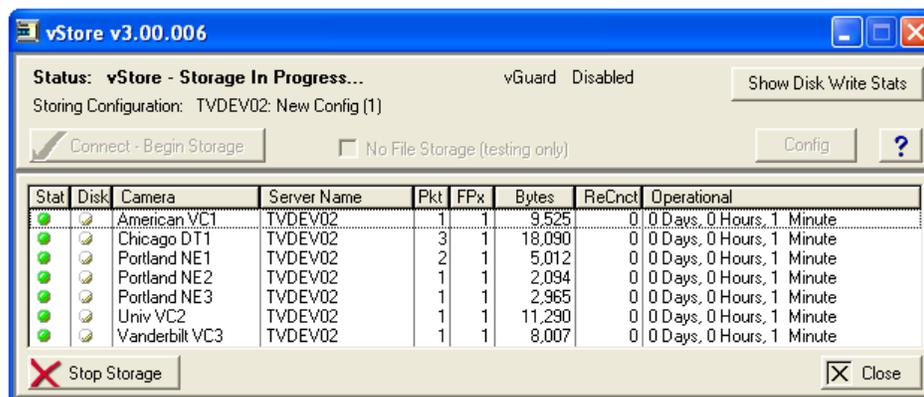
vConsole instant playback keeps 10 seconds of images, per camera, during the normal course of operation. When a user clicks on the instant playback button the playback begins with images 10 seconds prior to the current time/image. When the playback window opens, all incoming images accumulate and are not rolled out. As long as the instant playback window is open, images continue to accumulate for that camera. The limit for this is 9,000 images. When the instant playback window is closed, all images, outside of the normal 10 second roll out, are discarded (unless marked for storage).

8 vStore

vStore is a high performance image archive engine.

8.1 Overview

vStore connects to vCapture engines on your network and requests images for archival. vStore buffers all images for optimized batch writes to the disk system. This functionality provides many image archiving performance benefits that are described in this chapter.



Stopping and Starting vStore

Functionality is provided to manually stop or start the vStore engine. Stopping vStore will disconnect all connections and allow you to enter the vStore Configuration. Starting causes the vStore to connect to all vCaptures automatically and request image streams. When stopping or closing vStore, it should be noted that all image buffers will be flushed to disk.

8.2 Storage Requirements

VIPRO NVR uses 1GB files for storing camera images. The disk quota as found vCams [Storage Setup](#) specifies the amount of storage allocated to each camera for both the vStore and vMotion. Setting a Disk Quota ensures that you will not exceed the disc space you set for a specific camera. When configuring cameras to store images to the same partition, you will have to pay special attention not to exceed the partition's capacity. Make sure you properly calculate your hard drive requirements for archiving camera images to help reduce disk over quota or disk full conditions from occurring.

Please refer the **VIPRO NVR** Wizard for help in calculating disk storage requirements.

8.3 vStore Stats

Camera Status Indicators

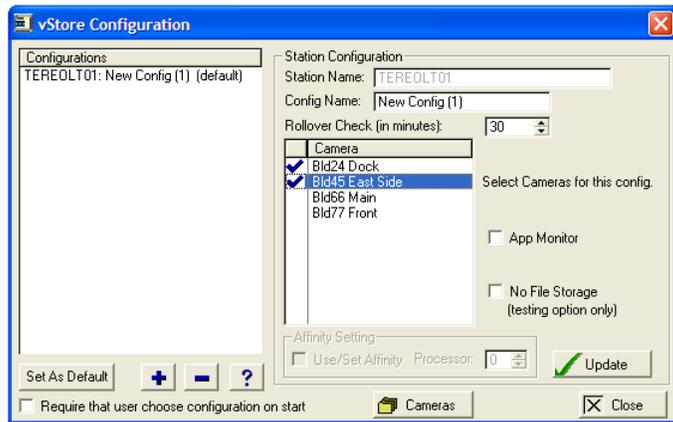
- Status: Green indicates connected and operating. Yellow indicates a temporary loss of images. Red indicates that the camera is disconnected.
- Disk: Indicates actual disk writing.
- Camera: Camera name assigned.
- Server Name: vCapture Server name.
- Pkt: Average number of packets TCP/IP is using to transmit an image.
- FPS: Image frames per second, archived.
- Bytes/PS: Average bytes per second of image data received.
- Recnt: Incrementing number associated with reconnection attempts.
- Operational: Displays operational status or total time of continuous operation.

8.4 Disk Write Stats

VIPRO NVR provides an important tool used to gather disk subsystem statistics. The purpose of this tool is to help you track the performance of your disk subsystem. Click on the Show Disk Write Stats will bring up the Disk Stats window. This tool provides live stats indicating how long it took your disk subsystem to write one block of images to the disk subsystem. Excessive write times will certainly slow your system down and in extreme cases, actually cause your system to fail. SCSI is usually faster than IDE however actual time will be dependent on the type, quantity and speed of your disk subsystem.

8.5 vStore Configuration

To change, add or modify settings for vStore, click on Config command button, a configuration window will appear.



The Configuration window displays a list of configurations that may be used for this station. Please refer to the [Configurations](#) section for more information on Configurations.

The list on the right shows the selected cameras for the highlighted configuration. After you click on a configuration name or have just added a configuration, you may tag and untag the cameras that you want to store when using this configuration. The camera list is all cameras that are currently marked as active.

vStore Configuration

- Station Name: Name of system, from system identification.
- Config Name: User identification for this configuration.
- Insert a new configuration.
- Change a configuration entry.
- Delete a configuration entry.
- Set a default configuration entry.
- Select Configuration on Load.
- No File Storage (for testing your settings and connections).

Select Cameras for this Configuration

- Tag Camera for archiving (left click to tag).
- Deselect or untag camera for archiving (click tagged camera to untag).
- Update Configuration data.

Application Monitor (see [Applications Monitor](#) section)

- Use App Monitor: Used to enable the Applications Monitor

Affinity Setting (see [Affinity](#) section)

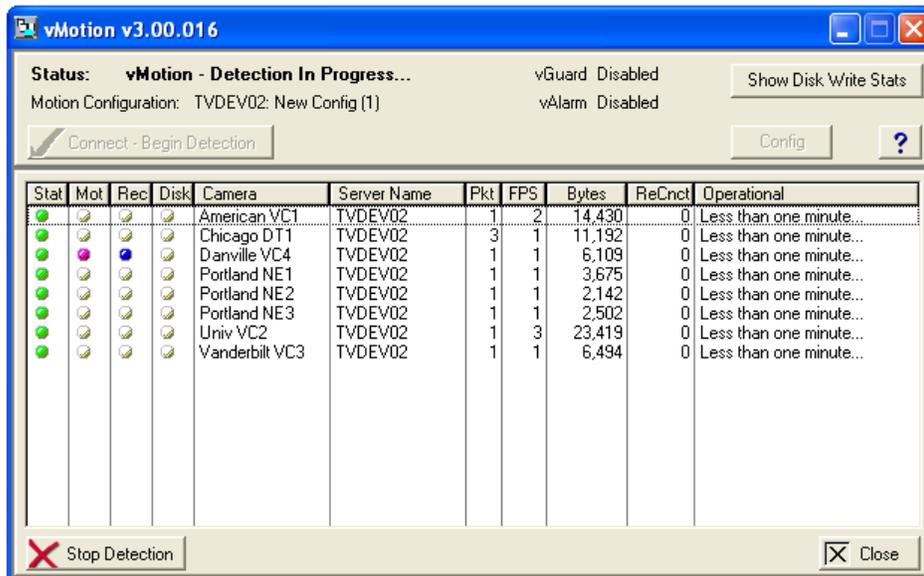
- Use/Set Affinity: Allows user to set a running configuration to run on a specific CPU (multiple CPUs required)
- Processor: Select Processor Number

9 vMotion

vMotion archives images based on software motion detection and external processes.

9.1 Overview

vMotion is a high performance image archive engine with software based motion detection. vMotion acquires camera images via vCapture and is configurable for different levels of image motion detection and archiving. Alerting services are provided to alert attendant to motion events in real time. Additional features are available for third party application developers.



Stopping and Starting vMotion

Functionality is provided to manually stop or start the vMotion engine. Stopping vMotion by clicking the Stop Detection command button will disconnect all connections and allow you to enter the vMotion Configuration. Starting causes the vMotion to connect to all vCaptures automatically and request image streams. When stopping or closing vMotion, it should be noted that all image buffers will be written to disk.

9.2 Storage Requirements

VIPRO NVR uses multiple 1GB files for storing camera images. The disk quota as found vCams [Storage Setup](#) specifies the amount of storage allocated to each camera for both the vStore and vMotion. Setting a Disk Quota ensures that you will not exceed the disc space you set for a specific camera. When configuring cameras to store images to the same partition, you will have to pay special attention not to exceed the partition's capacity. **Note: Make sure you properly calculate your hard drive requirements for archiving camera images to help reduce disk over quota or disk full conditions from occurring.**

Please refer the VIPRO NVR Wizard for help in calculating disk storage requirements.

9.3 vMotion Stats

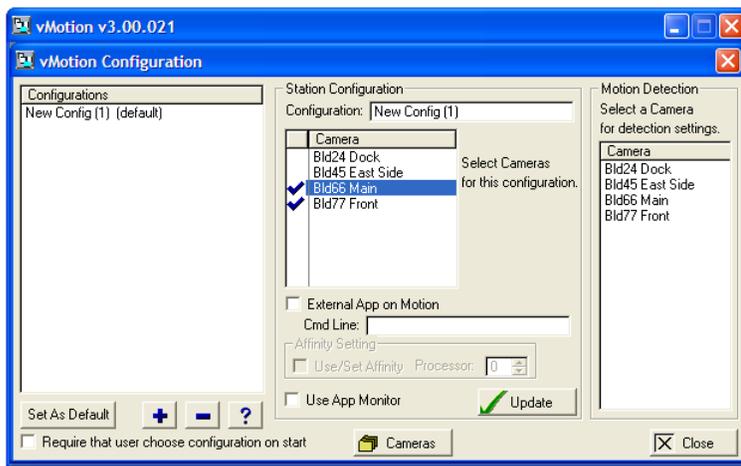
vMotion Status Indicators

- Status: Green indicates connected and operating. Yellow indicates a temporary loss of images. Red indicates that the camera is no longer providing images.
- Motion: Grey indicates no motion currently detected. Blue indicates motion has been detected. Purple indicates archiving of images is in progress.
- Record: Indicator for motion related image storage to memory buffer.

- Disk: Indicates actual disk writing.
- Camera: Camera name assigned.
- Server Name: vCapture Server name.
- Pkt: Average number of packets TCP/IP is using to transmit an image.
- FPS: Image frames per second, archived.
- Bytes/PS: Average bytes per second of image data received.
- Recnt: Incrementing number associated with reconnection attempts.
- Operational: Displays operational status or total time of continuous operation.

9.4 vMotion Configuration

To change, add or modify settings for vMotion, click on Config command button, a configuration window will appear.



The Configuration window displays a list of configurations that may be used for this station. Please refer to the [Configurations](#) section for more information on Configurations.

The list in the middle shows the selected cameras for the highlighted configuration. After you click on a configuration name or have just added a configuration, you may tag and untag the cameras that you want to store when using this configuration. The camera list is all cameras that are currently marked as active. Clicking on a camera name in the right pane will bring up the Motion Detection Setup window for the selected camera.

Select Cameras for this Configuration

- Tag Camera for archiving (left click to tag).
- Deselect or untag camera for archiving (click tagged camera to untag).
- Update Configuration data.

External App on Motion

If you need to launch an external application on motion detection check this box. Additionally you will have to fill out the command line. If you are an applications developer please request the API document for this feature.

Application Monitor (see [Applications Monitor](#) section)

- Use App Monitor: Used to enable the Applications Monitor

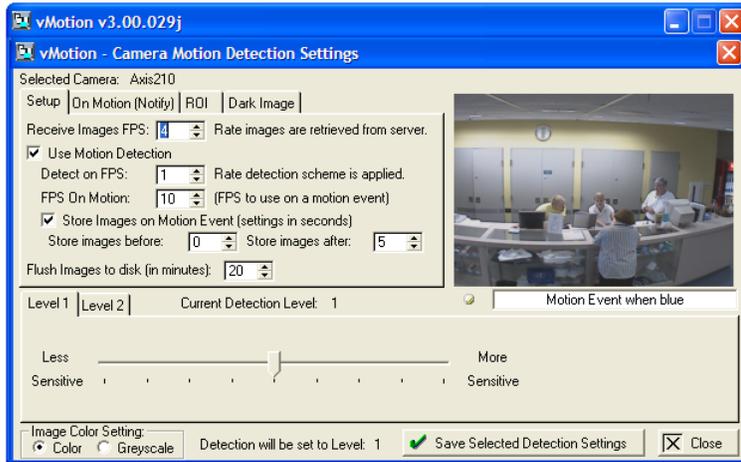
Affinity Setting (see [Affinity](#) section)

- Use/Set Affinity: Allows user to set a running configuration to run on a specific CPU (multiple CPUs required)

- Processor: Select Processor Number

9.5 Motion Detection Configuration

To change or modify motion detection settings for a specific camera, click on selected camera in the right Motion Detection pane. This will bring up the Motion Detection Settings window.



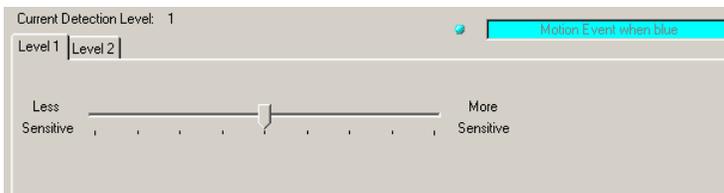
For most cameras running at 320x240 or 352x240 the default setting will operate well for most conditions.

9.5.1 Motion Detection Levels Control

There are two levels of motion detection available for your use. Level 1 is the simplest and easiest to use. Level 2 motion detection is for the advanced user.

9.5.1.1 Level 1 Motion Detection

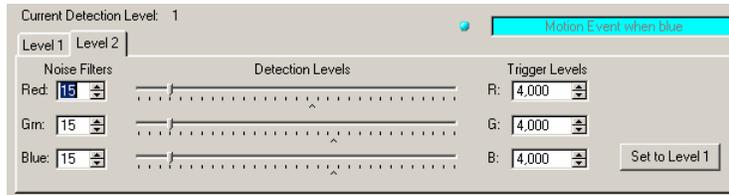
If you are unfamiliar with motion detection, please start with Level 1. This level incorporates a simple one button slider control to automatically adjust motion detection in the simplest method possible. You must select the image color before using any motion detection controls.



Slide the slider control left or right to decrease or increase the desired level of motion detection. Watch the Motion Event light, when it turns blue, vMotion has detected motion in the camera image based on the setting you have set up. When the desired motion detection level is achieved, click on the Save Selected Detection Setting to lock your current settings for this camera.

9.5.1.2 Level 2 Motion Detection

For the advanced user, you may choose to set motion detection based on individual RGB, Noise and Trigger levels. With this more complex level, you can custom configure your motion detection settings based on the individual environment that the camera is monitoring.



RGB Noise Filters:

The smaller the number the more sensitive. The larger the number the less sensitive. This is the difference between the pixel values of the two images being compared. If the difference is less than the noise filter level, the pixel is ignored (no pixel change detected). If the difference is greater than the noise filter level, the pixel is examined further (pixel change detected).

Detection Levels: Moving carets:

These show the amount of difference between the two images based on the pixels being checked. Pixels that have a difference of the noise filter or greater are added together and the caret shows that value for the images streaming in.

Detection Levels: User Slider:

Use the slider to manually set a trigger level for a motion event. The moving carets show the difference between images. If all three carets move to or past the sliders, that will trigger a motion event. The user can manually move the sliders to customize the motion trigger.

RGB Trigger Levels:

The smaller the values, the more sensitive. The larger the numbers the less sensitive. When the difference between the pixels of two images meets or exceeds these values, that produces a motion event. The user can manually enter values into these fields to customize the motion trigger.

Set to Level 1:

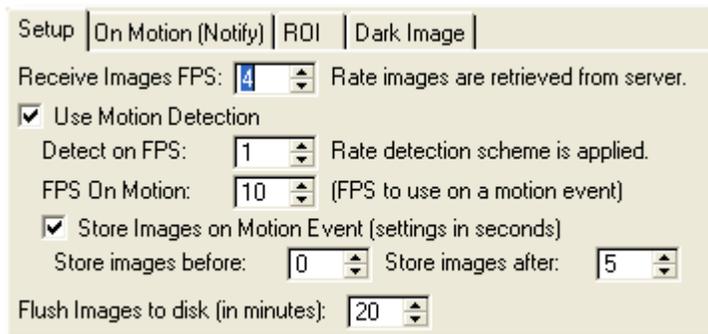
Click this command button to set all controls on this tab to correspond to settings from Level 1.

For example, if you are monitoring an outside environment and would like to reduce the sensitivity of the motion detection of green leafy trees swaying in the wind, you could modify the noise and trigger levels for the green color component to reduce overall sensitivity for the green color component. There are countless other situations that can be achieved with this level of control that is beyond the scope of this manual.

9.5.2 Motion Detection Tab Settings

This section provides detailed configuration settings.

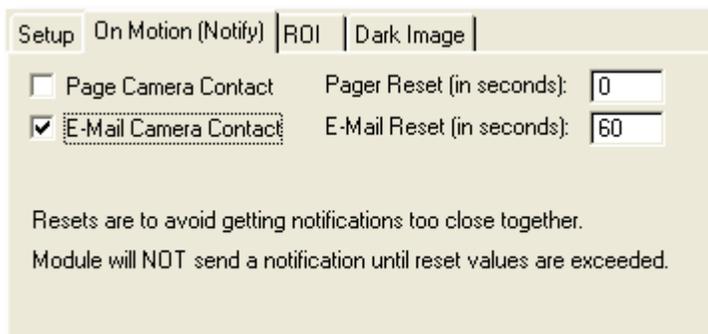
9.5.2.1 Setup



The Setup tab contains options that pertain to frame rates and image storage.

- Receive Image FPS: The rate at which the images are retrieved from the vCapture server (must be larger than Detect on FPS).
- Use Motion Detection: Check to enable motion detection, uncheck to disable motion detection.
- Detect on FPS: Determines the rate at which motion detect will be performed.
- FPS on Motion: The rate at which images will be recorded after an motion event (motion detection ramp up).
- Store Image On Motion Event: Checked will store images on motion.
- Store images before: Number of seconds to store before motion event (range is 0 to 10 seconds).
- Store images after: Number of seconds to store after motion event (range 1 to 300 seconds).
- Flush Images to disk (in minutes): User specified time to automatically write image buffers (minimum amount of time images remain in memory).

9.5.2.2 On Motion Notify



The On Motion Notify tab provides alerting to selected service when motion is detected.

- Page Camera Contact: Check to page the contact for this camera on a motion event.
- Pager Reset (in seconds): Sets the amount of time that this function will ignore new motion events (rearm time).
- E-Mail Camera Contact: Check to send an e-mail to the camera contact on an motion event.
- E-Mail Reset (in seconds): Sets the amount of time that this function will ignore new motion events (rearm time).

Checking the Page Camera Contact or E-Mail Camera Contact box will page or e-mail the attendant on duty in the event of a motion event. Please note that a modem is required and a contact for paging

must be entered for proper operation, likewise a SMTP client account must be available and setup prior to e-mail notification.

Pager Requirements

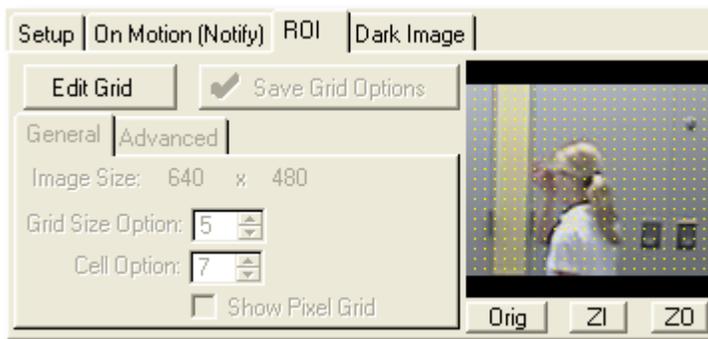
- You must have at least one contact setup, see [Users and Contacts](#).
- You must have a properly setup modem.

E-Mail Requirements

- You must have at least one contact setup, see [Users and Contacts](#).
- You must have a properly an SMTP e-mail account, see vGuard for setup.

9.5.2.3 Region Of Interest (ROI)

The vMotion utilizes a grid based motion detection scheme. To setup the motion detection region of interest (ROI) click the Edit Grid command button.



The motion detection grid will be overlaid on the image pane.



Left clicking a grid cell on the image pane (right most image pane) will select it for motion detection. Alternately, right clicking a grid cell will deselect it for motion detection. Cell colors are as follows.

- No Color: Cell not used for motion detection.
- Light Blue: Cell used for motion detection.
- Yellow: Currently selected cell.

The General tab settings are as follows.

- Grid Size Option: Sets the grid overlay on the image pane for motion detection.
- Cell Option: Sets the pixel count (x and y) on the Cell Image (left most image) to use for motion

detection.

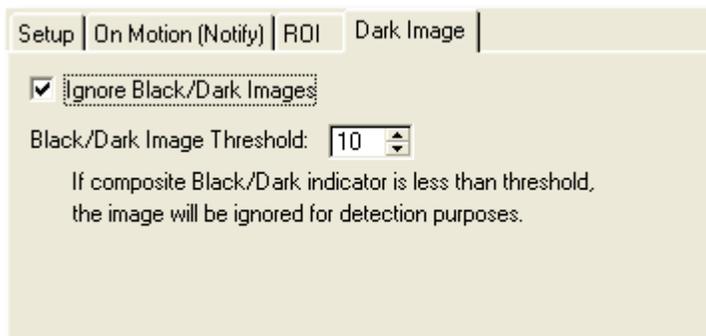
- Show Pixel Grid: When checked changes the Cell Image pixel overlay to a grid overlay.
- Orig: Sets the Cell Image to its original size.
- ZI: Zoom in on Cell Image
- ZO: Zoom out on Cell Image

The Advanced tab expands the Cell Option out to show all Image Cell locations (x and y) as well as pixel counts for each.

Important Notes:

1. Before leaving the ROI tab and to properly save grid and cell options for motion detection you must click the Save Grid Options command button.
2. Before leaving the motion detection configuration and to properly save all motion detection settings you must click the Save Selected Detection Settings command button.

9.5.2.4 Dark Image



Some cameras produce noisy images in the absence of light. As a result these camera images can result in motion events occurring in totally black images. To ignore a dark image for the purpose of motion detection, please check the Ignore Black/Dark Images check box. The composite/threshold number is an average of all the color values of the pixels that are being examined for motion detection. The range is 1 (all white) to 255 (all black). Start with a value of 10 and adjust from there. The lower the number, the darker the image must be to be ignored.

9.6 Advanced Motion Detection Notes

General Motion Detection

As with any motion detection system there can be several variables that may affect your motion detection results. Listed next are some of these variables.

- Camera type and quality
- Resolution
- Image stability
- Camera encoding process
- Day or Night conditions
- Weather (wind, rain, etc)
- Camera mounting
- Camera vibrations

- Frame rates
- Size of object monitored

While you are learning how to adjust vMotion, you have the option of running vStore at the same time (for each camera).

Detailed vMotion Operation

Frames are saved at the receive rate for the specified 'Store Before' seconds (up to 10 seconds max). This is the pre-buffer.

When a motion event is detected, the program checks for the 'Store Before' time. If entered, it saves those frames as a 'Pre Event'. The frame rate is bumped up to the 'FPS on Motion', if entered. The frame that the motion was detected on is marked as the 'Trigger' frame. The higher frame rate is in effect for the 'Store Images After' time and these frames are marked as 'Post Event'. If no other motion is detected during the 'Store After' time, the event is over and the FPS goes back to the receive rate.

If motion is detected during a motion event, meaning the 'store after' time has not expired from a previous motion event, the motion event is reset at that point with a fresh 'Store After' time. So the timing is like a new motion event but the effect is like the motion event is extended.

There is no 'Post Buffer'. There is only a 'Pre-Buffer', a single frame event trigger, then the frames that come in during the 'Store After' time are the 'Post Event' images and should all be at the elevated FPS, if set.

ROI Setup

The Grid Size Option is the size of the grid, the width and height. So the Grid Size Option squared is the number of cells in the grid.

The Cell Option controls how many pixels in each cell will be tested. The smaller the number, the more pixels are checked. The larger the Cell Option, the less pixels are checked. The Cell Option number selects the pixel grid size, where the middle pixel of the grid is the one tested. Pixel grid sizes start at 1x1 (every pixel), then 3x3, 5x5, and so on. So Cell Option 1 uses the 1x1 grid, Cell Option 2 uses 3x3, Cell Option 3 uses 5x5, and so on. Cell Option * 2 - 1 is the formula for the pixel grid size the Cell Option uses.

Show Pixel Grid checkbox will display lines on the cell window to show which pixels are the ones that will be tested in that cell. Sometimes the highlighted pixel is hard to see so you can use the intersection of the lines to see the test pixels.

The Advanced tab shows the selected cells in the list box. You can use the Advanced tab to specify different Cell Option or pixel grid sizes to be tested for each cell. The General tab applies the Cell Option to all selected cells. The Advanced tab will let you apply different Cell Options for each cell. Click on the cell in the list box you want to change, then use the Cell Option spin box to change the pixel grid for that cell. The Cell Option on the Advanced tab works the same as on the General tab. So you can use the Advanced tab to include many pixels in one cell and a moderate number in others, or however you want to do it. The Advanced tab also shows the total number of pixels that are to be tested for the image.

Always remember to click the Save Grid Options button after making changes in the grid setup that you want to keep. Clicking Save Selected Detection Settings will not save the Grid setup if you do not click Save Grid Options first.

The motion detection scheme is still the same whether you use the General method or Advanced

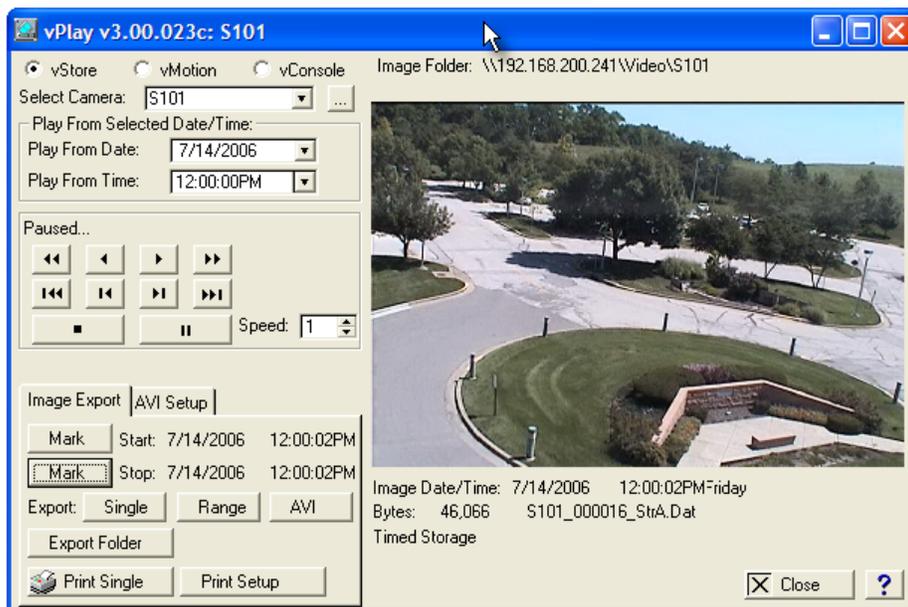
method. The module checks the total number of pixels selected in the image against the selected noise filters and trigger levels.

10 vPlay

vPlay is the default image playback module for VIPRO NVR. For advanced tree based playback please refer to the nPlay.

10.1 Overview

vPlay is VIPRO NVR's image playback application. The functionality built into vPlay allows you to playback images locally or remotely from other servers over your network. Additional functionality provides you with image exporting and printing. vPlay's functionality and benefits are described in this chapter.



If you have direct or network access to the image server the Select Camera drop down list box should be populated with camera names.

To access your image archives select the desired camera name and record source. Click on the Play From Data drop down list box to select from available dates. Select the desired time frame with the Play From Time drop down list box. If images exist for that time frame the first image will be displayed otherwise the closest image for that day will be displayed. Use the VCR style controls provided to view your images.

If the names do not appear in the Select Camera drop down list box you may have one of the following issues.

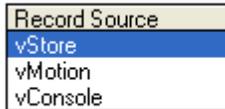
- You may not have physical access to the image server.
- You may not have authentication privileges to the image server.
- Your network may be temporarily down.
- The camera's [vCam Storage Setup](#) second path may need to be setup to point to the correct image archive folder.

To correct this issue you may have to contact your Network Administrator.

10.2 Main Controls

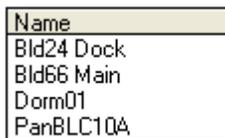
Listed next are the main controls vPlay provides to help you get to your stored images.

Record Source



Selectable source for archival image viewing.

Select Camera



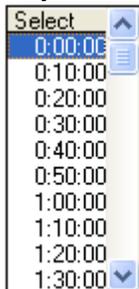
Selectable camera source archival image viewing.

Play From Selected Date Time



Selectable date for viewing. Simply select the desired date from the Play From Date drop down list box.

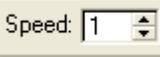
Play From Time



Selectable time for viewing. Simply select the desired time from the Play From Time drop down list box. Alternately you can type in a specific time (HH:MM:SS) to drill down to the exact time you want to start viewing images from.

10.3 Toolbar Buttons

Following is a list of the vPlay toolbar buttons and their descriptions.

	Stop	Use this button to stop the current playback images.
	Play Forward	Use this button to start playing images forward.
	Play Reverse	Use this button to play images in reverse motion.
	Fast Forward	Fast forward (while play is active) or fastest forward (while play is inactive).
	Fast Reverse	Fast reverse (while play is active) or fastest reverse (while play is inactive).
	First Image	To go to the first image stored for this camera, click this button.
	Last Image	To go to the last image stored for this camera, click this button.
	Browse	Use this button to browse to desired folder.
	Help	Used to call help for this module.
	Play Speed	Used to set the speed in frames per second (FPS) for image playback.

Speed Note: A value of one displays approximately one frame per second.

10.4 Indicators

vPlay Image Archive Location

Image Folder: D:\Video\Dorm01

Image Specific Information

Image Date/Time: 1/27/2005 11:13:29 Thursday
 Bytes: 29,423 Dorm01_000001_StrA.Dat
 Timed Storage

- Image Date/Time: Image date and time, along with the current day.
- Bytes: Actual Image byte or file size.
- File Name: Actual file name used for current playback.
- Storage Type: Timed Storage (vStore) or Motion Storage (vMotion)

10.5 Image Folder Browse

The Image Folder contains the location of archived images you wish to view or playback. For manual operation click the Browse button (located immediately to the right of the Camera drop down list box) and browse to the desired image archive server and camera folder. If you require additional access to network resources, please contact your network administrator.

10.6 Image Export

The vPlay can export individual JPEG images, a series of JPEG images or an AVI file as shown in this section.

10.6.1 JPEG Image Export

vPlay JPEG Image Export:

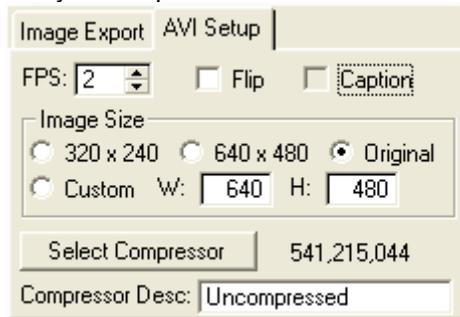


Command Button Descriptions

- Mark Start: Used to mark the starting image for multiple image export.
- Mark End: Used to mark the ending image for multiple image export.
- Single: Export single image (displayed image) to Export Folder.
- Range: Perform multiple image export to selected Export Folder.
- AVI: Exports JPEG images the AVI folder.
- Export Folder: Export folder location.

10.6.2 AVI Image Export

vPlay AVI Export:



When exporting as an AVI file, you must setup the following.

- FPS: Frames per second as played back in a media player
- Flip: Flips the image 180 degrees
- Caption: Inserts text caption information
- Image Size: Select the desired image size for playback in a media player

AVI Export Note: Make sure you select a Compressor codec before creating AVI files.

10.6.3 Export Procedure

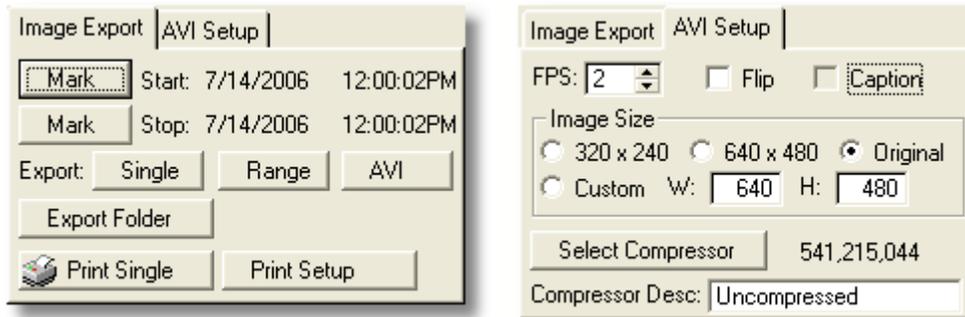


Image Export Setup

- 1) Create a folder to export image too.
- 2) Run vPlay
- 3) Click the Export Folder and select the folder created in step 1 above.
- 4) Find first image you want to export and click on Mark Start.
- 5) Determine if you need one image to more than one image.
 - a) For a single image skip down to Export Single JPEG Image.
 - b) For more than one image; find last image to export and click on Mark Stop.
- 6) You have completed the Image Export Setup, please select and perform the desired Export Option below.

Export Option 1 (Export Single JPEG Image)

- 1) Clicking the Export Single will export the current image displayed to the Export Folder.

Export Option 2 (Export Range of JPEG Images)

- 1) Clicking the Export Range will export all images (JPEG) in the selected range to the Export Folder.

Export Option 3 (Export Images to AVI File)

- 1) Click on the AVI Setup tab and Select Compressor.
 - a) For no compression select Full Frames (No Compression).
 - b) To add compression, select MPEG4 or DivX or another codec you are familiar with.
- 2) Click the Import/Export tab and click the Export AVI command button.

Notes

- 1) When creating AVI files you must be aware that Microsoft limits the AVI file to 2GBs.
- 2) Uncompressed AVI files tend to be very large whereas other compressed formats will be considerably smaller.
- 3) When playing AVI files on another computer you must have the same codec installed in order to view the AVI file.
- 4) When dealing with law enforcement
 - a) Always provide the individual JPEG files.
 - b) When AVI format is requested, select the no compression option in Export Option 3, step 1a above.
 - c) When compressed AVI format is requested, provide AVI files and the name of the codec selected in Export Option 3, step 1b above.

10.7 Image Printing

vPlay Print Command Buttons

- Print Single: Used to print a single image as displayed on the screen.
- Print Setup: Used to select the default printer.



Click the Print Setup command button to select and setup your printer for printing. Clicking the Print command button opens a print preview of the currently displayed image. To print image, click the printer icon in the preview window.

11 vWeb Monitor

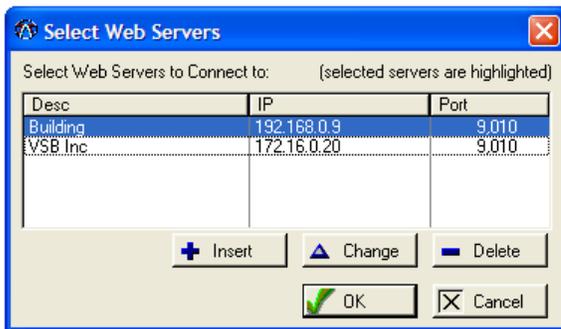
The vWeb Monitor is a display modules that connects to running vWeb servers operating on WAN or the Internet.

11.1 vWebMon Installation

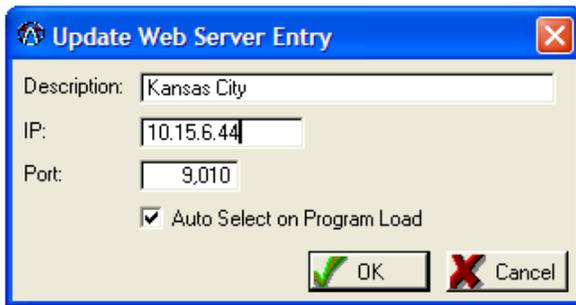
vWebMon is a stand-alone module installable on any windows system. All current configurations are kept locally on the viewing station. For basic installation please refer to the VIPRO NVR Quick Start Guide supplied with VIPRO NVR.

11.2 vWebMon Initial Startup

Launching the vWeb initially pops up the Select Web Servers window. You must select (highlight) one or more Web Servers to continue.



To setup a new vWeb Server click on the Insert Command button. The Update Web Server Entry window will appear.

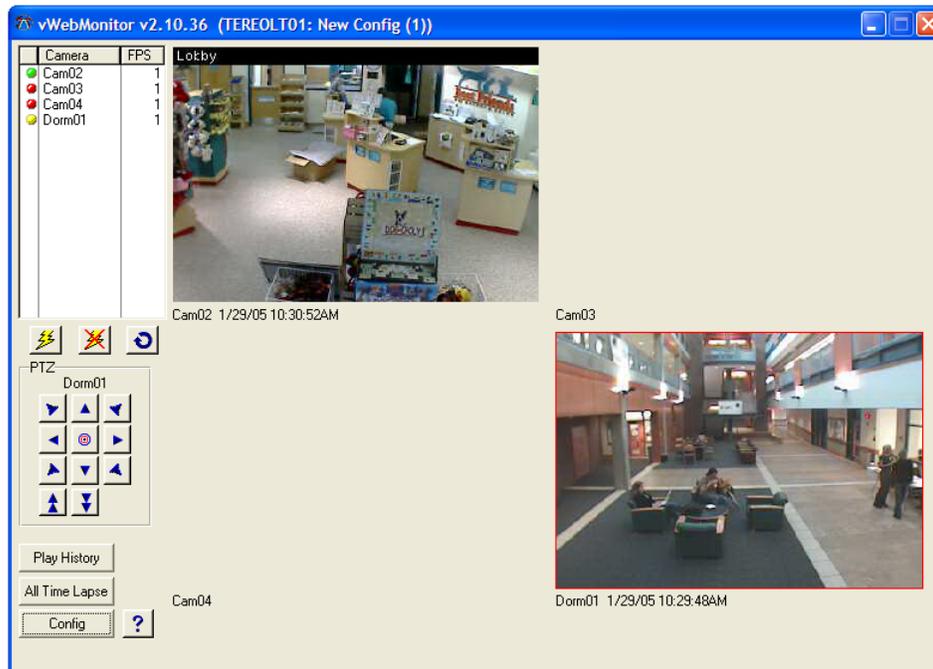


Enter a description and IP address for the vWeb Server you want to connect to. Click OK to update this entry and return you to the previous

11.3 Overview

vWeb Monitor provides several important features for displaying camera images over the WAN or Internet.

- Multiple vWeb Server selections
- Multiple viewing configurations
- Supports PTZ operations
- Historic playback built in



The viewing area displays cameras along with their assigned name, viewing frames per second and additional command buttons available. A status indicator is provided where green is active and receiving images, yellow is images are not being received regularly, and red is disconnected. PTZ controls are provided for cameras that support pan, tilt and zoom functions. Additional command

buttons are included to view historic images, return all cameras to time lapse, and open the configuration window.

11.4 Viewing Frame Rates

You can specify the slowest and fastest frame rates in the vWebMon Configuration. To activate a camera image for its highest speed viewing, simply click on the camera image in vWebMon. This will activate the image update to the highest frame rate as determined for that configuration.

In order to display higher frame rates, the camera must be producing the desired FPS or better.

To view all camera images in time lapse mode, click on the Time Lapse command button.

11.5 PTZ Operation

You have complete control over your movable or controllable cameras. By selecting an image from a controllable camera, you can use the controls provided to pan, tilt and zoom. A home command button is provided to home the select camera for your convenience.

11.6 Toolbar Buttons

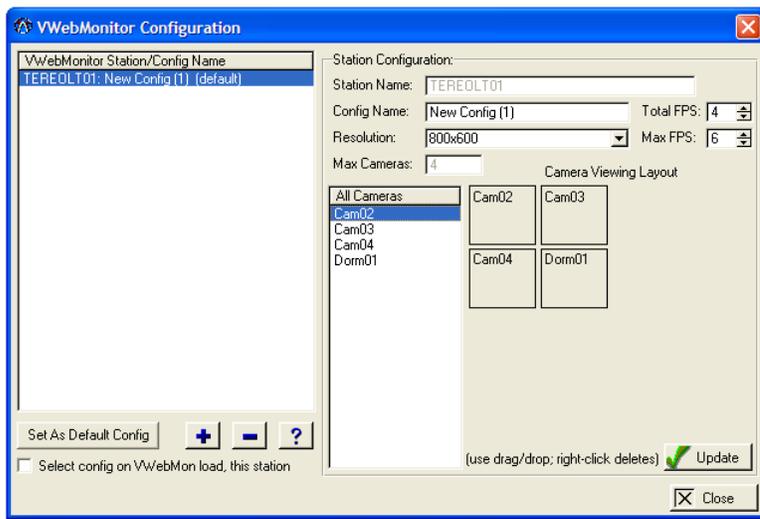
Following is a list of all the standard toolbar buttons and their descriptions.

	Connect All	Use this button to connect all.
	Disconnect All	Use this button to disconnect all cameras.
	Reload	Use this button to reload current or changed configuration.
	Pan Left	Used to move or pan camera to the left.
	Pan Right	Used to move or pan camera right.
	Tilt Down	Used to move or tilt camera down.
	Tilt Up	Used to move or tilt camera up.
	Zoom In	Used to zoom camera image in.
	Zoom Out	Used to zoom camera image out.
	Home	Used to return camera to it's home position.

11.7 vWeb Mon Configuration

You can configure vWebMon to match a variety of system and display capabilities.

Start by creating a new configuration, enter a new name, select the desired resolution and number of cameras you want to display for this configuration.

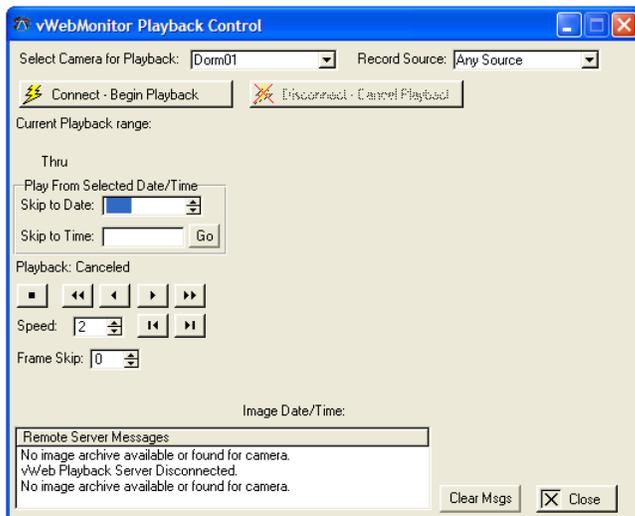


To populate a layout, click and hold camera name and drag to the Camera Viewing Layout position desired. Repeat this procedure until you have all the cameras positioned as desired. Click Update when finished. If you want this Camera Viewing Layout as the default, select it under vMonitor Station/Config Name, click Set As Default Config. Once you have setup all the different Camera Views you want for this station click Windows Close to bring you back to the vMonitor.

You have the option to automatically load the default configuration when vWebMon loads (leave Select Config on vWebMon Load unchecked) or you can select a configuration when vWebMon loads by checking the box labeled Select Config on vWebMon Load.

11.8 Remote Playback

Remote playback is built into vWebMon, operation has been designed to closely emulate vPlay. Simply click the Historic Playback command button to launch the Playback window.



Select the desired camera, record source and click the Connect - Begin Playback command button. Once connected you can select the desired Date and Time and click the Go command button. Playback can be controlled by the VCR style buttons provided.

12 Advanced Topics

This section covers advanced topics.

12.1 Camera Names

Changing the Camera's name affects the following modules.

- vStore
- vMotion

There are some points to consider with regard to changing a camera's name.

1. Changing the camera name automatically creates a new archive (folder and files) using the new name on module launch.
2. If you change a camera's name and you want to use its existing archive files then you must manually change the image archives folder and file names to exactly match the new camera name.
3. In order to reduce confusion , one can utilize the camera description to provide a meaningful name/description for the camera. For example, setup cameras Cam01, Cam02... Then if a more meaningful name is required enter it in the description field. In the vConsole you can display by camera name or description or both.

12.2 Image Archives

Changing Camera Disk Quotas affects the following modules.

- vStore
- vMotion

There are some points to consider with regard to Image Archives.

1. VIPRO NVR is designed with the ability to add new archive files. This occurs automatically when you increase the Disk Quota as set in vCam.
2. VIPRO NVR does not delete image archives.
3. Deleting archives is the responsibility of the NVR Administrator.
4. If you size down (decrease Disk Quota VIPRO NVR makes note of this and flags it in the camera's archive ini file.
5. VIPRO NVR stores files in archives 1 to n, where n is the number of Giga Bytes of Disk Quota as set in vCam.

If you change a camera's name and you want to use its existing archive files then you must manually change the image archives folder and file names to exactly match the new camera name.

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