## Canon

**Network Camera Recording and Monitoring System** 

# Network Video Recorder VK-64 | VK-16 v1.1

Storage Server & Viewer

**User's Manual** 

## Introduction

Thank you for purchasing **Network Video Recorder VK-64 v1.1** (hereafter referred to as 'VK-64'), a network video recording and monitoring system.

This manual describes the configuration and operation procedures for **Storage Server** and **Viewer**. Please read this manual prior to operation to ensure you will be able to use the Viewer and Storage Server effectively. This manual is also intended for Network Video Recorder VK-16 v1.1 (hereinafter referred to as 'VK-16'). Please refer to page 7 for differences between VK-64 and VK-16. When you have finished reading this manual, please store it in a safe place.



VK-16 has the same functionality as VK-64 outlined in this manual, unless explicitly indicated otherwise.

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## **Overview**

VK-64 is software that allows you to view and record images transmitted from the Network Camera Server VB150/VB101 and Network Camera VB-C50i/VB-C50iR/VB-C50FSi/VB-C50Fi/VB-C10/VB-C10R (hereafter referred to as 'Camera Servers'). The software can support up to 64 cameras via an IP network such as a LAN, or up to 16 cameras for Network Video Recorder VK-16 v1.1.

	Storage Server	Viewer
VK-64	Up to 64 cameras can be registered	
	Up to 16 cameras can be registered	Common
VK-16	Functionality is the same as for VK-64 except for the above camera limitation.	

- VK-64 consists of two applications: **Storage Server** that lets you record video from multiple camera servers and save event information (sensor and motion-detection inputs); and **Viewer** that lets you view live video from multiple Camera Servers and playback recorded video stored on Storage Servers.
- Video resolution can be as high as 640 x 480 pixels, 30 fps for NTSC and 768 x 576 pixels, 25fps for PAL (depending on Camera Servers installed).
- The following table shows each product and license number:

Product Name	Storage Server	Viewer
Network Video Recorder VK-64 v1.1	1 license	1 license
Network Video Recorder VK-16 v1.1	1 license	1 license
Network Video Recorder VK-64 v1.1 Viewer License	_	1 license
Network Video Recorder VK-64 v1.1 Viewer 5 Licenses	-	5 licenses

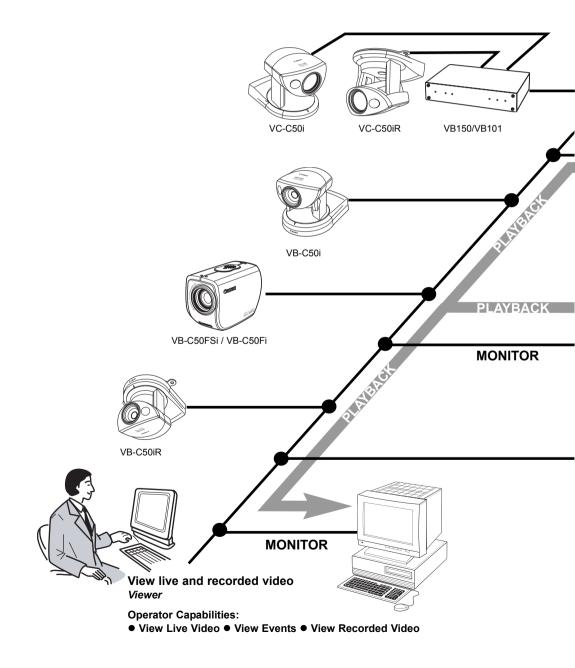
The VK-16 Viewer is identical to the VK-64 Viewer.



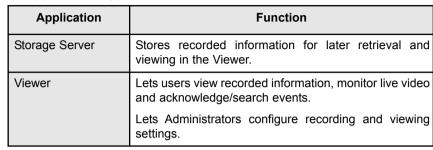
## **System Configuration**

## **Typical System Configuration**

VK-64 provides video viewing and recording from Camera Servers via an IP network such as a LAN. Since VK-64 makes use of IP networks, installations of cameras can be performed easily. In addition, it is possible to flexibly install new cameras and change installation locations of cameras.



#### ■ Application Types and Functions

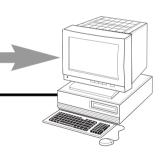




Record video to the Storage Server # 1 Storage Server

**Administrator Capabilities:** 

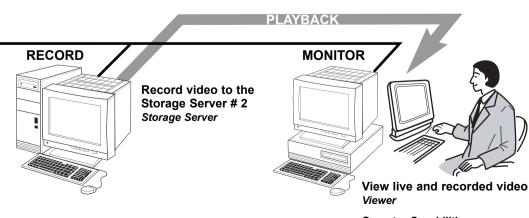
- Configure Users Configure Storage Server
- Configure Event Notification



View live and recorded video Viewer

**Administrator Capabilities:** 

- Configure recording settings Configure event alerts
- Camera Server Settings
   Storage Server Settings
- View Live Video
   View Events
   View Recorded Video



Operator Capabilities:

- View Live Video View Events
- View Recorded Video

## **Overview of Setup**

Before you can start monitoring, recording and playing back video, you need to install and configure the Storage Server and Viewer. The diagram below indicates the installation and configuration process.

## 1 Set up Network Cameras

The first step is to set up your cameras and/or Camera Servers. Refer to your camera and Camera Server manuals for connection details.

Camera servers (→ P. 12)



VB-C50FSi

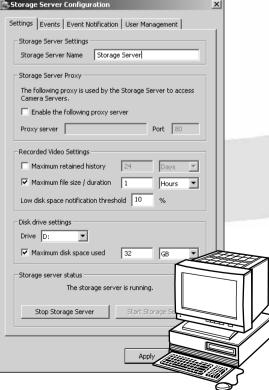
VB-C50i



## 2 Install Storage Server and Viewer

Install the Storage Server and Viewer on one computer or install the Viewer on other computers on the network that will access recorded video from the Storage Server. Configure the Storage Server via the Storage Server Configuration utility to set server settings, event notification and configure user privileges.





VC-C50i

## 4 Create and save Viewer Layouts

Monitor live video and play back pre-recorded events in the **Viewer** application. From here you can customize the Viewing Area and save Layouts.



Pre-recorded video from Storage Server



Live video from Camera Servers



Register Camera Servers and Storage Servers and set up recording schedules.



## **Supported Camera Servers**

#### **Canon Camera Servers**

The table below lists the Camera Servers that are supported by VK-64.

This information is correct as at September 2005.

For the latest information, please refer to our WebView Product web page: http://www.canon.com/webview

Camera Server	Firmware Versions
VB-C50i VB-C50iR	Ver. 1.1 Rev. 33 or later
VB-C50FSi	Ver. 1.0 Rev. 68 or later
VB-C50Fi	Ver. 1.0 Rev. 33 or later
VB-C10 VB-C10R	Ver. 1.0 Rev. 26 or later
VB150	Ver. 1.1 Rev. 30 or later
VB101	Ver. 3.0 Rev. 68 or later



- If using a VB101, you can make use of a single camera connected with VK-64 at a time.
- If using a VB150 with multiple cameras, there are restrictions on frame rate. Refer to your VB150 User's Manual for details.

## Firmware Upgrade

The latest information concerning firmware can be found on the following Canon Web site: http://www.canon.com/webview/

## **Operating Environment**

This information is correct as at September 2005. For the latest information, please refer to our WebView Product web page: http://www.canon.com/webview

#### **Viewer System Requirements**

	Minimum	
CPU	Pentium 4 2.2GHz or greater	
Operating System	Windows 2000 Server (with SP4) Windows 2000 Professional (with SP4) Windows XP Professional (with SP2) Windows Server 2003 Standard Edition (with SP1)	
Memory	1GB RAM or greater For more than 16 Camera Servers, 1GB or greater required.	
Hard Disk	2GB HDD or greater	
Display	1024 x 768 with 16 bit color A high performance video card is desirable. With PCI video cards, display performance may be reduced.	
Sound	Audio playback support is necessary for event notification alert sounds.	

If using Windows XP Professional SP2, follow the procedures as described on the following page for configuring your Windows firewall settings.

## **Storage Server System Requirements**

	Minimum
CPU	Pentium 4 2.2GHz or greater
Operating System	Windows 2000 Server (with SP4) Windows 2000 Professional (with SP4) Windows XP Professional (with SP2) Windows Server 2003 Standard Edition (with SP1)
Memory	1GB RAM or greater For more than 48 Camera Servers, 1.5GB or greater required.
Hard Disk	20GB HDD or greater, SCSI or IDE, NTFS formatted

The requirements for Storage Server will vary according to the environment you will use (number of Camera Servers, setting of recording frame rate etc.). It is also dependent on pre-event recording settings. Please contact dealers that handle Canon products for further information. If using Windows XP Professional SP2, follow the procedures as described on the following page for configuring your Windows firewall settings.



#### Before starting operations with VK-64

- It is recommended that you perform tests under actual conditions before starting operations.
- Recording and display of live videos may not be provided as configured because many factors (such as network environment and PC performance) affect the actual performance of VK-64.
- When the load on your computer CPU and hard disk is high, the specified frame rate may not be available, or the video recording may be interrupted or the Viewer operation may take longer. Also, when available disk space is low, the disk load may increase and the video recording may be interrupted due to deletion of the recorded video file (→ P.24).
- Using anti-virus and firewall software may affect Storage Server and Viewer operations.

#### When using a proxy server

 If you use a proxy server, recording frame rate may not be achieved as specified or live video monitoring may be interrupted. Also, communication between the Storage Server and Viewer may occasionally be disconnected.

#### When using the Audio feature (VB-C50i, VB-C50iR and VB-C50FSi)

- The Admin Viewer supports audio transmission and reception.
- Audio recording is not available.
- The audio and video may be out of sync.
- Depending on the performance of your PC and network environment, the audio stream may be interrupted.
- The audio feature is not available via a proxy server.
- If you use a PC on which anti-virus software is installed, the audio stream may be delayed or the audio stream may be temporarily interrupted.

### Using the Storage Server with Windows XP SP2

If your Storage Server is not installed on the same PC as your Viewer, you will need to change your Windows firewall settings for the Storage Server on the PC with Windows XP SP2.

After installation of the Storage Server on a PC with Windows XP with SP2:

- 1. From the Windows **Start** menu, launch the **Control Panel**.
- 2. In Control Panel, select **Windows Firewall**. If Windows Firewall is not shown, select **Security Center** and then select **Windows Firewall**.
- In the Windows Firewall dialog, select the Exception tab and then click Add Port....
- 4. In the **Add a Port** dialog, enter a name for the Storage Server, e.g., 'VK-64 Storage Server'.
  - Enter the **Port** number as '80'. Make sure the **TCP** protocol is selected and click **OK**.
- 5. In the Windows Firewall dialog, your Storage Server is now listed. Make sure it is enabled (checked). Click **OK** to close the dialog.

Settings are now complete.

If more than ten camera servers out of all registered ones cannot be connected to Storage Servers, the CPU load will be heavy and Storage Server and recording operations may take longer.

# Chapter 1

Installation

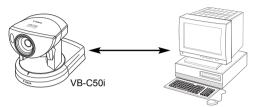
This chapter outlines the installation of the Storage Server and Viewer.

## Before you begin installation...

## **Suggested Network Configurations**

It is highly recommended that Storage Servers and Viewers be used on private networks.

## When Viewing and Recording with one PC

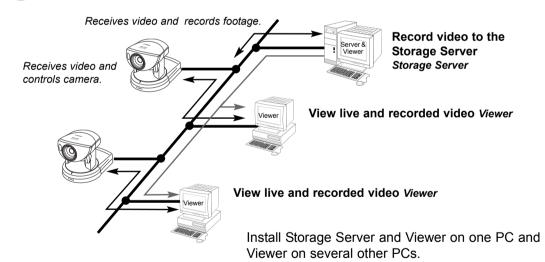


Storage Server (recommend separate hard drive for recorded video). Storage Server

Viewing Recorded Events and Monitoring Viewer

When you Install VK-64, you can select to install both the Storage Server and Viewer software on the same computer.

## When Viewing and Recording with Several Viewers

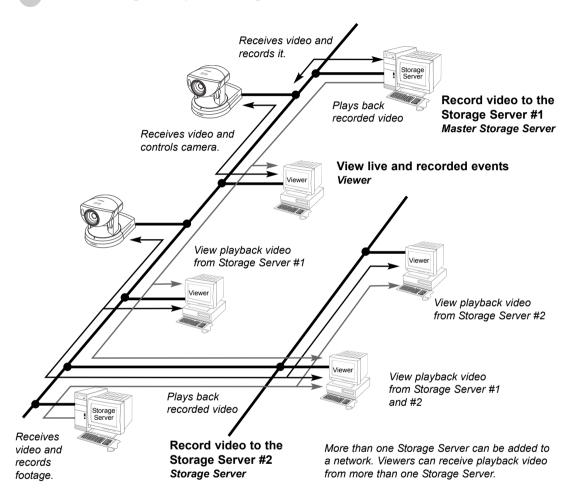




- Having many Viewers accessing the same Camera Servers and Storage Servers will affect system performance.
- Installation of both Storage Server and Viewer on a single PC causes a heavy load on your PC. If you use VK-64 with many camera servers or the frame rate for live video is high, install each application on separate PCs.

If the maximum frame rate for live viewing is 10 fps or more, viewing with a low capacity PC may take longer, the specified frame rate may not be achieved, recording frame rate may be lower or recording may be interrupted. Please reduce the live viewing frame rate or use a separate PC.

## When using multiple Storage Servers and Viewers



One or more Storage Servers can be used on a network and Viewer applications can be configured to play video from more than one Storage Server. For each Viewer, a Master Storage Server (→ P. 18) is defined for saving information such as zones and locations of cameras, as well as saving Viewer layouts created by the user.



- You can operate VK-64 with up to three Storage Servers using any combination of 'VK-64 Storage Server' and 'VK-16 Storage Server'. Up to five Viewers can connect to the Storage Servers at the same time.
- If you wish to install Storage Servers and Viewers on multiple PCs, you'll need to purchase the necessary licenses separately.

#### **Setting up the Camera Servers**

- First make sure the firmware is the required version or later (as specified in the table  $\rightarrow$  P. 12).
- Check to ensure the Camera Server has been correctly installed and that the initial settings (network settings) have been made. Then connect to the network.

For procedures on installing and setting up Camera Servers and cameras, please see the User's Manual supplied with the Camera Servers and cameras.

#### **About the Master Storage Server**

A Master Storage Server is the Storage Server which a Viewer will connect to in the first place. Information about Camera Servers, Locations and Zones and Viewer Layouts are stored on the Master Storage Server.

## When using multiple Storage Servers...

If multiple Storage Servers are being used, you should decide which one is the Master Storage Server.

A typical multiple Storage Server arrangement could be:

Storage Server #2

Master Storage Server

Play Video to Viewer

Load Camera Server information
Load Zones and Locations
Load Viewer Layouts

Save Camera Server information
Save Zones and Locations
Save Viewer Layouts



Note

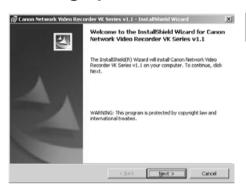
- It is recommended that all Viewers within a system use the same Storage Server as a Master Storage Server. This ensures that all Viewers use the same Zones, Locations and Viewer Layouts.
- For correct operation, the time setting of all PCs within a system (including Storage Servers and Viewers) must be correct.

## **Installation Procedures**



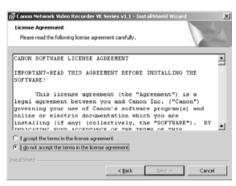
Types and number of licenses you can install vary according to the product you have purchased. If additional Storage Server and Viewer installations are required, you will need to purchase the necessary software for each PC.

## Starting up the Installer



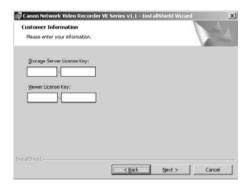
Insert the Network Video Recorder installation disc into your CD drive. After a moment, the **Welcome** screen appears. Click **Next** to continue.

If the installer does not automatically load, open the CD directory in Explorer and browse to locate **Setup.exe**. Double-click to begin installation.

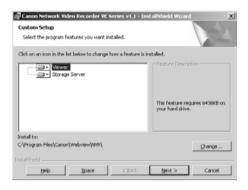


The **Software License Agreement** screen appears. Read the agreement carefully.

Click the radio button, I accept the terms in the license agreement and then click the Next button to continue.



Enter your License Key(s) and click the **Next** button. Your License Key is indicated on the 'About License Key' included in the package.



Depending on your License Key, you will be presented with one or both of the following applications shown below:

- Viewer
- **Storage Server**

It is recommended to keep the Install To: path as is. Click the Change... button to choose another installation path if necessary.

Click Next to continue (or view Tip below).



- Click the 'Help' button to obtain details on the type of installation. The type is indicated by the icon next to the application to be installed. You can set a custom install here.
- Click the 'Space' button to view the amount of hard disk space required in order to install VK-64. A list of drives is shown.

In either dialog, click 'OK' to return to the installation steps.

5

er VK Series v1.1 - InstallShield W InstallShield Wizard Completed **Enish** Cancel When you click **Next**, installation will proceed and a progress bar will be displayed.

When the InstallShield Wizard Completed screen displays, click the Finish button.

#### Installation is now finished.

In future, if you need to check your product type, refer to the 'About' box of the Storage Server or Viewer.



Note

If the Storage Server is installed, it will be automatically started after installation.

## **Upgrading from Version 1.0**

When installing over an earlier version, VK-64 will attempt to use settings from your previous installation. It is important to verify your settings after installation.



Note

You cannot use v1.1 Viewer with a v1.0 Storage Server, nor can you use a v1.0 Viewer with a v1.1 Storage Server. When installing, make sure you install components that have the same version number.

## Chapter 2

# **Configuring the Storage Server**

This chapter shows Administrators how to start and stop the Storage Server if necessary. It also explains how to configure the Camera Server proxy for the Storage Server, set disk space used, set event notifications and configure users.

## **Storage Server Configuration**

## **Launching Procedure**



Double-click the **Storage Server Configuration** desktop icon.

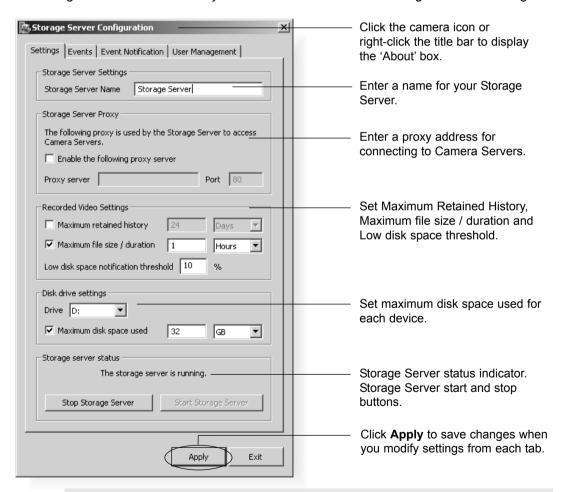
Alternatively, from the Windows Start menu select:

Storage Server Configuration Programs > WebView Livescope > Network Video Recorder VK Series v1.1 > Storage Server Configuration.

## **Adjusting the Storage Server Settings**

The Storage Server Configuration dialog, **Settings** tab allows you to configure:

Storage Server name ● Proxy for Camera Servers ● Recording and Drive settings





VK-64 can record to any drive that Windows treats as a 'fixed drive'. Removable drives and network drives are not supported unless the drives are explicitly allowed to be treated by Windows as fixed drives. To check the type of drive, right-click on the drive within Windows Explorer, select 'Properties' and note the 'Type' displayed.

#### **Enter the Storage Server Proxy Address**



If the Storage Server needs to access Camera Servers outside the LAN, you may need to configure proxy settings (see user note → P. 14).

- In the Storage Server Proxy field, tick the Enable the following proxy server box.
  - 2 Enter the **Proxy server** address and **Port**.

## Enter Recorded Video Settings



3 Low disk space notification threshold - Enter a percent value. When remaining space reaches, for example, 10%, a notification will be emailed.

In the Recorded Video Settings field, set:

- Maximum retained history Enter a value from 1 to 999 and then select Days or Weeks from the drop-down menu.
- Maximum file size / duration Select MB or Hours and enter a value from 1 24 for Hours or 32 1024 for MB; for example, '100 MB' or '24 Hours'. This will establish the maximum size used for each file of recorded video.

## Select Disk Drive Settings



In the **Disk drive settings** field, set:

- 1 Drive Select the disk drive to configure, from the drop-down menu.
- Maximum disk space used Tick the box and enter a value in Megabytes (MB) or Gigabytes (GB), for example, 'D: 50 GB'.

This establishes the maximum disk space used for all video files on the specified drive.



Note

If disk space is not enough to cover the specified value configured with 'Maximum disk space used', the retained duration of video may be shorter than the specified period or the recording may be temporarily stopped. Please be sure to perform sufficient tests before starting operations.

#### Start or Stop the Storage Server



You can start or stop the Storage Server using the **Start Storage Server/Stop Storage Server** buttons via the **Settings** tab.



If you need to stop the Storage Server for any reason (such as maintenance) first inform all users connected to the server!

#### How the Storage Server manages disk space

This section describes the way in which the Storage Server manages its disk space and determines when old video files should be deleted. It also describes the events and notifications associated with disk usage.

The Storage Server tracks the unused disk space that is currently available for recording video and events for each drive and sets some disk warning and error levels based on this. These levels are used to generate events and alter the behaviour of the Storage Server. For each of the levels, the system can be configured to provide email notifications when one of these levels is reached. The levels it uses are shown in the following table.

Level	Description	Warning / error
Low disk warning level	This is the level of free space at which an early warning will be generated. This allows early intervention by an administrator to avoid problems due to running out of disk space (for example, removing unwanted recording schedules).	Low disk warning
Threshold level	This is the minimum free space that can be available in order that old video files will be retained. If the free space is ever reduced to this level, the Storage Server starts to delete video files starting at the earliest ones (even if these are within the "Maximum Retained History" value). However if the oldest file is currently used in the Viewer (for example for playback of recorded video), it would not be deleted and the next oldest file will be deleted instead. Deletion will continue until the free space rises above this threshold again.	Low disk dele- tion
Limit level	This is the minimum free space that can be available in order for recording to be continued. If the free space is ever reduced to this level, recording will stop and resume again when the free space rises above this limit again.	Low disk rec. stopped

The Limit level and the Threshold level are determined by the Storage Server, depending on various conditions and settings. However, an administrator can alter the Low disk level warning value in order to control at what point a Low disk warning is generated.

The warning is triggered when the disk space available for writing goes below the given percentage of the total disk space on the drive. For example, for a 100GB disk and a setting of 10%, the warning would be generated when available space reduces below 10GB.

If Maximum Disk Space Used is set, the warning can also be triggered when the disk space available for writing goes below the given percentage of the Maximum Disk Space Used on the drive (if the warning has not already been triggered as above). For example, if the Maximum Disk Space Used is set to 80GB and a setting of 10%, the warning would be generated when the available space reduces to 8GB.

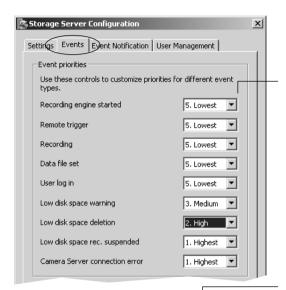
For disk space management operating examples, please refer to page 146.

## **Setting up Event Notifications**

## Set up a user to receive Event Notification emails

The Storage Server Configuration dialog, **Events** and **Event Notification** tabs allow you to set up event priorities and email notification to a particular user.

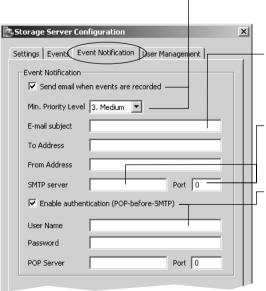
## Adjust settings for the 'Events' tab and 'Event Notification' tab...



Select a suitable event priority from the drop-down menu for each event type listed.

The priority of an event created by a manual recording using 'Record Now' (→ P. 111) will always be Priority 1. It cannot be changed from this dialog.

The events associated with 'Recording engine started', 'Data file set' and 'User log in' do not appear in a Viewer's Timeline, Live Events Log or Event Search Dialog.



Enable email notification and select a priority. Events of that priority and above will lead to notification emails.

Enter the email subject line, for example, 'Immediate Action Required'. Enter the address of the recipient and enter your from address.

Enter a Host Name or IP address and Port Number of mail server for outgoing mail.

Enable authentication (POP-before-SMTP) for connection and enter User Name, Password and POP Server details.

If this is enabled, the Storage Server will attempt to perform a POP login before sending email that may be required for some SMTP servers.

#### Example event notification email...

An event of priority 3 occurred on 8/16/2004 at 16:24:08 PM +1000. Parking Lot 1: Sensor on

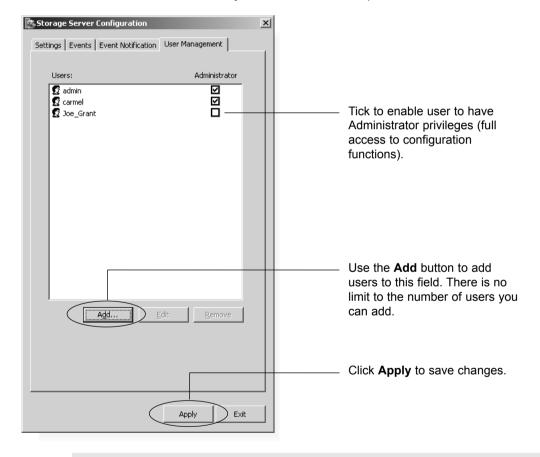
## **Setting up Users**

#### **Adding and Editing Users**

The Storage Server Configuration dialog, **User Management** tab allows you to set up users and their privileges. Administrators have access to the Viewer including Camera Server setup, recording schedules and Viewer setup. Operators only have access to live video and pre-recorded video on Storage Servers they have permission to access.

The User Management tab is laid out in the following manner:

- Users list Lists all users who can access the Storage Server.
- Add / Edit / Remove Allows you to add users, edit passwords and remove users.





- Users who have Operator status cannot configure, register and change Camera Servers, or configure and change recording schedules.
- By default, a user 'admin' is created with the password 'NVR'. It is strongly recommended that this is changed after installation.
- It is necessary to set up users on all Storage Servers. A particular user should be set up to have the same password on each Storage Server.

## **User Management tab - Add Users**

The **Add User** dialog is used to add new users to the system.

## Step 1: Click the Add button



In the User Management tab, click the Add button to bring up the Add User dialog.

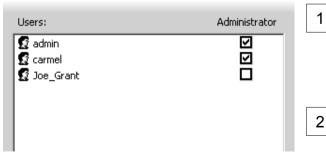
#### Step 2: Enter user details

A	ld User		×
	User Details		7
	User Name		
	Password		
	Confirm Password		
l			
		OK Cancel	

In the Add User dialog, enter the following details:

- Enter the user's User Name (up to 20 characters).
  - Create a password for the user (up to 20 characters). The Confirm Password field will become active. Re-enter the password.
- When you have finished, click OK. The dialog will close and the user will appear in the user list.

## Step 3: Assign user status to Administrator if necessary



- the user list under 'Administrator', tick the box to give the new user full access to Network Video Recorder configuration functions, otherwise leave unchanged.
- Click **Apply** to save changes.



The VK-64 Administrator status is independent of the Windows Administrator status.

## **User Management tab - Edit Users**

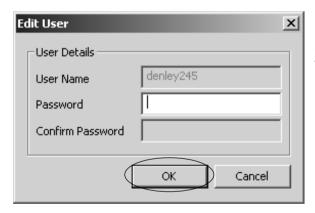
The Edit User dialog is used to edit the password for an existing user. To edit a user:

## Step 1: Click to select user, then click the 'Edit' button



- Click an entry in the user list to select it.
- Click the **Edit** button below the user list to bring up the **Edit User** dialog.

#### Step 2: Change user details

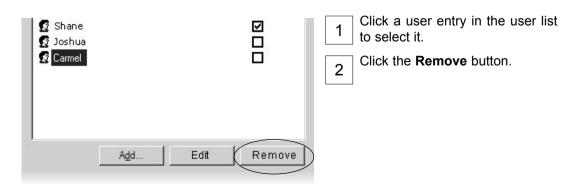


In the **Edit User** dialog, enter the new password for the user (up to 20 characters). The **Confirm Password** field will become active. Re-enter the new password.

Changes are kept when you click OK.

### **User Management tab - Remove Users**

Click to select user, then click the Remove button



# Chapter 3

# Starting the Viewer

This chapter describes how to start and login to the Viewer and connect to the Storage Server.

## Starting the Viewer

## **Launching Procedure**



Double-click the Viewer desktop icon.

Viewer

Alternatively, from the Windows Start menu select:

Programs > WebView Livescope > Network Video Recorder VK Series v1.1 > Viewer.

After launching, the Network Video Recorder VK-64 v1.1 start-up screen appears...



Click Cancel to setup a different Master Storage Server (discussed on the next page) or wait until the Login dialog appears.



After a moment, the Login dialog appears...



- 1 Enter your **User Name** and **Password**, and then click the **Login** button.
- 2 Proceed to Chapter 4.

The default User Name is: **admin**The default Password is: **NVR** 

## **Changing the Storage Server**



- In order to retrieve information, you must be connected to a Master Storage Server, even if it is on the same computer as the Viewer.
- After installation, the Master Storage Server is set to 'localhost'. This indicates that the Viewer will attempt to use the local computer as its Master Storage Server.



After installation, the default user 'admin' with the password 'NVR' is setup. It is strongly recommended that this is changed after installation.

## **Setting the Master Storage Server**

If you installed the Viewer and Storage Server on separate PCs, be sure to configure a Master Storage Server in the first place. By default, the Master Storage Server is set to 'localhost'.



If you clicked the Cancel button during launch, the Connect to Master Storage Server dialog will appear.

A different Master Storage Server can be selected by overwriting the existing Host Name or IP address and **Port** number with another.

If you are unsure of the address to use, see your System Administrator.

## Enter a Storage Server address and Port number



- Enter a Host Name or IP address for a new Master Storage Server, then enter the Port number.
- Click Connect to continue. 2



- If you need to use a proxy server, set it in the Internet Properties, LAN Settings dialog. To open, select Start > Settings
   Control Panel > Internet Options. When the Internet Options dialog opens, select the Connections tab. From here, click the LAN Settings... button to open the LAN Settings dialog. You can adjust your proxy settings from here.
- If using a proxy server between a Viewer and a Storage Server, it should be one which does not perform response buffering. Proxies which are configured to perform response buffering may lead to delays in sending small amounts of data (such as events) from the Storage Server to the Viewer. Squid is an example of a proxy which does not perform response buffering, so it is recommended for use between the Viewer and Storage Server. The Apache proxy server does perform response buffering so is not recommended.



- The dialog will also be shown when the Storage Server is stopped.
- If you want to use the same machine the Viewer is running on as the Master Storage Server, set the Host Name or IP to 'localhost' in this dialog.

## Chapter 4

## System Configuration, Before You Begin

This chapter gives a brief overview of the Viewer Configuration process (which is outlined in Chapters 5 to 7). This is intended for Administrators.

## After the Viewer has launched...



- This chapter is for users with Administrator privileges. Only Administrators can alter Viewer configuration and preferences.
- If you are a user with Operator privileges, proceed to Chapter 8.
   Chapter 8 and following chapters explain the various controls and functions in the Viewing Screen.

When the Viewer accesses a Master Storage Server which has not been set up with camera information, the entire Viewer window is initially blank. You will need to configure the Viewer using the **Configuration and Preferences** window.





Configuration settings made by Administrators are not protected from other Administrators making changes to these settings from another Viewer. The last settings made to a Storage Server are the ones that are used. It is recommended that only one Administrator perform configuration on a network at a time.

## **Accessing the Configuration and Preferences screen**

To open the Configuration and Preferences screen:



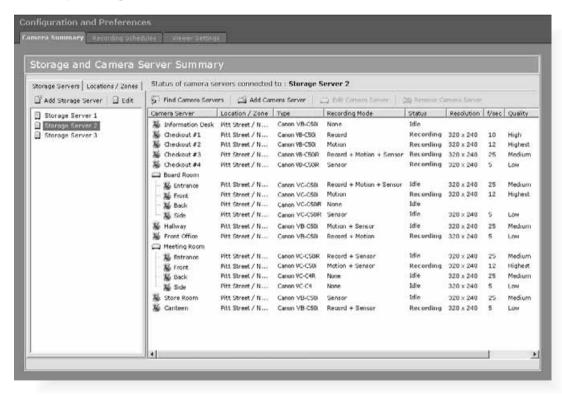
#### In the Menu Bar, select View > Configuration



The menu bar is located at the top left of the Viewing screen. Select the menu bar item, **View > Configuration**.

The Configuration and Preferences screen opens with the Storage and Camera Server Summary window displayed.

An example configuration is shown below.

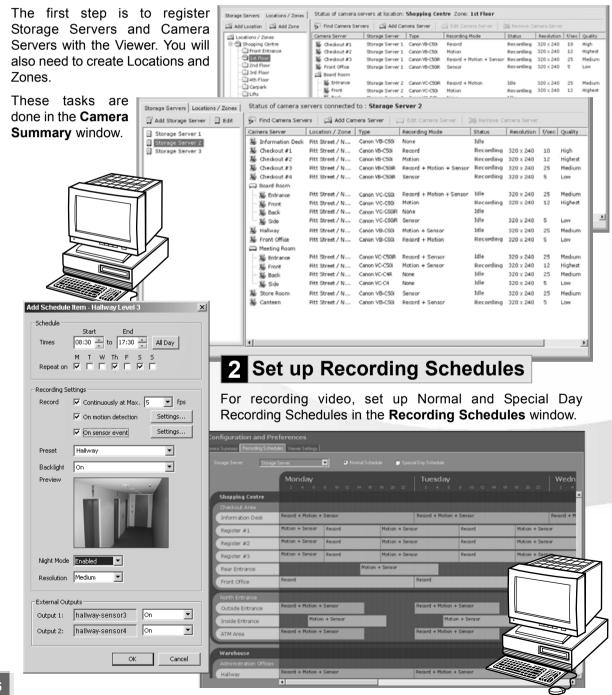


A configuration process diagram is given on the following pages. Configuration is discussed thereafter. When you have finished configuration, select **View > Viewing Screen** to return to the Viewer.

## **System Configuration Process**

After configuring the Storage Server and launching the Viewer, you are now ready to configure the Viewer application for monitoring, recording and playing back video. The flow diagram below shows the Viewer configuration process via the **Configuration and Preferences** Screen.

## 1 Register Storage and Camera Servers



## Create and Save Viewer Layouts

Monitor live camera images and play back pre-recorded events in the Viewer application. From here you can customize the Viewing Area and save Layouts.



Pre-recorded video from Storage Server



Live video from **Camera Servers** 



## 3 Set up Viewer Settings (optional)

Adjust live viewing frame rate, identify an individual Viewer's Master Storage Server and set priorities for event notifications in the Viewer Settings window.



# Configuration and Preferences screen

#### **About the Configuration and Preferences screen**

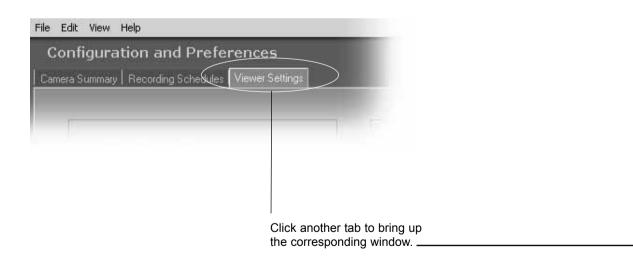
The **Configuration and Preferences** screen is used for configuring one or more Storage Servers and for setting up preferences on a Viewer computer. Storage Servers may include the local computer being used or another computer on the network.

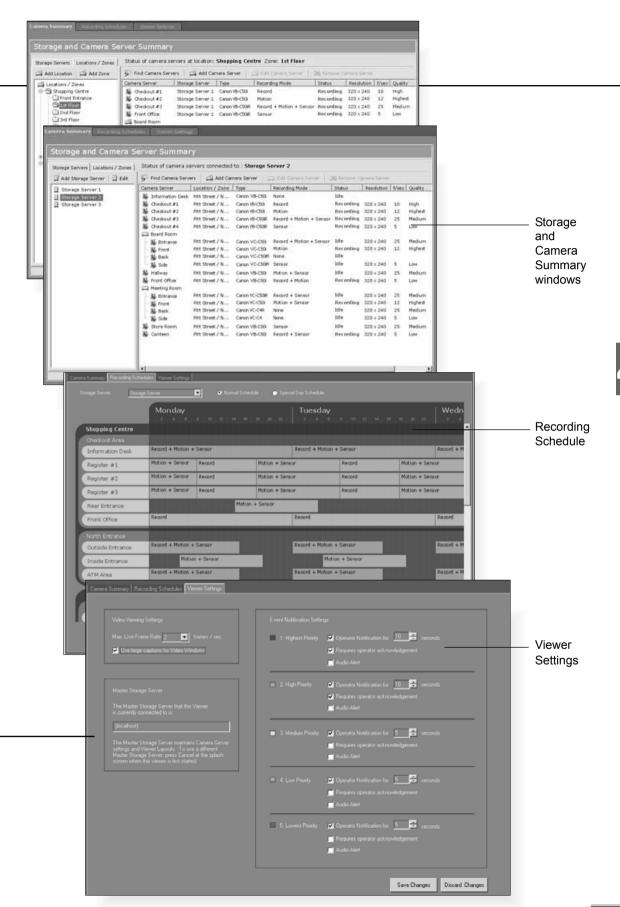
There are three windows in the **Configuration and Preferences** screen used for connecting and configuring VK-64 settings:

- Camera Summary add a new Camera Server to a zone and search for existing Camera Servers on the network. This is discussed in Chapter 5.
- Recording Schedule set up recording schedules for each known camera and specify events for triggering recording. You can also set special day schedules such as public holidays. This is discussed in Chapter 6.
- Viewer Settings set up event priorities and change the live video frame rate. The current Master Storage Server is indicated. This is discussed in Chapter 7.

#### Selecting a Configuration and Preferences window

When the **Configuration and Preferences** screen is launched, three tabs are displayed. The default selection is the first tab, the **Camera Summary** window.





# Chapter 5

# **Register Storage Servers and Camera Servers**

This chapter outlines how to register Storage Servers and Camera Servers and to manage Locations and Zones. This is intended for Administrators.

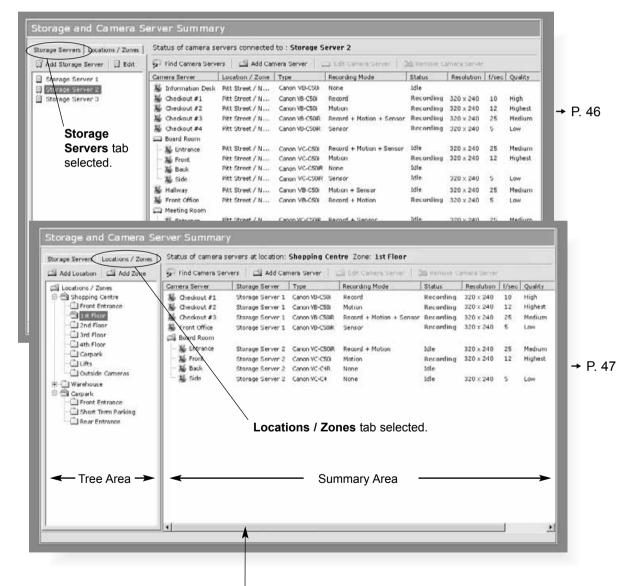
# **Camera Summary Window**

#### **About the Storage and Camera Server Summary Window**



Click the Camera Summary tab to open the Storage and Camera Server Summary window.

The window consists of two sub-windows which are opened by their respective tabs, **Storage Servers** and **Locations / Zones**.



Click and drag scrollbar(s) to view any portions of the Summary Area that are not visible.

⋤ Find Camera Se	rvers   🕰 Add Car	mera Server	🌃 Edit Camera Server 📗	Remove C	amera Server		
Camera Server	Storage Server	Туре	Recording Mode	Status	Resolution	f/sec	Quali
S Checkout #1	Storage Server 1	Canon VB-C50i	Record	Recording	320 x 240	10	High
S Checkout #2	Storage Server 1	Canon VB-C50i	Motion	Recording	320 x 240	12	Highe
🔏 Checkout #3	Storage Server 1	Canon VB-C50iR	Record + Motion + Sensor	Recording	320 x 240	25	Mediu
S Front Office	Storage Server 1	Canon VB-C50iR	Sensor	Recording	320 x 240	5	Low

#### Storage Server and Location / Zone options

The following options are available via the **Storage Servers** tab:



**Add Storage Server** - Allows you to register a Storage Server with the system (up to three is recommended).

**Edit** - Allows you to change the address of the selected Storage Server.

Select a Storage Server from the tree in the left panel. The right panel will update with a list of Camera Servers recorded by the Storage Server you selected.

The following options are available via the **Locations / Zones** tab:



**Add Location** - Allows you to add a new location to the system.

Add Zone - Allows you to add zones to locations.

When you select a zone within a location in the left panel, a list of cameras in that zone is displayed in the right panel.

#### Other functions in both sub-windows



Camera server functions are located on the right-hand panel regardless of which tab is selected:

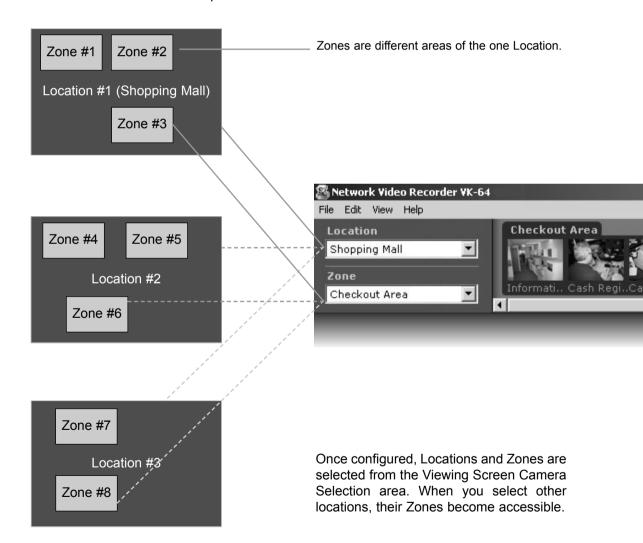
- **Find Camera Servers** Allows you to initiate a network search for unlisted camera servers on the LAN.
- Add Camera Server Allows you to add a new Camera Server to the system.
- Edit Camera Server Allows you to edit an existing Camera Server's settings.
- Remove Camera Server Allows you to remove a Camera Server from the system.

## **Locations and Zones**

#### **About Locations and Zones**

Cameras are grouped into Locations and Zones. Locations could include an office building, shop or school. Zones are sub-categories of Locations, that is, a zone could be assigned to each floor in the office building and specific areas in a shop such as a cash register. A number of cameras can be grouped into one Zone and a number of Zones can be grouped into a Location.

The diagram below illustrates an example of physical Locations and Zones on a VK-64 network which could be the Internet, Local Area Network or both. Viewer access is via the Location and Zone drop-down menus.



When a Location is selected from the drop-down menu at left, all of the Zones associated with the Location will appear to the right as camera thumbnail images.

This tab containing four thumbnail images indicates that there are four cameras in the Zone.



This tab containing six thumbnail images indicates that there are six cameras in the Zone.



Note

The Location/Zone hierarchy is independent of the grouping of cameras into Storage Servers. For example, a single Storage Server may record video from multiple Locations, and cameras from a single Location can be recorded to multiple Storage Servers.

# **Configure Camera Summaries**

#### Camera Summary - Add, Edit and Delete a Storage Server

When using multiple Storage Servers, you will need to configure the Storage Servers via the **Add Storage Server** dialog shown below.

A Storage Server must first be connected and running on the network as follows:

### Click the Add Storage Server button on the Storage Servers tab



- In the Camera Summary window, select the **Storage Servers** tab.
- Click the **Add Storage Server** button.

  The **Add Storage Server** dialog opens.



Enter connection settings and click **OK**.



- It is not recommended to add the same Storage Server more than once (for example, by using Host Name one time and using a corresponding IP address another time).
- If you add a Storage Server with a different configuration (such as one managed by another Master Storage Server), your original Locations and Zones will be lost.

#### To edit a Storage Server:

- Double-click a server in the list; or click to highlight it and click the **Edit** button. The **Edit Storage Server** dialog appears with the selected server entry displayed.
- Modify the entry and click **OK** to close and save changes.



- This function lets you change the network address used to access a particular Storage Server in case the address has changed.
- The entry for the Master Storage Server cannot be edited or deleted.

### To delete a Storage Server:

- Click a Storage Server in the list to highlight it and select **Delete** from the **Edit** menu. Alternatively, press the **Delete** key on your keyboard.
- A confirmation dialog will open. Click **Yes** to continue or **No** to cancel the operation.



A deleted Storage Server is removed from the list and the Master Storage Server no longer recognizes it. If it was running when removed from the list, it will continue to run. It can be re-added to the system with all associations to Camera Servers intact and can also be added to a different Master Storage Server. If this is done, all Location, Zone, thumbnail and Layout information for cameras associated with this Storage Server will be lost.

#### Camera Summary - Add, Edit or Delete a Location/Zone

You can easily add a new location to your system, then add zones to the new location folder. For example, a location could be a supermarket and zones inside that location can include cash register areas, supermarket aisles and entrances.

#### Step 1: Click the Add Location button on the Locations / Zones tab



- 1 In the Camera Summary window, select the **Locations** / **Zones** tab if it is not already selected.
- 2 Click the **Add Location** button.

The Add Location dialog opens.



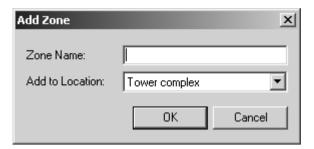
3 Enter the name of the new location (up to 20 characters), then click the **OK** button.

#### Step 2: Click the Add Zone button on the Locations / Zones tab



- In the Camera Summary window, select the **Locations** / **Zones** tab if it is not already selected.
- 2 Click the **Add Zone** button.

The **Add Zone** dialog opens.



- Enter the name of the new zone (up to 20 characters).
- Select a location from the drop-down menu in the Add to Location field, then click the OK button.

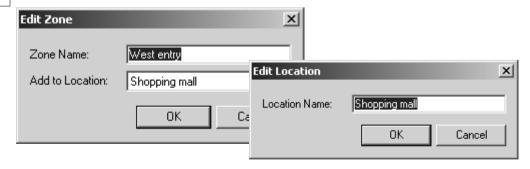
The selected zone will now appear in the specified Location folder.



- If you want to add a Zone to another location not listed, you must first create the Location before you add the Zone.
- Each Location name must be unique and each Zone name within a Location must be unique.
- There is no fixed limit on the number of Zones and Locations that can be added.

#### To edit a Location or Zone:

- Double-click a Zone or Location. The respective **Edit Zone** or **Edit Location** dialog opens.
- Make any changes and click **OK** to close the dialog.



#### To delete a Location or Zone:

- Click a Zone or Location to select it and select **Delete** from the **Edit** menu. Alternatively, click a Zone or Location in the list to select it, then press the **Delete** key on your keyboard.
- You will be prompted to confirm deletion. Click **Yes** to continue or **No** to cancel the operation.

#### **Camera Summary - Find Camera Servers**

The VK-64 Network Video Recorder System can be expanded to include more Camera Servers. You can easily locate Camera Servers via the **Find Camera Servers** button.



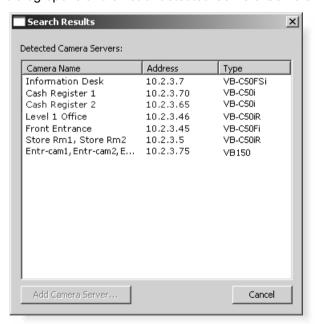
When you initiate the Find Camera Servers function, your computer searches the Viewer's local subnet for all Camera Servers connected to it. It will not find Camera Servers on a different subnet where a Storage Server may be connected for example, nor find Camera Servers on the Internet.

#### Step 1: Click the Find Camera Servers button



In the Camera Summary window, click the **Find Camera Servers** button which is located above the right-hand panel in both the Storage Servers and Location/Zones window.

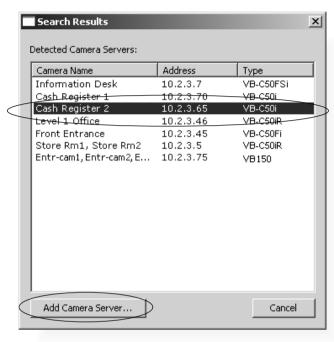
The **Search Results** dialog opens and a list of detected Camera Servers will appear.





The camera names listed are those specified by the camera server. Please refer to the camera and camera server User's Manual for details on how to specify camera names. ('Camera Name' includes VB-C50i, VB-C50FSi, VB-C50Fi and VB-C10. 'Device Name' includes VB150 and VB101.)

### Step 2: Select a new Camera Server



- In the **Search Results** dialog, click a Camera Server in the search results list to select it.
- Click the Add Camera Server... button. This will bring up the Add Camera Server dialog where you can configure settings for the Camera Server.

Alternatively, double-click an item to bring up the Add Camera Server dialog.

Using the Add Camera Server dialog is discussed on the following pages.

You can also launch the Add Camera Server dialog in the following manner:

#### Click the Add Camera Server button in the Camera Summary window

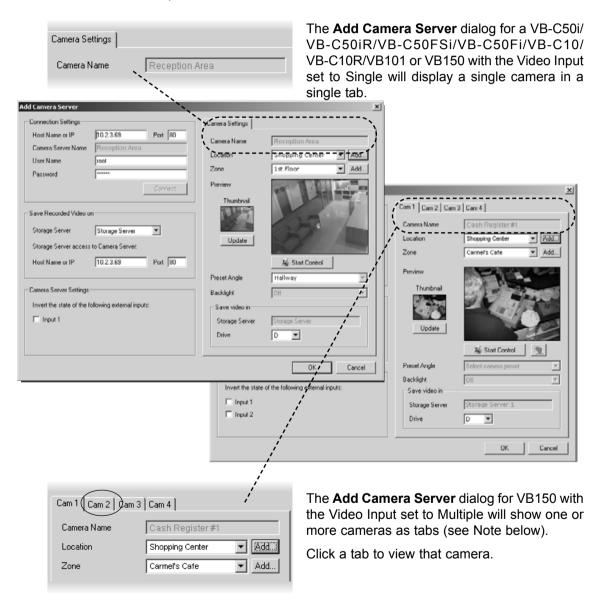


This will bring up the **Add Camera Server** dialog discussed on the following pages.

# Using the Add Camera Server Dialog

#### **About the Add Camera Server Dialog**

The **Add Camera Server** dialog's appearance will depend on the type of Camera Server connected and the number of cameras that have been set up. Differences are in the way camera selection is presented.



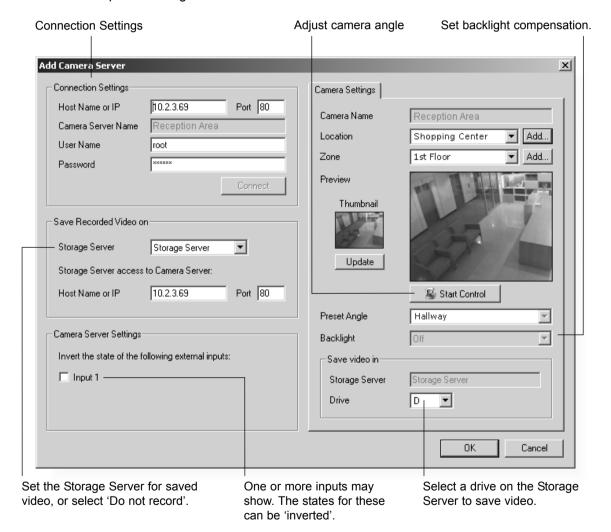
Note

For more information on VB150 Video Input settings, please refer to Chapter 3, Detail Settings, in your VB150 User's Manual.

#### Set up camera position and saved video

The **Add Camera Server** dialog allows you to set a camera thumbnail image for the Viewer and to choose a Storage Server for recorded video.

The dialog shown below illustrates an example VB-C10 setup. It could also represent a VB-C50i, VB-C50iR, VB-C50FSi, VB-C50Fi, VB101 and VB150 with only one camera setup or in a single mode.



- Note
- The Viewer does not store its own names for camera servers or sensors. It displays names which are configured and stored on the Camera Server. Please refer to your VB User's Manual for more details on setting names.
- These settings specify information about recording. To initiate recording, refer to Chapter 6 for configuring recording schedules.

#### Add a Camera Server - Set connection details

To add a Camera Server, you must specify how VK-64 can connect to the camera server as follows:

#### Step 1: Enter Host Name, User Name and Password



- 1 Enter the **Host Name or IP** address, then enter the port number for the Camera Server.
- 2 Enter a **User Name** and **Password** for connecting to the Camera Server. Details will be kept on the Storage Server for use in recording.



This is the User Name and Password configured on the VB Camera Server side, not your VK-64 password. If you do not know your Camera Server user name and password, see your System Administrator.



#### Step 2: Click the Connect button

Click the **Connect** button when you have added the above information.

Once the Viewer has connected with the Camera Server:

- For a VB-C50i/VB-C50iR/VB-C50FSi/VB-C50Fi/VB-C10/VB-C10R and VB101, or VB150 in Single mode, one tab is shown.
- For a VB150 in Multiple mode, 1 to 3 additional tabs are added if more cameras are enabled on the server.



Note

- You must click the Connect button before clicking OK to close the dialog (the OK button is disabled until you do so).
- The number of tabs shown for a VB150 does not indicate the physical number of cameras connected. It indicates the number of cameras which have been enabled using the VB150 Camera and Video Settings Page. Please refer to Chapter 3, page 40 of the VB150 User's Manual for more details.
- For VB101 (or VB150 in 'single mode'), the camera name displayed is the first camera name in the server's camera name list. This allows an Administrator to set the first camera name to be a general name, applicable to the entire camera server.
- If you are using a VB101 or VB150 with the 'Settings Web page URL' other than the default setting 'admin', a connection error occurs when you click the Connect button. Restore the default setting and try again.



If you have a Multi-Terminal Module VB-EX50 unit plugged into a VB-C50i/VB-C50iR/VB-C50FSi/VB-C50Fi and have configured the 'Use External Video Input', video seen in the Viewer will be taken from cameras connected to the Multi-Terminal unit. Please refer to the camera server User's Manual.

#### Step 3: Select the Storage Server for recording

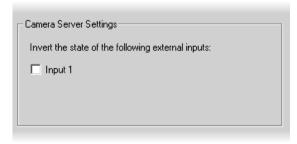


- Select a Storage Server from the drop-down menu which lists pre-configured Storage Servers and enter the **Host Name or IP** address and **Port** number.
- 2 If you do not wish the camera server to be recorded, select the **Do**Not Record option from the drop-down menu.



- Setting a value for the Storage Server does not mean that video will be automatically recorded. Please refer to the next chapter for information on setting recording schedules.
- There is a maximum number of 64 camera servers that can be registered on one Storage Server with VK-64 (or 16 cameras with Network Video Recorder VK-16 v1.1).

#### Step 4: Select the input state for the camera server



In the Camera Server Settings field, one or more Input boxes may display, depending on the camera server setup. If a sensor input is received, you can swap its value from 'on' to 'off' (with respect to the operation of schedules) by ticking the Input box. This acts as a 'toggle' control.

#### Camera Summary - Edit Camera Server Settings

The right-hand side of the Add Camera Server dialog may show one or more enabled cameras (depending on the type of Camera Server you are using). To edit settings:

#### Step 1: Select a camera tab if available



VB150: Click a tab to display that camera's settings.

#### Step 2: Assign a location and zone

Location	Shopping Center	•	Add
Zone	1st Floor	<b>•</b>	Add

- In the **Location** field, select a location for the camera from the drop-down menu.
- In the **Zone** field, select a zone for the 2 camera from the drop-down menu.



If necessary, click the Add... button to add another Location or Zone. The respective Add Location or Add **Zone** dialog will appear for you to enter details.

When you have entered details, click the **OK** button to close the dialog and return to the previous dialog.

When you add a Zone in the **Add Zone** dialog, you must also add it to a Location in the same dialog.

Select a location from the drop-down menu.

Add Zone		x
Zone Name:		
Add to Location:	Tower complex	•
	OK	Cancel

Adding zones and locations is discussed on previous pages.

#### Step 3: Update and setup camera thumbnail for Viewer



- In the **Preview** area, a camera view is given. Click the **Update** button to grab a current frame from the camera. It will be re-sized in the preview window and saved for reference as a Viewing Screen camera thumbnail.
- If you are not happy with the frame, click the **Start Control** button. You can then use your mouse to redirect the viewing angle and zoom in or out.



Move the mouse cursor around the image. Arrows will appear and you can click and drag the cursor in that direction. The preview will change accordingly. When you move the mouse cursor to the center of the image, a zoom in or zoom out control will appear. For a VB-C50FSi and VB-C50Fi, only zoom is available.

Hold down the mouse on '+' to zoom in.

Hold down the mouse on '=' to zoom out.

Tip

If you want to change the thumbnail and the preview area is blank (and the 'Update' and 'Start Control' buttons are disabled), click the 'Connect' button (located in the Connection Settings field).

If you do not wish to manually control the camera, choose a pre-defined camera position (if already configured) from the **Preset Angle** drop-down menu.



Presets need to be configured in advance. Please refer to the camera server User's Manual for details on making camera presets.

#### Step 4: Select a hard drive for saving video



In the **Drive** menu, select a hard disk drive on the Storage Server.

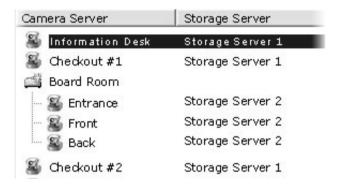
When you have finished configuration, click the **OK** button to close the dialog and return to the Camera Summary screen.

# **Edit and Remove Camera Servers**

#### Camera Summary - Edit Camera Server

The right-hand portion of the Camera Summary window features the **Edit Camera Server** button for editing Camera Servers on your system, regardless of which tab you have selected (Storage Servers or Locations / Zones). The same dialog as the Add Camera Server appears, detailing all the aspects of the Camera Server as discussed on previous pages.

#### Step 1: Select a Camera Server



In the **Camera Server** list, click a server to highlight it.

#### Step 2: Click the Edit Camera Server button

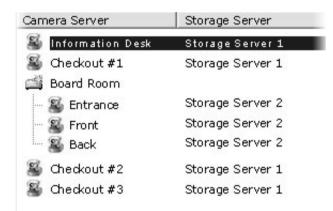


- Click the Edit Camera Server button to bring up the Edit Camera Server dialog. This dialog is identical to the Add Camera Server dialog (you can also double-click an entry to bring up the dialog).
- Adjust settings as discussed on the previous pages, then click the **OK** button to close the dialog.

#### **Camera Summary - Remove Camera Server**

The right-hand portion of the Camera Summary window features the **Remove Camera Server** button for removing Camera Server(s) from your system, regardless of which tab you have selected (Storage Servers or Locations / Zones).

#### Step 1: Select a Camera Server



In the **Camera Server** list, click a server to highlight it.

#### Step 2: Click the Remove Camera Server button



- Click the Remove Camera Server button (you can also press the Delete key on your keyboard).
- A confirmation dialog will appear. Click **Yes** to continue or **No** to cancel the operation.



You can add deleted Camera Servers, so long as they are still connected to the network. However, previous VK-64 settings for those servers will be lost and default settings will apply.

# **Saving Configuration Changes**

#### Camera Summary - When you have finished configuration



The bottom right-hand corner of the Camera Summary window consists of two buttons, **Save Changes** and **Discard Changes**.

- Click Save Changes to keep all your settings.
- Click **Discard Changes** to cancel any modifications you have made.

If you wish to return to the Viewer, select **View > Viewing Screen** from the menu bar.



Saving changes to the Camera Summary window will save changes to your Master Storage Server and other affected Storage Servers. Other Viewers which use the same Storage Server as a Master Storage Server will receive your changes the next time data is read from the Master Storage Server, that is, when the Viewer is restarted. If there is an error saving the changes to a Storage Server, no changes will be saved to that Storage Server.

# Chapter 6

# **Configuring Recording Schedules**

This chapter details how to configure recording schedules for cameras on the network. This is intended for Administrators.

# **Configure Normal Recording**

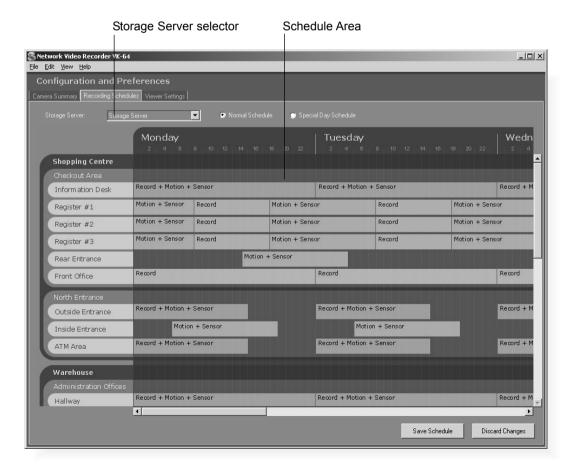
#### **About the Recording Schedules window - Normal Recording**

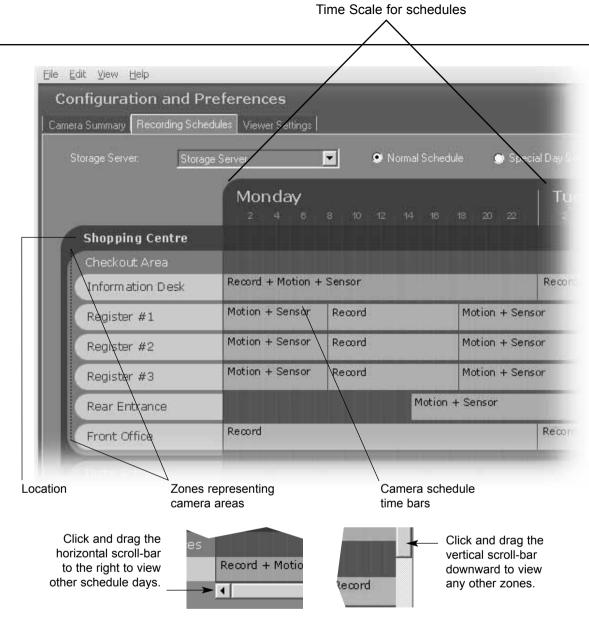
The Recording Schedules window is used for configuring recording settings for each known Camera Server on the network.



In the **Configuration and Preferences** Screen, click the **Recording Schedules** tab and ensure the **Normal Schedule** radio button is set. The Normal Recording Schedule consists of:

- Storage Server drop-down menu Used to select which Storage Server schedule to
  edit. When the Recording Schedules window is first opened, the first Storage Server
  in the list is shown with its associated schedule to the right.
- Schedule Area Used to set up standard day-to-day recording settings of the system.





### Selecting multiple items and dragging or moving

While holding down the **Ctrl** key, click on individual schedule items to select them. You can adjust or move multiple schedule items to new positions.



Drag either end to adjust duration (an arrow displays as shown above); or place mouse over schedule item (a hand icon appears) and drag items to a new location.

You can also create multiple camera schedules. This is discussed on the following page.

#### Create, Edit and Delete Recording Schedule Items

To add or edit a schedule for a camera in a zone, you need to launch the **Add Schedule Item** or **Edit Schedule Item** dialog respectively.



#### **Step 1: Change Storage Server if necessary**



If you wish to display another Storage Server's schedule, click the **Storage Server** menu, otherwise proceed to Step 2.

The menu may list more assigned Storage Servers. If you select another Storage Server, the Schedule Area will refresh and associated schedule zones will be shown.



#### Step 2: Click in the schedule area and drag out a time period

Click and drag a time period for a camera name and release the mouse button.



Alternatively, right-click anywhere in the Schedule Area alongside a camera name and click **Add Schedule** from the context menu.

The **Add Schedule Item** dialog appears as shown on the following page.



You can also click and drag an area covering several cameras to bring up the **Add Schedule Item - multiple cameras** dialog. This allows you to easily set schedules for multiple cameras. Once created, settings for each camera can be customized.



#### To edit a recording schedule item:



Right-click an item and choose **Edit** from the context menu. Alternatively, double-click an item. The **Edit Schedule Item** dialog appears.

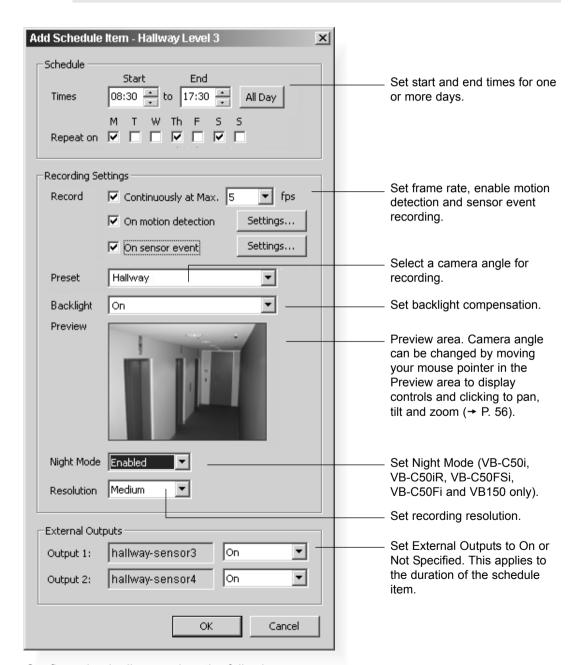
Both the Add and Edit dialogs are identical as shown on the following page.



To edit the time only, simply click an existing schedule item and drag the right or left boundary to lengthen or shorten the time respectively.



- The minimum duration for a schedule item is 15 minutes. If you try to create a shorter schedule, an error message will appear.
- You cannot create overlapping schedule items.

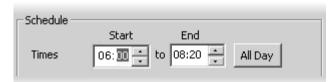


Configuration is discussed on the following pages.

#### Add/Edit Schedule Item dialog - Schedule field

To set the schedule for a camera's recording period:

#### Step 1: Set the recording period in the Start and End boxes



Click the hours or minutes fields to select, then click the up/down arrows to change time.

Alternatively, type over highlighted time with new time, or use the up/down arrows on your keyboard to change the selected time. Use the left or right arrows on your keyboard to move between minutes and hours and the tab button to jump to the next field.

An example time period could be for overnight recording such as 'Start: 22:00 to End 08:00'.

Alternatively, click the **All Day** button if you want 24 hour recording. The **Start** and **End** times will be set at 00:00 and 00:00 respectively.

#### Step 2: Select the days for recording



In the **Repeat on** area, tick the days you wish to repeat the recording period you set in the **Times** area above.



- If you have defined any special day schedules, such as public holidays, such schedules will override normal schedule times for the whole day.
- Times are given in 24 hours, for example 18:00 is 6:00 pm.
- A schedule item cannot be more than 24 hours.
- If a Camera Server has been configured with 'Restrict Service Time', VK-64 will not be able to record from the Camera Server during restricted times.
- The time zone used for the recording schedule will be the time zone configured on the Storage Server.
- The Storage Server will adjust for Daylight Savings if configured in the operating system.

#### Add/Edit Schedule Item dialog - Recording Settings field

This section of the dialog allows you to set flexible parameters for recording. You can record a Camera Server continuously at 1 frame per second and, for example, set recording to increase to 30 frames per second when motion occurs. This allows efficient use of disk space while allowing higher frame rates when events occur.

To set the camera's recording parameters:

#### Step 1: Set the recording frames per second



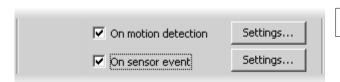
Click the **Continuously at** max box if you want to set continuous recording for the duration of the time period.

Select the number of frames per second from the drop-down menu, from 0.1 to 30. 5 frames per second is the default. Alternatively, enter a custom setting by selecting and typing over the current setting.



- When the load on your computer CPU and hard disk is high, recording at the specified frame rate may not be available, or the video recording may be interrupted.
- When selecting a higher frame rate, make sure you have enough hard disk space for your recorded video. Higher frame rates result in larger file sizes (see Appendix B).
- The frame rate specified is the frame rate that the Storage Server will attempt to record. Factors such as the number of Viewers, network traffic and load on the Camera Server and the Storage Server may reduce the actual frame rate recorded. Also, the maximum frame rate for a VB-C10 configured with a resolution of 640 x 480 is 10 frames per second, and for a VB150 with 4 cameras is 2-3 frames per second.

#### Step 2: Optional: Select recording based on a motion or sensor event



- Click the On motion detection box if you want recording activated when motion is detected during this time period.
- Click the **On sensor event** box if you want recording activated from a sensor during this time period.
- Click the **Settings...** button to modify the settings for each of these functions, otherwise the previous or default settings will apply.

#### Step 3: Choose a preset angle and adjust backlight compensation



1 In the **Preview** field a live preview is given of the selected camera view when connected.

Select a **Preset** camera position from the drop-down menu of available camera angles, to retain a live preview from that angle. Alternatively, move your mouse pointer in the Preview area to display controls and clicking to pan, tilt and zoom (→ P. 56).

2 Click the **Backlight** compensation drop down menu to set the backlight compensation to **On** or **Off** (or **High**, **Medium**, **Low** or **Off** for VB-C50i/VB-C50iR, VB-C50FSi and VB-C50Fi). Selecting **Not Specified** accepts whatever backlighting the camera server offers.



- You can also adjust the camera angle by moving your mouse pointer in the Preview area to display controls. Click to pan, tilt and zoom (→ P. 56).
- After the camera has been controlled, the preset will be set to 'Custom'. The value this is set to will be the value used for recording and the position set will be the position recorded.
- If you select 'Not Specified' the Storage Server does not attempt to change the setting, rather it accepts whatever resolution/mode the camera server offers.

1

# Step 4: Set the resolution and night mode (VB-C50i/VB-C50iR, VB-C50FSi and VB-C50Fi)



Select the **Night Mode**(→ P. 76) from the drop-down menu. Options include **Enabled**, **Disabled** or **Not specified**.

If you select **Enabled**, the Night Mode status will be changed to **Disabled** after the configured recording schedule finishes.

Select a **Resolution** from the drop-down menu; **Low**, **Medium**, **High** or **Not** specified.

If you select **Not specified**, the Storage Server does not attempt to change the setting, rather it accepts whatever resolution/mode the camera server offers.



You can also configure the Night Mode setting if you use a VC-C50i/VC-C50iR connected to a VB150.

#### Step 5: Set the External Outputs



If outputs are available, click the drop-down menu to set them **On** or Not Specified.



- When selecting a higher resolution, make sure you have enough hard disk space for your recorded video. A higher setting results in larger file sizes.
- Camera servers have certain features to allow image capture operations based on sensor input or schedule. If settings are enabled on the Camera Server, they take precedence over any settings made in VK-64. This may cause some confusion if your VK-64 recording schedules fail to record with the correct camera preset. You should disable such Camera Server features if you wish VK-64 settings to take precedence. Refer to your camera server manual for more information on their settings.

When you have finished, click **OK** to keep new settings or click **Cancel** to delete modifications. The dialog will close.

When you click **OK**, the Preset and Backlight settings are effective on Video Windows in the Viewer. If you are not satisfied with the settings, adjust them from the Viewer.

If you have not finished, proceed to the following pages which outline the dialogs used for Sensor Event and Motion Detection recording.

#### To delete a schedule item:



Right-click an item and choose **Delete** from the context menu.

Alternatively, click an item to select it and choose **Delete** from the Edit menu.

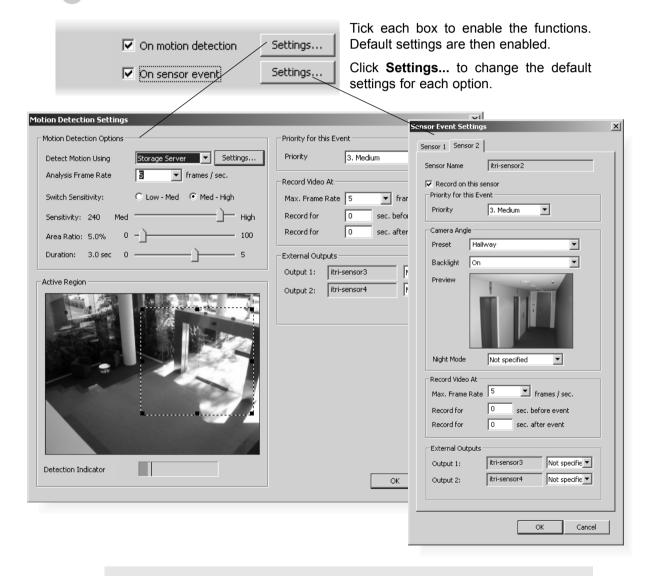
Alternatively, click an item to select it, and then press the **Delete** key on your keyboard.

# **Configure Motion and Sensor Settings**

#### **Recording Schedule dialog - Motion and Sensor Settings**

In the **Add/Edit Recording Schedule** dialog, there are two options available for setting recording parameters. To enable recording options and adjust settings:

Tick one or both boxes and click the Settings... button





The motion detection settings are dependent on the quality settings of the Camera Server. When setting motion detection parameters, it should be ensured that the quality setting of the Camera Server is the same as the quality setting that will be in place at the time that the schedule item applies. Refer to your VB manual.

#### **Recording Schedule - Edit Motion Detection Settings**

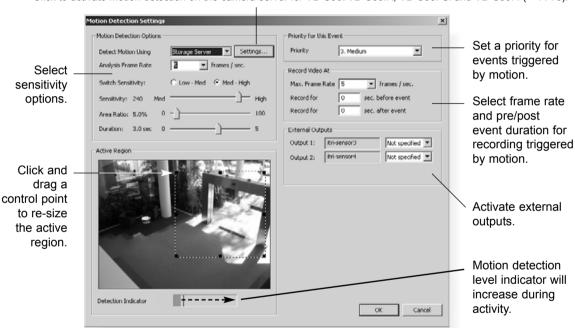
You can specify recording based on motion detection and the amount of sensitivity can be adjusted. The area for detection can also be modified which is ideal, for example, if the field of view has two entrances and you wish to monitor motion for one entrance.

#### Step 1: Next to 'On motion detection', click the Settings... button



The **Motion Detection Settings** dialog opens (VB-C50i dialog shown below).

Click to activate motion detection on the camera server for VB-C50i/VB-C50iR, VB-C50FSi and VB-C50Fi (→ P. 75).



- Note
- The Motion Detection function is not suited to applications where high levels of reliability are demanded. Therefore, we recommend that you do not use this function for monitoring or other purposes if consistently high levels of reliability are required. Canon accepts no liability whatsoever for faults, etc. resulting from the use of the Motion Detection function.
- If continuous and motion detection recording are both set and pre event recording is configured, pre event recording will be at the continuous frame rate setting instead of the motion event frame rate setting.
- If the Picture Recording feature of a Camera Server is used and its configuration includes a preset position then this preset position will override camera positions set by VK-64, including those in recording schedules and the Viewing Screen. If VK-64 has camera control, this will be lost when the Camera Server is setting a new preset position.

#### Step 2: Set the active region for recording



In the **Active Region** field, adjust the region where motion detection is triggered. By default, the Active Region is the full area.

- Click one of the corner or edge handles and hold down the mouse button.
- Drag the handle to change the motion-trigger boundary (dotted frame); click the corners to adjust the area or click the edge handles to bring each side in or out respectively.



You cannot control camera Pan, Tilt or Zoom from this window.

#### **Step 3: Set Motion Detection Options**



- In the **Detect Motion Using** menu, select the detection method, **Camera Server** or **Storage Server**. This menu is only active for VB150 servers with the Video Input set to Single or VB-C50i/VB-C50iR, VB-C50FSi and VB-C50Fi.
- In the **Analysis Frame Rate** menu, select from 0.1 to 30 frames per second.

The **Settings...** option is available for VB-C50i, VB-C50iR, VB-C50FSi and VB-C50Fi cameras. Select **Camera Server** from the drop-down menu and a message box about motion detection is displayed. Click **OK** to continue. The **Settings...** button is now enabled. Click to launch your VBAdmin Motion Detection Setting Tool. You must have VBAdmin Tools version 2.0 or later. See page 75 for important information on camera server-based motion detection.



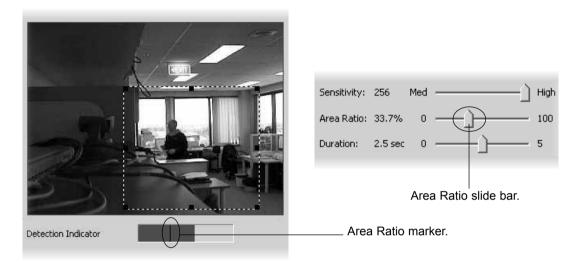
- To use the motion detection function of the VB-C50i/VB-C50iR, VB-C50FSi and VB-C50Fi, it is necessary to configure schedules from the 'VBAdmin Schedule Setting Tool'.
- If motion detection is performed on a VB150, detection can only be achieved on one of its cameras within a schedule item.



The Analysis Frame Rate refers to how many frames per second are used for detecting motion. A lower value will decrease the processing load on the server and allow more Camera Servers to have motion detection.

The **Motion Detection Options** field also allows you to set the sensitivity for motion detection within the Active Region. There are three controls, **Sensitivity**, **Area Ratio** and **Duration**. Settings for these determine how great the variation of motion detection will be, how large the changed area will be (a proportion of the detection area set) and how long the variation will continue before it is recognized as motion and the event is triggered.

The adjustment for the Area Ratio is indicated in the Detection Indicator as shown below.



You can set the amount of motion required before the red color bar is displayed, while monitoring the image here.

#### **Detection Indicator Colors**

Motion is displayed in the Detection Indicator as a green color bar and will remain green if the level of motion is below the set Sensitivity and within a defined Area Ratio. If motion reaches the set Sensitivity and Area Ratio, the color bar changes to yellow and if the detected motion remains at the yellow level for the defined duration, a red color bar is displayed and an event is triggered. The behaviour of the Detection Indicator is described as follows.



 Green color bar - The area of change that is less than the specified Area Ratio, i.e., activity remains at the left of the Area Ratio marker.



 Yellow color bar - The area of change that is equal to or greater than the specified Area Ratio (activity peaks on or to the right of the Area Ratio marker) but the required amount of motion has not met the specified duration in order to trigger an event.



Red color bar - The amount of change that meets the defined detection conditions and motion is detected, triggering an event, i.e., the required amount of motion has been detected for the specified duration.

#### Set the Sensitivity



The available sensitivity settings range from 1 to 256. You can select either **Low-Med** or **Med High** sensitivity ranges for finer control.

Click the **Low** radio button to set the sensitivity range from 1 to 128, or,

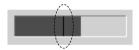
Click the **High** radio button to set the sensitivity range from 129 to 256.

Adjust **Sensitivity** by clicking and dragging the slide bar to a suitable level between **Low** and **Med**, or **Med** and **High** (depending on the range setting).

#### Set the Area Ratio



Click and drag the **Area Ratio** slide bar to any position from 0% to 100%. This establishes the proportion of image inside the Active Region (dotted frame) allowed before motion is detected.



When you drag the slide bar, the black vertical line in the Detection Indicator will move to reflect the change in specified Area Ratio.

#### Set the Duration



Click and drag the **Duration** slide bar to any position between 0.0 and 5.0 seconds. This establishes the duration of motion allowed before an event is triggered. It also establishes

the period where there is no motion in order for the event to be completed.

#### Step 4: Set the event priority status



In the **Priority for this Event** field, select the priority for the event to be generated for this motion from a menu of five options, ranging from **1. Highest** to **5. Lowest**. Priorities are color-coded as events in the Timeline.



If continuous and motion detection recording are both set and the frame rate is the same, motion will be recorded as events in the usual way. This can be handy for follow-up browsing using the Timeline in the Viewing Screen even though the motion does not change the recording settings.

## Step 5: Set frame rate and pre and post event recording duration



In the Record Video At field:

- Max. Frame Rate select a maximum frame rate for recorded video from the drop-down menu. Choose from 0.1 frames per second to 30 frames per second (5 is the default). Alternatively, select the current rate and overwrite with a custom rate.
- Record for before event enter a number of seconds for the amount of recording time before the event occurs (up to a maximum of 30 seconds).
- Record for after event enter a number of seconds for the amount of recording time after the event has transpired (up to a maximum of 999 seconds).

When settings have been modified, click **OK** to keep new settings or **Cancel** to delete modifications. When either button is selected, the dialog will close.



- If the before event and after event fields are set to 0 seconds, video will still be recorded while motion is detected.
- Shorter pre event recording will reduce memory usage. Longer pre-event recording with insufficient memory may lead to the use of disk-based virtual memory which will greatly reduce performance.
- The full requested duration of post event recording may not be available. Frame rate, frame size and network delays may have an effect on when the last frame is recorded and thus affect the actual duration of the recording.

#### About motion detection on different camera servers

When using motion detection on the camera server, the situation differs depending on the type of camera server. For a VB150 (in single mode), motion detection settings are configured using the normal VK-64 'Motion Detection Settings' dialog. Here, changes to the settings on the camera server are made at the time of the schedule item. These changes continue to take effect after the schedule item is completed.

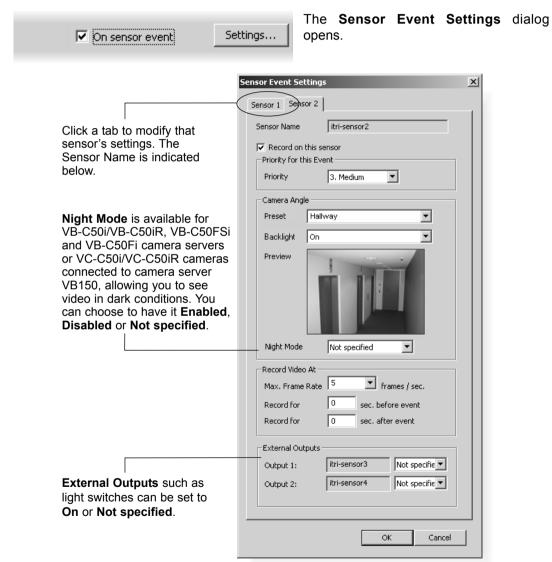
For a VB-C50i, VB-C50iR, VB-C50FSi and VB-C50Fi, the motion detection settings are configured by pressing the **Settings** button. This launches the camera server's 'Motion Detection Settings Tool'. This changes the current settings on the camera server and does not associate these settings with the schedule item. For a VB-C50i, VB-C50iR, VB-C50FSi and VB-C50Fi, it is possible to schedule different motion detection settings at different times using the 'Schedule Setting Tool'. It is also possible to set up to four motion detection areas using the 'Motion Detection Settings Tool'.

#### **Recording Schedule - Edit Sensor Events Settings**

You can specify recording settings based on the occurrence of a sensor event. A number of tabs in the **Sensor Event Settings** dialog are shown to reflect the number of sensors on each camera. You can modify the recording settings for each sensor.



#### Step 1: Next to 'On sensor event', click the Settings... button





Setting Night Mode to 'Enabled' will activate the IR cut filter on camera servers that support it. It will not turn on the built-in IR light.

#### Step 2: Enable recording and set an event priority

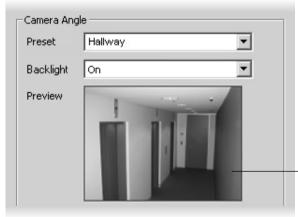
Record on th	is sensor		
Priority for this	Event		
Priority	3. Medium	•	

- Tick **Record on this sensor** to enable recording when a sensor is triggered.
- Select the event's priority from a drop-down list, from **1. Highest** to **5. Lowest**.



You cannot modify the sensor name (identified as the 'External Device Input Name' in the VB Camera Server configuration), which is obtained from the Camera Server and therefore outside the scope of VK-64 configuration.

#### Step 3: Select a camera angle for the sensor



In the Camera Angle field, select a Preset camera position from the drop-down menu of available camera angles. When the sensor is triggered, the camera will be changed to this position.

If you select **Not Specified**, the camera will not be moved.

The camera angle can also be changed by moving your mouse pointer in the **Preview** area to display controls and clicking to pan, tilt and zoom (→ P. 56).

After the camera has been controlled, the preset will be set to 'Custom'.

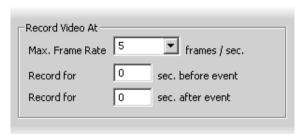


Tin

Click the Backlight drop-down menu and select 'On' to compensate for camera views with strong backlighting\*. The setting will be used when the sensor is triggered. This is useful, for example, if a camera angle would change from an indoor view to an outdoor view when the sensor is triggered.

\*If you are using a VB-C50i/VB-C50iR, VB-C50FSi and VB-C50Fi, the backlight menu options are 'High', 'Medium', 'Low' and 'Off'.

#### Step 4: Set frame rate and pre and post event recording duration



In the Record Video At field:

Max. Frame Rate - select a maximum frame rate for recorded video from the drop-down menu. Choose from 0.1 frames per second to 30 frames per second (5 is the default).



The frame rate specified is the frame rate that the Storage Server will attempt to record. Factors such as the number of Viewers, the number of Camera Servers used, network traffic and load on the Camera Server and the Storage Server may reduce the actual frame rate recorded.

- Record for sec. before event enter a number of seconds for the amount of recording time before the event occurs (up to a maximum of 30 seconds).
- Record for sec. after event enter a number of seconds for the amount of recording time after the event has transpired (up to a maximum of 999 seconds).

When settings have been modified, click **OK** to keep new settings or **Cancel** to delete modifications. When either button is selected, the dialog will close.



Note

- If the before and after event fields are set to 0 seconds, video will still be recorded while the sensor is activated.
- Shorter pre event recording will reduce memory usage. Longer pre-event recording with insufficient memory may lead to the use of disk-based virtual memory which will greatly reduce performance.
- If continuous and sensor recording are both set and pre event recording is configured, pre event recording will be at the continuous frame rate setting instead of the sensor event frame rate setting.
- The full requested duration of post event recording may not be available. Frame rate, frame size and network delays may have an effect on when the last frame is recorded and thus affect the actual duration of the recording.



Tip

If continuous and sensor recording are both set and the frame rate is the same, sensor events will be recorded as events in the usual way. This can be handy for follow-up browsing using the Timeline in the Viewing Screen even though the sensor does not change the recording settings.

## **Saving Normal Recording Changes**

#### When you have finished Normal Recording configuration...



The bottom right-hand corner of the Recording Schedules window consists of two buttons, Save Schedule and Discard Changes.

- Click Save Schedule to keep all your settings. The settings are then saved to the Storage Server.
- Click **Discard Changes** to cancel any modifications you have made.

If you wish to return to the Viewing Screen, select **View > Viewing Screen** from the menu bar.

## **Configure Special Day Recording**

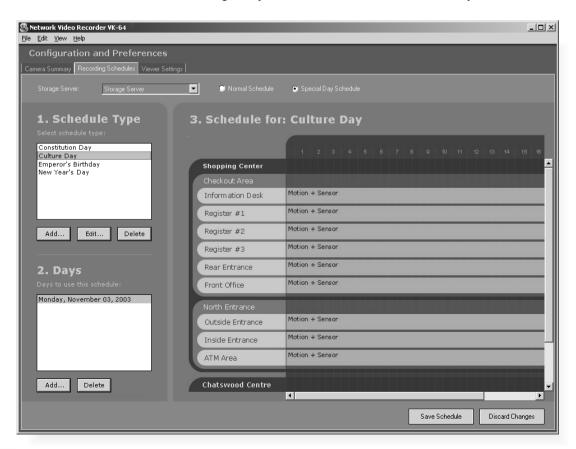
#### **About Special Day Recording**

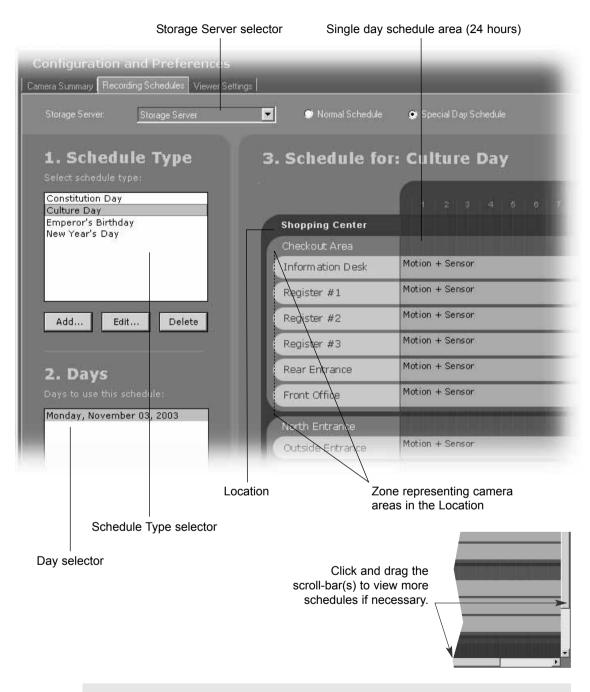
The **Special Day Schedule** window is used for configuring particular days such as public holidays. Special Day schedules override any periods set in the Normal Schedule.



In the Configuration and Preferences Screen, click the **Recording Schedules** tab and ensure the **Special Day Schedule** radio button is set. The Special Day Recording Schedule consists of:

- Storage Server Select a Storage Server from the list to edit/add schedules for that server. Associated Locations and Zones are displayed in the Schedule Area.
- Schedule Type selector Allows you to select a schedule type. These are user-defined schedules such as Public Holidays and Long Weekends.
- Days selector Allows you to choose a day to use this schedule.
- Schedule Area Covers a single day, 24 hours. Overrides a Normal day schedule.







The scheduling area functions the same as the Normal Recording Schedule but only covers a single day. On a special day, this schedule will override the Normal Recording Schedule from 00:00 hrs. to 24:00 hrs. To have a special day schedule run over a long weekend (Fri, Sat & Sun), all three days must be added to the list of days to use the schedule.

#### Add and Edit a Schedule Type

The **Add Schedule Type** dialog allows you to create a name for a new schedule type, for example, a public holiday. You must create a schedule type first before you can associate days with it. There is no limit to the number of schedule types that can be added.

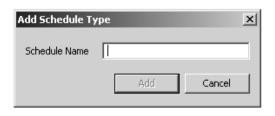
To launch the dialog and add a schedule type:

#### Step 1: Click the Add button below the Schedule Type list



Click the **Add** button. This will bring up the **Add Schedule Type** dialog.

Step 2: Enter a name



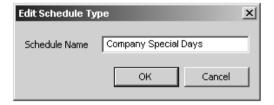
- Enter a name in the **Schedule Name** area, for example 'Company Holidays'.
- Click the **Add** button to add the schedule type. The dialog will close.

The new name will appear in the Schedule Type list in the Special Day Recording Schedule window.

#### To edit a schedule type, click the Edit button



- In the **Special Day Schedule** window, click a schedule type in the **Schedule Type** list to select it.
- 2 Click the **Edit** button. This will bring up the **Edit Schedule Type** dialog.



Overwrite the existing name. For example, you may wish to change the name 'Company Holidays' to 'Company Special Days'.

Click the **OK** button to save your changes. The dialog will close.

#### **Delete a Schedule Type**

To delete a schedule type:

#### Select a Schedule Type and click the Delete button



- 1 In the **Special Day Schedule** window, click a schedule type in the **Schedule Type** list to highlight it.
- 2 Click the **Delete** button below the list to remove the schedule type.



If you delete a schedule type where there are dates associated with that schedule, a warning will appear. You will be asked to first delete those dates before deleting the schedule type.

#### Add a Day

The **Select Date** calendar allows you to select a day that can be used for the schedule type.

To add a day:

#### Click a Schedule Type and click 'Add' below the Days field



Click on a day in the **Schedule Type** list, for example, 'Company Holidays' (created on the previous page), and then click the **Add** button below the **Days** field.

This will bring up the **Select Date** calendar.

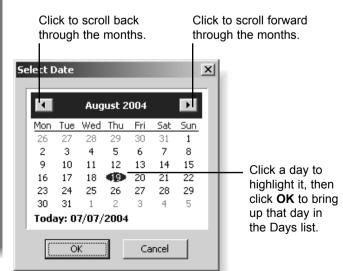
Click a day in the calendar to select it and then click **OK** to close the calendar (shown below).

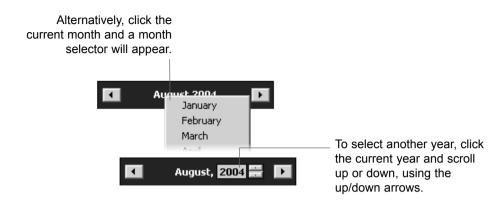
Click the **Add** button again to add another day to the same schedule type if you wish.

Added days are shown in the **Days** list (see example on next page).

Other calendar selection methods are shown on the next page.







#### **Delete a Day**

To delete a day from a schedule type:

#### Select a Schedule Type and a day and click the Delete button



- In the **Special Day Schedule** window, click a schedule type in the **Schedule Type** list, for example, 'Company Holidays' and then in the **Days** list click one of the days associated with the schedule type.
- 2 Click the **Delete** button below the **Days** list to remove the day from the schedule type.



- If you attempt to associate the same day with different special day schedules, you will be given a warning and asked to delete the other entry before creating a new one.
- Expired days are listed in italics.

## **Saving Special Day Changes**

#### When you have finished Special Day configuration...



The bottom right-hand corner of the Recording Schedules window consists of two buttons, **Save Schedule** and **Discard Changes**.

- Click Save Schedule to keep all your settings. The settings are then saved to the Storage Server.
- Click **Discard Changes** to cancel any modifications you have made.

If you wish to return to the Viewing Screen, select **View > Viewing Screen** from the menu bar.

# Chapter 7

# Configuring Viewer Settings

This chapter outlines how to configure settings that are specific to the Viewer. This is intended for Administrators.

## **Configure Viewer Settings**

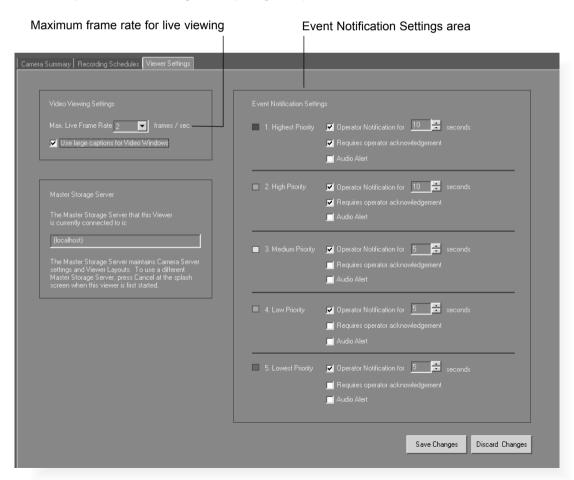
#### **About the Viewer Settings window**

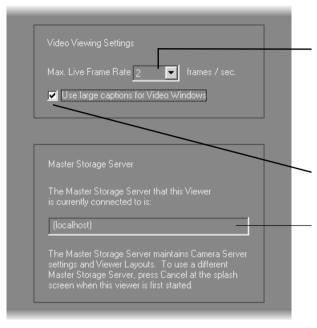
The **Viewer Settings** window is used for configuring individual Viewer settings such as notification priorities and the live viewing frame rate. Settings are stored on the Viewer PC, not on the Master Storage Server.



#### This window consists of:

- Live Video Viewing Settings Select from a list of frame rates for live viewing.
- Master Storage Server The current Storage Server is indicated.
- Event Notification Settings Set operator notification and adjust duration in seconds, set operator acknowledgement (recognition) of an event and set an audio alert.





Select a frame rate from the drop-down menu. Lower frame rates ensure less load on the network and Viewer. This may lead to higher frame rates for recording and may allow a larger number of Video Windows to be viewed.

Enable larger Video Window captions in the Viewer.

The current Master Storage Server is indicated here.



If a high maximum frame rate is specified, the load on the computer CPU will be high and Viewer operations may take longer.

Set up notifications by priority from 1 (highest) to 5 (lowest). Priorities are color-coded.

Color	Priority
Red	Highest
Orange	High
Yellow	Medium
Light Green	Low
Dark Green	Lowest

Lower priority items can - have less notification settings associated with them.

When an event occurs, it is indicated in the Live Events Log in the Viewing Screen.

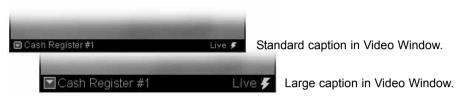
Set duration of alert.

	gs
1 Highest Priority	☑ Operator Notification for 10 = seconds
	Requires operator acknowledgement
	Audio Aleit
2. High Priority	Operator Notification for 10    seconds
	Requires operator acknowledgement
	■ Audio Alert
3. Medium Priority	✓ Operator Notification for 10 😤 seconds
/	Requires operator acknowledgement
	Audio Alert
4. Low Priority	Operator Notification for  seconds
	Requires operator acknowledgement
	■ Audio Alert
5. Lowest Priority	Operator Notification for seconds
	Requires operator acknowledgement
	Audio Alett

#### Viewer Settings window - Use large captions for Video Windows



Tick **Use large captions for Video Windows** to enable easier-to-read Video Window captions in the Viewer.



#### Viewer Settings window - Identify the Master Storage Server

A Master Storage Server maintains settings for Camera Servers and Layouts created in the Viewer. Only one Master Storage Server can be assigned to a Viewer at any one time.



The selected Master Storage Server is indicated in the Viewer Settings window.

#### If you wish to change the Master Storage Server...

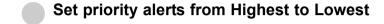


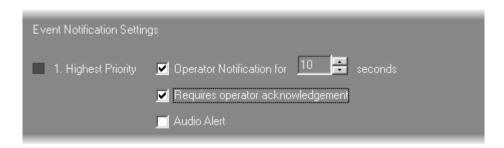
Close the Viewer and then re-launch it. When the start-up (splash) screen opens, click the **Cancel** button at the bottom of the screen. A dialog will appear for you to enter a different Storage Server. Refer to Chapter 3, page 31 for more details.

#### **Viewer Settings window - Edit Event Notifications**

When an event occurs, it is indicated in the Live Events Log in the Viewer. In the Viewer Settings window, **Event Notification Settings** area, you can set up actions based on events according to the priority of the event.

To set the event notifications:





- Tick the **Operator Notification for** box to enable a notification period when an event occurs. In the **seconds** menu, select a period of event notification in seconds or manually enter a duration from 0 99 sec. When an event occurs it will flash in the Live Events window and a color bar reflecting priority level will be shown at the top of the Video Window for the period selected. If you select 0, the color bar will light up without flashing.
- Tick the **Requires operator acknowledgement** box for the event. When an event occurs it will flash in the Live Events Log and the audio alert will sound (if specified) until the operator double-clicks on the event (that is, the notification time will not apply to the event in the event log).
- Tick the **Audio Alert** box to have an audio alert play during the event notification period. The Windows system sound 'Exclamation' is used for audio alerts. This sound repeats for the duration of the Event Notification setting. If Operator Notification is not set, the audio alert is played once.



Setting up event priorities and email notification is discussed on page 25. The Live Events Log is discussed on page 132.

## **Saving Viewer Settings**

#### When you have finished configuring Viewer settings...



The bottom right-hand corner of the Viewer Settings window consists of two buttons, Save Changes and Discard Changes.

- Click Save Changes to keep all your settings. The Viewer settings are then saved to the local disk (the computer the Viewer resides on).
- Click **Discard Changes** to cancel any modifications you have made.

If you wish to return to the Viewer, select **View > Viewing Screen** from the menu bar.

## Chapter 8

# Using the Viewer - Operator Login

This chapter outlines how to start the Viewer and gives a brief overview of the Viewing Screen.

## Viewing Screen Example

#### Location selector

Drop-down menu indicating locations available in the system.

#### Zone selector

Drop-down menu indicating zones within a location.

#### **Camera Control Panel**

A range finder enables you to control a camera and quickly determine a camera position.

#### **Event indicator**

A color bar is displayed at the top of live Video Windows when an event occurs (if enabled).

### Viewing Area for Video Windows

Video Windows can be re-sized. They can also be arranged into a uniform grid.

#### Playback controls

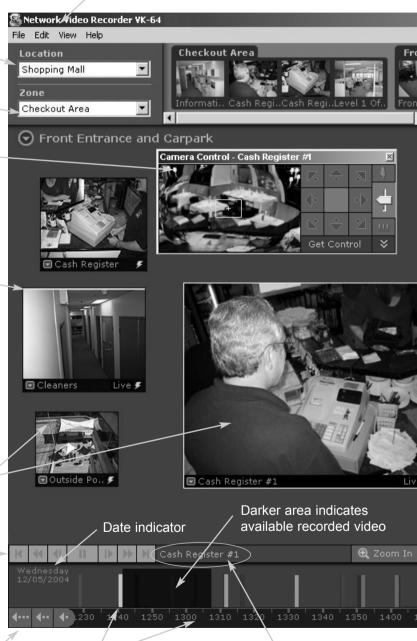
Click the VCR-like controls to play, rewind, fast forward or jump to previous and next events.

#### **Incremental Time controls**

Scroll *back* through the current day or jump back incrementally by day or week.

#### Menu bar

Access common menus from here.



#### Timeline

Colored bars indicate events that can be selected and viewed. Click and drag the Time bar to go back or forwards in time.

#### **Camera Name**

Name of camera currently selected.

#### **Camera Selection Area**

Thumbnail representations of cameras can be dragged onto the Viewing Area for viewing.



#### Timeline playhead

Click and drag to positions on the Timeline to show video from that time.

#### **Incremental Time controls**

Scroll *forwards* through the current day or jump forward incrementally by day or week.

#### Video Window menu

Select preset camera angles as well as custom pan, tilt and zoom. Initiate a manual recording, capture a still frame and select a Video Window size.

#### **Live Events Log**

Indicates events that have been logged on Storage Servers after the Viewer was launched.

#### Zoom controls

Click to zoom in or out of the Timeline.

#### **Event search**

Click to bring up a dialog and enter search details based on time range, Location/Zone and priority.

#### Jump to Time button

Click to enter a specific date and time to jump to, to start playing recorded video. The Timeline moves to the time selected.

#### **Extract Video**

Click to extract a segment of video to save as another file.

#### Return to Live →

Click to return the Timeline playhead to the current time. If you click this button while playing recorded video, the selected Video Window will return to live video.

## Starting the Viewing Screen



Before you can use the Viewing Screen, make sure you have a password. Access is setup by your System Administrator. If you have Administrator privileges, you can also configure Network Video Recorder settings.

#### **Launching Procedure**

Before you launch the Viewer, make sure your monitor resolution is set to a minimum of 1024 x 768 pixels.



#### Step 1: Launch from the Viewer icon on your desktop



Double-click the Viewer desktop icon.

Viewer

Alternatively, from the Windows Start menu select:

Programs > WebView Livescope > Network Video Recorder VK Series v1.1 > Viewer.

The application window appears. Wait until it clears itself before continuing.





If a connection error occurs, you may not have a Master Storage Server connected. See your System Administrator.

#### Step 2: Enter User Name and Password

Login		x
Please enter you	r user name and password.	
User Login		
User Name	I	
Password		
	Login Cancel	

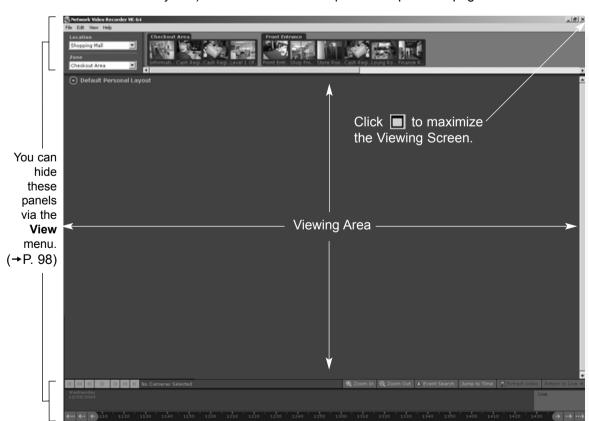
After launching, the Login dialog will appear. Enter your **User Name** and **Password** (→P. 30), and then click the **Login** button to continue.

The Viewing Screen will appear.



Your VK-64 User Name and Password will have been set up in the Storage Server Configuration utility and may be different from your Windows User Name and Password.

If no Layouts have been configured, you will notice that the Viewing Area is blank as shown below. Previously-configured cameras on the network will appear as thumbnail images in the Camera Selection Area on the top of the screen. These can be dragged onto the Viewing Area for monitoring. If your Administrator has already created a Layout for you, then the Viewing Area will display the first Personal Layout (or first Shared Layout if there are no Personal Layouts) as shown in the example on the previous pages.



## Viewing Screen Menu bar

#### **Menu Bar Functions**

File Edit View Help The following table lists the Viewing Screen menus.

Menu	Menu sub-item	Function	
File	Exit	Closes the application.	
Edit	In the Viewing Screen, this action removes the selected and places it on the clipboard to be pasted into the Layout.		
	Сору	In the Viewing Screen, this action copies the selected Video Window and places it on the clipboard to be pasted into the same or another Layout.	
	Paste	In the Viewing Screen, this action pastes the cut or copied Video Window into the current Layout.	
	Delete	In the Viewing Screen, this deletes selected Video Windows from the current layout.	
		In the Storage and Camera Server Summary screen, this deletes selected Storage Servers, Camera Servers, Locations or Zones.	
		In the Recording Schedule screen, this deletes selected Normal or Special Day schedules.	
	Select All	In the Viewing Screen, this action selects all Video Windows in the current Layout.	
	Search Events	Launches the Event Search dialog.	
View	Configuration	Selects the Configuration and Preferences Screen if the Viewing Screen is open.	
	Viewing Screen	Selects the Viewing Screen if the Configuration and Preferences Screen is open.	
	Fullscreen	Hides the Menu Bar and Title Bar to allow more display room for Video Windows. Clicking the <b>Esc</b> key restores the Viewer to its previous state (i.e., before selecting the Full Screen mode).	
	Captions	Hides Video Window captions to allow full Video Window display.	
	Camera Selector	Hides the Camera Selection Area.	
	Timeline	Hides the Timeline Area.	
	Live Events	In the Viewing Screen, this action opens the Live Events Log at the position and size that it was last open. A tick beside the menu item indicates that the screen is open. Selecting the menu item again will close the window and the menu item will be unticked.	
	Camera Control	Brings up the Camera Control Panel where you can set the viewing position and zoom.	
Help	About	This action opens the 'About' box featuring the startup 'splash' screen with version number.	

## Chapter 9

# Working with Video Windows

This chapter shows you how to create Video Windows for viewing in the Viewing Area and how to adjust camera angles.

## **Selecting Cameras for Viewing**

#### About the Camera Selection Area

The Camera Selection Area is used to display all the cameras currently available for monitoring from the network. You can select currently-available cameras via the Location and **Zone** drop-down menus and then place them into the Viewing Area as Video Windows.

- The Location drop-down menu lists the physical locations of cameras on the system.
- The **Zone** drop-down menu lists the groups of areas within each location.



When you select a location, its associated zones will be listed below.

#### About Camera Thumbnails

When a Location is selected, zones within that location appear as thumbnail 'folders' to the right of the Location and Zone menus. A scrollbar at the base of the Camera Selection Area can be used to scroll the display of thumbnails.



Each Zone is grouped into camera thumbnail images and these can be dragged onto the Viewing Area to create Video Windows.



Note

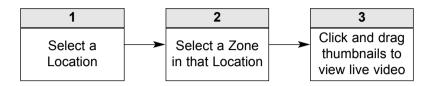
Locations, zones and thumbnails are configured and managed by users with Administrator privileges. You must have Administrator privileges in order to modify settings.



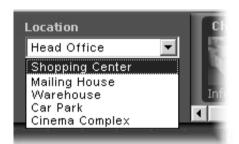
You can hide the Camera Selection Area to allow more display space for Video Windows. From the View menu, select Camera Selector to hide/show the Camera Selection Area.

#### **Selecting Locations and their Zones**

Selection is performed in the following order:



#### Step 1: Select a Location from the drop-down menu



Click the **Location** drop-down menu or on the down arrow

A list of pre-configured locations appears.

Click a location in the list. Zones for that list will appear in the thumbnail section to the right.

#### Step 2: Select a Zone from the menu or thumbnail folder region



Click the **Zone** drop-down menu or on the down arrow.

A list of pre-configured zones appears.

Click a zone in the list.

Once a Zone is selected from the drop-down menu, the Camera Selection Area for the selected Zone moves to the left.

Alternatively, click the scrollbar located under the Camera Selection Area. Drag it to the right until the desired Zone is displayed.

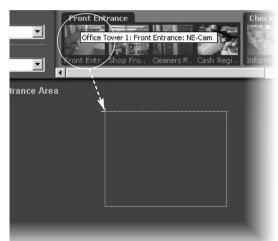


### **Basic Video Window Functions**

#### Creating, scaling and moving Video Windows

Once you have chosen a location and chosen a zone, you are ready to view one or more cameras in that zone. Camera thumbnail images are used to create Video Windows in the Viewing Area. The Viewing Area can support multiple Video Windows for live monitoring and viewing recorded video simultaneously.

#### Click and drag a camera thumbnail onto the Viewing Area



- Move your mouse pointer over a thumbnail. A tooltip will indicate the Location, Zone and camera name.
- Click the thumbnail image and, while holding down the mouse button, drag its boundary anywhere onto the Viewing Area (the thumbnail becomes an outline which is re-sized when you drag it over the Viewing Area).
- Release the mouse button. The re-sized outline becomes a live Video Window.

When placed, the Video Window is re-sized and re-positioned according to the selected layout grid (discussed on page 119).

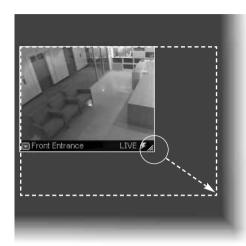
A selected Video Window is highlighted.





An error message will appear in the Video Window if there is a connection problem. Refer to the Troubleshooting Appendix at the back of the manual, or see your System Administrator for configuring cameras and Camera Servers.

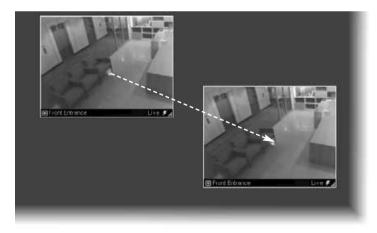
#### Re-size a Video Window



- Click a video window to highlight it. An arrow icon will appear in the lower right corner. Click the arrow icon and drag outwards (the mouse pointer becomes a double-arrow). You can also click on the other corners and drag to re-size the window.
- Release the mouse button when you have reached the desired size.
  - Alternatively, click the Video Window menu button and select Video Display Size. Choose from one of the size options in the sub-menu, Small, Medium, Large or Raw.

A right-click action on the Video Window will also bring up the same menu.

#### Move a Video Window



Click anywhere on a Video Window and drag it to any position in the Viewing Area.



- For best performance on the Viewer, such as to view as many Video Windows as possible, re-size the Video Windows so they are a standard resolution; for example, selecting 'Medium' from the Video Window menu.
- When Video Windows that are other than a standard resolution are displayed, the load on the computer CPU will be high and Viewer operations may take longer.



#### Step 3: Add more Video Windows

Click and drag other camera thumbnails onto the Viewing Area to create Video Windows for monitoring. Your Viewing Screen could look like this.



#### **Arranging Video Windows**

There are various ways you can manage the layout of Video Windows in the Viewing Area and this is discussed in the next chapter.



- Note
- In the Viewer, the number of Video Windows you can display simultaneously will depend on your video card, the resolution and quality settings of the camera and the Live Video Viewing Settings (frame rate) set in the Viewer Settings window of the Configuration and Preferences screen.
- If the load on the computer CPU is high, Viewer operations may take longer.

#### **Selecting Multiple Video Windows**

You can select multiple video windows easily.



#### To select more than one Video Window:



There are three ways to select multiple windows:

- On your keyboard, hold down the Ctrl key and click each Video Window to select them, or
- Click outside the Video Windows and drag a selection box around the Video Windows you want selected, as shown below. Only windows contained within the area of selection are selected, i.e., dragging around part of an image will not select it.



 If you wish to select all Video Windows, click Select All from the Edit menu (or on your keyboard press Ctrl + A).



Video Windows from different zones and locations can be displayed in the same Layout.

Tip

 You can copy and paste a multiple selection of Video Windows at one time which can be pasted into and saved as a new Layout.

### **Video Window States**

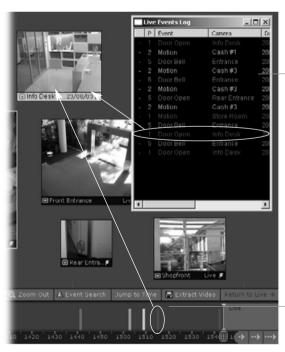
#### **Video Window Properties include:**

- Title bar indicates name of camera, live or recorded viewing.
- Video display displays live or recorded information.
- Pre-recorded video indicator displays a time/date stamp in the title bar for recorded footage.
- Event indicator displays a colored bar across the top of the Video Window.
- Pan, tilt and zoom controls when the Video Window is double-clicked or the Video Window menu item, Get camera control is selected, controls appear to enable pan, tilt and zoom.

#### **About Video Window states**

Video Windows can be displayed in the Viewing Area according to their conditions:

- Live when viewing live video from a Camera Server.
- Pre-recorded when viewing recorded video from a Storage Server.





#### Live Events Log

When configured, it displays when you launch the Viewer.

Double-click an event to view it in the corresponding Video Window.

#### Pre-recorded

Click to view recorded footage in the corresponding Video Window.



The full camera name/event may not display if you reduce the size of the window.



Each Video Window displays video from an individual camera. Video Windows can be re-sized, repositioned or closed.

#### Title bar

The title bar consists of menu, camera name and live or recorded status.

#### Video display conditions





Recorded video, Playback

The lightning symbol in the lower right-hand corner indicates live video.



#### Pre-recorded Video Indicator

When recorded video is shown, the title bar on a Video Window will change from black to gray.



For recorded video, the time/date indicator may not fully display if the Video Window size has been reduced.

#### Event Indicator

If the option for **Operator** Notification has been set (→ P. 89), a color bar will flash on top of a live Video Window when an event occurs. The color indicates the event priority. The bar will flash for a pre-defined time and then remain steady



Color	Priority
Red	Highest
Orange	High
Yellow	Medium
Light Green	Low
Dark Green	Lowest

for one minute until disappearing. An audio alert may also sound if pre-defined.

## Adjust Pan, Tilt and Zoom

#### Viewing Live Video - Adjusting Pan, Tilt and Zoom

This is done in one of three ways: (VB-C50FSi and VB-C50Fi have Zoom only).

- Directly from within the Video Window,
- Using the Camera Control Panel, or
- Selecting a Preset Camera Angle.

#### Directly from within the Video Window

First enable the controls by double-clicking on a live Video Window.

Alternatively, click the down-arrow at the base of the Video Window (or right-click on the window). A drop-down menu will appear. Select **Get Camera Control**.



If the camera is being used by the Admin Viewer or another VB Administration Tools associated with the camera server, a 'Can't get camera control' message will appear. You may have to wait a few moments and attempt to get control later.

Move the mouse cursor around the Video Window. Arrows will appear in the cursor position when you have gained control of the camera. Click and drag the cursor in the direction of the arrow for pan and tilt.

When you move the mouse cursor to the center of the image, a zoom in or zoom out control will appear. Hold down the mouse on '+' to zoom in. Hold down the mouse on '-' to zoom out.

When you have finished, select Release Camera Control from the Video Window menu.



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- If Pan, Tilt and Zoom are active in a Video Window, you can only drag the window by clicking and holding the title bar.
- When you have control, the camera can be controlled either by clicking or moving the mouse while holding the left button down. The latter method provides finer control.
- If a control warning, "Control will be lost in 10 seconds." appears, it means you have stopped making changes for 30 seconds and a 10 second countdown commences. To continue control, click in the Video Window, i.e. use the controls.
- You can still manipulate a camera that is currently recording. If a camera position is defined for recording, the camera will return to that position when you release control.

#### **Using the Camera Control Panel**

Pan/Tilt controls. Click to nudge or click and hold for continuous movement. Click and drag Zoom slider.



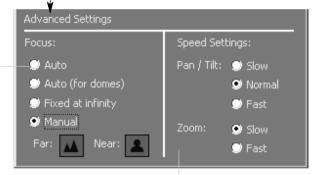
Click and drag range finder or click away from it to reposition. When the Video
Window is selected,
click **Get Control**.
Click **Release Control**when finished.

In the **Focus:** field, select **Auto** if constant camera manipulation is required. Otherwise select another option to suit particular views.

To display, select **View > Camera Control** from the VK-64 menu bar.

If a Video Window is not selected, the preview window will be blank. Click on a Video Window to display a 'range finder' in the Camera Control Panel. A full area panorama is given which acts as a 'map' for quickly locating suitable viewing angles. Actions are reflected in the selected Video Window.

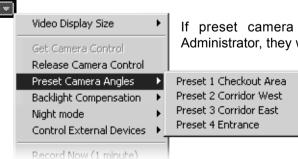
Click the arrow to open settings for finer control...



In the **Speed Settings**: field, you can set the movement rate for Pan, Tilt and Zoom.

When you have finished, select **Release Camera Control** from the active Video Window menu.

### **Selecting a Preset Camera Angle**



If preset camera angles have been set up by your Administrator, they will be available from a sub-menu.

- Double-click a Video Window or select **Get Camera Control** from the Video Window menu.
- From the Video Window menu, click **Preset Camera Angles**.
- Select a preset position from the sub-menu. If there are no preset positions listed, see your Camera Server Administrator.

# **Other Video Window Functions**

#### Change the size of a Video Window

Apart from manually clicking on the corner and dragging out the Video Window to a new size, you can also select a set size from the Video Window menu.

To change the display size of a Video Window via the menu:

# Open the Video Window menu and select 'Video Display Size'...



- Click the Video Window menu icon, or right-click in the Video Window to bring up a context menu.
- Select Video Display Size from the menu, and then select Small, Medium, Large or Raw from the sub-menu. A Raw selection displays the video window in its original size.

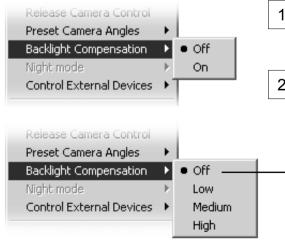
### **Enable Backlight Compensation**

Backlight compensation is a camera feature used to compensate for camera views with strong backlighting, i.e., viewing a dark image against a strong backlight. It can be enabled from the Video Window menu. It is not to be confused with Shade Correction (→ P. 112).

2

To enable backlight compensation:

# While Camera Control is active, select 'Backlight Compensation'



- If the menu is not open, click the Video Window menu icon (or right-click in the Video Window to bring up a context menu).
- 2 Select **Backlight Compensation** from the menu and then select **On** or **Off** from the sub-menu.

If you are using a VB-C50i, VB-C50iR, VB-C50FSi or VB-C50Fi, the Backlight Compensation options are **High**, **Medium**, **Low** or **Off**.

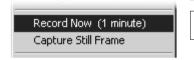
#### **User-initiated Recording**

A manual recording with a duration of one minute can be initiated at the maximum frame rate. The manual recording is displayed on the Timeline and Live Events Log as 'Manual Rec. (username)'. This is handy for capturing random events not associated with sensor recording or outside preset recording times. You must ensure a Storage Server is associated with the Video Window, otherwise recording will not be possible. This can be configured by an Administrator in the Configuration and Preferences screen.

To initiate manual recording:



#### Open the Video Window menu and select 'Record Now (1 minute)'...



- Click the Video Window menu icon, or right-click in the Video Window to bring up a context menu.
  - Select **Record Now (1 minute)** from the menu. You will notice an indicator showing manual recording. When recording is in progress, click 'Record Now' again to extend recording (the counter is reset).

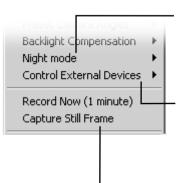


- The Record Now function records at the maximum frame rate. Extended recording time will use additional disk space on the Storage Server. Excessive use of this function should not be performed without first checking with an administrator.
- The Record Now function is only enabled if a Storage Server is configured for the camera.
- Recording will be for approximately one minute. The actual duration of recorded video may vary depending on settings and network delays.

### **Other Menu Options**

Other functions available from the Video Window menu include:

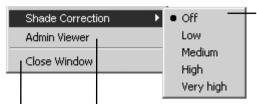
2



Click **Night mode** and select **Disabled**, **Enabled**, **IR light off** or **Enabled**, **IR light on** from the sub-menu. Selecting **Enabled**, **IR light on** will remove the IR cut filter and turn the built-in IR light on. The IR light cannot be used with VB-C50FSi or VB-C50Fi.

Click **Control External Devices** to control any external devices that may be connected to your Camera Server. This is only enabled when you have camera control. For more information on external devices, see your Camera Server administrator.

Click **Capture Still Frame** to keep the current image on a Video Window for archiving or emailing to other users.



Click Shade Correction to correct shaded areas in the Video Window. This affects the individual Video Window on display, i.e., any duplicate (unselected) windows are not affected. Shade Correction is discussed below.

> Unlike Backlight Compensation (a feature installed on cameras) Shade Correction does not

> camera Correction only applies to the displayed Video Window in the

itself.

the

Click Admin Viewer to activate the WebView Livescope Admin Viewer if it is installed and you are running VK-64 in Administrator mode. Using the Admin Viewer, you can send/receive audio to/from the VB-C50i, VB-C50iR or VB-C50FSi if it is configured to enable audio functions. Refer to your VB-C50i/VB-C50iR, VB-C50FSi User's Manual for more information on the settings.

Click Close Window to close the Video Window that is currently selected. You can also close a selected Video Window by pressing the **Delete** key.



- It is recommended you install the Admin Viewer in advance.
- Shade Correction cannot be applied to multiple Video Windows. If you enable it on a Video Window, it will be removed from any other Video Window.
- Shade correction is performed by using image processing within the Viewer and not on the Camera Server. It can be used on live or recorded video (see below).

#### About Shade Correction

Shade Correction compensates for images consisting of lighter regions and darker regions. A 'balance' is achieved by increasing the brightness of shaded regions without adversely affecting the existing lighter regions (unlike Backlight Compensation).



Shade Correction High

Shade Correction Off

Darker regions are most affected by Shade Correction.

affect

Viewer.

# Chapter 10

# **Arranging and Saving Video Window Layouts**

This chapter details how to create and save Video Window Layouts and Layout Sequences.

# **Managing Video Layouts**

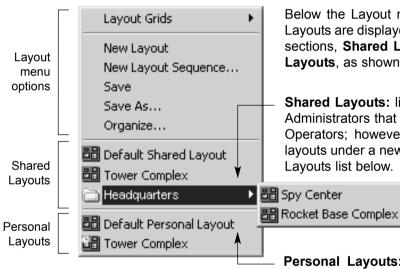
#### About the Layout menu

The **Layout** menu allows you to save particular Video Window layouts for easy monitoring and access of cameras.



The name of the currently-displayed layout can be found in the top-left corner of the Viewing Area, next to the Layout button. You can create a new layout, save a layout or open and rename a previously-saved layout.

Click the Layout button to open the Layout menu. You can also right-click anywhere in the Viewing Area to display the Layout menu.



Below the Layout menu options, existing Layouts are displayed and divided into two sections, **Shared Layouts** and **Personal Layouts**, as shown in this example.

**Shared Layouts:** lists layouts created by Administrators that cannot be modified by Operators; however Operators can save layouts under a new name in the Personal Layouts list below.

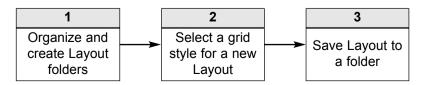
**Personal Layouts:** lists layouts created by the current user. They are separated below the Shared Layouts list.

## To create a new layout (if a previously-saved layout is displayed):



Click the Layout button to open the menu, and then select **New Layout**. You may be prompted to save the current layout if it is not saved. The Viewing Area will become blank and the default layout name 'Untitled' will be displayed.

The process of creating folders and saving a layout could be done in the following order:



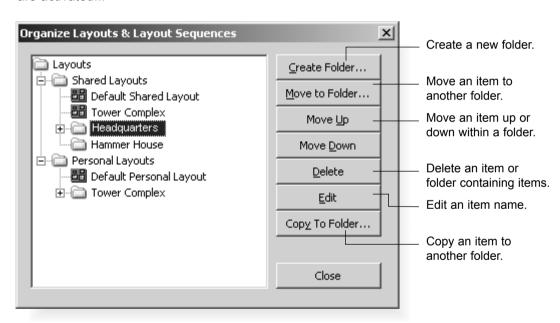
### **Organizing Layouts and Layout Sequences**

The **Organize Layouts & Layout Sequences** dialog allows you to create folders and sub-folders in which to save layouts and layout sequences (→ P. 118). To display the dialog:



The **Organize Layouts & Layout Sequences** dialog opens (Administrator version shown). The **Shared Layouts** folder will not display if you have logged in as an Operator.

In this example, several folders have been created with previously-saved layouts. When you select a Shared or Personal layout folder, the **Create Folder** button is available. It allows you to create a sub-folder for that item. When you select a sub-entry, further buttons are activated...



Create a new folder...

In the **Organize Layouts & Layout Sequences** dialog, click on a shared or personal folder and then click the **Create Folder...** button.

2

The **Folder Name** dialog appears.



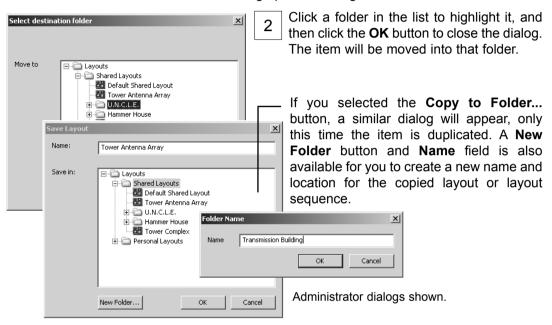
Enter a name up to 20 characters and click **OK**.

The new folder will appear in the **Organize Layouts & Layout Sequences** dialog.

# Move or Copy a layout or layout Sequence to another folder...

In the **Organize Layouts & Layout Sequences** dialog, click an item to highlight it, then click the **Move to Folder...** button.

The Select destination folder dialog opens showing a list of created folders.



# Move an entry up or down...

Click an item or folder to highlight it, then click the **Move Up** or **Move Down** button. The item will move up or down within a folder.

## Edit or delete a layout or folder...

Click an item or folder to highlight it, then click the **Edit** button. The respective **Layout Name** or **Folder Name** dialog will appear for you to overwrite a new name.

Click an item or folder to highlight it, then click the **Delete** button. A confirmation dialog will appear. Click **Yes** to continue or **No** to retain the item or folder. If you have Operator status, you will not be able to delete a shared layout or layout sequence.

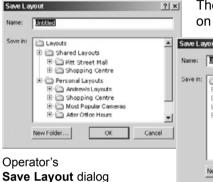


- You cannot change the parent folder names, Shared Layouts or Personal Layouts.
- Only Administrators can see and organize shared folders and shared layouts.

#### Saving a Layout or Layout Sequence

Administrators and Operators can save layouts and layout sequences to an existing folder or a new folder via the **Save Layout** dialog.

Step 1: Open the Layout menu and select 'Save' or 'Save As...'

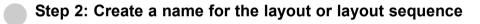


The **Save Layout** dialog opens (further 'Save' commands on the same layout will not bring up the dialog).

? | x |



Administrator's Save Layout dialog



- In the **Name** field, overwrite 'Untitled' or any existing layout name to save that item under a new name.
- Click a folder in the list to highlight it and click **OK**. The item is saved to that folder.

  Alternatively, click the **New Folder...** button to create a new folder to save the item to; for example, if you wish to save an Administrator-shared layout to a personal folder.



Once you have saved an item, the name will appear next to the Layout button in the Viewing Area.

# Opening a previously-saved layout...

Click the Layout button to open the menu and then click a layout or layout sequence in the list. The item will be loaded onto the Viewing Area.

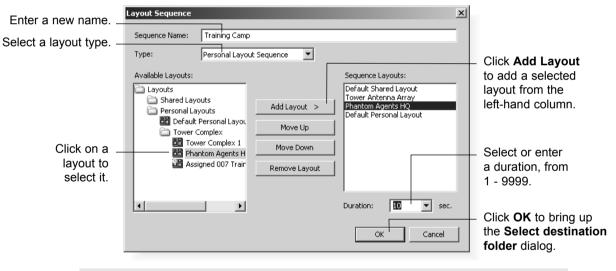


If you had selected another item without saving the current item, a dialog will appear prompting you to save the current layout or layout sequence.

## **Arranging Layout Sequences**

You can set up an automated sequence of shared and personal layouts to display in the Viewing Area at set intervals.

- From the Layout menu, select **New Layout Sequence...**. The **Layout Sequence** dialog displays.
- Enter a sequence name for the new layout sequence and choose a **Type**: of layout sequence from the menu, **Personal Layout Sequence** or **Shared Layout Sequence** (you can switch between the two as you add layouts).
- Use the **Add Layout >** button to add layouts to the new sequence. Use the **Move Up** or **Move Down** buttons to change the order of appearance of layouts or use the **Delete** button to remove layouts.
- In the **Duration:** menu, select a set duration of display time for each layout or enter a custom time, overwriting the existing time.

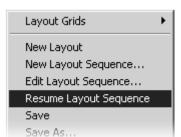




You cannot add an existing layout sequence to another sequence.



To start the layout sequence, select it from the Layout menu.

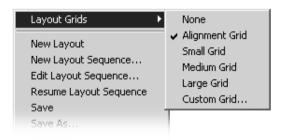


When a layout sequence is running, further options are available in the Layout menu.

- Click Edit Layout Sequence to change settings in the currently-running layout sequence. The current sequence will be indicated as [Paused].
- Click Resume Layout Sequence to play the current layout sequence.

# Working with Layout Grids

You can customize your layouts by applying one of the following grids:



- Alignment Grid creates a grid of dots where you can re-size Video Windows of higher priority while reducing others of lower priority.
- Small Grid, Medium Grid and Large Grid - creates a small, medium or large grid where you can place Video Windows in a tile-like manner. Use smaller grids to place more Video

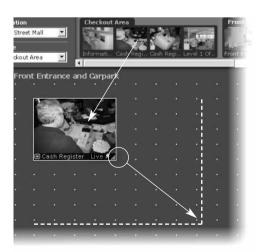
Windows or larger grids to view footage at a glance or from a distance. Video Window sizes in grids can be increased to cover multiple grids.

 Custom Grid - allows you to set uniform pixel dimensions for Video Windows. Proportions are fixed, i.e. the shape is constrained to a 4 x 3 ratio. For example, if you selected a horizontal of '615', the vertical setting will become '461' (and the grid is scaled down).

#### Working with the Alignment Grid

Select the **Alignment Grid** from the **Layout Grids** sub-menu. The Viewing Area displays a grid of dots. When you place a Video Window, it 'snaps' to the grid boundaries.

#### Drag, drop and re-size a Video Window



To re-size the Video Window, click any corner and drag the image outwards to 'snap' to a larger grid area.

- In the Camera Selection Area, click a thumbnail image and drag its selection boundary onto the Viewing Area grid. The boundary will re-size.
- Release the mouse button. The selection will become a Video Window, and 'snap' into alignment along the grid closest to it.





#### Create and align more Video Windows

Drag more thumbnail images onto the Viewing Area grid and re-size them to suit your viewing requirements as shown in this example.

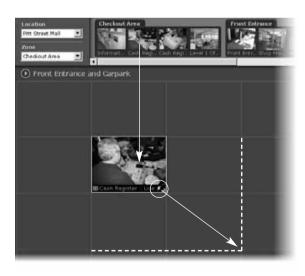


#### Working with Small, Medium and Large Grids

When you select **Small Grid**, **Medium Grid** or **Large Grid** from the **Layout Grids** sub-menu, the Viewing Area displays 'cells' for Video Windows. These are boundaries indicating a uniform size which is used to display Video Windows in a tile-like manner.



#### Drag a camera thumbnail image into a blank tile



- In the Camera Selection Area, click a thumbnail image and drag its selection boundary onto the Viewing Area grid. The boundary will re-size.
- Release the mouse button. The selection boundary will become a Video Window and 'snap' into alignment along the grid closest to it.

To re-size the Video Window, click any corner and drag the image outwards to 'snap' to a larger grid area.



- The Layout menu is also available by right-clicking anywhere in the Viewing Area.
- A Video Window can be increased in size to take up a number of tiles, (for example 4 tiles, 9 tiles etc) so that Video Windows of different sizes/priorities can be viewed.

The Viewing Area with a Small Grid could look like this:



The Viewing Area with a **Medium Grid** could look like this:





A maximum of 16 cameras is recommended in the Layout Area. Although you can add more, the number of Video Windows you can display simultaneously will depend on your video card, the speed of your computer, the maximum frame rate configured with Viewer setting, the video size and video quality coming from the Camera Server and the size of each Video Window displayed.



The Viewing Area with a Large Grid could look like this:

In this example, the Camera Selection Area and Timeline are hidden ( $\rightarrow$  P. 124) and the screen resolution is set to 1600 x 1200. If your screen resolution is set to 1280 x 1024, the four Video Windows fully shown here will fill the screen area.



Tin

The Small Grid, Medium Grid and Large Grid are set to 160x120, 320x240 and 640x480 respectively. The PAL versions of the VB-C50i/VB-C50iR, VB-C50FSi and VB-C50Fi provide images at 192x144, 384x288 and 768x576. If you want to display the images at these full resolutions, use the Custom Grid size to set the grid sizes accordingly. This is recommended when viewing a large number of cameras as it improves the performance of the Viewer.

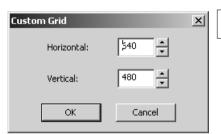
#### **Working with the Custom Grid**

The **Custom Grid** feature allows you to set a custom-size for displaying Video Windows.



#### Set a custom grid

Select **Custom Grid** from the **Layout Grids** sub-menu. The **Custom Grid** dialog appears. Values are given in pixels.



In the **Horizontal** or Vertical field, overwrite the existing value with a custom value, or use the up/down arrows to select a value.

When you adjust the value in one field, you'll notice the value change in the other field. This is because the proportions of the re-sized Video Window are constrained and the dimensions are scaled accordingly.

3

Click **OK** to close the dialog. The grid will re-size to your new settings.

### Removing a Layout Grid

You can easily remove a layout grid:



#### Open the Layout menu and select Layout Grids > None

In the Viewing Area, click the Layout button to bring up the menu and select **Layout Grids > None**.

Alternatively, right-click anywhere in the Viewing Area to bring up the same menu.



Layout grid applied



Layout Grids > None

# **Hiding and Showing Task Areas**

#### Using the View menu to hide and show Task Areas

The **View** menu allows you to show/hide task areas and other display elements in the Viewer. When you unselect **Camera Selector** and **Timeline** and then select **Fullscreen**, the result is a large area in the Viewer for displaying more Video Windows as shown below in the Large Grid example. Pressing the **Esc** key returns the menu bar. You can also select to hide Video Window **Captions**, the **Camera Control** and **Live Events**.

The number of Video Windows in the display size achieved is dependent on the screen resolution. A higher resolution will result in more Video Windows displayed.



View → Fullscreen (Large grid, 1280 x 1024). The Windows task bar is also hidden.



# Chapter 11

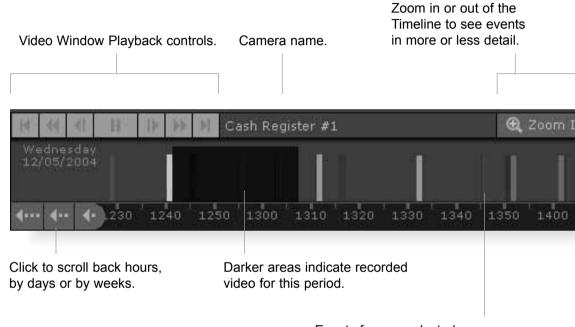
# **Using the Timeline** and **Viewing Events**

This chapter shows you how to use the Timeline for live and pre-recorded viewing as well as view and search events.

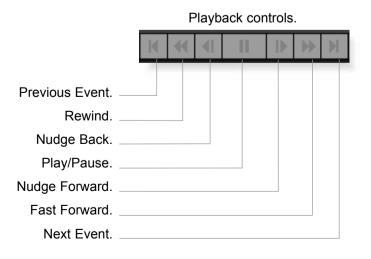
# Using the Timeline

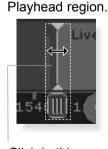
#### **Timeline Overview**

On the Viewing Screen, a timeline of past events associated with displayed cameras is shown in the Timeline Area at the bottom of the Viewer as colored bars. Selecting a colored bar moves the playhead to the event and the associated Video Window is switched to playback mode.



Events for non-selected cameras (Video Windows) are indicated in weaker colors as secondary events.

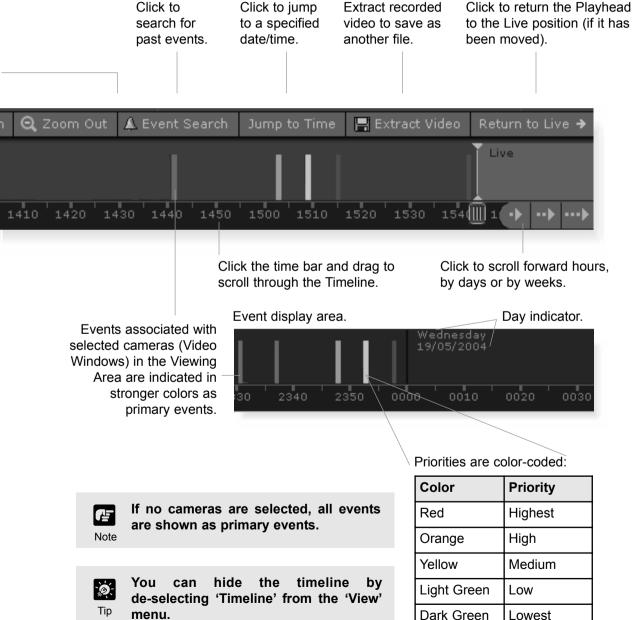




Click in this area of the Playhead shaft and drag to positions on the Timeline.

## Monitoring Live Video in relation to the Timeline

When a Video Window is created from a camera thumbnail, video is seen live. The Playhead (shown below, right) will be in a 'live' position and remain fixed as time scrolls to the left underneath, representing the passage of real time.



#### Using the Timeline to examine, play and extract video

You can view pre-recorded video by moving the Playhead control in the Timeline or entering a timecode and jumping to it. Methods include:

# Use the Playback Controls



Click the VCR-like controls to play, rewind, fast forward, nudge or move to previous and next events (as detailed on page 126).

The fast forward and rewind speeds change by 1x, 2x, 5x and 10x each time you click the buttons.



Playheads of different cameras can be controlled separately, that is, you can rewind video in one window to a defined time and then select a different Video Window and rewind it to another time. This is ideal for comparing the same or different cameras at different times.

#### Drag the Playhead to a new time



Click and drag the Playhead shaft to another location. When you move the Playhead, you are effectively controlling all Video Windows that have been selected.

### Click in the Event Display Area of the Timeline



Click in the Event Display Area of the Timeline. The Playhead will move to that location and playback of recorded video commences from that time.



- When you choose to play back video, the video is played over a network, therefore the response and smoothness of the play back will depend on network traffic and other properties of the network.
- The time displayed on the Timeline and in the Live Events window is the local time at the Viewer.

# Using the Timeline and Viewing Events

### Click and drag the time bar to move through the Timeline...



Move your mouse pointer over the time bar and it becomes a hand. Click and drag to the left or right to move back or forward in time. You can only scroll right to the current time, or 'live' time.

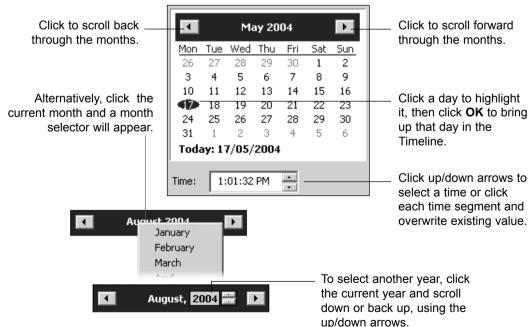
## Jump to time

Select a Video Window and click the **Jump to Time** button.



- The Jump to Time dialog opens. Select a 2 day and/or time. You cannot select dates beyond 'today's date'.
- Click **OK** when done. 3 The Playhead and Timeline will move to the time selected. If no Video Windows are selected, only the timeline is moved.

Using the calendar is shown below.



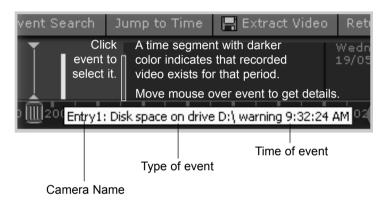
#### Zoom in and out of the Timeline



Click **Zoom In** to zoom into a time period in the Event Display Area. The Timeline will expand and you can examine time in more detail.

Click **Zoom Out** to zoom outwards from the Timeline.

#### Click an event to select it

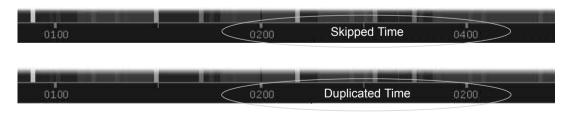


When you click an event to select it, the associated Video Window will display the event(s).

To get information about events move your mouse pointer over the event.

## **Daylight Savings Indicator**

When normal time has changed to Daylight Savings time, time that is skipped is displayed in the Timeline as missing. When gaining time (rewinding the clock back from 02:00 to 01:00), the extra time is duplicated.



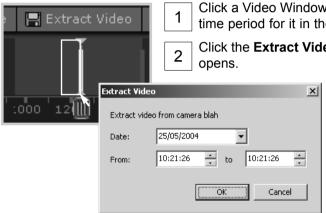


Where Daylight Saving changes have occurred, the Timeline display is still continuous. Only the labels are affected.

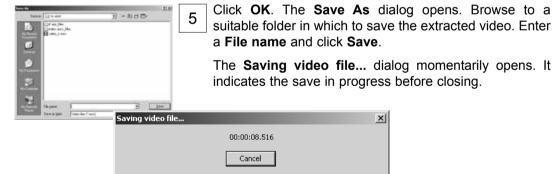
### Extracting video to save to another location

A portion of video can be saved to another location if required. Files are automatically saved as QuickTime .mov format and can be viewed in a QuickTime player or any other player that supports .mov files. A maximum of one hour of video can be extracted at a time. If you do not have a QuickTime player installed, visit http://www.quicktime.com for a free download.

# Select a Video Window and time period then click 'Extract Video'



- Click a Video Window to highlight it, then click and drag a time period for it in the Timeline.
- Click the **Extract Video** button. The **Extract Video** dialog opens.
  - In the **Date:** field, click each segment and overwrite with desired date. Alternatively click the down arrow to use the calendar.
  - In the **From:** and **To:** field, click the time segments and overwrite with desired time, or use the up/down arrows.



- Note
- You must select only one Video Window to extract video.
- QuickTime player version 6.5.1 or later is recommended.

## When you have finished, click 'Return to Live →'

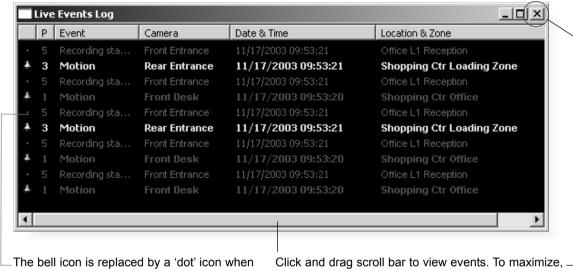


When you have finished viewing pre-recorded video, click **Return to Live** → to return the Playhead to the live position in the Timeline.

# Viewing and Searching Events

#### About Live Events

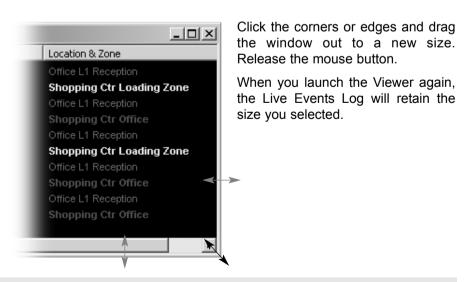
The Live Events Log displays events that have occurred with one or more cameras after the Viewer has been launched. Events are color coded according to priority. The Live Events Log opens automatically when you launch the Viewer, if left open in a previous session.



the event is acknowledged by double-clicking.

double-click title bar or click the maximize icon.

#### Re-size the window to a custom size



Note

Only the most recent 200 events are shown in the Live Events Log.

#### Display the Live Events Log (if not displayed)

To display the Live Events Log if it is not displayed:

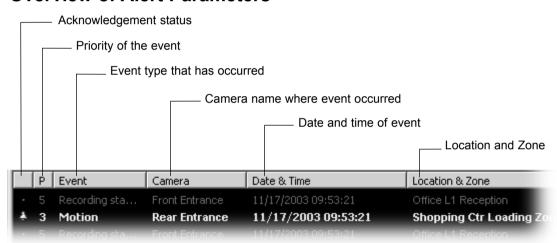


#### Select View > Live Events

From the VK-64 Menu Bar. select: View > Live Events.

The **Live Events Log** opens. Once selected, the menu item will be ticked next time you display it.

#### **Overview of Alert Parameters**





Event priorities and notification settings are configured in the Configuration and Preferences Screen. You must have Administrator privileges in order to modify priorities.

#### To acknowledge and view an event

A new event entry will appear at the top of the Live Events Log list and will flash for a defined period if configured. If Operator Acknowledgement is required, the event will flash indefinitely if not acknowledged.

- In the **Live Events Log**, double-click on the event to acknowledge it and view it in its associated Video Window.
- In the bottom right corner of the Viewer, click **Return to Live**  $\rightarrow$  when you have finished viewing the event. The Video Window will return to live viewing.

### **Searching Events**

If you have multiple events, you can initiate a search for a particular event via the **Event Search** dialog. Note that you cannot acknowledge an event from this dialog.

To launch the Event Search Dialog:

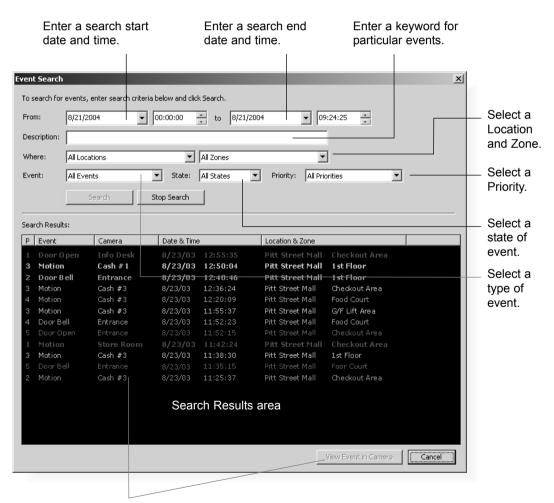


#### Click the Event Search button



On the Timeline, click the **Event Search** button.

The **Event Search** dialog opens.



Double-click an event to view it in the Video Window, or click an event to highlight it and then click the **View Event in Camera** button to view it.

### **Selecting Criteria for Searching**

When you initiate a search, certain criteria can be specified such as Priority, Location and Zone on the network, a date range when the event may have occurred and a time period.

To initiate a search:



#### Step 1: Select a date and time range to search

Click in the **From:** and **To:** date panels and overwrite the existing entries for month/day/year and time. Although you can select earlier periods, you can only view the earliest recorded event and you cannot go past today's date.



Alternatively, click the down arrow next to each date panel to bring up the calendar. Click off the calendar to close it again.



In the **Event Search** dialog, you can also scroll through time using the up/down arrows. Click an hours, minutes

or seconds segment to highlight it and then click the up or down arrow.



#### Step 2: Select an event keyword



In the **Description:** field, enter a keyword such as, 'deleting', 'recording', 'frames', etc. Found events will be based on your text entry.



### Step 3: Select a Location and Zone to search



From the **Where:** fields, select a Location and Zone from the drop-down lists. Only events within the location will be selected.

### Step 4: Select a type of Event



Select a type of Event from the drop-down list.

### Step 5: Select a State



Select a State for the event, whether it was **On** or **Off** during the period. Alternatively, select **All States**.

### Step 6: Select a Priority



Select a Priority from the drop-down list.

### Step 7: Click the Search button

When you have entered the day and time range, click the **Search** button to initiate the event search. Events that are found will be listed in the window below. If necessary, stop a search at any time by clicking the **Stop Search** button.

#### Viewing found events



To view an event in a Video Window, click the event to highlight it and click **View Event in Camera** to view it in a Video Window.

You can also double-click an event to view it in a Video Window.

Clicking **Cancel** stops any searching and closes the dialog.



When you have finished viewing an event in a Video Window, click the 'Return to Live →' button in the Timeline to return the Video Window to live viewing.

# Appendix A

# Troubleshooting VK-64

This appendix outlines possible solutions to VK-64 operating issues.

# **Troubleshooting VK-64**

You may encounter the following situations while using VK-64. If you encounter difficulties that are not discussed in this section, please consult your System Administrator.

## **Viewing Screen and Video Windows**

The following issues may arise during normal operation of the Viewer:

- Some of the thumbnails are not showing in the Camera Selection Area.
  - Situation You currently do not have enough camera thumbnails on display to make the scrollbar appear, however some of the thumbnails that were displayed earlier are no longer visible.
  - **Solution** Most likely you have selected another Zone or Location from the drop-down menu that is further down the list and the thumbnails have scrolled to the left to show the selected Zone. Click the Zone drop-down menu and select the zone at the top of the list. Thumbnails associated with that zone will be displayed, i.e., groups of thumbnails will shift to the right.
- Cannot Pan, Tilt or Zoom the camera in a Video Window.
  - Situation You clicked a Video Window to get camera control but the controls do not appear.
  - **Solution** You need to *double-click* in the Video Window to bring up the controls or select **Get Camera Control** from the Video Window menu. Alternatively, check if you are actually looking at recorded video (the title bar will be gray, not black).
- The Record Now feature is gray in one Video Window menu, however it is enabled in other Video Window menus.
  - Situation You click to bring up the Video Window menu and **Record Now** is gray (disabled) but other Video Windows have the function enabled.
  - Solution When the camera was configured, it was most likely set to **Do not Record**. If you need the camera set up for recording, see your System Administrator or refer to the configuration chapters in this manual.
- Layouts set up by another user cannot be seen.
  - Situation In the Organize Layouts & Layout Sequences dialog, you click in the Personal Layouts folder in order to open a Layout created by another user.
  - **Solution** Layouts saved in the Personal Layouts folder cannot be seen by other users. If the Layout created by a user with Operator status is required for all users to view, it should be saved to the Shared folder. See your System Administrator.

#### • Live and recorded video is not good quality (this does not relate to Resolution).

Situation In a Video Window, the live quality may be different from another Video Window and the recorded video (when you play back video) is also not good quality.

**Solution** The quality of recorded and live video cannot be changed in VK-64. The reason why the quality may be better in one Video Window and not another is due to the Camera Server settings and quality can be changed in the admin screens of the Camera Server to a higher setting. See your System Administrator.

#### Live Video Windows in the Viewing Area are jerky.

Situation In the Viewer Area of the Viewing Screen, live video appears jerky.

**Solution** The Live Video Viewing Settings have a low frame rate set. The frame rate can be modified by opening the Configuration and Preferences screen and selecting the Viewer Settings tab. Select a suitable frame rate that does not affect the performance of the Viewer, i.e., lower frame rates are ideal if you have many Video Windows open in the Viewing Area.

#### No presets, sensors or external devices appear for the camera.

Situation You have opened the Video Window menu for a particular camera and no presets are available and/or the menu items are disabled.

**Solution** You must enable the menu items if they are disabled by selecting **Get Camera Control** from the Video Window menu. Menu items should then be enabled. If no preset camera angles, sensors or external devices are available it means that they have not been set in the admin screens of the particular Camera Server.

#### Cannot access cameras from another Storage Server.

Situation In the Configuration and Preferences Screen, Camera Summary window, you have attempted to add another Storage Server.

**Solution** You do not have an account set up on that Storage Server. See your System Administrator.

#### Free disk space gets low after the Viewer has been in use for a long period.

Situation After launching the Viewer, you have displayed live and recorded video for a long period and free disk space gets low.

**Solution** If you are using anti-virus software, communication between Viewer and camera servers is being recorded and that file may be several gigabytes in size. Please alter the anti-virus software settings to eliminate the Viewer from virus scanning targets.

• After running a Layout Sequence for some time, it is no longer possible to connect to some of the cameras.

Situation

Immediately after launching the Layout Sequence, live images from all the cameras can be displayed, but after several minutes or hours, the video from a number of cameras is no longer displayed.

Solution

When a large amount of Video Windows is displayed in a single layout and layouts are configured to switch at short intervals, the resources needed for communication become insufficient and the problem described above occurs. For example, this can happen where a layout showing Video Windows from 20 cameras is switched at 10-second intervals. Reduce the number of cameras displayed in the layout or set a longer switching interval.

#### **Timeline**

The following issues may arise during normal operation of the Timeline in the Viewer:

The Playback controls are inactive.

Situation You attempt to click any of the Playback controls and nothing happens.

Solution

Move the Playhead away from the Live position. Playback controls will then be active. A Video Window needs to be selected for playback. Also, the nudge buttons and the Extract Video button are only enabled when only one Video Window is selected.

### **Extracting Video**

The following may arise during video extraction:

Cannot save video as no data could be found.

Situation An error message appears if you have attempted to extract video when no

video can be found in the selected segment.

**Solution** Ensure the segment of video has recorded footage.

#### Scheduling and Recording

The following schedule and recording-related issues may arise during normal operation of VK-64:

• Cannot initiate a Record Now on a camera.

Situation You have selected a Video Window in which to initiate Record Now

but the menu option is not available.

**Solution** In the Configuration and Preferences screen, **Edit Camera Server** dialog,

'Do not Record' is probably set up for the camera. Change the option to

record to the Storage Server.

#### Cannot configure camera not to record.

Situation You have attempted to modify a camera and set 'Do not record' in the **Edit**Camera Server dialog. A message appears stating the camera is already set up without recording.

Solution In the Camera Server list of the Storage and Camera Server Summary screen, Locations / Zones tab, the selected camera will have more than one listing. Click the listing which has an associated Storage Server listed beside it and then click Remove Camera Server. Make sure you save your changes to permanently remove the deleted camera.

#### Storage Server free disk space is extremely low.

Situation Storage server disk usage is far in excess of the calculated level (→ P.145) and there is little free space.

**Solution** When the camera server video quality is set high, there is a large amount of data per frame. Also, if you are using anti-virus software, communication between Storage Server and camera servers is being recorded and that file may be several gigabytes in size. Please alter the anti-virus software settings to eliminate the Storage Server from virus scanning targets.

#### **Connection Issues**

The following connection-related issues may arise during operation of the Viewer:

#### Cannot connect to camera.

Situation In the Viewer the screen has gone black and a message appears stating 'Could not connect to camera'.

**Solution** A number of solutions could apply. The network could be down, the physical connection to the Camera Server could be broken or the camera may not be powered.

#### Cannot connect to Master Storage Server.

Situation You have launched the Viewer and a connection to the Master Storage Server error message appears.

**Solution** The specified Storage Server is probably not on the network. If it is, make sure the computer it resides on is powered and the Storage Server is running. On the Storage Server computer, open the **Storage Server Configuration** utility. If the Storage Server is not running, click the **Start Storage Server** button (→ P. 22).

• The Configuration and Preferences screen takes a long time to open.

Situation When you switch from the Viewing Screen to the Configuration and Preferences screen, a **Please wait...** message appears and remains on screen for a long time.

screen for a long time.

**Solution** You may have a lot of cameras to disconnect from as waiting time is dependent on disconnecting from each camera/Camera Server on the network. Remove non-essential or low priority cameras from your Viewing Screen.

 Fails to connect to Storage Servers when you switch to the Configuration and Preferences screen.

Situation You have switched to the Configuration and Preferences screen and an error message appears stating a failure to connect to a particular Storage

Server (name), even though it can still connect to the Master Storage

Server.

**Solution** Access to the Storage Server may be denied for a number of system

reasons or the Storage Server computer may not be powered. A network

error could also be responsible. See your System Administrator.

# **Configuration Issues**

The following configuration issues may arise during operation of the Viewer:

• Cannot switch to the Configuration and Preferences screen.

Situation You have attempted to switch from the Viewing Screen to the Configuration

and Preferences screen and an error message appears.

Solution You have Operator status. Only Administrators can access the

Configuration and Preferences screen.

Cannot see cameras on the Camera Summary window.

Situation You are viewing a list of cameras on the Camera Summary window and

some cameras are not visible.

Solution Only cameras associated with the item selected on the Storage Server tab

or the **Locations/Zones** tab will be shown. Also, if you have the **Storage Server** tab displayed, cameras configured as 'Do not record' will not be

shown.

# Appendix B

# **Example Operating Conditions**

This appendix outlines example Storage Server and Camera Server situations.

# **Example Operating Conditions**

This section provides information that may help you in specifying and configuring a computer to use as a Storage Server.



Every installation of VK-64 is different (due to different usage requirements and different hardware specifications) and the figures provided in this section are an indication only. These figures are not intended to apply to every installation of VK-64.

#### **Frame Sizes**

VK-64 receives each image from a Camera Server as a JPEG image. The size of the images varies depending on the configuration of the Camera Server (the settings for Quality and Resolution) and the complexity of the actual image.

The following tables give some typical frame sizes (in kilobytes) for various quality and resolution values from a VB-C50i and VB150. However it is important to note that, depending on the complexity of the image, the frame sizes may vary substantially from those listed in the tables. For example, images of an empty corridor would typically be smaller than these values and images of a very intricate pattern such as a crowded shopping mall would typically be larger than these.

#### Example of frame sizes with VB-C50i

Quality	Resolution (captured with NTSC mode)			
	160x120	320x240	640x480	
30	3.8	11.1	36.4	
40	4.4	13.3	43.4	
50	5.0	15.1	49.2	
70	6.6	20.3	67.0	
80	8.1	25.4	85.5	
90	11.8	37.3	128.0	

#### Example of frame sizes with VB150

Quality	Resolution		
	160x120	320x240	640x480
30	3.5	10.4	18.9
40	4.2	12.4	22.7
50	4.7	14.1	25.8
70	6.3	19.1	34.6
80	7.9	24.0	43.3
90	11.7	35.2	63.1

Values are in kilobytes.

<sup>\*</sup>The data size mentioned above is an indication only, which will vary in accordance with the subject being captured. Please be sure to confirm under the actual installation conditions before starting operations.

<sup>\*</sup> Please note that data size may increase enormously when video quality is set to 100.

# **Bandwidth and Disk Space**

The bandwidth and disk space requirements for using VK-64 can be determined by calculating the recording frame rate, number of camera servers and frame size.

For example, a system using:

- 16 camera servers (VB-C50i) each recording continuously at 5 fps,
- With each camera set to Medium Size for video capture and Quality set to 50, and
- Frame size\* per single frame is approximately 15 KB...
  - ...requires a bandwidth for a single camera server of approximately: 600Kbps (15KB x 8bit x 5fps).

In this case, the total bandwidth for 16 camera servers would be approximately 9.6Mbps (600Kbps X 16 cameras = 9600Kbps).

\*The frame size figure shown above is an example. Please note that the actual frame size varies depending on the video content.



Note

The recording throughput required by the Storage Server is not the total traffic on the network, as this does not include viewing of live cameras and playback of recorded video by Viewers, and any other network traffic.

The above figure can also be used to calculate the hard disk requirements used by the Storage Server. For the above configuration, if the 16 Camera Servers are being recorded continuously at 5 frames per second all day, every day, the disk requirements would be approximately 100GB per day (15KB x 5fps x 16 cameras x 60 seconds x 60 minutes x 24 hours = 103680000KB per day).

However, when determining hard disk sizes it is important to take into account that there needs to be some 'overhead'. For example, if the [Maximum file size/duration] (→ P. 23) is configured to 1024MB (1GB), a video file of 1GB is created per every single camera server. Therefore when the Storage Server deletes old recorded data, the full 1GB will be deleted according to the disk space management description (→ P. 24) and disk space management operating examples (→ P. 146); with 16 Camera Servers, totalling 16GB.

So, for example, the above-mentioned hard disk requirements could be increased by 16GB to deal with this situation.

As the above figures are for continual recording, the hard disk usage can be substantially reduced by using sensor-based or motion-based recording and/or by limiting recording to certain times of the day or days of the week. The disk usage that would result from applying these settings would depend greatly on the frequency of occurrence of such sensor and motion events and the number of defined days and times therein.

For the above figures please note that the bandwidth is calculated as 1000Kbps = 1Mbps, and the disk size as 1024KB = 1MB.

<b>Example of Hard Disk Capacity</b>	(6	6 units of VB-C50i.	1fps	. retention	period of 30 days)
--------------------------------------	----	---------------------	------	-------------	--------------------

Resolution	Quality	Frame Size (KB)	Required HDD Capacity (GB)
	30	11.1	164.6
320x240	50	15.1	224.0
	80	25.4	376.7
	30	36.4	539.9
640x480	50	49.2	729.7
	80	85.5	1268.1

Captured with NTSC model.



The figures in the above table are an indication only. The frame sizes will vary according to the scene captured by the camera, and thus the required hard disk capacity will vary. Please be sure to confirm under the actual installation conditions before starting operations.

## **Disk Space Management**

The following are specific and operative examples describing how the Storage Server manages its disk space.

Example: Storage Server has two disk drives; C and D. Specify [Maximum disk space used] (→ P. 23) as tabled below. 19 camera servers are used for recording per drive. It is assumed that [Low disk space notification threshold] (→ P. 23) is specified as 10%.

Disk Drive	Disk Capacity	Free Disk Space	Max. Disk Space Used	Camera Server No.
C Drive	100GB	50GB	40GB	19 units
D Drive	200GB	200GB	200GB	19 units

The Storage Server manages its disk space according to the following rules:

#### Low Disk Warning Level

When case 1 or 2 below is satisfied, the Storage Server generates event notification.

- 1) When the Storage Server disk space used exceeds the following value:
  - [Setting value of Maximum disk space used] \* (100 [Low disk space notification threshold]) /100
  - For example, if the [Low disk space notification threshold] is set to 10%, event notification is generated at the time when the free disk space is reduced to 10% or below of the setting value of Maximum disk space used.
- 2) When free disk space falls below the following value:
  - [Disk capacity] \* [Low disk space notification threshold] /100
- If the Storage Server is the only application running on the disk, observe case 1.
- If other applications may write to the same Storage Server disk, observe case 2.

Even if the Storage Server uses only a small amount of disk space, event notification may be generated according to case 2 when other applications use the free disk space.

#### **Threshold Level**

When case 1 or 2 below is satisfied, the Storage Server begins deleting video files, starting with the earliest ones. The Storage Server keeps recording video. At the same time, the Storage Server generates event notification.

- 1) When the Storage Server disk space used exceeds the following value:
  - a. If [Setting value of Maximum disk space used] is 384MB or more,
     [Setting value of Maximum disk space used] 96MB
  - b. If [Setting value of Maximum disk space used] is 384MB or less, [Setting value of Maximum disk space used] \* 3/4
- 2) When free disk space falls below the following value:

(Number of camera + 1) \* 32MB + 96MB

#### **Limit Level**

When case 1 or 2 below is satisfied, the Storage Server stops recording video. At the same time it generates event notification. Even though the Storage Server has started deleting video files when the 'Threshold Level' is reached, recording will stop at the time when the 'Limit Level' is achieved.

Storage Server resumes recording when the free disk space rises above the 'Limit Level'.

- 1) When the Storage Server disk space used exceeds the following value:
  - a. [Setting value of Maximum disk space used]
- 2) When free disk space falls below the following value:
  - b. (Number of camera + 1) \* 32MB

The following is a table of values for each level calculated based on the above examples.

Disk Drive	Low Disk Warning Level	Threshold Level	Limit Level
C Drive	l ′ ′ ′	1) 40GB-96MB= <b>39.904GB</b> 2) (19+1) * 32MB+96MB= <b>736MB</b>	1) <b>40GB</b> 2) (19+1) * 32MB= <b>640MB</b>
D Drive	1) 200GB * (100-10) / 100= <b>180GB</b> 2) 200GB * 10 / 100= <b>20GB</b>	1) 200GB-96MB <b>=199.904GB</b> 2) (19+1) * 32MB+96MB <b>=736MB</b>	1) <b>200GB</b> 2) (19+1) * 32MB= <b>640MB</b>

Calculations referenced by 1) refer to disk space used by the Storage Server. Calculations referenced by 2) refer to disk space remaining.



- 'Threshold Level' can be used as a protective level so that the 'Limit Level' is not achieved. It is recommended that you take measures when 'Low disk warning level' event notification is generated, such as deleting unnecessary video files.
- You will receive email notifications when events are generated at respective levels, if configured to do so (→ P. 25).



Noto

The requirements of 'Threshold Level' may be achieved before the requirements of 'Low Disk Warning Level' are satisfied, depending on circumstances. For example, large numbers of cameras with limited disk capacity may bring a larger value for '(Numbers of camera + 1) \* 32MB +96MB', compared with the value of '[Disk capacity] \* [Low disk space notification threshold] /100'.

## **Storage Server Performance**

#### << Example 1>>

Camera Server: 24 VB-C50i Resolution: High (640x480)

Quality: 50

Frame Rate: 10 fps

#### <Storage>

Example of Storage Server PC

specifications

CPU: Pentium 4 3GHz

Memory: 1GB

HDD: Please refer to 'Example of Hard Disk

Capacity' (→ P.146)

(Sample specifications for 3-day storage: about 1.1 TB for each Storage Server) 3 Storage Servers with the above PC

specifications

(one master device, two slave devices)

#### <Live display, recorded video playback>

Example of Viewer PC specifications

CPU: Pentium 4 3.8GHz

Memory: 1GB

Video graphics board: NVIDIA

Quadro FX 1400

#### <<Example 2>>

Camera Server: 48 VB-C50i Resolution: Medium (320x240)

Quality: 50

Frame Rate: 1 fps

#### <Storage>

Example of Storage Server specifications

CPU: Pentium 4 3GHz

Memory: 1GB

HDD: Please refer to 'Example of Hard Disk

Capacity' (→ P.146)

(Sample specifications for 14-day storage:

about 900 GB)

One Storage Server with the above PC

specifications

#### <Live display, recorded video playback>

Example of Viewer PC specifications

CPU: Pentium 4 3.0GHz

Memory: 1GB

Video graphics board: on-board chip



- These are samples from a specific configuration. As many factors can influence the actual performance possible (including networking equipment, disk write speed, complexity of camera image, etc), the actual performance of VK-64 recording in a specific installation will vary. Please be sure to confirm under the actual installation conditions before starting operations.
- If there are many camera servers registered, it is recommended that you use two or more PCs or configure to use the Layout Sequences feature.

### **VK-64 File Locations**

The following is a list of places where various VK-64 data is saved.

#### Recorded data and event data

The recorded and event data are saved in the following folders according to your settings for [Save video in] and [Drive] when you register camera servers.

Recorded data	[Drive]:\WebView-NVR\videofiles
Event data	[Drive]:\WebView-NVR\eventfiles

The following files are saved in their respective folders that reside on the PC on which the Storage Server or Viewer is installed:

#### Log files

Log	Path	PC location
Storage Server	[System Drive]:\Documents and Settings\All Users\ Application Data\Canon\WebView\NVR\logs\	Storage Server
Apache	[Storage Server Installed Folder]:\websrvr\logs\	Storage Server
Viewer	[System Drive]:\Documents and Settings\All Users\Application Data\Canon\WebView\NVR\logs\	Viewer

#### Setting files

Settings files	Path	PC location
Storage Server	[System Drive]:\Documents and Settings\All Users\Application Data\Canon\WebView\NVR\conf\	Storage Server
Apache	[Storage Server Installed Folder]:\websrvr\conf\	Storage Server
Master Storage Server	[System Drive]:\Documents and Settings\All Users\ Application Data\Canon\WebView\NVR\conf\	Storage Server
Viewer	[System Drive]:\Documents and Settings\All Users\ Application Data\Canon\ WebView\NVR\	Viewer



- [System Drive] is a drive that contains a folder in which the Operating System files are stored. For example, if the Operating System is installed on Drive C, your system drive is C Drive.
- You will need to change settings to show the following folder: [System Drive]:\Documents and Settings\All Users\Application Data Select 'Folder Options' from the 'Tools' menu in Windows Explorer. Click the 'Show hidden files and folders' radio button in the 'View' tab.
- [Storage Server Installed Folder] is (if you installed Storage Server on your C Drive) as follows:
  - C:\Program Files\Canon\WebView\NVR

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